



COMMONWEALTH OF VIRGINIA  
STANDARD CONTRACT

Contract No. UCPJMU5689

This contract entered into this 21<sup>st</sup> day of October 2019, by ExLibris (USA), Inc. hereinafter called the "Contractor" and Commonwealth of Virginia, James Madison University called the "Purchasing Agency".

WITNESSETH that the Contractor and the Purchasing Agency, in consideration of the mutual covenants, promises and agreements herein contained, agree as follows:

SCOPE OF CONTRACT: The Contractor shall provide the services to the Purchasing Agency as set forth in the Contract Documents.

PERIOD OF PERFORMANCE: From October 21, 2019 through October 20, 2024 with five (5) one-year renewal options.

The contract documents shall consist of:

- (1) This signed form;
- (2) The following portions of the Request for Proposal RFP# LBS-1035 dated April 16, 2019:
  - (a) The Statement of Needs;
  - (b) The General Terms and Conditions;
  - (c) The Special Terms and Conditions together with any negotiated modifications of those Special Conditions;
  - (d) Addendum One, dated April 30, 2019;
  - (e) Addendum Two, dated May 15, 2019.
- (3) The Contractor's Proposal dated May 15, 2019 and the following negotiated modifications to the Proposal, all of which documents are incorporated herein:
  - (a) Negotiations Summary, dated October 18, 2019;
  - (b) JMU IT Services Addendum, dated October 18, 2019;
  - (c) The Ex Libris SaaS Subscription Agreement, dated October 18, 2019;
  - (d) The Commonwealth of Virginia Addendum to Contractor's Form, which shall govern in conflict.

IN WITNESS WHEREOF, the parties have caused this Contract to be duly executed intending to be bound thereby.

CONTRACTOR:

By: Eric Hines

(Signature)

Eric Hines

(Printed Name)

Title: President Ex Libris North America

PURCHASING AGENCY:

By: LeeAnne Beatty Smith

(Signature)

LeeAnne Beatty Smith

(Printed Name)

Title: Buyer Senior, Jmu

**10/18/19**

1. Contract Pricing:

A. JMU Annual Services Fees (ongoing)

Product and Services	Optional Cost	Cost
Alma Subscription *- all-inclusive subscription encompassing print, electronic, and management workflows. Includes: <ul style="list-style-type: none"> <li>Named Users: 155</li> <li>Bibliographic titles (including e-books): 1,748,363</li> <li>Unique e-journal titles: 169,373</li> <li>Includes standard sandbox</li> </ul>		\$150,000
Alma Growth Pricing Options for JMU ( <i>additional annual subscription fee</i> ): <ul style="list-style-type: none"> <li>Increase # of named Users to 165</li> <li>Increase # of bibliographic titles to 2,000,000</li> <li>Increase # of unique e-journal titles to 180,000</li> </ul>	\$4,974 \$3,688 \$3,193	
Primo VE Subscription*- all-inclusive subscription for discovery of physical, electronic, and digital resources. Includes: <ul style="list-style-type: none"> <li>the bX recommender service</li> <li>FTE up to 22,210</li> <li>Primo Documents up to 1,850,000</li> </ul>		\$24,039
Primo VE Growth Pricing Options for JMU ( <i>additional annual subscription fee</i> ): <ul style="list-style-type: none"> <li>Increase # of Primo FTE to up to 28,000</li> <li>Increase # of Primo documents to up to 2,000,000</li> </ul>	\$2,525 \$2,525	
Alma/Primo Premium Sandbox*		\$20,000
Leganto* Includes: <ul style="list-style-type: none"> <li>FTE up to 23,000</li> </ul>		\$30,000
Alma Digital* (optional-pricing valid for 36 months) Includes: <ul style="list-style-type: none"> <li>Digital Metadata Records: 430,000</li> <li>2.2 TB storage</li> </ul>	\$25,257	
* Changes to the metrics outlined above may result in changes to pricing. The date of successful completion of implementation ("go-live") will be the date that relevant annual subscription services are invoiced and will also become the anniversary date of the subscription.		

**10/18/19**

First-year Annual		\$224,039

**B. Implementation Services (One-time)**

Product and Services		One Time Cost
<b>Premium Implementation Package for Alma/Primo VE*</b> <b>Includes:</b> <ul style="list-style-type: none"> <li>• Project management</li> <li>• Kick-off meeting</li> <li>• Training (web-based)</li> <li>• 3-day Onsite functional workshop</li> <li>• Alma certification</li> <li>• Premium data migration for Alma</li> <li>• Configuration of Alma for print and E-resource management across acquisition, fulfillment, resource management, and standard third-party integration</li> <li>• Standard authentication (CAS, Shibb/SAML, LDAP)</li> <li>• Includes all travel and miscellaneous cost</li> </ul>		\$120,559
Leganto Implementation*		\$12,623
Alma Digital Implementation * (optional)	\$8,000	
* Implementation Services shall be invoiced 50% upfront with another 50% invoiced at the date of successful completion of implementation ("go-live").		
Initial Implementation (One-time) Subtotal		\$131,532

**C. On-Demand Products and Services**

On-Demand Product and Services	Cost
Onsite Professional Services (1 day) * does not include travel costs (at fixed rates set forth in the SaaS Subscription Agreement)	\$1,650/day



**10/18/19**

D. Renewal Pricing for Annual Services: During the initial term of the contract (five years), annual increases shall not exceed 4% over the previous year's cost. Beginning in year six of the contract, annual increases shall not exceed 5% over the previous year's cost.

2. The University will make payment within thirty (30) days of the *receipt* of a valid invoice.
3. Contractor's initial response to RFP#LBS-1035, Section IV, Question F.16 *E-Resources Functionality* shall be supplemented with the following:

Alma supports a wide range of industry standards and protocols enabling cooperation and collaboration. We are constantly evaluating and extending our support in this area, based on our customers' needs.

The effort required to implement support for a new version of an existing standard depends on the differences between the former and new versions. Whereas COUNTER r4 built upon the existing COUNTER r3 Code of Practice, implementing support for COUNTER r5 is akin to implementing a whole new standard and involves much more analysis, development, and customer feedback. Each standard, or update to a standard, needs to be evaluated individually. COUNTER r5 will be supported in Alma by or before the end of calendar year 2019.

The agile development methodology allows us to adapt to changes and develop new functionalities rapidly. Therefore, we publish our roadmaps 18 months in advance, continually review them, and regularly publish updates to the Knowledge Center. In general, and depending upon the specific protocol, version and its adoption for use in the library environment, support for new standards are introduced within 6 to 18 months from finalization. Industry standards supported by Alma are publicly available via our Developers Network at:

<https://developers.exlibrisgroup.com/about/standards/>

4. Contractor's initial response to RFP# LBS-1035, Section IV, Question F.11 *Metadata and Cataloging Functionality* shall be supplemented by the following:

MARC linking fields allow you to link bibliographic records and to differentiate their relationships to users. When the following fields are specified for physical inventory/inventory linking, availability information for the host record's holdings (related records) appears under the constituent record in Alma search results:

- MARC 21 – 773, 774, 777, 786, 800, 810, 811, and 830

For more information on MARC linking fields, see

[https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/010Alma\\_Online\\_Help\\_\(English\)/030Fulfillment/080Configuring\\_Fulfillment/100Discovery\\_Interface\\_Display\\_Logic#Related\\_Record\\_Types](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/030Fulfillment/080Configuring_Fulfillment/100Discovery_Interface_Display_Logic#Related_Record_Types)

These MARC fields enable you to configure host and constituent relationships at the following levels for discovery in the Primo Get It tab:

- Bibliographic-to-bibliographic – This type of relationship describes two or more titles that are bound with each other.
- Bibliographic-to-item – This type of relationship is used for analytical cataloging to link a bibliographic record to specific items of another title.



10/18/19

**Kingsfield and Kennedy: Reappraising the Male Models of Law School Teaching** Edit Record Order

Book (Undefined) By Wells, Catharine P. (Digital Commons @ Boston College Law School 1988-01-01) Language: English  
 Subject: 77X example Legal Education Women and others ISBN: 29102013  
 Record number: (OCoLC)8397894389

Physical (1) Electronic Digital Other details

1 Holding | 1 out of 1 items are available

Library	Location	Call Number	Accession Number	Items Availability	Temporary Location	Related Record
Main Library	General	KF272 .L428 1993	-	1 out of 1 Available	-	<span>✓ Related</span>

Inventory of related "Legal education /" is listed below

Main Library General KF272 .L428 1993 Locate  
[Hide Details](#)

(1 copy, 1 available, 0 requests)

1 - 1 of 1 Records

BARCODE	TYPE	POLICY	DESCRIPTION	STATUS
AU24003		Loanable		Item in place

For more information, see:

[https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/010Alma\\_Online\\_Help\\_\(English\)/040Resource\\_Management/040Metadata\\_Management/130Configuring\\_Related\\_Records\\_for\\_Physical\\_Inventory](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/040Resource_Management/040Metadata_Management/130Configuring_Related_Records_for_Physical_Inventory)

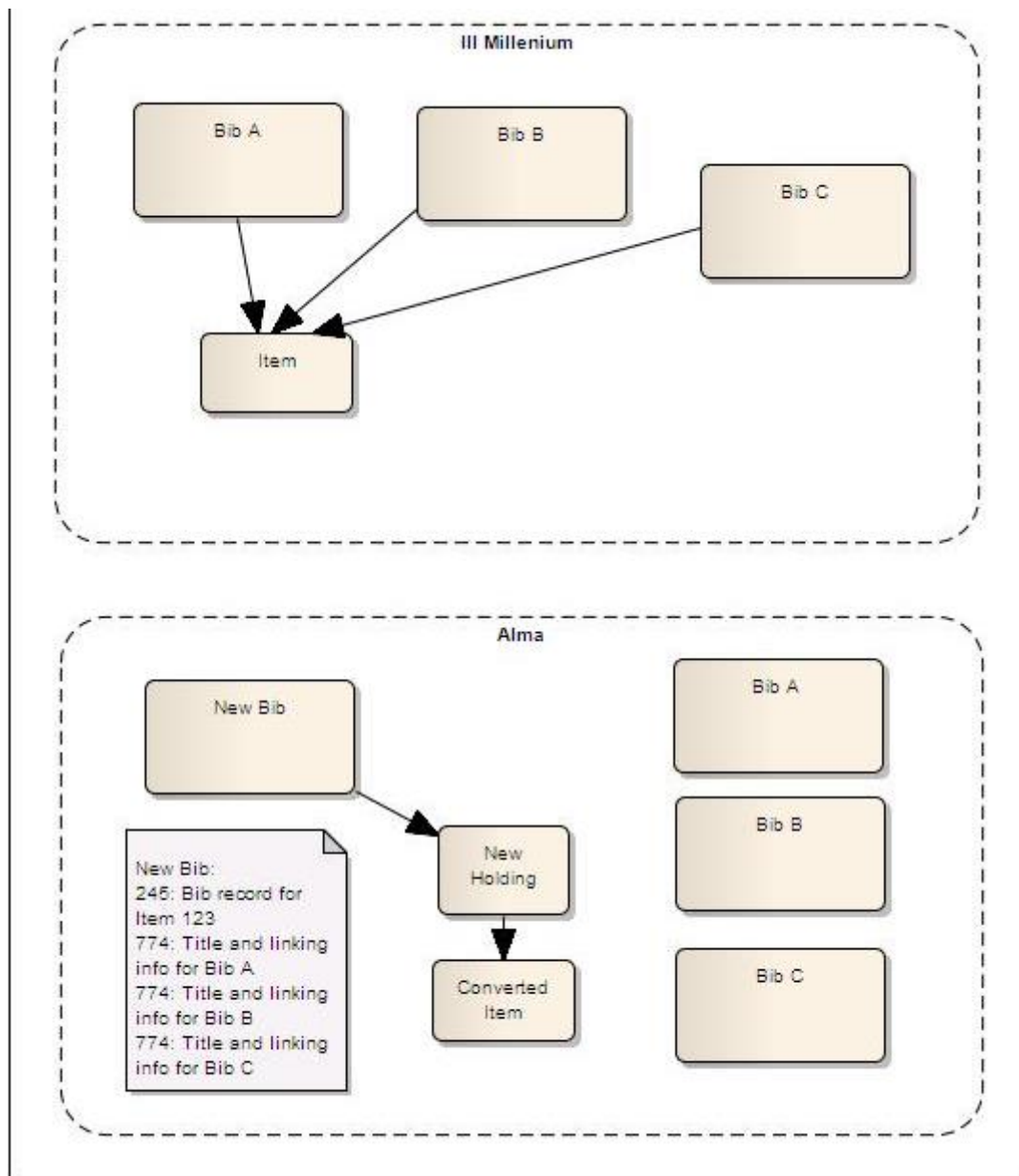
Please also see the link below for an extensive selection of training presentations on the topic of related records and bound with handling in Alma:

[https://knowledge.exlibrisgroup.com/Alma/Training/Extended\\_Training/Presentations\\_and\\_Documents\\_-\\_Related\\_Records](https://knowledge.exlibrisgroup.com/Alma/Training/Extended_Training/Presentations_and_Documents_-_Related_Records)

Migration Boundwiths from Sierra to Alma:

For migration, all linked bibliographic records are converted as is, with no additions or changes. (See the diagram below.)

10/18/19



The shared items are not linked to any of the original bibliographic records so that there is no direct link from the shared item to any of the linked bibliographic records. Instead, a new bibliographic record is created, which has the migrated shared item and new holding record attached to it. The new bibliographic record is linked to the linked bibliographic records via the 774 \$w linking field.

The new bibliographic record has title “Host bibliographic record for boundwith item <item’s barcode>.” and multiple 774 tags with the following information:

774 1\_ \$t <title of linked bib> \$w [Alma internal MMS ID]

One 774 field is created for each bibliographic record that is linked to this item. The 774 field links the new bibliographic record with the linked bibliographic records via the related record's functionality in Alma.

**10/18/19**

It is possible in Sierra that multiple items are linked to the same group of boundwith bibliographic records. This situation is handled during migration to Alma. The multiple items are all linked to the host bibliographic record.

5. Contractor's initial response to RFP# LBS-1035, Section IV, Question C.17 *General Library Functionality* shall be supplemented by the following:

Ex Libris is committed to ensuring that its existing software and planned releases comply with accessibility standards. Alma and Primo were developed in line with the WCAG level AA guidelines. For full details on the accessibility of Alma and Primo functions and features please see our VPAT documents on accessibility.

In addition, the applications support a high-contrast level of the display, by adjusting the luminosity level of the display, and by applying alternatives to non-accessible methods, such as JavaScript or AJAX components. The application is also compatible with screen readers for the visually impaired. As far as possible, hot keys (keyboard shortcuts) have been defined for functions in the system.

6. The following changes are mutually agreed to in regards to the terms and conditions of RFP# LBS-1035:

- a. The Commonwealth confirms Contractor's understanding of the Sections VII. C and J, as set forth in its initial response to RFP# LBS-1035.
- b. Section VII.K. *Precedence of Terms* is hereby replaced with the following:

**K. PRECEDENCE OF TERMS:** In the event there is a conflict between (i) any of the General Terms and Conditions or the Commonwealth of Virginia Purchasing Manual for Institutions of Higher Education and their Vendors, on the one hand, and (ii) the final Contract (including this negotiation summary) or the Special Terms and Conditions together with any negotiated modifications of those Special Conditions, on the other hand, such final Contract and Special Terms and Conditions shall apply.

- c. Section VII.M. *Testing and Inspection* is hereby replaced with the following:

**TESTING AND INSPECTION:** The Commonwealth reserves the right to conduct any test/inspection it may deem advisable to assure goods and services conform to the specifications as and to the extent set forth in JMU's IT Services Addendum.

- d. Section VII.N. *Assignment* is hereby deleted in its entirety.
- e. Section VII.O. *Changes to the Contract* is hereby replaced with the following:

**CHANGES TO THE CONTRACT:** Changes to the contract can be made if the parties agree in writing to modify the scope of the contract. An increase or decrease in the price of the contract resulting from such modification shall be agreed to by the parties as a part of their written agreement to modify the scope of the contract.

- f. Section VII.P. *Default* is hereby deleted in its entirety.



**10/18/19**

- g. Section VII.Q *Insurance* is hereby modified as follows:

The University waives the requirements that (i) the insurers be authorized to sell insurance in Virginia by the Virginia State Corporation Commission, so long as the insurance companies are lawfully authorized to do business and have an A.M. Best rating of A- or greater and (ii) the Commonwealth be added as an additional insured to the Commercial General Liability policy.

- h. Section VII.V. *Availability of Funds* is hereby replaced with the following:

AVAILABILITY OF FUNDS: It is understood and agreed between the parties herein that the Commonwealth of Virginia shall be bound hereunder only to the extent of the funds available or which may hereafter become available for the purpose of this agreement; however, the Commonwealth will be responsible for all amounts owed for the SaaS Services or other services provided through the date of termination.

- i. Section VIII.B. *Cancellation of Contract* is hereby replaced with the following:

CANCELLATION OF CONTRACT: The Contractor acknowledges that the Commonwealth's participation in a multi-year contract term is subject to and contingent upon appropriations by the Virginia General Assembly. In the event that the Commonwealth, through its state-provided funds, is unable to renew the annual subscription within the multi-year contract agreement due to lack of funding, the Contractor shall allow the Commonwealth to opt out of the license provided notice is submitted to Contractor in writing sixty (60) days prior to the start of the annual term anniversary date. The Commonwealth will be responsible for the payment of all amounts owed for the SaaS services or other services provided through the date of termination.

The Commonwealth may terminate the contract and/or subscription, effective upon Contractor's receipt of written notice, if Contractor is in material breach of this Agreement and the Commonwealth has given written notice of such material breach and Contractor has failed to cure such material breach within thirty (30) days of such notice. In the event of such termination, Contractor shall refund to the Commonwealth, on a pro-rata basis, the amount of any pre-paid unused subscription fees.

The Contractor may terminate this contract and/or the applicable subscription, effective upon the Commonwealth's receipt of written notice, if the Commonwealth is in default in payment of any sum due hereunder or is otherwise in material breach of the contract and Contractor has given written notice of such default or material breach and the Commonwealth has failed to cure such default or material breach within thirty (30) days of such notice. The Commonwealth's obligation to pay all charges which have accrued prior to termination (including subscription fees payable through the end of the applicable term) shall survive any such termination of this contract by Contractor, without waiver of any remedies Ex Libris may have at law or in equity.

- j. Section VIII.F. *Renewal of Contract* is hereby replaced with the following:

RENEWAL OF CONTRACT: This contract may be renewed by the Purchasing Agency for a period of five (5) successive one-year periods under the terms and conditions of the original contract. Price increases may be negotiated only at the time of renewal. Written notice of the

**10/18/19**

Purchasing Agency's intention to renew shall be given approximately 90 days prior to the expiration date of each contract period. At no time shall the cost for a successive renewal period exceed the previous year's cost by more than 5%.

- k. Section VIII.G. *Submission of Invoices* is hereby replaced with the following:

SUBMISSION OF INVOICES: All invoices shall be submitted within sixty days of contract term expiration for the initial contract period as well as for each subsequent contract renewal period.

- l. Section VIII.N. *Indemnification* is hereby replaced with the following:

Contractor shall indemnify the University against personal injury and property damage caused by the Contractor's own acts or those of its employees.

- m. Section VIII.O. *Additional Goods and Services* is hereby replaced with the following:

The Commonwealth may acquire other goods or services that the supplier provides than those specifically solicited. The Commonwealth reserves the right, subject to mutual agreement, for the Contractor to provide additional goods and/or services under the same pricing, terms, and conditions and to make modifications or enhancements to the existing goods and services. Such additional goods and services may include other products, components, accessories, subsystems, or related services that are newly introduced during the term of this contract.

- n. Section VIII. R. *Subcontracts* is hereby replaced with the following:

SUBCONTRACTS: No portion of the work shall be subcontracted without prior consent of the Purchasing Agency. In the event that the Contractor desires to subcontract some part of the work specified herein, the Contractor shall furnish the Purchasing Agency the names, qualifications, and experience of their proposed subcontractors. The foregoing refers to subcontracting undertaken specifically for performance of this Contract and not to involvement of Contractor's affiliates and existing infrastructure/service providers in providing the Services hereunder. The Contractor shall, however, remain fully liable and responsible for the work to be done by its subcontractor(s) and shall assure compliance with all requirement of the contract.

- o. Section VIII.S. *Confidentiality of Personally Identifiable Information* is hereby replaced with the following:

CONFIDENTIALITY OF PERSONALLY IDENTIFIABLE INFORMATION: The Contractor assures that information and data obtained as to personal facts and circumstances related to faculty, staff, students, and affiliates will be collected and held confidential, during and following the term of this agreement, and will not be divulged without the individual's and the agency's written consent and only in accordance with federal law or the Code of Virginia. This shall include FTI, which is a term of art and consists of federal tax returns and return information (and information derived from it) that is in contractor/agency possession or control which is covered by the confidentiality protections of the Internal Revenue Code (IRC) and subject to the IRC 6103(p)(4) safeguarding requirements including IRS oversight. FTI is categorized as sensitive but unclassified information and may contain personally identifiable information (PII). Contractors who utilize, access, or store personally identifiable information as part of the performance of a contract are required to safeguard this information

**10/18/19**

and promptly notify the agency of any breach or suspected breach in the security of such information. Contractor shall allow the agency to both participate in the investigation of incidents and exercise control over decisions regarding external reporting to the extent consistent with applicable law. Contractor remains responsible for the actions of its employees regarding confidentiality obligations in this agreement. The Purchasing Agency acknowledges the restrictions on the types of sensitive personal information that are permitted to be stored in the SaaS Service as set forth in the SaaS Subscription terms.

- p. Section VIII.T. *Continuity of Services* is hereby deleted in its entirety.
  - q. Section VIII.U. *Renewal of Maintenance* is hereby deleted in its entirety.
  - r. Section VIII.X. *Excessive Downtime* is hereby deleted in its entirety.
  - s. Section VIII.Y. *Latest Software Version* is hereby deleted in its entirety.
  - t. Section VIII.Z. *Software Upgrades* is hereby deleted in its entirety.
  - u. Section VIII.AA. *Source Code* is hereby deleted in its entirety.
  - v. Section VIII.BB. *Term of Software License* is hereby deleted in its entirety.
  - w. Section VIII.CC. *Third Party Acquisition of Software* is hereby replaced with the following:

**THIRD PARTY ACQUISITION:** The Contractor shall notify the Purchasing Agency in writing should the intellectual property, associated business, or all of its assets be acquired by a third party. The Contractor further agrees that the contract's terms and conditions, including any and all license rights and related services, shall not be affected by the acquisition. Prior to completion of the acquisition, the Contractor shall obtain, for the Commonwealth's benefit and deliver thereto, the assignee's agreement to fully honor the terms of the contract.
  - x. Section VIII.DD. *Title to Software* is hereby deleted in its entirety.
  - y. Section VIII.EE. *Warranty Against Shutdown Devices* is hereby deleted in its entirety.
  - z. Section VIII.FF *PCI DSS Compliance* is hereby deleted in its entirety.
- 7. Section 508 Compliance. With respect to compliance of web-based environments included in the SaaS Services with Section 508 of the Rehabilitation Act, if requested, the Contractor shall document where it meets the specific accessibility requirements in Section 508 along with any exceptions through the Voluntary Product Accessibility Template (VPAT).
  - 8. Contractor agrees that both parties have negotiated and agreed upon the terms and conditions present within the JMU IT Services Addendum document dated October 18, 2019 and that this version shall replace the original version present within RFP# LBS-1035 along with exceptions noted by the Contractor in their original response.
  - 9. The Contractor acknowledges it has reviewed and shall adhere to the Complementary User Entity Controls listed in the SOC 2 report for each of its data center providers including, but not limited to, Cyxtera Amazon Web Services (applicable only for digital object storage), and Equinix.



**10/18/19**

10. Contractor agrees that all exceptions taken within their initial response to RFP# LBS-1035 that are not specifically addressed within this negotiation summary are null and void.

**James Madison University**  
Information Technology Services Addendum

CONTRACTOR NAME: **ExLibris (USA), Inc.**

PRODUCT/SOLUTION: **Library Services & Discovery Platform**

**Definitions:**

- Agreement: The “Agreement” includes the contract, this addendum and any additional addenda and attachments to the contract, including the Contractor’s Form.
- University: “University” or “the University” means James Madison University, its trustees, officers and employees.
- University Data: “University Data” is defined as any data that the Contractor creates, obtains, accesses, transmits, maintains, uses, processes, stores or disposes of in performance of the Agreement. It includes all Personally Identifiable Information and other information that is not intentionally made generally available by the University on public websites.
- Personally Identifiable Information: “Personally Identifiable Information” (PII) includes but is not limited to: Any information that directly relates to an individual and is reasonably likely to enable identification of that individual or information that is defined as PII and subject to protection by James Madison University under federal or Commonwealth of Virginia law.
- Security Breach: “Security Breach” means a security-relevant event in which the security of a system or procedure involving University Data is breached, and in which University Data is exposed to unauthorized disclosure, access, alteration, or use.
- Service(s): “Service” or “Services” means any goods or services acquired by the University from the Contractor.

1. **Rights and License in and to University Data**: The parties agree that as between them, all rights including all intellectual property rights in and to University Data shall remain the exclusive property of the University, and Contractor has a limited, nonexclusive license to use the data as provided in the Agreement solely for the purpose of performing its obligations hereunder. The Agreement does not give a party any rights, implied or otherwise, to the other’s data, content, or intellectual property.
2. **Disclosure**: All goods, products, materials, documents, reports, writings, video images, photographs, or papers of any nature including software or computer images prepared or provided to the Contractor (or its subcontractors) for the University will not be disclosed to any other person or entity without the written permission of the University.
3. **Data Privacy**:
  - a. Contractor will use University Data only for the purpose of fulfilling its duties under the Agreement and will not share such data with or disclose it to any third party without the prior written consent of the University, except as required by law.
  - b. University Data will not be stored outside the United States without prior written consent from the University.
  - c. Contractor will provide access to University Data only to its employees and subcontractors who need to access the data to fulfill obligations under the Agreement. The Contractor will ensure that the Contractor’s employees, and subcontractors when applicable, who perform work under the Agreement have received appropriate instruction as to how to comply with the data protection provisions of the Agreement and have agreed to confidentiality obligations at least as restrictive as those contained in this Addendum.
    - i. If the Contractor will have access to the records protected by the Family Educational Rights and Privacy Act (FERPA), Contractor acknowledges that for the purposes of the Agreement it will be designated as a “school official” with “legitimate educational

interests” in such records, as those terms have been defined under FERPA and its implementing regulations, and Contractor agrees to abide by the limitations and requirements imposed on school officials. Contractor will use such records only for the purpose of fulfilling its duties under the Agreement for University’s and its End Users’ benefit, and will not share such data with or disclose it to any third party except as required by law or authorized in writing by the University. Contractor acknowledges that its access to such records is limited to only those directly related to and necessary for the completion of Contractor’s duties under the Agreement.

- d. The Contractor shall be responsible and liable for the acts and omissions of its subcontractors, including but not limited to third-party cloud hosting providers, and shall assure compliance with the requirements of the Agreement.

**4. Data Security:**

- a. Contractor will store and process University Data in accordance with commercial best practices, including appropriate administrative, physical, and technical safeguards, to secure such data from unauthorized access, disclosure, alteration, and use. Such measures will be no less protective than those used to secure Contractor’s own data of a similar type, and in no event less than reasonable in view of the type and nature of the data involved.
- b. Contractor will store and process University Data in a secure site and will provide a SOC 2 or other security report deemed sufficient by the University from a third party reviewer along with annual updated security reports. If the Contractor is using a third-party cloud hosting company such as AWS, Rackspace, etc., the Contractor will obtain the security audit report from its hosting company and give the results to the University. The University should not have to request the report directly from the hosting company.
- c. Contractor will use industry-standards and up-to-date security tools, technologies and practices such as network firewalls, anti-virus, vulnerability scans, system logging, intrusion detection, 24x7 system monitoring, and third-party penetration testing in providing services under the Agreement.
- d. Without limiting the foregoing, Contractor warrants that all electronic University Data will be encrypted in transmission (including via web interface) and stored at AES 256 or stronger.

**5. Data Authenticity, Integrity and Availability:**

- a. Contractor will take reasonable measures, including audit trails, to protect University Data against deterioration or degradation of data quality and authenticity. Contractor shall be responsible for ensuring that University Data, per the Virginia Public Records Act, is “preserved, maintained, and accessible throughout their lifecycle, including converting and migrating electronic records as often as necessary so that information is not lost due to hardware, software, or media obsolescence or deterioration.”
- b. Contractor will ensure backups are successfully completed at the agreed interval and that restoration capability is maintained for restoration to a point-in-time and/or to the most current backup available.
- c. Contractor will maintain an uptime of 99.99% or greater as agreed to for the contracted services via the use of appropriate redundancy, continuity of operations and disaster recovery planning and implementations, excluding regularly scheduled maintenance time.

**6. Employee Background Checks and Qualifications:**

- a. Contractor shall ensure that its employees have undergone appropriate background screening and possess all needed qualifications to comply with the terms of the Agreement including but not limited to all terms relating to data and intellectual property protection.
- b. If the Contractor must under this agreement create, obtain, transmit, use, maintain, process, or dispose of the subset of University Data known as Personally Identifiable Information or financial or business data, the Contractor shall perform the following background checks on all employees who have potential to access such data in accordance with the Fair Credit Reporting Act: Social



Security Number trace; seven (7) year felony and misdemeanor criminal records check of federal, state, or local records (as applicable) for job related crimes; Office of Foreign Assets Control List (OFAC) check; Bureau of Industry and Security List (BIS) check; and Office of Defense Trade Controls Debarred Persons List (DDTC).

**7. Security Breach:**

- a. Response: Immediately (within one day) upon becoming aware of a Security Breach, or of circumstances that could have resulted in unauthorized access to or disclosure or use of University Data, Contractor will notify the University, fully investigate the incident, and cooperate fully with the University's investigation of and response to the incident. Except as otherwise required by law, Contractor will not provide notice of the incident directly to individuals whose Personally Identifiable Information was involved, regulatory agencies, or other entities, without prior written permission from the University.
- b. Liability:
  - i. If Contractor must under this agreement create, obtain, transmit, use, maintain, process, or dispose of the subset of University Data known as Personally Identifiable Information, the following provisions apply. In addition to any other remedies available to the University under law or equity, Contractor will reimburse the University in full for all costs incurred by the University in investigation and remediation of any Security Breach caused by Contractor, including but not limited to providing notification to individuals whose Personally Identifiable Information was compromised and to regulatory agencies or other entities as required by law or contract; providing one year's credit monitoring to the affected individuals if the Personally Identifiable Information exposed during the breach could be used to commit financial identity theft; and the payment of legal fees, audit costs, fines, and other fees imposed by regulatory agencies or contracting partners as a result of the Security Breach.
  - ii. If Contractor will NOT under this agreement create, obtain, transmit, use, maintain, process, or dispose of the subset of University Data known as Personally Identifiable Information, the following provisions apply. In addition to any other remedies available to the University under law or equity, Contractor will reimburse the University in full for all costs reasonably incurred by the University in investigation and remediation of any Security Breach caused by Contractor.

**8. Requests for Data, Response to Legal Orders or Demands for Data:**

- a. Except as otherwise expressly prohibited by law, Contractor will:
  - i. immediately notify the University of any subpoenas, warrants, or other legal orders, demands or requests received by Contractor seeking University Data;
  - ii. consult with the University regarding its response;
  - iii. cooperate with the University's requests in connection with efforts by the University to intervene and quash or modify the legal order, demand or request; and
  - iv. Upon the University's request, provide the University with a copy of its response.
- b. Contractor will make itself and any employees, contractors, or agents assisting in the performance of its obligations under the Agreement, available to the University at no cost to the University based upon claimed violation of any laws relating to security and/or privacy of the data that arises out of the Agreement. This shall include any data preservation or eDiscovery required by the University.
- c. The University may request and obtain access to University Data and related logs at any time for any reason and at no extra cost.

**9. Data Transfer Upon Termination or Expiration:**

- a. Contractor's obligations to protect University Data shall survive termination of the Agreement until all University Data has been returned or securely destroyed, meaning taking actions that render data written on media unrecoverable by both ordinary and extraordinary means.

- b. Upon termination or expiration of the Agreement, Contractor will ensure that all University Data are securely transferred, returned or destroyed as directed by the University in its sole discretion within 60 days of termination of the Agreement. Transfer/migration to the University or a third party designated by the University shall occur without significant interruption in service. Contractor shall ensure that such transfer/migration uses facilities, methods, and data formats that are accessible and compatible with the relevant systems of the University or its transferee, and to the extent technologically feasible, that the University will have reasonable access to University Data during the transition.
- c. In the event that the University requests destruction of its data, Contractor agrees to securely destroy all data in its possession and in the possession of any subcontractors or agents to which Contractor might have transferred University data. Contractor agrees to provide documentation of data destruction to the University.
- d. Contractor will notify the University of impending cessation of its business and any contingency plans. This includes immediate transfer of any previously escrowed assets and data and providing the University access to Contractor's facilities to remove and destroy University-owned assets and data. Contractor shall implement its exit plan and take all necessary actions to ensure a smooth transition of service with minimal disruption to the University. The Contractor will also provide, as applicable, a full inventory and configuration of servers, routers, other hardware, and software involved in service delivery along with supporting documentation, indicating which if any of these are owned by or dedicated to the University. Contractor will work closely with its successor to ensure a successful transition to the new service, with minimal downtime and effect on the University, all such work to be coordinated and performed in advance of the formal, final transition date.

**10. Audits:**

- a. The University reserves the right in its sole discretion to perform audits of the Contractor to ensure compliance with the terms of the Agreement. Contractor shall reasonably cooperate in the performance of such audits. This provision applies to all agreements under which Contractor must create, obtain, transmit, use, maintain, process, or dispose of University Data.
- b. If Contractor must under the Agreement create, obtain, transmit, use, maintain, process, or dispose of the subset of University Data known as Personally Identifiable Information or financial or business data, Contractor will at its expense conduct or have conducted at least annually a(n):
  - i. American Institute of CPAs Service Organization Controls 2 (SOC 2) audit, or other independent security audit with audit objectives deemed sufficient by the University, which attests to Contractor's security policies, procedures, and controls. Contractor shall also submit such documentation for any third-party cloud hosting provider(s) they may use (e.g. AWS, Rackspace, Azure, etc.) and for all subservice providers or business partners relevant to the Agreement. Contractor shall also provide James Madison University with a designated point of contact for the SOC reports and risks related to the contract. This person shall address issues raised in the SOC reports of the Contractor and its relevant providers and partners, and respond to any follow up questions posed by the University in relation to technology systems, infrastructure, or information security concerns related to the contract.
  - ii. vulnerability scan of Contractor's electronic systems and facilities that are used in any way to deliver electronic services under the Agreement; and
  - iii. formal penetration test performed by qualified personnel of Contractor's electronic systems and facilities that are used in any way to deliver electronic services under the Agreement.
- c. Additionally, Contractor will provide the University upon request the results of the above audits, scans and tests, and will promptly modify its security measures as needed based on those results in order to meet its obligations under the Agreement. The University may require, at University expense, the Contractor to perform additional audits and tests, the results of which will be provided promptly to the University.

**11. Compliance:**

- a. Contractor will comply with all applicable laws and industry standards in performing services under the Agreement. Any Contractor personnel visiting the University's facilities will comply with all applicable University policies regarding access to, use of, and conduct within such facilities. The University will provide copies of such policies to Contractor upon request.
- b. To the extent applicable to the design and intended use of the service, Contractor warrants that the service it will provide to the University is fully compliant with and will enable the University to be compliant with relevant requirements of all laws, regulation, and guidance applicable to the University and/or Contractor, including but not limited to: the Family Educational Rights and Privacy Act (FERPA), Health Insurance Portability and Accountability Act (HIPAA), Health Information Technology for Economic and Clinical Health Act (HITECH), Gramm-Leach-Bliley Financial Modernization Act (GLB), Payment Card Industry Data Security Standards (PCI-DSS), Americans with Disabilities Act (ADA), Federal Export Administration Regulations, and Defense Federal Acquisitions Regulations.

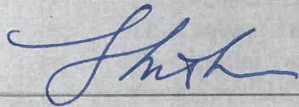
- 12. No End User Agreements:** Any agreements or understandings, whether electronic, click through, verbal or in writing, between Contractor and University employees or other end users under the Agreement that conflict with the terms of the Agreement, including but not limited to this Addendum, shall not be valid or binding on the University or any such end users.

IN WITNESS WHEREOF, the parties have caused this addendum to be duly executed, intending thereby to be legally bound. In the event of conflict or inconsistency between terms of the Agreement and this Addendum, the terms of this Addendum shall prevail.

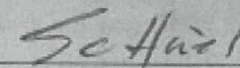
JAMES MADISON UNIVERSITY

CONTRACTOR

SIGNATURE: \_\_\_\_\_



SIGNATURE: \_\_\_\_\_



PRINTED NAME: LeeAnne Beatty Smith

PRINTED NAME: Eric Hines

TITLE: Buyer Senior

TITLE: President Ex Libris North America

DATE: October 18, 2019

DATE: October 18, 2019



**Modifications to  
James Madison University  
Information Technology Services Addendum**

**A. The definition of ‘University Data’ is hereby deleted and replaced with the following:**

University Data: “University Data” is defined as any data that the University provides to be stored in the SaaS Services for access, transmission, maintenance, use, processing, storing or disposal in the Contractor’s SaaS Services provided under this Agreement (“SaaS Services”). It includes all Personally Identifiable Information and other information that is not intentionally made generally available by the University on public websites.

**B. The definition of ‘Personally Identifiable Information’ is hereby deleted and replaced with the following:**

Personally Identifiable Information: “Personally Identifiable Information” (PII) includes but is not limited to: Any information that directly relates to an individual and is reasonably likely to enable identification of that individual or information that is defined as PII and subject to protection by James Madison University under federal or Commonwealth of Virginia law; subject to the limitations set forth in the Contractor’s Form on the types of PII and other data that may be uploaded and stored on the SaaS Services by the University.

**C. Section 2 is hereby deleted in its entirety.**

**D. Section 3.b is hereby deleted and replaced with the following:**

University Data will not be stored outside the United States without prior written consent from the University, except on a temporary basis as and when needed to provide 24-hour support and certain technical services.

**E. Section 4.a. is hereby deleted and replaced with the following:**

Contractor will store and process University Data in accordance with accepted industry practices, including appropriate administrative, physical, and technical safeguards, to secure such data from unauthorized access, disclosure, alteration, and use. Such measures will be no less protective than those used to secure Contractor’s own data of a similar type, and in no event less than reasonable in view of the type and nature of the data involved.

**F. Section 4.d is hereby deleted and replaced with the following:**

Without limiting the foregoing, Contractor warrants that Personally Identifiable Information will be encrypted in transmission (including via web interface) and stored at AES 128 or stronger.

**G. Section 5.a is hereby deleted and replaced with the following:**

Contractor will take reasonable measures, including audit trails, to protect University Data against deterioration or degradation of data quality and authenticity. Contractor shall be responsible for taking reasonable measures to ensure that University Data, per the Virginia Public Records Act, is “preserved, maintained, and accessible throughout their lifecycle, including converting and migrating electronic records as often as necessary so that information is not lost due to hardware, software, or media obsolescence or deterioration.”

**H. Section 5.b is hereby deleted and replaced with the following:**

Contractor will take reasonable measures to ensure backups are successfully completed daily or more frequently and that restoration capability is maintained for restoration to a point-in-time and\or to the most current backup available.

**I. Section 5.c. is hereby deleted and replaced with the following:**

Contractor will maintain an uptime as agreed to in the Support Level Agreement for the contracted services via the use of appropriate redundancy, continuity of operations and disaster recovery planning and implementations, excluding regularly scheduled maintenance time.

**J. Section 6.b. is hereby deleted and replaced with the following:**

If the Contractor must under this agreement create, obtain, transmit, use, maintain, process, or dispose of the subset of University Data known as Personally Identifiable Information or financial or business data, the Contractor shall perform background checks on all employees who have potential to access such data, and for US-based employees, the following in accordance with the Fair Credit Reporting Act: Social Security Number trace; seven (7) year felony and misdemeanor criminal records check of federal, state, or local records (as applicable) for job related crimes.

**K. Section 7.b. is hereby deleted and replaced with the following:**

Liability: For the sake of clarity, Contractor shall be liable for Security Breaches caused by the negligence of the Contractor or breaches of Contractor's obligations hereunder.

**L. Section 8.a.iii. is hereby deleted and replaced with the following:**

iii. cooperate at University's expense with the University's requests in connection with efforts by the University to intervene and quash or modify the legal order, demand or request; and

**M. Section 8.b. is hereby deleted and replaced with the following:**

Contractor will make itself and any employees, contractors, or agents assisting in the performance of its obligations under the Agreement, available to the University at no cost to the University based upon claimed violation by Contractor of any laws relating to security and\or privacy of the data that arises out of the Agreement. This shall include any data preservation or eDiscovery required by law.

**N. Section 8.c. is hereby deleted and replaced with the following:**

In the event the University cannot access its data through the SaaS Services, The University may request and obtain access to University Data at any time for any reason and at no extra cost.

**O. Section 9.a. is hereby deleted and replaced with the following:**

Contractor's obligations to protect University Data shall survive termination of the Agreement until all University Data has been returned or securely deleted in accordance with current industry standards.

**P. Section 9.b. is hereby deleted and replaced with the following:**

Upon termination or expiration of the Agreement, Contractor will ensure that all University Data are securely made available to the University and then deleted within 120 days of termination of the Agreement.

Contractor shall ensure that University Data is made available for download in standard data formats that do not require proprietary Contractor tools or resources for 30 days after termination.

**Q. Section 9.c. is hereby deleted and replaced with the following:**

Following the procedures set forth in clause 9b, Contractor agrees to securely destroy all data in its possession and in the possession of any subcontractors or agents to which Contractor might have transferred University data. Contractor agrees to provide documentation of data destruction to the University.

**R. Section 9.d. is hereby deleted and replaced with the following:**

Contractor will notify the University of impending cessation of its business and any contingency plans. This includes immediate transfer of any previously escrowed assets and data. Contractor shall implement its exit plan and take all necessary actions to ensure a smooth transition of service with minimal disruption to the University.

**S. Section 10 Audits is hereby deleted and replaced with the following:**

- a. The University reserves the right in its sole discretion to perform audits of the Contractor to ensure compliance with the security and privacy terms of the Agreement. Contractor shall reasonably cooperate in the performance of such audits. This provision applies to all agreements under which Contractor must create, obtain, transmit, use, maintain, process, or dispose of University Data.
- b. If Contractor must under the Agreement create, obtain, transmit, use, maintain, process, or dispose of the subset of University Data known as Personally Identifiable Information or financial or business data, Contractor or its data center provider will at its expense conduct or have conducted at least annually a(n):
  - i. American Institute of CPAs Service Organization Controls 2 (SOC 2) audit, or other independent security audit with audit objectives, which attests to data center security policies, procedures, and controls. Contractor shall submit such documentation for any third-party cloud hosting provider(s) they may use (e.g. AWS, Rackspace, Azure, etc.), to the extent available. Contractor shall also provide James Madison University with a designated point of contact for the SOC reports and risks related to the contract. This person shall address issues raised in the SOC reports and respond to any follow up questions posed by the University in relation to technology systems, infrastructure, or information security concerns related to the contract.
  - ii. vulnerability scan of Contractor's electronic systems and facilities that are used in any way to deliver electronic services under the Agreement; and
  - iii. formal penetration test performed by qualified personnel of Contractor's electronic systems and facilities that are used in any way to deliver electronic services under the Agreement.
- c. Additionally, Contractor will provide the University upon request certifications of the above audits, scans and tests, and will promptly modify its security measures as needed based on those results in order to meet its obligations under the Agreement.

**T. Section 11.a. is hereby deleted and replaced with the following:**

Contractor will comply with all industry standards identified in the Agreement and applicable laws in performing services under the Agreement. Any Contractor personnel visiting the University's facilities will comply with all applicable University policies regarding access to, use of, and conduct within such facilities. The University will provide copies of such policies to Contractor upon request.

**U. Section 11.b. is hereby deleted and replaced with the following:**

To the extent applicable to the design and intended use of the service, Contractor warrants that the service it will provide to the University is fully compliant with applicable laws and regulations. The parties acknowledge

that it is not expected that “education records” will be stored in the SaaS Service, except to the extent that basic library patron data regarding its students used in a library system is deemed “education records” under the Family Educational Rights and Privacy Act (“FERPA”).

## SaaS SUBSCRIPTION AGREEMENT

This SaaS Subscription Agreement ("**Agreement**") is made as of the 18th day of October, 2019 (the "**Agreement Effective Date**"), by and between Ex Libris (USA) Inc. a company incorporated under the laws of New York having its main office at 1350 East Touhy Ave, Suite 150W, Des Plaines, IL 60018 ("**Ex Libris**"), and James Madison University, an institution incorporated under the laws of Virginia, and having its main office at 800 South Main St., Harrisonburg, VA, 22807 ("**Customer**").

**WHEREAS**, a list of defined capitalized terms appears in Annex G hereto.

**WHEREAS**, Customer and Ex Libris and/or ProQuest LLC ("**ProQuest**"), Ex Libris' indirect parent, or an Affiliate thereof have previously entered into one or more software license or subscription agreement(s) for 360Link, ("**Current Agreement(s)**") pursuant to which Ex Libris (or an Affiliate) has granted, and Customer has accepted, a license or subscription to use the current software set forth in Annex A (the "**Current Software**"), all in accordance with the terms and conditions set forth in the Current Agreement(s);

**WHEREAS**, this Agreement shall, as set forth herein, supersede and replace the Current Agreement(s) with respect to the SaaS Services (defined below), and shall govern the use of the SaaS Services, whether such SaaS Services replace the Current Software or constitutes continued use of the SaaS Services.

**WHEREAS**, Ex Libris has the right to grant a subscription to the SaaS Services set forth in Annex A to this Agreement, as such may be amended from time to time (in a writing signed by both parties) by the addition of additional services (collectively, the "**SaaS Services**");

**WHEREAS**, Customer wishes to replace the Current Software with the SaaS Service and subscribe to access and use the SaaS Services from Ex Libris on a Software as a Service basis ("**SaaS**"), and to receive services from Ex Libris, and Ex Libris wishes to provide such a subscription to Customer via SaaS and to provide services to Customer, all subject to the terms of this Agreement;

**WHEREAS**, Ex Libris' quotation for the SaaS Service (the "**Initial Quotation**") is appended hereto as Annex B and made a part hereof, all subject to the terms of this Agreement; and

**WHEREAS**, Subject to Customer's agreement, Ex Libris may subsequently attach additional quotations for additional services, setting forth prices applicable to this Agreement (the "**Additional Quotations**") to be appended hereto as annexes and made a part hereof upon Customer's signature (the Initial Quotation and Additional Quotations, if any, will be collectively referred to as the "**Quotations**").

### **1. SUBSCRIPTION TO SaaS SERVICES**

1.1. In consideration of the full payment of the annual subscription fee (the "**Subscription Fee**") for the SaaS Service, as set forth in the Quotations, and subject to all the terms and conditions hereof, Ex Libris hereby grants to Customer the right to access and use the functionality of the SaaS Service (the "**Subscription**"), as outlined in the Quotations (including, without limitation, any limitation of use to specific locations and Named Users and other use and access restrictions as set forth in the Quotation), during the corresponding subscription period, as well as (i) related materials such as Documentation (as defined below) to the extent then available, and (ii) if applicable, third party data that may be accessed via the SaaS Service ("**Licensor Data**").

1.2. As between the parties, all rights, title and interest, including without limitation, patent rights, copyrights, trade secrets, trademarks, service marks and other intellectual property rights, and any goodwill associated therewith, in and to the SaaS Service, related Documentation and all reproductions, derivatives, corrections, modifications, enhancements and improvements thereof, including anonymized statistical data derived from the usage of the SaaS Service, are and will remain at all times owned by Ex Libris. Other than the rights explicitly granted to Customer hereunder, all rights are reserved to and shall remain solely and exclusively proprietary to Ex Libris.

### **2. SERVICE LEVEL; SUPPORT; OTHER PROVISIONS**

2.1. Ex Libris will make the SaaS Service available to Customer in accordance with the SaaS Service Level Agreement set forth in Annex D (the "**SLA**"). In addition, Ex Libris shall provide Customer with ongoing support services relating to the SaaS Service, as specified in the SLA (the "**Support Services**"). Ex Libris will provide access to all appropriate documentation for fixes, releases, or upgrades to the SaaS Service. For the sake of clarity, Support Services do not include on-site services.

2.2. Provisions applicable to a specific SaaS Service may be set forth in Annex F hereto, and/or in the relevant Quotation, and form a part of this Agreement.



### **3. IMPLEMENTATION AND OTHER SERVICES**

3.1. In consideration of the payment of the Implementation Fee as set forth in the Quotation and in Annex C, Ex Libris shall provide the Customer the implementation services as specified in Annex E attached hereto (the "**Implementation Services**"). Additional implementation services, if requested by Customer, may be specified in the Quotation together with an additional implementation fee. The parties will mutually agree upon a suitable implementation schedule for the above specified services.

3.2. Customer agrees to perform the tasks assigned to it in the Implementation Services. It is understood that effective communications and cooperation between Ex Libris and the Customer are essential ingredients to the success of the Implementation Services. To such end, each Party shall designate a project coordinator who will serve as principal contact for the technical and business communications with respect to the Implementation Services.

3.3. If the Customer uses non-Ex Libris programs ("**Third Party Programs**") that interoperate with the SaaS Service, the Customer acknowledges that Ex Libris may allow the providers of such Third Party Programs to access Customer Data as required for the interoperation and support of such Third Party Programs. Ex Libris shall not be responsible for any disclosure, modification or deletion of Customer Data resulting from any such access by Third Party Program providers. For the sake of clarity, this provision does not refer to programs used or provided by Ex Libris as part of the SaaS Services.

3.4. If Customer wishes to order additional training or other professional services, Ex Libris shall provide a quotation in accordance with its standard daily rates plus travel and subsistence expenses.

### **4. CHARGES AND PAYMENTS**

4.1. The total annual Subscription Fee for the use of the SaaS Service, as well as the fee for services, if any, is as set forth in the Quotations and is payable in the currency set forth therein. Payment is due as set forth in Annex C and is non-refundable. Prices for the Subscription Fee and other services during the Initial Term may be increased by Ex Libris from time to time upon notice to Customer, but not more than 4% per year for the relevant scope/parameters specified in the Quotations. Following the Initial Term, prices for the then-applicable Subscription Fees for each relevant renewal term may be increased by Ex Libris from time to time upon notice to Customer, but not more than 5% per year for the relevant scope/parameters specified in the Quotations.

4.2. Upon the Subscription Effective Date of a SaaS Service, the prorated portion of the annual maintenance fees or subscription fees, as the case may be, paid by Customer for the remaining part of the then-current annual term of the Current Software to be replaced by the SaaS Service, if any, shall be applied to the annual Subscription Fee for that SaaS Service.

4.3. Upon Go-Live, (a) Customer shall stop using the Current Software, (b) the Current Agreements shall terminate with respect to the Current Software and any SaaS Services and (c) all license, access and other rights granted to Customer with respect to the Current Software will automatically terminate.

4.4. All prices and fees stated in this Agreement and any Quotation exclude all applicable value added tax or any other direct or indirect tax, charge, duty or assessment, all of which shall be added to the fees and paid by Customer (except for taxes based upon Ex Libris' net income). Payment of the fees specified in the Quotation shall be made without deduction or withholding of any amount, tax or government charge. If the Customer is a tax-exempt institution, the Customer will supply Ex Libris with appropriate certification of its tax-exempt status within ten (10) days of the Agreement Effective Date and will promptly notify Ex Libris of any change to such status.

### **5. DOCUMENTATION**

Ex Libris shall make available in electronic format at no cost to Customer, all standard materials published by Ex Libris for use by subscribers to the SaaS Service, including manuals and other relevant materials and documentation, as updated from time to time ("**Documentation**"). Customer may print or copy Documentation as needed, provided all copyright notices are included and, with respect to any such materials not made publicly available by Ex Libris, distribution of said copies complies with the confidentiality provisions of this Agreement.

### **6. PROTECTION FROM THIRD PARTY IP INFRINGEMENT**

6.1. Ex Libris will defend Customer to the extent any claim, suit, action or proceeding (each, a "**Claim**") brought by any third party against Customer alleges that the SaaS Service infringes or misappropriates any copyright, trade secret or trademark, and shall pay any amounts awarded by a court pursuant to such Claim or amounts paid to settle the Claim. Ex Libris' obligation pursuant to this paragraph shall not extend to any Claim based on any alleged infringement arising from any use of the SaaS Service other than as permitted by this Agreement.

6.2. The obligations set forth in the immediately preceding paragraph shall be subject to the Customer (i) giving Ex Libris prompt notice of such Claim; (ii) giving Ex Libris the sole authority to defend or settle such Claim; and (iii) providing full cooperation in such defense or settlement at Ex Libris' expense and not taking any action that prejudices Ex Libris' defense or settlement of such Claim.

6.3. If the SaaS Service becomes the subject of a Claim, or in Ex Libris' opinion is likely to become the subject of a Claim, then Ex Libris may, at its expense and option, either: (a) replace or modify the SaaS Service to make it non-infringing, while maintaining equivalent functionality; (b) procure for Customer the right to continue using the SaaS Service pursuant to this Agreement; or (c) terminate this Agreement and refund to Customer, on a pro-rata basis, the amount of any Subscription Fee that Ex Libris has received from Customer for the period between the effective date of termination of the Agreement and the expiration of the subscription period for which the Subscription Fee has been paid.

## **7. LIMITATION OF LIABILITY**

7.1. Ex Libris does not assume any liability in respect of (i) access to and/or violation of copyright, privacy, database rights or trademark protection of any Licensor Data, third-party data or information resources stored with, or accessible through, the SaaS Service (including data made available by or on behalf of customers); (ii) the content or accuracy of Licensor Data or data posted by or on behalf of customers; and (iii) adverse effects, if any, due to any modification or adaptation made by Customer in the SaaS Service without Ex Libris' express and prior written consent.

7.2. In no event shall Ex Libris be liable for indirect, incidental, special, punitive or consequential damages or for cover or for loss of revenues or profits arising from or relating to this Agreement (including without limitation, performance of the SaaS Services or any other service in connection therewith), even if Ex Libris has been advised of the possibility of such damages. In no event shall Ex Libris' aggregate liability arising from or relating to this Agreement (including without limitation, performance of the SaaS Services or any other service in connection therewith) exceed an amount equal to the total amount of Subscription Fees actually paid by Customer for the relevant SaaS Service during the twelve (12) months prior to the first incident out of which liability arose. The existence of more than one claim or suit will not enlarge or extend this limitation.

7.3. Licensor Data is provided "as is". EX LIBRIS' WARRANTIES AND REPRESENTATIONS ARE LIMITED TO THOSE SET FORTH HEREIN, AND IT DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, IN CONNECTION WITH THE SAAS SERVICE, OTHER SERVICES AND ANY DATA ACCESSED THROUGH THE SAAS SERVICE, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. EX LIBRIS MAKES NO REPRESENTATION OR WARRANTY THAT THE USE OF THE SAAS SERVICE WILL BE UNINTERRUPTED OR ERROR-FREE.

## **8. CUSTOMER'S UNDERTAKINGS**

8.1. Customer agrees not to (i) make the SaaS Service or the Licensor Data available in any way for the use or benefit of any unauthorized party and shall use commercially reasonable efforts to prevent unauthorized access to or use of the SaaS Service or the Licensor Data, and shall notify Ex Libris as soon as possible after it becomes aware of any unauthorized access or use; (ii) copy, modify, create derivative works from or use the SaaS Service, the Licensor Data, the Documentation or related materials or other proprietary information received from Ex Libris, in whole or in part, other than as expressly permitted by this Agreement, unless Ex Libris so consents in writing; (iii) reverse engineer, decompile or disassemble the SaaS Service or any components thereof except as expressly authorized by law; (iv) violate or abuse the password protections governing access to and use of the SaaS Service; (v) remove, deface, obscure, or alter Ex Libris' or any third party's copyright notices, trademarks or other proprietary rights notices affixed to or provided as part of the SaaS Service, the Licensor Data and/or the Documentation; (vi) use any robot, spider, scraper, or other automated means to access the SaaS Service or the Licensor Data for any purpose without Ex Libris' written consent; (vii) use or display SaaS Service logos differing from Ex Libris' own without Ex Libris' prior approval, which shall not be unreasonably withheld; (viii) store information or materials in the SaaS Service that violates a third party's rights or breaches applicable law; and/or (ix) use the SaaS Service, the Licensor Data or the Documentation in a way which would violate any applicable laws, rules and regulations.

8.2. Customer agrees to maintain the SaaS Service, any non-public Documentation and related materials confidential, and may disclose the SaaS Service and related materials to its employees or agents to the extent that such disclosure is necessary to Customer's use of the SaaS Service, provided that Customer takes reasonable steps to ensure that such information is not disclosed or distributed by such employees or agents in contravention of the provisions of this Agreement.

8.3. Customer agrees to abide by the access and use restrictions set forth in the Quotation and Documentation, and to refrain from any use of the SaaS Service that is not expressly permitted by this Agreement or the Documentation. Specifically, but without limitation, Customer undertakes to refrain from performing penetration tests or using the SaaS Service in any manner other than in the ordinary course of Customer's regular activities.

8.4. To the extent that any third party brings a claim against Ex Libris alleging that information provided to the SaaS Service by or on behalf of Customer violates a third party's rights or breaches applicable law, Customer will defend the claim and pay any resulting judgment or negotiated settlement. The obligation set forth in this Section 8.4 shall be subject to Ex Libris (i) giving Customer prompt notice of such claim; (ii) giving Customer the sole authority to defend or settle such claim; and (iii) providing full cooperation in such defense or settlement at Customer's expense and not taking any action that prejudices Customer's defense or settlement of such claim.

8.5. In order to allow for proper implementation and operation of the SaaS Service, Customer shall meet and maintain the technical prerequisites set forth in the Documentation. Customer shall be solely responsible for upgrading to the then-current minimum browser requirements as defined by Ex Libris from time to time. Ex Libris shall provide Customer with no less than six months' prior written notice of any change in the minimum browser requirements.

## **9. CUSTOMER DATA**

9.1. "**Customer Data**" means any business information, personal information or other data which Customer stores, or provides to Ex Libris for storing and processing, in the SaaS Services. The Customer shall own all rights, title and interest in and to all of the Customer Data and shall have sole responsibility for the legality, reliability, integrity, accuracy and quality of the Customer Data. Nothing in this Agreement shall be interpreted to transfer title or ownership of the Customer Data to Ex Libris or any other party.

9.2. Ex Libris agrees during the Term to implement reasonable security measures to protect and backup Customer Data and will, at a minimum, utilize industry standard security and backup procedures.

9.3. Customer acknowledges that use of the SaaS Services may involve providing personal information about Customer's permitted users, such as its staff and patrons, and other third parties to Ex Libris for storing and processing in the SaaS Services ("**Personal Information**") and the Customer shall be responsible for having all necessary rights to collect and process or allow collection and processing of such Personal Information. As between Customer and Ex Libris, Customer retains ownership of the Personal Information and may, at any time during the term of this Agreement, access, modify and delete Personal Information that is stored in the SaaS Services.

9.4. Customer agrees that it will not upload to or store on the SaaS Services, and Ex Libris will not be liable with respect to, any sensitive personal data such as government-issued identification numbers (social security number, national identification number, driver's license number, passport number etc.), bank and credit card account numbers, race, origin, biometric data, health and medical information, student academic records, employment records or financial records, political opinions, religious or philosophical beliefs, trade union membership, genetic data or information concerning sex life or sexual orientation, and Customer will only store basic personal information necessary to operating library systems (i.e., names, postal addresses, email addresses, telephone numbers, institutional ID and loan and fines information, as applicable).

9.5. Ex Libris shall comply with all laws and regulations (including without limitation privacy laws and regulations) applicable to its operation of the SaaS Services and Customer shall comply with all laws and regulations (including without limitation privacy laws and regulations) applicable to its use of the SaaS Services, including without limitation, the collection, use, transfer, and access by its users, of Personal Information in connection with the SaaS Services. Ex Libris may utilize its Affiliates in the performance of its obligations under this Agreement. Ex Libris shall not use the Personal Information for any purpose except in the performance of this Agreement.

## **10. TERM AND TERMINATION**

10.1. This Agreement shall be effective upon the Agreement Effective Date and shall expire thirty (30) days after the expiration or termination of the last remaining Subscription hereunder. The Subscription for each SaaS Service shall be effective upon the Subscription Effective Date set forth on Annex C for such SaaS Service. The initial term of a Subscription shall expire at the end of five (5) years after the relevant Subscription Effective Date (the "**Initial Term**" of that Subscription). Following the applicable Initial Term, the Customer may renew the Subscription at the then-applicable Subscription Fee for five (5) successive one (1) year terms (each, a "**Renewal Term**", and together with the Initial Term, the "**Term**") by giving written notice approximately 90 days prior to the expiration date of the then current term. If Customer shall continue to use the SaaS Service past the applicable

Subscription renewal date, Customer shall be deemed to have renewed the Subscription for the following term at the rates applicable for said new term.

10.2. Customer may terminate this Agreement and/or the applicable Subscription, effective upon Ex Libris receipt of written notice, if Ex Libris is in material breach of this Agreement and Customer has given written notice of such material breach and Ex Libris has failed to cure such material breach within thirty (30) days of such notice. In the event of such termination, Ex Libris shall refund to Customer, on a pro-rata basis, the amount of any Subscription Fee that Ex Libris has received from Customer for the period between the effective date of termination of the Subscription and the expiration of the subscription period for which the Subscription Fee has been paid.

10.3. Ex Libris may terminate this Agreement and/or the applicable Subscription, effective upon Customer's receipt of written notice, if Customer is in default in payment of any sum due hereunder or is otherwise in material breach of this Agreement and Ex Libris has given written notice of such default or material breach and Customer has failed to cure such default or material breach within thirty (30) days of such notice. Customer's obligation to pay all charges which have accrued prior to termination (including Subscription Fees payable through the end of the applicable Term) shall survive any such termination of this Agreement by Ex Libris, without waiver of any remedies Ex Libris may have at law or in equity.

10.4. Upon expiration or termination of a Subscription, Ex Libris will, upon Customer's request, make the Customer Data available to Customer for download for the thirty (30) days following such expiration or termination (the "**Termination Assistance Period**"). After the Termination Assistance Period, Ex Libris shall have no obligation to maintain or provide any Customer Data relating to the expired or terminated Subscription and will, unless legally prohibited, delete it.

10.5. The terms of Sections 1.2, 6, 7, 8, 10, 12.1 and 13, as well as any provisions that are inherently intended to survive the termination of an agreement (e.g., definitions, indemnity, obligation of confidentiality or limit of liability) shall survive the termination of this Agreement.

10.6. The Contractor acknowledges that the Commonwealth's participation in the "Initial Term" is subject to and contingent upon appropriations by the Virginia General Assembly. In the event that the Commonwealth, through its state-provided funds, is unable to renew the annual subscription within the "Initial Term" due to lack of funding, the Contractor shall allow the Commonwealth to opt out of the license provided notice is submitted to Contractor in writing sixty (60) days prior to the start of the annual term anniversary date. The Commonwealth will be responsible for the payment of all amounts owed for the SaaS services or other services provided through the date of termination.

## **11. FORCE MAJEURE**

Ex Libris shall not be responsible for any failures of its obligations under this Agreement to the extent that such failure is due to causes beyond Ex Libris' control including, but not limited to, acts of God, war, terrorism, riots, civil unrest, acts of any government or agency thereof, fire, explosions, epidemics, quarantine restrictions, delivery services, telecommunication providers, interruption or failure of the Internet, strikes, labor difficulties, lockouts, embargoes, or severe weather conditions.

## **12. STATEMENT OF CONFIDENTIALITY; USE OF NAME IN PUBLICITY**

12.1. Intentionally Deleted.

12.2. Ex Libris may use Customer's name on its website and in its promotional materials as a customer of the SaaS Service, but will not imply that the parties are affiliated.

## **13. GENERAL**

13.1. This Agreement is to be governed by and interpreted in accordance with the laws of Virginia, without giving effect to principles of conflicts of laws. All disputes arising out of this Agreement shall be subject to the sole and exclusive jurisdiction of the competent courts located in Virginia, provided that Ex Libris may seek injunctive relief in any court of competent jurisdiction. The United Nations Convention for the International Sale of Goods shall not apply to this Agreement.

13.2. All notices hereunder shall be deemed effective when delivered to the address set forth above or to a designated fax number, as follows: (i) if hand-delivered, upon delivery, (ii) if sent by recognized national or international courier, on the business day of delivery, (iii) if sent by registered post, within five (5) business days of sending; (iv) if sent by email, on the business day of sending (or if sent on a non-business day on the next business day), provided that the recipient has acknowledged receipt.

13.3. Neither party hereto may assign its rights and obligations under this Agreement except with the prior written consent of the other, provided that Ex Libris may assign its rights and obligations to an affiliate or to a company which succeeds to its business hereunder.

13.4. The development, release, and timing of any new features or functionality of the SaaS Service remains at Ex Libris' sole discretion. The Customer acknowledges that it has not relied on the delivery of any future feature or functionality in executing this Agreement.

13.5. The parties acknowledge that they are independent contractors and no other relationship, including partnership, joint venture, employment, franchise, or principal/agent is intended by this Agreement. Neither party shall have the right to bind or obligate the other.

13.6. All headings herein are for ease of reference only and shall not be used to interpret this Agreement.

13.7. The annexes attached hereto are incorporated in, and made a part of, the Agreement by this reference. All capitalized but undefined terms in an annex to this Agreement shall have the meaning set forth herein.

13.8. Intentionally Deleted.

13.9. If any provision of this Agreement shall be held by a court of competent jurisdiction to be contrary to law or unenforceable, the remaining provisions of this Agreement shall remain in full force and effect and this Agreement shall be construed without such provision.

13.10. This Agreement may only be amended by a writing signed by both Parties.

13.11. The waiver of a breach of any term hereof shall in no way be construed as a waiver of any other term or waiver of such breach on other occasions.

13.12. Any purchase order entered into between the parties shall be deemed to incorporate the terms of this Agreement. If a purchase order contains terms that purport to modify or supplement the terms of this Agreement then those purchase order terms shall have no force or effect, unless expressly agreed to in writing by both parties. In the case of an inconsistency or contradiction between this Agreement and any purchase order, this Agreement shall prevail.

13.13. Facsimile signatures shall be sufficient for purposes of executing this Agreement. This Agreement may be executed in counterparts.



## **LIST OF ANNEXES**

<b>ANNEX A</b>	<b>Ex Libris Current Software and SaaS Service(s)</b>
<b>ANNEX B</b>	<b>Initial Quotation and Additional Quotations, if any</b>
<b>ANNEX C</b>	<b>Payment Terms</b>
<b>ANNEX D</b>	<b>SaaS Service Level Agreement</b>
<b>ANNEX E</b>	<b>Implementation Services</b>
<b>ANNEX F</b>	<b>SaaS Service-Specific Provisions</b>
<b>ANNEX G</b>	<b>Definitions</b>

## ANNEX A

### Ex Libris Current Software and SaaS Service(s)

#### **Current Software (to be replaced by the SaaS Service(s) below):**

360 Core/Link and 360 KnowledgeBase

#### **SaaS Service(s):**

Alma  
Alma Premium Sandbox  
Primo SaaS  
Primo Premium Sandbox  
bX Recommender Service  
Leganto  
Leganto Premium Sandbox

## ANNEX B

### Initial Quotation and Additional Quotations, if any

#### ALMA & PRIMO

#### 1. Fees

##### (a) Annual Fees

(i) The initial annual Alma Subscription Fee: \$150,000

(ii) The initial annual Primo Subscription Fee: \$24,039

(iii) Premium Alma/Primo Sandbox: \$20,000

Includes (A) a copy of the Customer configuration, and (B) a copy of the Customer data, except for the Digital Object Files loaded into Alma cloud storage

(iv) Cancellation Fee: In the event Customer cancels or otherwise terminates a SaaS Services Subscription prior to the end of the Initial Term, other than in accordance with the terms of Section 10 of the Agreement, Customer shall pay a cancellation fee equal to the number of years remaining in the Initial Term for such SaaS Service multiplied by the initial Subscription Fee set forth in Annex B above with respect to such SaaS Service.

##### (b) Initial Fees

(i) Premium Implementation Fee: \$120,559

(ii) Monthly Provisioning Fee: Waived

#### 2. Access and Use Restrictions:

Usage of the SaaS Service is limited to:

- (a) The following campuses only: James Madison University campus located in Harrisonburg, VA, and is not for the use of any other campus, college, university, library or entity of any kind. Any use of the SaaS Service by any other entity is strictly prohibited and is considered a material breach of this Agreement. For the sake of clarity, Customer's authorized users associated with such listed campuses may access the SaaS Services from outside of Customer's jurisdiction, but Customer shall ensure that it is entitled to transfer Customer Data and Personal Information from and to any such Customer user location and shall be responsible for compliance with privacy laws applicable to such transfers.
- (b) Alma subscription for up to: (i) 155 Named Users for Ex Libris Alma, and thirty (30) users for Alma Sandbox; (ii) 1,748,363 Bibliographic Titles (including e-books and local authority records); (iii) 169,373 Unique e-Journal Titles.
- (c) A subscription to manage the following resource types in Ex Libris Alma: (i) Print; and (ii) Electronic.
- (d) Primo subscription is for up to (i) 1,850,000 Primo Documents; (ii) 22,310 FTE's; and (iii) 1 institutions.
- (e) For a period of thirty-six (36) months from the Go Live Date, Customer may choose to:
  - a. Increase the number of Alma named users from 155 to up to 165, in which event the then-current annual Subscription Fee shall be increased by an amount of \$4,974.
  - b. Increase the number of Alma bibliographic titles (including e-books and local authority records) from 1,748,363 to up to 2,000,000 in which event the then-current annual Subscription Fee shall be increased by an amount of \$3,688.
  - c. Increase the number of Alma unique e-journal titles from 169,373 to up to 180,000 in which event the then-current annual Subscription Fee shall be increased by an amount of \$3,193.
  - d. Increase the number of Primo FTE from 22,310 to up to 28,000 in which event the then-current annual Subscription Fee shall be increased by an amount of \$2,525.

- e. Increase the number of Primo documents from 1,850,000 to up to 2,000,000 in which event the then-current annual Subscription Fee shall be increased by an amount of \$2,525.

## ANNEX B.1

### Initial Quotation and Additional Quotations, if any LEGANTO

#### 1. Fees

##### (a) Annual Fees

(i) The initial annual Leganto Subscription Fee: \$30,000

(ii) Leganto Sandbox

Premium Leganto Sandbox (Requires Alma Premium Sandbox): Included as part of the annual Leganto Subscription Fee.

Includes (A) a copy of the Customer configuration, and (B) a copy of the Customer production data, except for the files loaded into Leganto repository

(iii) Cancellation Fee: In the event Customer cancels or otherwise terminates a SaaS Services Subscription prior to the end of the Initial Term, other than in accordance with the terms of Section 10 of the Agreement, Customer shall pay a cancellation fee equal to the number of years remaining in the Initial Term for such SaaS Service multiplied by the initial Subscription Fee set forth in Annex B above with respect to such SaaS Service

##### (b) Initial Fees

(i) Implementation Fee: \$12,623

##### (c) Copyright Clearance Fees (Variable)

(i) Ex Libris will process Restricted Content as set forth below only if Customer has requested copyright clearance processing from Ex Libris. Copyright Clearance Fees means royalties and third-party transaction fees required to allow Customer's students to access (through Leganto) content that the Customer does not have the right to make available without payment ("Restricted Content"). The amount of such Fees is not fixed and is equal to the amount that the rights holders and processors charge Ex Libris for Customer's students' access to Restricted Content, and will depend upon the extent to which Restricted Content is actually accessed by those students.

#### 2. Access and Use Restrictions:

Usage of the SaaS Service is limited to:

(a) A subscription for up to 22,310 FTE's of James Madison University and is not for the use on behalf of any other entity of any kind. Any use of the SaaS Service by any other entity is strictly prohibited and is considered a material breach of this Agreement. For the sake of clarity, Customer's authorized users associated with such institution may use the SaaS Services from outside of Customer's jurisdiction, but Customer shall ensure that it is entitled to transfer Customer Data and Personal Information from and to any such Customer user location and shall be responsible for compliance with privacy laws applicable to such transfers.

(b) Up to 1 TB of files loaded by Customer to the Leganto repository.



## ANNEX C

### Alma and Primo Payment Terms

1. Annual Subscription Fee: The initial Subscription Fee is for the one-year period commencing on the Go Live Date (the “**Subscription Effective Date**”), and each subsequent Subscription Fee is for the one-year period commencing on each anniversary thereof. The Subscription Fee is due on the Subscription Effective Date and on each anniversary thereof.
2. Increase in Scope of Subscription: In the event the scope of the Subscription is extended beyond the Access and Use Restrictions initially set forth on the Quotation, the annual Subscription Fee shall be increased proportionally from the time said extension is granted by Ex Libris, without regard to the annual cap on increases set forth in Section 4.1.
3. Implementation Fee: 50% of the Implementation Fee is due on the SaaS Service Contract Date; and 50% of the Implementation Fee is due on the Go Live Date.
4. Other Services: Other special services, if any, ordered by the Customer, are payable against Ex Libris’ corresponding monthly invoices.
5. Note: All Ex Libris invoices are payable within thirty (30) days of the Customer’s receipt of invoice. Payment of the fees specified in the Quotation shall be made without deduction or withholding of any amount, tax or government charge. Late payments shall bear interest at the rate of 1.5% per month or the highest lawful rate, whichever is lower.
6. Travel and Expenses: Reasonable travel, lodging and meal expenses incurred by Ex Libris in the performance of the three day on-site workshop specified in Annex E of the Agreement are included in prices quoted. Additional travel, lodging and meal expenses incurred by Ex Libris in the performance of services shall be \$1,000 for the first day onsite (to include travel) and \$300/day thereafter.

## ANNEX C.1

### Payment Terms

#### LEGANTO

1. Annual Subscription Fee: The initial Subscription Fee is for the one-year period commencing on the Leganto Go Live Date (the “**Subscription Effective Date**”), and each subsequent Subscription Fee is for the one-year period commencing on each anniversary thereof. The Subscription Fee is due on the Subscription Effective Date and on each anniversary thereof.
2. Increase in Scope of Subscription: In the event the scope of the Subscription is extended beyond the Access and Use Restrictions initially set forth on the Quotation, the annual Subscription Fee shall be increased proportionally from the time said extension is granted by Ex Libris, without regard to the annual cap on increases set forth in Section 4.1.
3. Implementation Fee: 50% of the Implementation Fee is due on the Leganto Implementation Kick-Off Date; and 50% of the Implementation Fee is due on the Go Live Date.
4. Other Services: Other special services, if any, ordered by the Customer, are payable against Ex Libris’ corresponding monthly invoices.
5. Note: All Ex Libris invoices are payable within thirty (30) days of the Customer’s receipt of invoice. Payment of the fees specified in the Quotation shall be made without deduction or withholding of any amount, tax or government charge. Late payments shall bear interest at the rate of 1.5% per month or the highest lawful rate, whichever is lower.
6. Copyright Clearance Fees: If the Customer has requested copyright clearance processing from Ex Libris and has elected to pay for its students’ actual access (through Leganto) to Restricted Content, then, at the close of each calendar quarter, Ex Libris will invoice the Customer for the Copyright Clearance Fees. If the Customer has requested copyright clearance processing from Ex Libris but has not elected to pay for its students’ actual access to Restricted Content, then each student will be charged the Copyright Clearance Fees at the time the Restricted Content is first accessed by the student. Any such charges will be paid by the student through a third party payment processor (currently, PayPal) subject exclusively to the privacy, security and other policies and practices of such third party. At that time the student will also pay any payment processing fees that may be charged by the payment processor. Until a student’s payment through the payment processor has been completed, the student will not be granted access to the corresponding Restricted Content. For the avoidance of doubt, the payment processor is an independent third party that is not controlled by Ex Libris and Ex Libris shall have no responsibility (whether to the Customer or to the student) for the acts and omissions of the payment processor or otherwise in connection with the payment processing and any information provided by the student to the payment processor.

## ANNEX D

### SaaS Service Level Agreement (the "SLA")

#### **A. For Programs other than Sandbox**

##### **1. Availability**

For the duration of the Subscription, Ex Libris will use commercially reasonable efforts to ensure that the SaaS Service is available for access and use in accordance with the Agreement at an annual Uptime Percentage (defined below) of at least 99.5%, as measured over any calendar year. Ex Libris shall either publish on a quarterly basis or make available to Customer upon request a report of any Downtime during a calendar quarter (the "**Quarterly Report**").

##### **2. Definitions**

All capitalized terms used in this SLA without definition shall have the meaning ascribed to them in the Agreement. In addition, the following definitions shall apply to this SLA:

- 2.1. "**Downtime**" means the total time within a Measured Period during which the SaaS Service is inoperable or inaccessible, excluding SLA Exclusions during such Measured Period.
- 2.2. "**Measured Period**" means the total number of minutes in the calendar year.
- 2.3. "**Scheduled Downtime**" shall mean any Downtime (i) of which Customer is notified at least seven (7) days in advance, or (ii) during a standard maintenance window, as published by Ex Libris from time to time. In either of the foregoing two situations, Ex Libris will use commercially reasonable efforts to ensure that the Scheduled Downtime falls between the hours of Saturday 8PM and Sunday 6AM US Central time.
- 2.4. "**Uptime**" means the total period in minutes during which the SaaS Service is available for access and use during a Measured Period.
- 2.5. "**Uptime Percentage**" means Uptime expressed as a percentage, calculated in accordance with the following formula:

$$\text{Uptime Percentage} = X / (Y - Z) \times 100$$

Where:

- |   |   |   |
|---|---|---|
| X | = | Uptime  |
| Y | = | Measured Period   |
| Z | = | The duration (in minutes) of any SLA Exclusions during the applicable Measured Period |

##### **3. SLA Exclusions**

The following shall not be considered within the definition or calculation of Downtime: (i) Scheduled Downtime; (ii) SaaS Service unavailability attributable to (a) causes beyond Ex Libris' reasonable control, including any Force Majeure event or the performance of any third party communications or internet service provider; (b) the Customer's failure to perform any obligation under the Agreement that affects the performance of the SaaS Service; and/or (c) any actions or omissions of the Customer, its permitted users or any third party acting on their behalf, or to the Customer's or any third party's equipment, software or other technology; (iii) SaaS Service unavailability caused by the suspension and termination of the Customer's right to use the SaaS Service in accordance with the Agreement; and (iv) separate instances of SaaS Service unavailability of less than 5 (five) minutes duration each, provided such instances are not of a persistent nature such that they cause a detrimental impact on the Customer (each an "**SLA Exclusion**").

##### **4. Low Uptime Percentage**

- 4.1. If the Uptime Percentage shown on any two consecutive Quarterly Reports falls below 97%, then the Customer shall be entitled to terminate the Subscription immediately, without Ex Libris incurring any liability arising from the fact of such termination. The Customer is liable for Subscription Fees only up to the date of termination. The Customer's right to terminate under this Section 4.1 only exists for a period of one month following delivery of the applicable Quarterly Report.

- 4.2. If the Customer disputes the accuracy of any Quarterly Report, it must submit notice thereof within two weeks of its receipt of the Quarterly Report, which notice must include the dates, times and duration of each incident of Downtime that the Customer claims to have experienced, including instance ids of the instances that were running and affected during the time of each incident. Failure to do so shall render the Quarterly Report definitive.
- 4.3. Ex Libris' obligations hereunder are based on and subject to the Customer: (i) complying with the terms and conditions of the Agreement, including this SLA; (ii) complying with Ex Libris' instructions, if any, for performing corrective action; and (iii) the Customer maintaining the connectivity (with acceptable bandwidth) of the workstations and end customers to the main internet, including network connectivity to the SaaS Service, and connectivity between the SaaS Service and the Customer's local applications interacting with the SaaS Service, as well as creating and maintaining firewall definitions and opening required ports that permit access to the SaaS Service.

## 5. Support Incidents

- 5.1. Customer shall report all issues via Salesforce, through the creation of a Salesforce Case (a "**Support Case**"). Level I and II issues, as described in 5.2 below, should also be reported to [24X7hub@exlibrisgroup.com](mailto:24X7hub@exlibrisgroup.com).
- 5.2. Ex Libris Response to Support Cases:

Response Level	Description	Initial Response
I	<ul style="list-style-type: none"> <li>The SaaS Service is not available</li> </ul>	1 hour
II	<ul style="list-style-type: none"> <li>An inoperable production module</li> </ul>	2 hours
III	<ul style="list-style-type: none"> <li>Other production performance related issues, typically a module feature working incorrectly</li> </ul>	1 business day
IV	<ul style="list-style-type: none"> <li>Non-performance related incidents, including: general questions, requests for information, documentation questions, enhancement requests</li> </ul>	2 business days

- 5.3. Updates relating to Support Cases

All incidents of Downtime which are known by Ex Libris are reported by Ex Libris to Customer and available for Customer to view via a designated link on the Customer Portal ("**Downtime Status Page**"). In the event of Downtime, Ex Libris shall update the Downtime Status Page on an hourly basis until resolution of such Downtime event. All incidents of Downtime which are known by Ex Libris and which affect only Customer will be communicated via a support case or by email.

- 5.4. Escalation

If Downtime is not resolved within two hours, then Ex Libris will escalate the matter to its 24x7 Team Hub Manager; if it is not resolved within four hours, then Ex Libris will escalate the matter to its Director of Support for North America; and if it is not resolved within eight hours, then Ex Libris will escalate the matter to its Global Support Director.

## 6. 24x7 Monitoring

The Ex Libris hub team provides 24x7 coverage for the SaaS Service by monitoring and alerting on any issues or problems with:

- servers
- operating systems
- network devices (switches/routers)
- backup systems
- server side performance



**B. For Sandbox**

Ex Libris makes no warranty or representation regarding Uptime. Ex Libris shall respond to Support Cases for Sandbox as follows:

- (i) Performance related issues: within two (2) business days.
- (ii) Non-performance related matters, including: general questions, requests for information, documentation questions, and enhancement requests: within four (4) business days.

## ANNEX E

### Alma and Primo Implementation Services with Alma Premium Migration

#### Overview

<u>Ex Libris Alma institution(s):</u>	<u>One</u>
<u>Ex Libris Alma sandbox (es):</u>	<u>1 Premium</u>
<u>Ex Libris Primo institution(s):</u>	<u>One</u>
<u>Ex Libris Primo sandbox (es):</u>	<u>1 Premium</u>

Alma and Primo implementation services covered by this Agreement include:

1. Project management, training, customer assistance
2. Configuration (Alma and Primo)
3. Data migration (Alma)
4. Alma-Primo integration

Implementation duration is expected to be six (6) months. If the Customer would like to extend the Implementation timeline beyond the agreed upon duration, negotiation regarding the extended schedule and related costs will be conducted.

#### 1. Project management, training, customer assistance

Customer Group Services: Except as otherwise specified, the Implementation Services described in this Section 1 may be provided on a group basis together with other customers sharing common characteristics, such as target timing, language, geography and type of existing library system. All institutions in the group will start and complete the implementation process together, with Go Live and Switch to Support within the same timeframe.

- 1.1. Services provided:
  - Kick-off meeting (Web-based)
  - Regular project calls
  - Reporting and tracking of project progress, tasks and issues - provided on an individual customer basis
  - Guided implementation assistance, including data migration and configuration preparation and refinement
  - Alma “train-the-trainer” training (Web-based recorded)
  - Functional workshop (3 days onsite) - provided on an individual customer basis
  - Alma Administration Certification training (Web-based recorded)
  - Primo Administration training (Web-based recorded)
- 1.2. Ex Libris shall perform all project management, customer assistance and “train-the-trainer” training.
- 1.3. Customer is responsible to appoint a library project team and a project coordinator who will serve as the primary contact for the Ex Libris project manager. If required, relevant IT resources need to be provided by the Customer in accordance with the project plan.
- 1.4. Customer project team shall participate in the Alma “train-the-trainer” training and are responsible for performing internal library staff training. At least two persons will be required to participate in the Alma and Primo Administration Certification training and pass the certification exams.
- 1.5. Ex Libris shall provide ongoing implementation assistance via Ex Libris CRM system (Salesforce) during the implementation project. - provided on an individual customer basis
- 1.6. Ex Libris uses Web-based project management tool “Basecamp” as major communication platform during implementation project. Customer project team is expected to use this platform following guidelines provided by Ex Libris project team.

#### 2. Configuration

- 2.1. Includes configuration and assisting with the setup of the following functional areas within Ex Libris Alma. The specific functions to implement (among the below) will be determined and agreed as part of the Alma implementation project based on Customer needs and joint analysis with Ex Libris:
  - Acquisitions
  - Fulfillment
  - User Management
  - Resource management
  - Standard third party integrations
- 2.2. Standard Alma third party integrations include:

- User Management
    - Importing of user (patron) information from a Student Information System
    - Exporting of fees and fines to the institutional financial system (Bursar)
  - Acquisitions
    - ProQuest OASIS – Real Time Ordering integration
    - Exporting of invoices for payment to the institutional ERP (Enterprise Resource Planning) / financial system
    - Receiving invoice payment confirmation from an ERP (Enterprise Resource Planning) / financial system
    - EOD (Embedded Order Data) import
    - Export Orders (PO) for sending to the institutional ERP (Enterprise Resource Planning) / financial system
    - Fund Allocation Loader to allocate amounts to the funds in Alma.
    - Setup for Electronic Data Interchange (EDI) messages used to communicate with the vendors (sending of orders, import of invoices).
  - Metadata Management
    - ProQuest Ebooks Central- Upload Electronic Holdings
    - Repository Metadata import
    - OCLC Connexion client (if applicable)
    - External catalogs search (via Z39.50)
    - Publishing of bibliographic information to 3<sup>rd</sup> party systems (OCLC WorldCat, Libraries Australia, SunCat, COPAC, HathiTrust - if applicable)
    - Publishing of library holdings to 3<sup>rd</sup> party systems (OCLC WorldCat, Libraries Australia, SunCat, COPAC, HathiTrust - if applicable)
    - Alma setup as Z39.50 (data provider)
    - Publish electronic records to Google Scholar
  - Fulfillment
    - Standard Resource Sharing / Interlibrary Loan (ILL) services including:
      - OCLC ILLiad (OpenURL/NCIP v.2.0)
      - OCLC WorldCat Navigator (NCIP v.2.0)
      - OCLC VDX (NCIP v.2.0)
      - Relais D2D (OpenURL/NCIP v.2.0)
      - British Library Document Supply Service (using ARTEmail protocol)
      - Innovative INN-Reach (NCIP v.1.0)
      - Kronosdoc GTBib-SOD (OpenURL/NCIP v.2.0)
      - Clio II (OpenURL/NCIP v.2.0)
      - ISO – Communication between Alma and another resource sharing (Alma or non-Alma) system
      - SLNP
    - Remote Storage Facility (transfer list of barcodes and requests pickup location to defined SFTP site or API-based HK/Dematic ASRS solution)
    - Self-Check machines (using SIP2 protocol)
  - Staff Authentication - the following options are available
    - Lightweight Directory Access Protocol (LDAP)
    - SAML 2.0 protocol
    - Central Authentication Service (CAS)
    - Social authentication (OAuth 2.0 protocol)
    - Ex Libris Identity Service
- 2.3. Configuration includes set up of the following areas within Ex Libris Primo:
- Institutional view with standard search box, search profiles / scopes, facets and resources types
  - Integration with Ex Libris Alma:
    - As a data source, including:
      - Initial test load
      - Final cutover
    - For delivery (availability, request, link resolution)
    - Alma link resolver – includes initial and ongoing institutional holdings extraction required for Primo Central availability information
  - Course Reserve setup in Primo (if relevant data migrated to Alma)
  - Primo Central activation
  - Activation of bX (if applicable)

- EBSCO API integration (if applicable)
  - End-user patron authentication via institutional LDAP, Shibboleth (using SAML 2.0 protocol), CAS Social authentication (OAuth 2.0) or Ex Libris Identity Service. End-user authentication must be performed via one of these standard authentication systems.
  - Integration with one OAI-PMH compliant digital repository (if applicable)
- 2.4 Ex Libris shall perform all configuration of Alma based on Customer input in Ex Libris-provided form/workbook.
- 2.5 Ex Libris shall perform all configuration of Primo based on Customer input in Ex Libris-provided form/workbook except of integration with external data sources and UI configuration.
- 2.6 Ex Libris will provide assistance with product configuration and third party integrations set up during the implementation project until the 'Switch to Support' milestone. If the Customer would like to postpone configuration of any functional area or third party integration and would like Ex Libris to provide assistance following the Switch to Support, Ex Libris will provide a quotation for additional professional services.
- 2.7 Customer shall provide input on configuration via Alma and Primo configuration form/workbook and provide post-configuration feedback based on end-to-end review of Alma and Primo configuration and functionality in the defined time frame.
- 2.8 Third party integrations not mentioned above can be configured by Customer following Go-Live.
- 2.9 Customer is responsible for configuring branding in Primo using the standard tools.
- 2.10 Set up additional institutions or any changes to the existing Primo configuration are not included in this Agreement.

### 3. Data migration

- 3.1 Data migration includes two rounds (test and cutover).
- 3.2 Migration services include:  
The following data entities will be migrated from the Customer's current ILS, Innovative Interfaces Sierra, and from the Customer's current Link Resolver, 360 Core/Link:  
Please note: The migration of specific elements in scope may vary between source systems and are detailed in the relevant specific source system migration guides.
- Bibliographic records [MARC21]
  - Inventory
    - Print - Item records, Holdings records
    - Electronic - from 360 Core/Link– Databases and their titles (holdings/portfolios)
  - Patrons' name, identifier and borrower information (password and PIN code are not migrated)
  - Fulfillment
    - Loans (current)
    - Hold requests (current on hold shelf)
    - Fines & Fees (current)
    - Aggregate historical circulation statistics (loan count and last loan date at item-level)
  - Acquisitions
    - Print - Vendors (vendors are migrated during the test round and are not re-migrated during cutover round), Funds, Purchase orders, Invoices
    - Electronic resource management – Licenses, Interfaces, Electronic inventory enrichment (from the Customer's current ERM –Innovative Interfaces ERM – the Customer will be required to follow the data format requirements provided by Ex Libris)
  - Course reserves
    - Course Information
    - Reading lists
    - Citations
- 3.3 Authority Data - Alma Community Zone includes global authorities (local authority records may be loaded using Alma standard tools post Go Live Date).
- 3.4 If you subscribe to managing Digital resources in Alma the following can be performed using Alma standard tools post Go Live Date:
- Metadata and objects can be ingested into Alma
  - Remote Digital repository metadata can be harvested into Alma via OAI-PMH
- 3.5 Ex Libris will:
- Provide migration guides and forms.
  - Provide tools/guidelines for data extraction from Ex Libris source systems
  - Provide guidelines for reviewing migrated data in Alma
  - Provide support during the migration and review period

- Data migration services support single standalone institutions whereby each source database represents a single organization and Alma institution.
- In case any source database does not represent a single organization, there may be a need to split or combine the source database data during migration. In such cases, Ex Libris will:
  - Split data from Ex Libris source ILS databases based on library/location codes indicated by the customer in the relevant migration inputs. Note: Splitting data based on location/library is not intended for data cleanup, but for organizational separation only.
  - Combine data from multiple source databases. This does not include data de-duplication services, but rather appending data from each source system together into a single target Alma institution.

### 3.6 Customer will:

- Extract data from Ex Libris systems using Ex Libris-provided and supported tools.
- Extract data from Non-Ex Libris source systems following the data format requirements provided by Ex Libris (if the customer is unable to provide data in required formats in the project test load timeframe, the Alma project schedule will need to be re-scheduled)
- Provide input via migration forms.
- Provide data structure description for non-Ex Libris source systems
- Provide input data for print to electronic transformation during migration (if required)
- Provide all input data in migration scope by test migration round delivery date
- Review and test data migrated to Alma and provide feedback in the defined time frame
- Review and test Alma configuration and workflows, and provide feedback in the defined time frame
- In case any source database does not represent a single organization, there may be a need to split or combine the source database data during migration. In such cases, Customer will:
  - Split data from non-Ex Libris source systems and provide to Ex Libris in separate files per organization/target Alma institution for separating organizations.
  - Provide library/location codes in the relevant Ex Libris source system migration inputs for separating data. Note: Splitting data based on location/library is not intended for data cleanup, but for organizational separation only.
  - Prepare combining organizations' data by aligning codes and policies prior to test round migration, where relevant, for organizations that are combining.

### 3.7 General

Data modification or clean-up of any type is not included in the scope of the migration.

For purposes of the previous sentence, data modification and clean-up includes, but is not limited to the following:

- Eliminating duplicate records
- Correcting misspellings and errors
- Ensuring that there are consistent descriptions, punctuation, and syntax
- Resolving any other inaccuracies and inconsistencies relating to the data content

## ANNEX E.1

### Ex Libris Leganto Implementation Services

#### Overview

Implementation Services described in this annex are applicable to single standalone Leganto institution. Implementation duration is expected to be 6 weeks. If the Customer would like to extend the implementation timeline beyond the agreed timeframe, negotiation regarding the extended schedule and related costs will be conducted.

Leganto implementation services covered by this Agreement include:

1. Project management, training, customer assistance
2. Configuration
3. Data migration

#### 1. Project management, training, customer assistance

- 1.1. Services provided:
  - Kick-off meeting (Web-based)
  - Regular project meetings (Web-based)
  - Reporting and tracking of project progress, tasks and issues
  - Guided implementation support
  - Implementation project team training (Web-based recorded)
- 1.2. Ex Libris shall perform all project management and customer assistance.
- 1.3. Customer is responsible to appoint a library project team and a project manager who will serve as the primary contact for the Ex Libris project manager. If required, relevant IT resources need to be provided by the Customer in accordance with the project plan.
- 1.4. Ex Libris shall provide ongoing implementation assistance via Ex Libris CRM (Salesforce) system during the implementation project.
- 1.5. Ex Libris uses Web-based project management tool (Basecamp) as major communication platform during implementation project. Customer project team is expected to use this platform following guidelines provided by Ex Libris project team.
- 1.6. Ex Libris shall provide recorded web-based training material for library staff and instructors training (training of library staff and instructors will be the responsibility of the Customer).

#### 2. Configuration

- 2.1. Includes configuration and assisting with the setup of the functional areas within Ex Libris Leganto.
- 2.2. Standard third party integrations in Leganto include integration with Alma, Primo and the institution's Course Management System which is LTI-compliant:
  - 2.2.1. Ex Libris shall perform Leganto integration with Alma and Primo
  - 2.2.2. Ex Libris shall provide guidelines for Leganto integration with Canvas based on Learning Tools Interoperability (LTI) standard
- 2.3. Ex Libris shall perform all configuration of Leganto (other than third party integrations) based on Customer input in Ex Libris-provided form/workbook.
- 2.4. Customer shall provide feedback based on end-to-end review of Leganto functionality in the agreed and defined time frame.
- 2.5. Customer is responsible for configuring all third party integrations (other than Alma and Primo).
- 2.6. Third party integrations not mentioned above can be configured by customer following the Go Live Date.

#### 3. Migration

- 3.1 Data migration includes two rounds (test and cutover).
- 3.2 The following data entities will be migrated into Leganto:
  - Course Information
  - Reading lists
- 3.3 Ex Libris will:
  - Provide migration guides and forms
  - Migrate reading lists data (in case the customer will provide reading lists data in the Leganto-supported structured format).
  - Provide guidelines for reviewing migrated data in Leganto
  - Provide support during the migration and review period



3.4 Customer will:

- Provide input data (courses & reading lists) in a format supported by Leganto
- Review and test data migrated to Leganto and provide feedback in the defined time frame
- In case additional patrons are needed for Leganto implementation which are not loaded in Alma, customer may load them using standard Alma tools
- Courses, Reading lists and Citations not included in the cutover migration may be loaded/added by customer following Go Live in the formats and methods supported by Leganto.

## ANNEX F

### SaaS Service-Specific Provisions

Provisions that apply specifically to Alma

#### 1. DaaS – DATA AS A SERVICE

1.1. Both Customer and Ex Libris may make content and data available in connection with the SaaS Service. The intent is to make content and data available which may be useful to others. The rights in connection with this content and data are as set forth below:

- (i) Customer may choose to post certain Customer Data into a community zone which is accessible by all of the SaaS Service customers (the "**Community Zone**"). Customer hereby grants to Ex Libris and to any customer of the SaaS Service a royalty-free, perpetual, irrevocable, worldwide, unrestricted license to use, copy, distribute, display, and create derivative works from, any Customer Data which is posted in the Community Zone (such derivative works, including any enhancements, enrichments or modifications, to be owned by Customer and subject to the same unrestricted license);
- (ii) Material which Ex Libris posts to the Community Zone will continue to be owned by Ex Libris or its licensor;
  - (a) if it is owned by Ex Libris, then Ex Libris grants any user a royalty-free, perpetual, irrevocable, worldwide, unrestricted license to use, copy, distribute, display and create derivative works from, such material (such derivative works, including any enhancements, enrichments or modifications, to be owned by Ex Libris and subject to the same unrestricted license);
  - (b) if it is owned by a licensor, then the uses will be only those permitted by the licensor, which permitted uses shall be made known to the users of the Community Zone.

1.2. Notwithstanding anything else herein, as between the parties, material (excluding Customer Data) which Ex Libris posts to other products or data services, such as KnowledgeBase, or creates, such as indices based on other material, shall be owned by Ex Libris.

1.3. The parties agree that Ex Libris may replace the above-mentioned unrestricted license with a comparable Open License (as defined in Annex G).

Provisions that apply specifically to Primo/bX

1. / If the Customer wishes to contribute usage logs to the bX service (the "**bX Service**"), the Customer shall provide access to the Customer's linking service, as specified in the Service FAQ available on Ex Libris' customer information site (currently: <http://registration.service.exlibrisgroup.com/customer/faq.do?product=bx>). All usage logs so contributed will be anonymized and the data will be encrypted during transfer from Customer's linking server to the bX server. The Customer agrees that all such data contributed to the bX Service will be used by the bX Service on a perpetual, irrevocable basis, whether or not Customer continues to contribute to the bX Service or terminates the Agreement.
2. Customer shall comply with, and shall use reasonable efforts that each end user complies with the Terms of Service for Central Discovery Index, Primo Central or Summon Index (each, a "Discovery Index"), as applicable, and such Discovery Index's Service Configuration and Display Guidelines, which can be viewed on the Customer Portal. Customer further agrees that it shall not, nor will it allow any end user or third party to:
  - 2.1. Store or cache data accessible through the SaaS Service (the "**Data**") beyond the normal day-to-day use of an individual user;
  - 2.2. Return or display in the Data search results snippets of full text that exceed one hundred and sixty one (161) characters in length;
  - 2.3. Independently produce or display snippets in the Data search results when no such snippets are returned by the SaaS Service;

- 2.4. Use the Data for or in connection with any application, product or service other than the SaaS Service;
- 2.5. Create or repackage a database containing material amounts of Data;
- 2.6. Merge Data with other data or records (whether or not obtained via the Discovery Index), in any manner.
- 2.7. Text mine, data mine or harvest metadata from the Data.

#### **Provisions that apply specifically to Leganto**

##### **1. Leganto Digital Object Storage**

- 1.1. If Customer subscribes to Leganto, the following additional terms apply to the storage capability provided to Customer for course-related Digital Object Files which Customer chooses to attach to reading list citations (“Leganto Digital Object Storage”).
- 1.2. Leganto utilizes Amazon’s Simple Storage Service (S3) solely for storing such course-related Digital Object Files which Customer chooses to attach to reading list citations (“Leganto Digital Object Files”). The Amazon S3 Region (storage location) used to store the Customer’s Leganto Digital Object Files will match the Customer’s Alma geographic region – accordingly, Leganto Digital Object Files will be stored in the following Amazon S3 Regions/locations - US Standard (currently N. Virginia); EU (currently Frankfurt) or Asia Pacific (currently Singapore). In connection therewith, Customer acknowledges and agrees that:
  - (i) Customer owns or properly licenses all rights, title and interest in and to all of the Leganto Digital Object Files and will only store such objects for which it has obtained all necessary rights;
  - (ii) Customer will not store any personal data regulated by any applicable data privacy laws (including, GDPR) in the Leganto Digital Object Storage service; and
  - (iii) Amazon S3’s back-up and security policies and features, as updated from time-to-time by Amazon will apply to the Leganto Digital Object Storage.
  - (iv) Customer will report all issues related to Leganto Digital Object Files, including issues related to the Amazon Simple Storage Service to Ex Libris.
- 1.3. For the sake of clarity, the foregoing provisions of Section 1 of this Annex do not apply to aspects of the Leganto service other than the Leganto Digital Object Storage capability hosted by Amazon.

## ANNEX G

### Definitions

**Unless otherwise stated, references below to Sections, “Whereas” clauses and Annexes refer to such parts of this Agreement.**

**“Additional Quotation”** means, as set forth in the “Whereas” clauses, a Quotation which may be added to Annex B by written agreement of the parties after the Agreement Effective Date.

**“Affiliate”** means, with respect to an entity, another entity that controls, is controlled by, or is under common control with, the first entity.

**“Agreement”** means this SaaS Subscription Agreement, including its Annexes.

**“Agreement Effective Date”** means the date set forth in the first paragraph of this Agreement, which is the date this Agreement goes into effect.

**“Bibliographic Titles”** means, the total number of descriptive metadata records managed within Alma, including both physical and e-book titles as well as locally managed authority records. This number excludes e-journal titles and digital metadata record counts.

**“Community Zone”** means the part of the Alma SaaS Service as further described in Annex F, where Ex Libris and the customers of the SaaS Service, have the option to load metadata, electronic resource and collection definitions (also known as the Knowledge Base) and authority records to be used by all participating customers, to streamline resource management processes, including ordering, cataloging, discovery, and related functions such as context sensitive linking services for end users, authority control and analytics.

**“Current Agreement(s)”** means those previously entered software license or subscription agreement(s) described in the “Whereas” clauses.

**“Current Software”** means, as set forth in the “Whereas” clauses, the software listed on Annex A under the caption “Current Software”.

**“Customer”** means, as set forth in the first paragraph of this Agreement, the subscribing party that has entered into this Agreement with Ex Libris.

**“Customer Data”** means, as set forth in Section 9.1, any business information, personal information or other data which Customer stores, or provides to Ex Libris for storing, in the SaaS Service.

**“Documentation”** means, as set forth in Section 5, materials published by Ex Libris for use by subscribers to the SaaS Service, including manuals and other materials.

**“Ex Libris”** means the Ex Libris entity named in the first paragraph of this Agreement.

**“Ex Libris Identity Service”** means an optional service made available to customers of Alma, Primo/Summon (when bundled with Alma) and/or Leganto SaaS Services for the sole purpose of authenticating users logging into the SaaS Services. The Ex Libris Identity Service is intended only to authenticate Customer’s authorized users who cannot be authenticated by Customer’s institutional authentication service. Customer shall be subject to the guidelines set forth in the Ex Libris Identity Service Documentation, including with respect to compliance with uniform password policies (such as length and complexity) as set by Ex Libris from time to time.

**“FTE’s”** consisting of the following categories of individuals:

- (i) then-currently enrolled students;
- (ii) then-current faculty (i.e., professors, lecturers and instructors); and
- (iii) then-current other personnel (e.g., library staff, university administrators etc.)

**“Go Live Date”** means the date on which the Customer first uses the SaaS Service for commercial or production purposes, or makes the SaaS Service generally available to Customer’s users, or uses the SaaS Service in any way beyond testing.

**“Implementation Services”** means, with respect to the relevant SaaS Service, the implementation services set forth on Annex E to this Agreement, as set forth in Section 3.1.

**“Initial Quotation”** means, as set forth in the “Whereas” clauses, the Quotation(s) attached to this Agreement as Annex B as of the Agreement Effective Date.

**“Initial Term”** means, with respect to a Subscription, the period of time beginning on the Subscription Effective Date and ending upon the expiration of the number of years set forth in Section 10.1 (unless earlier terminated).

**“Leganto Implementation Kick-Off Date”** means the date of the initial Kick-off meeting of the Implementation Services with respect to Leganto described in Annex E.1.

**“Licensor Data”** means, as set forth in Section 1.1, third-party data that may be accessed via the SaaS Service.

**“Named Users”** means, Customer’s users that have been entitled by the Customer with unique login credentials to the SaaS Service. Named Users may include Customer’s employees, library student assistants, temporary staff, consultants, or contractors.

**“Open License”** means a license which allows a copyright owner to permanently relinquish copyrights to data of a bibliographic nature for the purpose of contributing to a commons of creative, cultural and scientific works that the public can reliably, and without liability for later claims of infringement, build upon, modify, incorporate in other data, reuse and redistribute freely in any form and for any purpose, including, without limitation, commercial purposes. Open Data Commons Public Domain Dedication and License (PDDL) and Creative Commons (CC) license are two of several public copyright licenses that are considered Open Licenses.

**“Personal Information”** means, as set forth in Section 9.3, personal information of Customer’s permitted users, such as its staff and patrons, and other third parties.

**“Primo Documents”** means, any full text or metadata records which are harvested (from Alma or other library sources such as institutional digital repositories) and made discoverable via Primo. The average record size of all Primo Documents must be under 5kb.

**“Quotations”** means, as set forth in the “Whereas” clauses, collectively the Initial Quotation and any Additional Quotations.

**“Renewal Term”** means, with respect to a Subscription, each of an indefinite number of successive, automatically renewing one-year terms, as set forth in Section 10.1.

**“Research Assets”** means, an output of the research process or an asset that is related to the research process, the category can include but is not limited to – publications, datasets, creative work, software code, posted content, interactive resources, etc.

**“SaaS”** means Software as a Service.

**“SaaS Service”** means, as set forth in the “Whereas” clauses, the SaaS Service(s) listed on Annex A under the caption “SaaS Service(s)”.

**“SaaS Service Contract Date”** means, with respect to a SaaS Service, the date as of which that SaaS Service became a part of this Agreement. Accordingly, the SaaS Service Contract Date of a SaaS Service that was included on the Initial Quotation set forth on Annex B would be the Agreement Effective Date. However, the SaaS Service Contract Date of a SaaS Service that was included on an Additional Quotation subsequently prepared by Ex Libris, signed by the Customer and added to Annex B would be the date of the Customer’s signature on such Additional Quotation (or the date of any other amendment to this Agreement by which the SaaS Service was added).

**“SLA”** means, as set forth in Section 2.1, the Service Level Agreement set forth on Annex D.

**“Subscription”** means, as set forth in Section 1.1, the right to access and use the functionality of the SaaS Services.

**“Subscription Effective Date”** means, with respect to a Subscription, the beginning date of that Subscription, as set forth on Annex C.

**“Subscription Fee”** means, with respect to the relevant SaaS Service, the Subscription Fee set forth on the relevant Quotation, as set forth in Section 1.1.

**“Support Services”** means, as set forth in Section 2.1, the maintenance and support services relating to the SaaS Service specified in the SLA.

**“Term”** means, with respect to a Subscription, the Initial Term and any Renewal Terms, as set forth in Section 10.1.

**“Termination Assistance Period”** means, as set forth in Section 10.4, the 30-day period immediately following the expiration or termination of a Subscription, during which Ex Libris will, upon Customer’s request, make the Customer Data available to Customer for download.

**“Third Party Programs”** means, as set forth in Section 3.3, non-Ex Libris programs that interoperate with the SaaS Services.

**“Unique e-Journal Titles”** means, the total number of e-journal titles obtained by counting e-journals once even if they are available from multiple sources. This includes all e-journal titles managed in Alma and is not dependent on the manner they are accessed or acquired (e.g. subscriptions from content providers, open access collections, databases, etc.).



**COMMONWEALTH OF VIRGINIA AGENCY  
CONTRACT FORM ADDENDUM TO CONTRACTOR'S FORM**

**AGENCY NAME:** James Madison University

**CONTRACTOR NAME:** Ex Libris (USA) Inc.

**DATE:** October 18, 2019

The Commonwealth and the Contractor are this day entering into a contract and, for their mutual convenience, the parties are using the standard form agreement provided by the Contractor. This addendum, duly executed by the parties, is attached to and hereby made a part of the contract. In the event that the Vendor enters into terms of use agreements or other agreements of understanding with University employees and students (whether electronic, click-through, verbal, or in writing), the terms and conditions of this Agreement shall prevail.

The Contractor represents and warrants that it is a(n) // individual proprietorship // association // partnership // corporation // governmental agency or authority authorized to do in Virginia the business provided for in this contract. (Check the appropriate box.)

Notwithstanding anything in the Contractor's form to which this Addendum is attached, the payments to be made by the Commonwealth for all goods, services and other deliverables under this contract shall not exceed Purchase Order Amounts; payments will be made only upon receipt of a proper invoice, detailing the goods/services provided and submitted to James Madison University. The total cumulative liability of the Commonwealth, its officers, employees and agents in connection with this contract or in connection with any goods, services, actions or omissions relating to the contract, shall not under any circumstance exceed payment of the above maximum purchase price plus liability for an additional amount equal to such maximum purchase price. In its performance under this contract, the Contractor acts and will act as an independent contractor, and not as an agent or employee of the Commonwealth.

The Contractor's form contract is, with the exceptions noted herein, acceptable to the Commonwealth. Nonetheless, because certain standard clauses that may appear in the Contractor's form agreement cannot be accepted by the Commonwealth, and in consideration of the convenience of using that form, and this form, without the necessity of specifically negotiating a separate contract document, the parties hereto specifically agree that, notwithstanding any provisions appearing in the attached Contractor's form contract, none of the following paragraphs **1 through 18** shall have any effect or be enforceable against the Commonwealth:

- 1. Requiring the Commonwealth to maintain any type of insurance either for the Commonwealth's benefit or for the contractor's benefit;**
- 2. Renewing or extending the agreement beyond the initial term or automatically continuing the contract period from term to term;**
- 3. Requiring or stating that the terms of the attached Contractor's form agreement shall prevail over the terms of this addendum in the event of conflict;**
- 4. Requiring the Commonwealth to indemnify or to hold harmless the Contractor for any act or omission;**
- 5. Imposing interest charges contrary to that specified by the Code of Virginia, §2.2-4347 through 2.2-4354, Prompt Payment;**
- 6. Requiring the application of the law of any state other than Virginia in interpreting or enforcing the contract or requiring or permitting that any dispute under the contract be resolved in the courts of any state other than Virginia;**
- 7. Requiring any total or partial compensation or payment for lost profit or liquidated damages by the Commonwealth if the contract is terminated before its ordinary period;**
- 8. Requiring that the contract be "accepted" or endorsed by the home office or by any other officer subsequent to execution by an official of the Commonwealth before the contract is considered in effect;**

9. Delaying the acceptance of this contract or its effective date beyond the date of execution;
10. Limiting or adding to the time period within which claims can be made or actions can be brought;
11. Limiting the liability of the Contractor for property damage or personal injury. The parties agree that this clause does not extend the Contractor's liability beyond its own acts or those of its agents/employees;
12. Permitting unilateral modification of this contract by the Contractor;
13. Binding the Commonwealth to any arbitration or to the decision of any arbitration board, commission, panel or other entity;
14. Obliging the Commonwealth to pay costs of collection or attorney's fees;
15. Granting the Contractor a security interest in property of the Commonwealth;
16. Bestowing any right or incurring any obligation that is beyond the duly granted authority of the undersigned agency representative to bestow or incur on behalf of the Commonwealth.
17. Requiring the "confidentiality" of the agreement, in whole or part, without (i) invoking the protection of Section 2.2-4342F of the Code of Virginia in writing prior to signing the agreement (ii) identifying the data or other materials to be protected, and (iii) stating the reasons why protection is necessary.
18. Requiring the Commonwealth to reimburse for travel and living expenses in excess of the agency policy located at <https://www.jmu.edu/financemanual/procedures/4215mie.shtml>

This Agency contract consisting of this Agency addendum and the attached Contractor's form contract constitute the entire agreement between the parties and may not be waived or modified except by written agreement between the parties.

This contract has been reviewed by staff of the agency. Its substantive terms are appropriate to the needs of the agency and sufficient funds have been allocated for its performance by the agency. This contract is subject to appropriations by the Virginia General Assembly.

IN WITNESS WHEREOF, the parties have caused this contract to be duly executed, intending thereby to be legally bound.

AGENCY by 

Title Buyer Services, JMU

Printed Name LeeAnne Beatty Smith

CONTRACTOR by 

Title President Ex Libris North America

Printed Name Eric Hines

April 2017

**Response to**



**Request for Proposal (RFP)**

**RFP# LBS-1035**

**Library Services and Discovery Platform(s)**

**Ex Libris, A ProQuest Company  
1350 E Touhy Avenue  
Des Plaines, IL 60018  
Phone: 847-296-2200**

**June 6, 2019 @ 2pm EST  
© 2019 Ex Libris, A ProQuest Company  
All rights reserved**

# James Madison University

RFP#LBS-1035

## Table of Contents

TAB 1:  
RFP Cover Sheet  
Cover Letter

TAB 2:  
Ex Libris Response to Section IV. Statement of Needs

TAB 3:  
Attachment A: Offeror Data Sheet

TAB 4:  
Attachment: Small Business Subcontracting Plan

TAB 5:  
Attachment D: JMU IT Services Addendum

TAB 6:  
Attachment E: Commonwealth of Virginia Agency  
Contract Form Addendum to Contractor's Form

TAB 7: **REDACTED**  
HECVAT (supplied on flash drive as Excel document)  
SOC 2 Reports  
Alma and Primo Penetration Test Scope and Evidence

TAB 8:  
VASCUPP Member Statement

TAB 9:  
X. Pricing Schedule

TAB 10:  
SaaS Service Level Agreement

TAB 11:  
Alma and Primo Accessibility Conformance Reports

TAB 12:  
Ex Libris Variations to RFP Terms (including  
Attachments D and E)  
SaaS Agreement/Contractor's Form



# **REQUEST FOR PROPOSAL**

## **RFP# LBS-1035**

**Issue Date:** 4/16/19

**Title:** Library Services and Discovery Platform

**Issuing Agency:** Commonwealth of Virginia  
James Madison University  
Procurement Services MSC 5720  
752 Ott Street, Wine Price Building  
First Floor, Suite 1023  
Harrisonburg, VA 22807

**Period of Contract:** From Date of Award Through One Year (Renewable)

**Sealed Proposals Will Be Received Until 2:00 PM on May 30, 2019 for Furnishing The Services Described Herein. JMU will be closed on May 27, 2019 for Memorial Day.**

*SEALED PROPOSALS MAY BE MAILED, EXPRESS MAILED, OR HAND DELIVERED DIRECTLY TO THE ISSUING AGENCY SHOWN ABOVE.*

All Inquiries For Information And Clarification Should Be Directed To: LeeAnne Beatty Smith, Buyer Senior, Procurement Services, [smith2LB@jmu.edu](mailto:smith2LB@jmu.edu); 540-568-7523; (Fax) 540-568-7935 not later than five business days before the proposal closing date.

**NOTE: THE SIGNED PROPOSAL AND ALL ATTACHMENTS SHALL BE RETURNED.**

In compliance with this Request for Proposal and to all the conditions imposed herein, the undersigned offers and agrees to furnish the goods/services in accordance with the attached signed proposal or as mutually agreed upon by subsequent negotiation.

Name and Address of Firm:

Ex Libris (USA) Inc.  
350 E. Touhy Ave, Suite 150W  
Des Plaines, IL 60018

By:   
(Signature in Ink)

Name: Mike Grinman  
(Please Print)

Date: 5/15/19

Title: Controller

Web Address: [www.exlibrisgroup.com](http://www.exlibrisgroup.com)

Phone: 847-296-2200

Email: [mike.grinman@exlibrisgroup.com](mailto:mike.grinman@exlibrisgroup.com)

Fax #: 847-296-5636

ACKNOWLEDGE RECEIPT OF ADDENDUM: #1 MG #2 MG #3 \_\_\_\_\_ #4 \_\_\_\_\_ #5 \_\_\_\_\_ (please initial)

SMALL, WOMAN OR MINORITY OWNED BUSINESS:

YES; NO; IF YES ⇒ ⇒ SMALL; WOMAN; MINORITY IF MINORITY: AA; HA; AsA; NW; Micro

**Note:** This public body does not discriminate against faith-based organizations in accordance with the *Code of Virginia*, § 2.2-4343.1 or against an offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.



June 4, 2019

Ms. LeeAnne Beatty Smith  
James Madison University  
Procurement Services MSC 5720  
752 Ott Street, Wine Price Building  
First Floor, Suite 1023  
Harrisonburg, VA 22807

Dear LeeAnne,

Ex Libris is pleased to provide the following proposal for a next-generation library services platform to James Madison University (JMU). We are confident that our solution will meet your needs now and well into the future.

Ex Libris is proposing the next-generation Alma library services platform, along with the Primo VE discovery solution. Alma and Primo represent a bold, fresh approach to delivering cloud-based, next generation library management services. By providing a shared environment and by unifying the management of print, electronic and optionally, digital resources, Alma will enable the JMU Libraries to significantly improve operational efficiencies and offer a range of new services to your students and faculty around the country. Today, Alma has been selected by over 1,600 institutions. This rapidly expanding community is leveraging Alma to provide unique value to their libraries, and researchers.

Alma will replace your Innovative Sierra ILS system, Innovative ERM, ProQuest 360 Core and 360 Link. Alma's optional digital asset management capabilities may also replace Digital Commons and Illumira. Alma will eliminate the need for your library to purchase authority record updates *via* third-party services such as BackStage or manage authority updates on your own. Alma provides direct integrations with Peoplesoft and many other campus applications. It also seamlessly integrates with ILLiad, ProQuest OASIS, YBP GOBI and many other systems. Primo VE will replace your EBSCO EDS discovery system and will provide seamless, real-time publishing of materials added to Alma. Alma and Primo VE will provide a simplified and aesthetically pleasing user interface for your staff and patrons at JMU.





## Cloud-based, Unified Resource Management with Alma

By providing a shared environment for library services and by unifying the management of print, electronic and optionally, digital resources, Alma will enable you to improve operational efficiencies, offer new services and support collection development and technical services in a cost-efficient manner.

Below, we have highlighted the key reasons why James Madison University should select Alma:

**Unified Workflows** – Alma unifies data and workflows, providing complete lifecycle management across print, electronic resources and digital collections. Because Alma is a unified solution, it also supports multiple metadata schemas including MARC with RDA, Dublin Core as well as BIBFRAME which we began introducing in late 2017. We also have plans to introduce native support for MODS in 2020. This enables the retirement of the legacy integrated library system, electronic resource management systems, digital asset management systems, link resolvers, various knowledgebase and MARC record services. As a result, you will be able to eliminate duplicate record keeping and redundant processes and gain significant efficiencies. These efficiencies will provide more bandwidth for existing staff to support new mission-critical services as well as deliver additional cost savings.

- **Operate more efficiently and free staff from redundant tasks** - Unlike legacy function-oriented systems, Alma is task-oriented and focuses on streamlining workflows for library staff. Common tasks are fully automated, from metadata management to ordering and invoicing and more. As a result, you deal only with the exceptions, which are surfaced for you as tasks based upon your role or roles within the library. This not only saves you valuable time and reduces frustration but also enables the library as a whole to become more efficient and frees up time to pursue other more strategic projects.

**Open Architecture, Open System** – Alma is designed using an open and extensible architecture. Where available, interfaces are based upon recognized industry standards. We realize that even in a shared, cloud-based environment each institution has a range of site-specific needs; from integration with student information, campus financial, learning management and other systems to building new services leveraging the Alma platform. Alma's open APIs and interface adaptors will enable you to interoperate with a variety of third-party systems. Today, Alma has over 140 REST-based APIs and our clients make over 2 million API transactions per day. These APIs are included with Alma and there is no additional cost to utilize them.



**Library Analytics, Informed Decisions** – Alma provides a powerful suite of tools that integrate analytics and reporting into everyday workflows – for example, including usage and cost information as part of the selection process for print and electronic resource lifecycle management to drive evidence-based collection development decisions, enabling JMU to maximize its investment in collections and enabling you to make informed decisions regarding library operations.

- **Leverage key insights to inform your decisions** – Alma Analytics proactively delivers important information to staff, via personalized dashboard and/or email, promoting staff efficiencies and streamlining workflows. Since Alma is a unified solution, analytics enable reporting across physical, electronic and optionally digital collections with shared dimensions, providing better insight into operations, reducing overhead and turnaround time for reports and providing consistency in data from year to year. Analytics are also embedded directly within workflows throughout the system, and you can easily design its own custom reports through an easy-to-use web-based interface with drag-and-drop editing capabilities.
- **Benchmark institutional KPIs against peers** – Alma supports the ability to define and compare key performance indicators with other institutions using Alma – both within a consortium and more broadly. This data can be presented in a dedicated dashboard, is available for inclusion in other analytical reports and is also available through various workflows, including acquisitions (e.g. vendor performance measures).

**Advanced Acquisitions Workflows** – Alma supports enhanced demand-driven selection and acquisition models, offering seamless integration with Primo. These capabilities will enable you to control the exponentially increasing costs of materials by transitioning from a just-in-case to just-in-time collection development methodology – all without imposing additional overhead on library staff. In addition, Alma supports real-time integration with ProQuest OASIS (also YBP/GOBI, Harrassowitz OttoEditions and others), eliminating the overhead of manual record import/export between these selection/ordering platforms and the integrated library system.



## **Course Resource Lists & Learning Affordability**

Built on the Alma platform, Leganto transforms the creation and maintenance of course resource lists into a collaborative, streamlined experience, helping academic institutions increase student engagement, foster meaningful learning, and maximize the use of library collections to support affordable learning and student success. Leganto will replace Ares currently in use by JMU.

With Leganto, academic libraries become a more active partner in teaching and learning within the institution. Leganto helps instructors build, maintain, and share resource lists that include all material types, including the library's physical and electronic holdings and open educational resources. Librarians can collaborate with instructors to recommend additional content and can deliver course resources more efficiently through integrated Alma workflows. For materials that require copyright licensing, Leganto libraries benefit from integrated copyright clearance at reduced prices.

Leganto helps to maximize the usage of the library collection in courses and gives insight into course content for collection development purposes. Leganto also includes powerful analytics to improve teaching and learning within the institution. The library has visibility and insight into how the library collection and services support teaching and learning, and instructors have insight into their students' engagement. They are useful as key data points on ways that libraries contribute to student success.

Leganto integrates with Alma workflows to boost library efficiency and eliminate, what is for many today, manual workflows. Leganto is not a stand-alone system with manual processes. Unlike other systems, it accommodates both traditional and modern teaching materials and enables faculty and librarians to seamlessly build course reading lists with all varieties of learning materials. Faculty and librarians may work independently or collaboratively depending on the culture of the organization. Leganto enables users to discover items more readily than other solutions and can automatically add them to lists or courses. Regardless of material type, the workflow is modernized, automated, and fully integrated across Leganto, Alma and course management systems.



We feel certain that Leganto will align with James Madison University's student success goals based on its ability to provide students broader access to course materials.

## Collaboration & Community

Prominent academic institutions across North America have validated Ex Libris' approach to next-generation unified resource management and discovery.

Our solution has been designed to meet the complex needs of a range of institutions like James Madison University. We develop and enhance our products based on suggestions and requirements of institutions that have similar needs as you do. As a result, you will benefit from the expertise of Ex Libris' large community of academic library partners, and they in turn will benefit from your own contributions.

We look forward to JMU joining the Ex Libris Alma community as the 35<sup>th</sup> institution in the Commonwealth of Virginia and contributing to the continued advancement of next generation library solutions. Thank you for the opportunity to present this RFP response. We are committed to earning your business and we look forward to the opportunity to work together to define the future of library services.

Best regards,

**Brent Herlong**

Senior Account Manager

Tel: +1 (847) 687-8566

[brent.herlong@exlibrisgroup.com](mailto:brent.herlong@exlibrisgroup.com)

## IV. STATEMENT OF NEEDS

JMU is seeking a library services platform (integrated library system) and related solutions to support back-end and business workflows and to provide an intuitive user interface for library patrons to discover and access relevant materials. Proposed solutions may support centralized hosting either on-premise by JMU or off-premise by the vendor under a traditional hosting contract or a Software-as-a-Service (*SaaS*) contract.

It is expected that any proposed system will already be fully developed, tested, offered publicly for sale and available immediately for installation. For this project, the University is not interested in a custom developed system. The Offeror shall have available and be able to demonstrate the use and functions of the following components and/or features for an integrated library system or library services platform.

### A. General Overview

1. Describe the overall suite of your company's ILS-related products.

**Ex Libris:** Ex Libris' wide array of products is able to support all aspects of academic and research institutions' operations. Our products were developed to complement and integrate with one another in such a way as to completely support the lifecycle of research and higher education. Alma provides completely unified resource management and has been built to simplify library operations and increase productivity; Primo, tightly integrated with Alma, provides unified resource discovery and offers end users a simple and straightforward way to find all of the services a library offers.

Alma is the culmination of an Ex Libris initiative launched in 2007 to develop a new kind of library system. Ex Libris understood that economically driven decisions are becoming increasingly important in the library market. As a result, efficiency and reducing the total cost of ownership were the primary drivers in designing Alma.

Developed in partnership with leading academic libraries, Alma streamlines procedures by incorporating the management of all resources – electronic, digital, and print - into one system. Provided on a software-as-a-service (*SaaS*) basis, Alma enables libraries to reduce the burden of implementing software updates. As a result, the library can focus more of its resources on supporting the academic objectives of the university. Finally, best-in-class analytics show libraries exactly how their resources and services are being used and help managers make effective, data-driven decisions.

Ex Libris has gone beyond the library and into the larger world of academic institutions with the following products: Leganto, our reading list solution, is tightly integrated with Alma and Primo and paves the way for greater collaboration between librarians, faculty, and students; Rosetta, our advanced preservation solution, enables institutions to preserve and provide access to the collections in their care, now and in the future; ProQuest Rialto, a ground-breaking approach to unify selection and acquisition in academic libraries, will be tightly integrated with Alma; Exploro, also built on the Ex Libris Platform, will pave the way to greater impact of academic research by maximizing visibility, efficiency, and compliance of research activities. These products, together with the Alma library management solution, constitute a platform for transforming the collection-focused library into an essential, service-focused component of a research institution.

2. Provide all licensing agreements, documents, and/or standard terms and conditions that your firm would request become part of a resulting contract.

**Ex Libris:** Our *SaaS* Subscription Agreement has been provided as an attachment to this response.

3. Describe the extent to which your ILS software interoperates with the systems and solutions JMU currently uses (detailed in the Background section), including Serials Solutions 360 Suite, EBSCO Discovery Service, WorldShare Management Services, and ILLiad, Aries, and Aeon.

**Ex Libris:** Alma provides exceptional integration with a range of third-party applications and key enterprise systems used on campuses today, including for services such as financial and ordering systems, self-check, interlibrary loan, proxy services, collection agency services and ERP systems, and discovery.

Achieving Alma's seamless handshaking with external systems, integration points are based on both evolving and well-established trend market standards. In addition to standards, Alma's integration approach makes use of plugin -capabilities, allowing institution-specific adaptations to specific systems and needs. The framework for utilizing integration points with third-party systems is the **Integration Profile**. The **Integration Profile** is where integration definitions may be set up for many types of Alma-supported integrations, including systems such as:

- Self-check
- Resource sharing systems
- Link resolution and proxies
- Collection agency services
- Discovery interfaces
- Cataloguing clients
- Learning management systems
- Financial management systems
- Student Information systems

A unified and centralized platform, the **Integration Profiles** provide a single interface for defining the different required attributes for a variety of integrated systems.

Ex Libris' systems are built around a philosophy of openness and interoperability. We know institutional systems need to communicate with each other and work together. Ex Libris offers open APIs to facilitate integration of its products with other institutional systems. The APIs have been developed alongside Alma, Primo and our other products and continue to be enhanced as part of our monthly releases. All Ex Libris APIs are openly available on the Ex Libris Developer Network.

We are proposing Primo VE for discovery as part of this response. Primo VE is a new Primo deployment model simplifying Primo backend processes and further optimizing the management of Primo with Alma by utilizing the Alma platform. Primo VE offers an inherent discovery layer over Alma resources and – in addition - other resources managed by the library that need to be exposed to patrons.

Primo VE, coupled with the new Primo UI, will enable users to benefit from:

- Major operational improvements and the streamlining of publishing processes
- Real-time discovery of records created in Alma
- Significantly improved product implementation process, including easier configuration and setup
- Unified back office management of Primo and Alma, and reduction of duplicate admin processes
- Enhanced user experience

To emphasize: There is no need for publishing to Primo, as any changes to bib records in Alma will show up immediately in Primo. New bib records will appear in Primo VE within 15 minutes. Any update to an existing record will display immediately.



Alma includes a Central KnowledgeBase. The Central KnowledgeBase (CKB) describes vendor offerings for electronic resources and is maintained by Ex Libris. By integrating the CKB into the data services environment (the Community Zone), Alma allows libraries to eliminate the need to manually synchronize records for electronic resources into the local catalog. When a complete or partial package is activated in the CKB, the individual titles in that package are immediately available in the library's inventory. The CKB is tightly integrated with Alma acquisitions workflows and electronic management workflows.

Alma includes an embedded Link Resolver which provides patrons with context-sensitive electronic, digital and print services. The embedded link resolver is a standard functionality in Alma (no additional subscription fee is required) and is based on Ex Libris' experience delivering the SFX link resolver to over 2500 institutions worldwide.

The Alma link resolver offers services via a menu that can be customized by the institution, defining the labels of the services and the order which they appear. In addition, the institution can define display logic rules among services based on local preferences; for example, if an electronic journal is available from more than one provider, the institution can boost one provider over the other. The institution also can define logic rules among different service types, such as not offering a document delivery service if a full text service exists for the electronic resource.

Alma supports two main Resource sharing workflows:

- **P2P (Peer-to-Peer)** – in this workflow the borrowing library and the lending library communicate directly.

Supported protocols: ISO, NCIP

- **Broker based** – in this workflow the borrowing library communicates with an ILL broker. The broker passes the request to potential suppliers, and handles the request against the borrowing library.

Supported protocols: NCIP

Examples of brokers systems that integrate with Alma include ILLiad, OCLC Navigator, VDX, and Relais D2D. Worldshare integration is not supported by OCLC.

Alma's course reserve functionality is fully integrated and uses the same user and bibliographic databases as the rest of the system. Additionally, Alma provides searching of both bibliographic records and course reserve information in a single interface for library staff, and through a common discovery interface, such as Primo, for end users.

For Aeon systems, Primo can provide a link from the item to the Aeon system. This can be done from the links section in the Primo record (which would display in the "details" tab of the record), as a separate tab, or in the link resolver menu. The link to Aeon is based on OpenURLs, which Alma is able to generate from its Primo embedded link resolver menu and direct to any OpenURL enabled target.

#### 4. Describe library and industry standards, formats, data types, and protocols supported.

**Ex Libris:** Ex Libris supports a wide range of industry standards and protocols. We are constantly evaluating and extending our support in this area, based on our customers' needs. Detailed below are the protocols and standards we support:

- SIP2
- EDI
- OAI-PMH
- COUNTER 4

- SUSHI
- NISO Circ (NCIP 2)
- RDA – as MARC encoded fields
- MARC 21
- Dublin Core
- MARCXML
- Z39.50
- ISO2709 is supported in its MARC21/UNIMARC versions
- RFID – supported
- KBART – we support the export and import of KBART data
- ONIX – we support the import of ONIX base license data
- AACR2 – is supported in its MARC21 version
- DCRM(B) – it is possible to catalog all necessary characters for DCRM(B) in Alma

One of our major initiatives for Alma is to invest heavily in the Alma experience to improve services to our customer base, and a major focus of this is through the use of our APIs. Alma supports a wide array of RESTful APIs as well as other integration points. APIs cover many different functional areas in Alma such as Bibliographic records, Physical Resources, Electronic Resources, Digital Resources, User Records and related fulfillment transactions, Configuration, Resource sharing requests and more. Details can be seen on the Developer Network site at <https://developers.exlibrisgroup.com/alma/apis>

Alma supports the ability to integrate with a wide variety of systems, using both the above RESTful APIs as well as other open interfaces (e.g. z39.50, SIP2, NCIP, ISO-ILL, etc...) as well as file based data exchange. Alma can integrate with your institution's financial systems, user management systems, Self Check machines, RFID software and more. For more details please see <https://developers.exlibrisgroup.com/alma/integrations>

#### 5. Describe copyright compliance and access control.

**Ex Libris:** Copyright and license management, in the context of resource sharing and fulfillment, is done at both the borrowing side and the lending side of the request processing:

##### **Borrowing Side**

Outgoing borrowing requests for receiving digital material are tracked by the system, based on a defined profile. For example, a request for a title which has a publishing date later than a defined date will be counted. When the number of fulfilled requests (within a defined period of time) reaches a threshold, management of subsequent requests for the same title are blocked until copyright cleared. Clearing the block is done by managing the relevant copyright aspects, such as paying the relevant fees.

##### **Lending Side**

The lending side may fulfill incoming requests by using digital or electronic material of two types:

1. **Digitally Stored Material**—A resource sharing operator that consults Alma for a specific resource sharing request's fulfillment options may get a list of suggested electronic resources that can be used for fulfilling the request. In this case, Alma will display the electronic resource's terms of use alongside the resource's link. The operator will be able to view the resource's license in a single click and make a decision on whether the electronic resource may be used for fulfilling the request or not.
2. **Digitizing Physical Material**—A resource sharing operator who consults Alma for a specific resource sharing request's fulfillment options may get a list of suggested physical resources that can be used for fulfilling the request. In this case, Alma supplies alongside the description of the physical resource the possibility to request the use of the physical item in a digital form, i.e. to digitize the material.

Either way, the process may be configured to require copyright clearance. For example, a request for items with a publication data that is later than a specific date will require copyright clearance before the digitization process is complete. If this is the case, the digitization process will not be complete until the copyright clearance is signed off.

Alma handles permissions for all library functions, including circulation, via role-based management.

6. Describe your relationship with the vendor(s) of any third-party tools (*i.e., reporting tools, linkresolvers, discovery tools, cloud services, application server and DBMS vendors, etc.*) included in this proposal including licensing, costs, support for the product(s), and versions (*e.g., full or modified*). Provide any associated cost in Section X. Pricing Schedule.

**Ex Libris:** Alma is designed from the ground up solely by Ex Libris, and utilizes no other commercial product except for Oracle, the industry leading multi-tenancy solution. Ex Libris' vision of information technology is based on the concept of interoperability. We maintain full ownership of our technology; all of our products are developed in-house, promoting interoperability and quality assurance. We provide hosting services, a robust customer support service, and a Knowledge Center that provides online documentation, product overviews, training videos, and more.

Ex Libris utilizes a co-location data center owned by Equinix--a global provider of data center facilities. We do not utilize any supply-chain partners in order to deliver infrastructure or platform services. Ex Libris owns and operates all computing equipment in the data center (servers, storage, databases, routers, firewalls, etc.). The data center vendor provides the facility (space, power, cooling, etc.).

7. Describe active user groups and how they function.

**Ex Libris:** ELUNA, the Ex Libris Users of North America, and IGeLU, the International Group of Ex Libris Users, are the groups for users of all Ex Libris products. ELUNA and IGeLU facilitate communication between product users and Ex Libris, and represents user needs to Ex Libris. Both groups meet once a year at or near a customer site, and maintain a number of product-specific listservs as well as a web site.

The groups' goals are to:

- Serve as an educational group for users of Ex Libris' products.
- Facilitate communication between product users and Ex Libris; especially, represent user needs to Ex Libris by:
  - Providing feedback on general company directions.
  - Assisting the company in identifying needed major enhancements to existing products and new products.
  - Setting priorities for the company's product enhancements.
  - Assisting the company in setting general priorities for meeting other user needs.
  - Working with the company on the development of functional and technical specifications for both small and large-scale development; reviewing, testing, and providing feedback on development work.
- Facilitate communication among users of Ex Libris' products and provide educational opportunities for users of Ex Libris' products by:
  - Organizing user conferences.
  - Maintaining e-mail discussion lists for the entire membership and appropriate subsets of the membership.
  - Maintaining a Web site for the organization.
  - Providing a means for sharing locally developed documentation and reports.

- Providing forums for sharing best practices, e.g., workshops presented by users.
- Facilitating formation of interest groups for users that share similar concerns.

The groups maintain a constitution and by-laws, and elect a steering committee who represent the organization's membership in meetings with Ex Libris, particularly those that involve general communication with users, overall company direction, large-scale product enhancement, and integration of product functionality.

The ELUNA and IGeLU international user groups have created a comprehensive enhancement voting system. With membership of the user groups customers can submit enhancement requests to NERS (New Enhancement Request System).

<http://igelu.org/development-cooperation/enhancements/ners>

There are fixed procedures for enhancements and collaborative testing of existing products, development and implementation partnerships for new products, joint focus groups on major new product developments and on strategic topics in the library world.

8. Describe the development methodology used for your system. Provide details about the testing phases, and the roles of the people involved in the development of the software.

**Ex Libris:** As a real Software-as-a-Service (SaaS) system, Ex Libris Alma follows the Agile Development Methodology. This methodology, as described below, allows us to adapt to changes and develop new functionalities rapidly.

Alma's Agile development methodology is based on the concept of monthly sprints, which are task-and time-delineated. This allows the Alma team to inject customers' requests into the system in short intervals and enable the Alma Development, Implementation and Operations Teams to solve development issues on an ongoing basis, thereby contributing greatly to the quality of the product. The Agile methodology allows Ex Libris Alma to deploy new functionalities as well as critical fixes and security patches rapidly to all our customers.

In true software-as-a-service solutions, there is no meaning to product versions and platform upgrades. Particularly in the case of Alma, there are no "upgrades" or "patches". All of the Alma software updates are done centrally and for all Alma customers at once, so that all customers are always using the latest version. Since Alma runs in the Ex Libris cloud, all of the solution's platform-related tasks are handled by Ex Libris cloud services personnel.

QA is conducted as part of the sprints as an ongoing process. This is achieved by the QA staff working together with the development team, testing as early as possible during the sprints. In addition, automatic sanity testing is performed on a weekly basis to ensure that the system is stable during the sprint.

A key benefit of the Agile methodology applicable for Alma is that frequent progress is made in 3 parallel tracks:

- Functionality
- Data migration
- SaaS deployment

This allows Alma development, implementation and operations to encounter and solve problems early in the process, greatly contributing to the quality of the product.

Priorities are set based on several factors such as criticality to customer's production as well as the level of impact of an issue or new enhancement to customers. That being said, the agile methodology allows us to respond fast to needs even when some do not get highest priority.

Ex Libris' focus is on the academic, national and special library market. Because of this, Ex Libris product development is always carried out in close contact with HE libraries and market requirements.

Ex Libris maintains a dedicated Alma development team of over one hundred well qualified employees including product managers, analysts, programmers, and designers.

9. Describe process for determining enhancements that will be made to the application software.

**Ex Libris:** ELUNA (Ex Libris Users of North America) has defined a product enhancement process. Most Ex Libris products have their own Product Group within ELUNA, whose leaders are responsible for organizing the enhancement process, and communicating with Ex Libris product managers, their ELUNA counterparts, and users of the product. Members identify and provide feedback on suggested enhancements, and work with Ex Libris on future developments and strategic goals. Only member institutions have the opportunity to vote on enhancements.

Idea Exchange (<http://ideas.exlibrisgroup.com/>) is a website that allows for the exchange of ideas and facilitates communication directly between the users and the Ex Libris product management teams. The Ex Libris Idea Exchange website is completely open, enabling anyone who uses our solutions to submit and review ideas. Such ideas are an invaluable source for helping us understand your needs and priorities. The Ex Libris Idea Exchange is open for submitting ideas for Alma, Primo, Rosetta and campusM.

Most of Alma's monthly releases of the past two years included enhancements from our Idea Exchange portal.

10. Describe any standard and proprietary APIs, integration/connection resources, and development languages and tools that extend your toolset. Specifically, explain your system's potential for integration with other systems using Learning Tools Integration specification (<http://www.imsglobal.org/lti/>). Provide details for any and all functions of the system that can take advantage of APIs, including acquisitions, e-resources, metadata/cataloging, circulation, discovery, end-user interfaces, mobile interfaces, collection reporting, digital content management systems, and open source technologies.

**Ex Libris:** Alma offers a full suite of APIs which offer create, retrieve, update and delete functions.

The Alma Developers Network is based on an extensible architecture that supports the seamless addition of new integrations via APIs and web services. Alma Developers utilizes web services and Restful APIs for on-line integrations with application, including but not limited to integrations with financial systems, Student Information Systems, Bursar systems, LMS and more.

Located at <https://developers.exlibrisgroup.com> , the site provides a platform for Ex Libris customers and developers to share code and other content relating to Ex Libris programs and/or services. Access to the Developers Network is open to everyone, and anyone can register. As with every site that provides information and access to APIs, it includes Terms of Use that details the license restriction in regards to our APIs and code contribution. The Terms of Use for this site are located at <https://developers.exlibrisgroup.com>.

The Developer Network not only refreshed the technology used for developing code extensions, it has provided a brand new, open environment for sharing, experimenting, and managing the lifecycle of developments that extend Ex Libris products. In addition, it offers new ways for users to access, share and collaborate around APIs and developments. The Developer Network consists of dedicated sections for each Ex Libris product, and includes:

- API Docs: Comprehensive API and integration documentation and technical guides



- Codes and Apps: an advanced portal for sharing, experimenting, and managing the lifecycle of developments, hosted on GitHub
- Tech Blog: Advice, technical guidance, and best practice information offered by developers and Ex Libris development team members
- API Console: a testing environment (sandbox) in which users will be able to experiment with Ex Libris APIs before implementing them in their solutions.
- Forums: Online forums in which developers can share ideas, questions, and answers about how to get the most value from Ex Libris APIs
- API Dashboard: A tool enabling developers to manage their implementations of open interfaces and view usage analytics.

Alma routinely handles over three million API transactions daily.

There are more than 160 APIs for Alma and Primo documented on our Developer Network. In addition we gradually extend our portfolio of APIs and communicate our plans through our Roadmap ([https://knowledge.exlibrisgroup.com/Alma/Product\\_Materials/010Roadmap](https://knowledge.exlibrisgroup.com/Alma/Product_Materials/010Roadmap)).

Alma supports a wide range of integration types. Following are a few examples. For more detailed information see [here: https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/010Alma\\_Online\\_Help\\_\(English\)/090Integrations\\_with\\_External\\_Systems/010Introduction](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/090Integrations_with_External_Systems/010Introduction)

- 3rd Party Discovery system
  - Publishing
  - Fulfillment services
  - Services page
- Bursar
  - Fine/fee Export
- Digital (Remote)
- Finance
  - Invoice Export
  - Invoice Import
  - Order (PO) Export
  - Synchronize Fund Information

Alma also supports LTI based integrations for transferring information from a course management system.

## B. Offeror Data

1. Experience: Describe offeror's experience in providing the proposed resources to academic libraries. Provide the list of academic libraries where this system is currently running in a production environment.

**Ex Libris:** Ex Libris creates products based on relevant standards for interoperability rather than leveraging through proprietary techniques for commercial advantage. We embrace the idea that standards are, at least partially, intended to encourage innovation and fair competition to the benefit of the community of students, researchers, and academicians---the raison d'être for the academic library marketplace. Over thirty years and more than 6,000 libraries later, we believe that the academic library community agrees with this approach.

That academic community is the lifeblood of Ex Libris, and virtually all of our effort and experience is tied to it. Over time, Ex Libris has adapted to the changing needs of the research community, and



continues to focus its business efforts, organizational structures, and fundamental product philosophies on serving that market.

Ex Libris' vision of information technology is based on a concept of interoperability. We maintain full ownership of our technology; all of our products are developed in-house, promoting interoperability and quality assurance.

To protect the privacy of our customers, we do not provide full customer lists. Alma was first introduced in 2012 and is now live at 1,105 institutions worldwide.

2. Longevity: Describe the length of time offeror has been actively engaged in providing the proposed resources to academic libraries. Describe your track record of developing and implementing such systems.

**Ex Libris:** Ex Libris, a ProQuest Company is a leading provider of library automation solutions, offering the only comprehensive product suite for the discovery, management, and distribution of all materials—print, electronic, and digital. Dedicated to developing the market's most inventive and creative solutions, Ex Libris leads the way in defining and designing efficient, user-friendly products that serve the needs of academic, research, and national libraries today, enabling them to transition into the future. Ex Libris has been providing library services since 1986; this is our primary business.

Alma is the culmination of an Ex Libris initiative launched in 2007 to develop a new kind of library system. Ex Libris understood that economically driven decisions are becoming increasingly important in the library market. As a result, efficiency and reducing the total cost of ownership were the primary drivers in designing Alma. The first Alma institution went live in 2012, and since then we have signed over 1,500 Alma customers worldwide.

Our company has decades of experience at implementing library solutions at academic institutions the world over. From large ARL libraries, to consortia, to museums and government agencies, to academic libraries of every size, we have installed our software, converted the library's data, trained library staff, and provided project management and support to the institutions that adopt our products.

3. Personnel:
  - a) Provide general descriptions of the educational background and experience of personnel with whom JMU staff will be expected to work with on a regular basis.

**Ex Libris:** Ex Libris hires only skilled staff, many of whom are degreed librarians with extensive library and/or IT experience. While Ex Libris (USA) is not at liberty to disclose all names and qualifications of our staff, we believe that the following individuals exemplify the high level of training, consulting, and systems analysis expertise Ex Libris can provide. At this time, we cannot provide the signed statement of availability for the staff described below, as Ex Libris does not assign our staff to a project until we are awarded a contract. For the same reason, we cannot at this time designate any of the individuals described below as “key”. Ex Libris does not employ subcontractors; all work will be performed by our staff.

The Ex Libris Professional Services management team makes the decisions regarding project assignments for our staff. Careful consideration is made to ensure the best fit for the customer and to ensure that no staffing changes are needed for the project. In the rare situation where staffing changes are required, the Ex Libris project manager will work directly with the customer project manager to communicate the change and review any risks that may be introduced to the project as a result of the change.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- b) Specify the total number and general level of experience of professional librarians and/or other technical specialists employed.

**Ex Libris:** The ProQuest Human Resources department does not have a method for tracking this, but of the approximately 900 worldwide employees currently working at a Ex Libris, a sizable majority of them have a library degree. This includes employees across all departments, including development, support, presales and sales, and management.

- c) Provide a specific representative (*include name, title, direct contact information, and length of time with the firm*) for the initial project and continued customer support and technical assistance during the term of the contract. Contractor shall be responsible for updating JMU with any change in representatives.

**Ex Libris:** [REDACTED] Senior Account Manager, is James Madison University's main point of contact for the duration of the contract. Note that, in general, support requests are made via our automated CRM (Salesforce), and much of the implementation project communication will be handled via phone calls with your designated project manager and via Basecamp. However, Ex Libris ensures that each customer has a designated account manager to handle general concerns and escalations, and [REDACTED] will serve as the University's. If any change to [REDACTED] status is undergone, we make sure to notify all impacted customers as soon as possible. [REDACTED] has served in the account manager role at Ex Libris for over four years.

[REDACTED]  
[REDACTED]  
[REDACTED]

### C. General Library Staff Functionality

1. Describe how any modules function as an integrated whole and detail any limitations in their ability to function independently from other modules.

**Ex Libris:** As a next-generation solution, Alma does not have different components or modules; rather, there are several entry points for performing particular functions within the system. Alma provides links to all of the relevant tasks and functions for each staff member from anywhere in the system.

All functionality in Alma is fully integrated, so that data entered into one area of the system is automatically readily available throughout Alma, so as to avoid duplication of data entry.

2. Describe configurability of workflow(s) within and across application and across applications, modules or functions.

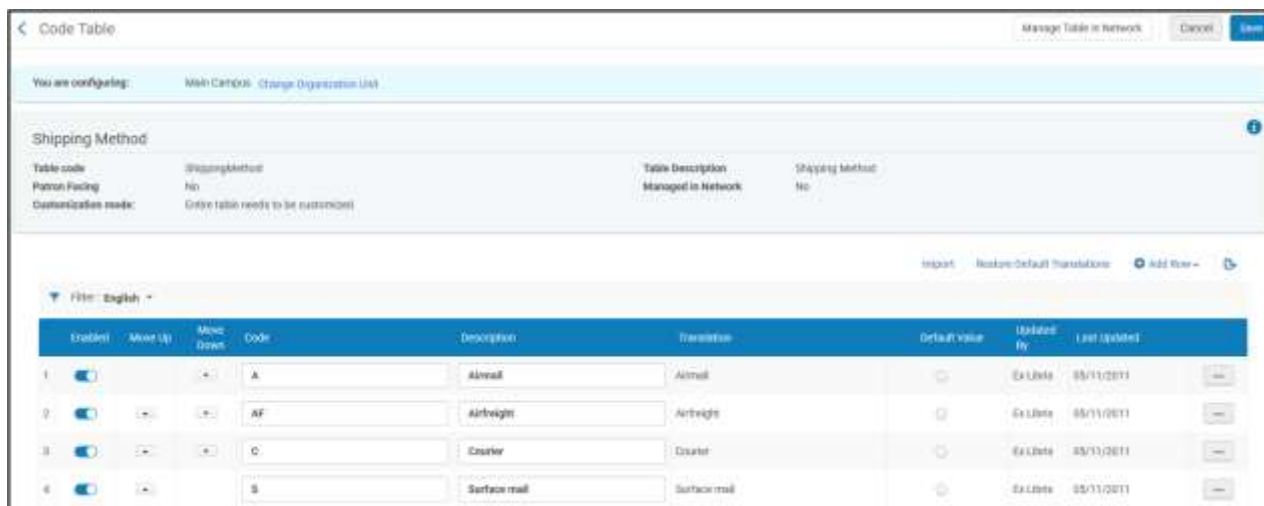
**Ex Libris:** Alma has been designed to automate much of a library's workflows, freeing staff to focus on the exceptions rather than mediating each transaction. Alma's built-in workflow engine allows the library to configure rules and policies that govern staff workflows within the system. Exceptional conditions that require operator handling show up in the Task list.

For workflows such as ordering and invoicing, Alma relies on standard protocols to facilitate interoperability with other systems – both internal to the library's environment and externally to vendors.

3. Describe the system's approach to codes, including locations, statuses, and resource types. Include details about codes from the library staff and administrative perspective, including ability to add and change codes. Include a list of all fields and code values for the system.

**Ex Libris:** You are assigned a customer code and an institution code from Ex Libris. You configure your own library codes.

Code tables and mapping tables are typically available only to administrators. They display a list of options that may be available as a drop-down list in some other area of Alma (code tables) or display configurable elements that control other areas of Alma (mapping tables).



Enabled	Move Up	Move Down	Code	Description	Translation	Default value	Updated By	Last Updated
<input checked="" type="checkbox"/>	↕	↕	A	Airmail	Airmail	<input type="radio"/>	Ex Libris	05/11/2011
<input checked="" type="checkbox"/>	↕	↕	AF	Airfreight	Airfreight	<input type="radio"/>	Ex Libris	05/11/2011
<input checked="" type="checkbox"/>	↕	↕	C	Courier	Courier	<input type="radio"/>	Ex Libris	05/11/2011
<input checked="" type="checkbox"/>	↕	↕	S	Surface mail	Surface mail	<input type="radio"/>	Ex Libris	05/11/2011

Shipping Method Code Table



Enabled	Code	Percentage	Description	Updated By	Last Updated
<input checked="" type="checkbox"/>	BT20	20	Standard rate at 20%	ed_lrgl	12/19/2016

VAT Codes Mapping Table

Code and mapping tables appear with:

- The page title Code Table/Mapping Table
- A summary header with basic information about the table
- A table actions list, if any
  - The first option enables you to import information to the table (for Code Tables)
  - Another option enables translation for multi-language institutions (for Code Tables)
  - Add Row enables you to add a new row, when available
  - The last link is an option to export the displayed elements in the table to Excel
- The option to Cancel your changes or Save / Customize to save your changes

Each item in the list appears with:

- Its number in the list
- The option to enable/disable the element by toggling a slider; a blue slider indicates that the element is enabled; a gray slider indicates that the element is disabled. These sliders are not functional on all code tables. If the slider colors are muted ( / ), you must first enable the line using the Customize row action before you can change their values.

- The options to move an item down or up the list by selecting the up or down arrows in the Move Up and Move Down columns
- For Code tables - The code and description of the item. These can often be changed, either directly or after selecting Customize in the item's row actions list. Select Save after making any changes to the table.
- For Mapping tables - The key (code) and other information for the item. These values, other than the key, can often be changed, either directly or after selecting Customize in the item's row actions list. Select Save after making any changes to the table.
- For Code tables - The option to select one of the items as the default value. Only one value can be selected. For some tables, this value may be disabled or may have no relevance.
- The user who last changed the element and the date of the last change
- A row actions list, typically containing at least the option Customize if you have not yet customized the list, or Restore if you have. Select Restore resets the row to its original value. After selecting a row action, select Save at the top of the page to save your changes. When available, select Delete to remove the row.

For some code and mapping tables, each row of the table functions as an independent unit and is customized independently, while other tables function as a single unit so all of the rows are customized together. The Customization mode field indicates whether the table is configured at the table level (Entire table needs to be customized) or at the row level (Specific rows can be customized). If you have customized a table whose customization mode is Entire table needs to be customized, new rows added by Ex Libris to this table in future releases will not be added to your table. If you have customized a table whose customization mode is Specific rows can be customized, new rows added by Ex Libris to this table in the future will be added to your table as well.

The screenshot shows the 'Code Table' configuration interface. At the top, there are links for 'Clean Training' and 'Change Organization Unit'. Below this, the 'Reporting Code' section is visible. It contains a table with the following data:

Table code	Table Description	Reporting Code
HFundsTransactionItem.reportingCode		

Below the table, the 'Patron Facing' status is 'No'. The 'Customization mode' is highlighted with a red box and set to 'Entire table needs to be customized'.

Table Level Customization

The screenshot shows the 'Code Table' configuration interface for 'Discovery Interface Labels'. It contains a table with the following data:

Table code	Table Description	Discovery Interface Labels
MaskLabels		

Below the table, the 'Patron Facing' status is 'Yes'. The 'Customization mode' is highlighted with a red box and set to 'Specific rows can be customized'.

Row Level Customization

In terms of location, status, type, etc. being exposed to the user in the Primo interface, the institution has the ability to customize the discovery interface labels exposed to the user. These are predefined labels that appear on the GetIt! And View It tabs in Primo. They cannot be added or removed, but the operator has the ability to edit the label text to suit institution requirements, as well as disable/enable a label. This can be done from the Code Table page, located in the Fulfillment Configuration menu in Alma. This is shown in the response directly below.

4. Describe how coding supports end-user interaction with the system.

**Ex Libris:** The labels that display on the Brief Results, Full Display, Services, Journal Search, and My Library Card pages are configured with various code tables under the Discovery subsystem (such as Full Display Labels code table). The values that display to end users are configured with the Description field, which permits the use of HTML elements to provide customized formatting in the UI.

To modify a label:

1. Open the Discovery UI Labels code table (Configuration Menu > Discovery > Display Configuration > Label).

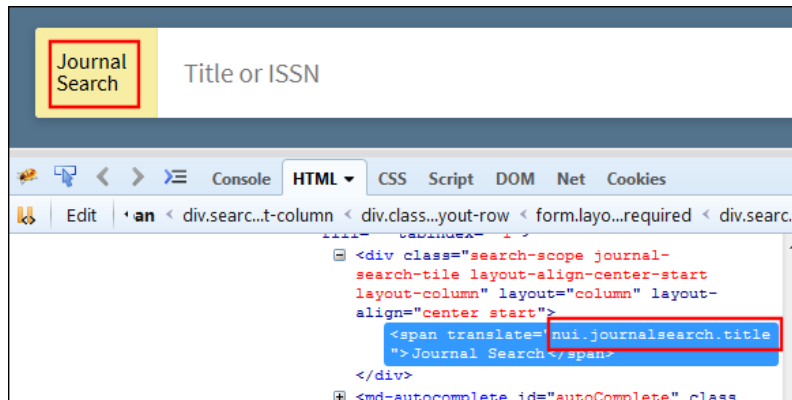
Table Name	Sub System	Description	Updated By	Customized	Patron Facing	
1 Advanced Media Type Labels	Discovery UI Labels	Advanced Media Type Labels	MattP	✓	✓	...
2 Advanced Search Index Fields Labels	Discovery UI Labels	Advanced Search Index Fields Labels	MattP	✓	✓	...
3 Advanced Search Languages Labels	Discovery UI Labels	Advanced Search Languages Labels	-		✓	...
4 Aria Labels	Discovery UI Labels	Accessibility aria labels	-		✓	...
5 Calculated Availability Text Labels	Discovery UI Labels	Contains code tables of Calculated Availability Text	-		✓	...
6 Citation Labels	Discovery UI Labels	Personalize Your Citation Labels	-		✓	...
7 Citation Linker Labels	Discovery UI Labels	Citation Linker Labels	-			...
8 Citation Trail	Discovery UI Labels	Get it service labels	-		✓	...
9 Digitization Labels	Discovery UI Labels	Digitization Labels	-		✓	...
10 Display Constants Labels	Discovery UI Labels	Display Constants codes	-		✓	...
11 e-Shelf Tile Labels	Discovery UI Labels	Add To Eshelf codes	-		✓	...

Discovery UI Labels Code Tables - Partial List

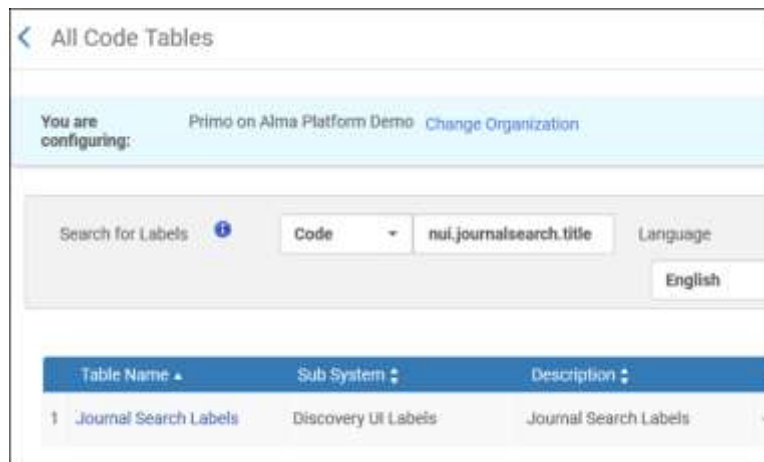
2. Select one of the following search options, type your search query, and then select Search to determine which code table and code that you need to modify:

- Code – After inspecting the HTML source, you can search for a specific code. For example, the code for the Journal Search search box title is nui.journalsearch.title and is found in the Journal Search Labels code table:



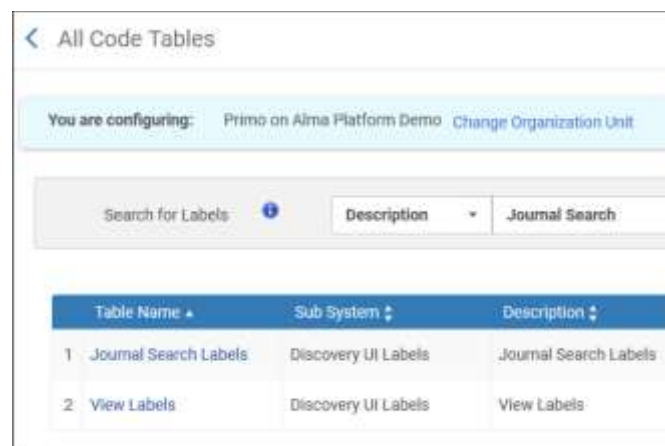


HTML Inspection to Find Code



Code Found in Code Table

- Description – If you do not know the specific code, you can also search for the display label. For example, the Journal Search label is found in the Journal Search Labels and View Labels code tables:



Label Found in Code Tables

3. Select Customize in the row's action list to edit the code table.
4. For each code that you want to modify, update the **Description** field to change the code's display label.

Note:

- If you do not want to display a code's label in Primo VE, specify **NOT\_DEFINED** per language.
- The setting of the **Enabled** field has no effect on the display of the label.
- To define a view-specific label, create a new row using the following format for the code: *<Institution's Code>:<View's Code>.<Label's Code>*. The system will use the code without the prefix for the default label.

5. When customizing a table for the first time, select Customize to save your changes and return to the Discovery subsystem page. After an initial customization, you will need to select Save to apply your changes. Subsequent changes to a table also require you to select Actions > Edit instead of Actions > Customize.

5. Describe the application security features for data, for each component, and for the system. Describe all row-level security options as well as any field-level encryption available.

**Ex Libris:** Cloud security and confidentiality are top concerns with cloud computing and software-as-a-service (SaaS) architecture. Ex Libris is committed to providing our customers with the most secure and reliable environment, and has developed a multi-tiered security model that covers all aspects of our cloud-based systems.

Ex Libris is ISO 27001 (information security standard) certified for all data centers, global operations, and application and development processes. The ISO 27001 certification process requires that Ex Libris comply with all Information Security Management System (ISMS) security measures and pass an annual compliance audit conducted by an independent third party audit firm.

Ex Libris is also ISO 27018 (Protection of PII) certified and re-earned the certification in January 2019. ISO 27018 defines the controls and guidelines for implementing measures to protect Personally Identifiable Information (PII) for the public cloud computing environment.

Lastly, in 2017 Ex Libris achieved ISO 22301 Certification for Business Continuity Management. ISO 22301 is a comprehensive standard that represents the highest level of commitment to business continuity and disaster preparedness. By achieving ISO 22301 certification, Ex Libris continues to demonstrate its focus on high availability and business continuity, as well as the company's commitment to providing customers with a reliable, highly secure SaaS environment. Ex Libris continues to support ever-higher industry standards, enabling customers to enjoy the most up-to-date technology and safeguards in the industry.

Ex Libris has implemented multi-tiered security audits on different levels: daily security checks, monthly security reviews, quarterly application security vulnerability assessment scans, as well as quarterly third-party patching and an annual scan of network vulnerabilities. The ISO 27001 certification that Ex Libris passed successfully includes annual external audits to validate that all security measures and mitigations are in place.

Ex Libris also has an annual security penetration test based on an OWASP Top 10 and SANS 25 best practice certification document from an external security company that validates that all security measures are in place.

Ex Libris' security team monitors our security procedures and processes on an on-going basis. In addition, at least annually the Security Team reviews the security policies and communicates any updates to the required personnel.

Alma is designed to safeguard data throughout the data lifecycle, including data in transit. Alma utilizes SSL encryption (based on a commercial SSL certificate), which creates an encrypted channel between the client computer and the Web server, and between the application server and the database server. In addition, the customer's sensitive data stored by Ex Libris will also be encrypted to prevent unauthorized access, and such data can be read only by the application. Ex Libris uses a standard mechanism for handling encryption keys: all encryption keys are random, and are stored separately from the credential management zone. Encryption keys are never exposed in a clear form, and they are destroyed at the end of their designated period.

Ex Libris has developed extended authorization controls to protect customer data with role-based access control (RBAC):

- Staff members must authenticate prior to accessing Alma
- Each staff member has privileges and access to data limited to his/her role
- Only authorized staff members have access to view and edit patron data
- Alma's browser "s are encrypted using SSL.

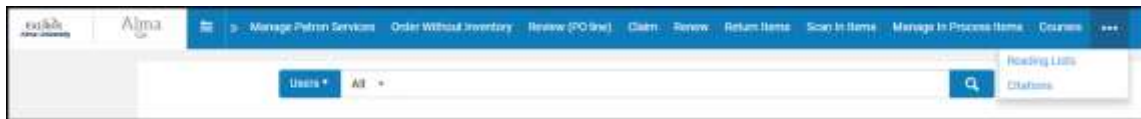
Alma also maintains an audit trail of access to patron data that has been exported out of Alma.

Alma does utilize row level security by leveraging the industry-leading multi-tenancy solution, Oracle VPD (Oracle Virtual Private Database). This means that any key in the database includes the unique institution ID, thus ensuring separation between institutions at all levels, as well as the ability to ensure uniqueness across all institutions. Since access to the Alma database always includes the institution ID, uniqueness is delivered and maintained at all areas of the system with no limitation.

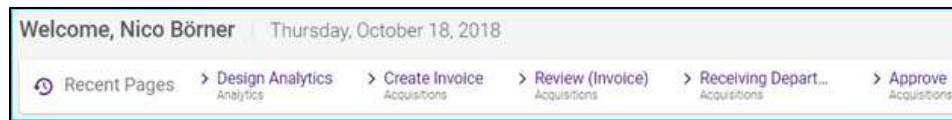
6. Describe the extent to which library staff users can configure or customize the application, including views and menus. Define what customizable and configurable mean for your application.

**Ex Libris:** Because Alma has a role-based menu, staff members will only see the menu options that are relevant for their role(s). In addition, staff can add any options from any menus in the Main Menu Navigation Bar to the quick links menu, as a quick means of accessing options that are frequently used.

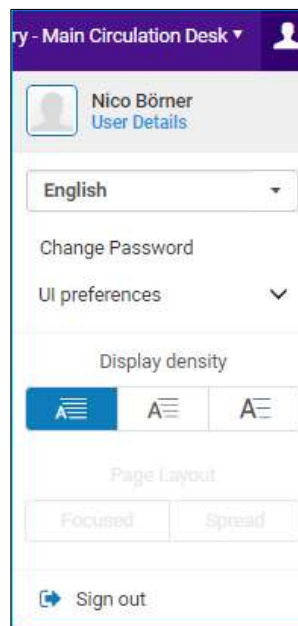
Purchase Order Lines	Post-Receiving Processing
★ Order Without Inventory	Receiving Department Items
Review	Scan In Items
★ Claim	Import
Review	Manage Import Profiles
Review Deferred	Import
Manage Trials	Monitor and View Imports
Manage EDI Tasks	Resolve Import Issues
Purchase Order	Load Usage Data
Package	Acquisitions Infrastructure
Review	Vendors
Approve	Funds and Ledgers
Delete PO	Transfer Funds
Purchase Requests	Move Funds in Hierarchy
Create Purchase Request	Licenses
Manage Purchase Requests	Advanced Tools
Receiving and Invoicing	Item Search in Amazon
Receive	Exchange Rates Report
Create Invoice	Rollover Ledgers
Review	Rollover PO Lines
Approve	Patron Driven Acquisition (PDA)
Waiting for Payment	Change Vendor In Order



Recent Pages allow the user to quickly navigate to currently visited pages in Alma:



Alma supports the ability to customize the search results table columns by changing columns location. The size of the fonts can be controlled by using the browsers zoom in/out functionality. Users can also change their view preferences, language and access their personal record from the persistent menu bar:



Throughout Alma, list tables can be greatly customized. Some examples include:

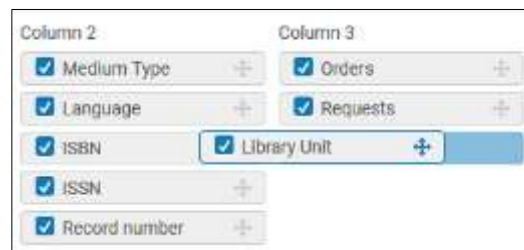
Hide and display columns:

Name	License code	License type	Licensor Code	Status	Review Status	Start date	End date
1. AIP	AIP	License	-	Active	Accept...	02/25/2013	-
2. AIP	AIP1	Amend...	-	Active	Accept...	02/25/2013	03/25/2015
3. Alexander Street Press	ASP	License	MST	Active	Accept...	02/26/2013	12/31/2015
4. AMAZON License type1	AMAZON_1	License	-	Deleted	Pending	03/07/2011	-
5. AMAZON License type2	AMAZON_2	License	-	Deleted	Pending	03/07/2011	-

Changing the display on result screens:



Drag and drop options for moving fields from one column to another:



Customizations are retained for each user and for each list after moving to another page, logging out, and so forth.

Alma provides a state-of-the-art dashboard that the staff user can configure and customize according to his/her roles. Widgets that the user (based on his role) can select for display on the dashboard are created in Alma Analytics. The pre-defined reports are shown by default to the user (role-based). For example: if the user's role is Acquisitions Administrator, (s)he will be able to see expenditure trends during the last year. The user can arrange the reports and define which of them (s)he would like to see as part of the personalized dashboard. Below is an example of a circulation staff user's personalized dashboard, displaying the user's task list and relevant analytics. The user may add widgets as needed.

Manage Widgets		
Active	Widget name	Description
<input checked="" type="checkbox"/>	Tasks	Tasks Widget
<input type="checkbox"/>	Notifications	Notifications Widget
<input type="checkbox"/>	Organization Calendar	Calendar Widget
<input checked="" type="checkbox"/>	Scheduled Jobs Status	The Scheduled Jobs Status Dashboard widget presents the status of scheduled jobs for the last 5 days
<input type="checkbox"/>	Primo Dashboard	Primo Dashboard Widget

By default the dashboard shows the Tasks list which shows and links to tasks requiring the staff users attention. Where applicable Alma differentiates between tasks directly assigned to the user and tasks that are not assigned yet but relevant to the user's role(s). The tasks list is always accessible through the persistent menu bar.

An administrator can also configure the look and feel of Alma, including colors, logo, and default language that will apply for the institution.

7. Describe additional potential configuration and customizations process (*provide any associated cost in Section X. Pricing Schedule*).

**Ex Libris:** An Alma implementation includes project management, data migration services, training, configuration planning and setup, and policy/workflow planning. For all projects, Ex Libris assigns a project manager to guide the customer from the beginning of the project to its completion, and to collaborate with the library organization to create a mutually-agreed-upon plan for the project scope, roles, and timeline during the initial phase of implementation (within the scope and timeline defined in the contract). Implementation consultants, trainers, technical consultants and data migration analysts are also assigned as part of the Ex Libris implementation team. All of these services are included as part of our base implementation cost.

8. Describe how configuration and customization will affect future releases of software (*e.g., level of support provided*).

**Ex Libris:** Configuration and customization does not affect level of support provided. As described in #3, above, some changes to code tables may affect whether new rows added by Ex Libris to this table in future releases will be added to your table.

9. Describe functionality integrated within the system that supports library staff workflows, differentiating between native workflow functions versus customizable workflow function.

**Ex Libris:** Alma's workflow engine uses library-defined rules to manage most activities automatically, and alert staff to exceptional conditions that require manual intervention. Alma's built-in workflow engine allows the library to configure rules and policies that govern staff workflows within the system.

Most acquisitions activities are unmediated, based on library policies and procedures. Intervention is needed only when staff review or mediation is required for the processes to continue. For example, order lines that require review are flagged and placed on an operator's task list.

Role and privilege granularity reflects the common breakdown of responsibilities and authorizations within the library/institution, with sensitive actions being controlled by specific roles and privileges. For example:

A Purchasing Operator role can do all of the actions required for processing a purchase request, such as:

- Manually create a new order
- Review and update an order
- Send the order to the vendor

However, the Purchasing Operator cannot:

- Approve orders that have been identified by the system as requiring special approval, as per institutional criteria
- Delete an order. Being allowed to perform this action would require an addition extended role

An Invoice Operator can do all of the actions that are required for processing invoices; however, the Invoice Operator cannot:

- Approve invoices
- Delete Invoices

Vendor information may be made viewable by roles that require access to this information, such as:



- Purchasing Operators
- Invoice Operators

10. Describe how JMU's e-mail systems would be incorporated with your system's operation.  
(Faculty/Staff – on-premise Exchange and students - Live@Edu).

**Ex Libris:** Alma sends emails to patrons, library staff, and vendors.

Every email has two "from" addresses:

- **From:** - Appears in the user's mail reader and determines the reply to address (if no other reply to address is specified).
- **EnvelopeFrom** - Used internally by mail relay servers to determine the origin of the message. This field appears as **From** (without the colon :) at the very top of the email packet when you look at the packet source, but does not normally appear in the user's mail reader.

You can configure each outgoing email's **From:** address by configuring the letter's **addressFrom** label. If not configured, Ex Libris uses the default email address [alma@exlibrisgroup.com](mailto:alma@exlibrisgroup.com). For the Ful Outgoing Email Letter, the **From:** address contains the library's email address, if this address is configured.

You can configure the outgoing email **EnvelopeFrom** using the mail handling integration profile. By default, the **EnvelopeFrom** is also [alma@exlibrisgroup.com](mailto:alma@exlibrisgroup.com). Note that if a recipient's email server (for patrons and staff, this is generally a server run by your institution) has set up a spam filter, the filter checks whether received emails are actually sent by the domain of the address in **EnvelopeFrom**. When there is a mismatch, emails may be filtered as spam. To prevent this from happening, **EnvelopeFrom** should remain <something>@exlibrisgroup.com (unless your institution's anti-spam filters and SPF records are configured properly so that this is not an issue). If you are not worried about emails being filtered as spam, you may want to configure **EnvelopeFrom** in order to catch bounced emails. Emails caught in an email server's spam filter do not generally result in bounced emails.

Note:

- Replies to emails go to the email header **From:** field, unless the email has a **Reply-To:** field.
- Purchase order and claim notifications ignore the configured **addressFrom** field in the letter when an email address is defined in the institution for order response or claim response, respectively.

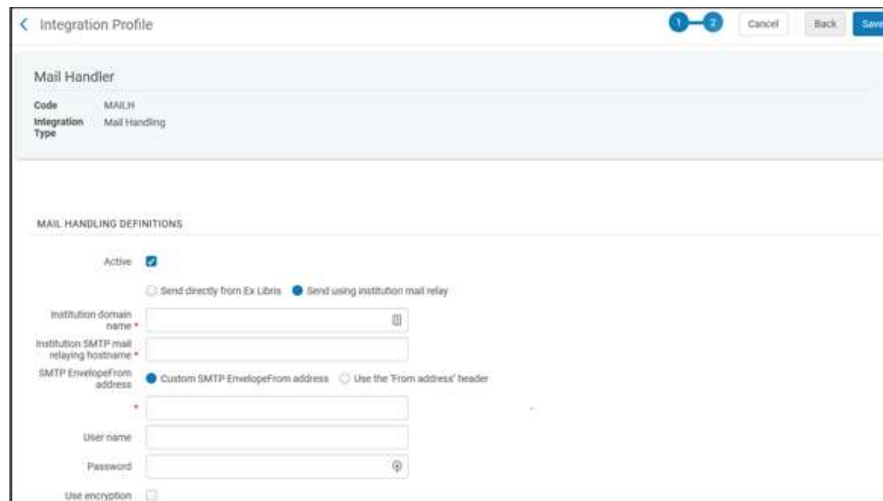
Instead of configuring **EnvelopeFrom**, you can instead use the mail handling integration profile to have Alma send all email through the institution's mail relay server. In this case, the mail relay server sets **EnvelopeFrom** on the outgoing email.

**To configure the mail handling integration profile:**

On the Integration Profile List page (**Configuration Menu > General > External Systems > Integration Profiles**), select **Add Integration Profile**. Alma allows you to define only one mail handling integration profile. If there is already a mail handling integration profile, select **Edit** in the row actions list to edit the profile.

The screenshot shows the 'Integration Profile' configuration page. It includes a header with a back arrow, a title 'Integration Profile', and two buttons: 'Cancel' and 'Add'. Below the header is a form with the following fields: 'Code' (set to 'MAILER'), 'Integration Type' (set to 'Mail Handling'), 'Name' (set to 'Mail Handling'), and 'Description' (empty). There are also 'Cancel' and 'Add' buttons at the bottom right of the form.

Enter a unique code and name for the profile. In the **Integration Type** field, select **Mail Handling**. Select **Next**. The second page of the wizard appears. **Active** is selected by default.



To continue to use Alma's mail server: Select **Send directly from Ex Libris** (selected by default). Enter a valid email address for **EnvelopeFrom**.

To use your institution's mail relay server: Select **Send using institution mail relay**. Several additional fields appear. Enter the institution domain name. After you do this, the domain name appears after the **SMTP EnvelopeFrom address** field as @<domain name>. The domain name can contain up to 63 lower case alphanumeric characters, dashes -, and periods followed by a period and a two to six character lower case alphabetic top-level domain. Enter the institution SMTP mail relay host name. The host name can contain lower case alphanumeric characters as well as any of the characters - ! # \$ % & ' \* + / = ? ^ \_ ` { | } or ~ and a period.

**Custom SMTP EnvelopeFrom address** is selected by default. Enter a username of the address in the unlabeled field below this option. This sets **EnvelopeFrom** to <username>@<domain name>. The username can contain the same characters as the SMTP mail relay host name. If you want, instead, that the **EnvelopeFrom** of each email outgoing from the institution mail relay be the same as the **From:** address of that email message, select **Use the 'From address' header**. If the mail relay requires a username and password to accept email from Ex Libris, enter the username and password. These can be any ASCII characters. If the mail relay requires encryption, select **Use encryption**. **Encryption port** is set to **587** for you. Select **Save**.

11. Describe third party e-mailing or other protocol if this functionality is part of your solution. Specify the messaging service utilized by your system. Describe details of how message header information is created and can be customized (*e.g., the subject line, the "From" address.*)

**Ex Libris:** Alma supports email notices to users, external contacts and staff. There are currently more than 50 types of letters that can be customized locally, including receipts, pick slips/paging slips, hold availability notices, overdue notices, and borrowing activity notices.

Notices in Alma are based on XML files generated by the system, and run through XSL files that customize and set the styling on the Alma-generated XML data. The XSL files are fully customizable by the library, so that styling of the printouts is fully controlled by the library.

Notices and forms can be customized at the institution level and inherited by all libraries, or customized at the library level. The delivery schedule of notices can also be configured.

The Configuration Files page lists all of the XML style sheets that are used to format each type of letter and determine what XML data fields display in the letter emails. Alma allows you to configure these style sheets to customize letters for your institution. The customizations may include changes to the style, the addition or subtraction of information sent to users, and so forth.

12. Describe possibilities for single-sign on solutions to the system, such as Shibboleth and OpenAthens (*provide any associated cost in Section X. Pricing Schedule*).

**Ex Libris:** Alma utilizes the SAML protocol to communicate with any SAML-compliant system, enabling it to establish SingleSign On (SSO) with compliant systems, such as Shibboleth based systems, Microsoft Active Directory, and others that are SAML-compliant.

13. Describe all system requirements for public and staff desktop clients, if any, and web interfaces, including browser and/or operating systems and versions supported, necessary plug-ins, or browser configuration requirements.

**Ex Libris:** Because Alma is fully web-based, staff interact with the system via a standard browser, unlike other web solutions that may require third party components (such as .NET framework). Alma is a truly web-based Java SaaS solution that does not require local desktop installation or components. For secured SSL communication with Alma, Ex Libris uses a certificate from ‘Go-Daddy’ which is fully compatible with Microsoft Windows-based clients.

Alma is certified for all the leading browsers: Chrome, Firefox, and Internet Explorer. There is an ongoing process of monitoring new browser versions and checking their compatibility with Alma. In practice, Alma works with other browsers such as Safari, Skyfire, Edge, etc.

The Primo User Interface supports all the leading browsers: Chrome, Firefox, Safari, and Internet Explorer. There is an ongoing process of monitoring new browser versions and checking their compatibility with Primo.

Generally no plugins need to be installed but for all browsers, you must enable JavaScript, cookies, and TLS.

14. Describe where client profiles and configurations are maintained (*i.e., on the server or on the workstation*).

**Ex Libris:** Local configurations are stored in the cloud. The system is based on multi-tenant architecture, in which the resources – both the source code of the application and the underlying database – are shared, in order to support multiple customers simultaneously. Strict data isolation is applied to all layers of the Alma application: user-interface branding isolation, database isolation (via Oracle Virtual Private Database), storage isolation, and FTP-level isolation.

15. Describe frequency and installation mechanism for upgrades to desktop clients and indicate programming language used.

**Ex Libris:** In true software-as-a-service solutions, the concept of product versions and platform upgrades is very different from that of legacy systems. Particularly in the case of Alma, there are no “upgrades” or “patches”; instead, new releases are deployed on the first Sunday of every month.

Two weeks prior to the monthly release date – i.e., the second last Sunday of the previous month – we deploy the new release in all the sandbox environments, allowing customers to test and familiarize themselves with the features.

Monthly Release Notes are published with every new release, as well as ‘How-to’ videos and interactive guides to assist users in getting familiar with new features.

In addition, Alma may require ongoing maintenance performed by our SaaS team, such as hardware replacement, security patches, and practice of failover scenarios. The maintenance window for release deployment and other routine maintenance work falls between Saturday 8:00 PM and Sunday 6:00 AM. During this time, the system may be unavailable for short periods of time. Announcements to customers are sent seven days in advance.

16. Describe any mobile interfaces for library staff. Explain the difference between staff functionality on mobile interfaces versus desktop interfaces.

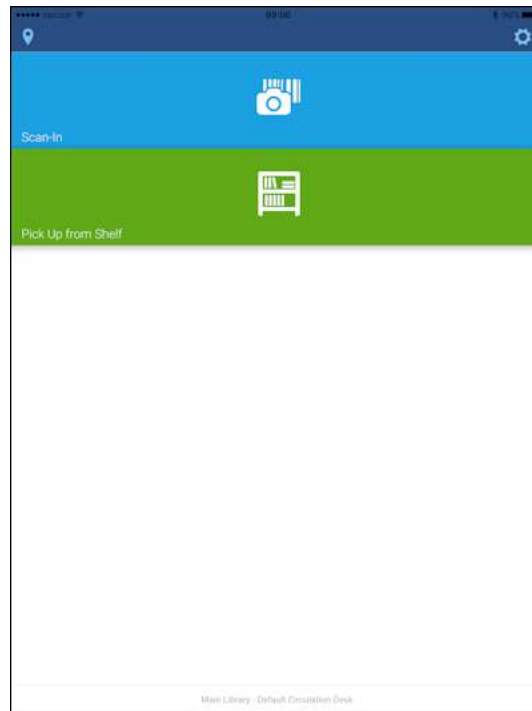
**Ex Libris:** Ex Libris’ browser certification policy is based on industry usage statistics (W3C). When selecting the new technology we verified to use the best solution to ensure the design is accessible. We chose to use Angular and HTML5 technology for responsive design, to provide with perfect adjusted design to fit all devices resolution and provide the best “on the go” experience.

As Alma is a fully browser based system it is possible to use the product on devices (Smartphones and Tablet) for flexible working practices. All Alma functionality, including lending is available via a tablet which can be used at the book shelves.

In addition, staff users have access to the Alma Mobile App, which allows users to operate daily library activities. Librarians can perform fulfillment activities on the go, including scanning item barcodes to register in-house use from anywhere in the library, or processing hold requests at shelf using the Pick Up from Shelf functionality.

Built on a flexible advanced mobile-application framework, Alma Mobile will grow to include more features, such as work-order processing, item returns, the creation and processing of sets, inventory management, and even mobile analytics.





17. Describe how product(s) addresses accessibility for library staff interfaces to ensure the application is accessible to people with disabilities. Describe testing for adherence to accessibility guidelines and standards. Provide documentation of the testing performed and results of that testing including the Web Accessibility and Template Guide (WATG located at <http://www.vadsa.org/watg>).

**Ex Libris:** Alma is developed in accordance with the requirements of the DDA including Part III, as well as those of the American Disabilities Act 1990 (ADA).

Alma was developed in line with the WAI guidelines. The application is compliant by applying a high-contrast level of the display, by adjusting the luminosity level of the display, and by applying alternatives to non-accessible methods, such as JavaScript or AJAX components. The application is also compatible with screen readers for the visually impaired.

The accessibility of the Alma interface for users (inc. HTML and CSS) follows leading international accessibility and industry standards: The W3C Web Content Accessibility Guidelines 2.0, level "Double-A" Section 508 of the Rehabilitation Act (29 U.S.C. 794d). We adhere to the following accessibility guidelines:

1. HTML Standards and Accessibility
2. XHTML 1.0 Transitional
3. WCAG 2.0 Guidelines Priority 2 (with exceptions)
4. Section 508 (with exceptions)
5. CSS 3

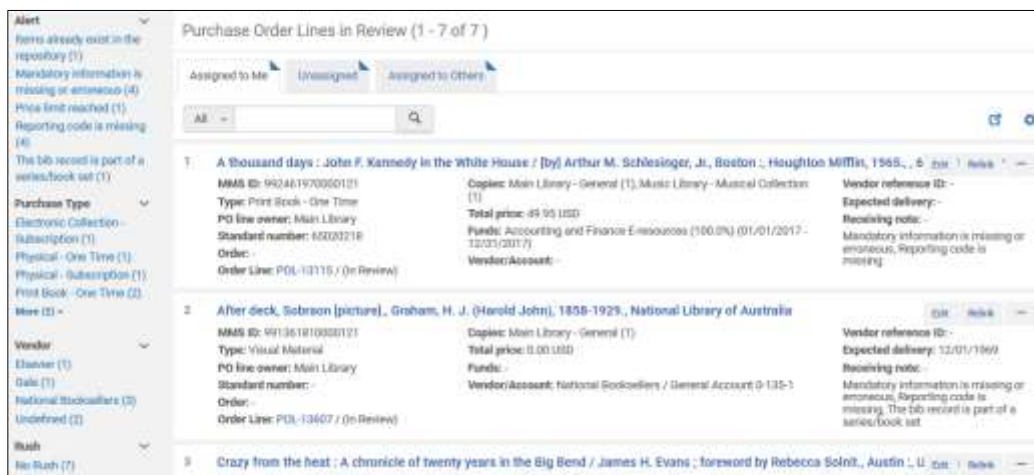
Please refer to the VPATs submitted as attachments with this response. Alma and Primo are Section 508 compliant, with exceptions as detailed in the VPAT. The Primo Accessibility Roadmap document enclosed with this response lists all accessibility gaps that were identified and listed in the VPAT and indicates the time frame in which these gaps are expected to be resolved. The Alma accessibility team is releasing a similar document in 2019, with the aim to resolve all exceptions by the end of 2020.

**D. Acquisitions and Financial Management Functionality-** Describe the proposed solution's acquisitions and fiscal management capabilities, including but not limited to each of the items below:

1. Acquisitions workflow for creation and placement of orders, including:

**Ex Libris:** Order workflows in Alma include the automatic processing of purchase orders across electronic and print formats, as well as staff mediation for approval and exceptions, per the library's rules. For example, Alma's workflow engine will be able to automatically assign tasks to staff members, approve orders based on library-defined policies, aggregate purchase order lines into a purchase order, and send the order to a vendor.

In Alma, the order process begins when a purchase order line is created; order lines are the building blocks from which purchase orders are created. Using business process automation, the vast majority of order lines will be processed automatically, and flow from order line creation directly onto a purchase order. Order lines that require review are flagged and placed on an operator's task list. As an example, the screen shot below shows an acquisition staff member's "task list" for purchase order lines in review.



Order lines may be sent for review for various reasons - that the purchase order line is missing mandatory information such as a fund, price, or location, or that a library-defined price limit has been reached. Purchase Orders show an auto generated alert that explicitly states what is wrong or missing with that order. For example:





Once an operator has reviewed and updated the order lines as necessary, they move automatically to the next stage, where purchase orders are generated and sent to the vendors. In cases where an order does not need to be sent (e.g., Approval Plans), the purchase order process ends when the order is created in Alma.

The purchase order is linked directly to the metadata records in the system; there is no need for duplicate records in Alma. Order lines are linked directly to bibliographic records, or to package records in the case of groups of e-resources. Item records, which describe the resources in the library's inventory, are linked to the metadata record, which is in turn linked to the purchase order line.

When initiating an order, Alma will offer the staff user the option of choosing a Purchase Type – based on the type of media being ordered. (The list can be customised by the library.) Based on this information, the PO Line that will be created will be tailored to the type of material being order. For example a monograph fill have fields for defining library and location; journals (print and electronic) will have subscription date fields.

A purchase order for physical material – where item information can be registered:

Name	Type	Activation Status	Activation Date	Additional PO Line
1 Gale Cengage Listserve Historical Archive	Selective package	Not active		

A purchase order for continuing resources – where subscription information can be registered:

Manual renewal ☒

Subscription from date

Subscription to date

Renewal date

Renewal reminder period (days)

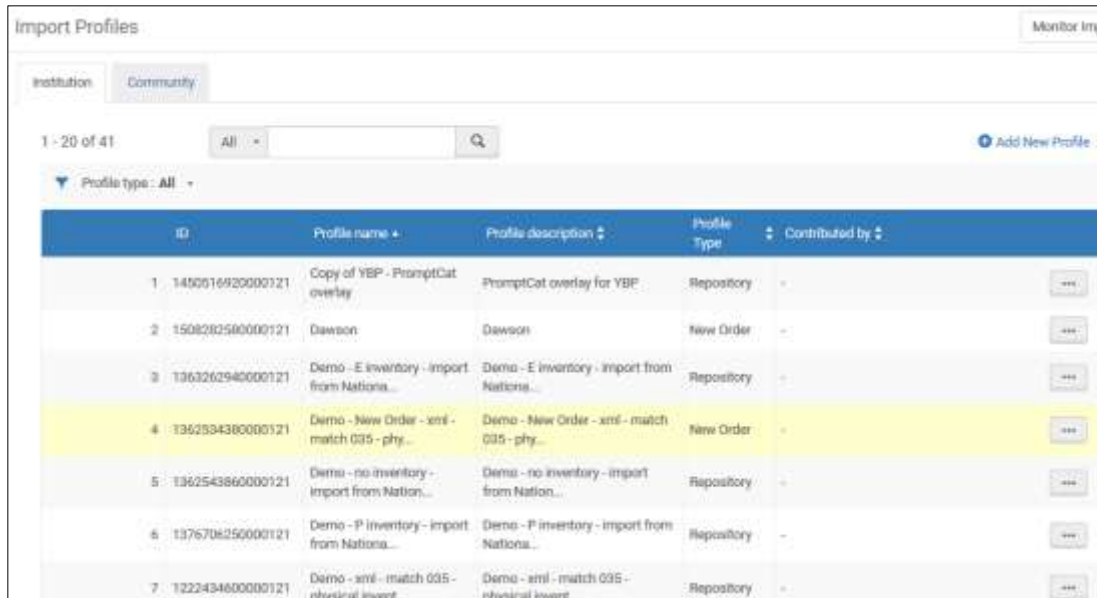
a) single order entry and submission

**Ex Libris:** Order workflows in Alma include the automatic processing of purchase orders across electronic and print formats, as well as staff mediation for approval and exceptions, per the library's rules. Alma's workflow engine can automatically assign tasks to staff members, approve orders based on library-defined policies, aggregate purchase order lines into a purchase order, and send the order to a vendor. The vast majority of order lines are processed automatically, and flows from order line creation directly onto a purchase order. Order lines that require review are flagged and placed on an operator's task list.

Note that the purchase order is linked directly to the metadata records in the system; there is no need for duplicate records in Alma. Order lines are linked directly to bibliographic records, or to package records in the case of groups of e-resources. Item records, which describe the resources in the library's inventory, are linked to the metadata record, which is in turn linked to the purchase order line.

b) batch import from vendor systems

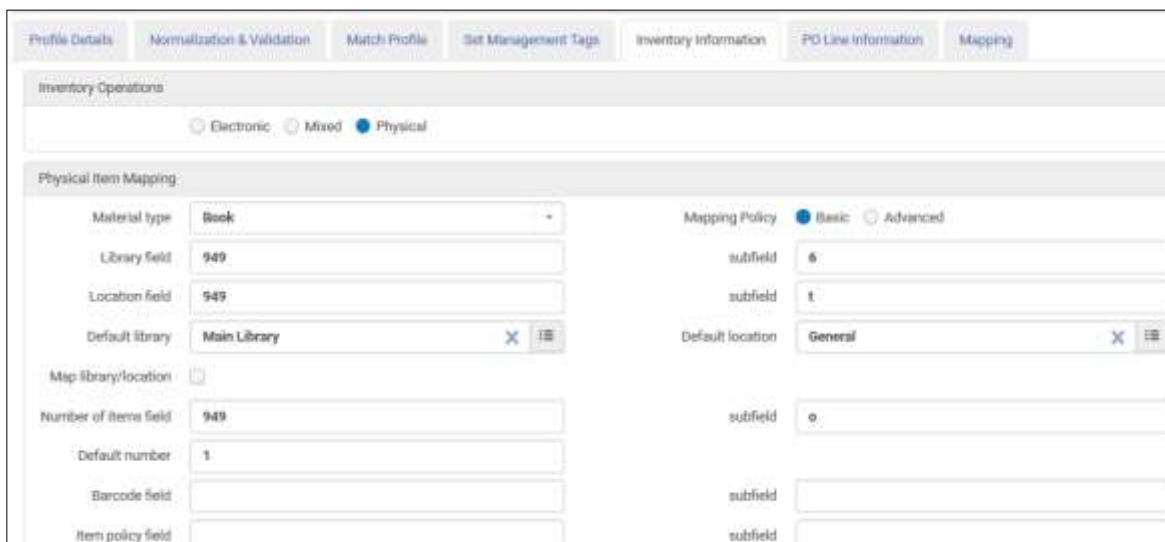
**Ex Libris:** Alma supports the ability to import embedded order records. The rules by which it imports records are defined in "import profiles." Many import profiles may be setup—for records from different sources, containing different data types, etc.:



ID	Profile name	Profile description	Profile Type	Contributed by
1 1450516920000121	Copy of YBP - PromptCat overlay	PromptCat overlay for YBP	Repository	-
2 1508282500000121	Dawson	Dawson	New Order	-
3 1363262940000121	Demo - E inventory - import from Nations...	Demo - E inventory - import from Nations...	Repository	-
4 1362934380000121	Demo - New Order - xml - match 035 - phy...	Demo - New Order - xml - match 035 - phy...	New Order	-
5 1362543860000121	Demo - no inventory - import from Nation...	Demo - no inventory - import from Nation...	Repository	-
6 1376708250000121	Demo - P inventory - import from Nations...	Demo - P inventory - import from Nations...	Repository	-
7 1222434600000121	Demo - xml - match 035 - physical invent	Demo - xml - match 035 - physical invent	Repository	-

If the library is importing using EOD, it can use one or more profiles that have been created for a particular vendor with specific configurations for the kinds of purchases that are being processed. A vendor can have multiple import profiles with specific configurations for a particular purchase type. For example, different import profiles might exist for purchases being funded through different funds, or for purchases for different libraries in the institution.

The following screen capture is an example of defining inventory information as part of an embedded order profile:



Profile Details | Normalization & Validation | Match Profile | Set Management Tags | **Inventory Information** | PO Line Information | Mapping

Inventory Operations:

☐ Electronic ☐ Mixed ☒ Physical

Physical Item Mapping:

Material type: Book

Library field: 949

Location field: 949

Default library: Main Library

Mapping Policy: ☒ Basic ☐ Advanced

subfield: s

subfield: t

Default location: General

Map library/location: ☐

Number of items field: 949

subfield: o

Default number: 1

Barcode field:

subfield:

Item policy field:

subfield:

c) checks to avoid duplication of orders or of owned titles

**Ex Libris:** Alma employs business process automation to streamline and simplify library processes for managing all types of workflows. With Alma, processes are based on a built-in workflow engine that uses a library-defined set of rules to manage many activities automatically, and to alert staff to exceptional conditions that require operator handling. Such exceptions are handled in Alma through a task list that is automatically generated based on customizable workflow rules.

For example, purchase order lines are enriched to support the decision making process. Enrichment includes (but is not limited to):

- Checks for institutional ownership;
- Checks for previous duplicate purchase order lines; and
- Price limits exceeded.

During the purchase order process, Alma checks purchase order lines for duplicates and alerts an acquisitions operator via his/her task list. In this way, duplicate orders can be detected at an early stage, and prevented if the additional inventory item is not warranted. Similarly, Alma will check records being imported, and identify duplicate items if a match already exists in the library's inventory. Duplicate items are flagged prior to approval of an order so that a staff member can determine if the duplicate item is desired. Duplicate items that are not wanted can be easily cancelled.

d) batch submission to vendors

**Ex Libris:** For workflows such as ordering and invoicing, Alma relies on standard protocols to facilitate interoperability with other systems – both internal to the library's environment and externally to vendors. Alma supports electronic data interchange (EDI) using the UN/EDIFACT standard for electronic communications of order and invoice information. Library staff configure EDI information as part of the vendor record.

This information includes vendor EDI attributes, S/FTP connection information, individual library EDI information, and EAN information per vendor account. These details allow for maximum flexibility when there are multiple libraries within an institution, or when a library has multiple accounts with a vendor (e.g. for multiple formats, material types, approval plans, etc.).

Storing the vendor EDI account information in Alma allows the process to be automated. As EDI orders are sent and EDI invoices are received, the EDI files are linked to the vendor's record and available from the attachments tab. Alma also supports claiming via EDI.

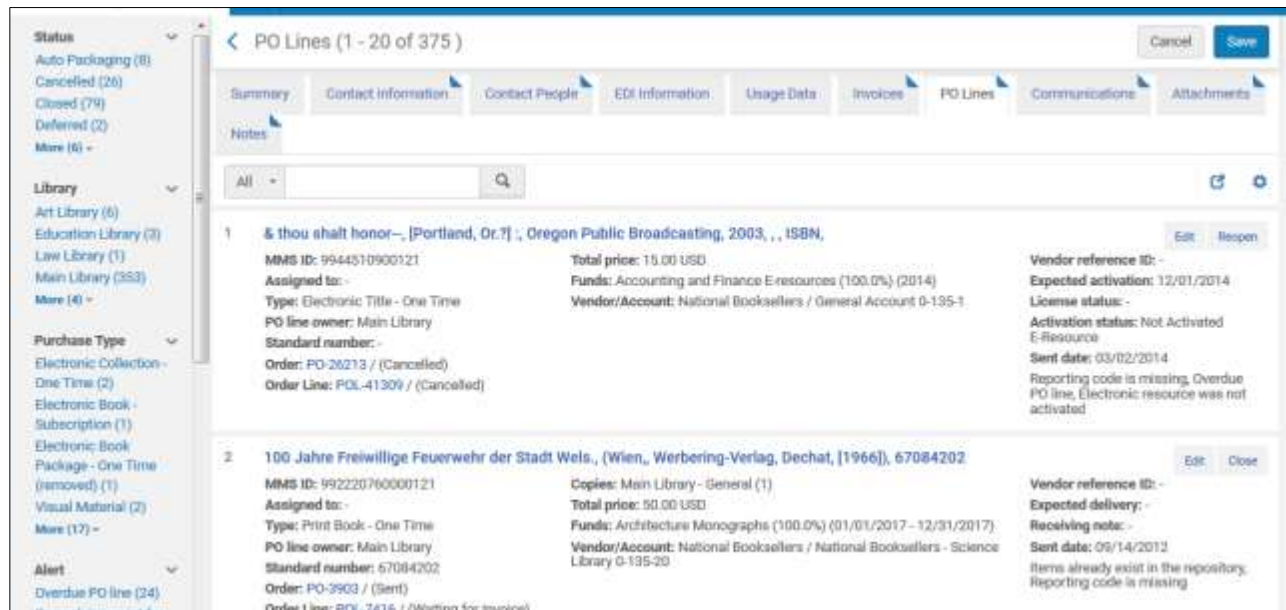
Invoices that have been created from EDI files flow into the invoice workflows automatically, and integrate with the library's ERP system.

The EDI tab on the vendor record:

The following acquisition activities are supported for EDI-enabled vendors:

- Sent from Alma to the vendor:
    - Purchase orders (POs)
    - Claims – Claims sent to the vendor regarding missing items. EDI claims can be used for both one-time and continuous orders.
    - Order cancellations – For vendors that support this feature, cancellations are sent using EDI instead of by email.
  - Sent from the vendor to Alma:
    - Invoices
    - Order Responses:
      - Shelf-Ready – these responses contain barcodes and other item information for delivered items. After receiving the Order Response, Alma updates the relevant PO lines.
      - Claim responses - these responses are loaded by the standard EDI Load Files job. Information about the response appears in the Notes tab of the relevant PO lines.
- e) accepting and storing communications from vendor (*e.g., order acknowledgements, order status updates, cancellation triggers*)

**Ex Libris:** The PO Lines tab in the vendor record lists all the purchase orders made against this vendor. In a similar manner, all invoices from a vendor are listed in the Invoice tab. Every invoice and PO Line is hypertext linked, so that it is easy to navigate to any invoice or PO Line from the vendor record in order to view full details of the record. PO Lines in the vendor record:



The screenshot displays the 'PO Lines' tab for a vendor record, showing a list of purchase order lines. The interface includes a sidebar with filters for Status, Library, Purchase Type, and Alert. The main content area shows two lines of purchase orders with detailed information for each.

Line	Title	MMS ID	Type	PO line owner	Standard number	Order	Order Line	Total price	Funds	Vendor/Account	Vendor reference ID	Expected activation	License status	Activation status	Sent date	Reporting code
1	& thou shalt honor-- [Portland, Or.?], Oregon Public Broadcasting, 2003, ., ISBN,	9944510900121	Electronic Title - One Time	Main Library	-	PO-20213 / (Cancelled)	POL-41309 / (Cancelled)	15.00 USD	Accounting and Finance E-resources (100.0%) (2014)	National Booksellers / General Account 0-135-1	-	12/01/2014	-	Not Activated	03/02/2014	Reporting code is missing. Overdue PO line. Electronic resource was not activated
2	100 Jahre Freiwillige Feuerwehr der Stadt Wels., (Wien, Werbering-Verlag, Dechat, [1966]), 67084202	99222076000121	Print Book - One Time	Main Library	67084202	PO-3903 / (Sent)	POL-7616 / (Waiting for invoice)	50.00 USD	Architecture Monographs (100.0%) (01/01/2017 - 12/31/2017)	National Booksellers / National Booksellers - Science Library 0-135-20	-	-	-	-	09/14/2012	Items already exist in the repository. Reporting code is missing

Alma supports communicating directly with the vendor. Any communication initiated from Alma will be saved on the vendor record for future tracking, as illustrated below:

Communications

Cancel Save

Summary Contact Information Contact People EDI Information Usage Data Invoices PO Lines Communications Attachments Notes

1 - 20 of 92 Subject [ ] [ ] Start Communication [ ] [ ]

Filter: Active

	Subject	Answers	Creator	Created on	Last Message	Last message date	Attach
1	Order Claim	0	-	12/01/2011	-	12/01/2011	[ ]
2	Order Claim	0	-	12/01/2011	-	12/01/2011	[ ]
3	Packaging	1	cat [ ]	12/26/2011	-	12/26/2011	[ ]
4	Order Claim	0	-	12/04/2012	-	12/04/2012	[ ]
5	Issue note received - no3	0	anna [ ]	05/06/2013	anna [ ]	05/06/2013	[ ]
6	Vol. 83 May, 2013 not received	1	anna [ ]	06/06/2013	-	07/28/2014	[ ]
7	Order Claim	0	-	06/22/2013	-	06/22/2013	[ ]
8	Order Claim	0	-	07/09/2013	-	07/09/2013	[ ]

All responses from the vendor, including those received by email or telephone conversations, must be entered manually in this tab.

The vendor record also contains a Notes tab, where staff users can add internal notes regarding the vendor:

Notes

National Booksellers

Vendor code 0-135 Institution Alma University

Summary Contact Information Contact People EDI Information Usage Data Invoices PO Lines Communications Attachments Notes

1 - 5 of 5 Created by [ ] [ ] Add Note -

	Created On	Updated On	Updated By	Note	
1	06/19/2015	06/19/2015	Andrew French [ ]	Shipments are now arriving on time again. I will keep track of this for the future.	[ ]
2	06/01/2015	06/01/2015	Anna Allen [ ]	They are now slow with deliveries	[ ]
3	02/08/2015	02/08/2015	Super User [ ]	Great vendor - good discounts - but sometimes shipments are delayed	[ ]
4	08/27/2013	08/27/2013	-	It looks as though it is ok now	[ ]
5	02/29/2012	02/29/2012	-	Please be sure to note any damage related to packaging so we can better monitor the inventory. Thank you.	[ ]

f) integration with vendor ordering portals

**Ex Libris:** Alma integrates with commonly used external selection portals such as YBP's GOBI platform (<https://developers.exlibrisgroup.com/blog/Real-time-Acquisitions>) with automated import capabilities through extensive support for vendor-specific import profiles and embedded order data (EOD) records.



Alma supports with Library Service Providers to streamline acquisitions workflows. It incorporates standard ordering and loading technologies with APIs to speed the availability of resources, increase the efficiency of integrating records, and enhance data enrichment.

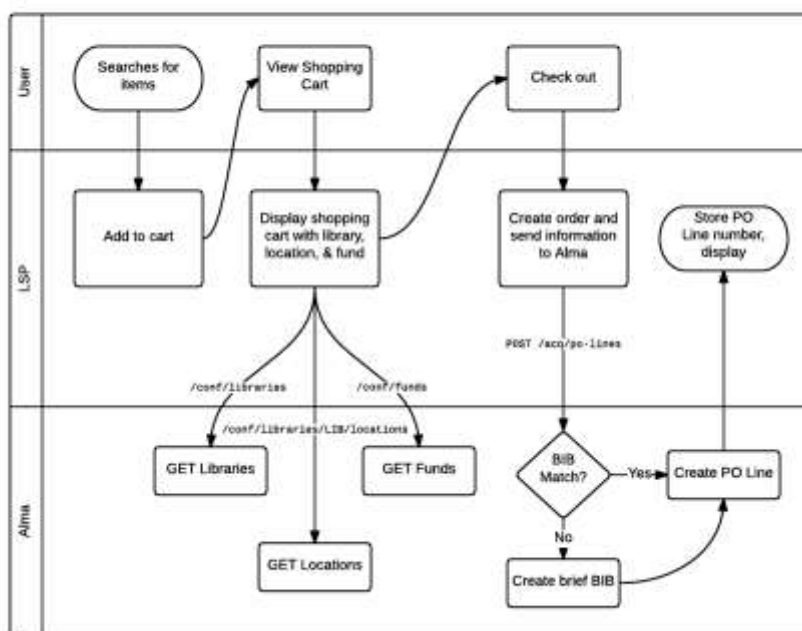
### Workflow

- The user searches for items in the vendor's system, and places them in the shopping cart (or equivalent).
- The user verifies owning library, fund codes and other relevant information.
- At checkout, the vendor sends the shopping cart data to Alma using the Create PO line API.
- Alma validates the received PO line information
- Alma attempts to match the bibliographic data using standard identifiers. If no match is found, Alma creates a brief bibliographic record for the order.
- Alma responds with the newly created PO line number to the vendor.
- The PO line is processed in Alma as other PO lines are processed. If an order requires manual review, Alma sends it to the *In Review* task list.

The **vendor reference number** is kept as part of the Alma PO line. **Alma PO line number** is kept as part of the vendor order details.

The following flow chart represents the workflow:

**Real Time Acquisitions Integration**  
Alma & Library Service Providers (LSP's)



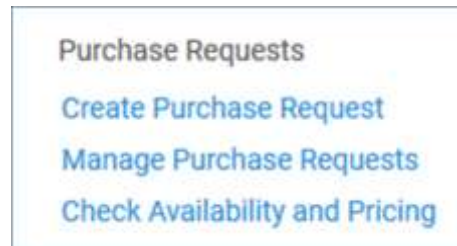
The following vendors currently support this integration:

- GOBI
- Harrassowitz
- OASIS

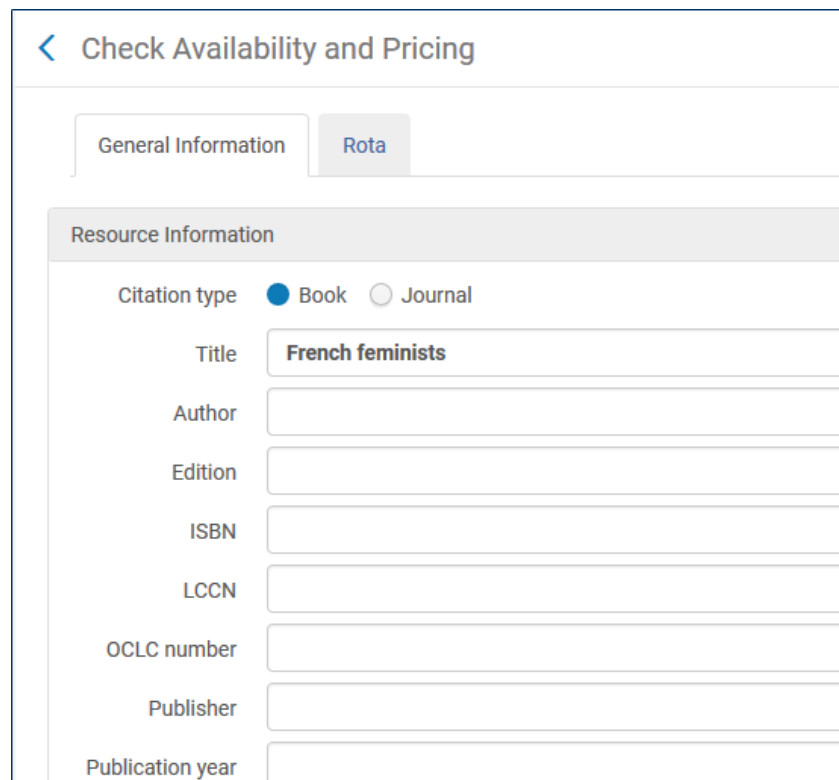
Alma also has a “Check Availability and Pricing” feature that allows the librarian to check the availability and pricing of an item before purchasing it. This can currently be done for ProQuest OASIS. More vendors will be added in time so that prices can be compared across vendors.



This is a significant time saver for the librarian, as they do not need to leave Alma to check availability and pricing – it's all in one place and in Alma. From the Alma Main menu, click the 'Check Availability and Pricing' entry under Acquisitions > Purchase Requests.



The metadata entered in the 'General Information' tab will be searched in OASIS.



Clicking 'Review Results' will allow the user to see the results for OASIS.



Source	Description	RS Availability	Comment
1 OASIS (Coults)	Total results: 70		

Now we see the results, including price, for the vendor and if desired we can begin the ordering process in Alma, or link to view the item in OASIS and start the ordering process there.

Item Search in external vendor

1. Transfigurations : theology and the French feminists  
ISBN: 0800628974  
Price: 14.95 USD - 12.99 GBP -  
Publisher: Fortress Pr  
Language: English

2. French feminists on religion : a reader  
ISBN: 0415215382  
Price: 65.0 GBP - 120.0 USD -  
Publisher: Routledge  
Language: English

3. Transfigurations: Theology and the French Feminists  
Author: Kim, C.W. Magge  
ISBN: 1579109330  
Price: 27.0 USD - 33.99 AUD -  
Publisher: Wipf and Stock Publishers

4. French feminists on religion : a reader  
ISBN: 0415215382  
Price: 65.99 AUD - 30.99 GBP - 44.95 USD -  
Publisher: Routledge  
Language: English

5. Sexual subversions : three French feminists  
Author: Grosz, E. A. (Elizabeth A.)  
ISBN: 0043012622  
Price: 44.95 USD - 25.0 GBP -

ProQuest OASIS

Review titles + My lists Orders +

Quick search Find a title Advanced search

Search Results

Record 1 of 1

Title	Action	Publisher	Copyright Year	LC Classification	Qty	USD
French feminists on religion : a reader ISBN/EAN: 9780415215381 [0415215382] (Paperback 44.95 USD) (Customer Demand: 14) In stock Approval Treatment Alternate Print		Routledge	2002	BL458	0	0.00

Orders created on the OASIS platform can be automatically passed to Alma via API connection.

## 2. Updating and processing of orders, including both individual receiving and batch options.

**Ex Libris:** Staff members receive new print material into the system using a dedicated receiving “workbench”. They locate the relevant purchase order lines with the material received, and then receive the items. Additionally, at this stage staff can add barcode information, perform copy cataloguing, etc. When relevant, they can also indicate whether further work must be performed (i.e., it needs to remain in Technical Service) before the material is available to the library for which it was ordered.

For single-title monographs, checking-in an item triggers marking the PO line as received, as well as routing the item to the appropriate next step (cataloguing, physical processing, shelves, or patron pickup if

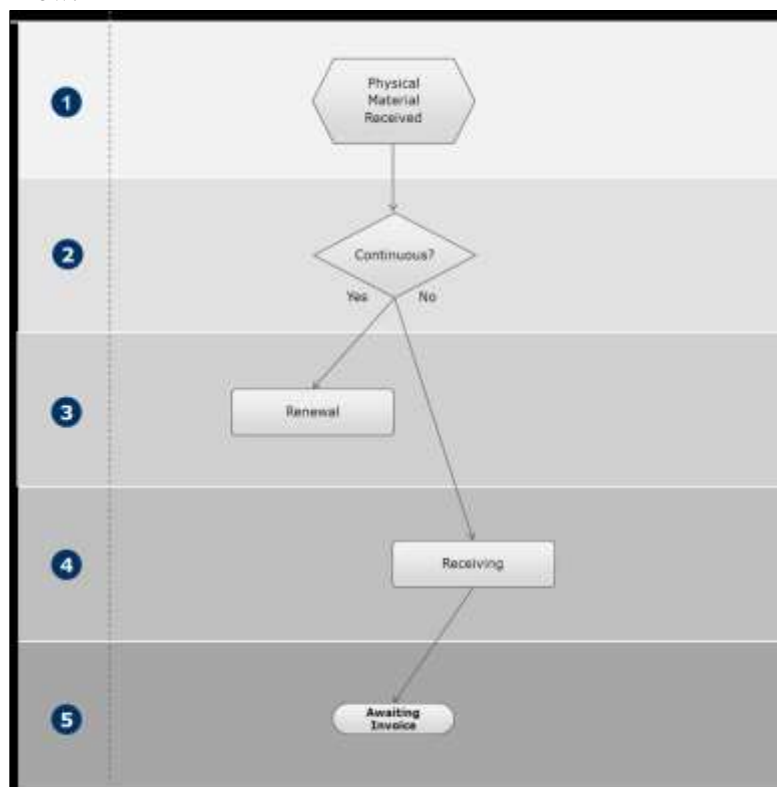
a request has been placed). For standing orders (serials and serial monographs), the same actions will be triggered, but the PO line will remain open.

#	Item description	Status	Locations	# Orders	Item Recd	Date Sent	Nex Seq	Rush	Notes	Receiving note	Interested Users
PDL-44396	History of Rome / Michael Grant, New York ; Scribner's, c1978, 0684159864 ; ISBN	Ready	Main Library - Reference (1), Medical Library - General (2), Main Library - General (1)	4	1	-	C., C.,	2	-	-	...
PDL-44402	History of Rome / Michael Grant, New York ; Scribner's, c1978, 0684159864 ; ISBN	Ready	Main Library - Reference (1), Medical Library - General (2),	4	4	-	C., C.,	2	-	-	...

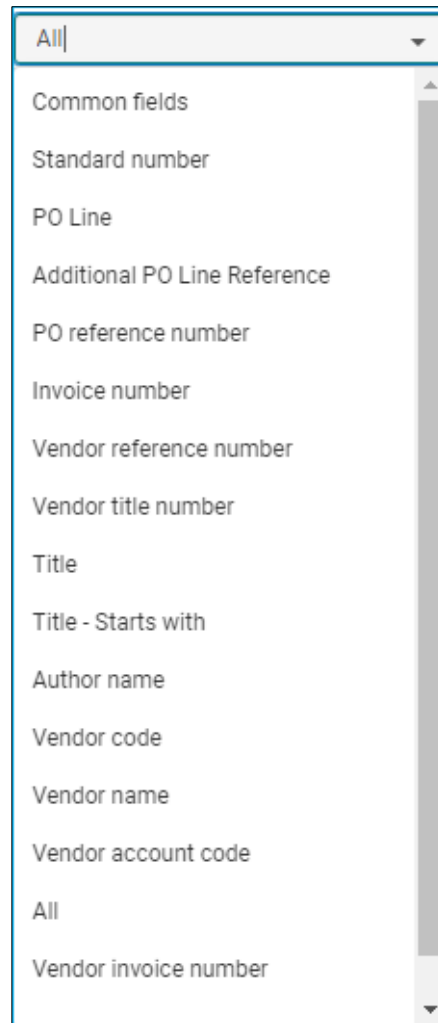
Alma streamlines the process of receiving items and allows for shelf-ready materials to be processed simply by scanning their barcode, saving staff time and effort.

Alma provides a task list to manage material that needs to be further processed before being shelved. Items in this process have distinct statuses assigned to them so they can be tracked and moved among the relevant units for physical processing, cataloging, and temporary storage.

The Receiving workflow:



Alma also has a "Receive All" functionality that allows to receive all PO Lines listed. You can drill down results via search and filters status, existence of interested users, existence of patron requests, vendor or library.



3. Support for acquisition of items not requiring order or invoice, such as government documents and gifts.

**Ex Libris:** Alma allows staff to create acquisition records for non-purchased materials, such as gifts and depository materials, without requiring that the items follow the traditional workflow of order, receipt, invoice, payment. If an acquisition process is not necessary for non-purchased materials, Alma also allows the operator to skip the acquisitions workflow entirely and simply create descriptive and inventory records that are necessary to properly manage the resource.

Acquisition method	<input type="text" value="Look-up or select"/>
Invoice status	Approval Plan
Rush	Exchange
Cancellation restriction	<b>Gift</b>
Identifier	Legal Deposit
	Purchase
	Technical
	Purchase at Vendor System

4. Options for patron or faculty notifications of receipts.

**Ex Libris:** In the Interested Users tab, you manage users interested in the acquisition. Interested users are always notified about changes in the PO line. You can also select that an interested user is notified when the item is received, activated, or renewed, and/or that a hold is placed on the item for the user.

Communications

Interested Users

History

Notes

Attachments

No records were found.

+ Add Interested Users

Search for a user

Daren Aaron

☒ Notify user upon receiving/activation

☒ Hold item

Add

Add and Close

5. Ability to handle and track blanket orders and approval plans with deposit accounts.

**Ex Libris:** Alma supports purchasing workflows of all types. Approval orders are managed as standing orders, where the specific titles are loaded via MARC embedded order data/embedded order confirmation records. The system will check for approval titles that are already owned and flag them for staff review.

6. Ability to facilitate Patron Driven Acquisitions (PDA/PDD) plans for print and electronic resources.

**Ex Libris:** Alma streamlines the process for patron-driven acquisition (PDA), including e-books, by loading potential candidates to discovery, managing automatic approval plans, managing billing from the vendors and automatically adding purchased books to the institution's catalog and inventory. The PDA workflow can be described as follows:

- A PDA profile is created:
- Vendor candidate e-records (with URLs) are loaded into the Alma repository
- Alma publishes the records to the discovery tool (Primo)
- Users discover and use the e-resources, triggering purchases (loans and over a particular threshold, complete purchases)
- The vendor sends PO Lines via EOD and invoices via EDI

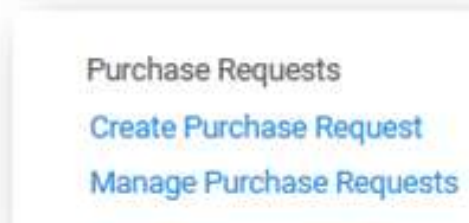
- After a defined period, the candidate e-resources that were not used (or usage did not exceed the defined threshold) are removed from the Alma repository and from the discovery tool.

As briefly described above, based on the library's approval profile, the vendor will provide bibliographic records which Alma will automatically load into the library's local catalog and make available through Primo for discovery. As patrons select the resources via Primo, the Primo-Alma interoperability will ensure that the management processing for ordering and invoicing is automated based on the library's business rules. In most cases, this can be a completely automated and unmediated process, requiring only that the library set up access for receipt of the vendor records [typically done via standard FTP today] and rules internal to Alma for ordering, fund management, and payment.

7. Support for end-user purchase requests and Purchase-on-Demand (POD) plans for Interlibrary Loans (ILL).

**Ex Libris:** A patron can make a Purchase request in the Primo discovery interface from the GetIt tab of Primo Discovery search results - to create an order for additional inventory, or the Primo Discovery Citation Linker for an item not yet found in the repository. It is possible to restrict purchase requests by user group if the library only wants to allow academics to make suggestions.

Staff are also able to create a purchase request from within the Alma interface.

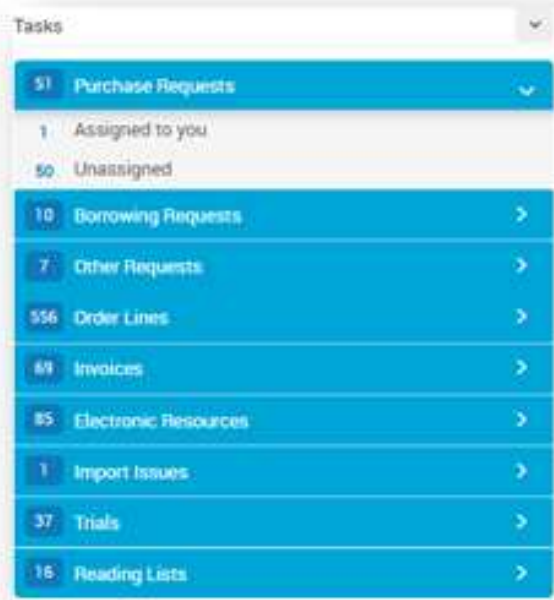


A form opens populated with values from the existing bibliographic record. The order is created and is listed on the Purchase Requests page in Alma. The request can be approved or rejected or a query could be sent to the requester - for example, to request additional information.

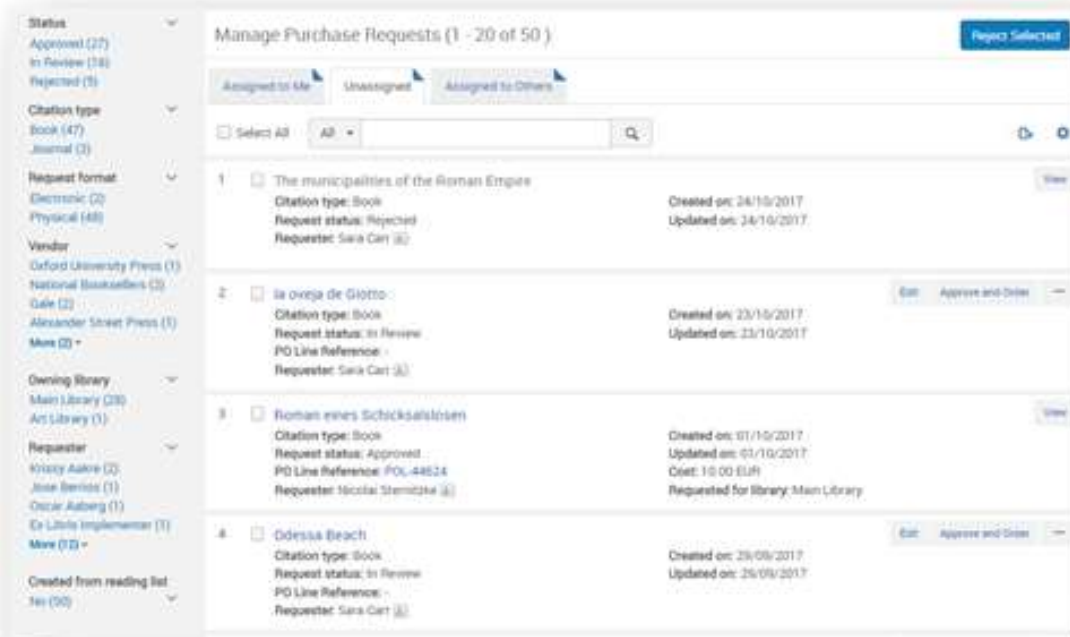
If the order is approved, clicking on 'approve and order' will create a purchase order for the item. Both the patron for whom the request was made as well as the staff user who made the request are registered as 'Interested users' in the Purchase order line. If the request is reject the patron will receive an email listing the reason for the rejection.

Staff are alerted to purchase suggestions via their Task List:





They manage the requests via the dedicated area of Alma:



Staff with relevant roles will have direct mediation control to:

- Approve and order
- Communicate with the requester
- Reject Purchase Requests
- Assign the Requests to another staff member

- Change Request Attributes, such as:
  - Requester
  - Requested Format (Physical ↔ Electronic)
  - Owning Library
  - Fund
  - Vendor/Account
  - Etc.

Purchase requests are directly listed under the Patron's personal area in Primo. With relevant statuses (e.g. approved), the patron is kept up-to-date about the current status. The Purchase Request Status Letter informs the user when the request is received, approved, or rejected.

#### 8. Electronic invoicing. Specify accepted invoice file types.

**Ex Libris:** Alma supports the creation of an invoice automatically from a PO. Once the PO is selected Alma will automatically create invoice lines based on the PO details; the invoice line fields are automatically populated and are displayed in the Summary tab, where they can be edited as needed.

Invoices can be created in several ways:

- Creating an invoice from the PO;
- Electronic data interchange (EDI) with a vendor;
- Creating an invoice manually; or
- Loading invoices from an Excel file.

Receiving and invoicing can be done together or separately, depending on the library's workflows. Alma uses library-defined rules to automatically process an invoice to determine whether there are elements that require special attention. If there are issues that require attention, the invoice is surfaced via the task list for review by a staff user.

For workflows such as ordering and invoicing, Alma relies on standard protocols to facilitate automated interoperability with other systems—significantly streamlining workflows and reducing the time to make new resources available to the campus community. Alma supports electronic data interchange (EDI) using the UN/EDIFACT standard for electronic communications of order and invoice information. This information includes vendor EDI attributes, S/FTP connection information, individual library EDI information, and EAN information per vendor account. These details allow for maximum flexibility when there are multiple libraries within an institution, or when a library has multiple accounts with a vendor (e.g. for multiple formats, material types, approval plans, etc.).

#### 9. Claiming process.

**Ex Libris:** Alma supports automatic claims processing by default; however, claims can also be generated manually. Automatic claims are created for a Purchase Order (PO) line that has not been received within the expected number of days after placing the order (based on parameters defined in the vendor record – as can be seen in the following screen capture) or by the expected receipt date.

Delivery and Claim Information			
Expected receipt after ordering (days)	5	Claiming grace period (days)	3
Expected invoice interval (days)	4	Expected activation after ordering (days)	1
Renewal evaluation interval (days)	10	Subscription grace period (days)	90

Claims are automatically posted to the Task List where authorized staff can select to review and take further action if desired.

Possible actions include updating the expected receipt date based on new information provided by the vendor or cancelling the purchase order line if necessary. Updating the item information resets the expected receipt date and removes the item from the task list.

An email is sent to the vendor (generated automatically or manually) inquiring about the late delivery of the order. For vendors that support this feature, claims are sent using EDI instead of by email. EDI claims can be used for both one-time and continuous orders. The following screen capture shows EDI definitions on the vendor record:

The screenshot shows the 'Vendor EDI Attributes' form in the Ex Libris Alma system. The form is divided into several sections. The top section, 'Vendor EDI Attributes', contains fields for 'EDI code', 'EDI type' (set to '31B - US-SAN'), 'EDI naming convention' (set to 'Standard'), and 'EDI vendor format' (set to 'Other'). Below these are checkboxes for 'Incoming' (with sub-options 'Incoming' and 'Shelf Ready Parameters') and 'Outgoing' (with sub-options 'POs', 'Claims', and 'Order Cancellation'). The 'Next Step' is set to 'Copy Cataloging'. The middle section, 'Input Job Parameters', contains a 'JOB SCHEDULING' section with a 'Status' dropdown (set to 'Active'), a 'Schedule' dropdown (set to 'Every day at 02:00'), a 'Run Now' button, and an 'Email Notification' button.

10. Single and batch order record deletion, including safeguards to prevent records with payments from being inadvertently deleted.

**Ex Libris:** Deleting a PO line removes it from the Alma system and also deletes any transactions and inventory resources associated with the PO line. The delete option is available for PO lines with the following statuses:

- In Review
- Packaging (Automatic or Manual)
- Deferred
- Cancelled

A PO line cannot be deleted if:

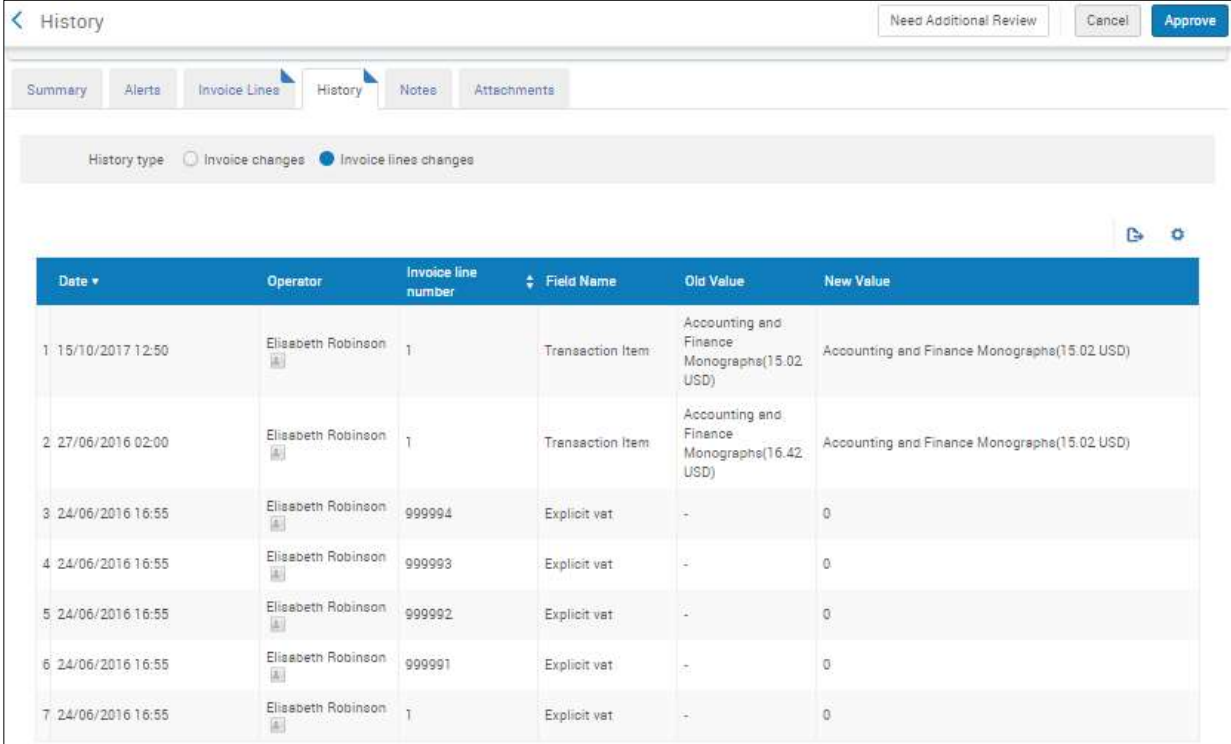
- It is linked to an invoice line.
- It is attached to a PO and has been sent to a vendor (if the PO has not been sent, the PO line can be removed from the PO and then deleted).
- One of the PO line resources has been received or activated (even if the PO line is in review)

It is possible to delete an entire purchase order (by staff with the relevant role) if it does not have any PO lines that are received, activated, or linked to an invoice.

11. System tracking of complete order, invoice, and financial processing transactions and ability to provide a clear audit trail including the following:



Invoice line changes:



Date	Operator	Invoice line number	Field Name	Old Value	New Value
1 15/10/2017 12:50	Elisabeth Robinson	1	Transaction Item	Accounting and Finance Monographs(15.02 USD)	Accounting and Finance Monographs(15.02 USD)
2 27/06/2016 02:00	Elisabeth Robinson	1	Transaction Item	Accounting and Finance Monographs(16.42 USD)	Accounting and Finance Monographs(15.02 USD)
3 24/06/2016 16:55	Elisabeth Robinson	999994	Explicit vat	-	0
4 24/06/2016 16:55	Elisabeth Robinson	999993	Explicit vat	-	0
5 24/06/2016 16:55	Elisabeth Robinson	999992	Explicit vat	-	0
6 24/06/2016 16:55	Elisabeth Robinson	999991	Explicit vat	-	0
7 24/06/2016 16:55	Elisabeth Robinson	1	Explicit vat	-	0

In addition Alma Analytics includes comprehensive reporting capabilities for invoices.

b) ability to report out

**Ex Libris:** Transactions in Alma are auditable, as they are recorded with a date and operator stamp that indicates when they occurred and by which staff member. Using Alma Analytics, customizable audit reports can be generated, and can be output in various formats for immediate use, or for more permanent storage.

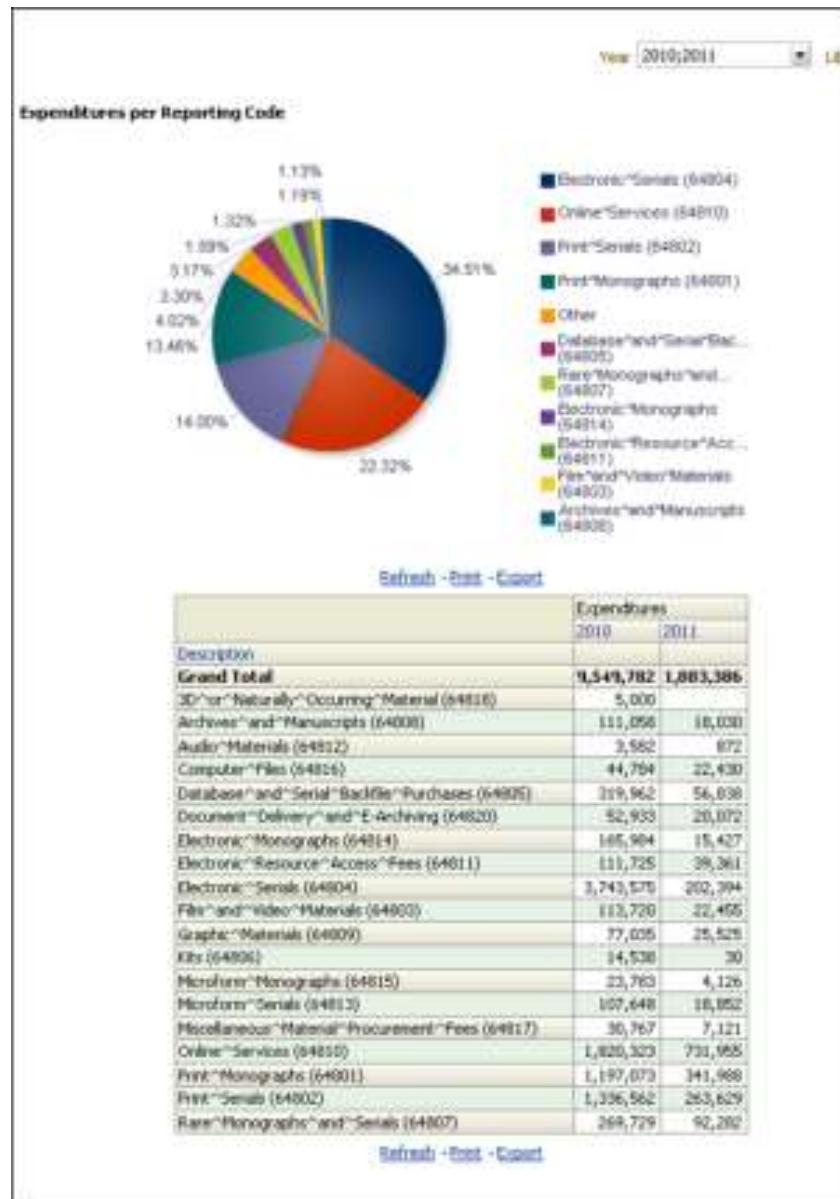
c) length of time data may be stored

**Ex Libris:** Alma has been designed to provide perpetual access to the information stored within the system. Acquisitions records are stored indefinitely, and are accessible for reporting and analytical use across subsequent fiscal periods. Moving forward, we plan to work with our customers in defining retention customization.

12. Coding capabilities to differentiate formats, locations, purchase models, payment types, etc.

**Ex Libris:** Alma provides a flexible, hierarchical fund structure that the library can customize to meet its needs. The financial structure comprises funds and ledgers. The ledger contains a grouping of funds, which may relate to the entire institution, to a group of libraries within an institution, or even to a single library within the institution. An institution may create many ledgers. A ledger generally contains one or more summary funds, and allocated funds under each summary. The allocated accounts contain actual monetary balances used to pay for library resources. Additionally, institutions can create reporting codes across the funds to include an additional layer of granularity for reporting and analytical purposes. There is no limit to the number of funds that can be created.

## Expenditure by Reporting Code:



13. Vendor information, including capabilities for storing and sharing vendor data and for monitoring vendor performance.

**Ex Libris:** A vendor record in Alma consists of a master record as well with a linked account record. In addition, library specific accounts may be created and linked to the master account record. Vendor records store information about the vendor that, by default, are inherited by all the vendor accounts attached to them. Vendor accounts allow libraries to override that information (such as contact information), and to maintain multiple accounts for each vendor (e.g., one account for firm orders, another for approval plans, etc.)



This screenshot shows the 'National Booksellers' vendor record in the Alma system. The record is for Vendor code 0-135, associated with Alma University. The 'Vendor General Details' section includes fields for Name, Code (0-135), Additional code (0-067-043), Financial Sys. code, National tax ID, Status (Active), Currencies (ALL), Language (English), Libraries (Alma University), and Vendor Type (Material Supplier/Subscription Agent). The 'Accounts' section is also visible at the bottom.

The next screenshot shows a vendor account record:

This screenshot shows the 'Vendor Account Details' for National Booksellers. The account is for Vendor code 0-135, with Account description 'General Account' and Account code 0-135-1. The 'Account General Details' section includes fields for Institution, Account description, Financial Sys. Account code, Libraries (Alma University(including), Alma University(tr), Note, Account code (0-135-1), Status (Active), and Account discount percent. The 'Payment Methods' section shows checked options for Accounting Department, Bank transfers, Cash, Credit card, and Deposit account. The 'Delivery and Claim Information' section is also visible at the bottom.

The vendor record in Alma is made up of segments that include a summary, contact information (addresses, phone numbers, web addresses), contact people, EDI information, invoices, attachments, communications, and notes. Vendor records are created for materials suppliers, subscription agents, access providers of electronic resources, and licensors.

Definitions in the vendor record – such as payment and delivery information--will automatically populate data in new order records created in Alma. If, for example, the 'Expected receipt after ordering (days)' is recorded in the vendor record, it will populate by default the same field on the PO Line an order associated with this vendor. Additional such fields are:

- Renewal evaluation interval (days)
- Claiming grace period (days)
- Expected activation after ordering (days)
- Subscription grace period (days)

The screen shot below illustrates the vendor account details which include the delivery and claiming default setup:

Delivery and Claim Information			
Expected receipt after ordering (days)	5	Claiming grace period (days)	10
Expected invoice interval (days)	3	Expected activation after ordering (days)	5
Renewal evaluation interval (days)		Subscription grace period (days)	5

It is possible to create custom reports making use of Acquisitions data to compare time to arrival for orders in Alma. This report uses `TIMESTAMPDIFF` to get the amount of days (difference) between time of ordering an item and time of arrival of an item. The `TIMESTAMPDIFF` is inside the "Edit Formula". This is useful to see which vendors have the fastest response time.

Vendor Name	Barcode	Days to arrive
A D & L Vendors	AU9801	230
	AU9802	0
AIP - The American Institute of Physics	AU12501	192
Assoc. Françaises	AU24603	0
Blackwells	00023779980000121	662
	1111	1,152
	AU24608	972
	AU24613	610
	AU36649	972
	Alma-1	506
Boardman	AS-888	850
	AS-897	850
	AU10301	211
	AU24612	664
	dd222	245
Chadwyck	AU12001	194
	AU27003	250
	AU29903	0
Ebook Library	AU6801	288
	AU6802	288
Ebsco	AU34108	-212
	AU34403	-212
	AU34404	-212

14. Posting of encumbrances and payments. Specify whether updates are done in real time or batch.

**Ex Libris:** Alma supports real-time fund balances, including a graphical display of the fund balance showing encumbrances and expenditures. Additionally, each fund displays a history of transactions (including positive and negative transactions) and the balance in the fund at the point of each transaction. All fund transactions are recorded on the transactions tab of the fund.

Rules may be associated with each level of the fund tree that defines when the system will warn or block transactions—e.g., whether over-expenditures are allowed or the grace period for encumbrances before a fiscal period close. These rules may be inherited or overridden by funds lower in the hierarchy.

The following screen capture shows transaction details of a fund:

Transactions

Deactivate

Cancel

Fiscal period

01/01/2017 - 12/31/2...

Code

LEDGER100...

Available Balance

2,769.17 USD

Cash Balance

81,900.00 USD

Encumbered Balance

79,130.83 U...

Expenditure Balance

50.00 USD

Summary

Transactions

Notes

Attachments

1 - 20 of 365

PO Line

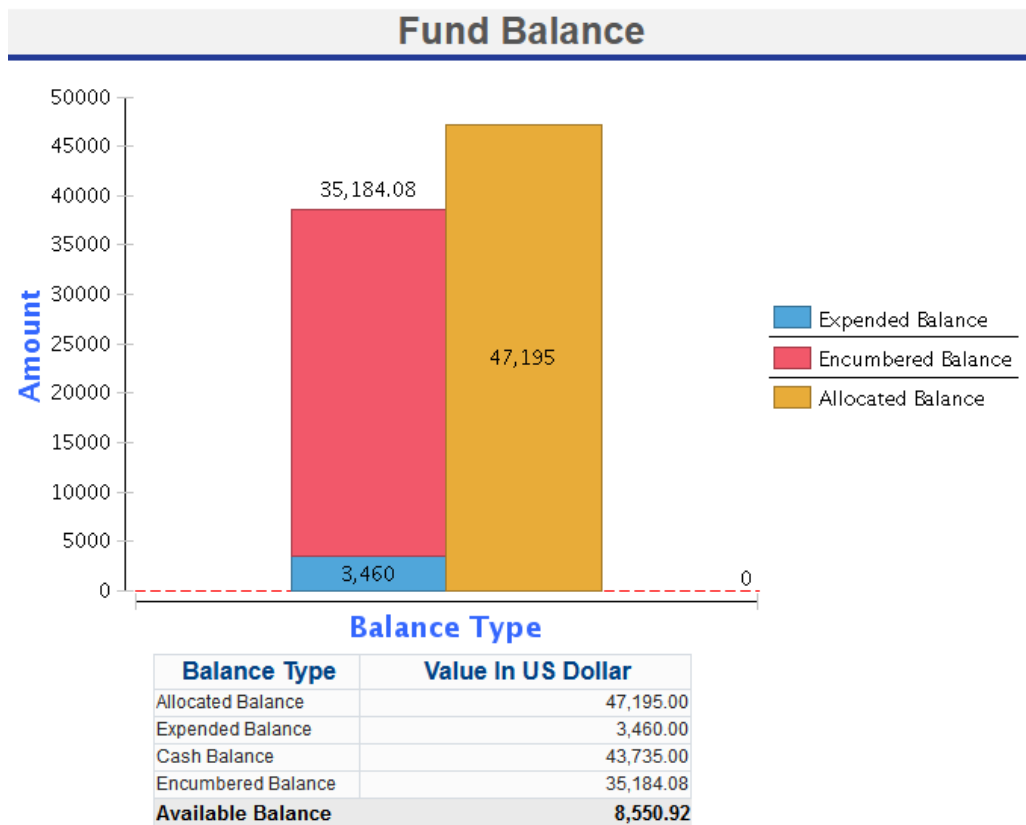
Transfer Funds

Allocate Funds

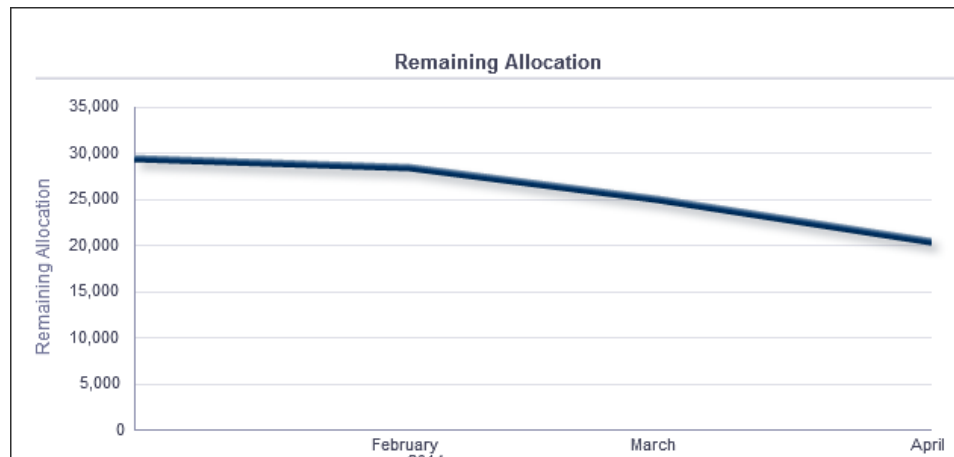
Filter: All

Time	Type	Related record	Amount	Payment date	Reporting code	Transaction reference	Notes
1 06/13/2017 23:59	Encumbrance	PO Line:POL-45862	300.00 USD	-	Electronic Resource	-	
2 06/13/2017 18:20	Encumbrance	PO Line:POL-45860	100.00 USD	-	-	-	
3 06/13/2017 18:13	Encumbrance	PO Line:POL-45859	100.00 USD	-	Electronic Resource	-	
4 06/07/2017 16:39	Encumbrance	PO Line:POL-45847	100.00 USD	-	Electronic Resource	-	

As part of the online display of fund information, Alma also provides a graphical display of fund balances, based on the real-time balance of the account at any given moment.



Users can also see a graphic display of the fund burn down – generated from a standard report in Alma Analytics:



15. Fund structure.

**Ex Libris:** As described above, Alma provides a flexible, hierarchical fund structure that the library can customize to meet its needs. First, the library creates funds and ledgers. The ledger contains a grouping of funds, which may relate to the entire institution, to a group of libraries within an institution, or even to a single library within the institution. An institution may create many ledgers. A ledger generally contains one or more summary funds, and allocated funds under each summary. The allocated accounts contain actual monetary balances used to pay for library resources. Additionally, institutions can create reporting codes across the fund to include an additional layer of granularity for reporting and analytical purposes. There is no limit to the number of funds that can be created.

16. Safeguards and system checks for preventing fund over-encumbrances, mathematical errors, and overpayments.

**Ex Libris:** Rules may be associated with each level of the fund tree that defines when the system will warn or block transactions—e.g., whether over-expenditures are allowed or the grace period for encumbrances before a fiscal period close. These rules may be inherited or overridden by funds lower in the hierarchy.

Rules			
Overencumbrance allowed	Yes	Overexpenditure allowed	Yes
Overencumbrance warning percent	5.0	Overexpenditure warning sum	500.0
Overencumbrance limit percent	5.0	Overexpenditure limit sum	1000.0
Encumbrances prior to fiscal period (days)	20	Expenditures prior to fiscal period (days)	20
Transfers prior to fiscal period (days)	10	Fiscal period end encumbrance grace period (days)	5
Fiscal period end expenditure grace period (days)	5		
<a href="#">Override Rules Information</a>			

17. Credits, refunds, added charges, discounts, shipping and handling charges, and partial order.

**Ex Libris:** Alma supports all types of charges including taxes and shipment fees. You can freely define fund types for any purposes and split PO lines across multiple funds. This is done either by price or by

percentage - Alma will automatically calculate the remaining price/percentage when you populate one of the fund lines.

Alma allows you to create separate invoice lines for different types of charges: Regular, Binding, Special Handling, Shipment, Insurance, Discount, Overhead and Other.

The screenshot shows the 'Add Invoice Line' modal window in the Alma system. The modal is overlaid on the 'Invoice Details' page. The 'Type' dropdown menu is open, displaying a list of charge types: Binding, Special handling, Regular, Other, Shipment, Insurance, Discount, and Overhead. The 'Line number' field is set to 1. The 'Invoice amount' is 100.00 XPF. The 'Total invoice lines amount' is also 100.00 XPF. The modal includes fields for PO line, Price, Total price, Quantity, Reporting code, Secondary reporting code, Note, VAT rate, and Tertiary reporting code. At the bottom, there are buttons for 'Add Fund', 'Add', 'Close', and 'Add and Close'. The background shows the 'Invoice Details' page with fields for Unique invoice identifier (3663336), Approved by, and Total invoice lines amount.

A credit note is added in the same way as a regular invoice, but with negative charge amounts.

Alma allows partial receipts of purchase orders.

#### 18. Process for fiscal close.

**Ex Libris:** Alma's fiscal period close operations provide a variety of options that allow each library to create a new financial structure and roll over current orders in accordance with the library's financial and reporting requirements.

As part of the fiscal period close, the Purchasing/Ledger manager runs a system job that copies the ledger of the current fiscal period with all the summary details and allocated funds to the new fiscal period, if required. Changes to the ledger or allocations can be made during the process. If the next fiscal period does not exist, Alma creates a new one. Fiscal periods are defined by each Alma institution; Alma can accommodate any yearly definition of a fiscal period. An institution may have one or multiple ledgers, depending on local financial requirements.

At the end of the current fiscal period, the Purchasing/Ledger Manager rolls over the current open orders to the new fiscal period, and can specify if the encumbrances should be increased or decreased automatically by a specified percentage. The new year's encumbrances can be based on the previous fiscal period's encumbrances, or optionally on the previous fiscal period's expenditures, which allows the library to base the encumbered amounts on the actual payments in the prior year. Once the orders have


been rolled over to the new period, the previous fiscal year is closed and the new fiscal year becomes active. If resource sharing requests (ILL) are associated with a fund in your workflows, a third step for rolling over resource sharing requests becomes obligatory.

### Step One: Ledger Rollover

This is the first step in the fiscal period closure process. As part of the fiscal period closure, the Ledger Manager runs a job that copies the ledger of the current fiscal period with all the summary details and allocated funds to the new fiscal period, if required. No changes to the ledger or allocations are made during this process. If the next fiscal period does not exist, Alma creates a new one.

Ledgers and funds can be created as either “active” or “draft”. Draft ledgers are useful when creating the new fund structure in advance; ledgers are made active when the institution is ready to begin using the fund structure.

[<](#) Job Report

  
**Completed Successfully**

**Ledger - Open New Fiscal Period**

Process ID	1621277620000121	Started on	12/25/2016 08:55
Finished on	12/25/2016 08:56	Total run time	17 Seconds
Status	Completed Successfully	Status date	12/25/2016 08:56
Records processed	0	Records with exceptions	0

**Counters**

Create allocation	YES
Ledger	ALL
Action	COPY
FPC factor (%)	0
Create status	ACTIVE
Copy Notes	true
Copy Attachments	true

### Step Two: Rolling Over PO Lines

A job must be run to copy the encumbered PO lines to the new fiscal period. During the rollover process, you can select whether you want to increase or decrease the amount of the encumbered PO line. Please note that before performing a PO line rollover, you must first perform a ledger rollover.

PO line rollover is performed on all active, continuous PO lines and on active, one-time PO lines that still have an encumbrance.



Job Report

Completed Successfully

PO Line - Fiscal Period Rollover

Process ID	1621281190000121	Started on	12/25/2016 09:13
Finished on	12/25/2016 09:17	Total run time	4 Minutes 4 Seconds
Status	Completed Successfully	Status date	12/25/2016 09:17
Records processed	851	Records with exceptions	0

Job Events

PO line rollover success(851)

Next fiscal period does not exist(0)

Fund for next fiscal period does not exist(0)

No encumbrance linked to PO line(0)

Fund is not active(0)

General Error(0)

### Step Three: Resource Sharing Rollover

A job must run to copy the encumbered resource sharing requests to the new fiscal period. Only resource sharing requests associated with a fund may be encumbered.

Resource sharing request rollover is performed on all active resource sharing requests that still have an encumbrance.

Rollover Resource Sharing Requests

Back Refresh

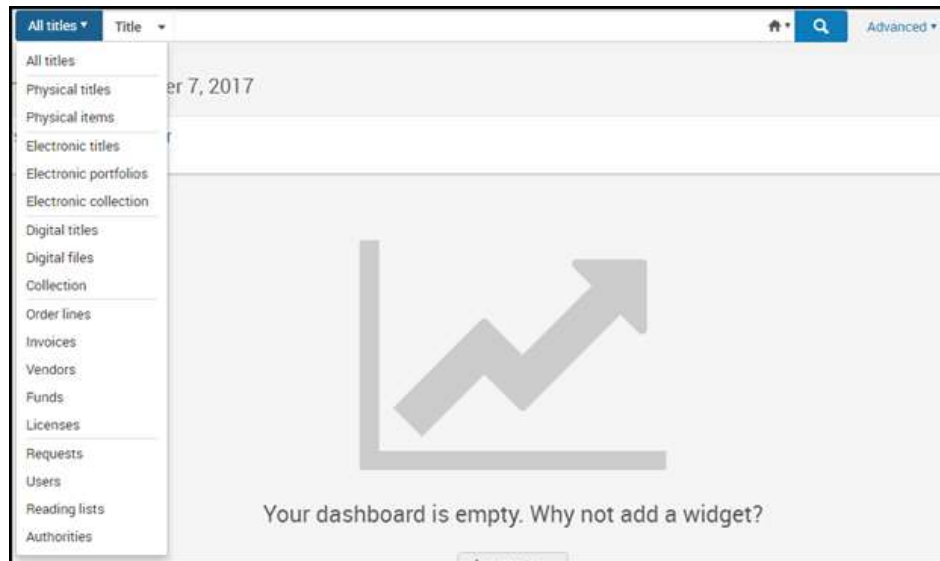
1 - 1 of 1

Add Job

Job Id	Status	User	Time Started	Time Ended	Number Finished	Number Failed
1 1294028100000521	Completed Successfully	Docteam	2017/07/06 06:42:50 CDT	2017/07/06 06:42:50 CDT	0	0

19. Staff searching of financial information (*e.g., by invoice number, paid date, fund, etc.*).

**Ex Libris:** Searching Alma is available from the persistent search box located at the top of every page. You can also save search queries and reuse them at any time.



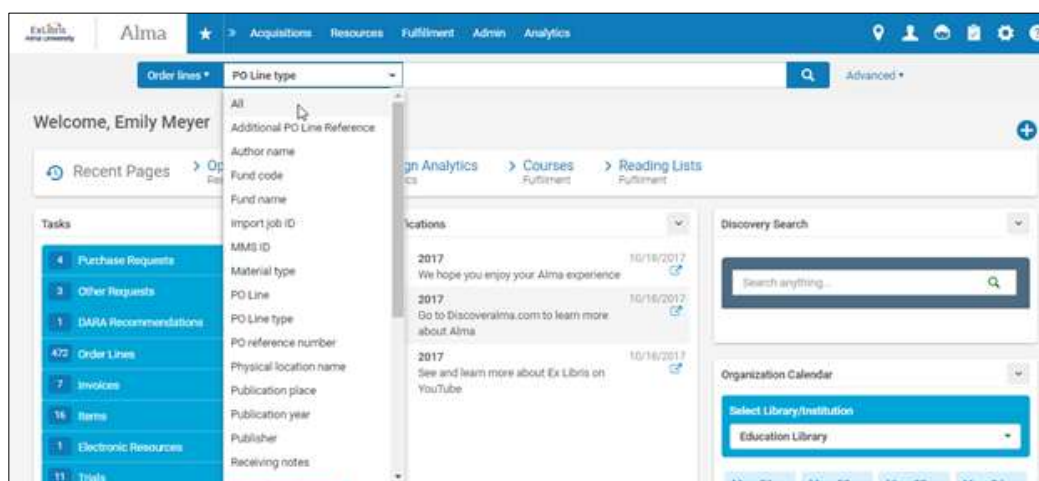
You can search many items in Alma's repository, including:

- Metadata records compiled by Ex Libris or local to your institution. These records include:
  - Local inventory, including holdings for physical items, electronic portfolios, and digital representations and files
  - Bibliographic titles, including top-level collections, physical titles, electronic collection and portfolio titles, and digital titles
  - Authority records

Depending on your role, you can also search for:

- Acquisitions information, including PO lines, funds, invoices, vendors, and licenses
- Patron requests
- Deposits
- Users
- Reading lists and Reading list citations

The searchable fields depend on the search type. For example, when you search All Titles, the searchable fields are based on metadata that is common to all record formats, but do not include fields that are specific to physical, electronic, or digital inventory. You can search on these specific fields when searching the relevant format.



The persistent search box offers you the following methods of searching:

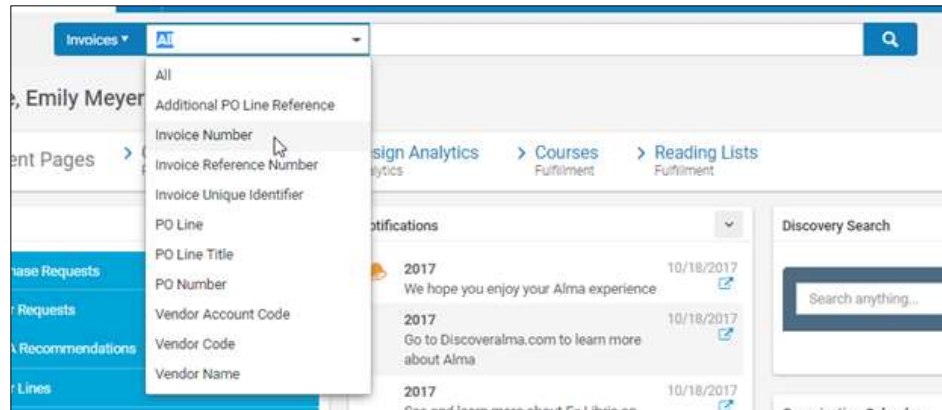
- Simple Search – Search using a single search field
- Advanced Search – Create search criteria, including search conditions, to refine your search. Advanced search is not available for citations, users, requests, funds, vendors, and invoices.

When searching for PO lines, you can enter the following additional criteria:

- Access provider (advanced only) - Matches the access provider's code
- Acquisition method (advanced only) - Select from the list
- Additional PO line reference - Enter the other PO line number
- Author name
- Cancellation restriction (advanced only) - Whether the PO line can be canceled, **Yes** or **No**.
- Fund code
- Fund name
- Import job ID - This ID exists if the PO line was imported by a job.
- Interested users (advanced only) - Whether the PO line has interested users, **Yes** or **No**
- License code (advanced only)
- MMS ID
- Material type - Select the secondary type of the PO line
- PO line - The PO line number
- PO line type - Select the primary type of the PO line
- PO reference number - Enter the purchase order (PO) number, if any
- PO status (advanced only) - The purchase order (PO) status
- Physical location name
- Publication place
- Publication year
- Publisher
- Receiving notes
- Reporting code - Primary reporting code
- Rush (advanced only) - Whether this was marked as a rush order, **Yes** or **No**
- Secondary reporting code
- SIP ID - This ID exists if the PO line was imported by a job
- Standard number
- Tertiary reporting code
- Title
- Title - starts with
- Vendor account code
- Vendor code
- Vendor invoice number - The invoice number, if any
- Vendor name
- Workflow - A workflow step or PO line status

The searchable fields are defined in the PO Line List Searchable Columns code table.

The quick search also has options for searching invoices, vendors, funds, etc.



20. Financial and statistical reporting, querying, and list creation, including export capabilities and compatibility with Microsoft Excel, Crystal Reports, and other third-party software.

**Ex Libris:** Alma Analytics is used for the generation of a variety of reports, as well as for generating statistics from various library activities. Analytics is built into Alma throughout the system and is very flexible. Alma comes with a wide range of preconfigured reports and dashboards, all of which are customizable. In addition, designated staff may create reports of interest to other roles within the library and provide dashboards for staff, enabling them to access the defined reports. Alma communicates with external systems such as PeopleSoft, Banner, and more, allowing staff to run reports on up-to-date data across the institution.

Alma's analytics function provides a Business Intelligence solution centrally installed on Alma servers in the cloud. The solution serves all Alma customers, but the data of each institution is separated from other institutions, based on the Alma SaaS model. Alma Analytics is designed to work over the Web and in the cloud so libraries can run out-of-the-box reports as well as create and run ad-hoc reports without the need for third-party reporting tools.

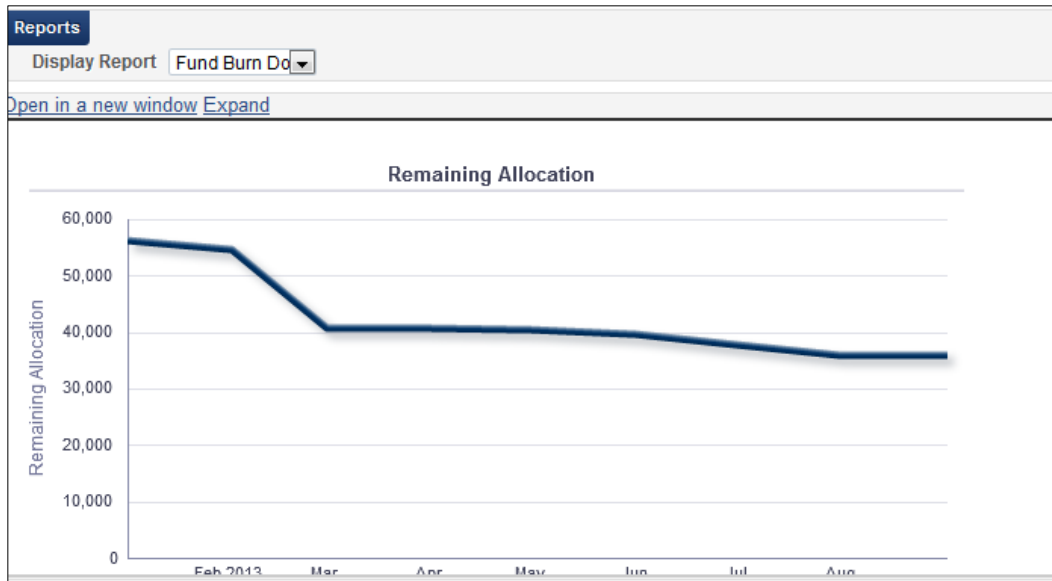
Alma roles determine which users can create reports (report designers) and which users can only view reports (report consumers).

Alma Analytics provides a full suite of capabilities for creating and exposing reports, and presenting dashboards of summary data using this tool:

- From screens within Alma;
- From dashboards specifically tailored to a particular staff role;
- As widgets that are accessible from lobby areas within Alma; and
- As pushed reports, sent to the interested staff as emails.

All reports can be exported in CSV, Excel or PDF. Alma provides for the automated dissemination of reports. For example, library staff can schedule a report to run periodically; authorized staff may then subscribe to the report and receive the output in an email sent automatically based on the report schedule (e.g. daily, weekly, monthly). In this way, a staff member can get to his/her email report at fixed intervals without the need to log into Alma.

In addition to the out of the box reports, Alma Analytics includes embedded reports as shown below:



Alma analytics includes data from different business areas (such as funds expenditure, loans, acquisitions, bibliographic data and more) and was built in mind both for operational day to day reports such as outstanding orders by supplier/fund/material type or a fund transaction report as well as for more analytical, decision support reports, such as most frequently used and least frequently used journals.

Acquisition data in Alma Analytics covers data from vendors, transactions, funds, purchase types, bibliographic data and more. Alma Analytics provides actionable information regarding usage information, budget usage trends and up-to-date expenses overviews. This complements our planned suite of collection development utilities to support selection and evaluation. The utilities will include overlap analysis and usage statistics and cost/usage analysis data which will be presented to relevant staff during the evaluation process based on information provided by the vendors.

The system also shows the allocations, the encumbrances (pending, actual and total), the expenditures (pending, actual and total) and the available balance for each fund. This information is updated and displayed in real-time within Alma, and available for use in analytical reports.

Alma Analytics allows for reports generated by the solution to be embedded as widgets in the Alma Dashboard or in relevant sections of the system. The solution also comes with an intuitive user interface enabling staff users to create and run customized reports.

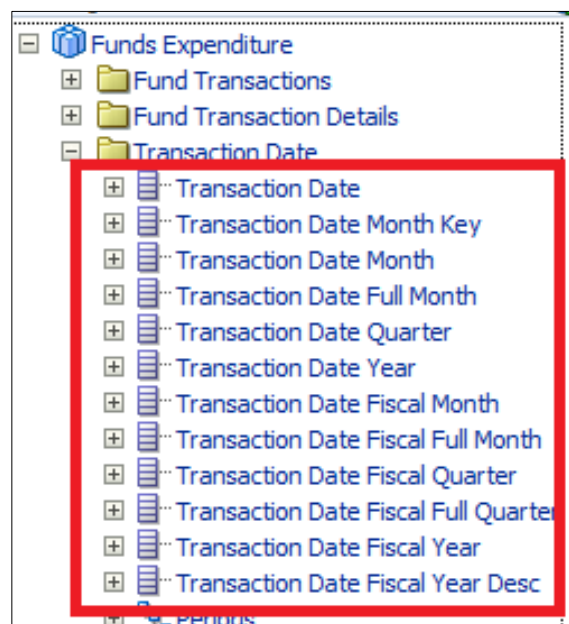
Alma keeps this data indefinitely so the reports are always up to date, and can also be used to compare the spend and cost of previous years to the current year. Here is an example of a report detailing cost per use of electronic and print items.

Cost Per Use - Print Items				Cost Per Use - E-Resources			
Title	Price	# Loans	Price per Loan	Title	Cost	Usage	Cost per Use
Gerontological nursing /	5.00	72	0.07	Acta mathematica Hungarica	157	1	156.4000
The Ultimate Harry Potter and Philosophy	5.50	80	0.06	Advertising age	37	1,140	0.03214
Literature and bibliometrics /	20.00	80	0.46	Chicago tribune	217	315	0.43066
Peterson's nursing programs 2012	5.00	36	0.14	Cran's New York business	12	2,110	0.00553
Mexico's revolutionary avant-garde : from Estridentismo to :30-30 /	5.00	33	0.18	Differential equations	36	3,000	0.01164
Nursing : the career of a lifetime	300.00	24	12.50	Genetics	297	965	0.30740
Medical-surgical nursing : an integrated approach /	5.00	20	0.25	Harvard business review	220	2,868	0.07672
Business in the cloud : what every business needs to know about cloud computing	6.90	36	0.44	International journal of nursing studies	120	1,525	0.08003
Pioneering brothers : the revolutionary generation /	5.75	36	0.38	Journal of comparative physiology	127	3,000	0.04223
Laboratory and diagnostic tests with nursing implications /	5.00	36	0.31	Journal of the American Chemical Society	310	3,070	0.08840
	2.14	33	0.18	Plasma physics reports	46	1,700	0.02704

As mentioned above, acquisitions data in Alma Analytics covers data from funds, vendors, transactions, purchase types, bibliographic data and more. Each of the elements include detailed fields for analysis. Analytics allows to create reports based on date, month, quarter and year. The following example shows a report output of expenditure by ledger and fund:

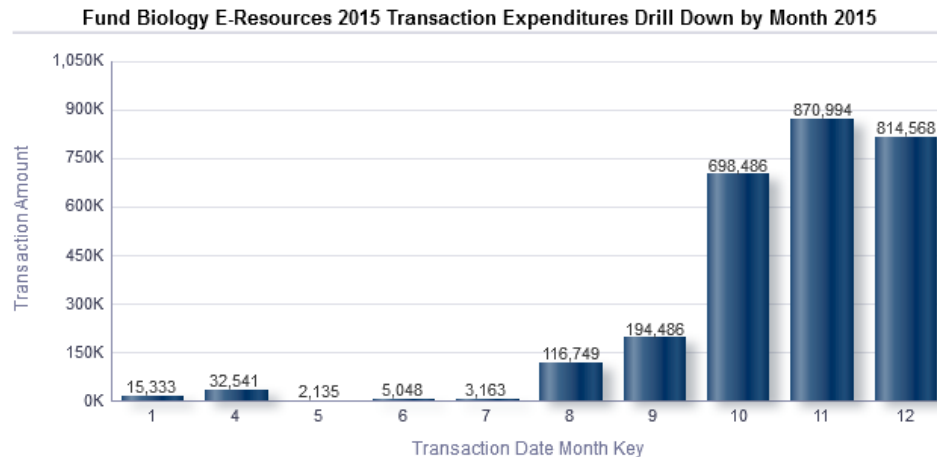
	2013		
Fund Ledger Hierarchy	Encumbrance	Expenditure	Remaining Allocation
[-] Art and Design	0	12,013	244,187
[+] Architecture	0	11,973	44,727
[+] Design			73,500
[+] Fine Arts	0	40	57,710
[+] Multimedia			68,250
[+] Arts	0	164	285,961
[+] Business and Economics	95	6,627	230,090
[+] Education	129	14	39,757
[+] Engineering	0	12,591	435,759
[+] Information Technology	354	6,221	201,300
[+] Law			105,000
[+] Medicine	0	628	326,972
[+] Pharmacy and Pharmaceutical Sciences			63,000
[+] Science	0	18,258	268,392
[+] Social Science	0	1,147	208,958
[+] Training			494

Reports can drill down to expenditure by month. In the "Funds Expenditure" subject area "Transaction date" folder there is a wide variety of date periods which can be used for displaying and filtering:



An example of a graph showing the monthly expenditures of "Fund Biology E-Resources" for 2015.





The same data in table format:

Transaction Date Month Key	Transaction Amount
1	15,333
4	32,541
5	2,135
6	5,048
7	3,163
8	116,749
9	194,486
10	698,486
11	870,994
12	814,568

a) any limitations on size of report or query result set

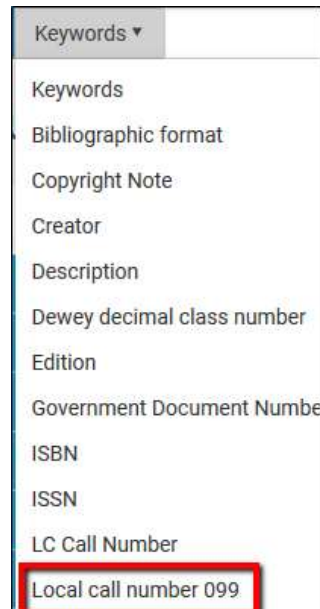
**Ex Libris:** The limitations for Analytics export are: 65K rows and 1M cells.

There are no limits on the number of records that can be included in a set.

b) any limitations on type of information which can be queried

**Ex Libris:** Reporting in Alma is accomplished via multiple mechanisms, depending on the use case. The purpose of Alma Analytics is for obtaining trends and statistics so that evidence based decision making can be made on library processes. The fields available for reporting in Alma analytics make such reports possible. Operational reports, however, can also be retrieved via Alma's advanced repository search, in which the staff user can create specific sets for batch operations.

For the repository search, Alma supports a long and rich set of indexes. A library can choose from these indexed fields those that they wish to be used for searching and sorting. In addition to the indexing of standard fields, there is also the option to index locally defined fields (9xx fields) - an example of which can be seen in the following screen capture:



The library may also configure which indexes are available for searching in the Simple and Advanced searches.

The list of fields indexed in Alma is available in the Online Help and can be accessed at the following link:

[https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/010Alma\\_Online\\_Help\\_\(English\)/040Resource\\_Management/040Metadata\\_Management/180Search\\_Indexes](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/040Resource_Management/040Metadata_Management/180Search_Indexes)

There you will find tables by MARC type organized both by the MARC tag as well as by the search index.

21. Interoperability with third party systems such as PeopleSoft for financial transactions and ILLiad or other ILL systems for purchase on demand.

**Ex Libris:** Complies. Alma provides exceptional integration with a range of third-party applications and key enterprise systems used on campuses today, including for services such as financial and ordering systems, self-check, interlibrary loan, proxy services, collection agency services and ERP systems, and discovery.

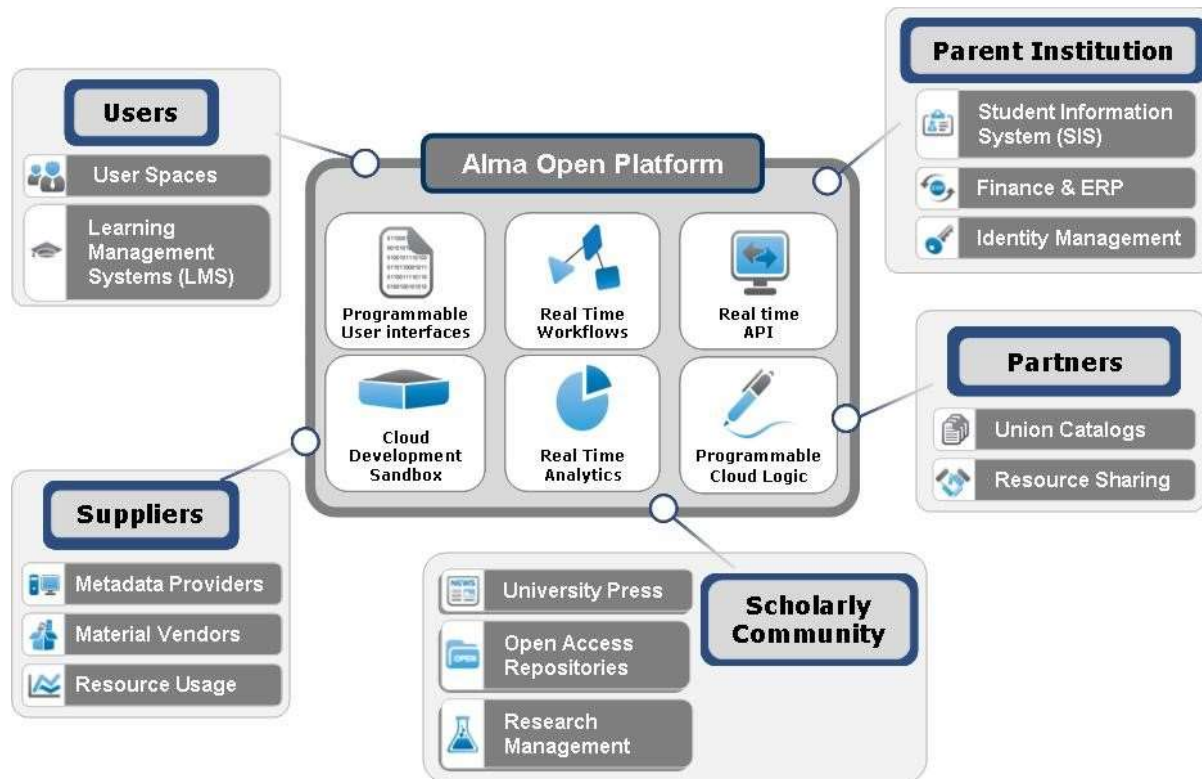
Achieving Alma's seamless handshaking with external systems, integration points are based on both evolving and well-established trend market standards. In addition to standards, Alma's integration approach makes use of plugin -capabilities, allowing institution-specific adaptations to specific systems and needs. The framework for utilizing integration points with third-party systems is the Integration Profile. The Integration Profile is where integration definitions may be set up for many types of Alma-supported integrations, including systems such as:

- Self-check
- Resource sharing systems
- Link resolution and proxies
- Collection agency services
- Discovery interfaces
- Cataloging clients
- Learning management systems
- Financial management systems

- Student Information systems

A unified and centralized platform, the Integration Profiles provide a single interface for defining the different required attributes for a variety of integrated systems.

The diagram below shows the variety of integration interfaces of Alma with multiple third-party systems using its open platform.



22. Ability to query or automate any of the above functions, including use of APIs.

**Ex Libris:** Besides the automation described above, one of our major initiatives for Alma is to invest heavily in the Alma experience in order to improve services to our customer base, and a major focus of this is through the use of our APIs.

The Alma Developers Network is based on an extensible architecture that supports the seamless addition of new integrations via APIs and web services. Alma Developers utilizes web services and Restful APIs for on-line integrations with applications, including but not limited to integrations with financial systems, Student Information Systems, Bursar systems, LMS and more.

Located at [developers.exlibrisgroup.com](https://developers.exlibrisgroup.com), the site provides a platform for Ex Libris customers and developers to share code and other content relating to Ex Libris programs and/or services. Access to the Developers Network is open to everyone, and anyone can register. As with every site that provides information and access to APIs, it includes Terms of Use that details the license restriction in regards to our APIs and code contribution. The Terms of Use for this site are located at <https://developers.exlibrisgroup.com>.

The Developer Network not only refreshed the technology used for developing code extensions, it has provided a brand new, open environment for sharing, experimenting, and managing the lifecycle of

developments that extend Ex Libris products. In addition, it offers new ways for users to access, share and collaborate around APIs and developments. The Developer Network consists of dedicated sections for each Ex Libris product, and includes:

- API Docs: Comprehensive API and integration documentation and technical guides
- Codes and Apps: an advanced portal for sharing, experimenting, and managing the lifecycle of developments, hosted on GitHub
- Tech Blog: Advice, technical guidance, and best practice information offered by developers and Ex Libris development team members
- API Console: a testing environment (sandbox) in which users will be able to experiment with Ex Libris APIs before implementing them in their solutions.
- Forums: Online forums in which developers can share ideas, questions, and answers about how to get the most value from Ex Libris APIs
- API Dashboard: A tool enabling developers to manage their implementations of open interfaces and view usage analytics.

Alma routinely handles over three million API transactions daily.

A comprehensive list on API actions can be found below:

Category	Area	Actions
Acquisitions	Funds	Retrieve Funds Retrieve Fund
	Invoices	Create Invoice Create Invoice Line Get Invoice Get Invoice Line Get Invoice Lines Get Invoices Operation on a specific invoice
	Licenses	Create License Create License Amendment Delete License Delete License Amendment Get License Get License Amendment Get Licenses Get Licenses Amendments Update License Update License Amendment
	PO Lines	Cancel PO-Line Create PO-Line Get PO-Line Get PO-Line Items Receive an existing item Receive new item Retrieve PO-Lines Update PO-Line
	Vendors	Create Vendor Delete Vendor Get Vendor Get Vendor Invoices Get Vendor PO Lines Retrieve vendors

		Update Vendor
<b>Analytics</b>	<b>Paths</b>	Retrieve Analytics report's directory path Retrieve Analytics report's directory root
	<b>Reports</b>	Retrieve Analytics report
<b>Bibliographic Records and Inventory</b>	<b>Catalog</b>	Create BIB record Create holdings record Create Item Create Portfolio Delete Bib Record Delete Holdings Record Operate on a BIB record Retrieve Bib record Retrieve Bib records Retrieve Holdings list Retrieve Holdings Record Retrieve Item and print label information Retrieve Items list Retrieve Portfolios list Scan-in operation on an item Update Bib Record Update Holdings Record Update Item information Update Portfolio Withdraw Item
	<b>Collections</b>	Add Bib to a collection Create Collection Delete a collection Remove Bib from a collection Retrieve Bibs in a collection Retrieve Collection Retrieve Collections Update Collection
	<b>Digital Representations</b>	Create Representation Create Representation File Delete Representation Delete Representation File Retrieve Representation Details Retrieve Representation Files' Details Retrieve Representations Update Representation Update Representation File
	<b>Loans</b>	Action on a loan Retrieve item loans Retrieve Specific Loan information (Item level) Retrieve Specific Loan information (Title level) Retrieve title loans
	<b>Reminders</b>	Create Reminder (BIB) Delete Reminder (BIB) Retrieve Reminders (BIB) Retrieve specific Reminder (BIB)

		Update Reminder (BIB)
	<b>Request Options</b>	Retrieve BIB request options Retrieve item request options
	<b>Requests</b>	Action on a title request Action on an Item request Cancel Request Cancel Title Request Create request for a Title Create request for an Item Retrieve booking availability for a Title Retrieve booking availability for an Item Retrieve Requests per Bib Retrieve Requests per Item Retrieve specific item Request Retrieve Specific Title Request Update Item Request Update Title request
<b>Bibliographic Records and Inventory/Users</b>	<b>Loans</b>	Change loan due date Create user loan
<b>Configuration</b>	<b>Deposit Profiles</b>	Retrieve Deposit Profile Retrieve Deposit Profiles
	<b>General</b>	Library Open Hours Retrieve Code-table Retrieve General Configuration Retrieve Open Hours
	<b>Import Profiles</b>	Retrieve Import Profile Retrieve Import Profiles
	<b>Jobs</b>	Retrieve Job Details Retrieve Job Instance Details Retrieve Job Instances Retrieve Jobs Submit a manual or scheduled job
	<b>Organization Units</b>	Retrieve Departments Retrieve Libraries Retrieve Library Retrieve Location Retrieve Locations
	<b>Reminders</b>	Create a Reminder Delete a Reminder Retrieve a list of Reminders Retrieve a Reminder Update a Reminder
	<b>Sets</b>	Create a Set Delete a Set Manage Set Members Retrieve a list of Sets Retrieve a Set Retrieve Set Members
	<b>Utilities</b>	Fine Fee Report
<b>Courses</b>	<b>Citations</b>	Create Citation Remove Citation Retrieve Citation



		Retrieve Citations Update Citation
	<b>Courses</b>	Add a new Course Remove Course Retrieve Course Retrieve Courses Update Course
	<b>Owners</b>	Create Owner Delete Owner Retrieve Owner Retrieve Owners Update Owner
	<b>Reading Lists</b>	Create a Reading List Remove Reading List Retrieve a Reading List Retrieve Reading Lists Update a Reading List
	<b>Tags</b>	Retrieves Tags
<b>Electronic</b>	<b>Electronic Collections</b>	Create Electronic Collection Delete Electronic Collection Retrieve Electronic Collection Retrieve Electronic Collections Update Electronic Collection
	<b>Electronic Services</b>	Create Electronic Service Delete Electronic Service Retrieve Electronic Service Retrieve Electronic Services Update Electronic Service
	<b>Portfolios</b>	Create Electronic Portfolio Delete Electronic Portfolio Retrieve Portfolio Retrieve Portfolios Update Electronic Portfolio
<b>Resource Sharing Partners</b>	<b>Lending Requests</b>	Act on Lending Requests Create lending request
	<b>Resource Sharing Partners</b>	Create Partner Remove Partner Retrieve Partner Retrieve Partners Update Partner
<b>Tasks List</b>	<b>Lending Requests</b>	Get Lending Requests Retrieve lending request
	<b>Requested Resources</b>	Act on Requested Resources Get Requested Resources
<b>Users</b>	<b>Deposits</b>	Action on a deposit request Create deposit deposit by user id and deposit id deposits by user id
	<b>Fines and Fees</b>	Create user fine/fee Get user fine/fee Get user fines and fees Pay user fines/fees

		Pay/waive/dispute/restore user fine/fee
	<b>Leganto Notifications</b>	Retrieve Leganto notifications
	<b>Loans</b>	Renew loan Retrieve specific loan Retrieve user loans
	<b>Requests</b>	Action on a request Cancel user request Create user request Create user request for resource sharing Operation on request for resource sharing Retrieve user request Retrieve user requests Retrieve user's resource sharing request Update request
	<b>Users</b>	Authenticate or refresh user Create user Delete user Get user details Retrieve users Update User Details

23. Describe other acquisitions and fiscal management capabilities unique or notable of the proposed system not addressed above.

**Ex Libris:** Alma supports end-to-end acquisition processes for all resource types (print, electronic, and digital). The system employs business process automation to streamline and simplify workflows for managing orders, claims, receiving, activation of electronic resources, invoices, vendors and vendor accounts, as well as ledgers and funds. Alma's workflow engine uses library-defined rules to manage most activities automatically, and alert staff to exceptional conditions that require manual intervention. Most acquisitions activities are unmediated, based on library policies and procedures. Operator intervention is needed only when staff review or mediation is required for the processes to continue.

For detailed information, please refer to our responses addressing how Alma meets (and exceeds) JMU's requirements.

**E. Serials Functionality-** Describe the proposed solution's serials management capabilities, including but not limited to each of the items below:

1. Overview of serials control features and workflows.

**Ex Libris:** Alma supports the following for print serials:

Prediction patterns: Alma supports full prediction pattern functionality based on the MARC standard 853 field.

Receiving - Issues are received using the receive functionality in Alma, utilizing the concept of a 'receiving department'. This also helps support the reflection of a typical separation between serial and monograph handling in the library. The department is tied to a specific location in the institution, which helps route the physical item to its permanent location. In this way, the staff user will only see titles belonging to his/her associated department on the Receive Screen.

Item creation – With prediction pattern support, it is possible to create serial items in advance of their receive date based on a prediction template.

Label Printing - Alma can integrate with locally-used label printing applications through downloading a local component that utilizes web services to communicate with Alma and the local label printer.

Claiming - In Alma, by default, claims are configured to be processed automatically. They can, however, also be generated on-demand. Automatic claims are created for a Purchase Order (PO) line that has not been received within the expected number of days after placing the order (based on parameters defined in the vendor record) or by the expected receipt date.

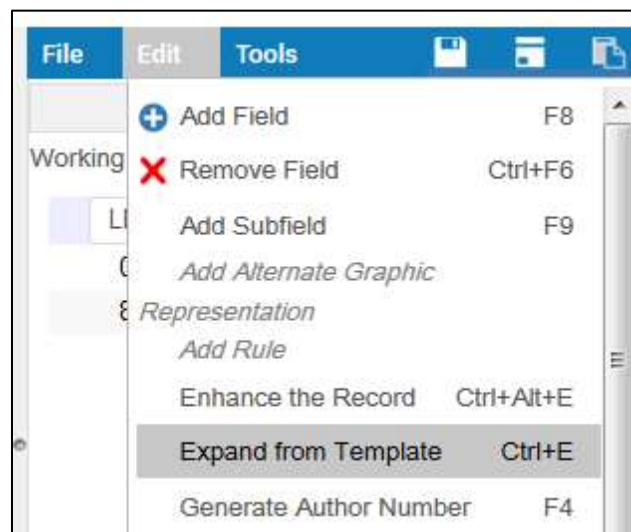
Binding - Alma supports workflows related to binding. Staff can review a list of issues and create a bound volume. All of the item records for the issues incorporated in the bound volume will be marked as withdrawn, and will not display in the Discovery Tool.

Routing – As part of Acquisitions management, it is possible to define if a subscription should be routed as well as defining members of the routing list. This information will display as part of new issue creation.

2. Capabilities for predicting patterns of chronology and enumeration and adjustment of these patterns.

**Ex Libris:** Alma supports full prediction pattern functionality based on the MARC standard 853 field. The first step in the workflow is to create an order record for the serial title. As part of the order creation (manually or as an imported record), a holding record is created. At this stage, this is a basic record with an 852 field with library and location information inherited from the parameters in the order record.

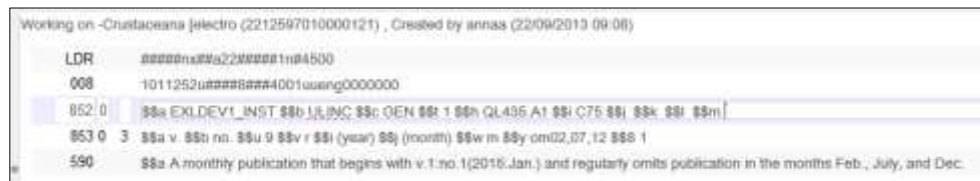
Alma supports a long list of out-of-the-box templates for most of the patterns that can be expected for a serial publication. To add a pattern to the existing holding record, the cataloger chooses the Expand from Template option in the Edit menu of the MD Editor:



The list of templates displays:



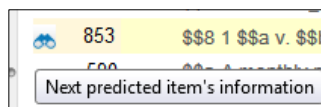
Clicking on a template title will open the template for editing:



In the example above a template that has 9 issues a year (\$\$u 9) with no issues in February, July, and December (\$\$y om02, 07, 12) was chosen. The additional 590 note field explains and expands on the information registered in the 853 field. This template might exactly match the prediction pattern of the serial. Alternatively, if the match is close, but not exact, it can be modified. For example, the cataloger changes the \$\$y data as follows: \$\$y om03, 08, 11 – i.e. there will be 9 issues per year, but no issues in March, August and November:

```
853 0 3  $$a v.  $$b no.  $$u 9  $$v r  $$i (year)  $$j (month)  $$w m  $$y om03,08,11  $$8 1
590      $$a A monthly publication that begins with v.1: no.1(2015:Jan.) and regularly omits publication in the months Mar, Aug and Nov.
```

Once the pattern has been defined the cataloger can view the next (first) expected item information - either from the Tools menu, or by clicking on the field glasses next to the 853 field.



Parameters can be viewed and modified if necessary (for example the expected issue date).



The cataloger can then open the predicted items – choosing Save to save and open expected issues, or Discard if the data is not correct and the 853 field needs to be updated.

Predicted Items		
Description	Status	Expected Arr
1 v.6:no.1(2018:Jan.)	Item not in place	2018-01-04
2 v.6:no.2(2018:Apr.)	Item not in place	2018-04-04
3 v.6:no.3(2018:July)	Item not in place	2018-07-04
4 v.6:no.4(2018:Oct.)	Item not in place	2018-10-04

The Expected Arrival Date displayed is the issue date plus the subscription interval defined in the order record.

### 3. Managing subscriptions to print resources.

**Ex Libris:** A bibliographic record for a serial is initially either imported or cataloged in the Metadata Editor. Following this, a PO Line for the serial can be created.

The ‘Subscription Interval’ option in the PO Line is completed in order to define the expected receipt interval for each issue (e.g. 30 for monthly, 90 for quarterly, etc.). The ‘Claim Grace Period’ will be populated from the vendor record but can be overwritten manually if necessary. Alma will use these two fields to generate claims for issues that have not arrived within the defined expected arrival and grace period dates.

Alma automatically creates a holding record based on the location specified when creating the PO Line. These steps are required for setting up the serial record in Alma. Once they have been taken, staff need only manage receiving and claiming.

Issues are received using the receive functionality in Alma, utilizing the concept of a ‘Receiving Department’. This also helps support the reflection of a typical separation of serial and monograph handling in the library. The department is tied to a specific location in the institution, thereby aiding in routing the physical item to its permanent location. This way, the staff user will only see titles belonging to his/her associated department on the receive screen.

### 4. Provisions for abbreviated records for inactive titles.

**Ex Libris:** Complies.

### 5. Ability to create and display local notes and special instructions, both public and nonpublic.

**Ex Libris:** Alma allows staff to add free-text notes at the bibliographic (title) or item level. Notes can be internal (staff only) or public.

The Receiving note can be seen on the general Receive screen and also on the checkin screen:

9	POL-3709	American journal of human biology : the official journal of the Human Biology Council., Alan R. Liss, Inc., Vol. 1, no. 1, 1042-0533 1520-6300, ISSN	Waiti... for Main Library - Man... General (1) Rece...	1	10/09/2015	-	Make sure to put this on ...
---	----------	--	---	---	------------	---	------------------------------

6. Handling of non-standard items (e.g., multiple copies, volume sets, special issues, analytics, and supplements).

**Ex Libris:** Some print journals are complex in that they often have many parts (e.g. supplements, indexes, pocket parts etc.), and these parts are published at different intervals. Alma allows for the receiving and claiming of these different parts to be done in an efficient and easy workflow. An item record is created for each physical item received. From the Staff search screen, staff members are able to navigate to the list of items linked to a title. After navigating to this list, summary information about each item, including supplements, merged issues, indexes, etc., displays. The ENUM/CHRON tab of the item record allows for defining the chronology and enumeration of each individual item, as well as a Description field. This gives more detail about the physical item, thus enabling the user to distinguish between the different parts received for the title. Alma also supports the option of creating linking records (using the functionality of the MARC linking fields 76X-78X) for issues or supplements that might have a unique title. Users will be able to view the item information under the main serial record, but will be able to navigate to the linked titles from the 'More Info' popup window in the Staff Search.

Staff members receive new print material into the system using a dedicated receiving “workbench”. They locate the relevant purchase order lines with the material received, and then receive the items. Additionally, at this stage staff can add barcode information, perform copy cataloguing, etc. When relevant, they can also indicate whether further work must be performed (i.e., it needs to remain in Technical Service) before the material is available to the library for which it was ordered.

For single-title monographs, checking-in an item triggers marking the PO line as received, as well as routing the item to the appropriate next step (cataloging, physical processing, shelves, or patron pickup if a request has been placed). For standing orders (serials and serial monographs), the same actions will be triggered, but the PO line will remain open.

#	Item Description	Status	Locations	# Orders	Item Rec	Date Sent	No. Stgs	Rush	Notes	Receiving n
1	POL-45555 1969-1979 vacuum circuits, domestic cars & light trucks: emission control, heating, and air conditioning sub-systems, San Diego, Calif.; Mitchell Manuals, c1980, 0847066304 (pbk), ISBN	Sent	Main Library - General (1)	1	0	02/27/20...	-			-
2	POL-45556 1971-76 older model wiring diagrams: 1971-76 imported cars & trucks, San Diego, Calif.; Mitchell International, c1987, 0847015033 (pbk), ISBN	Sent	Main Library - General (1)	1	0	02/27/20...	-			-

7. Archiving and transfer of check-in information.

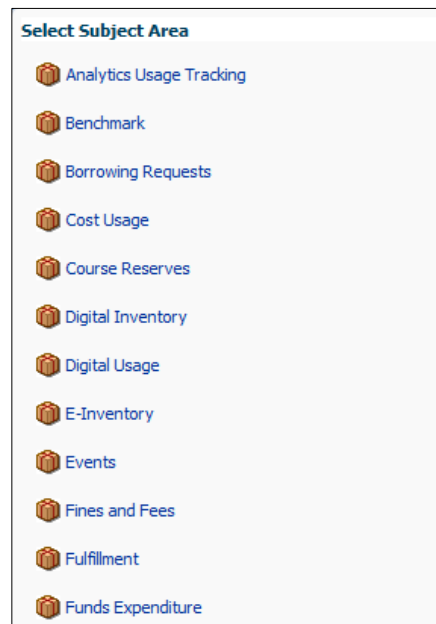
**Ex Libris:** The receiving function displays information about the last received issue and is thus used as a template for updating the details of the newly received issue. This approach not only ensures consistency in recording the data for new issues but may also provide information about missing issues. When an issue is received, an item record with the check-in information is automatically created. Since all item records can be viewed online, there is no need for archiving.



8. Statistical reporting, querying, and list creation, including export capabilities and compatibility with Excel, Crystal Reports, and other third-party software.

**Ex Libris:** As mentioned above, all reports can be exported in CSV, Excel or PDF.

The data warehouse in Alma Analytics is organized into subject areas or sources, which are designed as a star schema and which classifies the attributes of an event into facts (measures) and descriptive dimensions.



Reports which cross subject areas are possible through dimensions, which are shared by multiple subject areas. For example, Classification is a joint dimension of Expenditure and Circulation subject areas so it is possible to create reports that match expenditure and usage of a specific location.

All of the listed reports can be created from scratch or by using Ex Libris out-of-the-box reports as basis for individually created reports:

*Physical inventory count (you may drill down by specific material type such as books or journals):*

**ExLibris Analytics**

**Physical Inventory Count**

**Physical Inventory Count**  
Total number of items broken down by material type  
Time run: 10/18/2018 12:28:39 PM

Material Type	Number of Items
Book	49,449
Computer file	1,373
Journal	40,511
Map	49
Mixed material	41
Music	12,057
Visual material	844
<b>Grand Total</b>	<b>104,324</b>

[Edit](#) - [Refresh](#) - [Print](#) - [Export](#) - [Add to Briefing Book](#) - [Copy](#)

*Number of Loans Per Month in the Last 12 Months*



Loan Year	Loan Month Key	
2017	10	9
2017	11	20
2017	12	7
2018	1	9
2018	2	16
2018	3	8
2018	4	22
2018	5	10
2018	6	23
2018	7	16
2018	8	14
2018	9	21
2018	10	18

*Annual Count of Loans and Renewals*

ExLibris Analytics

Annual Count of Loans and Renewals

Loan Year: 2018

OK Reset

Edit - Refresh - Copy

ExLibris Analytics

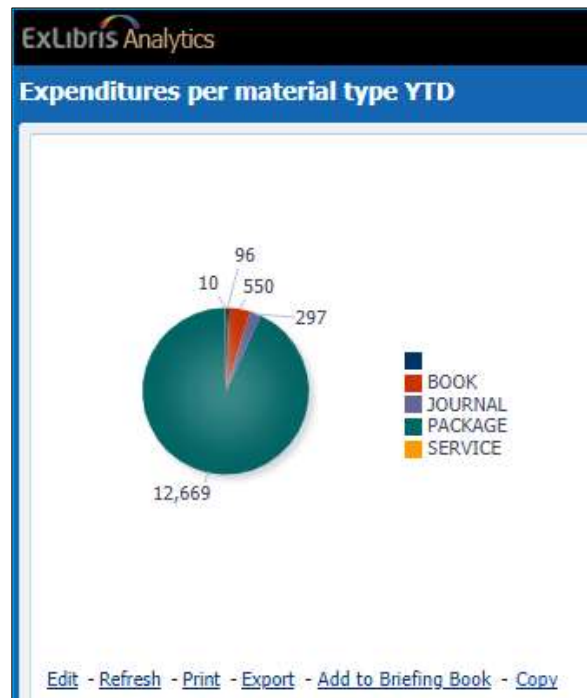
### Annual Count of Loans and Renewals

**Annual Count of Loans and Renewals**  
The number of loan transactions made, including renewals and in-house use, to all borrowers in all libraries by patron group  
Time run: 10/18/2018 12:41:38 PM

In House Loan Indicator	Patron Group	2017	
		Loans	Renewals
<b>Grand Total</b>		<b>202</b>	<b>31</b>
N		10	0
	Administrative Staff	38	4
	Alumni	2	0
	Faculty	5	1
	Graduate Student	27	4
	Undergraduate Student	92	22
Y		28	0

[Edit](#) - [Refresh](#) - [Print](#) - [Export](#) - [Add to Briefing Book](#) - [Copy](#)

### Expenditures Per Material Type YTD



Fund Transactions PO Line Type

Transaction Amount Acquisition Material Type

---

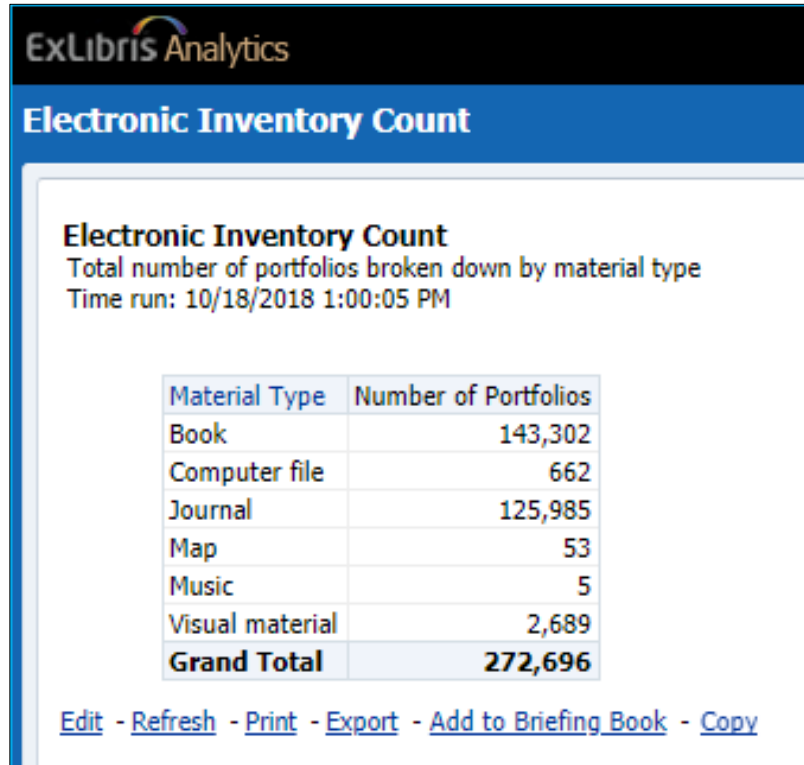
**Filters**

Add filters to the analysis criteria by clicking on Filter option for the specific column in selecting its name in the catalog pane.

Transaction Item Type is equal to / is in EXPENDITURE

AND Transaction Date Fiscal Year is equal to / is in Year(Current\_Date)

### Electronic Inventory Count



Also note that Alma Analytics provides a subject area for 'Titles' that allows to report across material types (print, electronic and digital), for example for an inventory breakdown or overlap analysis:

### Inventory Breakdown



### Overlap P and E (print and electronic)

Overlap P and E Home Catalog Favorites Dashboards New Open Signed In As N

Overlap P and E

Title (Normalized)	Author	MMS Id	Electronic Inventory	Physical Inventory
1 2 corinthians		99136411300121	0	1
	Oden, Thomas C.	993617110000121	1	0
21st century anthropology a reference handbook		992674130000121	0	1
	Birx, H. James.	9980665400121	1	0
4 quinolones anti bacterial agents in vitro		991547480000121	0	1
		9957764500121	1	0
a		991568450000121	0	1
		992595640000121	1	0
	Jones, James G.	993633170000121	1	0
	Jones, James G.	993719500000121	1	0
access 2013 for dummies	Ulrich-Fuller, Laurie, 1961-	99134311300121	0	2
	Ulrich-Fuller, Laurie.	9972160700121	1	0
acta linguistica hungarica		991706250000121	0	5
		992724550000121	3	0
adam bede	Eliot, George, 1819-1880.	991922060000121	0	1
	Eliot, George, 1819-1880.	992495930000121	1	0
address	Burke, Thomas, 1849-1925.	991572490000121	0	1
	Willis, Elizabeth.	992495340000121	1	0
adhesion molecule factsbook	Isacke, Clare M.	992495060000121	1	0
	Isacke, Clare.	991704050000121	0	1
administrative law	Barnes, Jeffrey.	991481170000121	0	1
	Gellhorn, Walter. 1906-	991174630000121	0	3

Alma allows to share reports between members of a institution and with the worldwide community. These reports are always applied to the institutional data.

A list of out-of-the-box reports (in addition to those listed above) provided for use and as starting point for local reports can be found here:

[https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/010Alma\\_Online\\_Help\\_\(English\)/080Analytics/060Out-of-the-Box-Reports](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/080Analytics/060Out-of-the-Box-Reports)

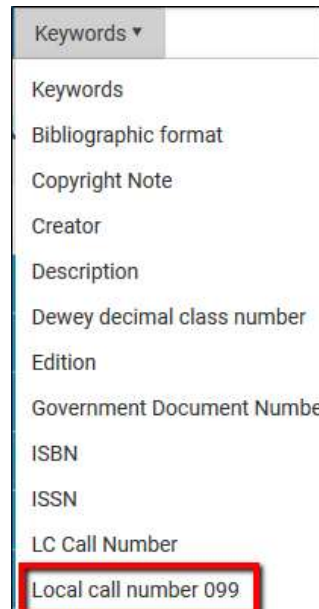
- a) any limitations on size of report or query result set

**Ex Libris:** The limitations for Analytics export are: 65K rows and 1M cells.

- b) any limitations on type of information that can be queried

**Ex Libris:** Reporting in Alma is accomplished via multiple mechanisms, depending on the use case. The purpose of Alma Analytics is for obtaining trends and statistics so that evidence based decision making can be made on library processes. The fields available for reporting in Alma analytics make such reports possible. Operational reports, however, can also be retrieved via Alma's advanced repository search, in which the staff user can create specific sets for batch operations.

For the repository search, Alma supports a long and rich set of indexes. A library can choose from these indexed fields those that they wish to be used for searching and sorting. In addition to the indexing of standard fields, there is also the option to index locally defined fields (9xx fields) - an example of which can be seen in the following screen capture:



The library may also configure which indexes are available for searching in the Simple and Advanced searches.

The list of fields indexed in Alma is available in the Online Help and can be accessed at the following link:

[https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/010Alma\\_Online\\_Help\\_\(English\)/040Resource\\_Management/040Metadata\\_Management/180Search\\_Indexes](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/040Resource_Management/040Metadata_Management/180Search_Indexes)

There you will find tables by MARC type organized both by the MARC tag as well as by the search index.

9. Interoperability with third party systems for both descriptive and holdings metadata, claiming, order information, etc.

**Ex Libris:** Alma supports the exchange of data using interfaces like EDI, OAI-PMH, SIP2, NCIP, import and export metadata in MARC-XML format as well as extensive Restful APIs.

Alma provides exceptional integration with a range of third-party applications and key enterprise systems used on campuses today, including for services such as financial and ordering systems, self-check, interlibrary loan, proxy services, collection agency services and ERP systems, and discovery.

Achieving Alma's seamless handshaking with external systems, integration points are based on both evolving and well-established trend market standards. In addition to standards, Alma's integration approach makes use of plugin -capabilities, allowing institution-specific adaptations to specific systems and needs. The framework for utilizing integration points with third-party systems is the Integration Profile. The Integration Profile is where integration definitions may be set up for many types of Alma-supported integrations, including systems such as:

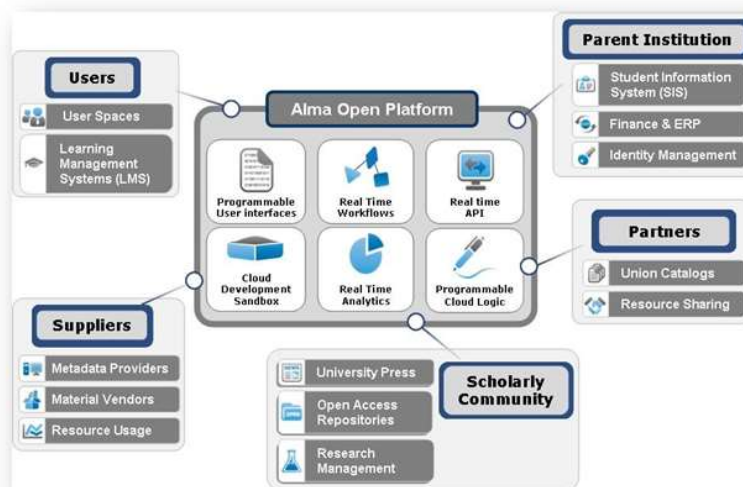
- Self-check
- Resource sharing systems
- Link resolution and proxies
- Collection agency services
- Discovery interfaces
- Cataloging clients
- Learning management systems



- Financial management systems
- Student Information systems

A unified and centralized platform, the Integration Profiles provide a single interface for defining the different required attributes for a variety of integrated systems.

The diagram below shows the variety of integration interfaces of Alma with multiple third-party systems using its open platform.



Alma supports the management of holdings records stored in the MFHD standard. This allows any MARC field and subfield to be used in the holding records.

Synchronizing data with between the Alma and external service providers is built to happen automatically and seamlessly, with a minimum of staff management necessary. Synchronizing holdings and records occurs for resources of all types, including print, digital, and activated packages of electronic resources.

For WorldCat specifically, you can define in Alma holdings synchronization service that will run automatically. The service will identify every record that is new, altered, or deleted since the last WorldCat synchronization. Any given resource can be suppressed if the library does not wish to share it; in this case it will not be exported for synchronization or holdings update. All affected records will be exported from Alma with updated information (or a holdings delete notification, as appropriate).

The screenshot shows the 'Publishing Profile Details' form in Alma. The form is divided into two main sections: 'Profile Details' and 'Publishing Parameters'.

**Profile Details:**

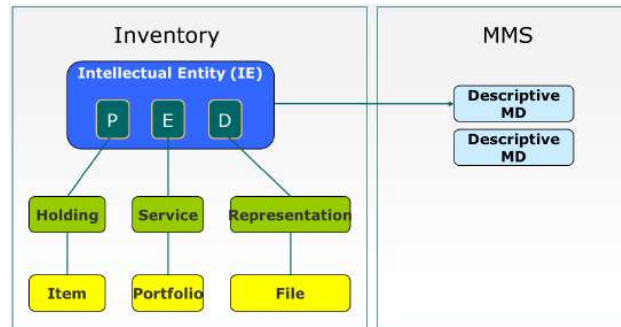
- Profile name:** Publish Local Holdings Records (LHRs) to OCLC
- Profile description:** Make your library's Local Holdings Records (LHRs) accessible through WorldCat
- OCLC institution symbol:** YLK
- Project ID:** 613
- Collection ID:** (empty field)

**Publishing Parameters:**

- Publishing mode:** Incremental (selected), Baseline, Full
- Status:** Active, Inactive (selected)
- Scheduling:** Not scheduled (dropdown menu)
- Email Notifications:** (button)

#### 10. Specify capabilities for handling multiple formats of one title.

**Ex Libris:** Alma can manage Physical, Electronic and Digital resources (P,E and D). A physical book, a digital copy of it and an electronic version of that book can be linked to the same bibliographic record which is managed in Alma's main metadata catalogue (MMS). The highest level of any entity managed by Alma is called the 'Intellectual Entity'. This entity can have three types of child: Physical (Holding), Electronic (Service) and Digital (Representation). The following diagram illustrates Alma's object's data model:

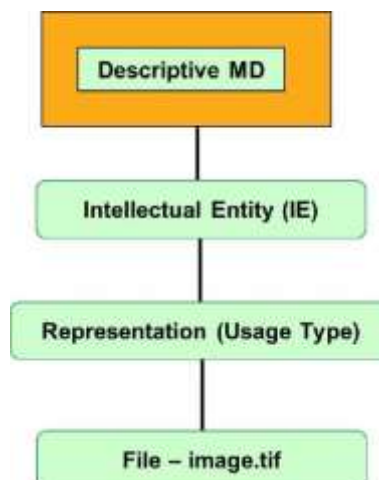


All three types of material are managed in the same repository.

Objects that share the same descriptive information are linked. The following is a screenshot taken from Alma which represents a record which has two versions: one physical and one digital, the green text 'Availability' points to the two available versions:



The Digital resources are based on the same principle and the data model looks as follows, where the metadata description will link to an Intellectual Entity (IE) that represents a coherent set of content:



Representation are set of file/s grouped in an IE by a common usage (e.g. archival tiffs versus derivative copy jpg) and the file can be any supported digital object such as JPG/MP3/pdf etc.

### 11. Specify capabilities for handling title and ISSN changes.

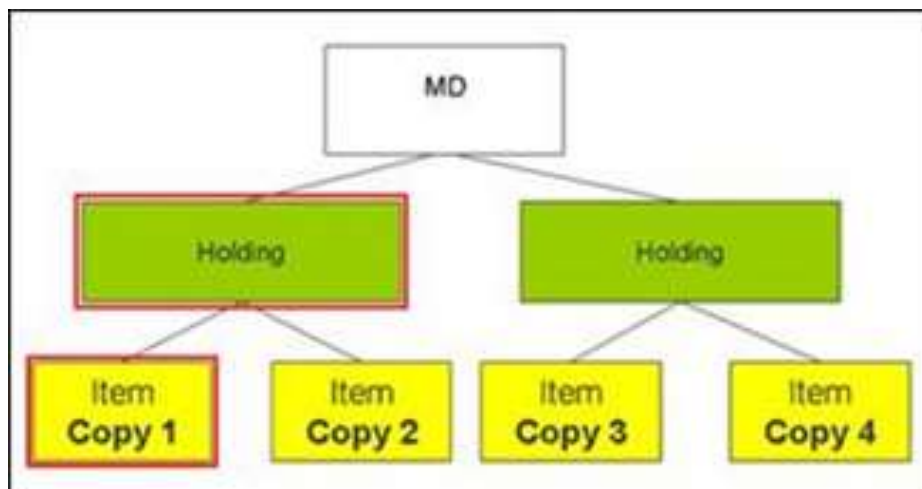
**Ex Libris:** For records that are linked and managed through Alma's Central KnowledgeBase (as part of the Community Zone), Alma keeps track of changes through the Community Zone Updates Task list.

The Community Zone Updates Task List page in Alma displays updates that were made to the Institution Zone (IZ) during updates from the Community Zone (CZ). These changes are specific to the institution and may include modifications to bibliographic records as well as changes to holdings, availability, security requirements, and parser parameters.

Also note that batch jobs and activities such as imports come with reports that users may view and take action where needed.

### 12. Describe capabilities for displaying holdings for multiple locations.

**Ex Libris:** Complies. The holding record provides the link between the bibliographic record and the physical inventory (items), as can be seen in the following diagram.



This record structure allows Alma to manage each level of the hierarchy, while maintaining linkages among the other level(s). From the staff user's perspective, this means that a search of the repository may be conducted on any level, and each level may be edited independently. The physical resource relationships comprise:

- A bibliographic metadata record (MD) is independent of any holdings or items and may exist in the system without such.
- Holdings records must be linked to a bibliographic record (MMS id), however, they do not require any item records.
- Item records must be attached to holdings records.
- A single MD record may have multiple holdings records linked to it.
- A single holdings record may have multiple item records attached to it.

Alma supports the concept of a shared catalog with one bibliographic record to which library specific holdings and items are attached. An example of this can be seen in the following screen capture from the Alma staff search function – which shows a listing of physical items in 3 locations:

**Romeo and Juliet / William Shakespeare ; edited by Frederick Turner.**
Edit

**Book {Book - Physical}** By Shakespeare, William, (London : University of London Press 1974.)  
**Series:** The London English literature series

**Language:** English  
**ISBN:** 0340153911 :  
**Record number:** (CtY)notisAAH7382

☒ Physical (3)    ☐ Electronic    ☐ Digital    [Other details](#)

**3 Holdings | 3 out of 3 items are available**

Library	Location	Call Number	Accession Number	Items Availability	Temporary Location	Related Record
Education Library	<a href="#">Music</a>	-	-	<input checked="" type="radio"/> 1 out of 1 Available	-	-
Main Library	<a href="#">General</a>	-	-	<input checked="" type="radio"/> 1 out of 1 Available	-	-
Medical Library	<a href="#">Reference</a>	-	-	<input checked="" type="radio"/> 1 out of 1 Available	-	-

[All Holdings](#) | [All Items](#)

This can also be seen in the MD (Cataloging) Editor:

**Romeo and Juliet / William Shakespeare ; edited by Frederick Turner.**
Edit

**Book {Book - Physical}** By Shakespeare, William, (London : University of London Press 1974.)  
**Series:** The London English literature series

**Language:** English  
**ISBN:** 0340153911 :  
**Record number:** (CtY)notisAAH7382

☒ Physical (3)    ☐ Electronic    ☐ Digital    [Other details](#)

**3 Holdings | 3 out of 3 items are available**

Library	Location	Call Number	Accession Number	Items Availability	Temporary Location	Related Record
Education Library	<a href="#">Music</a>	-	-	<input checked="" type="radio"/> 1 out of 1 Available	-	-
Main Library	<a href="#">General</a>	-	-	<input checked="" type="radio"/> 1 out of 1 Available	-	-
Medical Library	<a href="#">Reference</a>	-	-	<input checked="" type="radio"/> 1 out of 1 Available	-	-

[All Holdings](#) | [All Items](#)

- Specify capabilities for inputting an item-specific control number in barcode form at the point of check in.

**Ex Libris:** Staff members receive new print material into the system using a dedicated receiving “workbench”. They locate the relevant purchase order lines with the material received, and then receive the items. Receiving can be done selectively or in bulk can be also done by the "Receive all" functionality that will receive all items listed in the "Receive New Material". Various filters can be applied before, including Vendor, owning library, status and more.

Additionally, at this stage staff can add barcode information, perform copy cataloguing, etc. When relevant, they can also indicate whether further work must be performed (i.e., it needs to remain in Technical Service) before the material is available to the library for which it was ordered.

Receive New Material

Keep in Department ☐ Shelf Ready ☐ Received Date: 05/21/2017

One Time Continuous

1 - 11 of 11 All Filter by vendor

Status: Ready Locate: Order Lines Filter orders with interested users: No Filter orders with patron requests: No Clear all

#	Item description	Status	Locations	# Orders	Item Recd	Date Sent	Nex Stg	Rush	Notes	Receiving note	Interested Users
<input type="checkbox"/> PQL-44396	History of Rome / Michael Grant, New York ; Scribner's, c1978, 0684159864 ; ISBN	Ready	Main Library - Reference (1), Medical Library - General (2), Main Library - General (1)	4	1	-	C...				
<input type="checkbox"/> PQL-44402	History of Rome / Michael Grant, New York ; Scribner's, c1978, 0684159864 ; ISBN	Ready	Main Library - Reference (1), Medical Library - General (2)	4	4	-	C...				

Alma will not allow duplicate item barcodes. When entering a barcode Alma will warn and block from saving a duplicate barcode.

#### 14. Detail capabilities for claiming.

**Ex Libris:** Alma supports automatic claims processing by default; however, claims can also be generated manually. Automatic claims are created for a Purchase Order (PO) line that has not been received within the expected number of days after placing the order (based on parameters defined in the vendor record – as can be seen in the following screen capture) or by the expected receipt date.

Delivery and Claim Information	
Expected receipt after ordering (days)	5
Expected invoice interval (days)	4
Renewal evaluation interval (days)	10
Claiming grace period (days)	3
Expected activation after ordering (days)	1
Subscription grace period (days)	90

Claims are automatically posted to the Task List where authorized staff can select to review and take further action if desired. Possible actions include updating the expected receipt date based on new information provided by the vendor or cancelling the purchase order line if necessary. Updating the item information resets the expected receipt date and removes the item from the task list.

An email is sent to the vendor (generated automatically or manually) inquiring about the late delivery of the order.

For vendors that support this feature, claims are sent using EDI instead of by email. EDI claims can be used for both one-time and continuous orders. The following screen capture shows EDI definitions on the vendor record:



Summary Contact Information Contact People EDI Information Usage Data Invoices PO Lines Communications Attachments Notes

Vendor EDI Attributes

EDI code: [ ] EDI type: 31B - US-SAN EDI naming convention: Standard EDI vendor format: Other

Incoming: ☒ Incoming ☒ Shelf Ready Parameters ☐ Receive Items ☐ Keep in Department

Outgoing: ☒ POs ☒ Claims ☒ Order Cancellation

Next Step: Copy Cataloging

Input Job Parameters

JOB-SCHEDULING

Status: ☒ Active ☐ Inactive

Schedule: Every day at 02:00 Run Now

Email Notification

15. Describe binding management functionalities, including flagging titles for binding, reflecting binding statuses, collapsing holdings once materials have been bound, etc.

**Ex Libris:** Alma supports workflows related to binding. Staff can review a list of issues and create a bound volume. All of the item records for the issues incorporated in the bound volume will be marked as withdrawn, and will not display in the discovery tool.

The first step in the binding process is to open the physical item editor for a journal and select to view items. From the Items screen (with pre-set Physical Item search limit), the staff user marks the items to be bound, and then clicks on the option “Bind Items”.

1 - 15 of 15 Call number: [ ] Sort routine: [ ] Actions: [ ] Change Holdings

Status: All

	Barcode	Library	Location	Call Number	Alternative Call Number	Description	Temporary Location
1	AU36796	Main Libr...	General	QL435.A1 C75	-	Vol. 57 no. 5 (2014 May)	No
2	AU36797	Main Libr...	General	QL435.A1 C75	-	Vol. 57 no. 6 (2014 July)	No

The user is guided through a wizard in order to create the new bound volume:

< Bind items - Items list

Selected items to bind into one volume

	Barcode	Library	Location	Call Number	Alternative Call Number	Description
1	AU36797	Main Library	General	QL435.A1 C75	-	Vol. 57 no. 6 (2014 July)
2	AU36796	Main Library	General	QL435.A1 C75	-	Vol. 57 no. 5 (2014 May)

16. Describe other serials management capabilities unique or notable of the proposed system not addressed above.



**Ex Libris:** Alma's serials management functionality is described in our responses above. More information can also be found on our Knowledge Center FAQ's, available at: [https://knowledge.exlibrisgroup.com/Alma/Product\\_Materials/050Alma\\_FAQs/Print\\_Resource\\_Management/Print\\_Serials](https://knowledge.exlibrisgroup.com/Alma/Product_Materials/050Alma_FAQs/Print_Resource_Management/Print_Serials)

**F. E-resources Functionality-** Describe the proposed solution's e-resource subscription and management capabilities, including but not limited to each of the items below:

1. Staff workflows for acquiring, renewing, and canceling e-resources including:

**Ex Libris:** Alma is a unified platform and handles resources of all types, regardless of format. This means that much of the functionality for e-resource management uses the same workflows as with physical resource management, allowing for consistent training, reporting, and a platform for workflow enhancements that applies to resources of any type.

Alma's workflows support streamlining a variety of purchasing models for electronic journals and electronic books, including:

- Individual title subscriptions;
- Individual title purchases;
- Full collection subscriptions;
- "Selective" (partial) collection subscriptions; and
- Patron-driven acquisition of e-books.

A Central KnowledgeBase (CKB) managed, maintained and updated by Ex Libris, tracks the most up-to-date vendor offerings in the shared data services environment. When acquiring a new collection, libraries may search the CKB and, when they find the collection they wish to acquire, initiate an acquisition workflow based on either the full collection or a selective subset of titles they've licensed from the vendor. The workflow may begin with a trial, pass through purchasing, and ultimately end up in activating the resource for all users.

Search for and Order an Electronic Resource:



Based on agreements with the vendor, once the order has been sent, the library will be able to activate the e-resource. Staff members activate new electronic resource material in the system using a wizard from the Activation Task List.

Here, a staff member performs various activities related to activating the resource, including verification that the resource is available (using Alma's embedded link resolver functionality), determination of the specific contents and coverage of the resource, and then making it available for discovery by the end user.

	MMS ID	Title	Type	Status	Status Date	Modified By	Identifier	Due Date	Expected Activation Date	PO Line Owner	Order Line
1	99152210500121	Gale Cengage Nursing Resource Center	Aggreg - package	Check Access	06/06/2017	System	-	07/25/2017	06/2...	Main Library	POL-45842
2		War history of American railroads	Portfolio	Check Access	09/29/2013	System	-	-	-	Main Library	POL-29510

Electronic Collection Description | General Information | Additional Information | Notes | Group Settings | History

Summary and Inventory Information

Electronic Collection type: **Aggregator package** Interface Name: **Galegroup**

Interface Description

Process type: Acquisition

Access type: ☒ Current ☐ Perpetual

Services: -

Acquisitions and License Information

PO Line: **POL-45848** PO Line details: **POL-45848**

Activation date: - Expected activation date:

License: **Gale** View license details: **Gale**

Once activated, descriptive metadata (bibliographic records) for the titles will automatically be added to the local catalog. Additionally, link resolution is built in; Alma will respond to any requests from discovery environments, with a menu with links to full text for all resources types: print, electronic and digital.

When a subscription is nearing conclusion, Alma will prompt staff to initiate an evaluation process for the collection. In the evaluation function, staff may view information about usage, cost, and how the collection has changed, in order to decide whether to renew or cancel the subscription. Cancellation will automatically remove the descriptive records from the catalog.

a) databases

**Ex Libris:** Please see above.

b) e-journals, e-journal collections, aggregators, and full-text articles

**Ex Libris:** Please see above.

c) e-books, e-book collections and downloadable/loanable e-books

**Ex Libris:** Please see above.

## d) streaming media and streaming media collections

**Ex Libris:** Streaming video records are indexed and included in Alma just like any other audiovisual or electronic material. Once activated and the bibliographic records imported, they will show in Primo with appropriate media types and URLs.

## e) datasets

**Ex Libris:** The Primo Central Index contains dozens of content types. These include journals, newspaper articles, books, reviews, encyclopedias, conference proceedings, text resources, pre-prints, primary sources, audio/video content, reference entries, theses, dissertations, working papers, technical reports, standards, images, research datasets, musical scores, maps, photographs, legal documents, websites, databases, government publications, statistical datasets, patents, A&I databases, open access resources and much more.

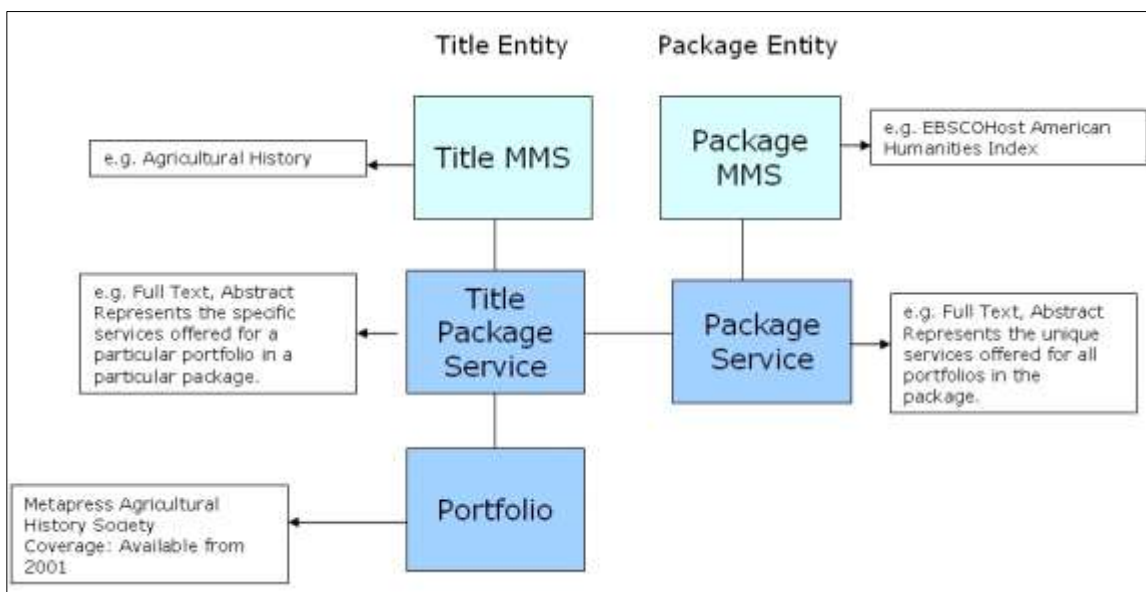
Providers of datasets in PCI include Data Planet, DataCite, Institutional Repositories, OECD, SAGE Publications, and PANGAEA: Publishing Network for Geoscientific & Environmental Data.

## f) other

**Ex Libris:** Please see above.

2. Staff workflows for setting and maintaining holdings metadata for e-journals and e-journal collections, owned and leased.

**Ex Libris:** For electronic resources, the data model looks like this:

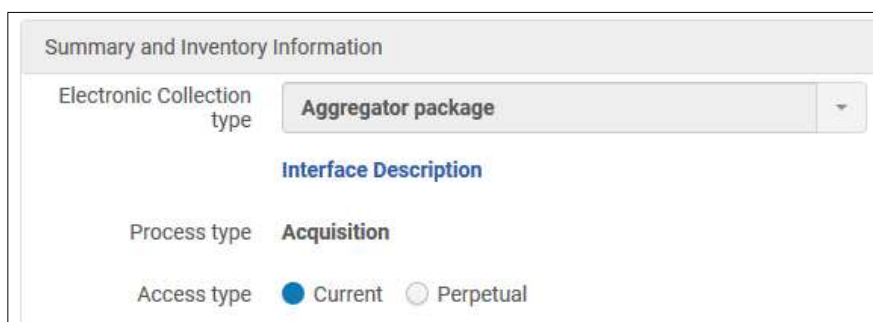


For electronic resources, the holding-level record corresponds to the collection of aggregated electronic resources offered by the vendor. It contains information about the available services (e.g., full text, abstract, etc.). The item-level record corresponds to the Portfolio - the specific coverage, service(s), and links information relevant for a specific title in the collection.

Once activated, descriptive metadata (bibliographic records) for the titles will automatically be added and indexed in the local catalog and will be made available to relevant users.

Licenses can be created for E-Book Packages, Individual E-Books, Journal packages, individual e-journal subscriptions and databases to manage contract and ownership entitlements - perpetual access and post-cancellation perpetual access entitlements.

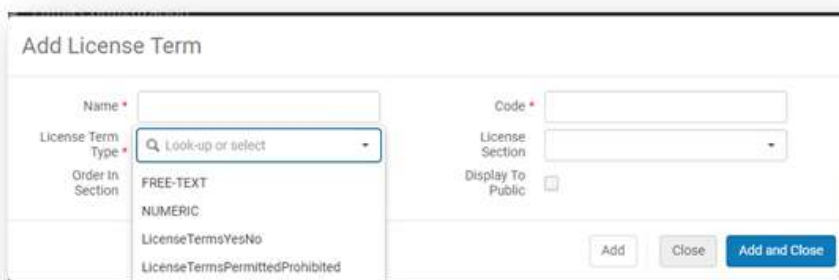
A collection includes an Access Type field indicating the access level (perpetual/current). This allows tracking the details of the perpetual access even when the material is passed from one publisher to another.



Alma supports the recording of current and perpetual access. A collection can be activated twice for the same institution: one with the content representing the perpetual access titles and one representing the current subscription titles.

3. All record structures and relationships including:
  - a) multiple orders and resources on a single license

**Ex Libris:** Alma features a dedicated license management module which conforms to the DLF-ERMI standard. In addition to these standard license fields libraries may also add their own library defined fields to the license record:



Libraries can customize the staff-facing user interface forms so that only relevant license terms display to staff.

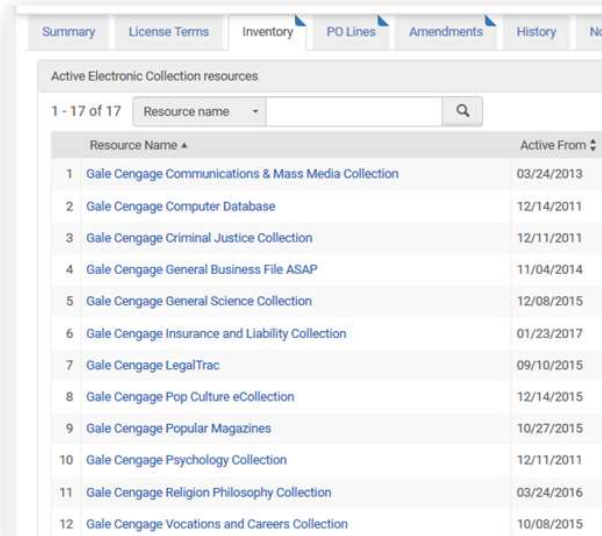
Alma enables staff to quickly and easily create a license record that captures detailed information about the terms of a license or contract. It also enables the creation of an addendum or amendment for a license which serves to identify additional titles covered by the existing license (e.g., when a library adds new titles and overall license terms do not change), or to modify the terms associated with a particular resource or group of resources.

The License Details in Alma is comprised of several tabs:

- A summary tab, which gives information such as the name, status, and start and end dates of the license;

- A License Terms tab, which gives information regarding the Terms of Use, Restrictions, Perpetual Rights, etc. of a license;
- An Inventory tab, which lists the active and historical packages associated with the license;
- A PO Lines tab listing all PO Lines linked to the license
- An Amendments tab link amendments to the master license record
- A History tab recording all changes made to the license record
- A Notes tab for registering notes about the license
- An Attachments tab for where electronic versions of the license can be uploaded

An example of the inventory tab on the license record:



Active Electronic Collection resources	
1 - 17 of 17	Resource name <input type="text"/> <input type="button" value="Q"/>
Resource Name	Active From
1 Gale Cengage Communications & Mass Media Collection	03/24/2013
2 Gale Cengage Computer Database	12/14/2011
3 Gale Cengage Criminal Justice Collection	12/11/2011
4 Gale Cengage General Business File ASAP	11/04/2014
5 Gale Cengage General Science Collection	12/08/2015
6 Gale Cengage Insurance and Liability Collection	01/23/2017
7 Gale Cengage LegalTrac	09/10/2015
8 Gale Cengage Pop Culture eCollection	12/14/2015
9 Gale Cengage Popular Magazines	10/27/2015
10 Gale Cengage Psychology Collection	12/11/2011
11 Gale Cengage Religion Philosophy Collection	03/24/2016
12 Gale Cengage Vocations and Careers Collection	10/08/2015

An example of the Notes tab:

Summary

License Terms

Inventory

PO Lines

Amendments

History

Notes

Attachments

1 - 6 of 6

Created by

Q

Created On

Updated On

Updated By

Note

1 11/26/2015 11/26/2015 Hannah Wagner

John from finance told me that in the coming days we will receive new terms and should upload them to the license.

2 03/26/2015 03/26/2015 Anna Allen

What should we do with the new fields on the summary tab?

3 12/22/2011 12/22/2011 Jim Benson

Have they sent the amended terms yet?

4 12/12/2011 12/12/2011 Super User

What happens regarding the addition of new portfolios? Are they automatically added?

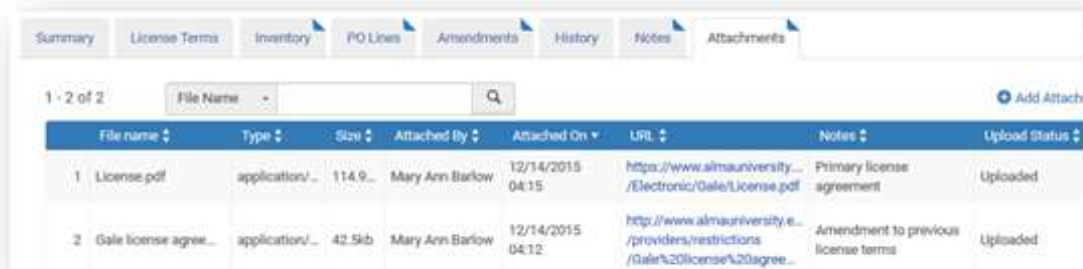
5 12/12/2011 12/12/2011 John Evans

I think Anne already wrote to them.

6 12/12/2011 12/12/2011 Cathy Owen

We need to check the original terms of the print copy.

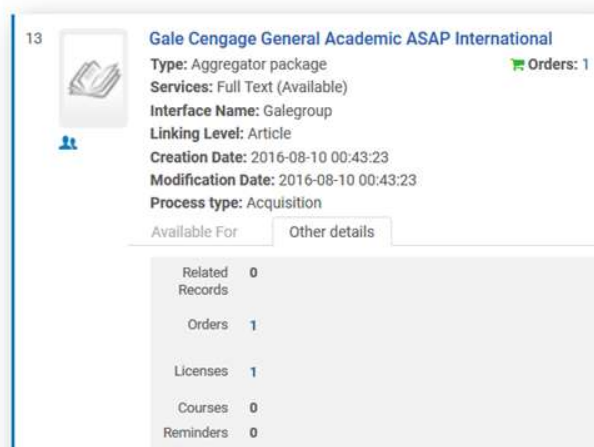
Alma supports managing licenses and amendments, including active dates, statuses associated with the negotiation process, notes, and an audit trail of edits. Staff may also upload one or more digital files to a license, which may then be viewed at any time through Alma. The following image shows the ease of use of uploading digital licenses:




The screenshot shows the 'Attachments' tab in the ExLibris interface. It displays a table with two rows of license documents. The table has columns for File name, Type, Size, Attached By, Attached On, URL, Notes, and Upload Status.

	File name	Type	Size	Attached By	Attached On	URL	Notes	Upload Status
1	License.pdf	application/...	114.9...	Mary Ann Barlow	12/14/2015 04:15	https://www.almauniversity.../Electronic/Gale/License.pdf	Primary license agreement	Uploaded
2	Gale license agree...	application/...	42.5kb	Mary Ann Barlow	12/14/2015 04:12	http://www.almauniversity.e.../providers/restrictions/Galer%20license%20agree...	Amendment to previous license terms	Uploaded

In the repository search, a staff operator can easily navigate to the license details of a particular electronic resource by clicking on the “Other Details” hyperlink in the record.



The screenshot shows the record details for 'Gale Cengage General Academic ASAP International'. It includes fields for Type, Services, Interface Name, Linking Level, Creation Date, Modification Date, and Process type. There are also tabs for 'Available For' and 'Other details', and a summary of related records.

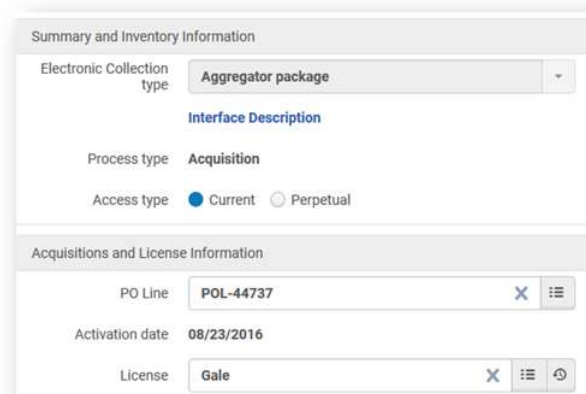
**13**  **Gale Cengage General Academic ASAP International** Orders: 1

Type: Aggregator package  
Services: Full Text (Available)  
Interface Name: Galegroup  
Linking Level: Article  
Creation Date: 2016-08-10 00:43:23  
Modification Date: 2016-08-10 00:43:23  
Process type: Acquisition

Available For | Other details

Related Records: 0  
Orders: 1  
Licenses: 1  
Courses: 0  
Reminders: 0

The license management functionality is seamlessly integrated into the acquisitions process, making it simple for library staff to conduct trials, place orders, activate, evaluate, and renew electronic resources in an ongoing cycle:



The screenshot shows the 'Summary and Inventory Information' form. It includes fields for Electronic Collection type, Interface Description, Process type, Access type, PO Line, Activation date, and License.

Summary and Inventory Information

Electronic Collection type: Aggregator package

Interface Description

Process type: Acquisition

Access type: ☒ Current ☐ Perpetual

Acquisitions and License Information

PO Line: POL-44737

Activation date: 08/23/2016

License: Gale

Multiple titles (portfolios), collections and databases can be associated to the same license.



Summary

License Terms

Inventory

PO Lines

Amendments

Group Settings

Administrators

Active Electronic Collection resources

1 - 4 of 4

Resource name

Q

▲ Resource Name

↕ Active From

1 Alexander Street Press Anthropological Fieldwork Online24/10/2018

2 Alexander Street Press Milgram Collection17/07/2018

3 Emerald Books Business, Management and Economics24/03/2013

4 Erudit17/09/2018

Active Portfolio resources

1 - 3 of 3

Resource name

Q

▲ Resource Name

↕ Active From

1 El concurso de acreedores y el arbitraje María Flora Martín Moral26/02/2013

2 Las Leyes de Burgos de 1512 : V centenario / Rafael Sánchez Domingo, Fernando Suárez Bilbao, coordinadores.-

3 Theological aesthetics: God in imagination, beauty, and art-

History of Resources

Filter : All

Note that Databases are filed under Electronic Collections (while you can search for databases through the Collection type and facets as well).

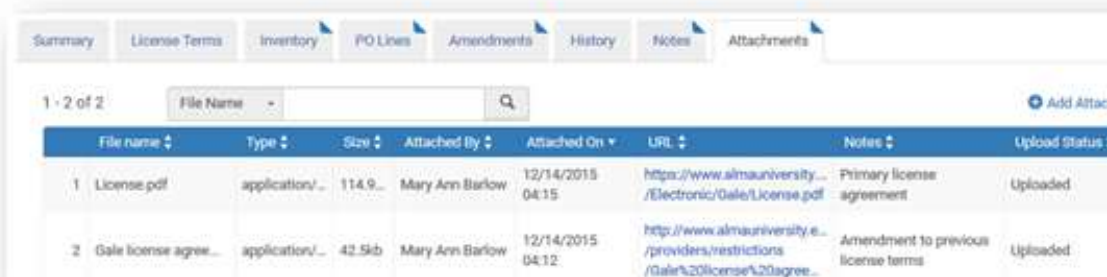
It is also possible for the library to configure and display license terms to end users in the Primo discovery interface. The library determines the information that is displayed:

Full text available at: <a href="#">Gale Cengage Academic OneFile</a> <input type="button" value="🔗"/>	<input type="button" value="Hide license ^"/>
Available from 1993 until 2007	
<b>License Terms</b>	
Walk in User Note: Walk in use allowed	
Concurrent User: 10	
Course Reserve Electronic Copy: Permitted	
Digitally copy: Prohibited	
Print copy: Permitted	
Scholarly sharing: Uninterpreted	
Distance education: Permitted	
Interlibrary loan print or fax: Not Applicable	
Interlibrary loan electronic: Permitted	
Interlibrary loan secure electronic transmission: Permitted	
Interlibrary loan record keeping required indicator: Yes	

Alma also supports the integration of Online Information eXchange for Publication Licenses (ONIX-PL) with license standards that conform to Digital Library Federation (DLF) standards. Alma maps fields from the ONIX-PL XML file to fields in the DLF-based license template. Fields that are mapped from ONIX-PL take on the attributes and characteristics of the DLF fields (such as Order and whether or not a field appears in the license itself), as configured by the Alma Acquisitions Administrator. Thus a field that has been mapped from ONIX-PL to Alma may not show in the license even though it is in use, depending on the settings of the DLF field to which the ONIX-PL field is mapped.

b) multiple licenses for a single resource (*e.g., renewals, vendor changes*)

**Ex Libris:** Alma supports managing licenses and amendments, including active dates, statuses associated with the negotiation process, notes, and an audit trail of edits. Staff may also upload one or more digital files to a license, which may then be viewed at any time through Alma. The following image shows the ease of use of uploading digital licenses:



	File name	Type	Size	Attached By	Attached On	URL	Notes	Upload Status
1	License.pdf	application/...	114.9...	Mary Ann Barlow	12/14/2015 04:15	<a href="https://www.almauniversity.../Electronic/Gale/License.pdf">https://www.almauniversity.../Electronic/Gale/License.pdf</a>	Primary license agreement	Uploaded
2	Gale license agree...	application/...	42.5kb	Mary Ann Barlow	12/14/2015 04:12	<a href="http://www.almauniversity.e.../providers/restrictions/Gale%20license%20agree...">http://www.almauniversity.e.../providers/restrictions/Gale%20license%20agree...</a>	Amendment to previous license terms	Uploaded

c) links to vendor information

**Ex Libris:** Alma provides the ability to navigate (by hypertext links) among linked purchase orders, funds, vendors, bibliographic records, licenses for electronic resources, and information about electronic packages (from the Central KnowledgeBase).

Additionally, the purchase order is linked directly to the metadata records in the system; there is no need for duplicate records in Alma. Order lines are linked directly to bibliographic records, or to package records in the case of groups of e-resources. Item records, which describe the resources in the library's inventory, are linked to the metadata record, which is in turn linked to the purchase order line.

Alma supports the full linking functionality present in MARC21 using the 76x-78x relator fields. These links can be seen in search results from the More Info hypertext link.

Please find a screenshot of a Purchase Order Line record below with indications which hyperlinks are available to directly access related records and information:

**Purchase Order Line Details**

Order Line: PCL-4420  
Order: PO line owner: Main Library  
Status: In Review (331748-62)  
Order line type: Proposal - One Time  
Send date:

**Ordered Items**

Library	Location	Barcode	Receiving Date	Item Policy
1. Main Library	General	6043723		

**Vendor Information**

Material supplier: 046150-011  
View vendor  
Clearing price policy: 0  
Link to Vendor  
ID assigned receipt: 0000

**Pricing**

List price: 25.00  
Net price: 25.00  
Quantity for pricing: 1  
Discount (%): 0.0

**Funding**

Fund Name	Percent	Amount
1. Accounting and Finance Monographs (01/01/2017 - 12/31/2017) (\$499,471.00)	100.0%	25.00
2. Total	100.0%	25.00

**PO Line Details**

Acquisition method: Purchase  
Material type: Book  
Invoice status: No Invoice  
Reporting code: Book  
Secondary reporting code:

The PO Lines tab in the vendor record lists all the purchase orders made against this vendor. In a similar manner, all invoices from a vendor are listed in the Invoice tab. Every invoice and PO Line is hypertext linked, so that it is easy to navigate to any invoice or PO Line from the vendor record in order to view full details of the record.

PO Lines in the vendor record:

**PO Lines (1 - 20 of 375)**

**Summary** | Contact Information | Contact People | Edit Information | Usage Data | Invoices | PO Lines | Communications | Attachments

**Notes**

All

1	& thou shalt honor—, [Portland, Or.?], Oregon Public Broadcasting, 2003, , ISBN, MMS ID: 9944510900121 Assigned to: - Type: Electronic Title - One Time PO line owner: Main Library Standard number: - Order: PO-26213 / (Cancelled) Order Line: PCL-41309 / (Cancelled)	Total price: 15.00 USD Funds: Accounting and Finance Resources (100.0%) (2014) Vendor/Account: National Booksellers / General Account 0-135-1	Vendor reference ID: - Expected activation: 12/01/2014 License status: - Activation status: Not Activated E-Resource Sent date: 03/02/2014 Reporting code is missing. Overdue PO line, Electronic resource was not activated
2	100 Jahre Freiwillige Feuerwehr der Stadt Wels., (Wien., Werbering-Verlag, Dechat, [1966]), 67084202 MMS ID: 992220760000121 Assigned to: - Type: Print Book - One Time PO line owner: Main Library Standard number: 67084202 Order: PO-3903 / (Sent) Order Line: PCL-7416 / (Waiting for invoice)	Copies: Main Library - General (1) Total price: 50.00 USD Funds: Architecture Monographs (100.0%) (01/01/2017 - 12/31/2017) Vendor/Account: National Booksellers / National Booksellers - Science Library 0-135-20	Vendor reference ID: - Expected delivery: - Receiving note: - Sent date: 09/14/2013 Items already exist in the repository. Reporting code is missing

## d) individual titles within a collection

**Ex Libris:** Alma provides the flexibility to manage work with electronic portfolios on an individual level or as part of a collection. This section describes modifying a portfolio that is part of a collection using the Electronic Service Editor:

2 **Gale Cengage Contemporary Women's Issues** Edit Collection Edit Service ...

Type: Aggregator package Orders: 1

Services: Full Text (Not Available)

Interface Name: Galegroup

Linking Level: Database

Creation Date: 2017-06-07 16:39:44

Modification Date: 2017-06-07 16:39:44

Process type: Acquisition

Available For [Other details](#)

Status: All CZ Linking: All

	Availability	ID	Title	Coverage	Material Type
1		0026-8275	Modern plastics.	Available from 2001 until 2001.	JOURNAL
2		0025-1895	Management review.	Available from 1996 until 1998.	JOURNAL
3		0893-2522	Dealenews.	Available from 2000 until 2000.	NEWSPAPER
4		1077-6591	The Harvard gay & lesbian review.	Available from 1994 until 1999.	JOURNAL
5		0896-9329	Credit card management.	Available from 2002 until 2002.	JOURNAL

General Information Linking Information Coverage Information Acquisition Information Notes

Which coverage statement will be applied? ☐ Only local ☐ Global and local ☐ Global or local ☒ Only global

Global Date Information

From Year	From Month	From Day	From Volume	From Issue	Until Year
2000	-	-	-	-	2005

The Electronic Collection Editor contains the total number of portfolios and how many of the portfolios are active. Additionally the editor provides active from/until dates by service type. From here staff users can perform global changes:

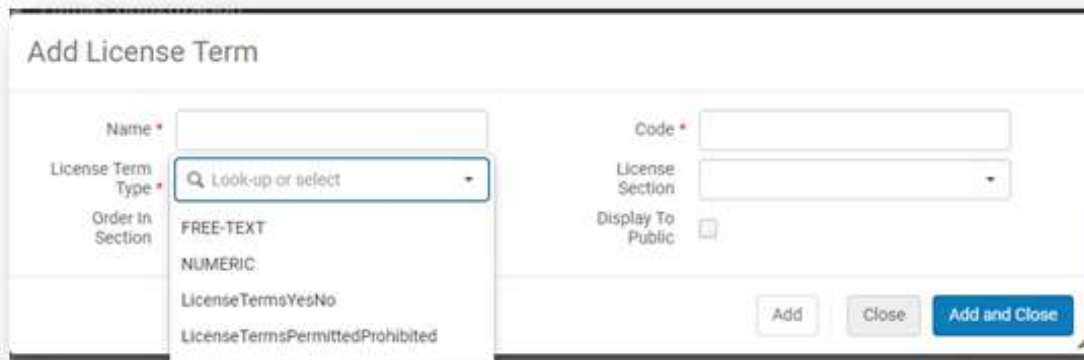
- Remove local coverage
- Set a proxy
- Update URLs (such as removing the EZproxy prefix, for example)
- Associate portfolios with a license
- Activate/deactivate portfolios
- Delete portfolios (with the appropriate permissions).

e) ability to pre-populate fields, standardize terminology, etc.

**Ex Libris:** Complies.

4. Management of contracts, licenses, and other agreements, including ability to import, query, link, and store digital copies of agreements (*e.g.*, *PDF*, *XML*).

**Ex Libris:** Alma features a dedicated license management module which conforms to the DLF-ERMI standard. In addition to these standard license fields libraries may also add their own library defined fields to the license record:



Libraries can customize the staff-facing user interface forms so that only relevant license terms display to staff.

Alma enables staff to quickly and easily create a license record that captures detailed information about the terms of a license or contract. It also enables the creation of an addendum or amendment for a license which serves to identify additional titles covered by the existing license (*e.g.*, when a library adds new titles and overall license terms do not change), or to modify the terms associated with a particular resource or group of resources.

The License Details in Alma is comprised of several tabs:

- A summary tab, which gives information such as the name, status, and start and end dates of the license;
- A License Terms tab, which gives information regarding the Terms of Use, Restrictions, Perpetual Rights, etc. of a license;
- An Inventory tab, which lists the active and historical packages associated with the license;
- A PO Lines tab listing all PO Lines linked to the license
- An Amendments tab link amendments to the master license record
- A History tab recording all changes made to the license record
- A Notes tab for registering notes about the license
- An Attachments tab for where electronic versions of the license can be uploaded

An example of the inventory tab on the license record:



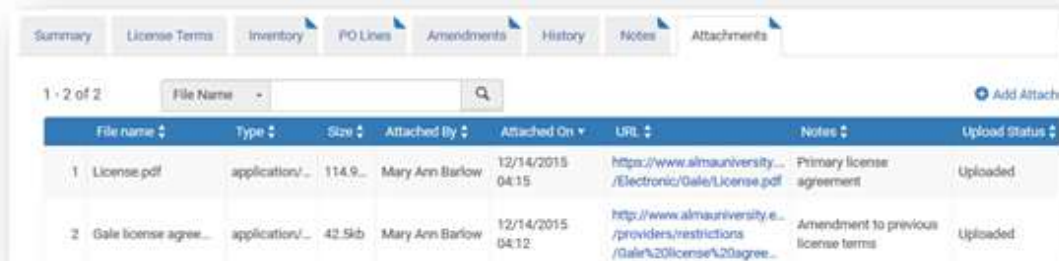
Summary	License Terms	Inventory	PO Lines	Amendments	History	Notes
Active Electronic Collection resources						
1 - 17 of 17 <input type="text" value="Resource name"/> <input type="button" value="Q"/>						
	Resource Name ▲	Active From ▼				
1	Gale Cengage Communications & Mass Media Collection	03/24/2013				
2	Gale Cengage Computer Database	12/14/2011				
3	Gale Cengage Criminal Justice Collection	12/11/2011				
4	Gale Cengage General Business File ASAP	11/04/2014				
5	Gale Cengage General Science Collection	12/08/2015				
6	Gale Cengage Insurance and Liability Collection	01/23/2017				
7	Gale Cengage LegalTrac	09/10/2015				
8	Gale Cengage Pop Culture eCollection	12/14/2015				
9	Gale Cengage Popular Magazines	10/27/2015				
10	Gale Cengage Psychology Collection	12/11/2011				
11	Gale Cengage Religion Philosophy Collection	03/24/2016				
12	Gale Cengage Vocations and Careers Collection	10/08/2015				

An example of the Notes tab:

Summary	License Terms	Inventory	PO Lines	Amendments	History	Notes	Attachments
1 - 6 of 6 <input type="text" value="Created by"/> <input type="button" value="Q"/> <input type="button" value="Add Note"/>							
	Created On ▼	Updated On ▼	Updated By ▼	Note			
1	11/26/2015	11/26/2015	Hannah Wagner	John from finance told me that in the coming days we will receive new terms and should upload them to the license.			
2	03/26/2015	03/26/2015	Anna Allen	What would we do with the new fields on the summary tab?			
3	12/22/2011	12/22/2011	Jim Benson	Have they sent the amended terms yet?			
4	12/12/2011	12/12/2011	Super User	What happens regarding the addition of new portfolios? Are they automatically added			
5	12/12/2011	12/12/2011	John Evans	I think Anne already wrote to them			
6	12/12/2011	12/12/2011	Cathy Owen	We need to check the original terms of the print copy			



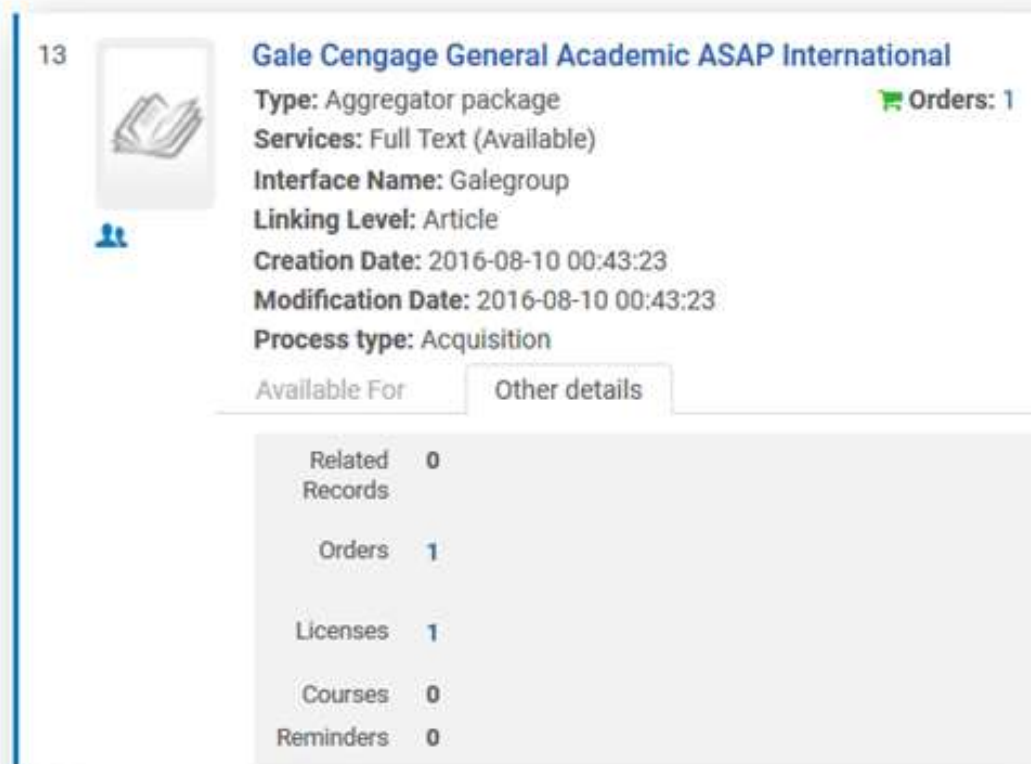
Alma supports managing licenses and amendments, including active dates, statuses associated with the negotiation process, notes, and an audit trail of edits. Staff may also upload one or more digital files to a license, which may then be viewed at any time through Alma. The following image shows the ease of use of uploading digital licenses:





The screenshot shows the 'Attachments' tab in the Alma interface. It displays a table with two rows of uploaded files. The table has columns for File name, Type, Size, Attached by, Attached On, URL, Notes, and Upload Status.

File name	Type	Size	Attached by	Attached On	URL	Notes	Upload Status
1 License.pdf	application/...	114.9...	Mary Ann Barlow	12/14/2015 04:15	<a href="https://www.almauniversity.../Electronic/Gale/License.pdf">https://www.almauniversity.../Electronic/Gale/License.pdf</a>	Primary license agreement	Uploaded
2 Gale license agree...	application/...	42.5kb	Mary Ann Barlow	12/14/2015 04:12	<a href="http://www.almauniversity.e.../providers/restrictions/Gale%20license%20agree...">http://www.almauniversity.e.../providers/restrictions/Gale%20license%20agree...</a>	Amendment to previous license terms	Uploaded

In the repository search, a staff operator can easily navigate to the license details of a particular electronic resource by clicking on the “Other Details” hyperlink in the record.



The screenshot shows a record page for 'Gale Cengage General Academic ASAP International'. It includes a list of details such as Type, Services, Interface Name, Linking Level, Creation Date, Modification Date, and Process type. There are tabs for 'Available For' and 'Other details'. The 'Other details' tab is selected, showing a summary of related records, orders, licenses, courses, and reminders.

**13**  **Gale Cengage General Academic ASAP International**  **Orders: 1**

**Type:** Aggregator package  
**Services:** Full Text (Available)  
**Interface Name:** Galegroup  
**Linking Level:** Article  
**Creation Date:** 2016-08-10 00:43:23  
**Modification Date:** 2016-08-10 00:43:23  
**Process type:** Acquisition

**Available For** **Other details**

Related Records	0
Orders	1
Licenses	1
Courses	0
Reminders	0

The license management functionality is seamlessly integrated into the acquisitions process, making it simple for library staff to conduct trials, place orders, activate, evaluate, and renew electronic resources in an ongoing cycle:

Summary and Inventory Information

Electronic Collection type: Aggregator package

Interface Description

Process type: Acquisition

Access type: ☒ Current ☐ Perpetual

Acquisitions and License Information

PO Line: POL-44737

Activation date: 08/23/2016

License: Gale

It is also possible for the library to configure and display license terms to end users in the Primo discovery interface. The library determines the information that is displayed:

Full text available at: [Gale Cengage Academic OneFile](#)

Available from 1993 until 2007

License Terms

Walk in User Note: Walk in use allowed

Concurrent User: 10

Course Reserve Electronic Copy: Permitted

Digitally copy: Prohibited

Print copy: Permitted

Scholarly sharing: Uninterpreted

Distance education: Permitted

Interlibrary loan print or fax: Not Applicable

Interlibrary loan electronic: Permitted

Interlibrary loan secure electronic transmission: Permitted

Interlibrary loan record keeping required indicator: Yes

Alma also supports the integration of ONline Information eXchange for Publication Licenses (ONIX-PL) with license standards that conform to Digital Library Federation (DLF) standards. Alma maps fields from the ONIX-PL XML file to fields in the DLF-based license template. Fields that are mapped from ONIX-PL take on the attributes and characteristics of the DLF fields (such as Order and whether or not a field appears in the license itself), as configured by the Alma Acquisitions Administrator. Thus a field that has been mapped from ONIX-PL to Alma may not show in the license even though it is in use, depending on the settings of the DLF field to which the ONIX-PL field is mapped.

##### 5. Trials and resource evaluation.

**Ex Libris:** Alma supports a comprehensive and sophisticated Trial workflow for e-resource material. The option to run a trial or evaluation prior to purchase significantly assists staff in the decision making process. Trials and evaluations can be limited to a select group of participants, or can be made open to the public.

## Trial

01/31/2016

Brown Jane  
345 Johnson Street  
Middlesex

Alma University  
123 Central Street  
Townsville  
USA

Dear Jane Brown

Thank you for agreeing to participate in the trial we are conducting for : Elsevier SD Backfile Earth & Planetary Sciences .

link to trial form : [Elsevier SD Backfile Earth & Planetary Sciences](#)

The trial is scheduled to run from 01/28/2016 - 08/31/2016 .

Sincerely  
Acquisitions Department

Alma University

The trial record includes a survey form with questions that can be defined for the e-resource package, or chosen from a pool of questions. Participants are notified of the trial and are requested to fill in the form. Further instructions, annotations or comments can be added as needed (at the top for a general note and for each question of the survey form):

Question	Type	Question code	Mandatory	Comment
1 Please rate your overall satisfaction with this resource	Scale Of Satisfaction		<input type="checkbox"/>	
2 Is the interface user friendly	Scale Of Satisfaction		<input checked="" type="checkbox"/>	
3 How satisfied are you with the contents of the package?	Scale Of Satisfaction		<input type="checkbox"/>	
4 Should we buy?	Yes or No		<input type="checkbox"/>	
5 List the things that you didnt like about the interface	Free Text		<input type="checkbox"/>	

Apart from a pool of questions, you can easily add questions, with the following answering modes:

- Scale of satisfaction (for example, 1-5)
- Yes/No
- Free text
- Multiple choice
- Single choice

You can also define if an answer is mandatory, if it allows to be commented on and give notes (the "Label" field can be used to put a note in front of the comment field):

The 'Add question' dialog box contains the following fields and options:

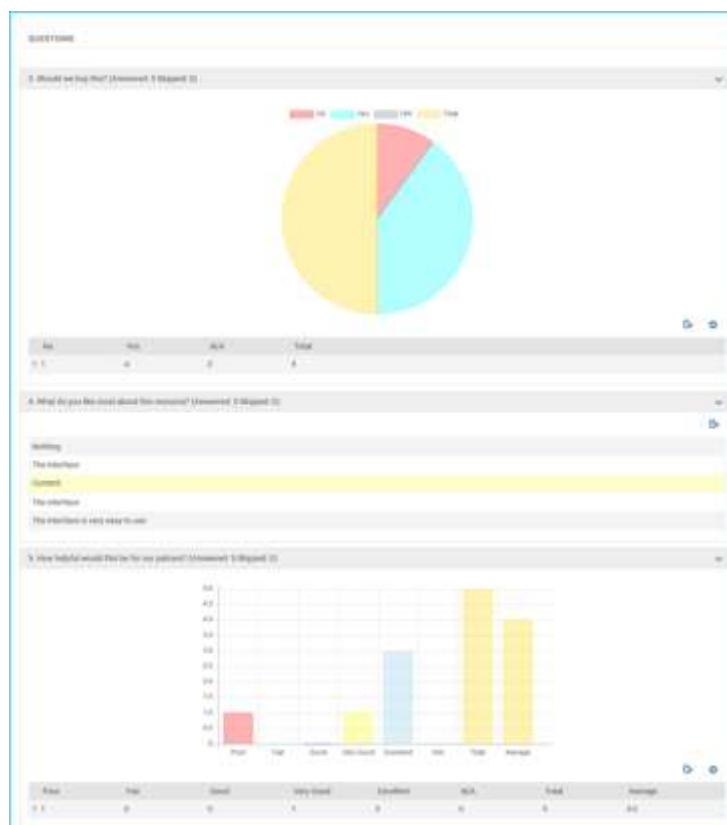
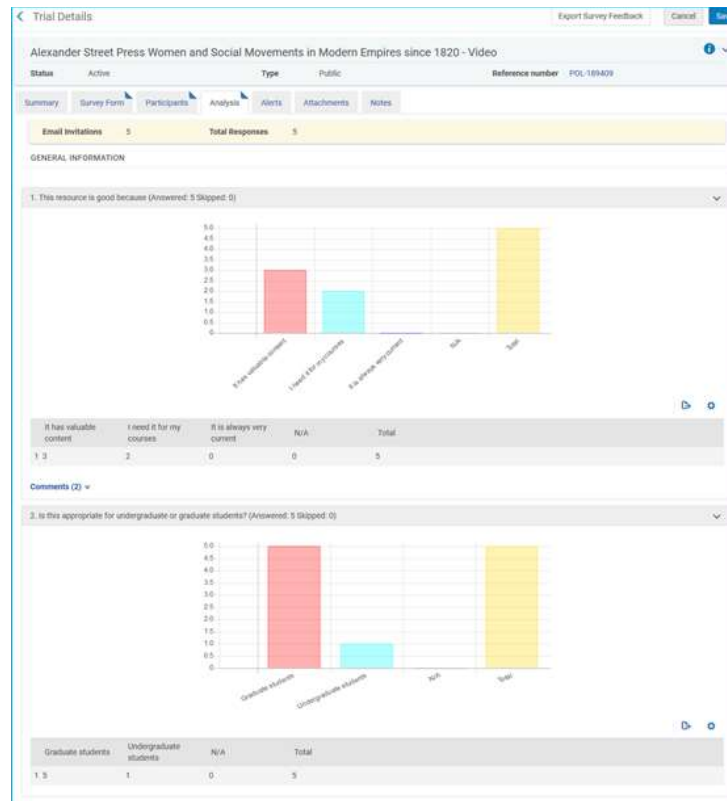
- Type \***: A dropdown menu set to 'Yes or No'.
- Question \***: A text input field containing 'Are the resources useful for your studies/field of work?'.
- ☒ **Answer for this question is mandatory**
- ☒ **Add comment field**
- Comment Label**: A text input field containing 'Any Comments?'.
- Buttons at the bottom: 'Add', 'Close', and 'Add and Close'.

Before sending the survey form to trial participants you can preview the form from the trial record:

The survey form preview shows the following structure:

- Header**: A message: 'Thank you for agreeing to participate in the trial we are conducting for 'Economy informatics. (ProQuest Central (New))'.
- Tabs**: 'Survey Form' (selected), 'Portfolio List', and 'Electronic Collection'.
- General Information**:
  - Question 1: 'Are the resources useful for your studies/field of work?' with radio buttons for 'Yes' and 'No'.
  - Field: 'Any Comments?' with a text input area.
- Questions**:
  - Question 2: 'Please rate your overall satisfaction with this resource' with a 5-point star rating scale (Poor, Fair, Good, Very good, Excellent).
  - Question 3: 'Is the interface user friendly?' with a 5-point star rating scale (Poor, Fair, Good, Very good, Excellent).
  - Question 4: 'How satisfied are you with the contents of the package?' with a 5-point star rating scale (Poor, Fair, Good, Very good, Excellent).
  - Question 5: 'Should we buy?' with radio buttons for 'Yes' and 'No'.
  - Question 6: 'List the things that you didn't like about the interface' with a text input area.

For each response, the trial manager or operator has the option viewing graphic display of the response results. This can assist in formulating a decision about whether or not to subscribe to the package.



- Integration of e-resources into other system functionality (e.g., acquisitions, serials, cataloging/metadata).

**Ex Libris:** Alma supports the entire suite of Library operations – selection, acquisition, metadata management, digitization, fulfilment and ILL in a single unified system for the full spectrum of Library materials, regardless of format or location. Alma applies unified workflows across all resource types. Alma unifies data and workflows with a task-orientated approach, providing complete lifecycle management across print and electronic resources, as well as (optionally) digital collections.

7. Support for KBART, GOkb, TRANSFER, and other e-resource standards, initiatives and codes of practice.

**Ex Libris:** Ex Libris supports a wide range of industry standards and protocols. We are constantly evaluating and extending our support in this area, based on our customers’ needs. Detailed below are the protocols and standards we support:

- SIP2
- EDI
- OAI-PMH
- COUNTER 4
- SUSHI
- NISO Circ (NCIP 2)
- RDA – as MARC encoded fields
- MARC 21
- Dublin Core
- MARCXML
- Z39.50
- ISO2709 is supported in its MARC21/UNIMARC versions
- RFID – supported as part of our development roadmap
- KBART – we support the export and import of KBART data
- ONIX – we support the import of ONIX base license data
- AACR2 – is supported in its MARC21 version
- DCRM(B) – it is possible to catalogue all necessary characters for DCRM(B) in Alma

One of our major initiatives for Alma is to invest heavily in the Alma experience to improve services to our customer base, and a major focus of this is through the use of our APIs. Alma supports a wide array of RESTful APIs as well as other integration points. APIs cover many different functional areas in Alma such as Bibliographic records, Physical Resources, Electronic Resources, Digital Resources, User Records and related fulfilment transactions, Configuration, Resource sharing requests and more. Details can be seen on the Developer Network site at <https://developers.exlibrisgroup.com/alma/apis>

8. Support for discovery and management of Open Access content.

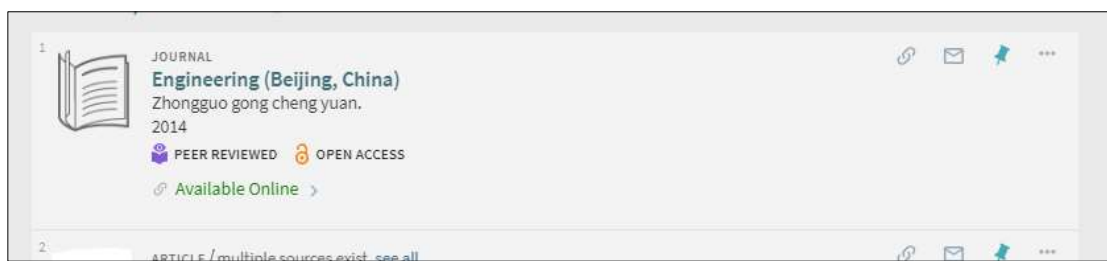
**Ex Libris:** Alma and Primo facilitate access to open access content in both “green” and “gold” journals, and to articles in “hybrid” open access journals that are free in otherwise paywalled journals. The “open access” indicator in Primo ensures that students are aware of such access.

Open Access content in the Alma Central Knowledge Base (CKB) is flagged to library staff in Alma:





OA content is also flagged to end users in Primo. A facet can also be used in Primo to filter by OA content:



The following enrichments are included in Alma CZ records and displayed in Primo:

- **Journal open access indicator** - The relevant Alma CZ records for journals have been enriched with an open access indicator, which is based on Ulrich's (506 0\_ \$f Unrestricted online access \$2 star) setting.
- **Journal peer review indicator** - The relevant Alma CZ records for journals have been enriched with a peer review indicator, which is based on Ulrich's (500 \$a Referred/Peer-reviewed) setting.

Peer-reviewed and Open Access indicators displayed in Primo:



Ulrichsweb is the authoritative source of bibliographic and publisher information on more than 300,000 periodicals of all types -- academic and scholarly journals, Open Access publications, peer-reviewed titles, popular magazines, newspapers, newsletters, and more from around the world. It covers all subjects, and includes publications that are published regularly or irregularly and are circulated free of charge or by paid subscription.

9. Integration with third-party or open source ERMs.

**Ex Libris:** No third party software is required.

10. Integration of e-resources into the public interface including:

a) authentication (*OpenAthens, Shibboleth, SSL/VPN, etc.*)

**Ex Libris:** Alma supports a number of authentication schemes, which are defined using Alma's Integration Profiles. An institution may choose to use more than one. Supported authentication schemes include:

- LDAP
- SAML2 based authentication such as Shibboleth
- OAuth based authentication with Facebook or Google
- CAS

OpenAthens can integrate with ADFS, LDAP or SAML.

In addition refer to the following link for more information

- <https://developers.exlibrisgroup.com/alma/integrations/user-management>

**Proxy Server support**

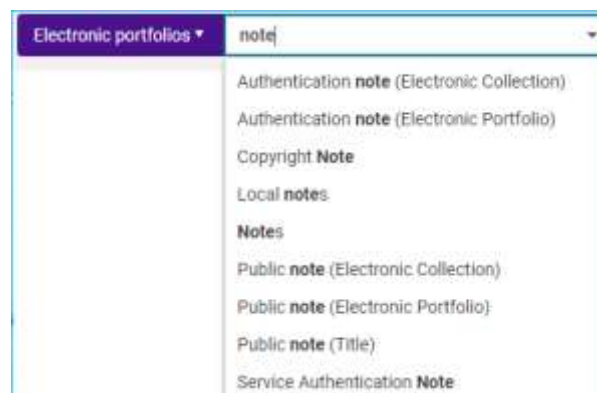
Integrated into Alma's embedded link resolver is a redirection into a proxy server instead of directly to a vendor platform, to provide access to the full text of a resource. As with all integrations between Alma and other systems, the definition of the institution's proxy server is managed in an "External System Integration Profile". This profile encapsulates all the needed definitions for the link resolution component to create a correct URL to the Proxy Server. Alma supports EZProxy, LIBProxy, HAN, and WAM.

Authentication is not necessary for on-campus users to be able to discover and access materials. For local materials, the library can choose which local collections can be made available to non-authenticated users. Users will only need to authenticate when placing a request, accessing a licensed full text resource, or when making use of their private space (e-shelf, saved queries, etc.).

b) public and nonpublic notes

**Ex Libris:** Internal and (if applicable) public notes can be found in all areas of Alma, including orders, invoices, users, resources (print, electronic and digital), funds, licenses, vendors and more.

For example, see the following notes related to electronic resources:



c) downtime and technical alerts

**Ex Libris:** Information for display in Primo can be customized if, for example, it is “currently unavailable”.

The screenshot shows a configuration page with tabs: Activation Information, Service Description, Linking Information, Portfolios, Notes, Group Settings, and History. The 'Service Description' tab is active. It contains the following settings:

- Service activation status: ☒ Not Available, ☐ Available
- Activate new portfolios associated with service automatically?: ☐ No, ☒ Yes
- Active From Date: [text input]
- Active Until Date: [text input]
- Service temporarily unavailable message: ☐ No, ☒ Yes
- Service unavailability message as of date: [text input]
- Service unavailability reason: Service temporarily unavailable. Expected reactivation by [text input]

The ‘Service unavailability reason’ can be seen in Primo:

The screenshot shows a Primo interface snippet with the following text:

Full text available at: [Gale Cengage General Academic ASAP International](#) ☒ Show license ▼  
Service temporarily unavailable due to [Service temporarily unavailable. Expected reactivation by 28th June](#)  
Available from 2003

d) A-Z lists for journals, e-books, and databases.

**Ex Libris:** Primo VE offers an accurate auto-complete based on the journal titles held or subscribed by the university (a separate auto-complete from the Primo search). Instead of having a user click on a letter and receive hundreds of journals in that letter, they can begin typing and retrieve a much more relevant list.

This was based on feedback from many customers that the A-Z concept is 'old fashioned' and not relevant in the present day, in which users now see many thousands of journals. This is not user friendly; an accurate auto complete is much more usable, as a user can now simply start typing the first few letters of their journal and get their relevant journals.

The Primo VE Journal Search goes beyond the traditional link resolver journal search interfaces. It offers both electronic and print journals, making it the first true representation of all the journals an institution holds or subscribes to (as opposed to just electronic). Primo VE also offers a 'search within' feature that allows the user to search for articles that are part of the journal they are interested in.

We also have plans on the roadmap to add browsing the journals by hierarchical categories.

The same is also relevant for a database search page.

Link to journal search:

[https://vanderbilt.primo.exlibrisgroup.com/discovery/jsearch?vid=01VAN\\_INST:01VAN](https://vanderbilt.primo.exlibrisgroup.com/discovery/jsearch?vid=01VAN_INST:01VAN)

The screenshot shows the top of the Primo VE Journal Search interface. It includes a navigation bar with links: Library Search, Journal Search, Tags, R/L Request, Fetch Item, Browse Search, and a menu icon. Below the navigation bar is a large search bar with the placeholder text 'Title, Keyword, or ISSN' and a magnifying glass icon. The search bar is labeled 'Journal Search'.

Link to database search:

[https://vanderbilt.primo.exlibrisgroup.com/discovery/dbsearch?vid=01VAN\\_INST:01VAN](https://vanderbilt.primo.exlibrisgroup.com/discovery/dbsearch?vid=01VAN_INST:01VAN)

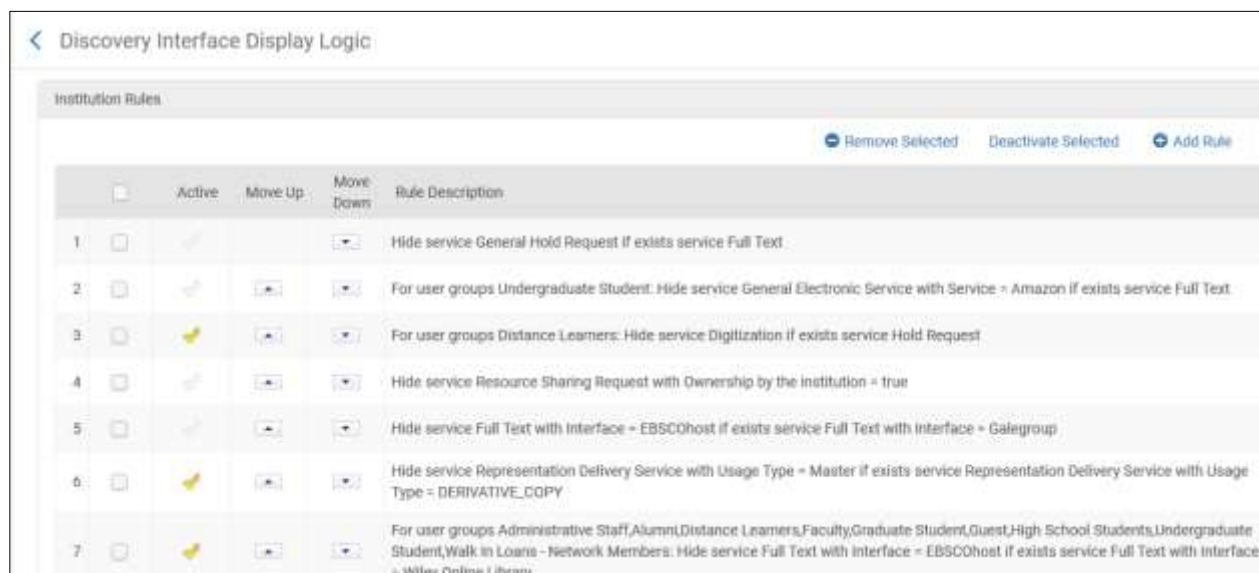


11. OpenURL and link resolution. Include information on link resolver adherence to NISO's OpenURL standards. If there is no integrated OpenURL resolver, describe ability to integrate with a third party OpenURL application including these details:

**Ex Libris:** Alma includes an embedded Link Resolver which provides patrons with context-sensitive electronic, digital and print services. The embedded link resolver is a standard functionality in Alma (no additional subscription fee is required) and is based on Ex Libris' experience delivering the SFX link resolver to over 2500 institutions worldwide.

The Alma link resolver offers services via a menu that can be customized by the institution, defining the labels of the services and the order which they appear.

In addition, the institution can define display logic rules among services based on local preferences; for example, if an electronic journal is available from more than one provider, the institution can boost one provider over the other. The institution also can define logic rules among different service types, such as not offering a document delivery service if a full text service exists for the electronic resource. An example of these library configurable rules can be seen in the following screen capture:



When the OpenURL resolves to multiple records, Alma will attempt to merge equivalent records into one unified list of services. When the records are deemed non-equivalent the user will be presented with a list of records based on the institution's defined display logic rules among services.

If only one resource is found, the library can configure the link resolver to link directly to the electronic resource, bypassing the electronic service page:

[<](#) Direct Linking Configuration

Enable direct linking

☐ Yes ☒ No

Enable direct linking when multiple services are available

☐

Disable direct link when additional information is available:

Authentication note

☐

Public Note

☐

Disable direct linking for electronic collections

☐

Disable direct linking for digital resources

☐

Alma augments the OpenURL in various ways (e.g. DOI) , and from various sources such as Crossref, Pubmed and more in order to enrich the context object and provide enhanced link resolution.

CKB electronic resources can be localized to reflect institution-specific information such as administrative/access information, coverage information for electronic journal titles, public notes, etc.

Where the OpenURL resolves to multiple records, Alma will attempt to merge equivalent records into one unified list of services. When the records are deemed non-equivalent the user will be presented with a list of records based on the institution's defined display logic rules among services.

The link resolver will link to all available options, including print. An example can be seen following (in Primo) of a record with print and electronic versions of a record. Users can check the availability for the electronic version via the View It and the print version from the Get It:



Patrons have access to the full text versions (View it):

View It

Full text available at: [EBSCOhost Academic Search Complete](#) ☐ Show license ▼  
Available from 1999  
Most recent 3 year(s) not available

Full text available at: [Ebrary Local](#) ☐

Get it

REQUEST OPTIONS: [Illiad\(1 month\)](#) ☐ / [OCLC Navigator\(1 month\)](#) ☐ [Relais D2D](#) ☐  
[Resource sharing request](#) [Purchase request](#)

Year All \* Volume All \* Description All \*

Main Library General QL435.A1 C75 [Locate](#)  
[Hide Details](#)  
from:1 2013 until:87 2016  
, Copy: 1

1 - 10 of 23 Records | 1 2 3 NEXT LAST

BARCODE	TYPE	POLICY	DESCRIPTION	STATUS	OPTIONS
---------	------	--------	-------------	--------	---------

And can view the items in the library's repository (Get It):

Get It

REQUEST OPTIONS: [Illiad\(1 month\)](#) ☐ / [OCLC Navigator\(1 month\)](#) ☐ [Relais D2D](#) ☐  
[Resource sharing request](#) [Purchase request](#)

Year All \* Volume All \* Description All \*

Main Library General QL435.A1 C75 [Locate](#)  
[Hide Details](#)  
from:1 2013 until:87 2016  
, Copy: 1

1 - 10 of 23 Records | 1 2 3 NEXT LAST

BARCODE	TYPE	POLICY	DESCRIPTION	STATUS	OPTIONS
AU37603	Issue	One Week Loan	Vol. 87 no. 9 (2014 Nov.)	Missing (0 requests)	
AU40642	Bound Issue	One Week Loan	Vol. 87 No. 5-8 (2014)	Item in place (0 requests)	<a href="#">Request Digitization</a>
AU40645	Bound Issue	One Week Loan	Vol. 87 No. 1, 2, 4 (2014)	In transit until 04/19/2016 (0 requests)	<a href="#">Request Digitization</a>
AU37706	Bound Issue	One Week Loan	Vol. 86 nos. 5-6	Item in place (0 requests)	<a href="#">Request Digitization</a>

a) Setup

**Ex Libris:** N/A. Services to set up the link resolver are included.

b) adding/removing resources

**Ex Libris:** N/A. This is part of the central knowledgebase. Libraries may suggest candidates for inclusion in the knowledgebase, or use the logic rules described above to suppress resources.



- c) any error reporting or support for resolving issues related to OpenURL linking

**Ex Libris:** Any error reporting or support for resolving issues related to OpenURL linking is part of Ex Libris' standard support services. Additionally, patron feedback/support requests can be integrated directly into the Primo interface.

It is also possible to report an issue related to packages and portfolios to Ex Libris directly from the Alma interface. This is achieved by clicking a "Send to Ex Libris" link from within the record itself.

Creating a proprietary service for retrieving feedback information using the general electronic service functionality in Alma is also possible.

Report To Ex Libris	
Contact name: *	Importance: * <b>Normal</b>
Subject: * <b>GALEGROUP_GENERAL_SCIENCE_COLLECTION</b>	
CRM Category: * <b>CKB Electronic Collection</b>	CRM SubCategory: * <b>Update</b>
Description *	

12. Describe capabilities for creating and maintaining URL data in the holdings and/or item record for making web-based materials accessible to patrons.

**Ex Libris:** Alma includes an embedded OpenURL link resolver to make electronic materials accessible to patrons. Patrons access the data through the discovery layer, as seen in the response above, where the full text is available from a number of sources.

13. Describe capabilities for handling journal publisher transfer titles.

**Ex Libris:** When the library purchases and activates a new e-resource package, Alma is aware of the titles that exist within this package along with the dates of coverage. CONSER records for these e-journals are transferred from the Community Zone to the library's inventory and ultimately to Primo—automatically. Title changes are immediately reflected.

The Ex Libris Knowledgebase is kept up to date with vendor offerings including coverage information for serials which is based on date, volume, issue and embargo periods.

14. Management of e-resources and e-resource licensing, including any alerts or tickler features, including broken links, renewal notices, contract expirations, trial expirations, etc.

**Ex Libris:** Alma supports the entire e-resource lifecycle. Alma's workflows support streamlining a variety of purchasing models for electronic journals and electronic books, including:

- Individual title subscriptions;
- Individual title purchases;
- Full collection subscriptions;
- "Selective" (partial) collection subscriptions; and

- Patron-driven acquisition of e-books.

Alma supports resource tracking and reminders to appropriate staff when a subscription is due for renewal. Alma supports assignment of tasks to staff members, and communication and notifications to users.

Alma's license management is described in #4 above.

Alma supports a comprehensive and sophisticated Trial workflow for e-resource material, described in the response to #5 above.

15. Ability to harvest, store, and report usage statistics.

**Ex Libris:** Usage statistics information supplied by vendors can be loaded to Alma automatically with the SUSHI Automated Harvesting mechanism, or imported manually in the case where a vendor does not support the SUSHI protocol.

16. Reporting, querying, and list creation, including export capabilities and compatibility with Microsoft Excel and other third-party software including:

**Ex Libris:** Alma facilitates the collection and reporting of usage statistics information supplied by vendors (content providers) in COUNTER 4 format.

Support for COUNTER 5 as well as SUSHI lite is on the Alma Roadmap.

Ex Libris is closely following developments in the industry regarding these protocols and will incorporate them into Alma in a timely manner as the industry develops.

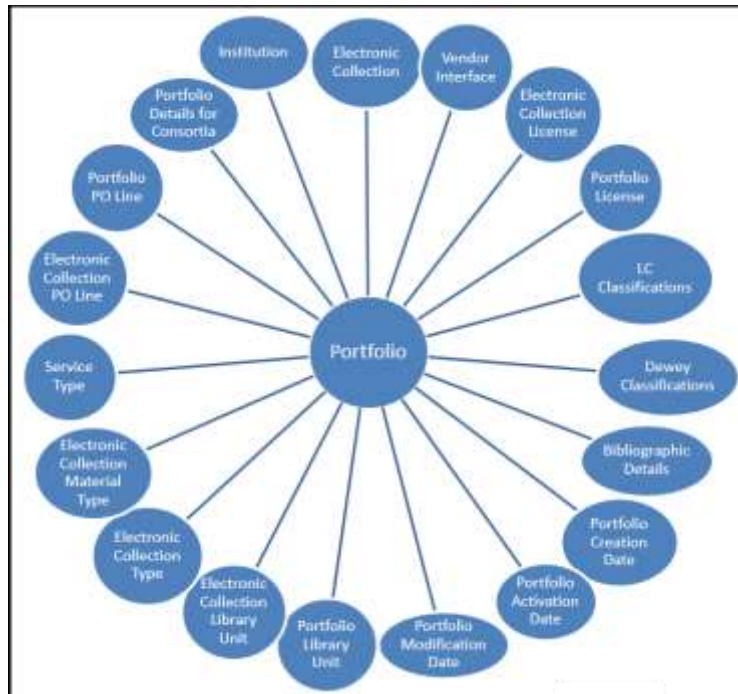
Alma Analytics provides usage statistics reporting capabilities that enable the creation of reports such as usage statistics by journal, database, publisher, platform, and subscriber. The reports enable the library to drill down on data elements included in the report such as year range, titles, etc.

COUNTER statistics can be either loaded automatically or manually.

Alma also collects data on the usage of electronic resources via the Alma link resolver. These include OpenURL requests, services offered to the patrons, and services which the patron chooses to use. Usage of electronic resources tracked via the link resolver can also be used for reporting using Alma Analytics. This aggregated data can easily provide multi-year usage trend reports per title, publisher, and platform.

Alma Analytics has a dedicated subject area for reporting on electronic inventory. Using the E-Inventory subject area, the Design Analytics user may create reports and dashboards for the E-Inventory area. The following are examples of business questions that may be answered via the E-Inventory subject area:

- Electronic Collection List - Drill down to Portfolio list in each electronic collection
- Number of portfolio per classification (Dewey, LC)



The Usage Data subject area is able to answer the following types of business questions:

- Most frequently used journals
- Annual journal usage trend.
- Total and monthly number of successful requests per each journal
- Database Usage - Annual Trend
- Most Frequently Used Databases
- Total number of searches and sessions per each database and the monthly/yearly search statistics



Alma also collects data on the usage of electronic resources via the Alma link resolver. These include OpenURL requests, services offered to the patrons and services which the patron chooses to use. Usage of

electronic resources tracked via the link resolver can also be used for reporting using Alma Analytics. Reports can be created of usage statistics by journal, database, publisher, platform, and subscriber. The reports enable the library to drill down on data elements included in the report such as year range, titles, and so on.

The “Usage Data” subject area is typically used to ascertain the following information:

- Most frequently used journals, databases and electronic books
- Trends in usage of these electronic resources
- Number of successful requests per resource, publisher and platform
- Total number of searches and sessions
- Examples of report outputs (including cost per use):



All reports can be exported in CSV, Excel or PDF.

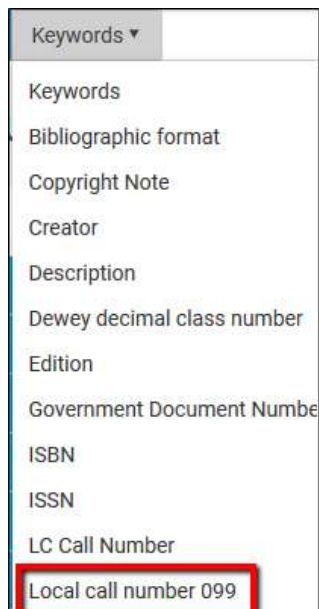
- a) any limitations on size of report or query result set

**Ex Libris:** The limitations for Analytics export are: 65K rows and 1M cells.

- b) any limitations on type of information that can be queried

**Ex Libris:** Reporting in Alma is accomplished via multiple mechanisms, depending on the use case. The purpose of Alma Analytics is for obtaining trends and statistics so that evidence based decision making can be made on library processes. The fields available for reporting in Alma analytics make such reports possible. Operational reports, however, can also be retrieved via Alma's advanced repository search, in which the staff user can create specific sets for batch operations.

For the repository search, Alma supports a long and rich set of indexes. A library can choose from these indexed fields those that they wish to be used for searching and sorting. In addition to the indexing of standard fields, there is also the option to index locally defined fields (9xx fields) - an example of which can be seen in the following screen capture:



The library may also configure which indexes are available for searching in the Simple and Advanced searches.

The list of fields indexed in Alma is available in the Online Help and can be accessed at the following link:

[https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/010Alma\\_Online\\_Help\\_\(English\)/040Resource\\_Management/040Metadata\\_Management/180Search\\_Indexes](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/040Resource_Management/040Metadata_Management/180Search_Indexes)

There you will find tables by MARC type organized both by the MARC tag as well as by the search index.

#### 17. Integration with e-resource vendors for exchange of metadata, invoices, usage statistics harvesting, and resource management.

**Ex Libris:** Alma supports a wide range of industry standards and protocols enabling cooperation and collaboration. We are constantly evaluating and extending our support in this area, based on our customers' needs.

Alma supports the exchange of data using interfaces like EDI, OAI-PMH, SIP2, NCIP, import and export metadata in MARC-XML format as well as extensive Restful APIs.

Alma provides exceptional integration with a range of third-party applications and key enterprise systems used on campuses today, including for services such as financial and ordering systems, self-check, interlibrary loan, proxy services, collection agency services and ERP systems, and discovery.

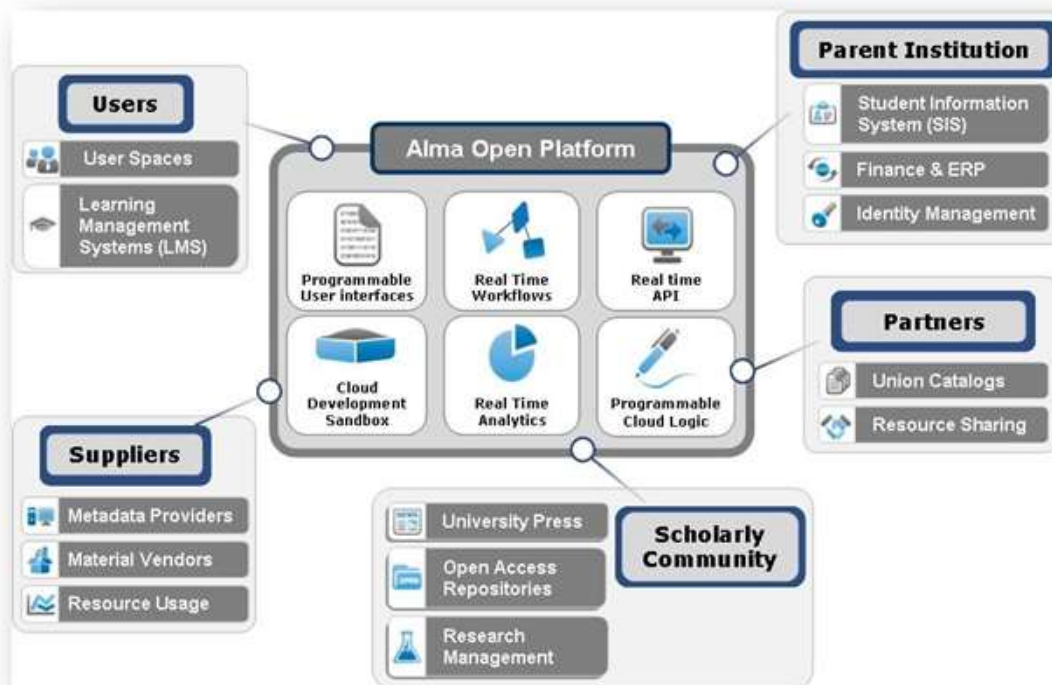
Achieving Alma's seamless handshaking with external systems, integration points are based on both evolving and well-established trend market standards. In addition to standards, Alma's integration approach makes use of plugin -capabilities, allowing institution-specific adaptations to specific systems

and needs. The framework for utilizing integration points with third-party systems is the Integration Profile. The Integration Profile is where integration definitions may be set up for many types of Alma-supported integrations, including systems such as:

- Self-check
- Resource sharing systems
- Link resolution and proxies
- Collection agency services
- Discovery interfaces
- Cataloging clients
- Learning management systems
- Financial management systems
- Student Information systems

A unified and centralized platform, the Integration Profiles provide a single interface for defining the different required attributes for a variety of integrated systems.

The diagram below shows the variety of integration interfaces of Alma with multiple third-party systems using its open platform.



Alma integrates with commonly used external selection portals such as YBP's GOBI platform (<https://developers.exlibrisgroup.com/blog/Real-time-Acquisitions>) with automated import capabilities through extensive support for vendor-specific import profiles and embedded order data (EOD) records.

Alma supports integration with Library Service Providers to streamline acquisitions workflows. It incorporates standard ordering and loading technologies with APIs to speed the availability of resources, increase the efficiency of integrating records, and enhance data enrichment.

## Workflow

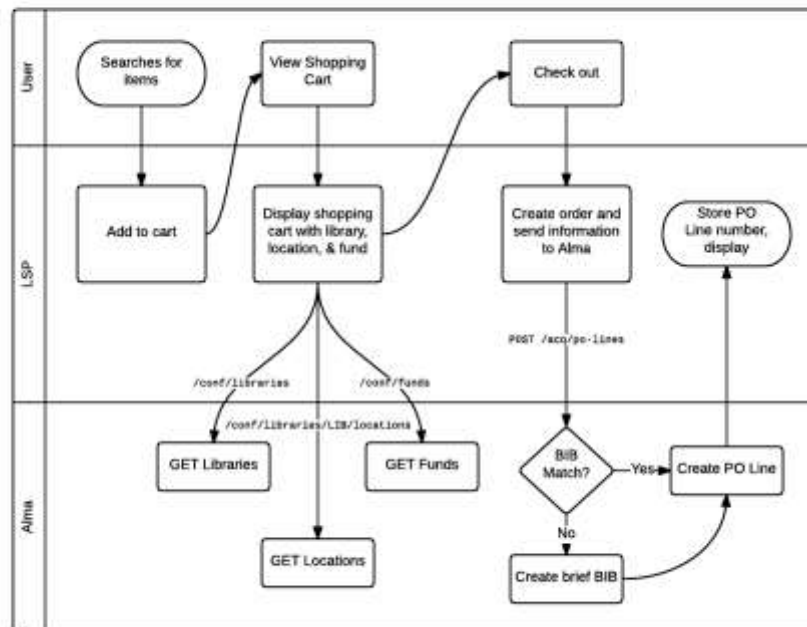


- The user searches for items in the vendor's system, and places them in the shopping cart (or equivalent)
- The user verifies owning library, fund codes and other relevant information
- At checkout, the vendor sends the shopping cart data to Alma using the Create PO line API
- Alma validates the received PO line information
- Alma attempts to match the bibliographic data using standard identifiers. If no match is found, Alma creates a brief bibliographic record for the order.
- Alma responds with the newly created PO line number to the vendor
- The PO line is processed in Alma as other PO lines are processed. If an order requires manual review, Alma sends it to the *In Review* task list

The **vendor reference number** is kept as part of the Alma PO line. **Alma PO line number** is kept as part of the vendor order details.

The following flow chart represents the workflow:

### Real Time Acquisitions Integration Alma & Library Service Providers (LSP's)



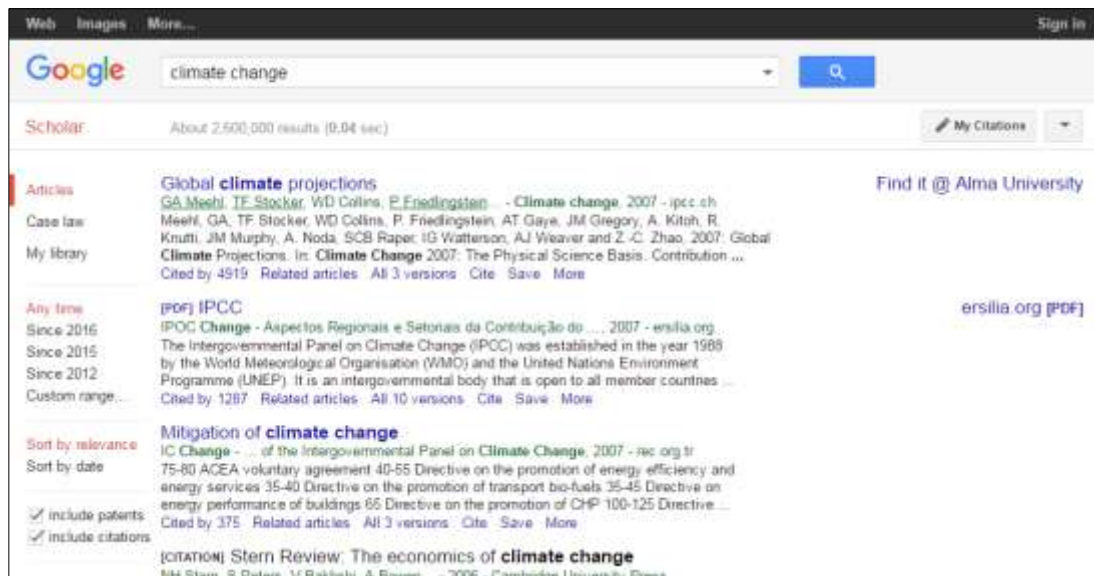
The following vendors currently support this integration:

- GOBI
- Harrassowitz
- OASIS

18. Integration of e-resources with third party solutions and library web spaces, such as LibGuides, Serials Solutions, OCLC, EBSCO, web publishing software, and content management systems for display purposes, sharing holdings with other systems, usage statistics harvesting, etc.

**Ex Libris:** Synchronizing data between Alma and external service providers is built to happen automatically and seamlessly, with a minimum of staff management necessary. Synchronizing holdings and records occurs for resources of all types, including print, digital, and activated packages of electronic resources.

See screenshots provided for how the links display in Google Scholar and an example of how they could display in a third party database:



For WorldCat specifically, James Madison University can define in Alma holdings synchronization service that will run automatically. The service will identify every record that is new, altered, or deleted since the last WorldCat synchronization. Any given resource can be suppressed if the library does not wish to share it; in this case it will not be exported for synchronization or holdings update. All affected records will be exported from Alma with updated information (or a holdings delete notification, as appropriate).

< Publishing Profile Details

Profile Details

Profile name \* Publish Local Holdings Records (LHRs) to OCLC

Profile description Make your library's Local Holdings Records (LHRs) accessible through WorldCat

OCLC institution symbol \* YLK Project ID 613

Collection ID

Publishing Parameters

Publishing mode: \* ☒ Incremental ☐ Baseline ☐ Full

Status ☐ Active ☒ Inactive

Scheduling Not scheduled

Email Notifications

Alma facilitates the collection and reporting of usage statistics information supplied by vendors (content providers) in COUNTER 4 format.

Support for COUNTER 5 as well as SUSHI lite is on the Alma Roadmap. Ex Libris is closely following developments in the industry regarding these protocols and will incorporate them into Alma in a timely manner as the industry develops.

Alma Analytics provides usage statistics reporting capabilities that enable the creation of reports such as usage statistics by journal, database, publisher, platform, and subscriber. The reports enable the library to drill down on data elements included in the report such as year range, titles, etc. COUNTER statistics can be either loaded automatically or manually.

19. Specify capabilities for inputting an item-specific control number in barcode form at the point of check in.

**Ex Libris:** Please see the response to E.13.

20. Specify whether your product provides any aids in normalizing data, such as titles, ISBNs and ISSNs. Examples of the end use would be matching of print and electronic resources for overlap analysis and matching of electronic usage data from vendors to cataloged titles/collections.

**Ex Libris:** Alma provides the capability to perform overlap analysis for electronic resources. When making acquisitions decisions, this facility enables you to compare the content of electronic collections in order to determine where there may be a subscription overlap.

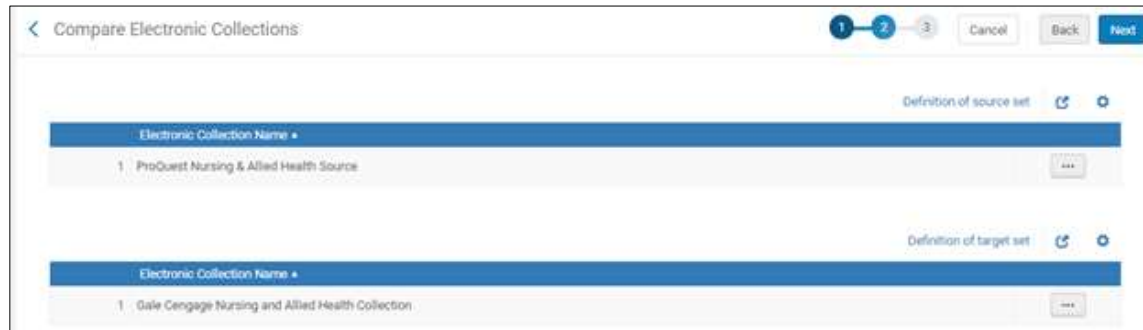
- Use this to compare the content of electronic collections and from results decide where there is overlap.
- If collection/titles are included in one or more other different collections then perhaps they/it can be cancelled / not renewed

The results can give four reports:

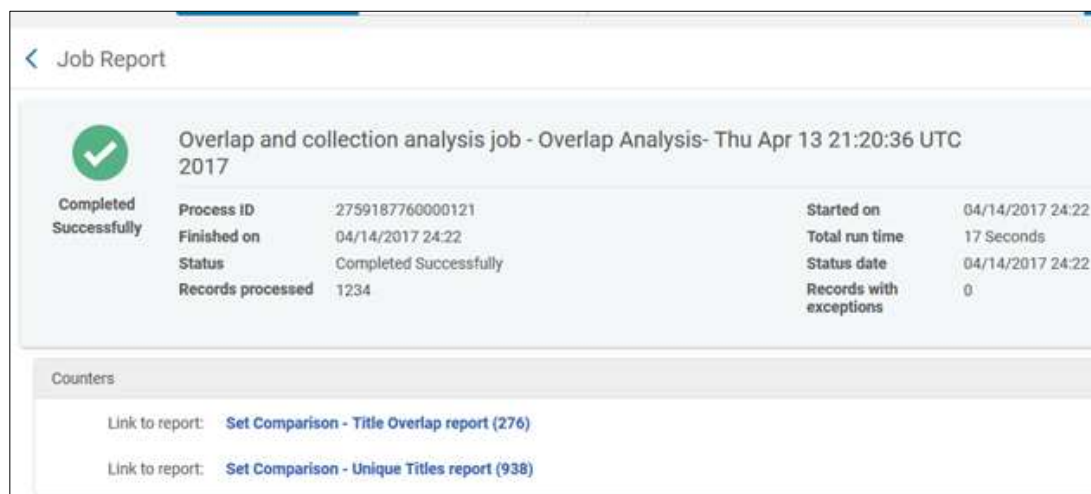
- Complete Overlap Report - Contains matching titles with identical coverage dates.
- Partial Overlap Report - Contains matching titles with partially overlapping coverage dates.
- Title Overlap Report - Contains matching titles with mutually exclusive coverage dates.

- Unique Titles Report - Contains titles that are unique to the source set you created for the comparison.

For example, the operator can create the following Overlap Report that will compare the content of "ProQuest Nursing & Allied Health Source New Platform" and "Gale Cengage Nursing and Allied Health Collection":



The report output provides a detailed analysis of the overlap with an option to download to Excel:



As mentioned above, usage statistics information supplied by vendors can be loaded to Alma automatically with the SUSHI Automated Harvesting mechanism, or imported manually in the case where a vendor does not support the SUSHI protocol.

21. Describe other e-resource subscription and management capabilities unique or notable of the proposed system not addressed above.

**Ex Libris:** Alma includes cost per use data elements and reports out of the box, and reports can be done on both the level of institution and the Network level. Below are the out of the box usage reports available in Alma. New reports can be created and out of the box reports can be customized using simple drag and drop functionality by any staff user with a Design Analytics role assigned to them.

Out of the box cost per use reports include:

- Cost per Use – Condition Most Expensive
- Cost per Use Journal Details
- Cost per Use Package Details
- Least Expensive Journals

- Least Expensive Packages
- Most Expensive Journals
- Most Expensive Packages
- Package Cost per Use – Annual Trends
- Title Cost per Use – Annual Trends

An example of a cost per use report:

		2013				
PO Line Reference	Title	Fiscal Month Key	Cost	Usage	Estimated usage	Cost per Use
POL-15207	Harvard business review.	8	58	467	467	0.12
		9	58	1,034	1,034	0.06
		10	58	834	834	0.07
		11	58	534	534	0.11
		12	58	367	367	0.16
POL-15410	Journal of the American Chemical Society	8	53	545	545	0.10
		9	53	545	545	0.10
		10	53	845	845	0.06
		11	53	1,135	1,135	0.05
		12	53	545	545	0.10
POL-15412	Journal of comparative physiology.	8	32	300	300	0.11
		9	32	900	900	0.04
		10	32	600	600	0.05
		11	32	1,200	1,200	0.03
		12	32	600	600	0.05
POL-15413	Genetica	8	74	73	73	1.02
		9	74	173	173	0.43
		10	74	373	373	0.20
		11	74	346	346	0.21
		12	74	73	73	1.02
POL-15415	Advertising age	8	9	148	148	0.06
		9	9	198	198	0.05
		10	9	398	398	0.02
		11	9	396	396	0.02
		12	9	198	198	0.05

**F. Metadata and Cataloging Functionality-** Describe the proposed solution’s metadata and cataloging capabilities, including but not limited to each of the items below:

1. Support of multiple metadata encoding schemas and content standards, including but not limited to Encoded Archival Description, Metadata Object Description Schema, Dublin Core, Visual Resources Association Core, and BIBFRAME or other RDF-based standards. Differentiate current, active features from planned or beta features.

**Ex Libris:** Alma’s infrastructure includes robust, cross-schema metadata support, allowing libraries to manage records stored in the different standards available today, as well as providing an environment for new schemas as they are created and adopted by the community. This also provides the ability to crosswalk data between supported schemas, as well as when importing and exporting records.

Alma supports MARC 21 (with RDA extensions) bibliographic, holdings, and authority formats, as well as Dublin Core (including all terms in the dcterms namespace). The infrastructure supports the ability to extend to add additional vocabularies in the future. Supported metadata schemas may be searched, edited through the metadata editor, imported and exported. Records may be cross-walked from one format to another either on import or export. For example, a MARC21 bibliographic record may be cross-walked to Dublin Core when publishing to an OAI-PMH repository.

This approach to multi-schema support aligns to the principles of Dublin Core application profiles. Alma maintains a metadata registry that tracks valid fields/terms, along with administrative information about



each field (such as the controlled vocabulary to validate against). Our implementation allows schemas to be edited and managed with no loss of granularity—they are not being cross-walked to an internal schema, and therefore losing the advantages of native multi-schema support. Alma supports the ability to load records in one of the supported metadata schemas (presently MARC 21 for bibliographic, holdings, and authority records, as well as Dublin Core). Data that does not align with a supported schema must be mapped into a valid form before being imported. The metadata profiles in Alma are updated with standard changes twice a year.

Ex Libris is implementing its BIBFRAME roadmap, that will enable institutions to gradually implement BIBFRAME with minimal disruption to their workflows. Using BIBFRAME, libraries of the future will be able to seamlessly connect with the wider world of information while providing their users with an enhanced view of bibliographic information and library collections. MARC records can be published and viewed as BIBFRAME records. An example of a record view in BIBFRAME format:

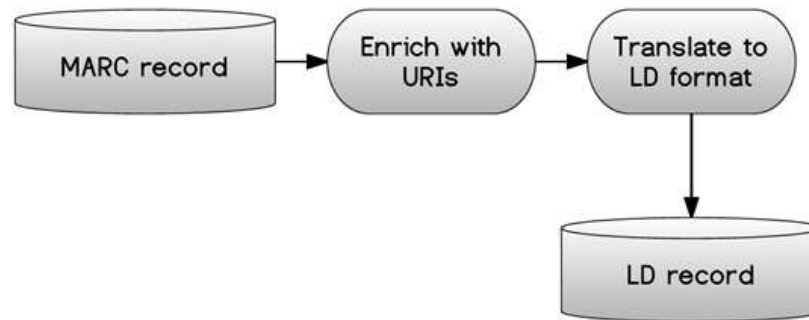


Stemming out of a vision of the place and volume that BIBFRAME and Linked Data will take as a major bibliographic description data model, and utilizing Alma's agnostic design for cataloging methods, Alma has a clear roadmap, including:

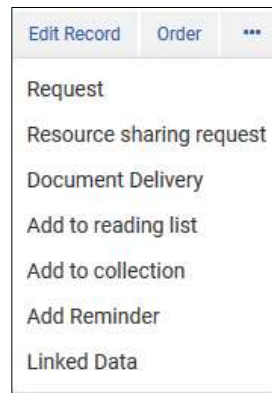
- Libraries will be able to use the MD editor to catalog LD URIs
- Support for native cataloging in BIBFRAME starting with a proof of concept version.
- Import records into the Alma catalog using BIBFRAME
- Expose library records in structured data markup on web pages, such as schema.org

The bibliographic metadata found in Alma contains a rich set of information and objects that can be represented in linked data. The Alma linked open data provides access to the institution's bibliographic information using linked data principles and made available in several places, including the Alma UI and APIs. The general workflow for exposing linked open data is described in the following diagram:






Alma supports Linked Data in search results. After entering a search query, the results list display includes a link to Linked Data under each search result:



Clicking on this link will open the fields that have useful data links automatically generated by Alma - i.e. URI's to existing URL's:

2



**Chemistry / Kelly Deters.**  
**Book (Book - Physical)** By Deters, Kelly. (Dubuque, Iowa : Kendall/Hunt c2009.)  
**Subject:** Chemistry--Study and teaching (Secondary)  
**Edition:** Teacher ed.

**Language:** English  
**ISBN:** 9780757552373 and others  
**Record number:** (Aleph)002851209BCL01

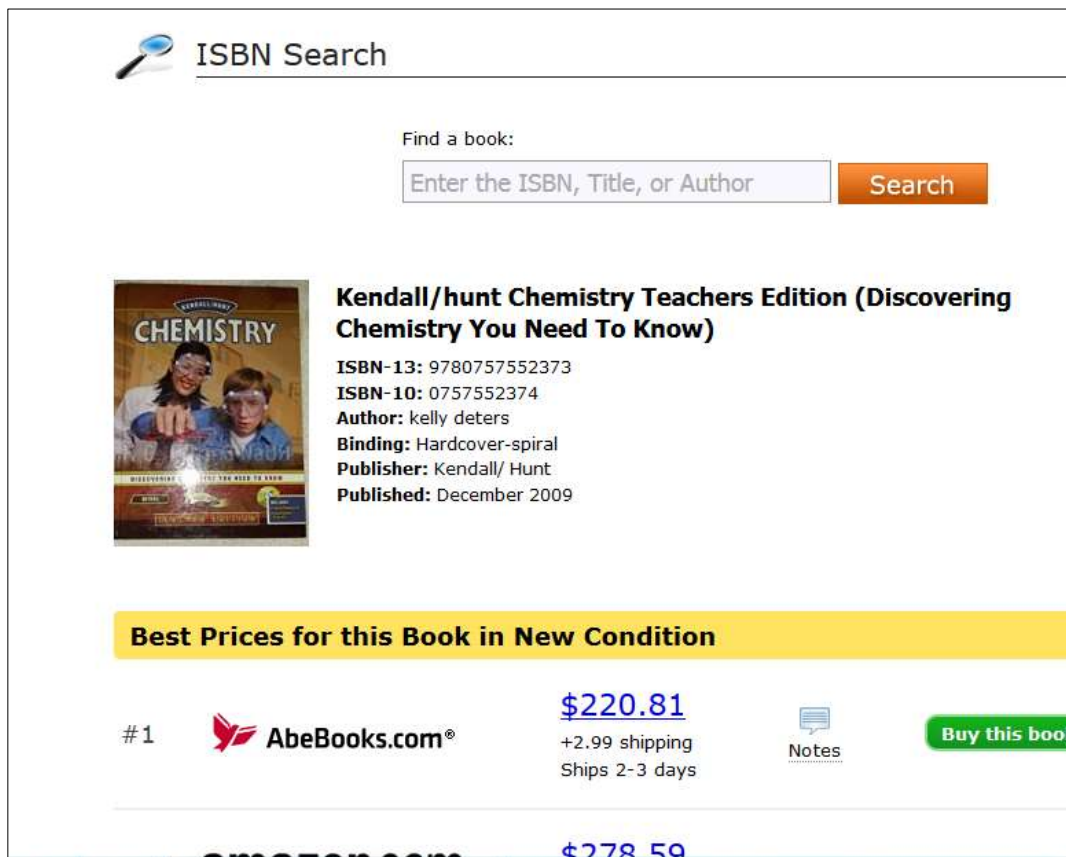
Edit Record

PhysicalElectronicDigitalOther details

**Linked Data**

Context	<a href="https://open-na.hosted.exlibrisgroup.com/alma/contexts/bib">https://open-na.hosted.exlibrisgroup.com/alma/contexts/bib</a>	
bibo:isbn10	<a href="http://www.isbnsearch.org/isbn/0757552374">http://www.isbnsearch.org/isbn/0757552374</a>	0757552374
bibo:isbn13	<a href="http://www.isbnsearch.org/isbn/9780757552373">http://www.isbnsearch.org/isbn/9780757552373</a>	9780757552373
bibo:oclcnum	<a href="http://www.worldcat.org/oclc/554862215">http://www.worldcat.org/oclc/554862215</a>	(OCoLC)ocn554862215
bibo:oclcnum	<a href="https://open-na.hosted.exlibrisgroup.com/resolver/wikidata/oclc/554862215">https://open-na.hosted.exlibrisgroup.com/resolver/wikidata/oclc/554862215</a>	(OCoLC)ocn554862215
dct:subject	<a href="http://id.loc.gov/authorities/subjects/sh2008117657">http://id.loc.gov/authorities/subjects/sh2008117657</a>	Chemistry Study and teaching (Secondary)
dct:subject	<a href="https://open-na.hosted.exlibrisgroup.com/resolver/wikidata/lc/sh2008117657">https://open-na.hosted.exlibrisgroup.com/resolver/wikidata/lc/sh2008117657</a>	Chemistry Study and teaching (Secondary)

Clicking on the ISBN link for example opens the relevant ISBN at isbnsearch.org where the user can see more details about the item, as well as suggested purchasing options (as an example).



The screenshot displays the 'ISBN Search' interface. At the top, there is a search bar with the placeholder text 'Enter the ISBN, Title, or Author' and a 'Search' button. Below the search bar, the results for the book 'Kendall/hunt Chemistry Teachers Edition (Discovering Chemistry You Need To Know)' are shown. The book cover is displayed on the left, and the title is on the right. Below the title, the ISBN-13 (9780757552373) and ISBN-10 (0757552374) are listed, along with the author (Kelly Deters), binding (Hardcover-spiral), publisher (Kendall/Hunt), and publication date (December 2009). A yellow banner below the book information reads 'Best Prices for this Book in New Condition'. Under this banner, the book is listed as '#1' on AbeBooks.com® for \$220.81, with a note about shipping (+2.99) and delivery (2-3 days). A 'Buy this book' button is visible. At the bottom, a price of \$278.59 is also shown.

This option is also available in the MD Editor with the same linking functionality described above:



The screenshot shows the MD Editor interface. At the top, there is a list of items with their respective levels and titles. Below this list, there is a table of linked data. The table has two columns: the first column lists the data types (bibo:isbn10, bibo:isbn13, bibo:oclcnum, bibo:oclcnum) and the second column lists the corresponding URLs. The table also includes a 'Context' row with a URL. The table is titled 'Current cataloger level [00] Default Level, change to [00] Default Level'.

Item	Level	Title
245 1 0	\$\$a	Chemistry / \$\$c Kelly Deters.
246 3	\$\$a	Kendall Hunt Chemistry
250	\$\$a	Teacher ed.
260	\$\$a	Dubuque, Iowa : \$\$b Kendall/Hunt, \$\$c c2009.

Current cataloger level [00] Default Level, change to [00] Default Level

Info	Alerts	Linked Data
Context		<a href="https://open-na.hosted.exlibrisgroup.com/alma/contexts/bib">https://open-na.hosted.exlibrisgroup.com/alma/contexts/bib</a>
bibo:isbn10		<a href="http://www.isbnsearch.org/isbn/0757552374">http://www.isbnsearch.org/isbn/0757552374</a>
bibo:isbn13		<a href="http://www.isbnsearch.org/isbn/9780757552373">http://www.isbnsearch.org/isbn/9780757552373</a>
bibo:oclcnum		<a href="http://www.worldcat.org/oclc/554862215">http://www.worldcat.org/oclc/554862215</a>
bibo:oclcnum		<a href="https://open-na.hosted.exlibrisgroup.com/resolver/wikidata/oclc/554862215">https://open-na.hosted.exlibrisgroup.com/resolver/wikidata/oclc/554862215</a>

Ex Libris continues to monitor market interest and adoption of linked-data compliant schemas. Ex Libris as a company has joined the W3C Schema Bib Extend Community Group. This community group brings together diverse library organizations and individuals who are creating proposals for extending schemas to improve the representation of bibliographic information on the internet. The group operates under the umbrella of the **schema.org** initiative. In addition, we are actively discussing with customers possible use-cases to consider in our future plans to support linked data.

EAD is supported for exporting collections in EAD format.

MODS integration in on the Alma Roadmap for H1 2019:

- Institutions will be able to integrate MODS systems with Alma.
- Alma MARC and DC records will be published as MODS
- MARC or DC records will be exposed as MODS in an SRU response

2. Support for multiple cataloging rules, such as AACR2, RDA, and Descriptive Cataloging of Rare Materials.

**Ex Libris:** Alma supports RDA and AACR2. The MARC 21 schema in Alma supports the updated fields for bibliographic and authority records that support the RDA descriptive standard. These fields are fully editable and searchable, and may take advantage of the assisted text entry for a controlled vocabulary.

```
Working on -Modern drug discover (991822620000121)
U3b # # $a (OCLC) 000069843
037 $a ONLY US RDA TEST PARTICIPANTS SHOULD ADD INSTITUTION RECORDS TO THIS MASTER
RECORD; NO CHANGES SHOULD BE MADE TO THE MASTER RECORD
040 $a OCLCQ $b eng $e rda $c QBX $d OCLCQ
049 $a QBXA
079 $a ocn664723806
245 0 0 $a Modern drug discovery : $b chemical and biological perspectives / $c editor, Tom Hollon.
260 $a Washington, DC : $b American Chemical Society, $c [1998?]-.
300 $b illustrations ; $c 28 cm.
310 $a Bimonthly
336 $a text $2 rdacontent
337 $a unmediated $2 rdamedia
338 $a volume $2 rdacarrier
```

3. Support for vocabularies in bibliographic and authority records from sources other than LC or PCC, such as AAT, GND, RDA, and RDA GENR.

**Ex Libris:** Authority files such as LC Names and Subjects, MeSH (Medical Subject Headings), the GND (German) and BARE (Norwegian) Authority files are loaded into Alma's Community Zone (CZ). A full list of currently supported authorities can be found from the following link:

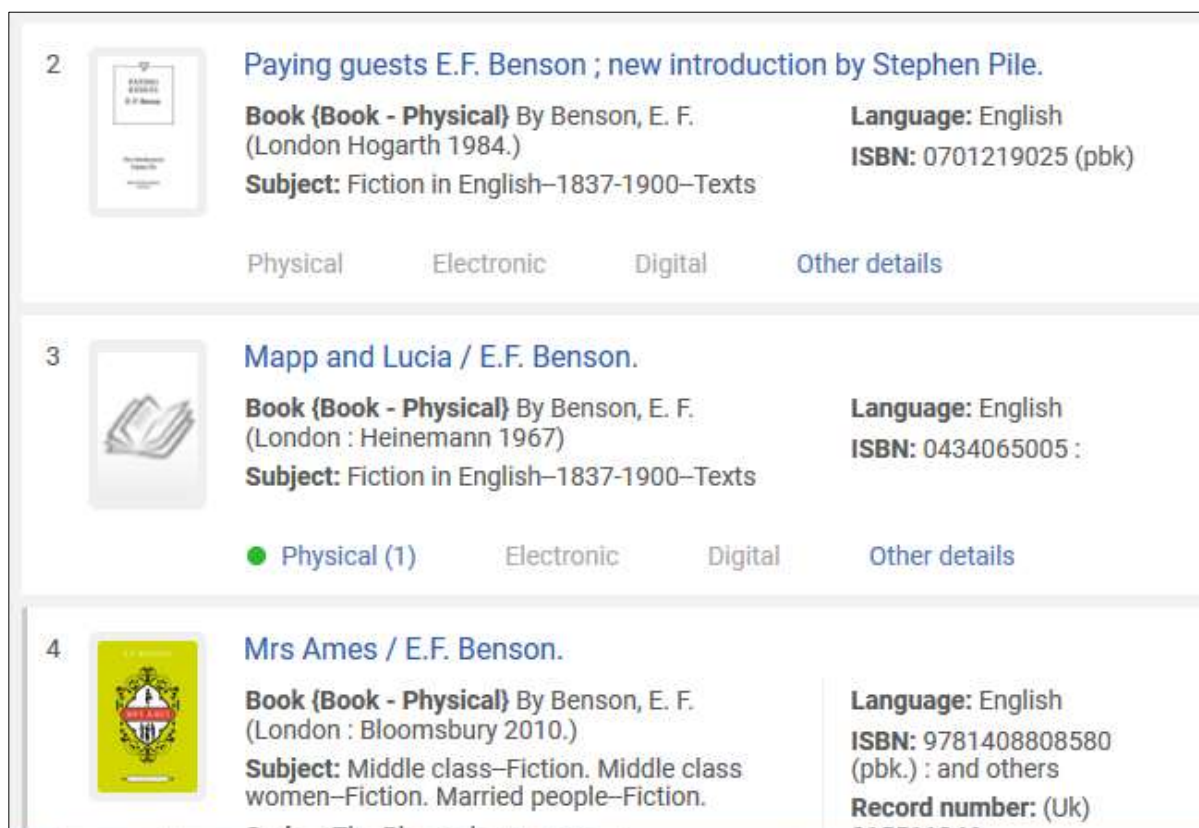
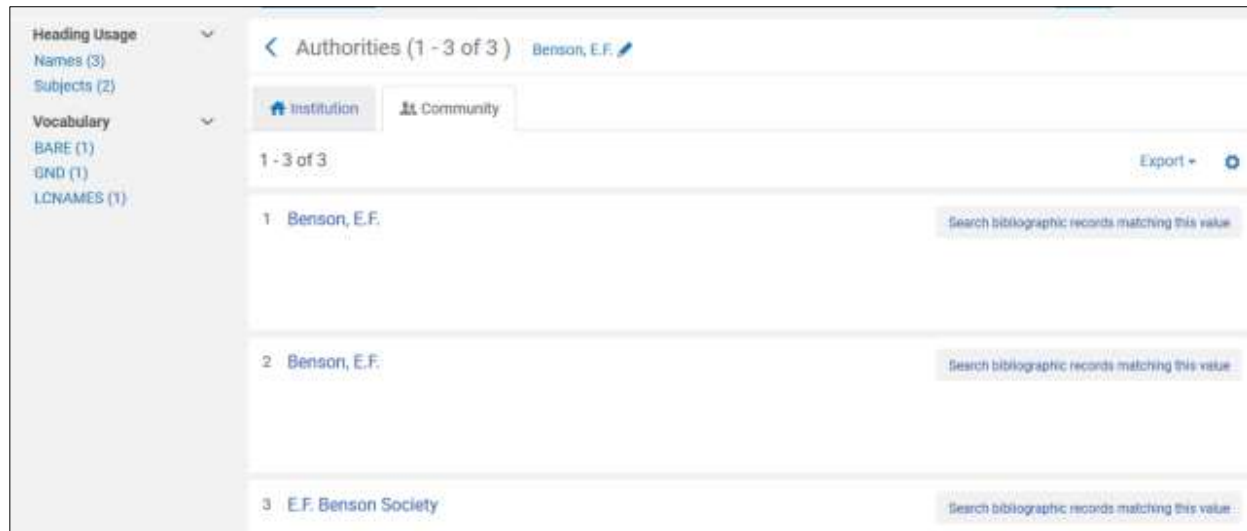
[https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/Alma Online Help \(English\)/Resource Management/040Metadata\\_Management/060Working with Authority Records](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/Alma_Online_Help_(English)/Resource_Management/040Metadata_Management/060Working_with_Authority_Records)

Ex Libris keeps these authority files up to date based on changes distributed by the authorizing agency. Any institution may use these records to authorize headings in their local bibliographic records. Institutions that use unaltered authority files will be able to use this and no longer manage local authorities. This significantly lowers the barrier to authority control, by allowing institutions who do not make significant changes to external authority files to avoid managing any local authorities.

When Ex Libris loads a file of authority records, the system will analyze the file for changes to individual headings. When it identifies changed headings, it will automatically make those changes to the bibliographic headings that are linked to those authorities. Staff may view a report of records affected by these headings change processes.

In certain predefined cases, the system will identify headings that require further analysis. For example, when a heading splits into two or more headings, the affected bibliographic headings will appear on the Authority Control Task List. Staff may then decide which of the new headings apply to each resource. In this way, most of the process is automated, with only a small set of exceptions requiring staff intervention.

Staff users may search the Community Zone for authority records. Clicking on the relevant hyper-text link in the heading display will switch the search from the authority record in the Community Zone to the linked bibliographic records in the local institution.



In addition to global authority files, Alma allows libraries to create and load local authorities. This includes authority records for subject headings, titles and names. These local authorities can be used as overrides for authorization against the global authority file—when validating, Alma will check first for local authorized headings before checking for global headings.

- Describe how the system provides help and support to staff learning and working with multiple schemas and cataloging standards.

**Ex Libris:** While viewing a record in the Metadata Editor, staff can view help information inline. This displays contextually on a per-field basis, depending on the field being edited. The following shows a reference to the MARC21 bibliographic standard; comparable help can be set up for other schemas (including linking out to content resources such as the RDA toolkit)

You have 5 warning(s) in your record

Working on - Romeo and Juliet / W (991467070000121) , Created by import (09/15/2011 17:24), Modified by CPR-RECALCULATION (05/22/2017 10:15)

LDR	00922nam##2200289##4500
001	CTYAAH7382-B
008	801222s1974####enku#####00010#eng##
010	\$\$a 75310820
015	\$\$a GB74-26065
020	\$\$a 0340153911 : \$\$c 0.80
035	\$\$a (CTY)notesAAH7382

Current cataloger level [00] Default Level, change to [00] Default Lev

Info Alerts Linked Data

Display in a new window

[Library of Congress](#) >> [MARC](#) >> [Bibliographic](#) >> [01X-05X](#) >> [050](#)

---

**050 - Library of Congress Call Number (R)**

---

**MARC 21 Bibliographic - Full** May 2017

---

<b>First Indicator</b> <i>Existence in LC collection</i>	<b>Second Indicator</b> <i>Source of call number</i>
---	---

The Dublin Core editor allows editing of elements, values and the language associated with each statement. In the image below, a Dublin Core record is displayed in the Metadata Editor with many of the same tools as the MARC21 editor (with some variations based on the needs of the format), and with a link to the Dublin Core Metadata Initiative help files.

Working on - (99109310100121)

dc:title	The Australian clinner shin
dc:provenance	Proven
dc:language	
dc:type	
dc:rights	
dc:subject	Clinner shins
dcterms:abstract	
dc:creator	Williams, C. J.

Info Alerts Linked Data

Display in a new window

**Has Range:** <http://purl.org/dc/terms/PeriodOfTime>

**Version:** <http://dublincore.org/usage/terms/history/#temporal-003>

**URI:** <http://purl.org/dc/terms/title> **Term Name:** title

**Label:** Title



5. Support for different call numbers schemas associated with the same bibliographic record (e.g., Dewey, SuDoc, LC local).

**Ex Libris:** The library can use any classification schema in Alma, including standardized schemas (LC, Dewey, SUDOC, etc.) and local schemas. Alma supports using multiple classification schemes.

6. Support for linked records (e.g., items which are bound together in a common collection and with shared holdings records, but with separate bibliographic records.)

**Ex Libris:** Alma's approach to bound-with records is to support linking entry relationships between records. One host record will bind together two or more records describing independent intellectual entities. Holdings are then attached to the host record, allowing for unified management of the single item that binds resources.

<

When searching in Primo, related records will also show up in the same search:

Inventory of related "Legal education /" is listed below

Main Library General KF272 .L428 1993

[Hide Details](#)

(1 copy, 1 available, 0 requests)

1 - 1 of 1 Records

BARCODE	TYPE	POLICY	DESCRIPTION	STATUS
AU24003		Loanable		Item in place

[Locate](#)

7. Support for multiple holdings locations and sub-locations.

**Ex Libris:** Complies. Please see the response to E.12.

8. Staff search capabilities including, but not limited to, regular expressions (if so, which flavor), capacity to save searches, capacity to save and edit search result sets, capacity to search across record types (e.g., bibliographic, authority, order, holdings).

**Ex Libris:** Please see the response to D.19.

9. Any limitations imposed on MARC 21 bibliographic, authority, or holdings records by the system.

**Ex Libris:** Alma manages various types of records in the catalog, based on MARC21 (e.g., bibliographic records) using the MARCxml format. There are no limitations in managing a record and its data elements,



except where mandated by the MARC standard (for example, there is only a single LDR field in a record).

#### 10. Support for non-roman characters and diacritics.

**Ex Libris:** Non-Roman scripts are indexable, normalisable and searchable. All scripts and languages are supported.

UTF-8 Unicode allows Alma to support multiple languages and scripts, including scripts that display right-to-left.

Record ID	Title / Description	MARC Fields
100	100 лет со дня ... (991308610000121)	001 000003271
005	Chūgoku ni oker... (991258590000121)	20011203141623.0
008	Nghiên cứu tổng... (991649700000121)	010109s1999#####r####000#0#eng#
100	Εθνική πολιτική... (991544390000121)	1 \$a Oz, Amos
245	Κορσέ Σχορρά : ρ (991166980000121)	245 1 0 \$a Black box
246	Κορσέ Σχορρά : ρ (991166980000121)	250 3 \$a \$
250	ایران، ابرقردت (991276470000121)	260 1999 \$a \$
260	ข้อมูลการพัฒนาศาสตร์... (991701300000121)	300 300 \$a \$
300	信息检索与档案管理 / 张予宏主编. (991276470000121)	440 0 234 \$a \$
440	香港特别行政区地图册 / 姚维... (9912433...)	500 \$a \$
500		650 0 \$a \$

#### 11. Capabilities for importing bibliographic and holdings/item records in MARC and other metadata schemas from multiple sources (e.g. OCLC, Marcive, Serials Solutions, book and e-resource vendors, OAI-compliant repositories) including any capabilities for importing large files of records.

**Ex Libris:** Record import and publication is considered a core function, and may be set up and run as a frequent process in Alma without intervention from Ex Libris. Libraries will set up one or more import and publication profiles, which can then be used to automatically import and export records on an ongoing basis. These processes may also be run on demand by the library.

All importing of metadata records in Alma is managed using “Import Profiles”:

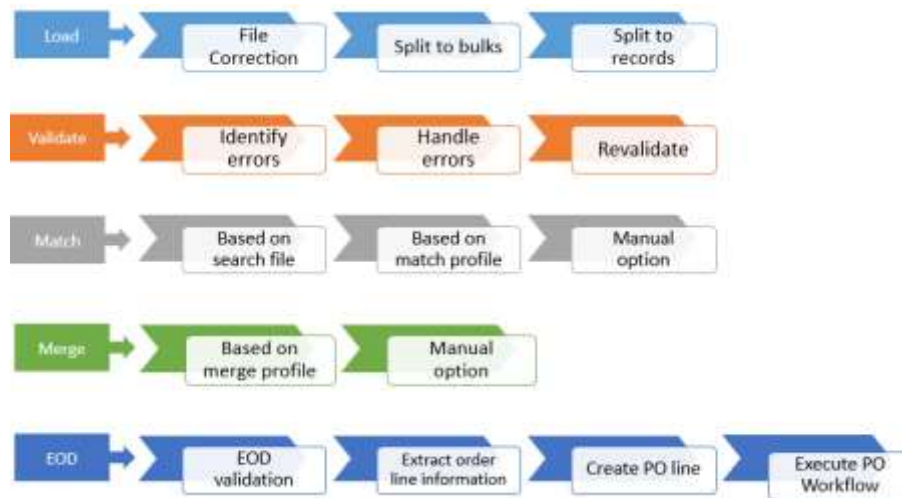
ID	Profile name	Profile description	Profile Type	Card
1 1450516920000121	Copy of YBP - PromptCat overlay	PromptCat overlay for YBP	Repository	-
2 1508282580000121	Dawson	Dawson	New Order	-
3 1363262940000121	Demo - E inventory - import from Nations...	Demo - E inventory - import from Nations...	Repository	-
4 1362534380000121	Demo - New Order - smi - match 035 - phy...	Demo - New Order - smi - match 035 - phy...	New Order	-
5 1362543860000121	Demo - no inventory - import from Nation...	Demo - no inventory - import from Nation...	Repository	-
6 1376706250000121	Demo - F inventory - import from Nations...	Demo - F inventory - import from Nations...	Repository	-
7 1222434600000121	Demo - smi - match 035 - physical invent...	Demo - smi - match 035 - physical invent...	Repository	-

These profiles define all aspects of the loading process. This process is split into a sequence of steps:

- Loading the file

- Normalizing and validating the records in the file
- Finding an existing match in the catalog
- Merging into the existing record (when relevant)
- EOD (Embedded Order Data) files – creation of order line records (when relevant)

This can be summarized as follows:



The import process supports the maximum possible automation. For example, the import can be defined to merge an imported record into the catalog automatically in cases where the system finds a single match.

When importing any record, Alma goes through specific steps according to the rule of the appropriate import profile. It validates each record for encoding and content. It checks for matching records that already exist in the catalog, then can be set up to either merge, overlay, ignore (importing anyway), or flag matched records for review.

Import Profile Details

Profile Details | Normalization & Validation | Match Profile | Set Management Tags | Inventory Information | Mapping

Match Profile

Serial match method: ISSN Match Method | Non Serial match method: ISBN / 024 / 035 Match Method

Match Actions

Handling method: ☒ Automatic ☐ Manual

Upon match: ☐ Merge ☒ Overlay ☐ Do Not Import ☐ Import New Record

MERGE/OVERLAY

Merge method: Replace 245 and 035 OCoLC if exist

Select Action

☐ Allow bibliographic record deletion

☐ Do not Override/merge a record with lower brief version

☐ Unlink bibliographic records from community zone

Do not override/ merge record with an older version: ☒ Disabled ☐ Consider Originating System ☐ Ignore Originating System

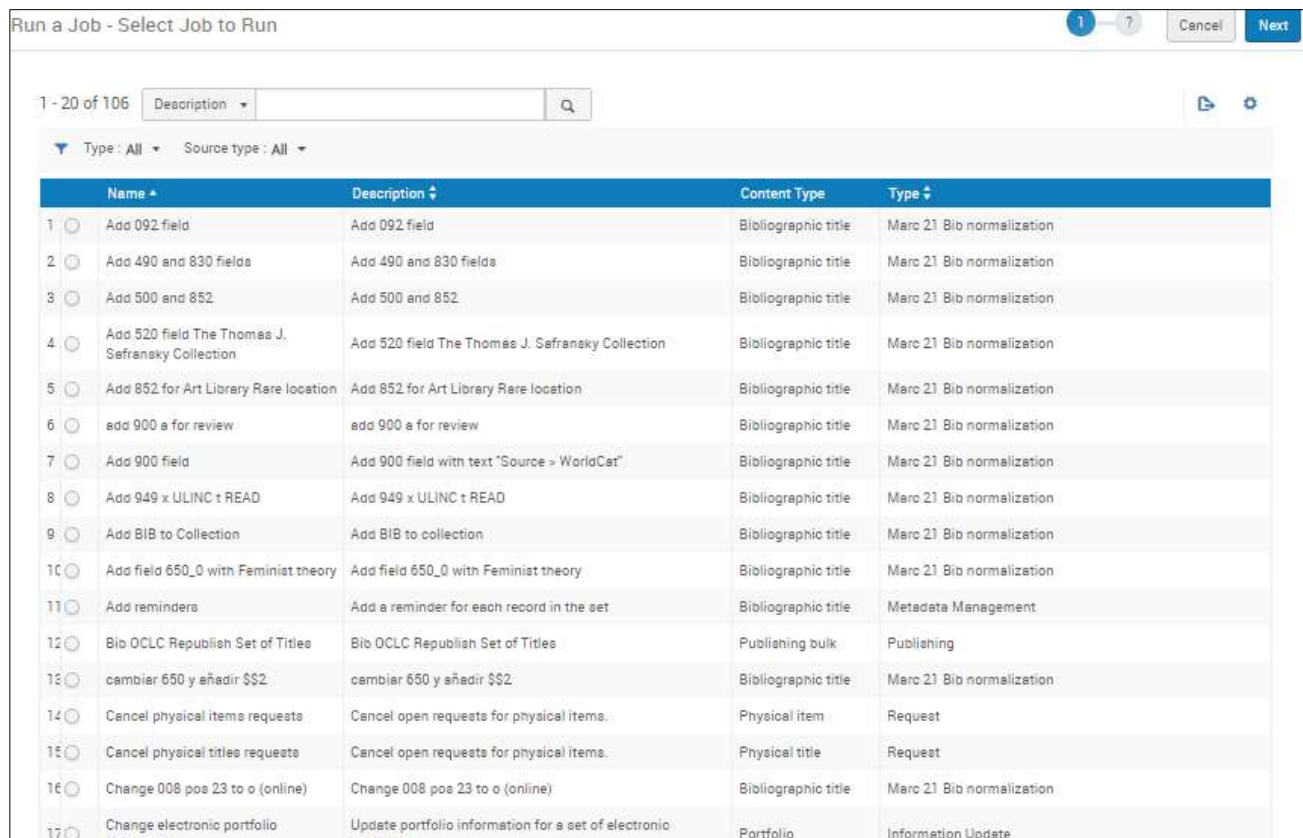
If at any stage during the import process, either because of errors, or because the import profile definition requires mediated intervention, the staff user will be able to review issues using a dedicated task list. This task list will provide the staff user with information on what the issue is as well as the relevant actions the user can perform.

Alma also allows for catalogers to use merge, match and overwrite options for individual bibliographic records as they are imported from another library system that is being used as an external resource. In this way it is possible for the Library to prevent duplication of records in the catalog.

## 12. Updating records, including batch updates.

**Ex Libris:** Alma supports the ability to perform batch changes against bibliographic and inventory records. The approach is flexible and extensible. Staff with rights to perform global changes will first identify the action to perform, then identify the set of records to change (either manually or as all results of a search). These actions may also be bound to an import profile, to automatically run for every record imported by that profile or as jobs triggered by library staff. This allows staff to identify common problems records and perform automatic cleanup or batch changes on those records.

Global changes and deletions are carried out with relevant user privileges. Such changes are supported via a 'wizard', which walks the operator through the steps needed to carry out the task. Initially the items that require changing or deleting are gathered into a managed set. Then, either out of the box or library defined processes are applied to the set of data.



Name	Description	Content Type	Type
1 Add 092 field	Add 092 field	Bibliographic title	Marc 21 Bib normalization
2 Add 490 and 830 fields	Add 490 and 830 fields	Bibliographic title	Marc 21 Bib normalization
3 Add 500 and 852	Add 500 and 852	Bibliographic title	Marc 21 Bib normalization
4 Add 520 field The Thomas J. Sefransky Collection	Add 520 field The Thomas J. Sefransky Collection	Bibliographic title	Marc 21 Bib normalization
5 Add 852 for Art Library Rare location	Add 852 for Art Library Rare location	Bibliographic title	Marc 21 Bib normalization
6 add 900 a for review	add 900 a for review	Bibliographic title	Marc 21 Bib normalization
7 Add 900 field	Add 900 field with text "Source > WorldCat"	Bibliographic title	Marc 21 Bib normalization
8 Add 949 x ULINC t READ	Add 949 x ULINC t READ	Bibliographic title	Marc 21 Bib normalization
9 Add BIB to Collection	Add BIB to collection	Bibliographic title	Marc 21 Bib normalization
10 Add field 650_0 with Feminist theory	Add field 650_0 with Feminist theory	Bibliographic title	Marc 21 Bib normalization
11 Add reminders	Add a reminder for each record in the set	Bibliographic title	Metadata Management
12 Bib OCLC Republish Set of Titles	Bib OCLC Republish Set of Titles	Publishing bulk	Publishing
13 cambiar 650 y añadir \$\$2	cambiar 650 y añadir \$\$2	Bibliographic title	Marc 21 Bib normalization
14 Cancel physical items requests	Cancel open requests for physical items.	Physical item	Request
15 Cancel physical titles requests	Cancel open requests for physical items.	Physical title	Request
16 Change 008 pos 23 to o (online)	Change 008 pos 23 to o (online)	Bibliographic title	Marc 21 Bib normalization
17 Change electronic portfolio information	Update portfolio information for a set of electronic portfolio	Portfolio	Information Update

Where applicable match and indication rules allow to control the behavior and filter down records where changes should be applied.

Before submitting a task Alma presents a summary of parameters that will run on the given set (see for example a Normalization job that copies field information):

**Run a Job - Review and Confirm**

1 2 3 4 Cancel Back Submit

**General Information**

Job Name: Copy 001 to 035 - 24 titles - 22/11/2017 22:52

**Set Information**

Set ID: 294259500000121  
Name: 24 titles  
Set Size: 0

**Task Parameters: MacroDroolNormalization**

MARC DROOL NORMALIZATION

Drools File Key: copy 001 to 035

**API Information**

URL: POST /almaws/v1/conf/jobs/M747999910000121?op=run

XML:

```
<job>
  <parameters>
    <parameter>
      <name>task_189_droolesFileKey</name>
      <value>copy 001 to 035</value>
    </parameter>
    <parameter>
      <name>set_id</name>
      <value>294259500000121</value>
    </parameter>
  </parameters>
</job>
```

Alma comes with a pre-defined set of standard processes (normalization rules) for changing managed sets (including such standard functions as deletions and exports), but a library can also create its own rules. This provides libraries with a powerful means to develop complex custom manipulations to managed sets. An example of a library defined normalization rule:

Create 041 \$\$a with ger if position 35-37 in the 008 field is ger.

```
rule "Create 041 subfield a with ger if position 35-37 in 008
is ger"
when
  ((existsControl "008.{35,3}.ger") AND (not exists
"041.a.ger"))
then
  addField "041.a.ger"
end
```

Automated import profiles and normalization rules in Alma means that massive time savings is achieved by minimizing the time it takes to manage common workflows in the library, allowing the library to focus on additional services instead.

13. Support for automatic authority control, including any availability of dynamic cross-referencing, automatic suppression of blind cross-references, real-time heading conflict detection, and global heading change capabilities for authority control.

**Ex Libris:** Authority files such as LC Names and Subjects, MeSH (Medical Subject Headings), the GND (German) and BARE (Norwegian) Authority files are loaded into Alma's Community Zone (CZ). A full list of currently supported authorities can be found from the following link:

[https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/Alma\\_Online\\_Help\\_\(English\)/Resource\\_Management/040Metadata\\_Management/060Working\\_with\\_Authority\\_Records](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/Alma_Online_Help_(English)/Resource_Management/040Metadata_Management/060Working_with_Authority_Records)

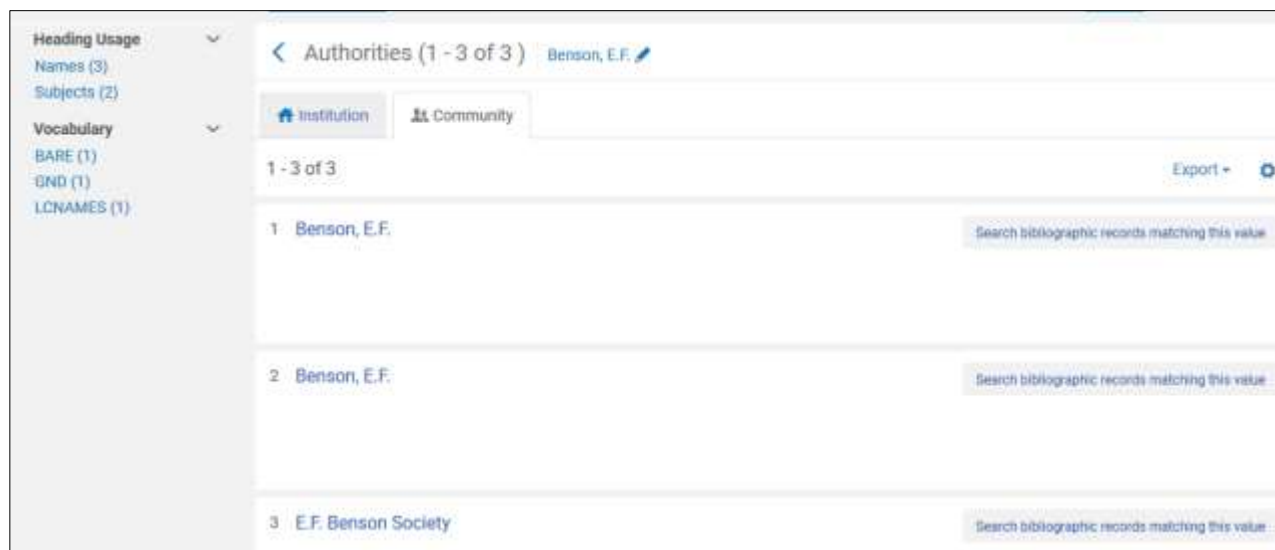
Ex Libris keeps these authority files up to date based on changes distributed by the authorizing agency. Any institution may use these records to authorize headings in their local bibliographic records. Institutions that use unaltered authority files will be able to use this and no longer manage local authorities. This significantly lowers the barrier to authority control, by allowing institutions who do not make significant changes to external authority files to avoid managing any local authorities.

Because Ex Libris maintains authority files, and because of regular monthly releases of Alma, Alma will be able to adapt to any changes in authority control in future.

When Ex Libris loads a file of authority records, the system will analyze the file for changes to individual headings. When it identifies changed headings, it will automatically make those changes to the bibliographic headings that are linked to those authorities. Staff may view a report of records affected by these headings change processes.

In certain predefined cases, the system will identify headings that require further analysis. For example, when a heading splits into two or more headings, the affected bibliographic headings will appear on the Authority Control Task List. Staff may then decide which of the new headings apply to each resource. In this way, most of the process is automated, with only a small set of exceptions requiring staff intervention.

Staff users may search the Community Zone for authority records. Clicking on the relevant hyper-text link in the heading display will switch the search from the authority record in the Community Zone to the linked bibliographic records in the local institution.






2		<b>Paying guests</b> E.F. Benson ; new introduction by Stephen Pile. <b>Book (Book - Physical)</b> By Benson, E. F. (London Hogarth 1984.) <b>Subject:</b> Fiction in English--1837-1900--Texts	<b>Language:</b> English <b>ISBN:</b> 0701219025 (pbk)
		Physical    Electronic    Digital    Other details	
3		<b>Mapp and Lucia</b> / E.F. Benson. <b>Book (Book - Physical)</b> By Benson, E. F. (London : Heinemann 1967) <b>Subject:</b> Fiction in English--1837-1900--Texts	<b>Language:</b> English <b>ISBN:</b> 0434065005 :
		Physical (1)    Electronic    Digital    Other details	
4		<b>Mrs Ames</b> / E.F. Benson. <b>Book (Book - Physical)</b> By Benson, E. F. (London : Bloomsbury 2010.) <b>Subject:</b> Middle class--Fiction. Middle class women--Fiction. Married people--Fiction.	<b>Language:</b> English <b>ISBN:</b> 9781408808580 (pbk.) : and others <b>Record number:</b> (Uk) 035543046

### Authority Job processes:

Alma runs the following jobs automatically every day to authorize the bibliographic records in your catalog:

- **Authorities - Link BIB Headings** – This job searches all authority (and local authority, if enabled by Ex Libris Support) record fields, including subdivision fields, for complete terms listed in bibliographic records (giving priority to local authorities, if enabled). If exact matches are found, the bibliographic records are linked to the corresponding authority records. If exact matches are not found, the subdivision fields are disregarded, a search of all authority records is performed once again, and the bibliographic records are linked to the matching authority records that are located during the second search.
- **Authorities - Preferred Term Correction** – This job performs preferred term correction on all bibliographic records that are linked to authority records using the **Authorities - Link BIB Headings** job. For example, if a bibliographic record contains the non-preferred term “Narcotics, Control of,” and the associated authority record contains the preferred term “Drug control,” the Authorities – Preferred Term Correction job replaces “Narcotics, Control of” with the preferred term “Drug control.” Note that bibliographic records are also updated with any subsequent updates to authority records.

Staff may view a report of records affected by these headings change processes, as shown in the screenshot below:

< Job Report			
			
<b>Authorities - Link BIB Headings</b>			
Completed Successfully	Process ID	2895764090000121	Started on
	Finished on	05/23/2017 08:25	05/23/2017 08:00
	Status	Completed Successfully	Total run time
	Records processed	6	25 Minutes 34 Seconds
			Status date
			05/23/2017 08:25
			Records with exceptions 0
Counters			
Number of Bib-Heading(s) where no appropriate authorized term was found			
6			
Number of Bib-Heading(s) were linked			
0			
Initial run			
false			
Number of Bib-Heading(s) with			
0			



### Local Authorities:

In addition to global authority files, Alma allows libraries to create and load local authorities. This includes authority records for subject headings, titles and names. These local authorities can be used as overrides for authorization against the global authority file—when validating, Alma will check first for local authorized headings before checking for global headings.

The library can create local authority records by:

- Using the MD Editor
- Using an import profile

The MD Editor can be used when a staff member wants to create a single local authority record. If Alma has been configured for local authority records, such records can be imported using an authority import profile:

In general, the Authority option is selected for ongoing authority record updates; and the Initial Authority option is for a library's initial load of local authority records (when only loading and no normalization or matching is required).

< Import Profile Details

Choose Profile Type

- ☐ New Order
- ☐ Update Inventory
- ☐ Repository
- ☒ Authority
- ☐ Initial Authority
- ☐ Digital

**Authority - Used for the ongoing updates of authority records. Existing authority records that are matched with imported ones (according to the parameters configured in the import profile) will be updated and new imported authority records will be added. (Available only if the authority usage policy is set to local by Ex Libris)**

Profile Details

Profile name \* Ongoing Authority Load of Names

Profile description

Originating system \* Other

File name patterns

Import Protocol Upload File/s

Cross walk ☒ Yes ☐ No

Physical source format XML

Source format MARC21\_BIBLIOGRAPHIC (not listed)

Target format MARC21 Authority

Status Active

Vocabulary code LCNAMES

A cataloger can create a single local authority record in the MD Editor:

Ex Libris, a ProQuest Company Response to James Madison University  
IV. Statement of Needs

The system looks for a match to the contents of the control field, highlights the match in yellow and sorts the results in alphabetical order. The list starts with the two authority headings that precede the matched headings.

If your system uses multiple authority vocabularies and is configured for multiple authority priorities, the sorted, matched authority headings lists for each vocabulary are presented on separate tabs that appear in the priority order that you had Ex Libris configure. Select a different tab to view the different authority headings.



*F3 Tabs for Multiple Authority Vocabularies/Priorities*

If you find a match in one tab/vocabulary and switch to a different tab where there is no match, the system places an indicator showing where the match would occur in the list if a match existed.



*Your Entry Would Be Here*

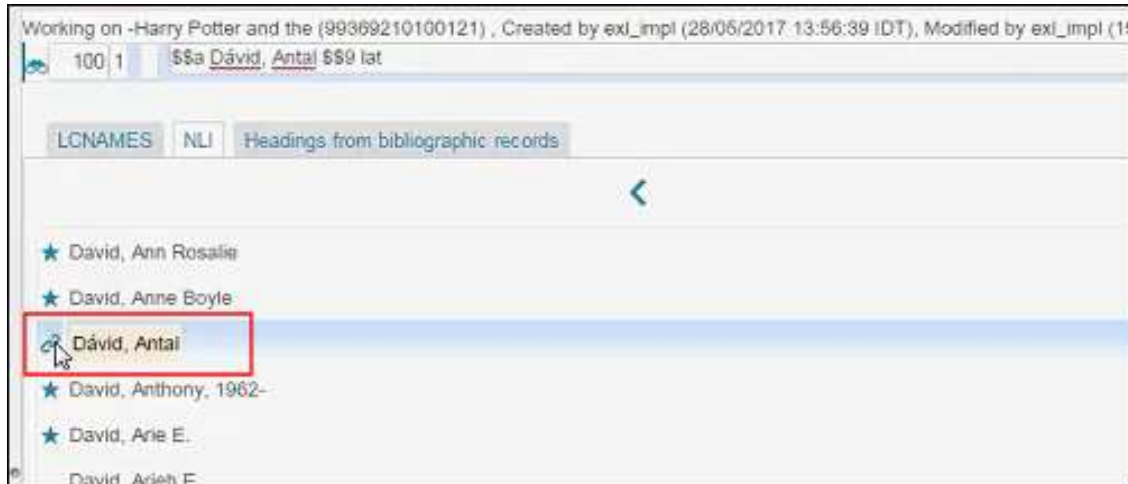
Use the Previous and Next arrows to page forward and backward through the authority headings list.



*Previous and Next Arrows*

If you type additional text in the control field, click the magnifying glass icon or press **Enter** to refresh your authority headings list.

For authority headings that are linked to the bibliographic control field, there is a special icon in the authority headings list to indicate that the link exists. This capability exists for all vocabularies.



*Link Icon Indication*

The View and Select buttons in the authority headings list work as previously described on this page.

14. Safeguards, data validation, error detection, and other database system support for assuring accuracy and integrity of records.

**Ex Libris:** When importing any record, Alma goes through specific steps according to the rule of the appropriate import profile. It validates each record for encoding and content. It checks for matching records that already exist in the catalog, then can be set up to either merge, overlay, ignore (importing anyway), or flag matched records for review.

As part of the normalization and validation configuration for an import profile you can select:

- Filter – using out-of-the-box, community shared or locally created **indication rules**
- Normalization - using out-of-the-box, community shared or locally created **normalization rules**
- Validation Exception Profile - severity of **validation** issues (see below)

Filter		▼
Filter out the data using	Retrieve all records which contain two subfield a c ▼	
Normalization		
Correct the data using	Change 008 pos 23 to o (online) ▼	
Validation Exception Profile		
Handle invalid data using	MarcXML Bib Import ▼	

Selecting a Validation Exeption Profile:



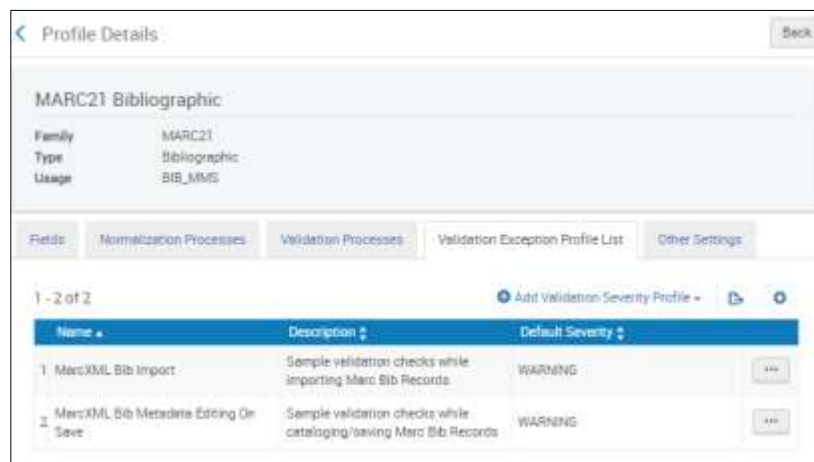
Validation exception profiles are used to determine the severity of validation issues. When an issue is found an error or warning message is provided. Validation exception profiles can be accessed from the Validation Exception Profile List tab on the Profile Details page (**Configuration Menu > Resources > Cataloging > Metadata Configuration** and click a profile link). The following are the out-of-the-box validation exception profiles:

- MARC XML Bib Import – When defining an import profile, you define the validation exception profile to be used during the import. It is recommended that you select this exception profile to handle invalid data as it is being imported.
- MARC XML Bib Metadata Editing on Save – This exception profile is used when copy cataloging via an external resource (such as WorldCat or LoC) and when saving a bibliographic record in the MD Editor.

Validation profiles are fixed (MARC21 Bibliographic, Qualified Dublin Core, UNIMARC Bibliographic, etc.):

	Profile	Family	Type
1	<a href="#">GND Authority</a>	MARC21	Authority
2	<a href="#">MARC21 Authority</a>	MARC21	Authority
3	<a href="#">MARC21 Bibliographic</a>	MARC21	Bibliographic
4	<a href="#">MARC21 Holding</a>	MARC21	Holding
5	<a href="#">Qualified Dublin Core</a>	DCMI	Bibliographic
6	<a href="#">UNIMARC Authority</a>	UNIMARC	Authority
7	<a href="#">UNIMARC Bibliographic</a>	UNIMARC	Bibliographic

In these Validation Profiles you can define additional exception (severity) profiles. You can also edit or copy the existing profiles or delete the ones that you create and manage.



< Validation Severity Profile Exceptions Back

General Information

Name \* MarcXML Bib Import 2

Description Validation 2

Default Severity ☒ Error ☐ Warning

Save Profile Details

1 - 1 of 1 Add Validation Severity Exception

Message

1 Invalid material type found from 6 and 7 position for field LDR

If at any stage during the import process, either because of errors, or because the import profile definition requires mediated intervention, the staff user will be able to review issues using a dedicated task list. This task list will provide the staff user with information on what the issue is as well as the relevant actions the user can perform.

Alma supports a Controlled Vocabulary Registry (e.g. for fields such as the 310, or 041). There are a number of 'out-of-the-box' routines, but a library may also define its own routines as can be seen in the following screen capture:

< Controlled Vocabulary Registry

1 - 5 of 5

	CV Name ▲	Description
1	041A-OTB	041 a
2	245H-OTB	245 h
3	310A-OTB	310 a
4	655A-OTB	655 a
5	920 a	Tags for bibliographies

310 \$Sa pia

504	Annual (Annual)
505 0	
586	Annual (irregular) (Annual (irregular))
650 0	
650 0	Biannual (once every year) (Biannual (once every year))

#### 15. Support for record overlay or import.

**Ex Libris:** Record import and publication is considered a core function, and may be set up and run as a frequent process in Alma without intervention from Ex Libris. Libraries will set up one or more import and publication profiles, which can then be used to automatically import and export records on an ongoing basis. These processes may also be run on demand by the library.



All importing of metadata records in Alma is managed using “Import Profiles”:

1 - 20 of 41

All

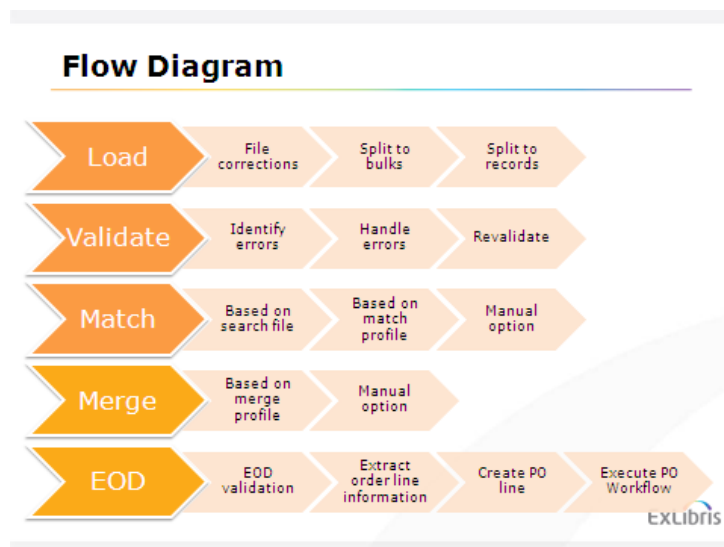
Profile type: All

	ID	Profile name ▲	Profile description ▼	Profile Type	Contr
1	1450516920000121	Copy of YBP - PromptCat overlay	PromptCat overlay for YBP	Repository	-
2	1508282580000121	Dawson	Dawson	New Order	-
3	1363262940000121	Demo - E inventory - import from Nationa...	Demo - E inventory - import from Nationa...	Repository	-
4	1362534380000121	Demo - New Order - xml - match 035 - phy...	Demo - New Order - xml - match 035 - phy...	New Order	-
5	1362543860000121	Demo - no inventory - import from Nation...	Demo - no inventory - import from Nation...	Repository	-
6	1376706250000121	Demo - P inventory - import from Nationa...	Demo - P inventory - import from Nationa...	Repository	-
7	1222434600000121	Demo - xml - match 035 - physical invent...	Demo - xml - match 035 - physical invent...	Repository	-

These profiles define all aspects of the loading process. This process is split into a sequence of steps:

- Loading the file
- Normalizing and validating the records in the file
- Finding an existing match in the catalog
- Merging into the existing record (when relevant)
- EOD (Embedded Order Data) files – creation of order line records (when relevant)

This can be summarized as follows:



The import process supports the maximum possible automation. For example, the import can be defined to merge an imported record into the catalog automatically in cases where the system finds a single match.

When importing any record, Alma goes through specific steps according to the rule of the appropriate import profile. It validates each record for encoding and content. It checks for matching records that already exist in the catalog, then can be set up to either merge, overlay, ignore (importing anyway), or flag matched records for review.

Import Profile Details

Profile Details | Normalization & Validation | Match Profile | Set Management Tags | Inventory Information | Mapping

Match Profile

Serial match method: ISSN Match Method | Non Serial match method: ISBN / 024 / 035 Match Method

Match Actions

Handling method: ☒ Automatic ☐ Manual

Upon match: ☐ Merge ☒ Overlay ☐ Do Not Import ☐ Import New Record

MERGE/OVERLAY

Merge method: Replace 245 and 035 OCoLC if exist

Select Action

☐ Allow bibliographic record deletion

☐ Do not Override/merge a record with lower brief version

☐ Unlink bibliographic records from community zone

Do not override/ merge record with an older version: ☒ Disabled ☐ Consider Originating System ☐ Ignore Originating System

If at any stage during the import process, either because of errors, or because the import profile definition requires mediated intervention, the staff user will be able to review issues using a dedicated task list. This task list will provide the staff user with information on what the issue is as well as the relevant actions the user can perform.

Alma also allows for catalogers to use merge, match and overwrite options for individual bibliographic records as they are imported from another library system that is being used as an external resource. In this way it is possible for the Library to prevent duplication of records in the catalog.

#### 16. URL storage and linking capabilities, including link checking.

**Ex Libris:** Records are automatically validated when being edited in the metadata editor. Additionally, records may be validated on demand. Validation can be warnings that will notify staff of invalid data, or will prevent a record from being updated because a mandatory field (e.g. 245) is missing from the record.

Info | Alerts | Linked Data

050  
"##" is not a valid code for Second indicator for field 050

082  
"##" is not a valid code for First indicator for field 082

260  
"0" is not a valid code for First indicator for field 260  
Value "London ." is not part of the controlled vocabulary for Sub-field "a".

700  
"0" is not a valid code for Second indicator for field 700

17. Capabilities for library staff to control the display of all record types in the public interface, including all MARC 21 fields and subfields.

**Ex Libris:** The library has complete control over the metadata normalization rules and their display in the public user interface. Primo enables institutions to adjust the normalization of their metadata for display purposes, allowing them to control normalization of metadata into standard fields such as author/creator, description, title, etc. as well as use numerous local display fields for any additional metadata fields. Apart from the normalization routines applied to your inventory either against existing records or against records during import, it is also possible to apply normalization rules on published records in Primo.

Alma's discovery configuration also allows you define the details for the full record view in Primo:

**Edit Full Display Details** [Cancel]

EXLDEV1\_INST:Alma

View Name: Alma  
Full Display: Detail Section

Delimiter \* : [Apply]

[Restore] [Add Field]

Fields		
1	Title ; Vernacular Title	[Dropdown] [Icons] [Menu]
2	Creator ; Contributor	[Dropdown] [Icons] [Menu]
3	Is Part Of	[Dropdown] [Icons] [Menu]
4	Dissertation	[Dropdown] [Icons] [Menu]
5	Subject	[Dropdown] [Icons] [Menu]
6	MESH subjects	[Dropdown] [Icons] [Menu]
7	Genre	[Dropdown] [Icons] [Menu]

Local fields can be added for display, search and facets.

Availability is fully controlled in Alma through the Fulfillment framework that includes policies and rules against parameters such as library, location, material type, user group, job category, etc. On top you can configure discovery interface logic rules to configure service dependencies (e.g. suppress resource sharing requests when a physical title is available in your catalogue, suppress hold request if an electronic version is available, etc.). Alma's discovery configuration also allows to further specify access restrictions through 'Restricted Search Groups'. Restricted search groups are used to restrict searches to a record or group of records to specific types of users (which are based on IP ranges, user groups, registered users, and on campus users). In other words, the records must be searchable in Primo, but not by everyone.

You can define for each license term whether it is being displayed in Primo as part of Alma's license configuration.

Full text available at: [Gale Cengage Academic OneFile](#) 
Hide license ^

Available from 1993 until 2007

**License Terms**  
Walk in User Note: Walk in use allowed  
Concurrent User: 10  
Course Reserve Electronic Copy: Permitted  
Digitally copy: Prohibited  
Print copy: Permitted  
Scholarly sharing: Uninterpreted  
Distance education: Permitted  
Interlibrary loan print or fax: Not Applicable  
Interlibrary loan electronic: Permitted  
Interlibrary loan secure electronic transmission: Permitted  
Interlibrary loan record keeping required indicator: Yes

18. Abilities to extract, manipulate, transform, and reload data. Specify the available data formats, such as MARC binary, XML, JSON, csv. Specify whether the system supports batch updating using regular expressions and if so, specify flavor.

**Ex Libris:** Alma supports the ability to export bibliographic, inventory, and authority records in their native formats, including MARC 21 XML or binary and Dublin Core XML. The export of bibliographic records makes use of Publication Profiles. These profiles are defined to determine which records to export, on what schedule to export them, and additional services to run at export (which may include enhancing or cleaning up the outgoing records). This publication approach is the same infrastructure used for synchronizing holdings with WorldCat.

### Record Formats

Alma enables libraries to publish records to third-party systems in a variety of formats:

- Marc 21
- Dublin Core
- BIBFRAME
- RDA/RDF

Additionally, Alma supports the ability to perform ad-hoc exports on demand. This can be used for external record processing, updating for a shared repository, loading into an institutional data warehouse, or any other purpose. The most versatile and ubiquitous type of data extract is the Tools button that is found on most list screens generated in Alma. This Tools button permits the user to save whatever list is present to an Excel spread sheet for further work outside of Alma.

### Batch Update

Batch update actions may be performed using Alma's Process Automation tools. These tools enable:

- Defining a set of records to work on. These records may be of various types:
  - Title records
  - Physical title records
  - Electronic title records
  - Physical item records
  - Digital file metadata records
- Defining a chain of defined tasks to be run on the set. These chains include:
  - Normalization of the set's records
  - Global change of record information

The Metadata Editor enables you to create normalization rules and apply them to MARC 21 records, or apply normalization rules that have already been created to records, so that changes to MARC 21

bibliographic metadata can later be made globally, in bulk. Staff users can utilize the rich search functions within Alma to create sets for batch change.

19. Ability to export selected MARC fields and subfields, with and without delimiter coding.

**Ex Libris:** Alma supports the ability to export bibliographic, inventory, and authority records in their native formats, including MARC 21 XML or binary and Dublin Core XML. The export of bibliographic records makes use of Publication Profiles. These profiles are defined to determine which records to export, on what schedule to export them, and additional services to run at export (which may include enhancing or cleaning up the outgoing records). This publication approach is the same infrastructure used for synchronizing holdings with WorldCat.

Additionally, Alma supports the ability to perform ad-hoc exports on demand. This can be used for external record processing, updating for a shared repository, loading into an institutional data warehouse, or any other purpose. The most versatile and ubiquitous type of data extract is the Tools button that is found on most list screens generated in Alma. This Tools button permits the user to save whatever list is present to an Excel spread sheet for further work outside of Alma.

Alma enables libraries to publish records to third-party systems in a variety of formats:

- Marc 21
- Dublin Core
- BIBFRAME
- RDA/RDF

The screenshot shows a web interface for exporting records. It has two main sections: 'Publish on' and 'Output format'. The 'Publish on' section has three radio buttons: 'Bibliographic level' (selected), 'Holdings/Portfolio/Representation level', and 'Item/Portfolio level'. The 'Output format' section has a dropdown menu with a search icon and the text 'Look-up or select'. Below the dropdown, there is a table with two columns: 'Publishing Protocol' and 'FTP'. The table lists four options: 'MARC21 Bibliographic', 'Dublin Core (Simple)', 'BIBFRAME Bibliographic', and 'RDA/RDF'.

Publishing Protocol	FTP
MARC21 Bibliographic	
Dublin Core (Simple)	
BIBFRAME Bibliographic	
RDA/RDF	

20. Support for library-created transformation scripting, such as XSLT, XQuery, SPARQL Update.

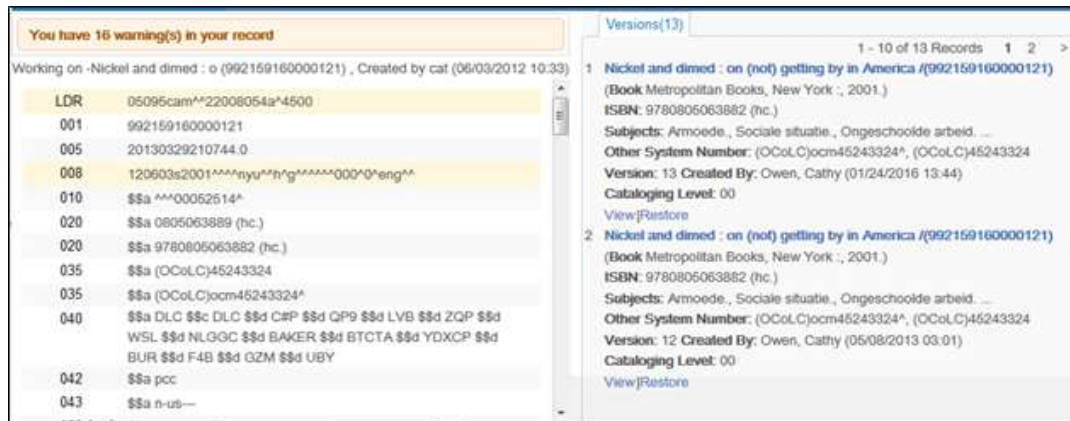
**Ex Libris:** Complies. These languages are used in search APIs to enhance discovery. More information/documentation may be found on the Ex Libris Developer Network: <https://developers.exlibrisgroup.com/>

21. Support for record versioning and rollback.

**Ex Libris:** Alma provides audit trail capabilities by logging events for the various entities. For metadata records, the system keeps a full version history of the commits made, and it is possible to restore a metadata record from one of the history commits made. As shown in the screenshot below, from the Alma Metadata editor, it is possible to view all of the record's revisions.

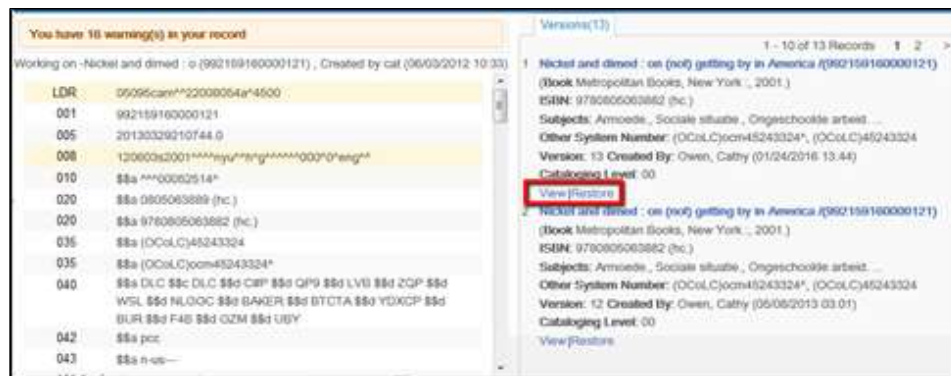


Below, the Alma Metadata Editor – showing where the cataloger can view record revisions:



As can be seen in the screen shot above, on the right side are listed the recent revisions of the record, and the user can view the revision and restore to a desired revision.

Whenever a record is saved (including after editing), Alma will archive the previous version of the record. Staff may view a history of versions of a record, compare them to the current version, and roll back to a previous version. This allows staff and administrators security in knowing that any inadvertent changes to the catalog (either to individual records or groups of records) can be safely rolled back to the previous version.



Within the Metadata Editor Alma provides a number of options for undoing a function for all edits of a record.

Cataloguers can use the standard 'ctrl+z' function which is an 'undo' action in Windows.

Alma also includes a 'restore' option from previous versions of the record within the editor. The user can view the current and previous versions of a record and restore a previous version

In addition there is an option to 'reload original record'.

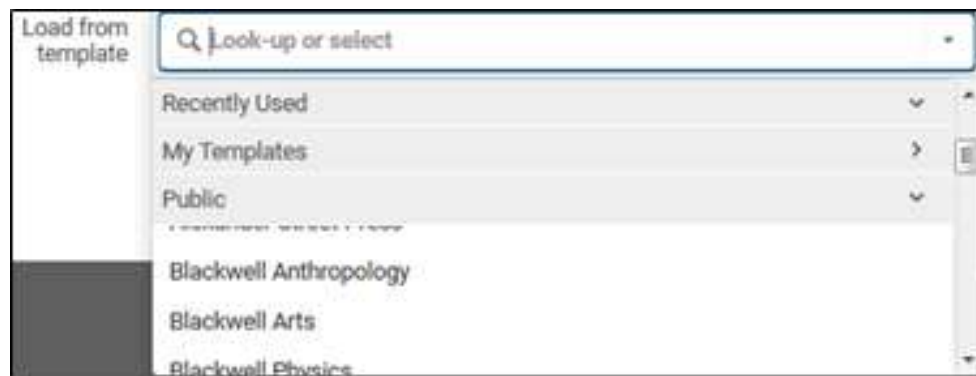
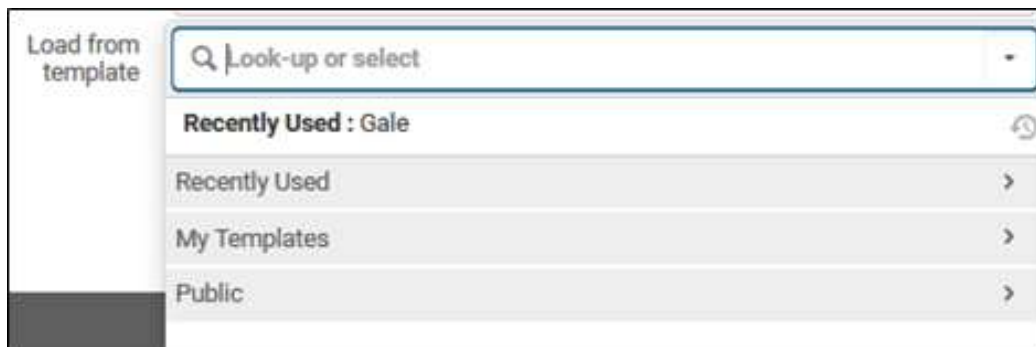


If a user made changes to a record and then wants abandon these changes it is possible to 'reload original record' thus losing all changes made since opening the record.



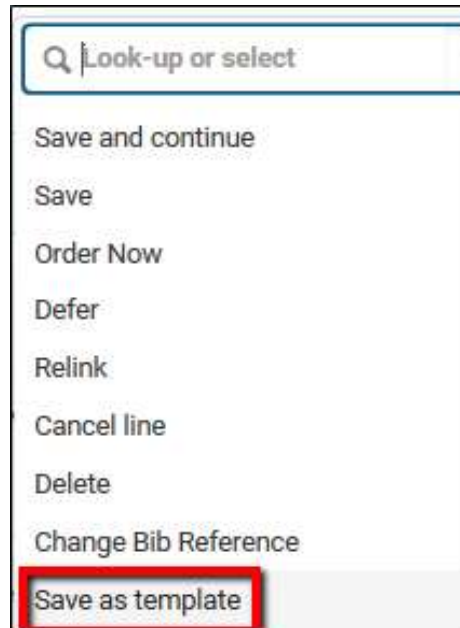
## 22. Support for bibliographic record templating.

**Ex Libris:** Alma supports the creation of purchase order templates. The use of template decreases the need to re-enter purchase related information when creating a purchase order. Templates can be saved either public or for private use. When loading templates, the staff user can choose from private templates and public templates.

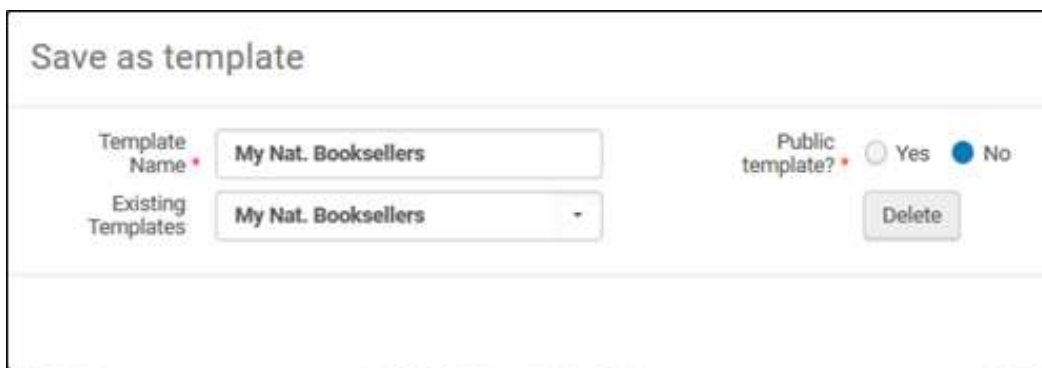


Templates can be modified by editing and resaving the template. The workflow is as follows:

- Open an purchase order using the template that you wish to modify
- Make the relevant changes on the order, and then choose the option 'Save as template'



A screenshot of a dropdown menu. At the top is a search bar with a magnifying glass icon and the text "Look-up or select". Below the search bar are several menu items: "Save and continue", "Save", "Order Now", "Defer", "Relink", "Cancel line", "Delete", "Change Bib Reference", and "Save as template". The "Save as template" item is highlighted with a red rectangular border.



A screenshot of the "Save as template" form. It has a title "Save as template" at the top. Below the title are two input fields: "Template Name" and "Existing Templates". Both fields contain the text "My Nat. Booksellers". To the right of these fields is a "Public template?" section with two radio buttons: "Yes" (unselected) and "No" (selected). Below the radio buttons is a "Delete" button.

- Confirm that you wish to replace the 'old' template with the new version.

### 23. Support for transferring item and order records across bibliographic records.

**Ex Libris:** Alma indexes metadata fields and allows custom searching to generate actionable sets of records. These records can be associated with jobs to make bulk changes to print, electronic, and digital resources, as well as invoices, PO lines, user information, and more.

Alma's metadata services framework may be used for both bibliographic and inventory data, including holdings and item data. This allows staff to run changes in bulk against holdings and inventory records. Examples of this can be seen in the following screen captures:

5	<input type="radio"/>	Change electronic portfolio information	Update portfolio information for a set of electronic portfolios	Portfolio	Information Update
6	<input type="radio"/>	Change Holding Information	Update holding information for a set of physical items	Physical item	Information Update
7	<input type="radio"/>	Change loan to claimed returned	Update item loan status to claimed returned	Physical item	Loan
8	<input checked="" type="radio"/>	Change physical items	Update item information for a set of physical items	Physical item	Information Update
9	<input type="radio"/>	Change PO Lines Status	Change PO Lines Status for PO Line set	Purchase order line	Change PO lines Status

Change location fields:

☐ Change Type \* Permanent  Due Back

☐ New library  New location

☐ Remove temporary item indication

☐ Remove temporary library and location (you must also select "Remove temporary item indication")

Change other fields:

☐ Item policy  Condition Unconditionally

☐ Material type Book  Condition Unconditionally

☐ Inventory date:  Condition Unconditionally

☐ Provenance:  Condition Unconditionally

#### 24. Support for setting holdings in OCLC from within the vendor system.

**Ex Libris:** Alma provides support for you to automatically synchronize the following with the information available for your institution/library in the OCLC WorldCat catalog:

- Bibliographic records with embedded holdings information or holdings information only
- Electronic holdings

Alma's publication framework allows the system to export records automatically to one or more target sources. With this approach to export, external systems (such as discovery interfaces or resource sharing systems) can be kept up to date with records from the catalog. The publishing framework allows libraries to define exports for individual, groups of records, or records changed since the last export. This includes the ability to export the entire catalog with no additional fee. Example of publishing (export profiles) can be seen in the following screen capture:

Publishing Profiles

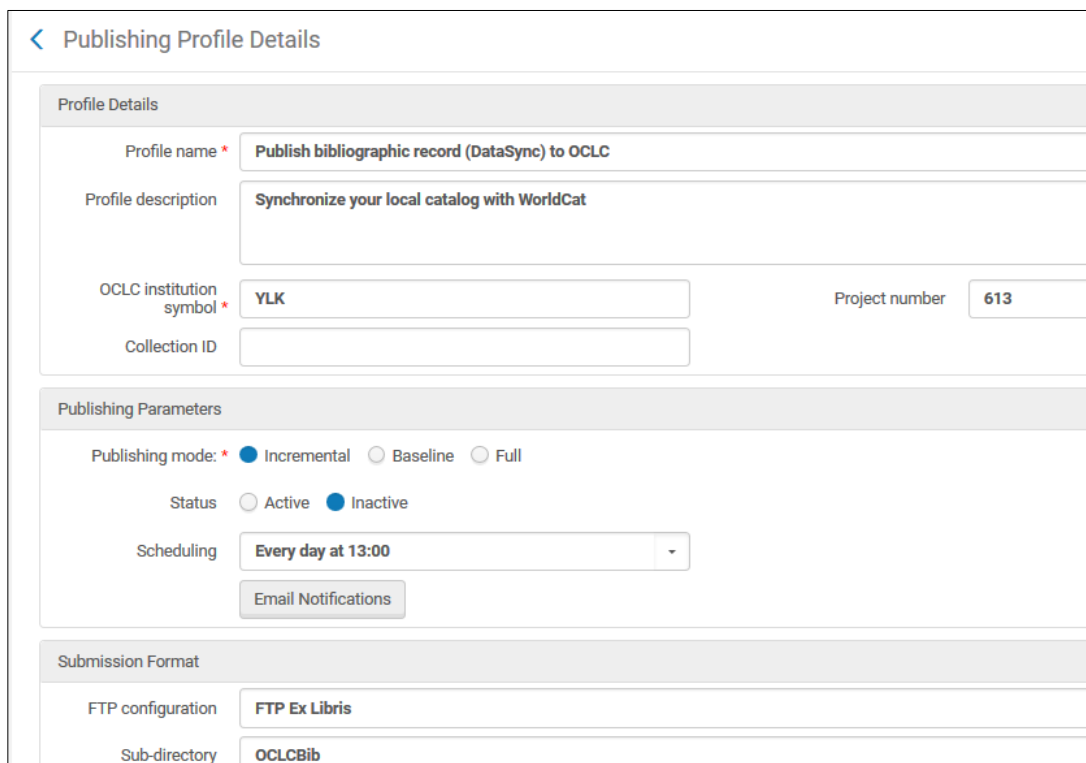
1 - 16 of 16  Name

▼ Publishing Profile Type: All ▼

	Active	Name	Description	Modification Date	
1	<input type="checkbox"/>	COPAC UK	The COPAC Catalog	07/13/20...	<input type="button" value="Add"/>
2	<input checked="" type="checkbox"/>	Kentucky RSS profile	The Kentucky RSS profile works on a set of records with keyword Kentucky	07/02/20...	<input type="button" value="Add"/>
3	<input checked="" type="checkbox"/>	Primo_Collection_D...	-	10/26/20...	<input type="button" value="Add"/>
4	<input type="checkbox"/>	Publish bibliographic record (DataSync) to OCLC	Synchronize your local catalog with WorldCat	01/21/20...	<input type="button" value="Add"/>
5	<input type="checkbox"/>	Publish bibliographic records to Primo	Setup the parameters for publishing bibliographic records to Primo	10/28/20...	<input type="button" value="Add"/>
6	<input checked="" type="checkbox"/>	Publish electronic records to Google	Publish electronic records to Google	12/24/20...	<input type="button" value="Add"/>

For synchronizing local holdings with WorldCat, individual libraries will define in Alma a holdings synchronization service that will run automatically. The service will identify every record that is new, altered, or deleted since the last WorldCat synchronization. Any given resource can be suppressed if the

library does not wish to share it; in this case it will not be exported for synchronization or holdings update. All affected records will be exported from Alma with updated information (or a holdings delete notification, as appropriate). Additionally, specifically for OCLC, Alma can export the actual holding record:



**Publishing Profile Details**

**Profile Details**

Profile name \* Publish bibliographic record (DataSync) to OCLC

Profile description Synchronize your local catalog with WorldCat

OCLC institution symbol \* YLK Project number 613

Collection ID

**Publishing Parameters**

Publishing mode: \* ☒ Incremental ☐ Baseline ☐ Full

Status ☐ Active ☒ Inactive

Scheduling Every day at 13:00

Email Notifications

**Submission Format**

FTP configuration FTP Ex Libris

Sub-directory OCLCBib

## 25. Support for printing spine labels.

**Ex Libris:** Alma workflows enable the processing and routing of physical resources, including the handling and return of damaged items. Item processing and receiving can be done singly or in bulk, and authorized staff have options at this point for creating an invoice, noting that further physical processing is needed, approving for routing, and more.

Staff can search for new physical material by matching the Purchase Order line with the material received. Staff can then indicate whether further work must be performed before the material is available to the library for which it was ordered.

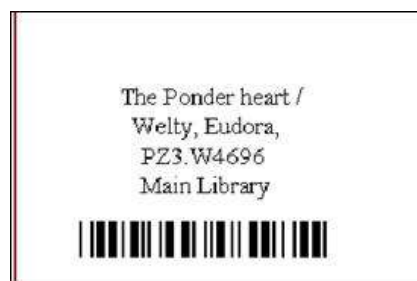
As part of the receiving process, staff can choose from one of the following options:

- Keep in Department – Indicates that further work is required before the material can be made available in a library (e.g. copy cataloging, further physical processing).
- Send to Shelf – Indicates that the items received are shelf ready – with barcodes, spine labels, etc. No further work is required on the material and it can be sent to the library.

Alma has the ability to integrate with locally used label printing applications through downloading a local component that utilizes web service to communicate with Alma and the local label printer. You can choose to use the Alma provided Label Printer BIAF or your existing one. Boston College, for example, has developed SpineOMatic, a spine label printing application developed specifically for use with Alma. Spine labels are printed directly from Alma, and can be printed either singly or in batches. Alma supports multiple classification schemes as well as the option to define multiple parsing schemes for all aspects of the label, as can be seen in the following screen capture.

Call Number Parsing Type			
Table Description		Call Number Parsing Type	Managed in Network
Customization mode:		Entire table needs to be customized	
Enabled	Call Number Type	Call Number Parsing Type	
1	<input checked="" type="checkbox"/>	Library of Congress classification	Parse routine 3
2	<input checked="" type="checkbox"/>	Dewey Decimal classification	Parse routine 3
3	<input checked="" type="checkbox"/>	National Library of Medicine clas	Parse routine 3
4	<input checked="" type="checkbox"/>	Superintendent of Documents clz	Parse routine 3
5	<input checked="" type="checkbox"/>	Shelving control number	Parse routine 3
6	<input checked="" type="checkbox"/>	Title	Parse routine 3

An example of a label:



Alma's Resource Management configuration provides a wide range of options for call number parsing for label printing:

Call Number Type

Dewey Decimal classification  
Library of Congress classification  
National Library of Medicine classification  
Other scheme  
Shelved separately  
Shelving control number  
Source specified in subfield \$2  
Superintendent of Documents classification  
Title

## 26. Capabilities for enriching bibliographic records and displaying book jackets, TOC, book reviews, etc.

**Ex Libris:** Primo records can be enriched with additional data to enhance the discovery and delivery functions. Some examples of this include:

- Google Books
- Amazon: thumbnails, book covers, reviews (link-to)
- Library of Congress: classification numbers translated to description
- Customer-defined enrichments: “plug-in” enrichments

ProQuest and Ex Libris are helping libraries improve the research experience and expand exploration by integrating ProQuest® Syndetics Unbound with the Ex Libris Primo® and Summon® discovery services.

The integration with ProQuest® Syndetics Unbound, a groundbreaking subscription online enrichment service, enables libraries to create a better discovery experience for today’s researcher while maximizing the value of their collections. Libraries can display Syndetics Unbound data on their Primo and Summon catalog detail pages to showcase items and increase user engagement. Researchers see familiar elements such as title recommendations, author information, look-inside-the-book pages, series information, professional reviews, reader reviews, tags, book profiles, and awards. Pricing for Syndetics Unbound can be provided upon request.

## 27. Reporting, querying, and record list creation, including export capabilities and compatibility with Microsoft Excel and other third-party software including:

**Ex Libris:** Alma Analytics is used for the generation of a variety of reports, as well as for generating statistics from various library activities. Analytics is built into Alma throughout the system and is very flexible. Alma comes with a wide range of preconfigured reports and dashboards, all of which are customizable. In addition, designated staff may create reports of interest to other roles within the library and provide dashboards for staff, enabling them to access the defined reports.

Alma’s analytics function provides a Business Intelligence solution centrally installed on Alma servers in the cloud. The solution serves all Alma customers, but the data of each institution is separated from other institutions, based on the Alma SaaS model. Alma Analytics is designed to work over the Web and in the cloud so libraries can run out-of-the-box reports as well as create and run ad-hoc reports without the need for third-party reporting tools. Consortium members also have the ability to run reports on the level of the network.

Alma Analytics provides a full suite of capabilities for creating and exposing reports, and presenting dashboards of summary data using this tool:

- From screens within Alma;
- From dashboards specifically tailored to a particular staff role;
- As widgets that are accessible from lobby areas within Alma; and
- As pushed reports, sent to the interested staff as emails.

All reports can be exported in CSV, Excel or PDF.

In addition to the out of the box reports, Alma Analytics includes embedded reports as shown below:





Alma analytics includes data from different business areas (such as funds expenditure, loans, acquisitions, bibliographic data and more) and was built in mind both for operational day to day reports such as outstanding orders by supplier/fund/material type or a fund transaction report as well as for more analytical, decision support reports, such as most frequently used and least frequently used journals.

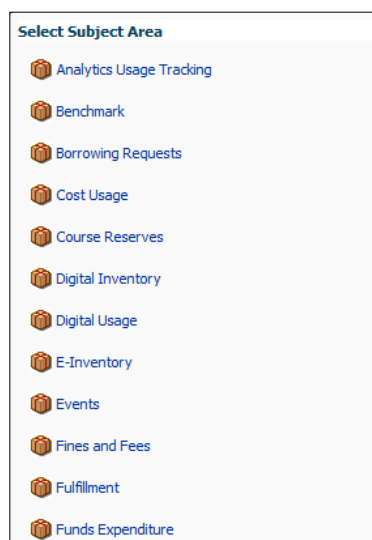
Alma roles determine which users can create reports (report designers) and which users can only view reports (report consumers).

Alma provides for the automated dissemination of reports. For example, library staff can schedule a report to run periodically; authorized staff may then subscribe to the report and receive the output in an email sent automatically based on the report schedule (e.g. daily, weekly, monthly). In this way, a staff member can get to his/her email report at fixed intervals without the need to log into Alma.

A snapshot of data is taken from Alma every 24 hours. The ETL process then takes place. Because Alma Analytics is not using the production Alma data, running reports as no impact on system performance.

Data available as of: 18/06/2017 04:49	Data updated as of: 18/06/2017 02:01
---	---

The data warehouse is organized into subject areas which are designed as a star schema and which classifies the attributes of an event into facts (measures) and descriptive dimensions.



The benefits of a star schema are:

- Simpler queries - star schema joined logic is generally simpler
- Simplified business reporting logic
- Query performance gains - star schemas can provide performance enhancements for read-only reporting applications
- Fast aggregations - the simpler queries against a star schema can result in improved performance for aggregation operations

Reports which cross subject areas are possible through dimensions, which are shared by multiple subject areas. For example, Classification is a joint dimension of Expenditure and Circulation subject areas so it is possible to create reports that match expenditure and usage of a specific location.

All reports are exportable in PDF and HTML format. In addition, each component within a report (chart, table etc.) can be exported in a variety of formats including Excel, XML, CSV. In addition, reports can be scheduled to be sent as email outputs to authorized staff on a regular basis.

a) any limitations on size of report or query result set

**Ex Libris:** The purpose of Alma Analytics is for obtaining trends and statistics so that evidence based decision making can be made on library processes.

If the institution desires to export large amounts of data from Alma then there are multiple process to do so, and they should be used instead of Alma analytics.

For example:

- The general publishing profile allows the institution to export a set of bibliographic records which could theoretically contain the entire catalog and then continue to automatically run with incremental changes. This export can include all bibliographic fields as well as information of related inventory such as portfolios, electronic collections, physical items and digital objects. It can be run manually or scheduled to run on a regular basis and export to an ftp server.
- Users can be exported using the integration profile of type users. All users can be exported, or they can be exported according to various conditions.
- Fines and fees can be exported using the integration profile of type bursar. All fines and fees can be exported, or they can be exported according to various conditions.
- URLs of bibliographic records, electronic resources and digital titles can be done using the job "Export URLs"
- Physical items can be exported using the job 'Export physical items'
- Digital titles can be exported using the job "Export digital titles"
- Local authority records can be exported using the job "Export authority records"

There is 500,000 line limit for exports of Alma Analytics reports in csv format. The limit is in place in order to ensure the efficient use of OBI with the multi-tenant cloud environment.

b) any limitations on type of information which can be queried

**Ex Libris:** Analytics is built into Alma throughout the system.

Data elements and subject areas in Alma Analytics can be combined.

See for example [https://knowledge.exlibrisgroup.com/...cs\\_report.pptx](https://knowledge.exlibrisgroup.com/...cs_report.pptx)

There is however a minor limitation, and that is a relational database restriction:

It is not possible to combine different subject areas if there is not a common dimension with measures.

However, to overcome this, Alma Analytics has added dimensions from many subject areas to other subject areas.

For example fund information from the "Funds Expenditures" subject area has been added to the "Physical Items" subject area.

Similarly, "Course Reserves" information has been added to the "Fulfillment" subject area.

28. Describe other metadata and cataloging capabilities unique or notable of the proposed system not addressed above.

**Ex Libris:** Alma offers great flexibility in the ways institutions and consortia manage their cataloging, by providing the ability to manage local holdings and collections as well as shared resources (e.g., resources from the consortia or from the broader Alma community).

Alma's centralized metadata management environment (Metadata Management Service, or MMS) supports both traditional and new methods for cataloging, which allows libraries to move into a shared metadata environment in a way that best meets local needs and policies. This includes support for local catalogs and local fields in shared records in the Network Zone.

The Metadata Management System includes three primary areas: the Institution Zone, the Network Zone, and the Community Zone. This hybrid model allows institutions to manage their unique local collections while supporting a shared consortial catalog, as well as a global Community Catalog.

The Institution Zone represents the single library, and it is the basic level of data and workflow management in Alma. An institution [library] can link its inventory records to the metadata records in the Community Zone or the Network Zone, either of which eliminates the need to download these records to the local catalog. In addition, a library can copy catalog (or download) records from shared catalogs (Community or Network) into the local Institution Zone catalog. The Community Zone also contains authority catalogs that are synchronized against the relevant authorizing agency, ensuring individual institutions have access to the benefits of authority control without having to invest their local resources in synchronizing the authority files themselves.

Furthermore, Alma is designed using an open data philosophy with records in the Community Catalog fully open to, owned by and stewarded by the Alma community. Ex Libris claims no rights of ownership nor restricts the use or reuse of these records.

Record import and publication is considered a core function, and may be set up and run as a frequent process in Alma without intervention from Ex Libris. Libraries will set up one or more import and publication profiles, which can then be used to automatically import and export records from different sources on an ongoing basis. These processes may also be run on demand by the library.

Alma supports the ability to import records in bulk on demand or according to a schedule. It will preserve unique fields and lowered encoding levels, though each condition may be logged when the incoming records are validated. The rules by which it imports records are set up in "import profiles." Each site may set up many import profiles—for records from different sources, containing different data types, etc. Alma supports the ability to load records in one of the supported metadata schemas (MARC 21, UNIMARC, KORMARC, CNMARC as well as Dublin Core).

When importing any record, Alma goes through specific steps according to the rule of the appropriate import profile. It validates each record for encoding and content. It checks for matching records that already exist in the catalog, then can be set up to either merge, overlay, ignore (importing anyway), or flag matched records for review.

Finally, it runs additional services. The additional services work according to the rule framework. For example, an additional service might be to extract inventory information and create holdings and item records.

Another service is to flag brief records. These are identified by checking for the presence of a combination of fields, including call number, title, publication statement, subject, etc. If the default rules do not suit a site's needs, libraries may design additional validations and services and bind them to import profiles.

## G. Circulation Functionality

1. Provide a brief overview of the circulation module functionality of the system.

**Ex Libris:** In developing Alma, Ex Libris has moved beyond the traditional ILS concept of circulation, to ensure fulfillment for end-users across a unified set of print, electronic and digital resources. This is much more than circulation, and it's why we use the term "fulfillment" rather than circulation when describing the various patron services.

Alma's Smart Fulfillment framework is a suite of functions that manage the delivery of resources to end users. It encompasses print circulation requesting and policies, electronic link resolution, and digital access and rights management. The focus of Smart Fulfillment is on maximizing the exposure of available resources and delivering options to end users in terms that matter to them, rather than according to the behind-the-scenes processing that library staff engages in to fulfill the request.

At the heart of user interaction with Alma is the Smart Fulfillment services menu. Working in conjunction with the discovery application, the services menu presents all options to patrons regardless of format. Taken together, the services menu greatly simplifies patrons' experience of getting the resources they want.

- Alma responds to requests with a services menu that combines direct links to local digital or publisher-hosted electronic resources, physical resources available on the shelf, and requests that users may place on any resources.
- Options are filtered by patron rights—e.g., access restrictions on a digital resource will prevent patrons from seeing a link they can't actually access.
- Services are arranged and presented according to library-defined rules—e.g., libraries may suppress the more expensive ILL option if the resource is available electronically.
- Link resolution is built into Alma as a core function of e-resource management; there is no need for a separate link resolver.

A key goal in Alma fulfillment is to simplify policy management. Simple library policies are clearer to library patrons, are simpler to administer and update, and are easier to analyze and tune to meet the library's needs. All of these policy settings are determined by the library.

One of the core concepts in Alma fulfillment is the "Terms of Use" for library resources – regardless of format. The Terms of Use defines a bundle of individual rights, e.g. loan period, renewals, fine policies, etc. Once defined, the Terms of Use becomes reusable for many combinations of patrons and items. This simple, yet flexible, approach allows institutions to focus on actual policies, rather than creating and maintaining matrices and complex collections.

Policy Type	Policy Name
1 Is Requestable	Requestable (Requestable)
2 Pickup Locations	Anywhere (Default value for Pickup - Anywhere)
3 Hold Shelf Period	7 day Hold Shelf (Default value for HoldShelfPe)
4 Is Digitizable	Is Digitizable (Default value for digitizable)
5 Is Requestable for Resource Sharing	Requestable For Resource Sharing (Item is requ)
6 Request Priority	High (High)
7 On Shelf Request Policy	Allow for pickup anywhere regardless of availat
8 Personal delivery	Personal Delivery - All (Deliver items to a home

Policy setting in Alma can be done for a wide variety of parameters, including loan rules, limits, calendar settings, and more. These policies can be enforced globally or at the branch level. An important concept in policy administration is the ability to inherit policy settings from higher locations in the organizational structure, such that global policies need to be defined only once, and become inherited by libraries and branches within the organization. Policies that are specific to lower levels in the organization are then locally defined and override the institutional settings.

For traditional functionality such as loans and returns, Alma focuses on creating clean interfaces that support staff work, as well as building out the self-service checkout via SIP2.

A configuration table in Alma allows for defining fines and fees related to various activities in the library – e.g., overdue fine, registration fee, notification fee, lost item charge, etc.

In addition, it is also possible to define if:

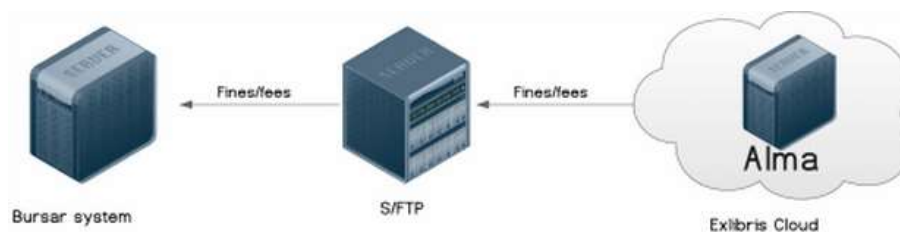
- a fine/fee can be waived;
- it can be created manually, or is automatically generated by the system;
- it can be refunded;
- the fine/fee is on the level of the library or the institution.

For example, loans are checked at the time of return to see if they are overdue. If a loan is found to be overdue, overdue policies are consulted to correctly calculate the fine. Fining policies may be set per days or hours and per open time or calendar dates. Fines may be controlled by a minimum and maximum fine policy. Also, grace time policies which allow additional time past an item's due date or time, may prevent creation of a fine even when an item is overdue.

	Fine/Fee type	Waivable?	Manual creation?	Refundable?	Fine/Fee owner	VAT Percentage
22	Lost item pi	True	True	False	Library	
23	Lost item re	True	True	True	Library	0
24	New user fe	True	True	True	Institution	0
25	Notification	True	False	True	Library	0
26	Other	True	True	True	Library	0
27	Overdue fin	True	False	True	Library	0
28	Overdue no	True	False	True	Library	0
29	Overdue Lo	True	False	True	Library	0
30	Patron regl	True	True	True	Library	0
31	Personal de	True	False	True	Library	0

Patrons can be charged fees for various types of activities, such as signing up for a course, extra education services, and so forth. Thus, many institutions handle patron-related charges in a dedicated bursar system. This can be the institution's ERP system or a system that is in charge of patron-related finance. Institutions export fine and fee information from Alma to the bursar system. Exported fines and fees are considered closed in Alma, since they are handled outside of the library's scope.

In general, the export of fines and fees is handled using XML files that are placed by Alma at a predefined FTP location. These XML files can then be fetched by the bursar system. The workflow is illustrated in the diagram below:



To export fines and fees from Alma to a bursar system, an integration profile must be defined, and Alma includes templates for this. Additionally, institutions that have multiple bursar system can define a separate profile for each bursar system:

2. Describe capabilities to allow multiple circulation units to retain individual circulation policies and procedures.

**Ex Libris:** Alma allows the library to pre-define the policies by which items are made available to users using combinations of variables. These variables include loan period, quotas for different material types, fines, number of titles, sites, and borrower types.

Policies, Terms of Use (TOU), and Fulfillment Unit rules determine the terms by which services are provided by the library to the patron. For instance, based on these policies, a patron may be required to

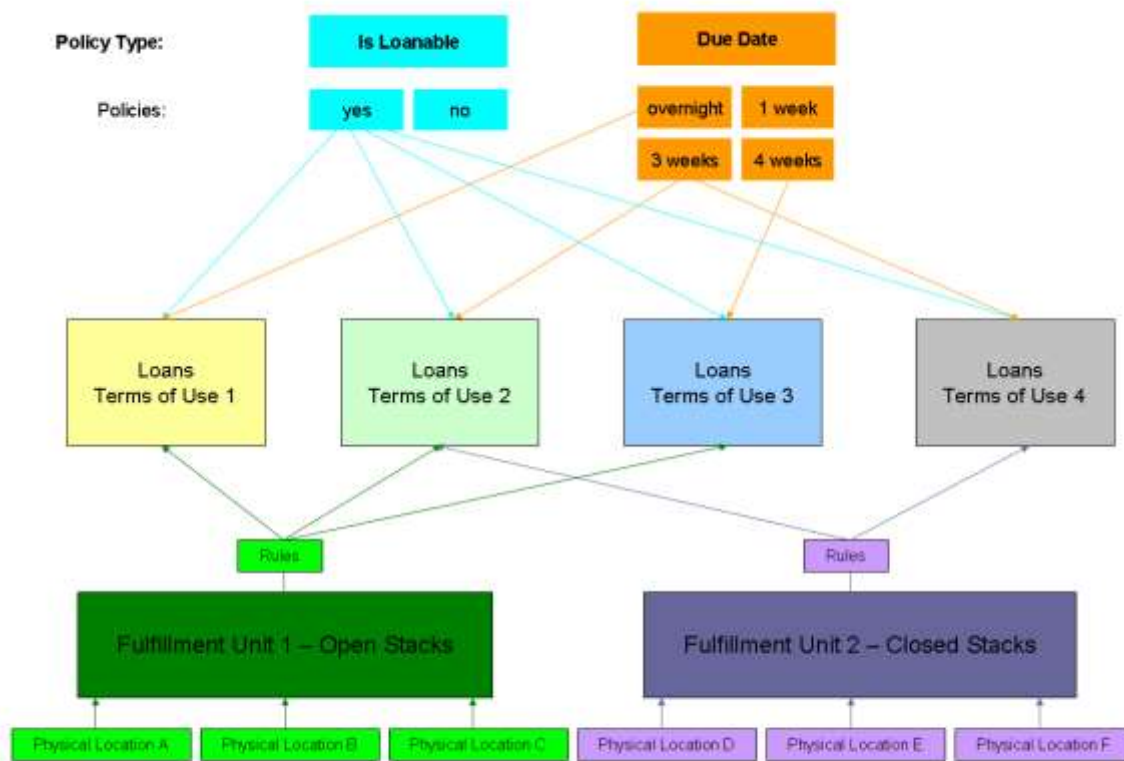


return a book three days after checking it out and, if returning it late, pay a late fine of \$10. The same item for a staff patron may be a two-week loan and no late fine.

A Policy is the basic building block of TOU. A policy sets specific conditions for a specific service. For example, ‘Allowed Pickup Locations’ = ‘Anywhere’, or ‘Lost Item Fee’ = 150. More than one policy may be configured for a given type of service. The policy which will be applied in a given situation depends upon the TOU which apply to that situation.

Terms of Use are an aggregation of policies relating to a particular service. For example, TOU for a loan aggregates policies such as Lost Item Fine, Maximum Renewal period, Overdue Fine, etc. More than one TOU may be configured for a given service. The TOU to be applied in a given situation depends upon the applicable Fulfillment Unit and the rules configured for that service within the fulfillment unit.

Fulfillment Units: A fulfillment unit includes one or more locations within a library that follow the same policies. Fulfillment units include rules which determine the “terms of use” for patrons of the libraries.



### 3. Describe how item type, location, and status codes can be defined and configured.

**Ex Libris:** Lending rules can be viewed, edited and managed by authorized staff through the Fulfillment Configuration Menu.

As lending rules are flexible and may differ based on user groups and other factors, Alma offers a **Fulfillment Configuration Utility** that allow a staff user to input a patron and item in order to see the rules that apply to the lending of that item, as well as the due date if loaned now. Optionally, staff can also enter a return date and time and calculate what the overdue fine would be.

The authorized staff user can link directly from this page to the configuration page of the Fulfillment Unit, the Fulfillment Unit Rule, or the Terms of Use and edit them if needed.

< Fulfillment Configuration Utility

Patron Identifier \* Sara Carr - Undergraduate Studen X [icon] [icon] Item Barcode \* 220-10

**Fulfillment Attributes**

Fulfillment Unit Name Regular Location Circulating Material

Fulfillment Unit Rule One Week Loan

Terms Of Use Name Standard One Week Loan

Due date if the item would be loaned now 21/06/2017 10:51

Return date [input type="text"] [calendar icon] Calculate Overdue Fine

**Terms of Use Policies**

Policy Type	Policy Name	Policy Description
1 Block When Overdue	No block when overdue	Do not create a block when overdue
2 Maximum Period For Overdue Block	No Maximum Block Period	No Maximum Block Period for Block When Overdue

The **Fulfillment Configuration Utility** has tabs for rules relating to Loans, Requests, Bookings and Overdue Lost Loan Profiles:

< Fulfillment Configuration Utility Cancel

The item is on loan for user: Batson, Billy. Due date: 11/01/2018 10:50:00 CDT.

Patron Identifier \* Batson, Billy - Undergrad X [icon] [icon] Item Barcode \* 86206-Rain on the X [icon] [icon] OK

Loan Request Booking Overdue and Lost Loan Profiles

**Existing Loan Attributes**

User Group Undergraduate Student

Item Location Main Library (Stacks)

Loan Status Normal

Material Type Book

Item Policy 1 hour loan

Already Handled by Profiles -

**Matching Profiles (By patron, item and loan status)**

Name	Profile Type	Description	Days After Due Date
1 Students Notify 30 Days	Overdue notification type 1	-	30
2 Students Lost 45 Days in the Main Library	Change to lost	-	45

4. Specify whether the system can accommodate Code 39 barcodes with 10 digits using the following sequence: (start) number (line feed) (stop) with no check digit and with the first digit of “1” or “2” used to indicate an item record.

**Ex Libris:** Complies. Barcodes and RFID tags can be used to scan material and patron identifiers, using any reader that will output identifiers.

5. Describe options for uploading patron data from external sources (*i.e., university human resource and student information systems*).

**Ex Libris:** External users’ information is loaded into Alma and synchronized on a regular basis. It is possible to update an external user’s information manually in Alma, but these updates are overridden by the next synchronization with the user information system (Only the following fields are not replaced if they were updated manually or if they are empty in the incoming user record: User group, Job title, PIN number, User language, Campus, Resource Sharing library).

Authentication of external users is performed outside of Alma—for example, in LDAP. Student Information System (SIS) is the system in which the institution’s users are saved, managed and maintained. These users might be the students, as well as the institution staff.

Alma, as the library management system, needs to know the users information, in order to give them library services. Therefore, the users should exist in Alma: they are copied from the SIS into Alma, and synchronized on a regular basis.

The relation between Alma and the SIS is in a “Parent-Child” module: the SIS is the “Parent” system, which is responsible for the users’ information. They are managed and maintained in the SIS. Alma is the “child” – in which the user information is replicated. The users’ information in Alma might be edited, but it will be overridden with the SIS information during synchronization. Users that are managed by the SIS are considered as “external” in Alma.

The integration between Alma and SIS is configured in an Integration profile of type “Users” in Alma. If your institution has several SIS systems, a separate profile should be defined for each of them.

There are few usages in which Alma and SIS can be integrated:

The common usage is import and synchronize external users from SIS into Alma.

2 additional usages are available, but are not commonly in use:

- Export user blocks
- Export user

For more information please see our Developers Network site for full information and examples about the different integration options available with Alma -<https://developers.exlibrisgroup.com...a/integrations>

A full description of the input file may be found at [https://developers.exlibrisgroup.com/alma/apis/xsd/rest\\_users.xsd?tags=SIS](https://developers.exlibrisgroup.com/alma/apis/xsd/rest_users.xsd?tags=SIS)


6. Describe capabilities and safeguards for allowing library staff to override system limits.


**Ex Libris:** Override policies are configured by the library and only available to staff with the relevant roles and permissions. An example of the override configuration table can be seen in the following screen capture:

	Description	Actions
1	The loan regular due date conflicts with booking request	Override By All -
2	The renew due date conflicts with booking request	Handle Automatically -
3	Item is not loanable	Override By Manager -
4	Item is not renewable	Block -
5	Item cannot be loaned to patron - insufficient due date	Block -
6	Item does not belong to this institution	Block -
7	Item is on Hold Shelf for this patron	Handle Automatically -
8	Item cannot be loaned due to booking request	Block -
9	Item has not been received by Acquisitions Department	Block -
10	Item is requested by another patron	Override By All -
11	Item renew period exceeded	Override By Manager -

The following screen capture illustrates a library defined block that can be overridden by the staff operator:

User Jane Brown Is Blocked

 Cash - Limit of 25.00 USD exceeded. User has 43.00 USD.

 Overrideable


Override

Cancel

OK

The following example shows the same block that cannot be overridden by the staff operator who does not have override privileges:

User Jane Brown Is Blocked

 Cash - Limit of 25.00 USD exceeded. User has 43.00 USD.

Cancel

OK

#### 7. Describe how the system calculates due dates.

**Ex Libris:** Alma allows the library to pre-define the policies by which items are made available to users using combinations of variables. These variables include loan period, quotas for different material types, fines, number of titles, sites, and borrower types. 'Terms of Use' in Alma fulfillment are a 'bundle' of individual rights (e.g. loan period, fines, etc.), reusable for combinations of patrons and items.

## 8. Describe off-line circulation capabilities.

**Ex Libris:** Alma includes an offline circulation tool that will allow for the continuation of check-in and check-out activities when the system is available. The offline circulation tool can be installed locally and allows the data to be synced back to Alma when the network connection is back following a network failure. In addition, as Alma is hosted in the cloud, in case of local network outage there is also the option of using 3G or 4G mobile networks to access the system, enabling normal operations.

The offline circulation utility can be downloaded from [the Developers Network](#).

The offline circulation client stores patron barcodes and item barcodes. Loans are generated when the offline circulation files are uploaded to Alma.

To upload offline loans and returns, on the Offline Circulation List page click in the File Name field and select the .dat file containing the list of loans and returns performed during connection downtime. Click Upload and Validate File Content.

The job is displayed in the table at the bottom of the page. Its status is displayed in the Status column.

Job ID	Status	Creator	Time Started	Time Ended	Entities Finished	Entities Failed
1 2367527620000121	Completed Successfully	ex_lmpl	11/10/2016 08:32	11/10/2016 08:32	1	20
2 2017238940000121	Completed Successfully	andrewfrench	07/27/2016 20:40	07/27/2016 20:40	6	2

To view details of a job, click View for the relevant job. The Job Report page opens, detailing the number of items processed successfully and unsuccessfully.

Line	Error Message
1 2	A later action on this item happened. Barcode: 56-10 Item Title: Exultate omnes : Beata es, Virgo Maria; and, Quae est ista : three motets for 12 voices / Vincenzo Ugolini; transcribed and edited by Graham Dixon

## 9. Detail system handling of financial transactions, including how they might be exported to another system.

**Ex Libris:** All details of the patron's transactions relating to fines and fees are stored in the patron record.

Active balance		57.00 USD	Disputed balance		-	Transferred balance		-
Currently filtered balance		57.00 USD	Currently filtered disputed balance		0.00 USD			

1 - 9 of 9	Title	Q	Waive Selected	Add Fine or Fee	
------------	-------	---	----------------	-----------------	--

Fine/Fee type	All	Status	Active
---------------	-----	--------	--------

	Creation Date	Fine/Fee type	Status	Status Date	Comment	Fee Owner	Title	Item Barcode	Original Amount	Remaining Balance
1	09/03/2...	Other	Active	09/03/2...	3rd warning - Overdue	Medical Library	-	-	2.00 USD	2.00 USD
2	09/03/2...	Other	Active	09/03/2...	3rd warning - Overdue	Main Library	-	-	2.00 USD	2.00 USD
3	06/03/2...	Other	Active	06/03/2...	Overdue summary letter	Alma University	-	-	5.00 USD	5.00 USD
4	09/18/2...	Other	Active	09/18/2...	1st warning - Overdue	Medical Library	-	-	1.00 USD	1.00 USD
5	09/18/2...	Other	Active	09/18/2...	1st warning - Overdue	Main Library	-	-	1.00 USD	1.00 USD
6	03/18/2...	Recalled Overdue fine	Active	03/18/2...	Recall late return fine	Main Library	-	-	40.00	40.00

Detailed information such as creation date, fine/fee type, status, fee owner (institution or library), title and amount is also stored in the patron record, and is retained after the fine has been paid. Below, the screen reflects payment of the charges and a zero remaining balance:

Fine/Fee type	All	Status	All
---------------	-----	--------	-----

	Creation Date	Fine/Fee type	Status	Status Date	Comment	Fee Owner	Title	Item Barcode	Original Amount	Remaining Balance
1	09/03/2...	Other	Closed	06/15/2...	3rd warning - Overdue	Medical Library	-	-	2.00 USD	0.00 USD
2	09/03/2...	Other	Closed	06/15/2...	3rd warning - Overdue	Main Library	-	-	2.00 USD	0.00 USD
3	06/03/2...	Other	Closed	06/15/2...	Overdue summary letter	Alma University	-	-	5.00 USD	0.00 USD
4	09/18/2...	Other	Closed	06/15/2...	1st warning - Overdue	Medical Library	-	-	1.00 USD	0.00 USD

Alma records all details related to the payment of fines and fees. This can be viewed from the Fines and fees tab of the patron record by clicking on the amount hypertext link (of closed transactions):

	Creation Date	Fine/Fee type	Status	Status Date	Comment	Fee Owner	Title	Item Barcode	Original Amount	Remaining Balance
1	01/03/...	Credit	Closed	04/19/...	-	Main Library	Il nome della rosa / Umberto Eco.	AU15505	-45.00 USD	0.00 USD

Transaction Type	Amount	Reason	Comment	Created By	Accepted By	Transaction Date	Payment Method	Reference	Transaction ID
1 Payment	-45.00 USD	-	-	MAIN_CIRC - Main Circulation D...	Super User	04/19/2017 11:07	Cash	276924052000...	234020000121

This can also be reported on in Alma Analytics. An example of such a report:



Fines and fees by operator			
Transaction Amount	Operator First Name	Operator Last Name	Title
45.00	Alan	Diamond	
10.00			The Catholic Church in Korea.
2.00	Andrew	French	
4.50			A practical handbook of medical chemistry / by John E. Bowman.
5.00			Oliver dan water
2.00			Eisenhower at war, 1943-1945 / by David Eisenhower.
10.00			Harmonica classics [sound recording]
6.00			Hedda Gabler by Henrik Ibsen ; translated by Michael Meyer ; BBC TV [in association] with Time Life Multimedia ; Cedric Messina, producer
1.50			Irish elegies /
13.00			Liquidity and financial institutions in the postwar period,
1.50			Qadesh, mission archéologique à Tell Nebi Mend, 1921-1922.
60.00			Recent advances in physiology and bio-chemistry / edited by Leonard Hill ; contributors, Benjamin Moore ... [et al.].
14.00	Barry	Bingham	The Ponder heart / by Eudora Welty ; drawings by Joe Krush.
97.50	Bettina	Schmid	
13.50			American pastoral / Philip Roth.
3.00			Annalen des Historischen Vereins für den Niederrhein, insbesondere die alte Erzdiözese Köln.
4.50			Chronicon Helveticum. (Ungesetzte Neuausg., aufgrund der Originalhandschriften.) Bearb. von Peter Stadler und Bernhard Stettler.
7.50			De gebroeders Leeuwenhart [ VIDEO ]
18.00			Eudidean quantum gravity /
3.00			Funny girl / Nick Hornby
57.00			Landet utom sig : bilder från Sverige. = Country beside itself : pictures from Sweden /
7.00			Mockingjay
30.00			Money and banking casebook.
7.00			New York Philharmonic [sound recording].
4.50			Sonata in E for trombone and piano.

Billing details themselves are not stored in Alma, as described in the response above.

- Detail capabilities for patron notices, and to what extent processes can be automated and integrated into workflows. Specify whether notices can be customized, whether the system supports e-mail notices, and whether a specific sub-library can generate its own notices.

**Ex Libris:** Notices and forms can be customized at the institution level and inherited by all libraries, or customized on the library level.

Patron Notices are generated using an XML/XSL mechanism that allows the library to fully configure the notices. The customizations may include changes to the style, the addition or subtraction of information sent to users, and so forth. The Configuration Files page lists all of the XML style sheets that are used to format each type of letter and determine what XML data fields display in the letter emails and SMS messages. The delivery schedule of notices can also be configured:



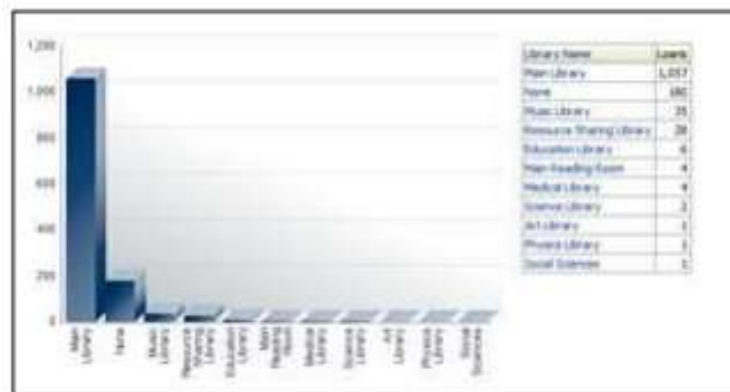
11. Describe the system's ability to generate any additional reports related to patrons, fines, etc., including ability to automate such reports or integrate into workflows.

**Ex Libris:** Analytics includes 3 comprehensive subject areas in the area of circulation: Fulfillment, Fines and Fees, and Requests. An example of the Fulfillment subject area can be seen following:



Examples of reports in these areas:

Loan Statistics by Library:



The bibliographic details dimension is a shared dimension in the fulfillment subject area. As an example, it is possible to create a report that counts loans by title:

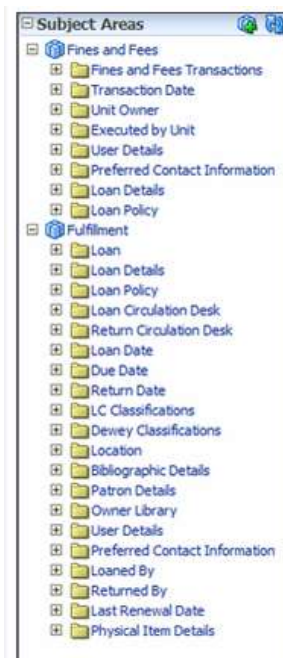
HRM ID	Title	Call Number	Loans
991463530000121	John Belushi and John Belushi: Seven lectures.		129
991466120000121	Die Gartenwelt aus Lese = (Le Rite gardeners) : romanche Opus /	98.026.008	46
991314600000121	Heroes romances of Ireland.		38
991347420000121	A Texas blue sonnet /	AL 2118.5.30	31
991465730000121	Everybody loves my baby, but my baby don't love nobody but me /		24
991466560000121	Evilstar series / Rasta ex, Varga Marc and, Que ex with 3 new notes for 12 notes /		23
991706390000121	Irish and prejudice /	921.053.864	23
991466980000121	A midsummer night's dream /		19
991194570000121	The Porter Heart /		18
991113000000121	The North Korean Economy /		15
991267130000121	Angels & demons /		15
991128440000121	Adoption & family life.		13
991460700000121	Les causes de la infection en d'Paris.		13
991412950000121	Schiller's Les of the hell, with a separate accompaniment for the organ in piano form.	Mus 765.4.372	12
991462640000121	Tableaux de la littérature espagnole depuis le 12e siècle jusqu'à nos jours, - précédé d'une introduction sur l'origine de la langue espagnole.		11
991137080000121	The interpretation of the Gufuhen legend in the works of W. S. Yeats.		9
991465510000121	Three quarters of a century (1807 to 1882) a retrospect /		9
991466020000121	The abduction from the seraglio. Die Entführung aus dem Serail. Comic opera in three acts.		9
991466730000121	Globalization /		9
991706390000121	Irish and prejudice /		9

The Users dimension is also part of the Fulfillment subject area and can be used to generate circulation statistics – e.g. by library and user group. For anonymized circulation data only information on the user group and statistical categories will be available:

User Group	Loan Days	Loans	Average loan days
Administrative Staff	237	53	4
Alumni	84	68	1
Distance Learners	0	2	0
Faculty	1,276	35	36
Graduate Student	365	22	17
Undergraduate Student	5,315	346	15
Walk In Loans - Network Members	0	1	0

The example below shows the subject area for fines and fees. The transactions are the measurable facts, and all the other attributes are dimensions. This allows for the easy measurement of expenditure by vendor, fund, purchase type, date ranges, classification etc... and any combination of these.

Most dimensions are composed of multiple levels, for example Date->Quarter-> Fiscal period, or Collection-> Location-> Library, so drilldowns on the reports are possible without any additional work.



Reports which cross subject areas are possible through dimensions, which are shared by multiple subject areas. For example, Classification is a joint dimension of Expenditure and Circulation subject areas so it is possible to create reports that match expenditure and usage of a specific location.

This subject area can easily provide multi-year trend reports on circulation activities per location, classification, and user types. While overdue notices are sent out automatically by Alma, Fulfillment staff might want a daily summary report of overdue items. The following dashboard is an example of such a reporting option – together with a report on lost items:

[illegible]

Using the Borrowing Requests area, it is possible to create reports and dashboards for the Borrowing Requests area making it possible to answer the following types of business questions:

- Which partners were requested
- Request counts
- Which type of users issue the requests
- Time statistics between request and arrival
- How many requests were rejected
- How many requests were completed

The diagram below displays the data elements available for statistical analysis under the Borrowing Request Details Subject Area.



Using the Lending Requests area, it is possible to create reports and dashboards for the lending requests area and is able to answer the following types of business questions:

- Which partners where requested?
- Lending Request counts
- Which type of users issue the requests
- Time statistics between request and sent

The diagram below displays the data elements available for statistical analysis under the Lending Request Details Subject Area:



An example of two widgets (for borrowing and lending) on the Resource Sharing staff user's desk top:



### Benchmark Analytics

Alma supports benchmark analytics.

The overall goal and idea of benchmark analytics is for the institution to identify:

- Where in their workflows improvements can be made
- Where processes are already at a satisfactory or above satisfactory level.

This can be achieved by comparing KPIs (Key Performance Indicators) with other institutions. The KPIs can be measured on a monthly or yearly basis allowing for the identification of trends.

For example, an institution may see that from the time of ordering physical items until the time the items arrive takes significantly longer than the average for other institutions.

This institution can then drill down to investigate where in the process there may be a problem.

- It may be that between the time the order is created until the time it is sent takes too long because the “review” process is taking too long.
- It may be that certain vendors are taking an unusually long time to process the orders.



- There could also be a problem with the period from when the item arrives to the institution until it arrives to the acquisitions librarian to scan it in.

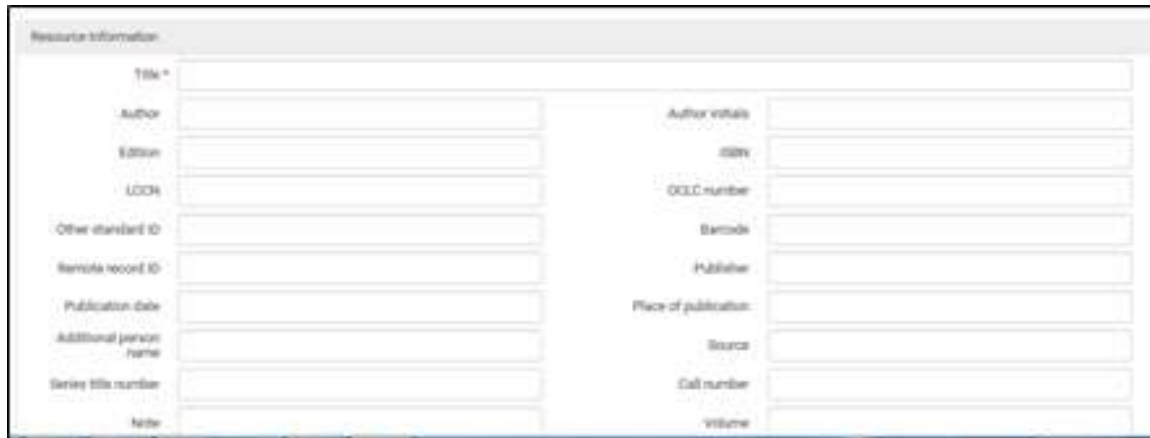
Benchmark analytics allows the institution to identify these issues.

## 12. Describe process for circulating uncatalogued materials.

**Ex Libris:** A staff user at the circulation desk, (with the relevant roles and privileges) can create a temporary item record:



Clicking on the 'create item' link initiates a workflow for creating the item. Mandatory fields are marked:



There are several options when creating the brief record:

- Suppressing the record for publishing to Discovery
- Course Restricted - Whether you want the item to be searchable in Discovery only within a Courses search scope (once you set up the appropriate Discovery search rules).
- You must define the location for the item
- You can define the loan policy that will apply (also in case an item is created for instant loan)

Alma will automatically assign a work order to the item, so that on its return it will be flagged for further processing. You can set up brief level rules to identify such records in the system (not only restricted to records that were created with quick cataloging but also records that were imported). Alma provides a dedicated job to retrieve such records for further processing (e.g. manual cataloging, normalization plus matching and merging with external resources, etc.)

## 13. Describe capabilities for indicating the status of items in the OPAC (e.g., lost, on order, on reserve) including the library's ability to define conditions and the process for adding and removing statuses.

**Ex Libris:** Item status is displayed to staff in Alma:





Living in Finland. Bird, Tim Flammarion France : 2005. [2080304909]

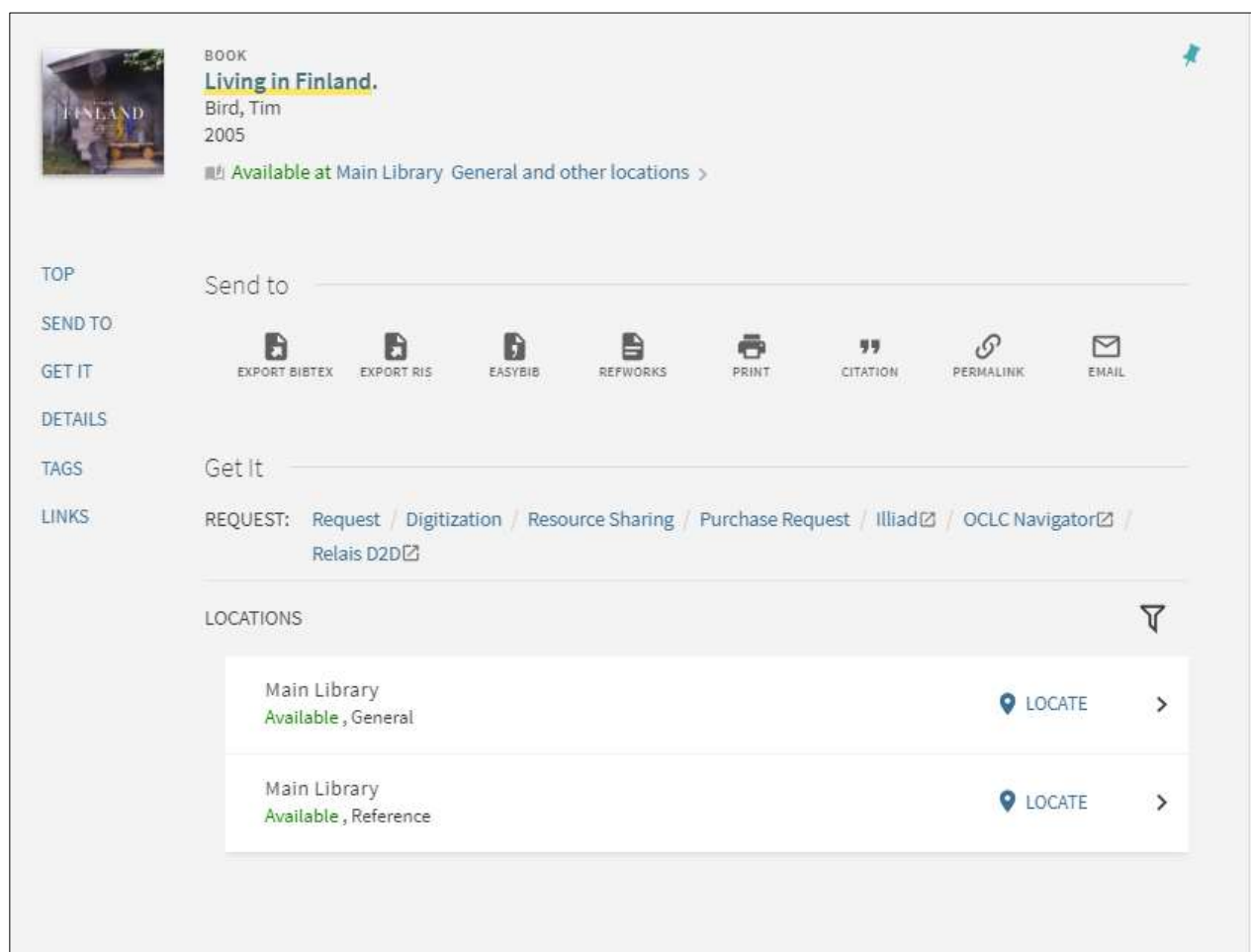
View all holdings

1 - 2 of 2 Call number Sort routine Change Holdings Relink to another Bib

Status: All Library: All Location: All

	Barcode	Library	Location	Call Number	Alternative Call Number	Description	Temporary Location	Status	Process Type	Access Number	Receiving date
1	67372-10	Main Libr...	General	-	-	-	No	Item in place	-	-	01/19/2...
2	67372-20	Main Libr...	Reference	-	-	-	No	Item in place	-	-	01/19/2...

And is displayed to patrons via Primo or other discovery interface:



BOOK  
**Living in Finland.**  
Bird, Tim  
2005

Available at Main Library General and other locations >

TOP

SEND TO

GET IT

DETAILS

TAGS

LINKS

REQUEST: Request / Digitization / Resource Sharing / Purchase Request / Illiad / OCLC Navigator / Relais D2D

LOCATIONS

Main Library  
Available, General

Main Library  
Available, Reference

There are base statuses vs. process types in Alma.

Physical items > Base status list:

- Item in place
- Item not in place

Physical items > Process Type list:

- Acquisition
- Claimed Returned
- Hold Shelf

- Loan
- Lost
- In Process (Managed by Department)
- Missing
- Not in Process
- Resource Sharing Request
- Technical - Migration
- Transit

Item status is automatically updated. In some cases, such as when an item is in process, the specific work order status needs to be updated manually. For example, after you receive physical material, it may be necessary to perform additional work on the material before it can be made available to the library. The following additional work processes may be necessary:

- Copy cataloging – Completes the cataloging of the new material
- Physical processing – Adds a barcode to the material
- Temp storage – Moves the material to temporary storage for a short period
- Digitization – If you are at a digitization department

You manage the outstanding work processes using the In Process Items page and change the item status manually to reflect the type of work being done on the item.

14. Describe hold and recall capabilities, including abilities to specify hold / recall multiple volumes on the same record.

**Ex Libris:** Alma's requests management functionality, like other functional areas such as purchase order or invoice management, utilizes built-in workflow engines to control the processing of the requests throughout the different stages in the request's lifecycle. Utilizing the workflow engine standardizes request management throughout Alma, regardless of whether the request is managed for fulfilling a patron placed request for borrowing a physical item, for fulfilling a patron request for receiving a digitized format of a physical item, or if it is a library placed request for managing internal physical item processes, such as technical services or bindery, or for fulfilling a resource sharing or course management related request.

Patron-placed requests in Alma are usually placed on a title. The patron places the request from a discovery interface such as Ex Libris' Primo, or library staff create the request for the patron in Alma. Alma, utilizing internal item location processes, identifies the best item for fulfilling the request, and triggers the request workflow process on the specific item. The considerations for selecting a specific item are based on item availability and ease of fetching. For example, Alma will prefer an item that is already shelved at the requested pickup location. If the items attached to a title have item descriptions, such as different volumes of a title, the request is then placed on the item level rather than the title level, to allow the user to select the needed item.

### Recalls

Alma supports recall functionality. Terms of Use (TOU) for loan policies allow for defining if an item can be recalled, if the loan period should then be reduced, and by how much. TOU are very customizable. If an item is recalled, the patron who has the item out on loan will be notified about the recall and the new due date set for the return. Overdue recalled items may have a different fine charged from regular overdues.

In addition, it is possible to define a reduced loan period if an item to be loaned has been requested by others.

15. Describe system-generated and manual blocks including criteria used for system generated blocks, process for adding, removing and overriding blocks, and the effect of blocks on patron notices.


**Ex Libris:** Alma supports the ability of the Library to determine various thresholds for Library activity by patrons, beyond which the patron may be blocked from further transactions until the outstanding activities have been resolved. This applies both to limits on Library fines and fees, as well as other limits that may apply for lost items, etc.


Override policies are configured by the library and only available to staff with the relevant roles and permissions. An example of the override configuration table can be seen in the following screen capture:

Description	Actions
1 The loan regular due-date conflicts with booking request	Override By All +
2 The renew due date conflicts with booking request	Handle Automatically +
3 Item is not loanable	Override By Manager +
4 Item is not renewable	Block +
5 Item cannot be loaned to patron - insufficient due date	Block +
6 Item does not belong to this institution	Block +
7 Item is on Hold Shelf for this patron	Handle Automatically +
8 Item cannot be loaned due to booking request	Block +
9 Item has not been received by Acquisitions Department	Block +
10 Item is requested by another patron	Override By All +
11 Item renew period exceeded	Override By Manager +

The following screen capture illustrates a library defined block that can be overridden by the staff operator:

User Jane Brown Is Blocked

 Cash - Limit of 25.00 USD exceeded. User has 43.00 USD.

 Overrideable

Override

Cancel

OK

The following example shows the same block that cannot be overridden by the staff operator who does not have override privileges:

User Jane Brown Is Blocked

 Cash - Limit of 25.00 USD exceeded. User has 43.00 USD.

Cancel

OK

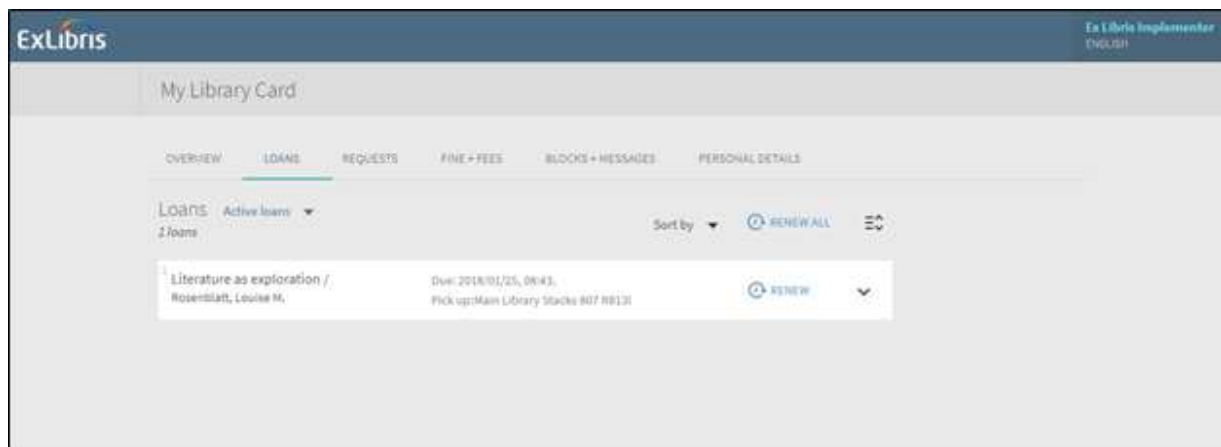
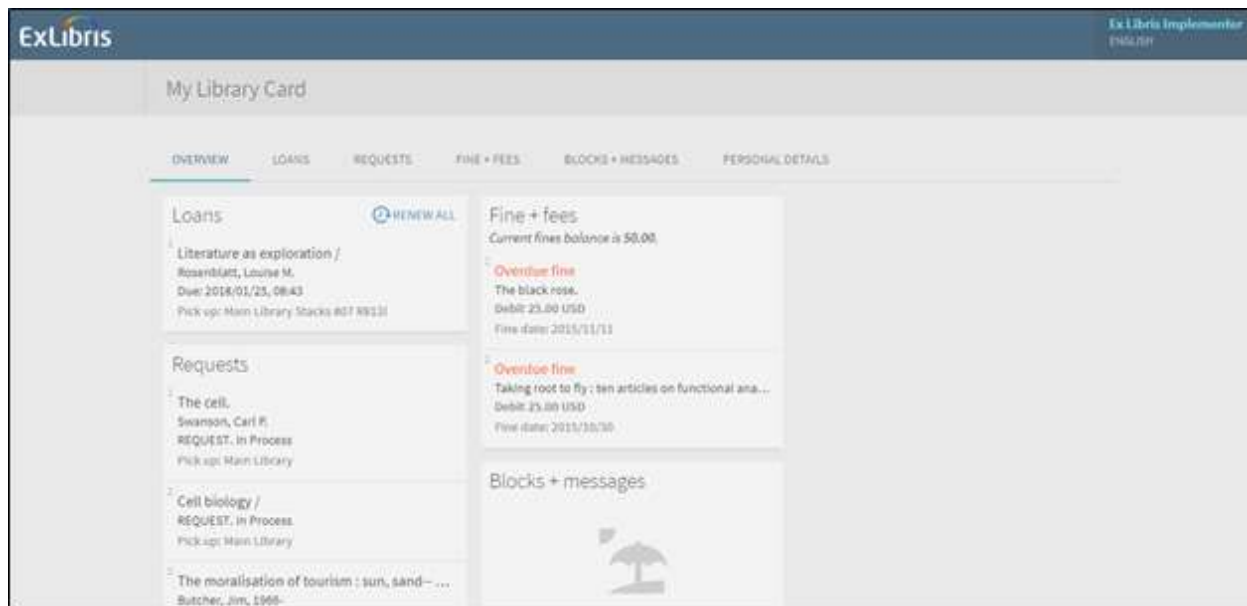
16. Describe the provision for handling delivery of materials to another location or a departmental mailbox or office.

**Ex Libris:** When a distance learner requests an item they will have an option to choose a pickup location. If personal delivery is configured for the specified patron, the Personal Delivery option displays with the Home Address and/or Work Address sub-options, as configured on the patron's User Details page.

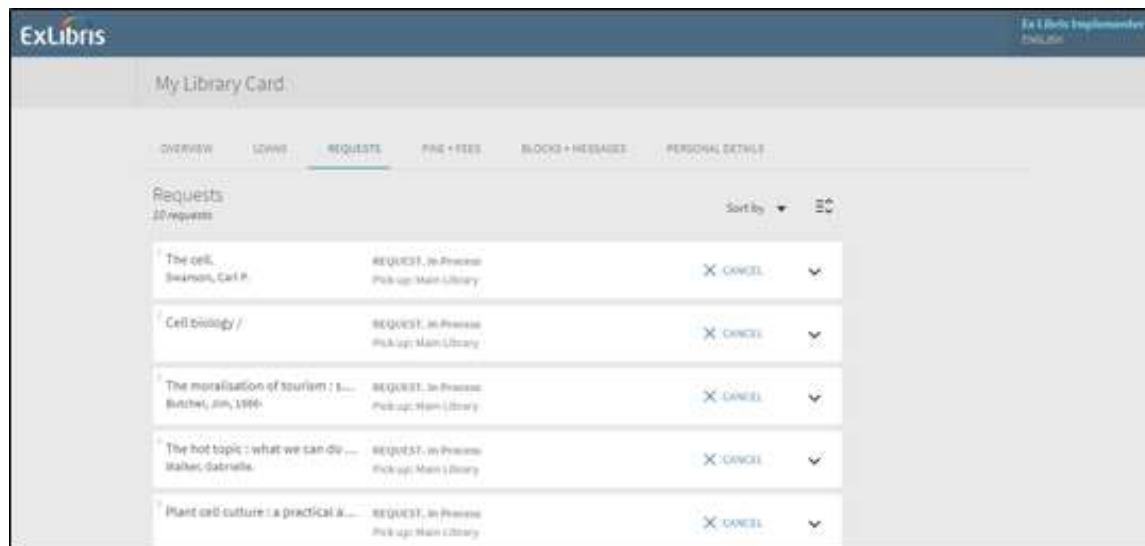
When an item is scanned in at a Circulation desk to be sent to a patron (home or office delivery), the item is automatically checked out to the patron, and a Personal Delivery Notification email is sent to the patron, indicating the item has been sent/will be delivered to him/her.

17. Describe any abilities for the system to allow patrons to pay for fines or other bills, including credit cards, and the patron's campus account.

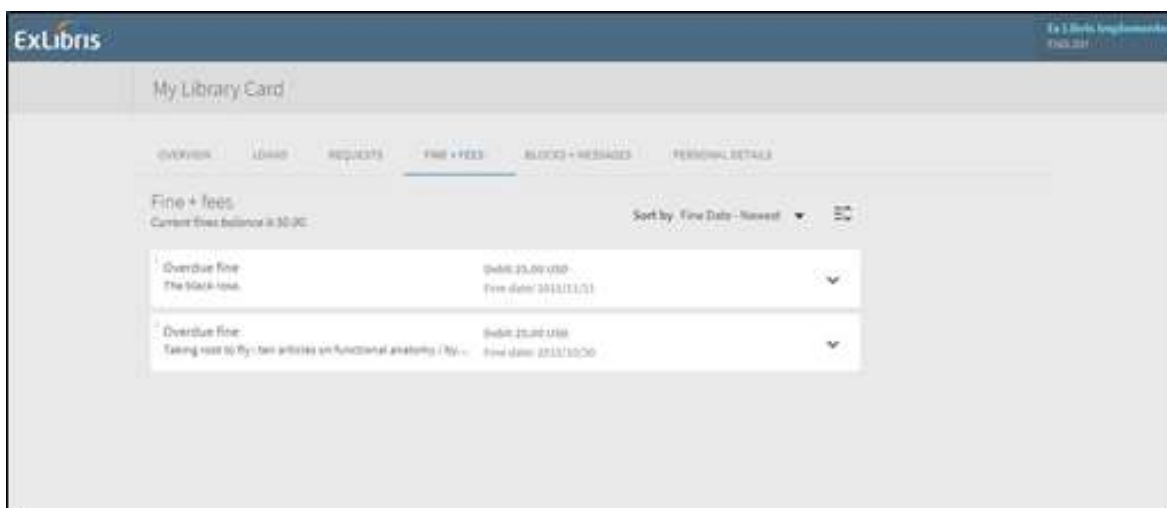
**Ex Libris:** The Primo 'My Library Card' area provides authenticated users with the ability to manage their account including the option to view Loans/Historic Loans (with option to renew):



- Requests/Reservations (on physical items, digitization, resource sharing (ILL), etc.)



- Fines and Fees (List and active balance) – with the possibility of integrating with a payment provider for online payments



- Blocks and Messages
- Personal Settings (for contact details, credentials, SMS settings, result and language settings)
- Lists of saved resources (Favorites) – users can email citations to themselves or third parties

18. Describe abilities of the system to support communication with patrons, including instant messaging and inserting manual messages into library accounts.

**Ex Libris:** Alma supports notices to users, external contacts and staff. These can be printed or emailed. Alma also supports standard SMS communications (e.g. for item on hold shelf, courtesy notices, overdue notices, etc.). SMS messages are sent to patrons only if they have indicated preferred SMS numbers.

In general, the transmission of SMS notifications is based on an external SMS service provider, which handles the actual SMS message delivery. Alma's role is to identify the need to text the patron and produce a message with the required information in the format defined by the institution. Alma places the required information at a configured FTP location for the service provider to collect and subsequently deliver to the patron.







There are currently more than 50 types of letters that can be customized locally, including receipts, pick slips/paging slips, hold availability notices, overdue notices, and borrowing activity notices.

Scheduling of notices:

- Courtesy notifications
  - The renew job sends courtesy notices to all non-renewable loans (which may be configured to be all loans) x number of days before the loans are due, where x is configurable at the institution level.
  - Another notification is sent on the day the item is due
- Overdue notices are configurable via the lost/notification profiles
  - A notification profile may be set up to send warning if loans are overdue more than x number of days, where x is configurable per library/location, user group, item type and material type.
  - A lost item profile may be set up to mark a loan as lost and send a lost item bill if loans are overdue more than x number of days, where x is configurable per library/location, user group, item type and material type.
- Activity report – A general report, including all on loan and all overdue loans may be sent regularly, on a weekly or monthly basis. The report includes separate lists of on loan items and of overdue items. It also includes the patron's fine/fee balance

Alma supports the option of allowing patrons to 'opt-out' of receiving certain library notifications. This can be defined at the individual patron level, or groups of patrons by SIS feeds or bulk user updates.

A configuration table defines the notices that it will be possible to opt-out of. For example, in the table below, patrons will not be able to opt-out of receiving overdue notices.

Library Notices Opt In							
Table Description		List of library notices to opt in			Managed in Network		
Customization mode:		Entire table needs to be customized			No		
Enabled	Letter Code	Letter Description	Opt in by default	Updated By	Last Updated		
1	 FuUserBorrowingActivityLetter	Activity Report	True	dawnb	02/14/2017		
2	 FuUserLoansCourtesyLetter	Courtesy letter	False	dawnb	02/14/2017		
3	 FuUserOverdueNoticeLetter	Overdue Notice	True	dawnb	02/14/2017		
4	 FuItemChangeDueDateLetter_ST#	Loan Status letter	True	dawnb	02/14/2017		
5	 FuItemChangeDueDateLetter_REC	Recall letter	True	dawnb	02/14/2017		
6	 FuItemChangeDueDateLetter_REC	Recall Cancellation letter	True	dawnb	02/14/2017		

An example of an opt-out on the patron record:

### Selected Patron Letters

Selected Patron Letters

- ☒ Activity Report
- ☐ Courtesy letter
- ☒ Loan Status letter
- ☒ Overdue Notice
- ☒ Recall Cancellation letter
- ☒ Recall letter



19. Describe any integration between circulation and interlibrary loan software, including support for NISO Circulation Interchange Protocol (NCIP).

**Ex Libris:** With standards-based integrations being one of its main design goals, Alma integrates with other fulfillment systems using a number of widely used standard protocols such as SIP2.0 and the NISO Z39.83 Circulation Interchange Protocol (NCIP).

SIP2.0 is supported for managing self-check actions such as:

- Self check-out
- Self check-in
- Self payment of fines/fees

All of the SIP2.0 messages that are required for supporting these actions are currently supported in Alma, including:

- 11,12 – Check -Out
- 09,10 – Check- In
- 37,38 – Fee Paid
- 93,94 – Login
- 23,24 – Patron Status Request
- 63,64 – Patron Information

A Self- Check Integration Profile is used to define which of the above listed actions is to be supported by the institution's different self-check machines. The Self-Check Integration Profile is also linked to an Alma Circulation Desk, inheriting attributes from the attached desk such as which physical locations are served by the self-check machine.

For more details, see: <https://developers.exlibrisgroup.com/alma/integrations/selfcheck/sip2>

20. Describe options for patron self-checkout.

**Ex Libris:** Alma focuses on creating clean interfaces that support staff work, as well as building out the self-service checkout via SIP2.

RFID enabled machines can send SIP2 messages to inform that a check-out/check-in action has taken place at the machine. Alma will reply with SIP2 messages that include bin information for the return machine to be able to determine where the item needs to be reshelfed.

Patrons can access their account information from self-service kiosks using the SIP2 protocol. Alma has been integrated with the self-service systems from vendors such as 3M, Bibliotheca, Envisionware, and Checkpoint. Alma supports intelligent self-service devices using the SIP2 protocol. This includes support for issues, returns, and renewals from RFID self-check machines.

Alma allows for the definition of any number of Self-Check Integration Profiles. The staff user is guided through a short wizard to define the parameters relevant for the Self Check unit.

SIP2.0 is supported for managing self-check actions such as:

- Self check-out
- Self check-in
- Self payment of fines/fees

All of the SIP2.0 messages that are required for supporting these actions are currently supported in Alma, including:

- 11,12 – Check -Out
- 09,10 – Check- In
- 37,38 – Fee Paid
- 93,94 – Login
- 23,24 – Patron Status Request
- 63,64 – Patron Information

A Self- Check Integration Profile is used to define which of the above listed actions is to be supported by the institution's different self-check machines. The Self-Check Integration Profile is also linked to an Alma Circulation Desk, inheriting attributes from the attached desk such as which physical locations are served by the self-check machine.

For more details, see: <https://developers.exlibrisgroup.com/alma/integrations/selfcheck/sip2>

21. Describe privacy policies for patron information, including the ability to disable patron reading histories.

**Ex Libris:** Ex Libris Alma provides customers with the ability to anonymize patrons' circulation history (this is a system configuration option). Once a circulation transaction is over, the circulation information is being anonymized such that no patron information is attached to a circulated material and it is not possible to report on patron's reading history.

22. Describe other circulation functionality unique or notable of the proposed system not addressed above.

**Ex Libris:** A few examples:

### **Floating Collections**

Alma can track and manage the temporary assignment of ownership from one library to another (i.e., from its permanent location to a temporary one). When an item is registered at a temporary location, standard processes for managing temporarily shelved inventory are used. This includes:

- Reports for items that are due back to their permanent location
- Automatic requests being placed to re-shelve the items back to their permanent shelving locations.

The items at their registered locations use the fulfillment policies and rules of the new location while being marked as being permanently owned by the other library.

### **In-house Use**

In-house loans are recorded when an item is scanned but not checked out (a non-circulating item that is used by a patron, then scanned and re-shelved by staff, for example). A typical workflow for in-house use stats include staff members scanning in books that have been found on tables but not checked out of the library or on loan. When staff members return an item that does not have a loan, Alma indicates as such:

Scan in items | Change item information

Place directly on hold shelf: ☒ Yes ☐ No

Automatically print slip: ☐ Yes ☒ No

**Register in-house use: ☒**

Item from another institution: ☐

Work Order Type: 222-10

Scan item barcode:  [Barcode icon] OK

Scan request ID:  OK

Each time a return is made for the item that does not have a loan, an in-house use is registered:

1 Everybody loves my baby, but my baby don't love nobody but me / words & music by Spencer Williams  
Jack Palmer.

Book by Williams, Spencer. (New York : C Williams [c1924])

Barcode: 140-10

Update Date: 08/02/2015

Library: Main Library

Process type: Hold Shelf

At Library: Main Library - Main Circulation Desk

On Hold Expiration Date: 06/17/2017

Permanent Location: General

Other details

Related Records	0	Orders	0
Number of items	50	Requests/Week orders	1
Last in-house loan date	06/29/2016	Last Loan Date	10/26/2016
Copies	0	<b>Number of in-house loans</b>	<b>9</b>
		Year-to-Date Loans	0

It is also possible to retrieve the information pertaining to in-house use in Alma Analytics:

Criteria | Results | Prompts | Active

Subject Areas

- Fulltext
- Loan
- Loan Details
  - Item Id
  - Barcode
  - Call Number
  - LC Classification Code
  - LC Classification Number
  - LC Classification Top Line
  - Dewey Classification Top L
  - Loan Status
  - Process Status
  - Loan Note
  - Recall Date
  - Original Due Date
  - New Due Date
  - Item Loan Id
  - Recall Time
  - Original Due Time
  - New Due Time
  - In House Loan Indicator**
  - Outstanding Loan

## H. Course Reserves Functionality

### 1. Describe procedure for creating course records.

**Ex Libris:** Authorized staff has many options regarding creating course records, including creating brief temporary records, cataloging new items for course reserves then permanent collection status, and either manually or automatically activating/deactivating course reserve status.

2. Describe capabilities for allowing multiple locations to create and maintain course reserves with distinct policies, codes, etc.

**Ex Libris:** Multiple locations can set the rules by which items in their reserve locations circulate.

3. Describe the availability of an electronic request form for instructors to place materials on reserve.

**Ex Libris:** Alma's course reserve functionality allows for instructors to supply lists for staff operators to enter.

Alma enables allows for integrating the Alma-supplied reading list citations and their statuses into a Course Management System (CMS), and provides a link that can be used from within the CMS to view the services that the library can supply for a given citation.

To achieve this integration Alma provides a set of Web services for retrieving course information from Alma:

- searchCourseInformation – Search for Course Information
- createCourse – Create a Course
- updateCourse – Update a Course
- deleteCourse – Delete a Course
- createReadingList – Create a Reading List
- updateReadingList – Update a Reading List
- deleteReadingList – Delete a Reading List
- createCitation – Create a Citation
- updateCitation – Update a Citation
- deleteCitation – Delete a Citation
- When adding a resource to a course reading list, the operator may use the system to consult its license terms. If the resource's license terms indicate a limited allowed usage, the operator may add the resource to the reading list as a 'course restricted' title. The result of attaching such as attribute will be that the resource will be discoverable in Primo only when searching in the context of courses. This type of search may be set up to be limited only to a permitted group of users.

Any metadata that is harvested into Primo can be used to create local search scopes and facets - to display and filter for particular teaching courses and lecturers.

**Examples:**

- [NYU Libraries](#)
- [University of Strathclyde](#)

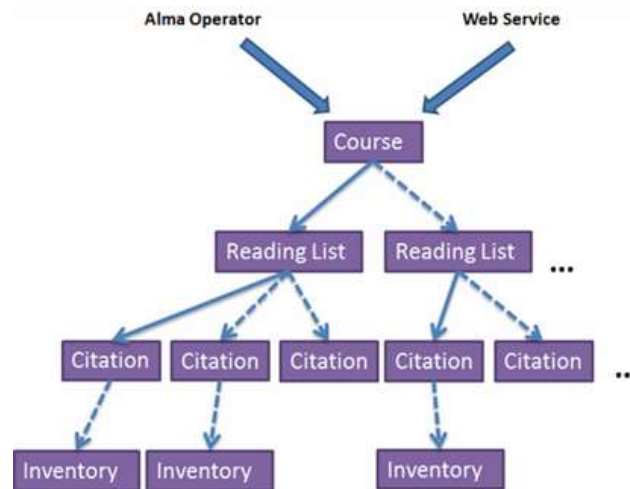
4. Describe procedure for adding materials already in the catalog and for materials that are not part of the library collection. Specify whether original location is retained.

**Ex Libris:** Course Reserve Collections can be managed across more than one library within the institution.

The Courses and Reading Lists Workflow in Alma works as follows:

- Reading Lists – contain citations compiled by the course instructor and submitted to the library. The list may include resources which are in the institutional repository, or which are not in the repository.
- Courses – contain details concerning the course for which the Reading List has been submitted (e.g., name of instructor, start and end dates of the course, etc.) Courses may contain more than one Reading List which may be processed by separate libraries.

- Course Departments – Each course must be associated with a Course Department. A Course Department is itself associated with an organizational unit (institution or library/libraries), which determines the resources available for the course. Course Departments may (and usually do) contain more than one Course.



The workflow for creating and managing a course reserves reading list is as follows:

- The workflow commences when information is received about a department's courses.
- Define the course: course information includes instructor, start and end dates, number of participants, and weekly hours. The staff operator may add, delete, or edit courses in a department. Creating a course is a prerequisite to enable access to reading lists.

Manage Course Information

Course Code: ECO-101 | Course Name: Economics | Instructor: Jane Brown, John Blacking | Section: 612 | Processing Department: Business Administration | Number of participants: 20

Course Information | Notes

Code: ECO-101 | Name: Economics | Section: 612 | Processing Department: Business Administration | Academic Department: Economics | Term/Year: Autumn Early Autumn, Semester 1, Semester 2, Online | Status: Active/Inactive | Start date: 03/01/2017 | End date: 05/01/2017 | Number of participants: 20 | Weekly hours: 1

- Define the reading list: the staff operator may add, delete, or edit reading lists that an instructor requires for a course. The reading list specifies resources (physical, digital, and others) that can be selected from the repository within the library.
- Titles may be added to a course's reading list using a title that is already cataloged in the institutional repository or based on a freely catalogued resource that is not part of the institutional repository. The latter is the means by which non-library material can also be made part of the reading list.
- For titles that have been made part of the reading list, the system will display the available inventory, be it physical, digital or electronic, and supply management tools to the operator, for example for requesting the transfer of physical items to a reserved area, or for requesting the digitization of physical copies.

Code: HST 200-A/1 Name: Modern European History(I)

Owner: Betty White Status: Complete Publication Status: Draft

Due Back Date: Reading List Visible (Start Date):

End Date: Modified by: Tina Hunt (06/01/2015 16:30)

Citations Owners Notes

Select All Alerts: All Citation/Locate Status: All Citation Type: All Tags: All Copyright Status: All

1 History of European Literature Book

Request Status: Being Prepared  
Resource Locate Status: Resource Located  
Copyright Status: Not Determined

Alerts Availability Citation Details

- Dedicated workflows facilitate the temporary change of item information for physical copies that have been moved to a reserved area. For example changing their temporary location or the terms of use by which they are circulated, and setting the date on which the item is expected to be moved back to its permanent location. This date may be automatically calculated based on the length of course for which the item is moved.
- Automatic processes trigger the moving of these items back to their permanent shelving locations.

### Reading Lists

Internal move requests that are placed by staff for fulfilling course's requirements take priority over patrons' requests. If both a library staff course related request and a patron request exist, the library request will take precedence, and the patron request will be fulfilled only if - after the change of temporary location - it is still valid according to library policies.

Likewise, any future requests that will be placed on the reserved material will be allowed and be processed only as per policies set forth by the library for the reserved material.

### Non-Repository Citations

Alma Course Reserve functionality includes the option to 'Add Non-Repository Citation' and 'Add Brief' functionality to facilitate handling of external titles/copies (e.g. the instructor's personal copy):

Citations Owners Notes

Select All Alerts: All Citation/Locate Status: All Citation Type: All

1 History of European Literature Book

Request Status: Being Prepared  
Resource Locate Status: Resource Located  
Copyright Status: Not Determined

Alerts Availability Citation Details

Actions Place Request

- Add Repository Citation
- Add Non-Repository Citation
- Add Brief
- Change Copyright Status
- Remove Citations
- Remove Alerts

- Cataloging a 'non-repository' citation results in a metadata record that is linked to the course but is not part of the institutional repository. They may represent items that are not part of the library's resources and therefore are listed only in Course Reserves.



- Cataloging ‘Brief’ records result in a metadata description that is linked to the course and is part of the institutional repository, so that it may have linked holdings and items. Cataloging this resource, however, may be done in a manner that either suppresses the record from the discovery interface, or publishes it in a manner that makes it discoverable only in the context of a courses related search. This type of cataloging may be preferable if the resource is expected to be re-used for subsequent courses but is not a real part of the library inventory.

Using the Course Reserves area, the Design Analytics user may create reports/dashboards for the Course Reserves area and is able to answer the following types of business questions:

- Which courses reserved a specific title?
- Which courses share the same titles?
- What are the reading lists per department?

5. Describe provisions for removing items from course reserves (*e.g., scanning barcodes*).

**Ex Libris:** The staff operator may add, delete, or edit reading lists that an instructor requires for a course. The reading list specifies resources (physical, digital, and others) that can be selected from the repository within the library.

6. Describe capabilities for archiving course records and reserves lists for future use.

**Ex Libris:** Courses contain start and end dates for the course. The course and the reading lists that are part of the course will be activated and deactivated automatically based on the course dates. They can also be activated or deactivated manually. Courses can be made inactive and later reactivated as shown in the image below.

The screenshot shows the 'Manage Course Information' page in the Ex Libris Alma system. The page has a blue header with navigation tabs: Acquisitions, Resources, Fulfillment, Admin, and Analytics. Below the header, there's a search bar and a 'License Code' dropdown. The main content area is titled 'Human Biology Course' and contains several sections. The 'Course Information' section includes fields for Course Code (Biol101), Course Name (Human Biology Course), Processing Department (Main Library), and Campus. The 'Course Information' tab is selected, showing fields for Code, Name, Academic Department (Biology), Term (Spring), Status (Inactive), Start date (08/01/2019), End date (08/01/2019), Number of participants (0), and Type. There are also fields for Section, Processing Department, Submit Line By, and Weekly count.

7. Describe capabilities for tracking reserve usage.

**Ex Libris:** Using the Course Reserves area, the Design Analytics user may create reports/dashboards for the Course Reserves area and is able to answer the following types of business questions:

- Which courses reserved a specific title?
- Which courses share the same titles?
- What are the reading lists per department?

8. Describe support for including a URL for an item on reserve.

**Ex Libris:** The creation of reading lists allow for linking repository items to a reading list, as well as non-repository items – for non-repository electronic items it is possible to register the external link to the item:

On this brief form, only library and URL may be added. Once cataloged in this manner, the new record is a regular local portfolio and can be managed as such from the resource management editor screens. Alma stores only the URL. The file is remotely stored, and Alma is agnostic to the file type.

9. Describe the capabilities for working with reserves materials in batches, including importing, viewing, exporting, and activating / de-activating things from reserves.

**Ex Libris:** Courses may be imported into Alma in batch, by a course loader that accepts a file of courses. The loader may be used to update certain elements of the course information such as number of participants. The loader may also be used to create new courses based on older ones' description. You can add courses in bulk using the course loading integration profile. For more information, see [Configuring Course Loading](#).

Courses may also be online created where LTI integration is used.

You can edit courses in bulk using the course loading integration profile. For more information, see [Configuring Course Loading](#).

You can roll over courses, in bulk, from one year to the next using the course loading integration profile.

You can delete courses in bulk using the course loading integration profile. For more information, see [Configuring Course Loading](#).

10. Describe capabilities for integrating course reserves functions into learning management systems (e.g., *Canvas*) or for the library to create bridges between course reserves and learning management systems.

**Ex Libris:** Alma allows for integrating the Alma-supplied reading list citations and their statuses into a Course Management System (CMS), and provides a link that can be used from within the CMS to view the services that the library can supply for a given citation.

To achieve this integration Alma provides a set of RESTful Web services for retrieving course information from Alma:

- searchCourseInformation – Search for Course Information
- createCourse – Create a Course
- updateCourse – Update a Course
- deleteCourse – Delete a Course
- createReadingList – Create a Reading List
- updateReadingList – Update a Reading List
- deleteReadingList – Delete a Reading List
- createCitation – Create a Citation
- updateCitation – Update a Citation
- deleteCitation – Delete a Citation

Primo supports importing records from external sources, such as digital repositories, LibGuides and others, allowing users to discover all relevant library materials. Primo supports loading records in Dublin Core or generic XML formats from external sources, using import profiles and normalization rules to map the source records metadata to be searched and displayed. All content is normalized into a single scheme for fast, efficient searching across formats and collections, delivering results quickly in a unified results set. The library can choose to set up multiple import profiles for external data sources as needed, define the metadata normalization routines for each, test the normalization routines and run the import on-demand or on a scheduled timeframe based upon the library's preference. Records can be harvested using OAI, S/FTP methods or upload files directly from PC filer.

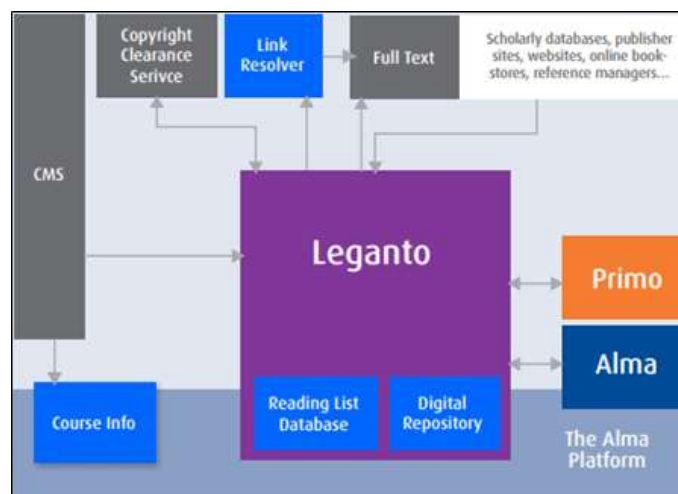
The functionality can also be achieved through the use of one of our newer products, Leganto, which is described in the following response below.

11. Describe other course reserves capabilities unique or notable of the proposed system not addressed above.

**Ex Libris:** Leganto is an independent, cloud-based service for creating, maintaining, monitoring, evaluating, using, and sharing course readings.

Developed on the Ex Libris Alma platform, the Leganto reading-list tool enables institutions to leverage their investment in these solutions and better serve teaching and learning.

This engaging, efficient tool saves instructors time and effort, brings additional materials to their attention, helps prevent copyright infringement, shows instructors what their students are doing and thinking, and facilitates collaboration among instructors.



Leganto enables students to easily access reading lists, see the readings for all their courses in one place, share views with peers and instructors, suggest additional materials, explore readings for other courses, and collaborate with classmates. Leganto is also integrated with an institution's course management system (CMS) to enable students to access their reading lists through the CMS. Course information that originates from the CMS or from a student information system is made available to Leganto through the Alma platform; this information includes the course's name and code, and the instructor(s), department, term, start and end dates, and number of students.

By leveraging Alma and integrating with other systems, Leganto provides libraries with numerous advantages. With Leganto, libraries can:

- Increase efficiency
- Save on costs for both students and the library
- Extend their reach by becoming more visible to students and faculty
- Draw instructors' attention to additional materials of relevance
- Ensure that copyrights are handled properly
- Optimize the use of library collections and further develop them to best support teaching and learning

Ultimately, Leganto helps libraries demonstrate their value to their institution.

The following features are the basis of the Leganto design:

- Streamlined workflows for instructors and libraries
- A friendly, appealing user interface for instructors and students, on desktop and mobile devices
- Innovative services, such as automated recommendations for other relevant materials
- Support for sharing and collaboration among instructors, students, and the library (such as options to add comments about materials and to suggest other materials)
- Automated copyright clearance capability
- Provides real-time insights into the costs of materials
- Innovative pay-per use model
- Provides a robust analytics suite that shows both subscribed and non-subscribed materials usage

Leganto was developed on the Alma platform and hence is tightly integrated with the Alma resource management system – including Alma's Link Resolver. More specifically, Leganto and Alma share the resource list repository as well as information about courses and users, and every data change related to resource lists done through the Alma interface is automatically reflected in the Leganto interface, and vice versa. There is no need for processes such as data transfer and data synchronization. Furthermore, availability information is provided in real time.

Mechanisms such as the Alma task list (serving as a trigger for workflows related to resource lists) are an integral part of Leganto. There is no need for API to integrate Leganto with Alma.

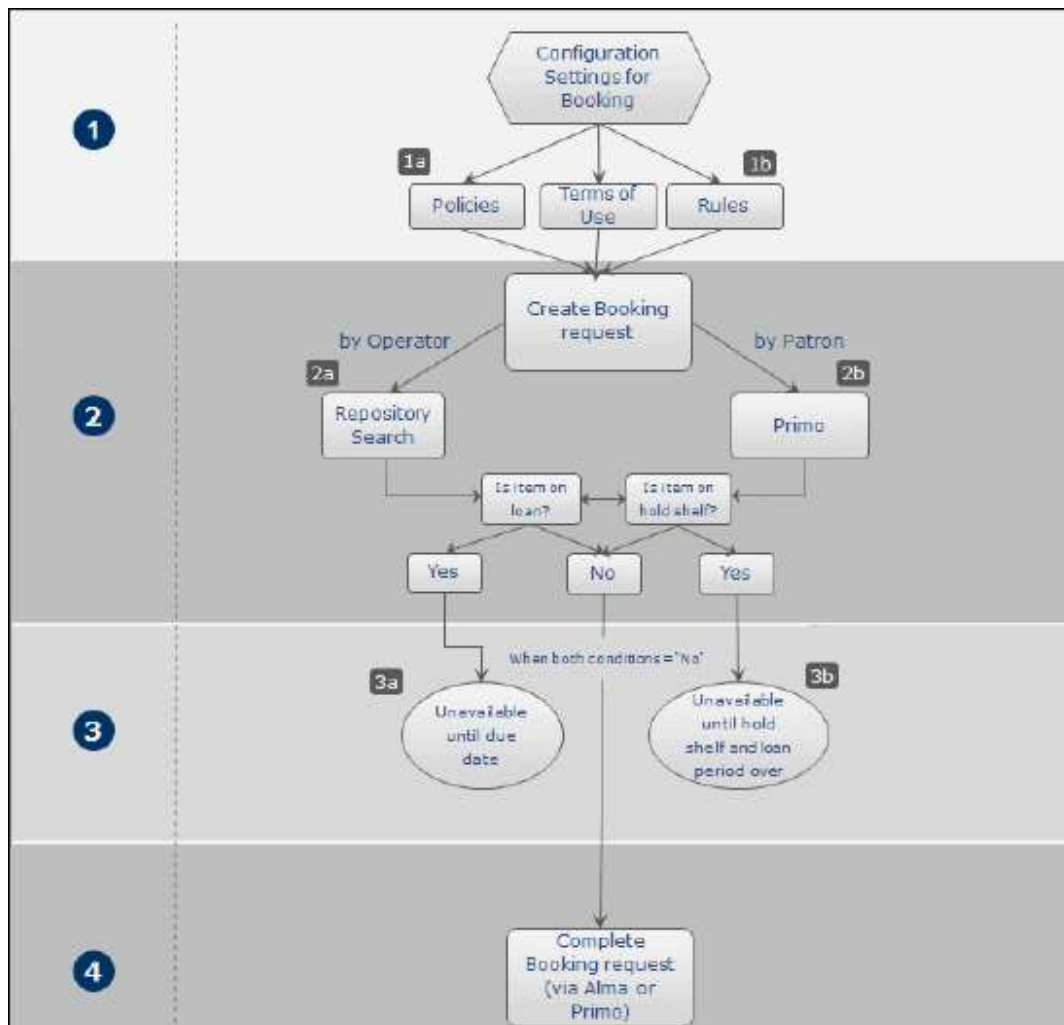
## I. Equipment/Room Scheduler Functionality

1. Describe the system's ability to schedule and reserve equipment, rooms, and other non-collection items, including, but not limited to, the ability to interact with the schedule of library hours and loan periods.

**Ex Libris:** Booking items in Alma reserves resources for a patron to use during a specified time frame. For example, if a researcher has located resources in a library's catalog, and he can be at the library only during a specific time, he can create a booking request to reserve those resources for the time that he is scheduled to be at the library. This provides exclusive rights to the materials reserved while the requester is physically at the library, thereby making maximum use of their limited time frame.

Booking resources can also be used for high-demand items with a limited number of copies. For example, resources moved to a course-reserved area can be configured to be requestable via booking requests, usable for a set time period before the item must be returned.

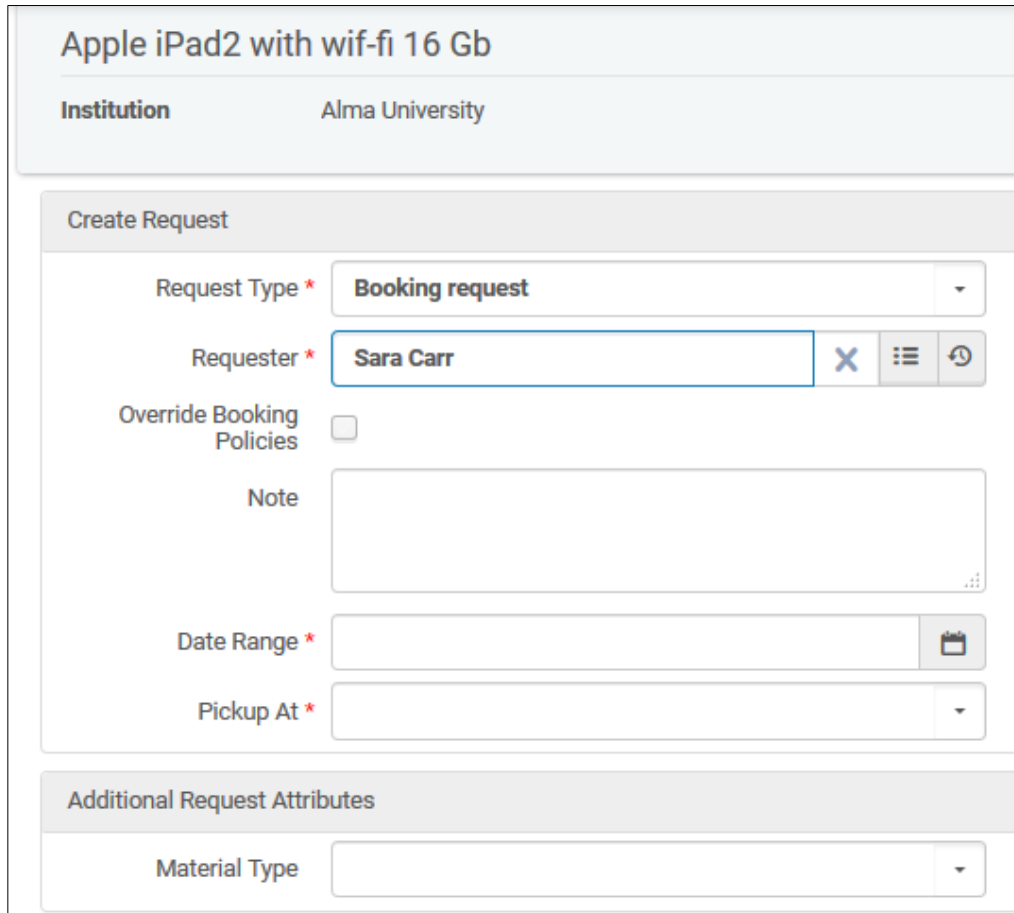
The following is an illustration of the booking requests workflow that governs the way the booking process is managed. The workflow outlines the configuration tasks necessary to implement booking requests, as well as the procedure for booking items in Alma.



These are the steps taken when creating a booking request from the Alma staff interface:

- On the Repository Search page, locate an item for which you want to create a booking request, and then click “Request” for the relevant item.
- In the Request type field, select Booking request. The page automatically refreshes and displays the booking request fields
- In the Requester field, browse for the user that is requesting the booking.
- Select the Override Booking Policies check box if you want to ignore the following booking policies and still create a booking request: future limit, maximum allowed booking length, and back to back bookings by the same user.
- Optionally, enter a note in the Note field.
- In the Start time field, enter the date and time that the booking is to start.

- In the End time field, enter the date and time that the booking is to end. The Start time and End time are automatically moved back or forward, as necessary, to ensure that they occur during the library's open hours. The updated start and end times are displayed on the page after the request is submitted.
- In the Pickup at field, select a pickup location for the item.
- In the Add Request Attributes section, select additional attributes to add to the request, as necessary, and click Add Request Attribute. The attributes are displayed in the Additional Request Attributes section.
- The item's availability is displayed in calendar format in the Availability section of the page:



**Apple iPad2 with wif-fi 16 Gb**

**Institution** Alma University

**Create Request**

**Request Type \*** Booking request

**Requester \*** Sara Carr

**Override Booking Policies** ☐

**Note**

**Date Range \***

**Pickup At \***

**Additional Request Attributes**

**Material Type**

- Submit the booking request. The item is displayed on the Patron Services Page – Requests tab with a Request Type of Booking.

Alternatively, patrons (with the appropriate permissions) may submit booking requests from the Get It tab in Primo:

- When the item description field is blank the booking request will be created on the title level.
- When the item description field is filled in then the booking request will be created on the item level. For instance, in the example below, the item description includes the volume number. In this case, when creating a booking request, the user must select the correct description from a drop-down menu.



Details of title you requested:

Request Type: ☐ Hold ☒ Booking

Description: Vol. 87 no. 8 (2014 Sept)

Material Type: Issue

Main Library

Pickup Location: \*

[Check availability](#)

Start Time: 14/06/2017 09:00 X

End Time: 16/06/2017 14:00 X

Comments:

CANCEL REQUEST

This functionality can be utilized for standard library materials – e.g., books, DVDs, etc., but can also be used to allow patrons to make bookings for other types of library-related resources such as study rooms, audio-video equipment, etc.

Booking requests that have been submitted into the system are viewable on the Alma requests page, as below:

Request/Process Type: Booking request

1		Green : orchestra / Tora Takemitsu ID: 2961320850000121 Creator: circ2 Requester: Sara Carr Pickup Location: Main Library	Place in Queue: 0 Call Number: Mus 822.478.221 Request Date: 06/13/2017 Start time: 06/14/2017 09:00 End time: 06/15/2017 16:00	<a href="#">Cancel</a> <a href="#">Edit</a> <a href="#">Mark as Missing</a> <a href="#">View title in search</a> <a href="#">View Audit Trail</a>
---	--	---	---	--

2. Describe capabilities for allowing multiple locations to create and maintain items with distinct policies, codes, etc.

**Ex Libris:** Multiple locations can set the rules by which booking requests circulate.

Moving to the cloud lowers the required threshold for entry to basic management processes. In today's systems, many mission-critical workflows require server access. The staffing requirements for basic management processes such as record loading or integrating data from other campus systems must be managed by a system administrator. Since Alma provides user-friendly and highly efficient interfaces for all tasks, the system expertise needed to manage the system is significantly reduced. Both Alma and Primo are hosted by Ex Libris and no local database expertise or maintenance is required.

Configuration and profiling are done easily via a set of configuration rules per each process (e.g., acquisition, resource management). The system-managed workflows automate many currently manual processes, reduce error, and free staff to work on those tasks that require decision making.

Alma's basic design is based on two organizational levels, the Institution and the Library:

1. **The Institution** is the basic level of data and workflow management in Alma; it also holds all of the institution, or local library, data. Some processes and configurations, however, may be managed at the Library level.
2. **The Library** is one or more physical locations that are normally housed in a single building or in several buildings that are in close proximity to one another. It has locations and circulation desks that are familiar to the library patrons.

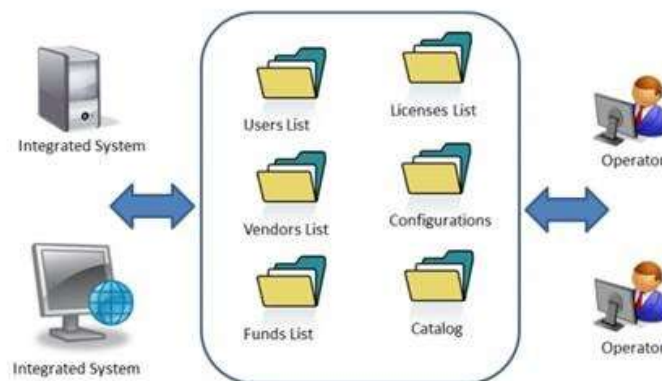
An institution manages the following, accessible to all institution operators with the proper role:

- User management
- Vendors
- Funds management
- Licenses
- Metadata management
- Configurations

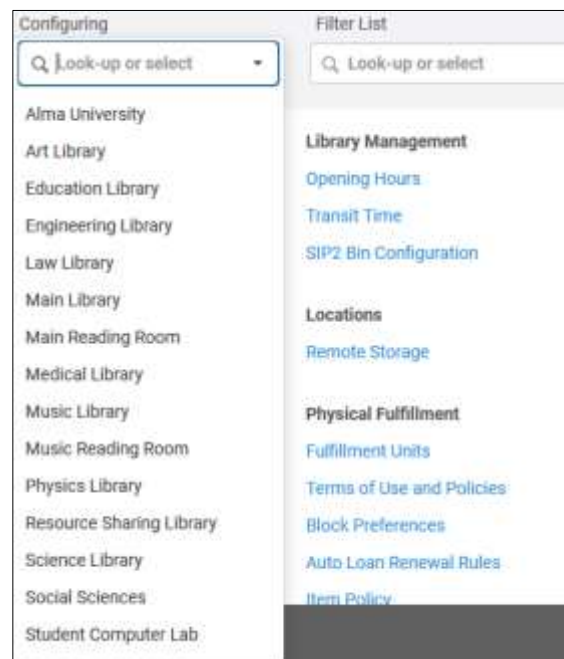
In addition, an institution can make use of single

- Integrated external systems such as ERP or SIS

This is illustrated below:



Alma is pre-configured with all batch jobs required for operation of the system. One needs only to decide to opt in or opt out of a scheduled job. This makes the configuration very easy to manage. The following screen capture shows the configuration areas, each of which includes configuration options that can be defined at the institution or library level.



### 3. Describe provisions for using barcodes or RFID for checking out equipment.

**Ex Libris:** Scanning barcodes or using RFID systems can also pertain to booking requests in Alma, just as they would to items.

Alma supports the management of non-library material. This type of material can be configured to be requestable via booking requests, usable for a set time period before the item must be returned. When configuring a booking request, it is possible for the library to define a maximum allowed booking length and a future limit that indicates how far in advance an item can be reserved through a booking request. Booking can be configured for all resources. The rules that govern booking functionality are configured by the library.

### 4. Describe capabilities for grouping and lending items as a whole (*e.g., camera, tripod, power cord*).

**Ex Libris:** Alma supports MARC21 holdings. The holding record provides the link between the bibliographic record and the physical inventory (items).

This record structure allows Alma to manage each level of the hierarchy, while maintaining linkages among the other level(s). From the staff user's perspective, this means that a search of the repository may be conducted on any level, and each level may be edited independently. The physical resource relationships comprise:

- A bibliographic metadata record (MD) is independent of any holdings or items and may exist in the system without such.
- Holdings records must be linked to a bibliographic record (MMS id), however, they do not require any item records.
- Item records must be attached to holdings records.
- A single MD record may have multiple holdings records linked to it.
- A single holdings record may have multiple item records attached to it.

For physical resources, the holdings record contains information about the library, location, holdings type (*e.g., single-part, multi-part, serial, etc.*) and call number (*e.g., LC classification*) of the item. The item record contains information about the barcode, material type, fulfillment policy, *etc.* of the physical item.

#### Item Records

The Alma item record consists of a great number of fields including item barcode, temporary and permanent locations, material type, fulfillment (circulation) policy, enumeration and chronology fields for serials, and numerous fields for registering note information – *e.g.* internal note, fulfillment note *etc.* In addition, staff will always have an indication of the item's availability.

#### Material Types

- The material type table consists of a very long list of possible material type options – from standard material types such as book, issue, microform, *etc.*, to more 'esoteric' material types such as toy, keys, box *etc.* The library has the option to define which material types it wishes to display to staff in the pull down menu on the item record. The library can also define the order in which these types will display.

	Enabled	Move Up	Move Down	Code	Description
1	<input checked="" type="checkbox"/>		<input type="button" value="v"/>	BOOK	Book
2	<input checked="" type="checkbox"/>	<input type="button" value="u"/>	<input type="button" value="v"/>	ISSUE	Issue
3	<input checked="" type="checkbox"/>	<input type="button" value="u"/>	<input type="button" value="v"/>	DVD	DVD
4	<input checked="" type="checkbox"/>	<input type="button" value="u"/>	<input type="button" value="v"/>	CD	Compact Disc
5	<input checked="" type="checkbox"/>	<input type="button" value="u"/>	<input type="button" value="v"/>	CDROM	CD-ROM
6	<input checked="" type="checkbox"/>	<input type="button" value="u"/>	<input type="button" value="v"/>	DVDRM	DVD-ROM
7	<input checked="" type="checkbox"/>	<input type="button" value="u"/>	<input type="button" value="v"/>	SCORE	Music Score
8	<input checked="" type="checkbox"/>	<input type="button" value="u"/>	<input type="button" value="v"/>	VIDEOCASSETTE	Video cassette
9	<input checked="" type="checkbox"/>	<input type="button" value="u"/>	<input type="button" value="v"/>	AUDIOCASSETTE	Audio cassette

The table is managed by Ex Libris, to ensure that all Alma institutions use the same material type definitions – so that comparative analytic reports (between institutions) using the same values can be generated (roadmap plans for this).

- Describe options for listing features of rooms available for scheduling (e.g., occupancy levels, equipment, furniture, location).

**Ex Libris:** Terms of Use (TOU) policies can define that items of a certain type (by location, material type, item policy etc.) are only available for loan in a Reading Room.

When a patron requests such an item, the item will be moved to the Reading Room, and will be made available to the patron in the Reading Room for a library defined period.

Journal of world history : official journal of the World History A

Institution: Alma University

Create Request

Request Type \* Patron physical item request

☒ Description ☐ Manual

Requester \* Sara Carr

Year

Volume

Description \* v.1-2 (1999-91)

Note

Pickup Institution \* Alma University

Pickup At \* Reading Room 2

When the request is processed, the operator sees that its destination is the Reading Room:

Active	Title	Destination	Barcode	Request/Process Type	Requester	Requester ID	Place in Queue	Checked in
1	Journal of world history : official journal of the World History Association	Reading Room 2	-	Patron physical item request	Sara Carr	Sara Carr	1	<input type="button" value="OK"/>

The item temporarily changes location to Reading Room until the due date of the loan has passed, or until the patron indicates that he/she no longer requires the item. In effect, the change back to the permanent location happens only when the item is physically returned (scanned in) by the staff user in 'final check-in mode'.

The patron comes to the Reading Room, and is able to loan out and return the item to the Reading Room, until it is no longer required.

Return functionality in the Reading Room differs from regular returns – in that the staff operator can indicate the check-in mode:

- Final – The patron no longer requires the resource, and the resource can therefore be returned to its permanent location.
- Not final – The patron still requires the resource. The resource should therefore be stored on the reading room's hold shelf (for a library defined period of time).

Loans Returns Requests

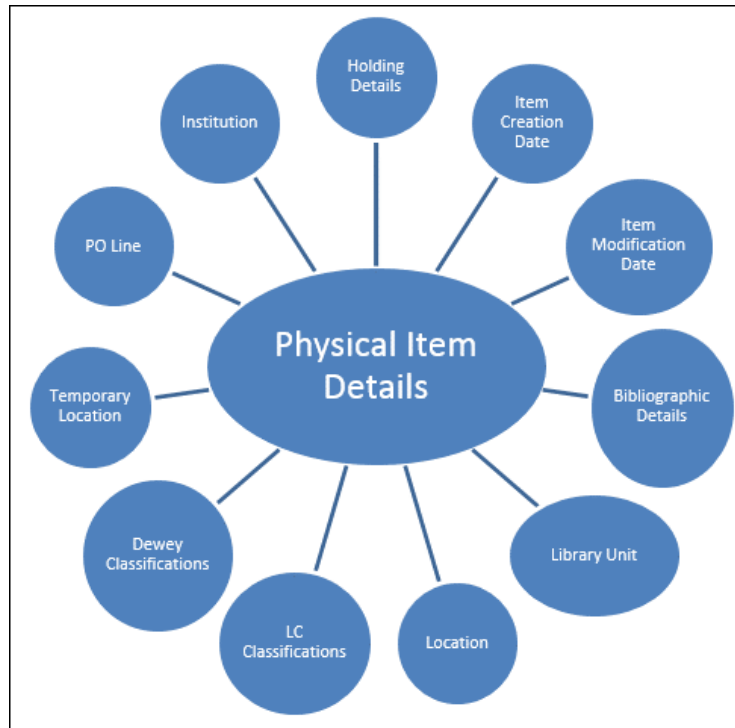
Final check-in mode ☒

Scan item barcode \* 14854-10

6. Describe available analytics for use of equipment and rooms, including the library's ability to configure and customize tracked data and reports.

**Ex Libris:** Using the Physical Items area (formerly Inventory), the Design Analytics user may create reports/dashboards for the Physical Items area and is able to answer the following types of business questions:

- How many physical Items exists per Library/Location
- List of all the titles based on their process type
- Number of Physical Items per material type
- How many times each item was loaned
- What is the last date that the item was loaned



7. Describe other equipment/room scheduler capabilities unique or notable of the proposed system not addressed above.

**Ex Libris:** For more information, please

visit: [https://knowledge.exlibrisgroup.com/Alma/Product\\_Materials/050Alma\\_FAQs/Fulfillment/Booking%2C\\_Reading\\_Room](https://knowledge.exlibrisgroup.com/Alma/Product_Materials/050Alma_FAQs/Fulfillment/Booking%2C_Reading_Room)

## J. Discovery Service Content and Metadata Functionality

1. Describe your overall approach to integrating the library's catalog records with additional metadata (*often called "discovery tool"*), including the tool's relationship to the library catalog, linkresolver, knowledgebases, etc.

**Ex Libris:** The products we are presenting James Madison University with, Alma and Primo VE, are seamlessly integrated in a unified environment.

With the recent ProQuest acquisition of Ex Libris, one of the key objectives of our product strategy was to leverage the strengths of both ProQuest and Ex Libris products. An important element in this strategy is the integration of Summon with Alma to offer customers the option of using Summon as a discovery platform for Alma. This work has been concluded and there are several institutions already live with Alma and Summon. However, after evaluating the unique needs of JMU, we believe that adopting Primo is a better choice for your specific institution.

This is because one of the main benefits of Alma-Primo integration is the ability to provide a unified search that allows for smooth and streamlined discovery across all libraries, while still providing the patron the ability to have a single search into the institutional holdings of the library with which he or she is affiliated.



Additionally, the JMU will be implemented with our Primo VE deployment model. Primo VE is a new Primo deployment model simplifying Primo backend processes and further optimizing the management of Primo with Alma by utilizing the Alma platform. Primo VE offers an inherent discovery layer over Alma resources and – in addition - other resources managed by the library that need to be exposed to patrons.

Primo VE, coupled with the new Primo UI, will enable users to benefit from:

- Major operational improvements and the streamlining of publishing processes
- Real-time discovery of records created in Alma
- Significantly improved product implementation process, including easier configuration and setup
- Unified back office management of Primo and Alma, and reduction of duplicate admin processes
- Enhanced user experience

### **Alma Link Resolver and Primo**

Primo supports the OpenURL standard and uses the Alma link resolver to provide patrons with context-sensitive electronic, digital and print services. The embedded link resolver is a standard functionality in Alma (no additional subscription fee is required) and is based on Ex Libris' experience delivering the SFX link resolver to over 2500 institutions worldwide.

The Alma link resolver offers services via a menu that can be customized by the institution, defining the labels of the services and the order which they appear.

In addition, the institution can define display logic rules among services based on local preferences; for example, if an electronic journal is available from more than one provider, the institution can boost one provider over the other. The institution also can define logic rules among different service types, such as not offering a document delivery service if a full text service exists for the electronic resource. When the OpenURL resolves to multiple records, Alma will attempt to merge equivalent records into one unified list of services. When the records are deemed non-equivalent the user will be presented with a list of records based on the institution's defined display logic rules among services.

If only one resource is found, the library can configure the link resolver to link directly to the electronic resource, bypassing the electronic service page.

### **Third Party Discovery**

Ex Libris provides institutions with the flexibility to deploy third party discovery systems. Alma integrates with open source discovery systems using several protocols and methodologies. At the core of the integration is the Alma publishing process that enables integration between Alma and third-party systems, based on the bibliographic information stored in Alma

The integration interfaces of Alma to be used for integrating with third party discovery are described below and at [this link](#).

This section summarizes the integration points:

1. Search and retrieve information about library resources: In order to enable this functionality, all types of Alma data (such as physical, electronic, and digital data) must be published and loaded into the discovery tool's DB.
2. Retrieve real time availability information on library resources: Discovery system can query Alma for the real time availability of print materials, using the Retrieve BIB API. This API is based on the MMS ID (BIB ID in Alma), which is retrieved as part of the publishing process in 001 field.

Note that the API should be invoked asynchronously via AJAX in order to give good performance in the results page in the discovery system.

1. Perform fulfillment services on library resources: Alma offers the ability to “get” printed material or “view” electronic and digital materials.
2. Perform My Library Card functions via the My Account tab: Discovery system can offer patron details, using the Users API. This API is based on the user ID, and supports patron info, list and renew loans, list and cancel requests and list of fines.
3. Provides the UI for Alma Link Resolver services for searches that are not initiated via the discovery system (such as EBSCO, Google Scholar). The result of these searches is a dedicated page (called the Services Page)

There are more than 130 APIs documented on our Knowledge Center for all sorts of library operations including Fulfillment, Resource Management, Courses, Resource Sharing, Users and more (<https://developers.exlibrisgroup.com/alma/apis>).

2. Indicate which knowledgebase or systems may be indexed by public search engines (*e.g., Google, Google Scholar, Bing*). Describe any search engine optimization, customization and configuration options available to the Libraries.

**Ex Libris:** Alma repository content may be made linkable from indexes such as Primo Central or Google Scholar. This is achieved by utilizing publishing profiles for setting an automatic publishing process that will make Alma’s content linkable for any of these interfaces.

In the context of Primo, we provide as part of the publishing profile a Google sitemap file to facilitate harvesting by commercial search engines. We have worked with industry search engine optimization (SEO) experts to ensure that library collections can be discovered by commercial search engines.

When users access the discovery layer, they are associated with a given institution, based on:

- The link they accessed
- The IP they came from
- Their login

This is needed for the discovery layer to communicate with the correct Alma so it can:

- Provide correct availability and coverage
- Provide the relevant services, based on institutional policies
- Receive requests from identified and authorized users.

Because Alma is an open platform, institutions that choose to use discovery solutions with Alma other than Primo will need to leverage Alma’s open interfaces and APIs to achieve:

- Search and access Alma-managed resources via the discovery interface;
- Access library services in Alma directly from the discovery interface, including:
- Electronic access to an e-resource;
- Location information for physical items;
- Digital services where applicable;
- Request options fine-tuned to the item location and patron type;
- Course Reserve Information; and
- My Account details

3. Describe your relationships with journal article publishers/aggregators, abstract & indexing platforms, open access repositories, and other discovery metadata providers.

**Ex Libris:** Primo supports the ability to harvest resources from the library catalog and other local repositories.

Through an intuitive interface, end users can discover and access resources from the Alma Institution Zone (local institutional holdings, digital collections, etc.) and commercial and open access resources through Primo's central index. Primo's central index includes commercial and open-access content from primary and secondary publishers and aggregators. Results are based on the full-text, abstracts and metadata for articles, books, newspaper articles and more. Primo presents results from shared resources and local resources as well as from the central index in a single merged list, sorted by relevance.

We have forged agreements with hundreds of publishers and content aggregators, and we continue to work with our customers to seek out the broadest and highest quality content to extend the Primo Central Index. Just a few examples of content providers included in Primo Central are Gale, Wiley, JSTOR, CrossRef, Sage, SpringerLink, ABC-CLIO, and Elsevier Scopus. Primo's Central Index includes close to a billion scholarly resources of global and regional importance. The records include a mix of scholarly material—primarily articles and e-books—but also conference proceedings, newspaper articles, audio, video, reviews, legal documents, and more. The number of resources in Primo Central is constantly growing as additional resources are added.

Primo can harvest records from local collections of different types. Users can search within one collection or multiple collections (by using scopes in Primo) at once and can run searches which combine local content and/or remote resources.

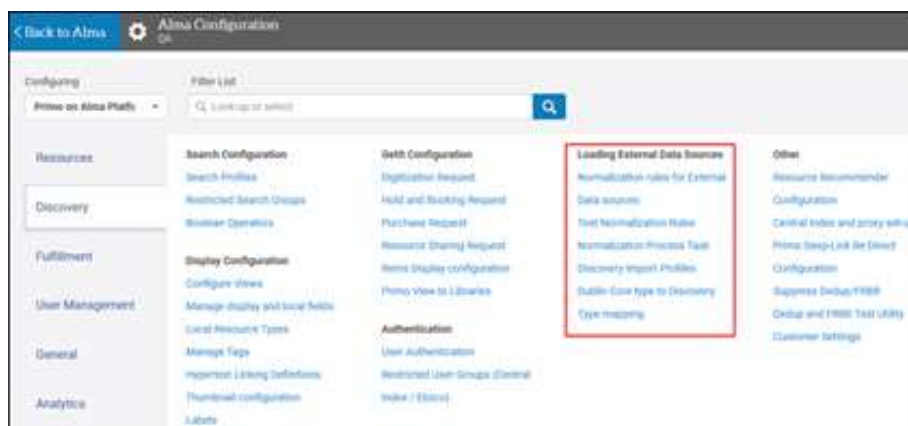
4. Provide a list of the content that may be included in the discovery service, including the level of indexing for each type of content or collection.

**Ex Libris:** The list of providers can be found in our Primo Central Index collection lists. These are publicly available on the Ex Libris Knowledge Center at the following location:  
[https://knowledge.exlibrisgroup.com/Primo\\_Central/Product\\_Documentation/Primo\\_Central\\_Indexing](https://knowledge.exlibrisgroup.com/Primo_Central/Product_Documentation/Primo_Central_Indexing)

5. Describe the various ways an institution can import metadata into the discovery service, including the process for manual and automated updates and deletions.

**Ex Libris:** Primo is designed to provide fast, intuitive access to collections managed within Alma, local digital repositories, websites as well as subscribed and open access electronic resources including research data sets.

Currently, Primo VE supports generic XML, Dublin Core, and MARC21 records from external sources. The import process for Primo VE incorporates Alma import profiles and normalization rules to import generic XML and Dublin Core records into Primo VE. The Loading External Data Sources section on the Discovery configuration menu provides easy access to these tools.



**Loading External Data Sources Section on the Discovery Configuration Menu**

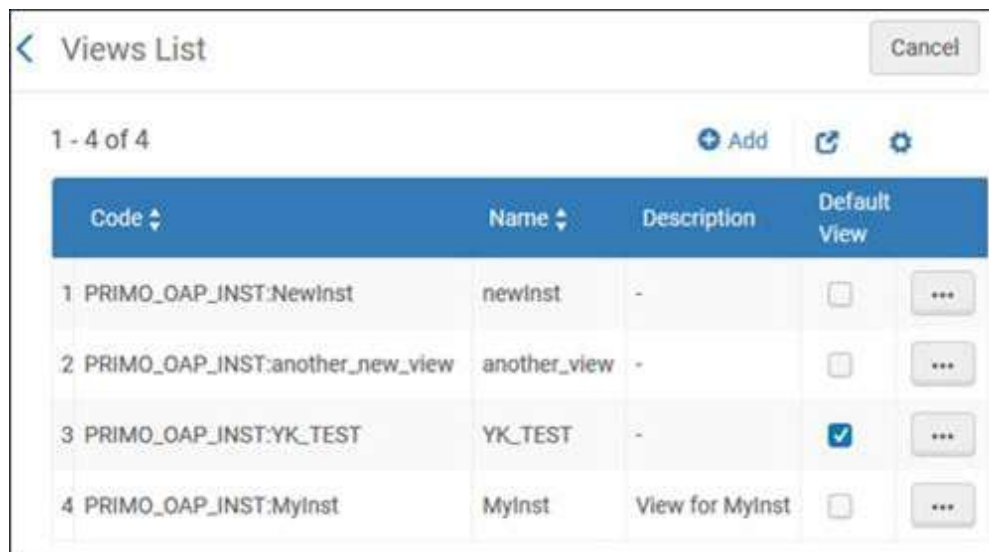
**The import process consists of the following steps:**

1. Add normalization rules as needed to either of the following folders under the Rules section in the MD Editor: **Normalization rules** (for MARC21), **Normalization Rules (DC)**, or **Normalization Rules (XML)**. These rules copy and transform the data in the source records and store the normalized data in Primo VE using an expanded DC schema or MARC21, which includes additional fields that allow you to map resource types and additional information for use in Primo VE.

Instead of using normalization rules for DC sources, you can use the **Dublin Core Type to Discovery Type Mapping** mapping table to map resource types to Primo VE.

1. Create a Qualified Dublin Core, generic XML, or MARC21 Bib normalization process task, which contains a list of normalization rules files.
2. Test your normalization rules and processes prior to loading the records into Primo VE.
3. Create a Discovery import profile for the external data source.
4. Run and monitor the import profile.
6. Describe the level of control the institution has about what content is included or excluded, what fields are searched, and what fields are displayed.

**Ex Libris:** Each campus will have control over the indexing of local catalog and digital collection records, and will have control over indexing, scopes and facets. Primo VE enables end users to perform searches, view online material, request materials, and view their account information. The Views List page, available to staff users with the appropriate role, will enable each campus to configure multiple views that can be based on institution, library, campus, and user group. Each view can have its own look-and-feel and settings (such as search profiles and services).



Code	Name	Description	Default View
1 PRIMO_OAP_INST:Newinst	newinst	-	<input type="checkbox"/>
2 PRIMO_OAP_INST:another_new_view	another_view	-	<input type="checkbox"/>
3 PRIMO_OAP_INST:YK_TEST	YK_TEST	-	<input checked="" type="checkbox"/>
4 PRIMO_OAP_INST:MyInst	MyInst	View for MyInst	<input type="checkbox"/>

The View Configuration page consists of several tabs that allow you to configure the settings that are related to what end users see in the UI (such as search scopes, look-and-feel, and services). The initial definition of a view configures the General tab and populates the other tabs with the out-of-the-box settings. The following tabs can be configured in the View Configuration page:

See the following sections to configure the remaining tabs in your view:

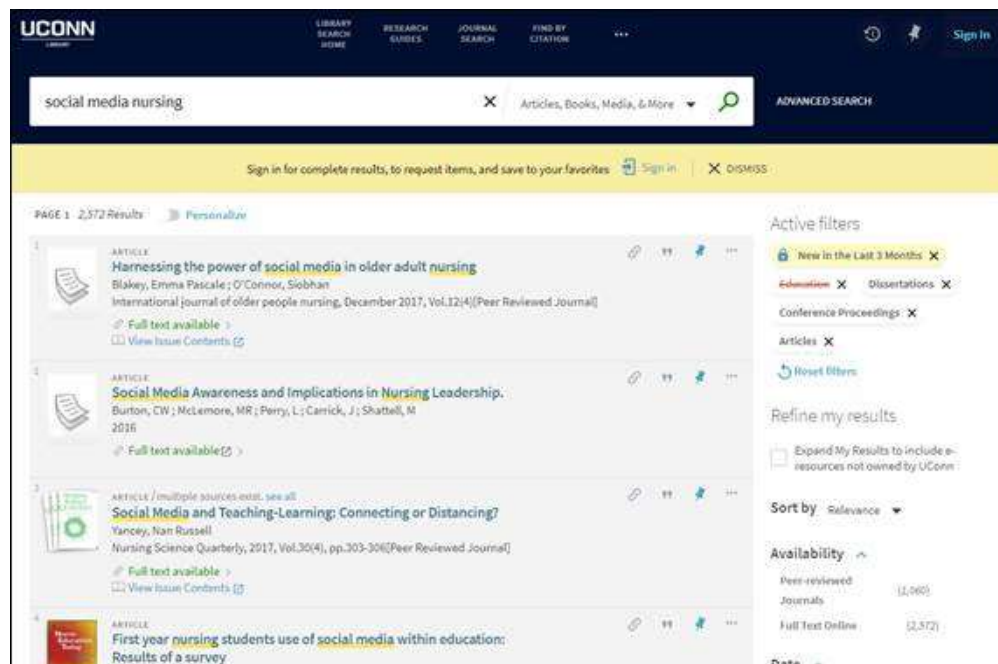
- [Configuring the Links Menu](#) – Defines the links that appear on the Links menu, which displays at the top of Primo VE.
- [Search Profile Slots](#) – Defines the search scopes used in Primo VE.

- Advanced Search Configuration – Configures the following lists of configuration values that display in Primo VE: indexes, resource types, and languages.
- Brief Results – Configures the facets and sort options that display on the Brief Results page in Primo VE.
- Brief Record Display – Configures the fields and actions that display above each record on the Brief Results page in Primo VE.
- Full Record Services – Configures the display of the service sections on the Full Display page in Primo VE.
- Manage Customization Package – Manages the customization packages that you can use to modify the look of Primo VE.

7. Describe how library catalog metadata is mapped to the discovery tool's fields, especially facets and limiters. Include an explanation of the extent to which the institution can specify fields to be searched / included and to customize this mapping.

**Ex Libris:** Primo provides libraries with the ability to offer their users a variety of pre and post-search filters, facet and refinement options. Libraries also can define and present search scopes as drop-down options, as well as the ability to re-sort searches, and to take advantage of a variety of browse searches. Primo is implemented with many facets. However, the library may modify the facets, add new facets, and change the order in which the facets are displayed. Facets delivered with Primo include collection, location, material type, language, publication date, online items only, and any metadata in the Primo Normalized XML record (title, author, subject, etc.). Also, Primo provides the ability to refine a search by parameters such as peer-reviewed, full-text online, available in the Library, and other library-defined limiters.

A single record can have many types of facets, as well as multiple values for a single facet type. Researches can include or exclude multiple facets in order to modify their search, and facets can be locked for future searches (within the browser session). Primo will display which facets have been included or excluded. See an example below, showing how the facets that have been selected or excluded display as active filters:





8. Describe the customizability and configurability of the discovery service, including the ability to have different instances of the discovery service with different customization, configuration, and content.

**Ex Libris:** The Primo discovery end-user interface can be extensively customized, styled and branded to meet University requirements, including logos, fonts, colors, stylesheets and more. It is possible to configure several views for Primo for different user groups if required. Primo customization and configuration is performed using the web-based Primo Back Office module.

In true software-as-a-service solutions, the concept of product versions and platform upgrades is very different from that of legacy systems.

All of the Alma and Primo software updates are done centrally and for all Alma/Primo customers at once, so that all customers are always using the latest version (just as a user will always be on the latest version of Gmail). Since Alma and Primo run in the Ex Libris cloud, all of the solution's platform-related tasks are handled by Ex Libris cloud services personnel.

Each software update being released goes through internal QA processes.

Primo is the most customizable discovery tool available today. Options include, but are not limited to, the following:

- User interface look and feel (Including the logo, home page, and CSS (fonts, colors, display, sizes, etc.), including the simple and advanced searches, i.e., what limiters and refinements will display in each
- Search tabs and scopes
- Facets (Including the order of facets, number of facet values to display, and sorting of the facet value; also, libraries may add their own facets)
- Brief results layout
- Normalization rules
- Labels

Libraries can offer custom widgets such as virtual reference or others through Primo. Primo is an open system that allows libraries to extend its use with a number of third-party systems such as virtual reference, course management software, and more. Also, Primo is an XML-based application with a fully documented API to enable those institutions with the expertise to create completely custom interfaces. This API facilitates the customization of Primo and enables customers to develop code extensions that can be shared with other members of the Primo community. The APIs include XML services, SOAP and REST web services, our Software Development Kit, and more. Additional development tools are released in tandem with the functionality included in each new version of Primo.

The Primo Software Development Kit (SDK) includes:

- Interfaces ranging from UI configuration with programmatic logic for non-technical users to performance-oriented programmatic interfaces for seasoned programmers;
- Extensive documentation, including examples for using the interfaces;
- The Ex Libris Developer Network, a collaboration platform on which users can share their code extensions with the community;
- Code re-use policies.

In addition, Ex Libris offers the Developer Network, a collaborative web-based platform that allows community members to upload software components that they have written and that they wish to share. These software components are available to all other community members in a well-defined, unified format; library developers can select a component, download it, and adapt it to their needs.

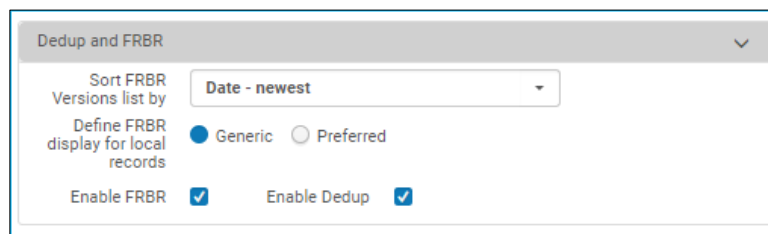


The Developer Network (<https://developers.exlibrisgroup.com/>) not only refreshes the technology used for developing code extensions, it provides a brand new, open environment for sharing, experimenting, and managing the lifecycle of developments that extend Ex Libris products. In addition, it offers new ways for users to access, share, and collaborate around APIs and developments.

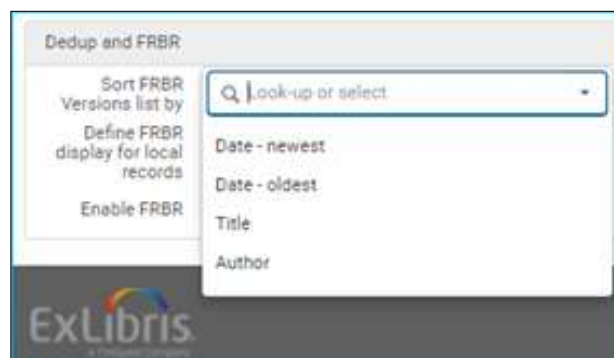
Please note that the Primo user interface uses AngularJS. Angular JS has the most robust model view controller (MVC) patterns, which provide the quickest development cycles. The framework is well defined, and each component is closed and reusable. A technology that works with a single-page application reduces the traffic between the server and client, thus improving the user experience and performance. The server sends only a small amount of JSON and JavaScript code to create the HTML output, a feature that is crucial in developing applications for mobile devices, which are less powerful than desktop devices. The introduction of AngularJS means that most customizations can be done via GUI widgets.

9. Describe the ability of the discovery tool to de-duplicate results before displaying to patrons.

**Ex Libris:** Primo search results are de-duplicated. For local records, the system de-duplicates records during indexing and creates FRBR-groupings for search results based on author and title fields. When a record is de-duplicated, the merged record is displayed. With FRBR, the records are grouped in the results list, but users can see the details of the individual records. Both the de-duplication and the FRBRization methodology can be modified by the library, and both are steps in the publishing process. Each View allows to have its own FRBR/Dedup configuration. This includes the ability to enable or disable both processes.



You can define the FRBR Versions list sorting:



Furthermore, you can choose between two FRBR options for local records to define which information are displayed in the brief results:

- **Preferred** – Primo VE dynamically selects one of the records from the group for display in the brief results list. This is the preferred record. The preferred record is the highest ranked record from the results set. From the preferred record, the system displays a link to the additional records in the group.

- **Generic** – The generic record serves as a placeholder for the group and does not include the data and functionality that is relevant to a specific record (such as the availability status). It only indicates that multiple versions of the title have been found. End users can click either the title or the View versions link to display the versions for the FRBR group.

The Suppress Dedup/FRBR Rules page in Alma Discovery configuration allows you to create rules that prevent groups of records from being Deduped/FRBRized so that they are not made redundant or grouped during discovery. For each rule you can decide whether to suppress the records from both the Dedup and FRBR processes or just from the Dedup process and to specify a set of conditions (maximum of two).

Rules are defined through the following parameters:

- **Fields** – Select a field from one of the following categories: Inventory, Local Fields, or Metadata.
- **Operator** – Select one of the following operators: **Equals**, **Not Equals**, **Contains**, **Doesn't Contain**, **Exists**, or **Doesn't Exist**.
- **Value** – Specify a value for the selected field.

Alma's Discovery configuration also provides a Dedup and FRBR Analysis tool. The utility page allows you to perform the following tests to analyze how the system determines whether records belong to Dedup/FRBR groups, which are used to reduce redundant records in the brief results:

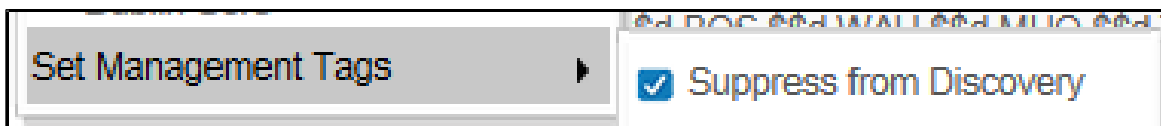
- Find matching records
  - This test allows you to find a record's matching FRBR or Dedup records.
- Compare records
  - This test allows you to compare two records to determine whether they belong to the same FRBR or Dedup group.

10. Describe the way the discovery tool is able to use library catalog data, including authority information, status information, patron data, and circulation data.

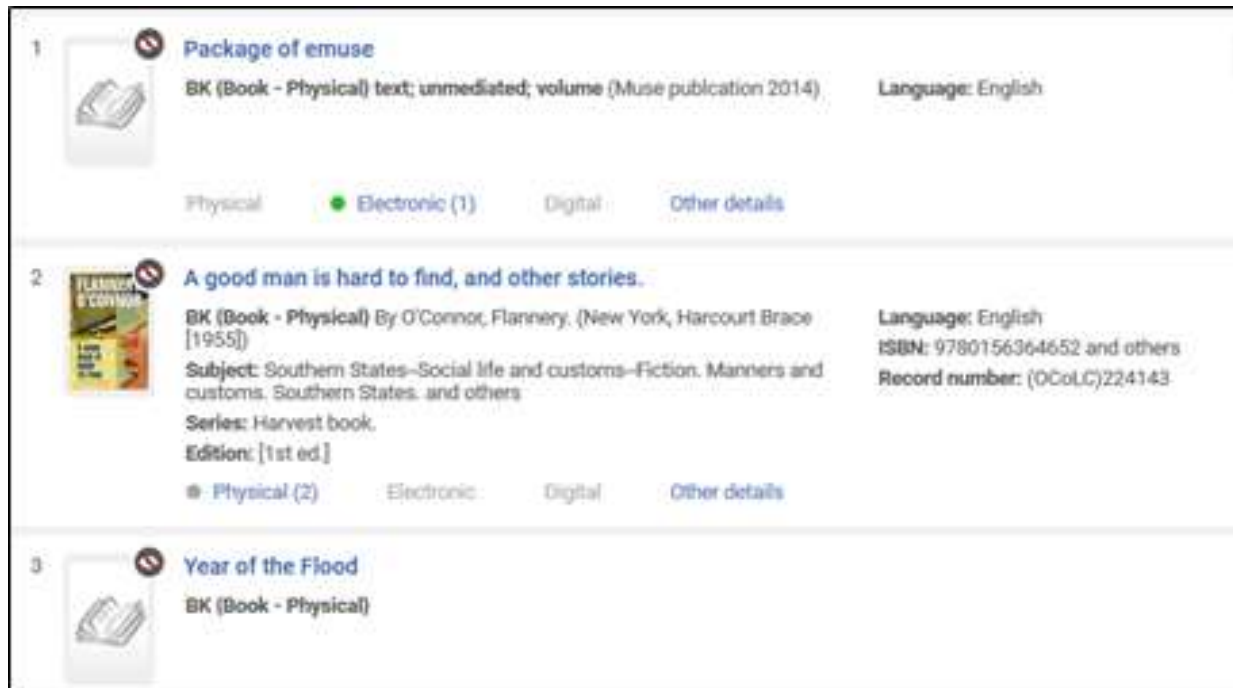
**Ex Libris:** Ex Libris' unified discovery solution, Primo, is designed to support the needs of students, faculty and researchers by unifying access across print, electronic, and digital resources, regardless of format or location, in a single, intuitive search interface. Further, Primo enables libraries and librarians to add value to the discovery environment through an array of customization options that mine the system's flexible architecture. Individual end users also enjoy extensive control of the discovery experience through search preferences including personalized ranking, the scope of the search, extensive patron empowerment capabilities when Primo is used with Alma, RSS feeds, email alerts, and more.

Through a unified, intuitive interface, end-users can discover and request items from Alma (local institutional holdings, digital collections, etc.) as well as access commercial and open access resources through Primo's central index. Primo delivers availability status for print, electronic and digital items in both the brief and detailed views. Primo offers unique integration with Alma, leveraging Alma's advanced Smart Fulfillment capabilities to present real-time availability information and advising end users about the best method to access resources, taking into account user entitlements, library preferences and time to delivery. Availability elements (such as the call number, item status, location) are library-defined.

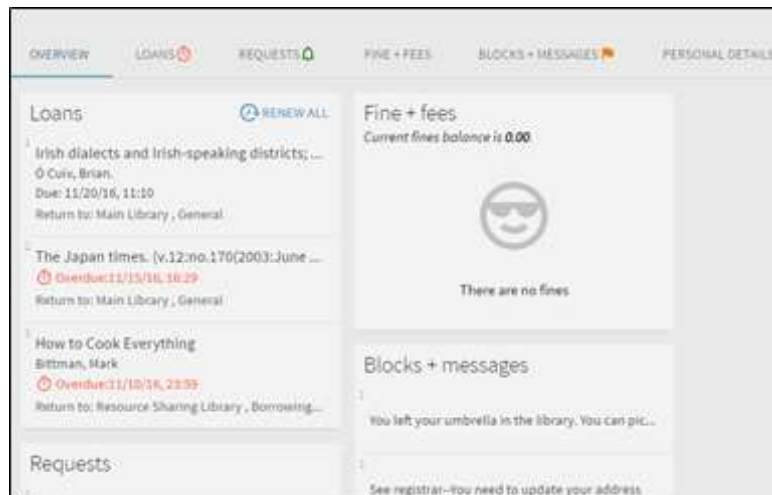
Again, the Primo VE deployment model simplifies Primo backend processes and further optimizing the management of Primo with Alma by utilizing the Alma platform. Primo VE offers an inherent discovery layer over Alma resources and – in addition - other resources managed by the library that need to be exposed to patrons. There is no need for publishing to Primo, as any changes to bibliographic records in Alma will show up immediately in Primo. New bib records will appear in Primo VE within 15 minutes. Bibliographic records, holdings, and items can be suppressed from display in the Discovery Tool in the Metadata Editor. The option to suppress a record from Discovery can be seen in the following screen capture:



In Alma these records will have a visual indication that they have been suppressed:



Integration between Alma and Primo also handles the presentation of the end user account details in Primo. The information displayed is current (in real time) and includes loans, requests, fines and fees, blocks and messages to the user and an option for the end user to change her/his personal settings. Following is a list of active loans, including the ability to renew loans (all or selected).



11. Describe any integration of the discovery tool with course reserves, learning management systems (e.g., Canvas), LibGuides, or other user-services-related systems.

**Ex Libris:** Primo supports importing records from external sources, such as digital repositories, LibGuides and others, allowing users to discover all relevant library materials. Primo supports loading records in Dublin Core or generic XML formats from external sources, using import profiles and normalization rules to map the source records metadata to be searched and displayed. All content is normalized into a single scheme for fast, efficient searching across formats and collections, delivering results quickly in a unified results set. The library can choose to set up multiple import profiles for external data sources as needed, define the metadata normalization routines for each, test the normalization routines and run the import on-demand or on a scheduled timeframe based upon the library's preference. Records can be harvested using OAI, S/FTP methods or upload files directly from PC filer.

Primo provides the option for harvesting institutions to use its search API for inclusion on content in alternative portals subject to the Primo Central terms and conditions. In addition, Primo includes a sitemap option allowing search engines to index Primo results.

Primo is an open system that allows libraries to extend its use with a number of third-party systems such as virtual reference, course management software, and more. Also, Primo is an XML-based application with a fully documented API to enable those institutions with the expertise to create completely custom interfaces.

This API facilitates the customization of Primo and enables customers to develop code extensions that can be shared with other members of the Primo community. The APIs include XML services, SOAP and REST web services, our Software Development Kit, and more. Additional development tools are released in tandem with the functionality included in each new version of Primo.

The Primo Software Development Kit (SDK) includes:

- Interfaces ranging from UI configuration with programmatic logic for non-technical users to performance-oriented programmatic interfaces for seasoned programmers;
- Extensive documentation, including examples for using the interfaces;
- The Ex Libris Developer Network, a collaboration platform on which users can share their code extensions with the community;
- Code re-use policies.

12. Describe updating processes for discovery service (*real time from catalog, lag time, etc.*)

**Ex Libris:** Primo VE, coupled with the new Primo UI, will enable users to benefit from:

- Major operational improvements and the streamlining of publishing processes
- Real-time discovery of records created in Alma
- Significantly improved product implementation process, including easier configuration and setup
- Unified back office management of Primo and Alma, and reduction of duplicate admin processes
- Enhanced user experience

There is no need for publishing to Primo, as any changes to bibliographic records in Alma will show up immediately in Primo. New bib records will appear in Primo VE within 15 minutes.

13. Describe other discovery service content and metadata functionality that is unique or notable of the proposed system not addressed above.

**Ex Libris:** For more information, please visit:

[https://knowledge.exlibrisgroup.com/Primo/Product\\_Documentation/020Primo\\_VE](https://knowledge.exlibrisgroup.com/Primo/Product_Documentation/020Primo_VE)

**K. End User (Public) Interface Functionality-** In this section, describe all public interfaces for searching content, including discovery interfaces, or catalog interfaces.

1. Describe the interface(s) designed for the public to discover and access all types of resources in the system.

**Ex Libris:** The Primo User Interface supports all the leading browsers: Chrome, Firefox, Safari, and Internet Explorer. There is an ongoing process of monitoring new browser versions and checking their compatibility with Primo. Primo provides a full responsive design for all devices by using Angular JS and Angular Material. The interface scales and re-arranges according to viewport size, so that functions are reachable and useable, whether used on smartphone, tablet or desktop. One of the key advantages of the new Primo User Interface is the way it displays over mobile and tablet devices, making Primo searches available from any device, any time:



The library can integrate with online chat, social media platforms, and subject guides such as LibGuides.

2. Describe how the public interface supports discovery of additional search tools, such as research databases or locally created subject guides, whether or not the contents of these tools/database are present within the system (*e.g., research databases portal, database recommender services, facets*).

**Ex Libris:** Primo is a pre-harvested unified index designed for fast, efficient searching across local and remote collections. Similar to Google, Primo utilizes a multi-segment index architecture. Local collections including library catalogs, digital collections from systems such as ContentDM, DSpace, etc., as well as LibGuides, Drupal or other web-harvested resources, are represented in one segment of the index while resources in Primo Central are represented in a second segment of the index. This advanced architecture enables the library to control how both segments are blended together ensuring that relevant local resources are blended with global (Primo Central Index) results as desired.

3. Detail search capabilities, including keyword searching, left-anchored index searching (*i.e. left-anchored title searching*), controlled vocabulary searching, and call number searching. Explain how the system takes advantage of the library's structured metadata.

**Ex Libris:** The basic search can include tabs, scopes, and pre-search limiters (as shown below), or be a simple search box.



The main search screen provides a link to the advanced search. Generally, the library offers more search options in the advanced search. Below is an example of the advanced search:

A screenshot of the advanced search interface. At the top, it says 'Search for:' followed by four radio buttons: 'BU Library Resources' (selected), 'Course Reserves', 'More Articles Beyond BU', and 'WorldCat'. Below this are two search lines. The first line has 'Any field' and 'keywords' dropdowns. The second line has 'AND' and 'Any field' and 'keywords' dropdowns. To the right of these are three filter dropdowns: 'Material Type' with 'All items' selected, 'Language' with 'Any language' selected, and 'Limit to recent years' with 'Any year' selected. At the bottom left is a '+ ADD A NEW LINE' button.

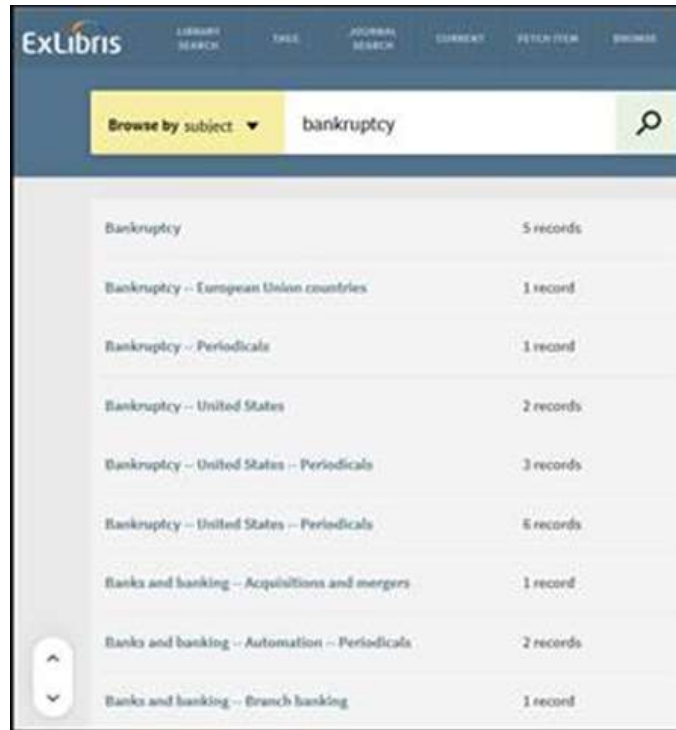
The Advanced Search page allows you to specify additional lines of criteria, which are not available with the Simple Search. In addition, it allows you to specify filters prior to executing the query.



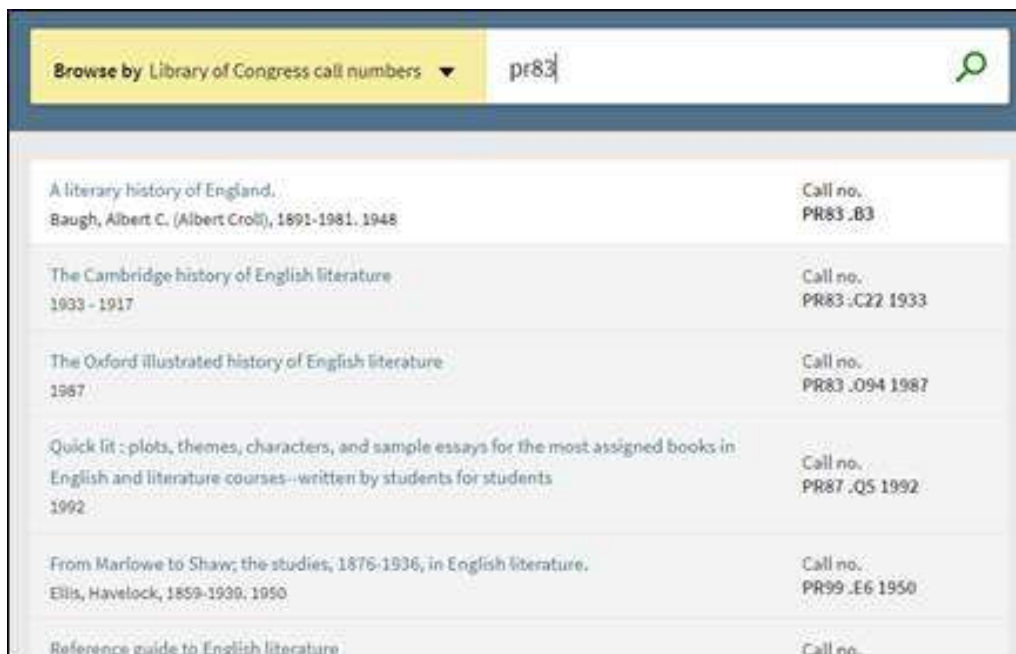
The Advanced Search page contains the following components and options:

- Search for – If provided, search tabs allow you to search within a specific category of materials (such as materials that belong to your institution, course reserves, or any additional repositories that are supported by the library. Whether search tabs are provided or not, you can also limit your search results by specifying search scopes and filters.
  - Search Scope – Search scopes allow you to narrow search results further by specifying subcategories that may further limit the scope of searches to a campus, library, or additional search indexes (such as Primo Central).
  - Add a New Line – Advanced searches allow you to include a maximum of seven search criteria lines, which contain the following parameters: operator, field selector, search type, and search box.
  - Field selector – For each search line, this parameter allows you to narrow the search to all search fields or a particular field (such as title and subject).
  - Search type – For each search line, this parameter indicates whether the phrases in your query are treated as phrases or exact phrases. The following values are valid:
    - **is (exact)** – Returns results that contain phrases that exactly match the phrases specified in the query.
    - **contains** – Returns results that contain all words in the phrase, but the words may be in a different order and may not be as close together.
    - **starts with** – Returns results that contain words that start with the specified string. This type performs left-anchored title searches only.
  - Operators – As with basic searches, you can include the following operators between words and phrases in each search line: **AND**, **OR**, and **NOT**. In addition, the **Operator** drop-down list allows you to select the operation that is used between search lines.
  - Search box – For each search line, enter the search query text, which may include words, phrases, and operators (**AND**, **OR**, and **NOT**).
  - Filters – Filters allow you to narrow your results to specific metadata (such as a material type or date range). In the search results, you can include and exclude facets to filter your results further.
4. Describe the system's ability to support the user in browsing library collections by subject area, call number, title, etc. Explain how the browsing approach differs from searching, if applicable.

**Ex Libris:** Primo's Browse search allows you to browse library material (local material only) in order to find information of relevance quickly. You can browse material by author, title, subject and call number. The library can select which of these browse options you will provide. When browsing by author, title or subject results will be grouped together; you can click an underlined entry to see its associated records:



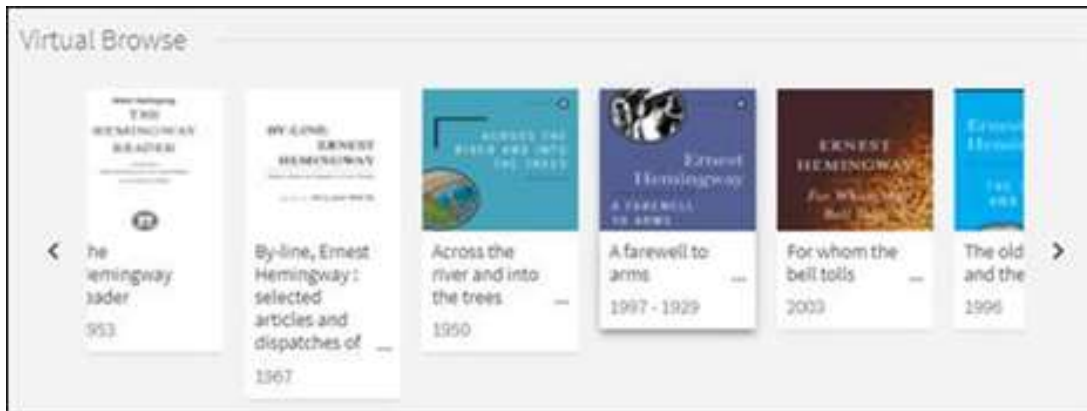
It is also possible to browse by call number, which returns a list of associated records in brief format. Clicking a title displays its full record:



### Virtual Browse

The Virtual Browse is a feature in Primo's Front End search results page. It allows users to browse items based on the location of an item in the search results. The user will be able to navigate through items on the shelf, starting at the selected item's browse/call number value.

Below is an example of Virtual Browse from Colorado School of Mines:



5. Explain the system's relevancy ranking and options for customizing it. Explain any different search "modes" for the user (e.g., *basic*, *advanced*, "google-like" versus *Boolean*) and how these affect the relevance algorithm(s).

**Ex Libris:** Search results in Primo are ranked by default by **relevance**. The end user can choose instead to sort by date, author or title.

Primo is the only discovery tool on the market today that allows for the configuration of its **relevancy** ranking mechanism. Primo's **relevancy** ranking configuration ("boosting") allows the library to boost some items ahead of others, on a per-field basis, increasing the likelihood that a search for a specific title or author will be close to the top of the result set. Ranking is based on the metadata and full text, and Primo provides the ability to manipulate the **relevancy** ranking algorithm by defining field-level boosting factors, as follows:

- Setting the importance of specific fields for boosting purposes;
- Boosting documents in publishing by use of normalization rules;
- Boosting by synonyms;
- Boosting local collections vs. Primo Central remote content.

Ex Libris has taken Primo's results beyond basic ranking by factoring in a user's role, or profile, that best describes their information needs, as well as the global scholarly significance of materials. In particular, usage information reflecting scholars' interest in specific materials may be added to the equation as a means of highlighting items that are considered of greater value to researchers. Such usage information is obtained from the Ex Libris bX article recommender database, which is a product of the data mining of hundreds of millions of selections of scholarly materials by the research community.

ScholarRank is the technology now deployed by Primo for calculating the **relevance** of items to a specific query and to a specific user's information need. To determine the position of an item on a result list, the Primo ScholarRank technology takes into account the following three elements:

- The degree to which the item matches the query;
- A score representing the item's scholarly value (calculated from factors that are unrelated to the query such as citation counts and other usage based data);
- Information about the user and the user's research need at the specific point in time.

The match between a query and an item is calculated according to information retrieval (IR) methods that have been adapted to the structure of the specific type of information (metadata, abstract, or full text). For example, not only do the proximity and order of the query terms in a result record have an impact on the ranking, but the field in which the query terms appear also has an effect; if the terms appear in an item's

title, the item is likely to be more **relevant** to the user than an item for which the query words appear only in the full text.

Primo ScholarRank technology also takes into account certain characteristics of a user to provide personalized ranking. Applying information about the user's area of research, for example, ScholarRank can boost materials related to the user's discipline when the topic that is inferred from the query is ambiguous. If provided by the user, information about the user's academic degree enables ScholarRank to boost materials that would be considered appropriate for that level; for example, for a query submitted by a researcher who holds a Ph.D., in-depth items would be among the highest ranked

Please also refer to our response to #3 above, for a detailed explanation of basic/advanced searching.

6. Describe user-support search features that promote self-service, such as dictionaries, spell-check, and term suggestions (*e.g., Did you mean...*).

**Ex Libris:** When a search is done by a user, Primo detects the language of the query and applies relevant language-dependent methods such as the removal of stop words, stemming, use of synonyms, and the "Did You Mean" mechanism.

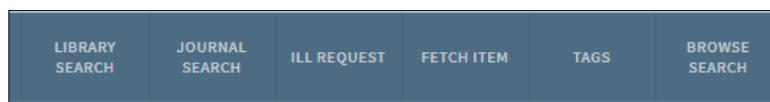
The retrieval of resources is based on a textual match between the query and an item. If there is an exact match, then the language does not come into play. However, the detection of the query language enables Primo to process the query—removing stop words and looking at alternatives, such as those calculated based on stemming—and these are language dependent.

Primo stems the search terms using the Kstem stemmer. Primo identifies the language of the query and applies relevant stemming logic which can be different based on the language. In cases where Primo cannot identify the language of the query terms it will look at the user's interface language to define the language logic to apply.

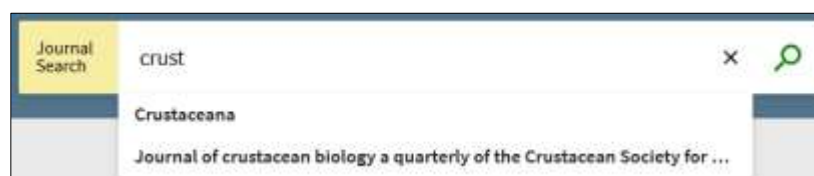
7. Describe the system's functionality related to searching for journals, including by title and by subject area, and how the holdings information is presented in an intuitive fashion.

**Ex Libris:** Primo VE's Journal Search option allows for searching only for journals. As both Print and Electronic material is managed in Alma, this is not only for e-journals as with traditional link resolvers, but also for print journals.

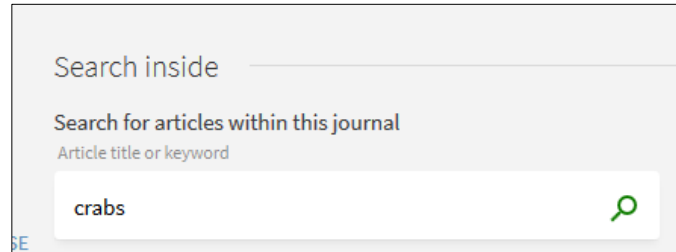
Journal Search can be accessed from a link at the top of the screen:



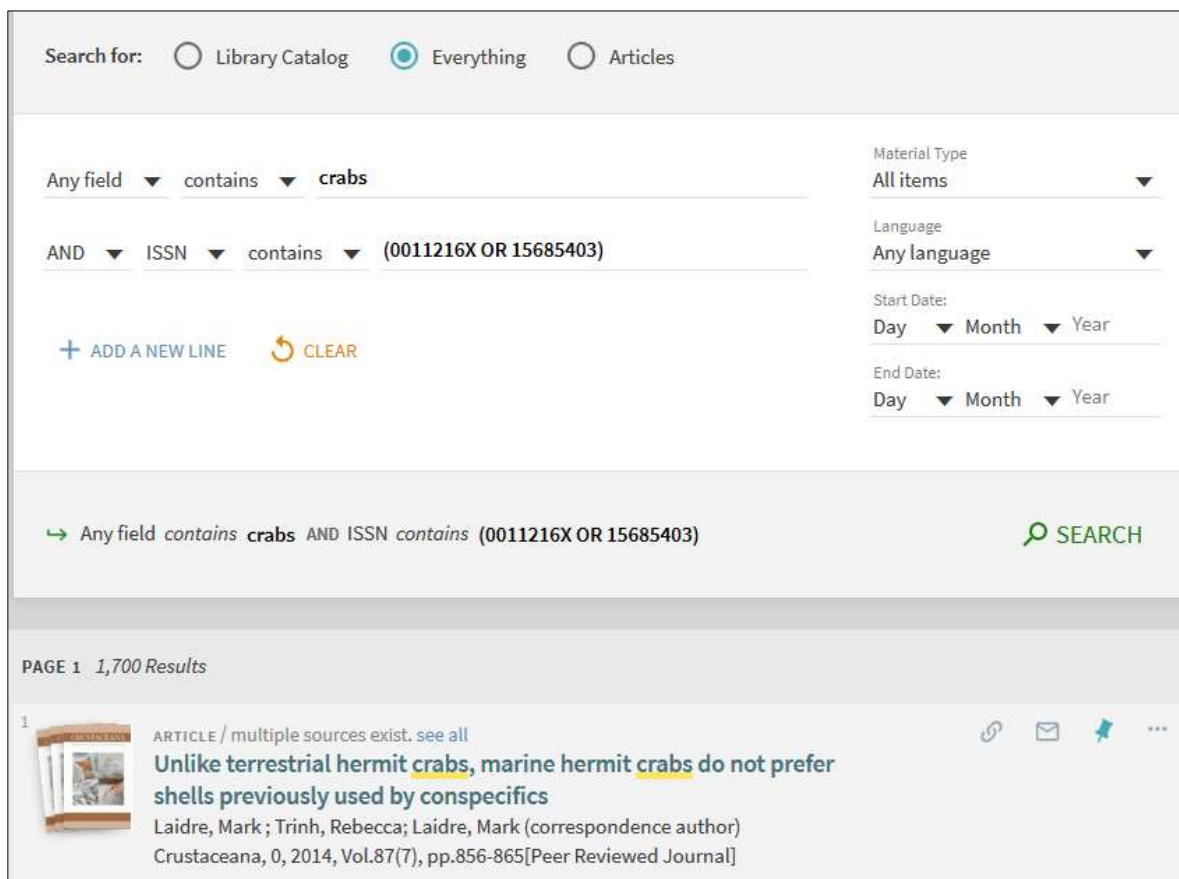
Instead of offering users an outdated A-Z list Primo VE's Journal Search interface comes with an auto complete suggestion that is built specifically from the institution's journal subscriptions and holdings in Alma:



Primo VE supports a 'Search Inside' option that allows for searching for articles within a journal:



A Result Page displays. At the top of the screen you can see your search query – with the option to modify parameters as necessary. Below, you can see the articles related to your search query in all the issues of this journal:



Facets display on the right hand side of the result list (by default collapsed):

Search for: ☐ Library Catalog ☒ Everything ☐ Articles

Any field ▼ contains ▼ crabs

AND ▼ ISSN ▼ contains ▼ (0011216X OR 15685403)

+ ADD A NEW LINE CLEAR

Material Type  
All items ▼


Language  
Any language ▼

Start Date:  
Day ▼ Month ▼ Year

End Date:  
Day ▼ Month ▼ Year

Any field contains crabs AND ISSN contains (0011216X OR 15685403) SEARCH

PAGE 1 1,700 Results

1  ARTICLE / multiple sources exist. [see all](#)

**Unlike terrestrial hermit crabs, marine hermit crabs do not prefer shells previously used by conspecifics**


Laidre, Mark; Trinh, Rebecca; Laidre, Mark (correspondence author)  
Crustaceana, 0, 2014, Vol.87(7), pp.856-865[Peer Reviewed Journal]


## Physical Holdings

When a user clicks on a record from Primo Central Index (or an external source like Google Scholar) – in addition to showing the electronic services available (as any link resolver will do), Primo VE will also check to see if there are any relevant physical holdings and will show the user that the library also holds a physical copy of this journal. This is a unique feature of Primo VE.




SEND TO  
VIEW ONLINE  
GET IT  
DETAILS  
LINKS  
TAGS

Full text availability



[EBSCOhost Academic Search Complete](#)  
Available from 1999  
Most recent 3 year(s) not available  
The Service is temporary unavailable [SHOW LICENSE](#) 

[Ebrary Local](#) 

Get It

REQUEST: [Request Other Issue](#) / [Digitize Other Issue](#) / [Resource Sharing](#) / [Illiad](#)  / [OCLC Navigator](#)  / [Relais D2D](#) 

LOCATION ITEMS

Main Library  
May be available, General QL435.A1 C75  
from:1 2013 until:87 2016  
Copy: 1 [LOCATE](#)  

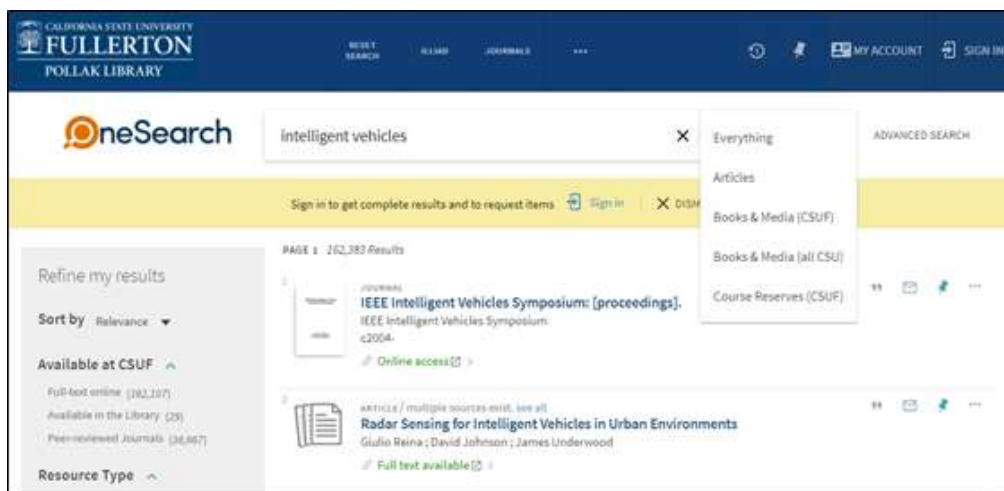
Item in place (0 requests) Vol. 87 no. 9 (2014 Nov.) [Request / Digitization](#) ▼  
One Week Loan



8. Describe all pre- and post- search limit options (*e.g., language, location, availability, full-text*).

**Ex Libris:** Primo provides libraries with the ability to offer their users a variety of pre- and post-search filters, facet and refinement options. Libraries also have the ability to define and present search scopes, as well as the ability to re-sort searches, and to take advantage of a variety of browse searches.

Primo enables the institution to define one or more scopes to provide access to all or discrete subsets of its local collections. A scope determines the domain of the search, and might restrict the search by location (for example, by campus), by collection, or by other parameters determined by the institution. An institution may define multiple scopes and enable them for use by all users or by specific user groups. The researcher may run their search in a different scope, expanding or narrowing the results to a particular subset of records.



Primo is implemented with many facets. However, the library may modify the facets, add new facets, and change the order in which the facets are displayed. Facets delivered with Primo include collection, location, material type, language, publication date, online items only, and any metadata in the Primo Normalized XML record (title, author, subject, etc.). Also, Primo provides the ability to refine a search by parameters such as peer-reviewed, full-text online, available in the Library, and other library-defined limiters.

A single record can have many types of facets, as well as multiple values for a single facet type.

The library decides which pre-search and post-search limiters to offer patrons. During implementation, your library will be able to make decisions about how facets, limiters, etc., will be configured. After implementation, the library may use the discovery configuration menus to make changes to the configuration.

Facets can be configured on the institutional level and in a shared discovery view.

Primo VE allows you to map information from the following MARC21 and UNIMARC fields in the source records to local facets in Primo VE:

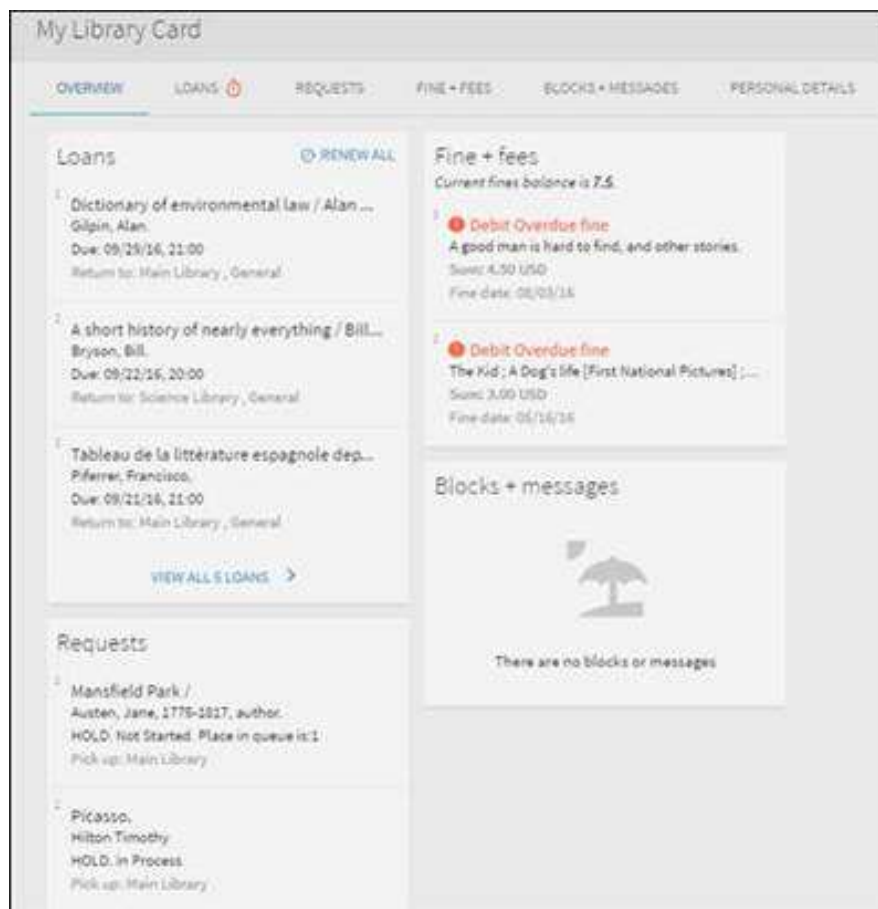
MARC21: 009, 09X, 490, 5XX, 69X, and 9XX

UNIMARC: 300 - 308, 310 - 318, 320 - 328, 330 - 338, 340 - 348, 350 - 358, 360 - 368, 370 - 378, 380 - 388, 609, 619, 629, 639, 649, 659, 669, 679, 689, 69X, and 9XX

Primo VE allows you to configure up to 50 local fields per format.

9. Describe all additional capabilities of the system for users when they are logged in (*e.g., personalization, customization, reading history, search history, setting up alerts, storing items in folder(s) and lists, renewing online*). Detail any integration with discovery tools and interlibrary loan software, including integration of patron account functions (*renewal, request, etc.*).

**Ex Libris:** Integration between Alma and Primo handles the presentation of end user account details in Primo. The information displayed is current (in real time) and includes loans, requests, fines and fees, blocks and messages to the user and an option for the end user to change her/his personal settings. The Primo 'My Library Card', provides users with the ability to manage their account including the option to view current requests, cancel requests, and so forth. The Requests tab of My Library Card displays the patrons' requests – regular hold requests, resource sharing requests and digitization requests. From this tab, the patron has the option to cancel a request.



Primo provides a number of views to end-users from the My Library Card area:

- Loans
- Requests
- List of Historic Loans
- Fines & Fees (open and charged)
- Blocks & Messages
- Personal Settings

When requesting an item in Primo, patrons can choose a number of attributes:

- The material type to fulfil the request
- The Terms of Use (*e.g. a four week loan preferred to a two week loan item*)

- The pickup location (Terms of Use define the options per user group – for example undergraduates might only be allowed to pickup from the owning library; faculty from any Library). Another option is to request for pickup at a personal delivery address, such as a home or office address. The library may configure specific user types to be able to request this type of request, and may associate fees with this type of request.
- Cancel request after date.

Options are filtered by patron rights—e.g., access restrictions on a digital resource will prevent patrons from seeing a link they can't actually access. Services are arranged and presented according to library-defined rules—for example, libraries may suppress a more expensive ILL option if the resource is available electronically.

10. Describe public interface support for playing multimedia files, including audio and video, including information about options for embedding media.

**Ex Libris:** Primo can search any object type that can be normalized to XML, including images, audio, video, and digital files of all types. It is also possible to embed media in the Primo interface. Alma provides an integrated delivery experience out-of-the-box. Staff users can access digital representations by clicking the “View it” link for a title in the search results. Patrons access digital material(objects, videos, etc.) from a link in the “View it” tab in Primo. The ViewIt screen provides a list of digital services accessible to the user according to configured service display rules. Primo can be configured to show the digital material in a “lightbox” view, providing a seamless experience for users without leaving the Primo interface.

11. Describe any affordances in the system for clarifying what type of thing an item is, including basic formats like book, book chapter, and article, video and more specialized document genres, such as reference books, government documents, and dissertations.

**Ex Libris:** Formats are defined for each record as part of the normalization process. The library can assign any format type they desire to local materials and also has the option to change the labels and names of other formats already assigned to content in the central index.

The Primo Central Index contains dozens of content types. These include journals, newspaper articles, books, reviews, encyclopedias, conference proceedings, text resources, pre-prints, primary sources, audio/video content, reference entries, theses, dissertations, working papers, technical reports, standards, images, research datasets, musical scores, maps, photographs, legal documents, websites, databases, government publications, statistical datasets, patents, A&I databases, open access resources and much more.

12. Explain the influence of system codes on how item formats / types are displayed in the interface and how the user can intuitively create limits to desired types of items.

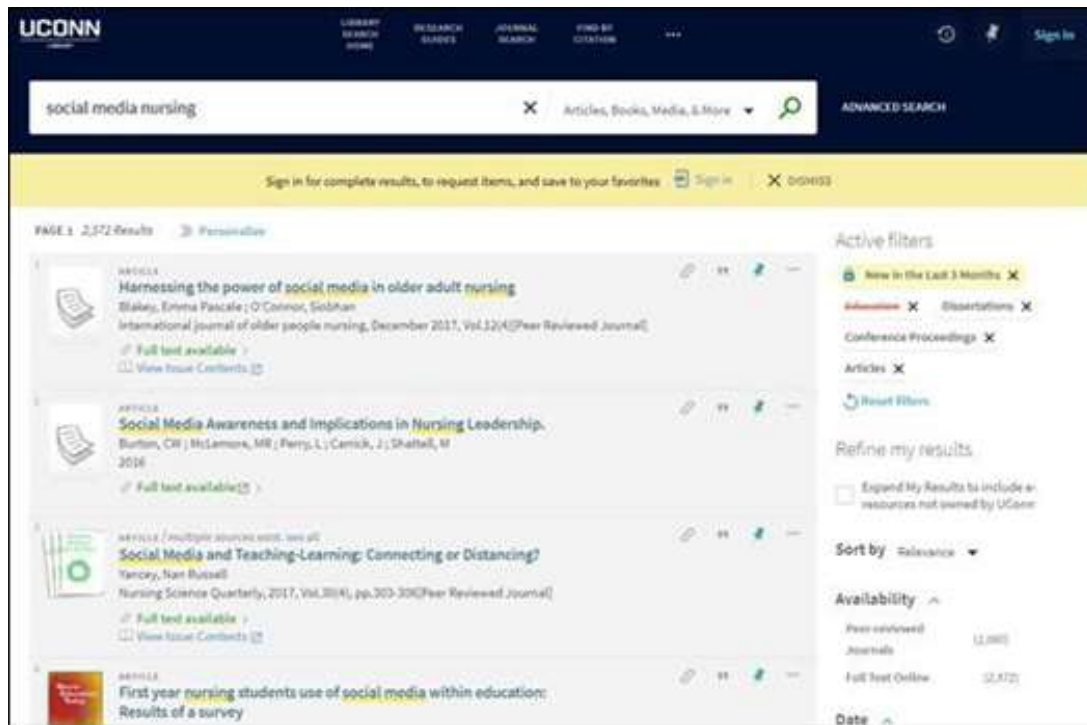
**Ex Libris:** Icons are used to indicate to the user the different item formats that are being displayed in Primo. The user can intuitively create limits to desired item types by using facets in Primo. As mentioned earlier, these facets are completely configurable by the library.

Primo provides libraries with the ability to offer their users a variety of pre and post-search filters, facet and refinement options. Libraries also can define and present search scopes as drop-down options, as well as the ability to re-sort searches, and to take advantage of a variety of browse searches. Primo is implemented with many facets. However, the library may modify the facets, add new facets, and change the order in which the facets are displayed. Facets delivered with Primo include collection, location, material type, language, publication date, online items only, and any metadata in the Primo Normalized XML record (title, author, subject, etc.). Also, Primo provides the ability to refine a search

by parameters such as peer-reviewed, full-text online, available in the Library, and other library-defined limiters.

A single record can have many types of facets, as well as multiple values for a single facet type.

Researches can include or exclude multiple facets in order to modify their search, and facets can be locked for future searches (within the browser session). Primo will display which facets have been included or excluded. See an example below, showing how the facets that have been selected or excluded display as active filters:



13. Describe any support for integrating reference works into the user interface, including use of tables of contents and indexes of print or electronic works. Describe how reference works are displayed in the interface.

**Ex Libris:** Primo local records can be further enriched with additional data. During the enrichment stage, data can be added to enhance the discovery and delivery functions. Some examples of this include:

- Library of Congress: classification numbers translated to description
- Amazon: thumbnails, book covers, reviews (link-to)
- Amazon: thumbnails, book covers, reviews (link-to)
- Syndetics: table of contents, abstracts, reviews, book covers
- Customer-defined enrichments: “plug-in” enrichments
- Google Books

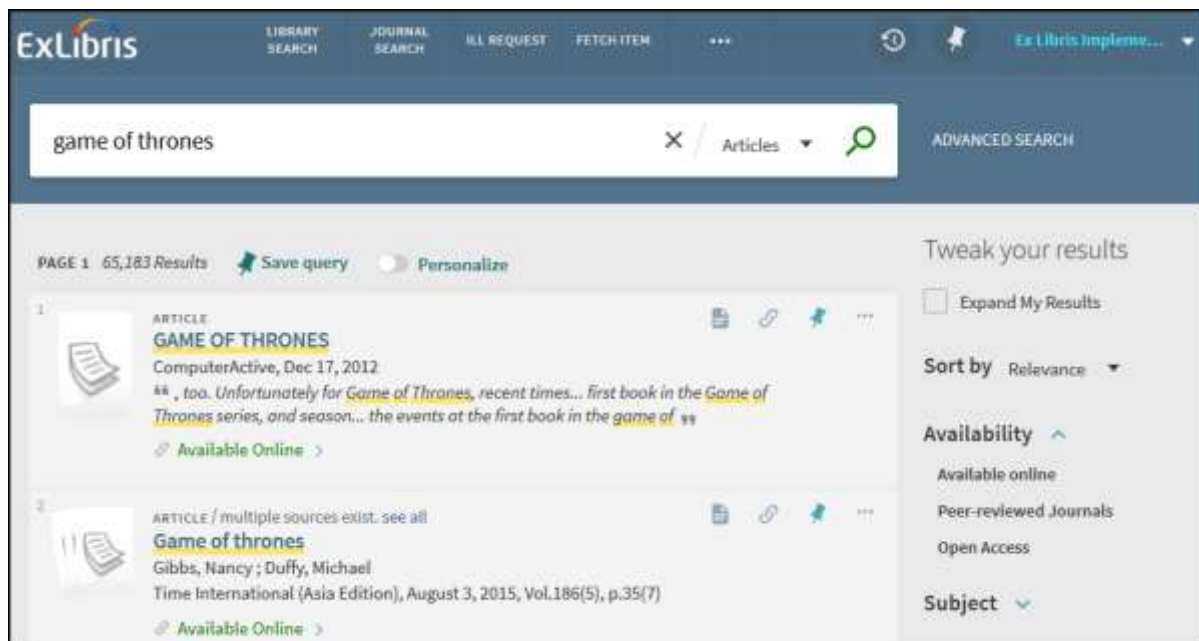
Snippets can be taken from abstracts, full text, and tables of contents and displayed in the brief results. The library can define which of these is used for the snippet. Primo is structured to allow use of Google Analytics or similar tools. The library simply adds it within the static HTML tile. Many customers use Google Analytics for usage pattern and user behavior analysis, and so they find the simplicity of using it in Primo beneficial.

14. Describe how the public interface displays relevant information about e-books, including discussion of the user interface's flexibility for adapting to changing e-book models and options over time.

**Ex Libris:** Primo is a unified solution for the discovery and delivery of the full spectrum of library materials—print, electronic, and digital—regardless of format and location. Records that are managed within Alma, whether in MARC or Dublin Core, are indexed directly in real time into Primo, benefiting from the tight integration of the Primo and Alma on Alma Platform.

The Brief Results page displays all of the items that match your search query. For each item, the following information displays:

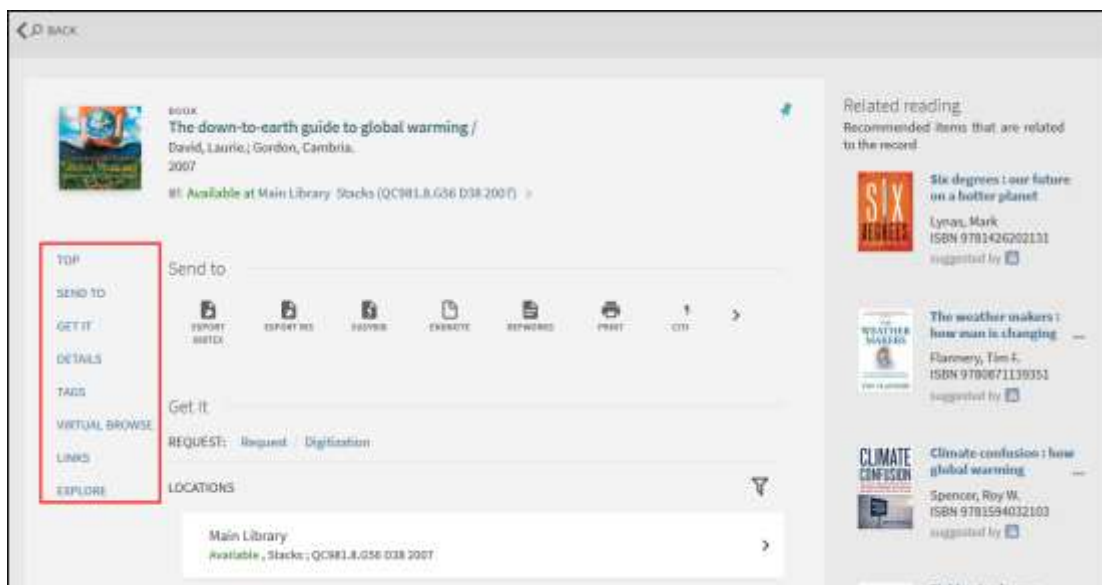
- **Resource Type** – the format of the item, such as book, article, journal, and so forth.
- **Title** – Click the title to display more information and services for the item. F
- **Author, creator, and date** – the item's author, creator, and publication date.
- **Availability status** – Click this link to display more information and services (such as requesting or viewing the item).
- **Send to icons** – These icons, which appear next to each record, allow you to perform actions on each record (such as emailing the item, creating a citation for the item, and so forth). Select the ellipsis to see all actions.
- **Tweak my results** – This section, which appears on the right side of the page, allows you to narrow your results by selecting various filters (such resource type and date).
- **Pin icon** – This icon, which appears next to each record, allows you to save the record to My Favorites. If you are signed-in, the system will save the records between sessions.
- **Personalize** – This selector, which appears above the results, allows you to configure preferred disciplines in order to boost the results of matching electronic records.
- **Save query** – This link, which appears above the results for signed-in users, allows you to save search queries between sessions.



**Brief Results Page**

After selecting an item in the Brief Results, the record's **Full Display** opens to display additional information. Users can either scroll to a particular section or use the navigation links shown on the left side of the page.





Navigation Links on the Full Display Page

The bX and Syndetics Unbound recommendations appear on the right side of the Full Display page. The item's information is organized by the following sections:

- **Send To** – This section allows you to perform the following actions on the selected record on both the Brief Results page and Full Display page: email item details, create a citation, print, send to reference management service (such as RefWorks), and create a permalink. For more information, see [Exporting Records from Primo VE](#).
- **View Online** – This section appears only if the item is available for online viewing. It allows you to view an article from a specific source.
- **Get It** – This section allows you to place requests for physical items (such as books and audio CDs) in your library. You may be able to select other services (such as digitization).

You will need to sign in to Primo or your institution to make a request.

- **How To Get It** – This section offers additional methods to get an item that is not available in the library.
- **Details** – This section displays the full details about the record to help you decide whether to choose this item.
- **Links** – This section displays additional links, which may allow you to view cover art, the Table of Contents, and so forth.
- **Tags** – This section allows you tag and categorize items for use by other users and yourself. For more information, see [Tagging Search Results in Primo VE](#).
- **Virtual Browse** – This section allows you to browse for items that appear next to this item on the shelf.
- **Citations** – This section allows you to view a list of records that are either cited by this record or cite this record. For more information, see [Using Citation Trails](#).
- **Explore** – If Syndetics Unbound is enabled, this section displays additional information related to the title (such as reader and professional reviews). Recommendations from Syndetics Unbound may appear on the right side of the Full Display page.

15. Specify supported browsers, noting any necessary plug-ins, and helper applications (*e.g., Flash*). Note any browser configuration settings required for use of the interface, such as security settings, JavaScript settings, and cookie settings.



**Ex Libris:** The Primo User Interface supports all the leading browsers: Chrome, Firefox, Safari, and Internet Explorer. There is an ongoing process of monitoring new browser versions and checking their compatibility with Primo.

Ex Libris' browser certification policy is based on industry usage statistics (W3C) as published on the following site: [http://www.w3schools.com/browsers/browsers\\_stats.asp](http://www.w3schools.com/browsers/browsers_stats.asp).

16. Describe the way the system uses authority records to support end user queries and any options for the institution to customize this use.

**Ex Libris:** Alma's Community Zone includes global authority files that are maintained by Ex Libris and kept up to date with data from the authorizing agencies for each authority file. These central validation functions are available to all Alma institutions. Authority files in the Community Zone include Library of Congress Subject Headings, Library of Congress Names, and Medical Subject Headings (MeSH). Additional authority files are being investigated for inclusion into the Community Zone and institutions may maintain local authority files as well.

The primary method for using authorities in Primo is enriching records with authority data as they are published from the data source. Primo can take advantage of authority data if used by Alma or as part of the enrichment routine for records as they are harvested into Primo. For example, such data enables Primo to retrieve results for "Samuel Clemens" when the user has entered the name "Mark Twain". This could also work for language equivalents, for example if you are utilizing the RVM and LCSH records for enhancement and enrichment of loaded records. If authority files are provided in MARC XML, they can be used by Primo.

17. Describe how the interface uses metadata to support linking to other records and searches, both within and without of the system (*e.g., using subject fields to launch a subject search; "view similar titles"*).

**Ex Libris:** Primo harvests metadata and full-text where applicable from each source, generating normalized, indexed information that can be quickly and efficiently accessed by end-users. Primo performs the following processes as part of the harvesting operation:

- Intelligent harvesting of raw data from a variety of standard and library-defined metadata schemas
- Metadata normalization
- Metadata enrichment, based on proprietary algorithms and external information
- De-duplication and title grouping

Primo is delivered with default facet options which include resource type, language, creator, topic, genre, classification (LCSH, MeSH, etc.), local thesauri, creation date, format, file type and collection. The library can customize facet, labels, the order of the facets on the screen, and the order of the facets values within a facet group. In addition to default facets, customers may add custom facets.

Note that the library has complete control over which fields will be indexed for search, and which fields will be presented to the user. The library can also give a specific local collection an additional positive or negative boosting factor that will impact the relevancy ranking.

Because Primo is an open platform, many clients have developed and incorporated inventive and broad applicable extensions that are then shared with the rest of the global Primo community via the Developer Network, our collaboration site. One of these extensions, Adwords, was developed by the University of Iowa. The University of Iowa Libraries uses Adwords to direct users who enter general search terms to the relevant LibGuides page for the topic they are searching for or other resources on the library website.

18. Describe the system's interface support for helping users understand related works, compilations, and series.

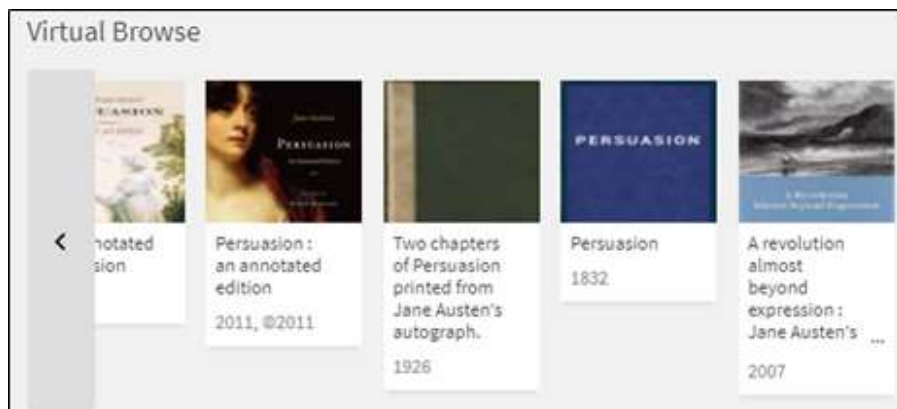
**Ex Libris:** Primo also offers context-sensitive autocomplete, and supports semantic searching (for example, when a user types a question into the search box, they are still returned accurate and relevant results).

Discovery is not just about searching. Users do not always know exactly what they are looking for, or how to find material for their needs. Primo facilitates exploratory and serendipitous discovery in several ways:

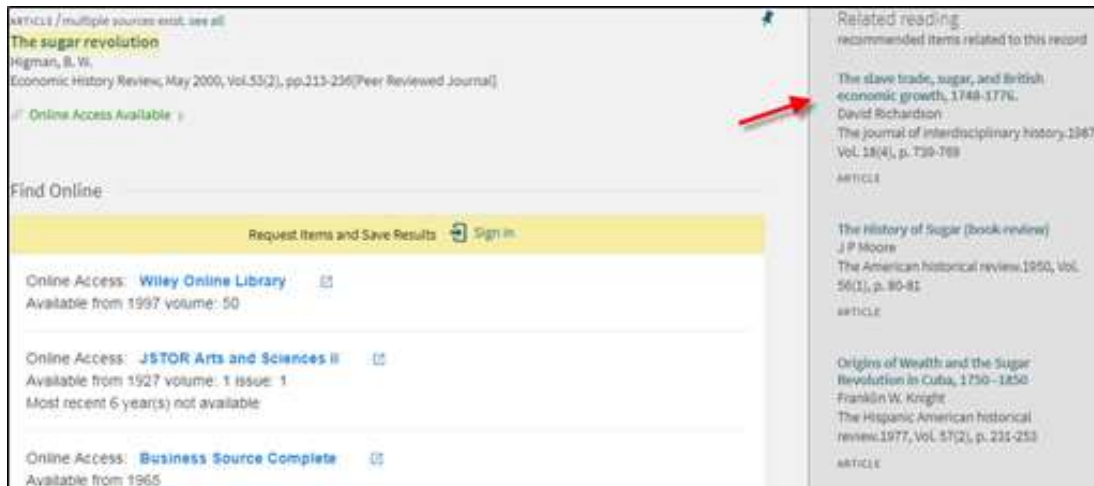
Alphabetic browsing for subjects, authors, titles and call numbers:



Virtual browsing, enabling users who have located a book of interest to find similar items on a virtual bookshelf:



Article recommendations from the bX Recommender service, which enable users to view articles that are related to an article of interest and to navigate onward to additional sets of related articles. For example, the search query sugar revolution can relate to many topics and therefore yields a mixed result list, with items pertaining to history and economics as well as to diet and health. A user whose interest is history might notice *The Sugar Revolution* by B. W. Higman. When the user clicks on the article title, bX displays a list of articles related to the historic event, such as articles on slavery. This list can serve as a gateway for exploring specific aspects associated with the sugar revolution in history. For example, the user might choose the article “The slave trade, sugar, and British economic growth, 1748-1776” to focus on the relationship between sugar and slavery.



Primo offers more exploratory options to help create a serendipitous discovery experience. Primo Central has added "cited" and "cited by" relations to many articles, enabling users to view these relations by clicking the new Citations and Cited by links in the brief and full view of an item. From citation lists, users can browse between lists to follow a chain of citations and to learn more about the intended topic. The original title will appear at the top of each citation list to provide context for users.

19. Describe how diacritics and non-roman characters appear in the public interface(s).

**Ex Libris:** Primo is fully Unicode-compliant and supports many languages (English, French, German, Hebrew, Arabic, Chinese, full CJK, and more), as well as right-to-left scripts and a variety of diacritics. The library decides which languages it wishes to offer its users. After the user selects the language, the search is conducted in the language of choice, utilizing the appropriate character set and diacritics. In addition, Primo supports non-Roman characters and CJK languages.

20. Describe any use of linked data (*either as a provider or consumer of linked data*) to support end user discovery.

**Ex Libris:** The term Linked Data refers to a set of best practices for publishing and connecting structured data on the Web (see more details in our blog). These best practices have been adopted by Ex Libris Primo, which implemented a set of RESTful APIs that expose linked data in JSON-LD format. Currently, the **Primo PNX REST API** is available. In addition all Primo REST API's use URI's as embedded links when referring to Primo records.

### Vocabulary

The DC terms ontology, extended by other ontologies as needed, is being used as a basis for modeling the bibliographic data.

### URIs

The links are created as embedded URIs, and are always in the public domain. The following links are available per relevant API:

- Primo records
- E-shelf content
- Language
- Future plans: Authors and subjects – according to the relevant authorities: Library of Congress, GND (from the German Gemeinsame Normdatei), MESH, Virtual International Authority File (VIAF®)

This list is not exhaustive. In an effort to continually provide new **linked-data** services based on useful URIs, Ex Libris will enrich additional fields with URIs in accordance with research that the company is conducting.

## Using the linked data API

In order to work with the RESTful **linked data** API's please make sure to read the [Getting Started with Primo REST APIs](#) page.

The response for the **Primo PNx REST API** full record request is in JSON-LD format. Following is a sample of the Primo Eshelf REST API response:

```
{
  "name": "Basket",
  "items-count": 4,

  "@id": "https://api-
na.hosted.exlibrisgroup.com/primo/v1/esshelf/johnt123/Basket",
  "basket-items": [
    {
      "@TYPE": "book",
      "title": "A river dream",
      "author": "Allen. Say",
      "pnxId": "TRIAL_1_INST_ALMA215676420000541",
      "context": "L",
      "creation-date": "2015-06-16 16:43:21.0",
      "@id": "https://api-
na.hosted.exlibrisgroup.com/primo/v1/esshelf/johnt123/Basket/TRIAL_1_I
NST_ALMA215676420000541",
      "record-url": "https://api-
na.hosted.exlibrisgroup.com/primo/v1/pnxs/L/TRIAL_1_INST_ALMA21567642
0000541"
    }
  ],
}
```

URI to user e-shelf

URI to Primo record

Following is a sample of the Primo PNXs REST API response:

```

"context": "L",
"STYPE": "journal",
"title": "Book (American Antiquarian Society)",
"contributor": [
  "American Antiquarian Society",
  "American Antiquarian Society, Program in the History of the
Book in American Culture"
],
"date": "1993",
"pnwId": "TRIAL_1_INST_ALMA7182235780000521",
"sourceId": "TRIAL_1_INST_ALMA",
"originalSourceId": "TRIAL_1_INST",
"sourceSystem": "Alma",
"almaId": "TRIAL_1_INST:7182235780000521",
"delivery": {
  "deliveryCategory": [
    "Alma-P"
  ],
  "availability": {
    "does_not_exist_in_maininstitution"
  },
  "GetUrl": [
    {
      "isLinktoOnline": false,
      "link":
"https://na02.alma.exlibriugroup.com/view/uresolver/TRIAL_1_INST/open
url?ctx=info:ofi/fmt:kev:mtx:book_id=10_16ctx_tin=2019-10-
21T07:34:11.340ZINSTctx_ver=Z39.88-
2004url_ctx_fmt=info:ofi/fmt:kev:mtx:ctxurl_ver=Z39.88-
2004srfr_id=info:sid/primo.exlibriugroup.com/
TRIAL_1_INST_ALMA4areg_id=srft_dat=ie=TRIAL_1_INST:7182235780000521,lan
guage=>view=srv_dat=GetitUser_ip={(userIp)}",
      "id": "i0"
    }
  ],
  "id": "https://api-
na.hosted.exlibriugroup.com/primo/v1/pnw/L/TRIAL_1_INST_ALMA718223578
0000521"
},
},

```

URI to Primo  
record

21. Describe user interface and functionality for access to course reserves materials.

**Ex Libris:** Course reserves are automatically published to Primo for discovery once the course is active and removed from discovery when the course is over. Course information includes instructor, start and end dates, number of participants, and weekly hours. In Primo, the information also includes the course number. Primo may be configured to include a specific Course Reserves search scope. Patrons access electronic resources through Primo. Any resources that are restricted require authentication to access, just as with any other resource in Primo.

22. Describe capabilities for providing custom electronic forms for common types of patron requests (*e.g., suggestions, hold requests*).

**Ex Libris:** Primo is Ex Libris' end-user interface to Alma and is optimized to fully leverage the advanced capabilities provided by Alma for smart fulfillment, digitization on-demand, course reserves, patron driven acquisitions and more.

Primo is a unified solution for the discovery and delivery of the full spectrum of library materials—print, electronic, and digital—regardless of format and location.

Alma and Primo are tightly integrated. The Primo 'My Account' area provides authenticated users with the ability to manage their account including the option to view and edit (if applicable):

- Loans/Historic Loans (with option to renew)
- Requests/Reservations (on physical items, digitization, resource sharing (ILL), etc.)
- Fines and Fees (List and active balance) – with the possibility of integrating with a payment provider for online payments
- Blocks and Messages
- Personal Settings (for contact details, credentials, SMS settings, result and language settings)
- Lists of saved resources (Favourites) – users can email citations to themselves or third parties
- Saved searches and alerts

Primo supports the ability to harvest resources from the library catalogue and other local repositories. Through an intuitive interface, end users can discover and access resources from the Alma Institution Zone (local institutional holdings, digital collections, etc.) and commercial and open access resources through Primo's central index. Primo's central index includes commercial and open-access content from primary and secondary publishers and aggregators. Results are based on the full-text, abstracts and metadata for articles, books, newspaper articles and more. Primo presents results from shared resources and local resources as well as from the central index in a single merged list, sorted by relevance.

We have forged agreements with hundreds of publishers and content aggregators, and we continue to work with our customers to seek out the broadest and highest quality content to extend the Primo Central Index. Just a few examples of content providers included in Primo Central are Gale, Wiley, JSTOR, CrossRef, Sage, SpringerLink, ABC-CLIO, and Elsevier Scopus. Primo's Central Index includes over 400 million scholarly resources of global and regional importance. The records include a mix of scholarly material—primarily articles and e-books—but also conference proceedings, newspaper articles, audio, video, reviews, legal documents, and more. The number of resources in Primo Central is constantly growing as additional resources are added.

23. Describe any integration of technical support requests / feedback requests from end-users to the library concerning records in the system.

**Ex Libris:** This functionality is not included in Primo. However it is possible for the library to implement such a feature. One option would require the library to create their own feedback webpage, and then, via the Alma General Services page (where the link resolver can be customised) the library would be able to add a link to the feedback page. Alternatively, as per the customer examples below, a link to a feedback page could be added to the general Primo interface.

The screenshot shows the top navigation bar of the KU Leuven Primo interface. It includes the 'KU LEUVEN' logo, a 'LIBRARIES' button, a home icon, a 'Use previous version' button, and links for 'FIND LIBRARY', 'E-JOURNALS', and 'FEEDBACK'. Below this, a 'Feedback' modal window is open. The modal has a title bar with a close button. Inside, there is an 'email' field with the text 'john.doe@kuleuven.be' and a red error message 'eMail is mandatory'. Below that is a 'Description' field with the placeholder text 'Your feedback here' and a red error message 'Message is mandatory'. At the bottom right of the modal, there is a character count '0/5000' and two buttons: 'CANCEL' and 'SUBMIT'.

24. Describe features to support user creation, saving, export, and formatting of lists, including the ability to format such lists in scholarly style, export, email, or save.

**Ex Libris:** Primo uses persistent linking syntax so that works and item records have persistent URLs. Searcher's queries can be saved and shared and records can also be saved to the user's e-shelf, organized in folders with both folder and item-level notes. Primo's patron personalization features provide all patrons with the ability to:

- Save search queries and use them again without having to reformulate the query;
- Define alerts to be delivered via e-mail or RSS;
- Save items to a personal e-shelf as well as third-party applications such as RefWorks, and EndNote Web.
- Items in the e-shelf can be tagged and organized, saved, and exported;
- Print and e-mail results so that items can be easily located on the library shelf;
- Define preferences for language;
- Define preferences for search results, based on academic degree and preferred disciplines;
- Unauthenticated users may save searches and items for the session.

Individual items, or groups of items from Primo's e-shelf can be emailed, printed, and exported. Users can export citations to citation or reference management tools such as RefWorks, EndNote Web, del.icio.us, RefMan, Mendeley, Citavie, Zotero, etc. Primo also enables users to export using RIS format. See an example of the possible "send-to" options, as configured at Temple University:





There is no limit to the number of results that can be exported.

### APIs

Primo supports a variety of RESTful web services for generating searches, retrieving full records, and retrieving patrons' e-shelf contents. The Primo APIs include embedded URIs for Primo records and patrons' e-shelf contents. The Primo web service responses are in JSON-LD format, containing URIs pointing to records; any application that consumes linked data can embed these URIs to create valuable links to bibliographic records indexed in Primo. The inclusion of URIs and JSON-LD-formatted data in the returned results supports the streamlined consumption of Primo data already in the form of linked data.

Primo allows libraries to extend or customize the new Primo user interface and share their innovations with the Primo Community.

Library developers with Angular and CSS knowledge can extend the new Primo UI capabilities, develop additional functionalities, adapt the UI design, and connect Primo with external services.

Please see the developers network for more information: <https://developers.exlibrisgroup.com/primo>

25. Describe user ability to share discoveries with others via social media, including lists, records, and searches.

**Ex Libris:** The library can integrate with online chat, social media platforms, and subject guides such as LibGuides. Primo users can save search queries and use them again without having to reformulate the query. They can also define alerts to be delivered via e-mail or RSS. Primo also allows for the integration of third party social network systems such as Facebook. Leveraging Primo's open architecture, clients have also embedded additional social media integration as well as other site-specific customizations, including integration with Twitter and more.

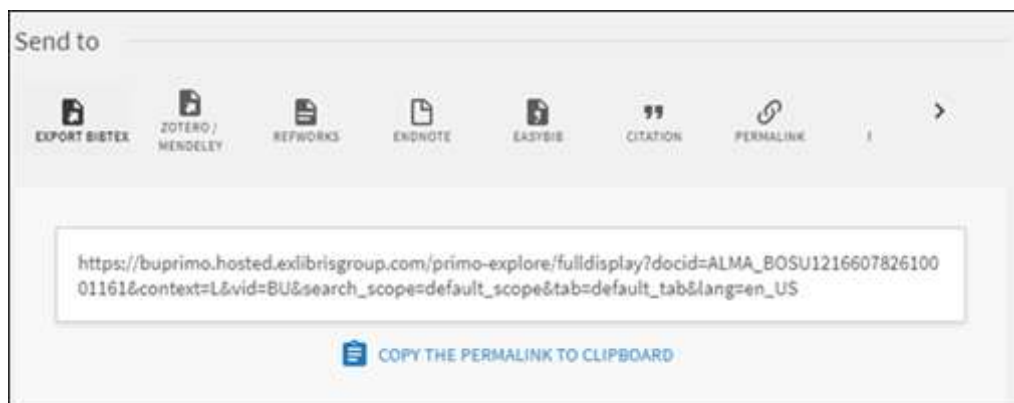
26. Describe any limitation on making durable URLs to public interface screens, including search results sets, search results sets with limiters applied, and individual records.

**Ex Libris:** Primo uses persistent linking syntax so that works and item records have persistent URLs. The permalink button can be shown on the brief results page, and is also available in the detailed results view, as shown in the screenshots below:





Here is a screenshot of pinned items and a variety of options to work with these items from the newest UI with the Permalink option selected:

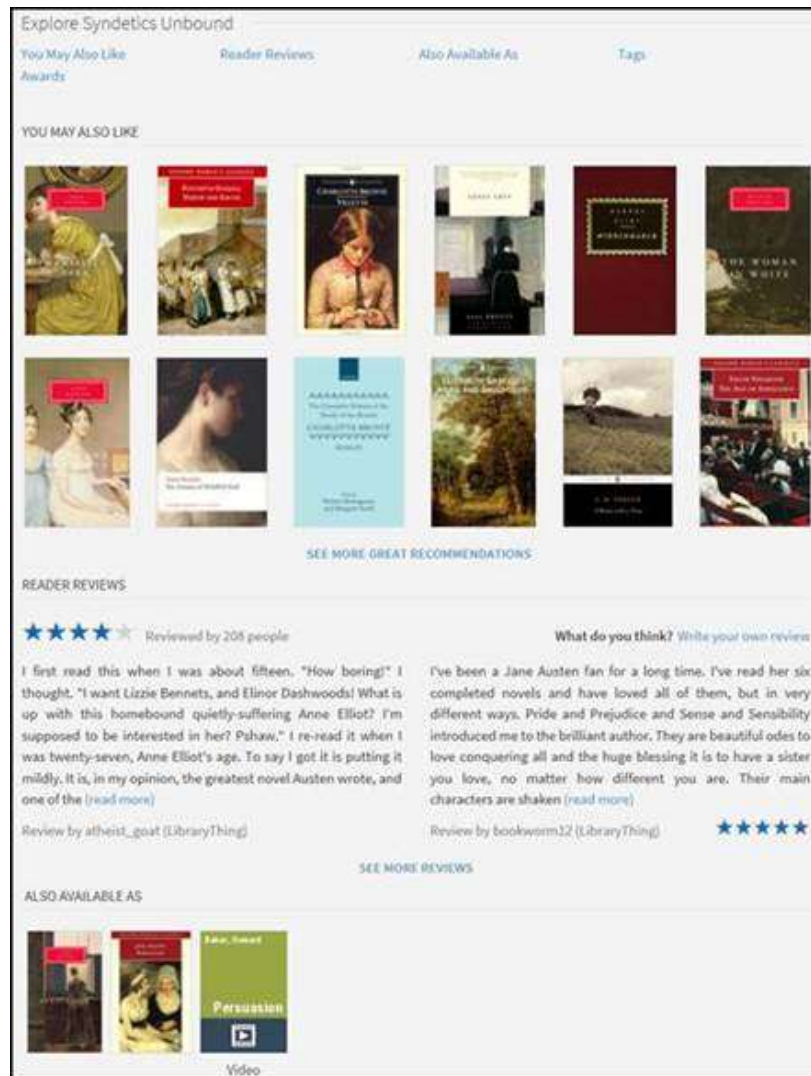


27. Describe how the system helps the user find and retrieve physical items once discovered, such as interactive library maps, texting call numbers, and similar affordances.

**Ex Libris:** The Primo user interface can be customized to enhance the discovery and delivery functions. Some examples of this include:

- Display floor plan per record locations
- Amazon: thumbnails, book covers, reviews (link-to)
- Syndetics Unbound: table of contents, abstracts, reviews, book covers
- Google Books: Thumbnails, link to
- Customized widgets and features such as: BrowZine, chat widget, feedback etc.

If an institution subscribes to Syndetics, they have the option to enable the “Syndetics Unbound” feature in Primo. This functionality integrates Syndetics Unbound, an online enrichment service, with Primo VE to showcase items and increase user engagement. When enabled, this information displays at the bottom of the record's full display in Primo VE. Before you get started, you must subscribe to the service to get a license ID for your institution.



Mapping features may be included in Primo search results. For example, the University of Tennessee, who uses StackMap with Primo and Alma to help students locate physical resources within the library space. Details of the integration are provided in the Tech Blog:

<https://developers.exlibrisgroup.com/blog/Primo-Alma-and-StackMap-integration>.

28. Describe public web interface customization options available to the library, including details about including / suppressing specific fields in various views (*results sets*, *individual records*), and linking fields. Also, describe the capabilities for creating separate instances (*i.e.*, *profiles*) of web interfaces (*e.g.*, *a music interface*). Include information about how the library can integrate its chat service, library web guides (*e.g.*, *LibGuides*), and other services into the interface.

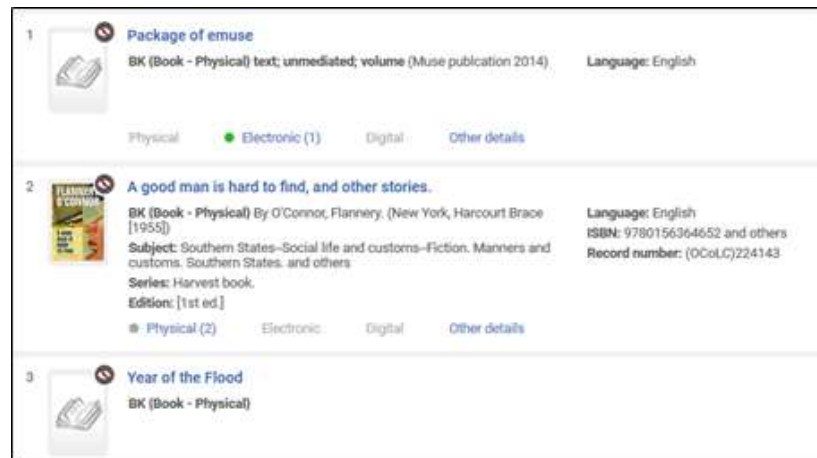
## Ex Libris:

### Record Suppression in Discovery

Bibliographic records, holdings, and items can be suppressed from display in the Discovery Tool in the Metadata Editor. The option to suppress a record from Discovery can be seen in the following screen capture:



In Alma these records will have a visual indication that they have been suppressed:



## Branding

Primo provides flexible options for libraries to reflect institutional branding, user interface layout and customization, with unique settings for look-and-feel, search/result defaults, and facets. In addition, specific departments or programs in an institution can also deliver a branded user interface and customized functionality.

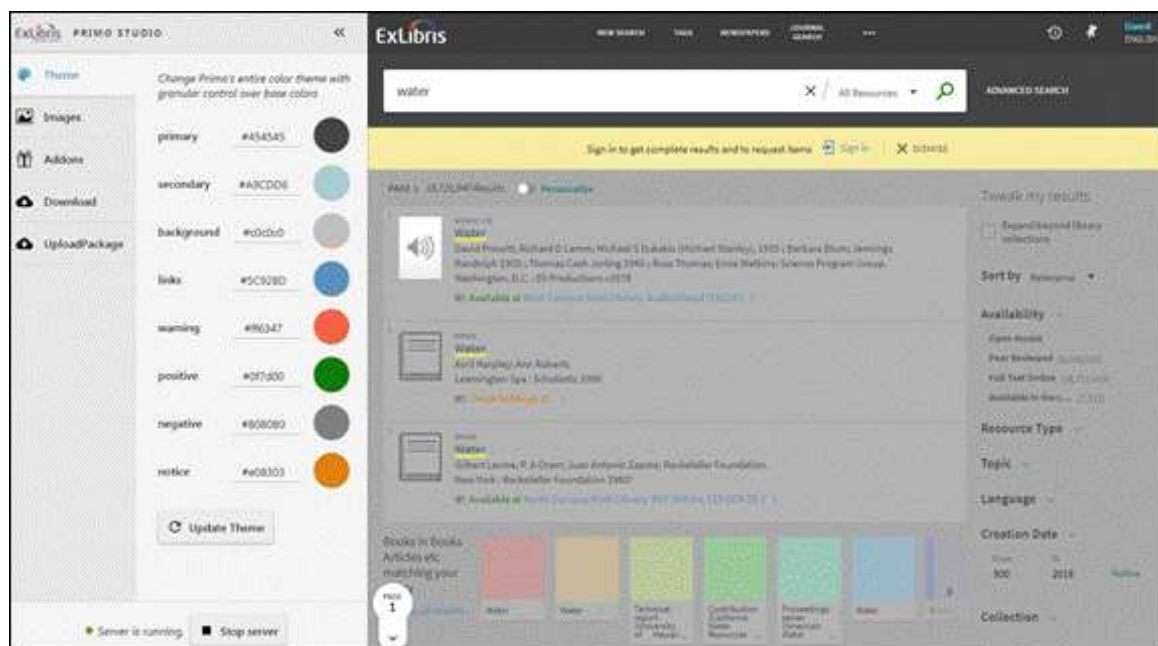
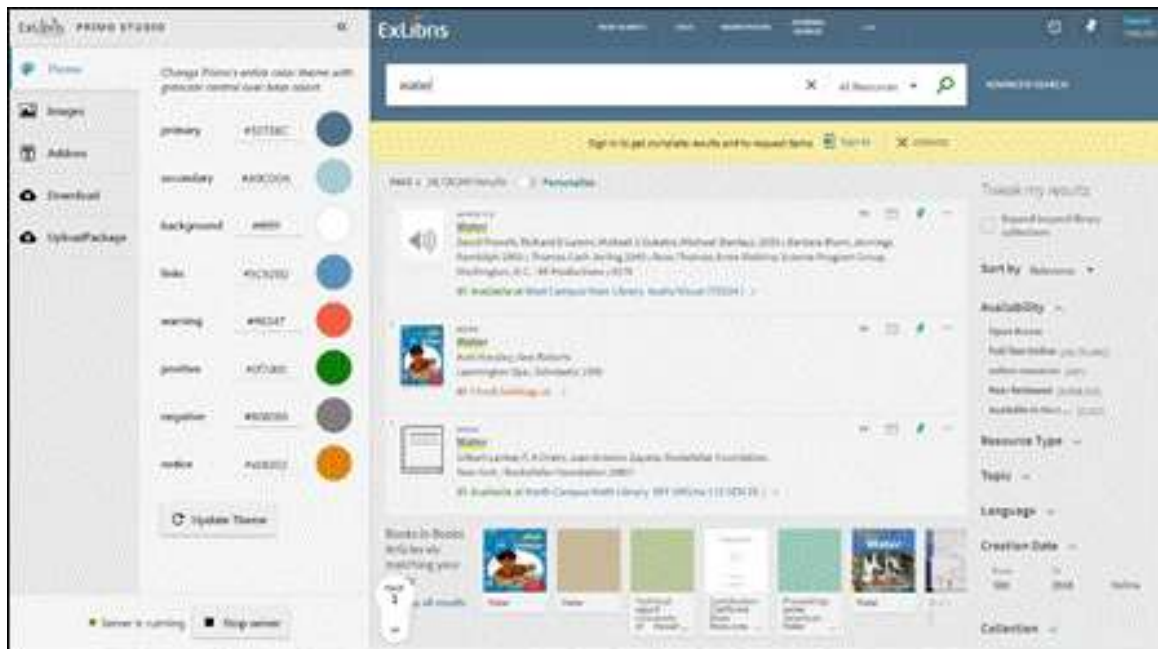
Other customization options include:

- The ability to determine how results from local collections are blended with results from Primo's central index.
- The ability to boost results by institution.
- The ability to customize facet types, order, and the order of the facet values within a facet group.

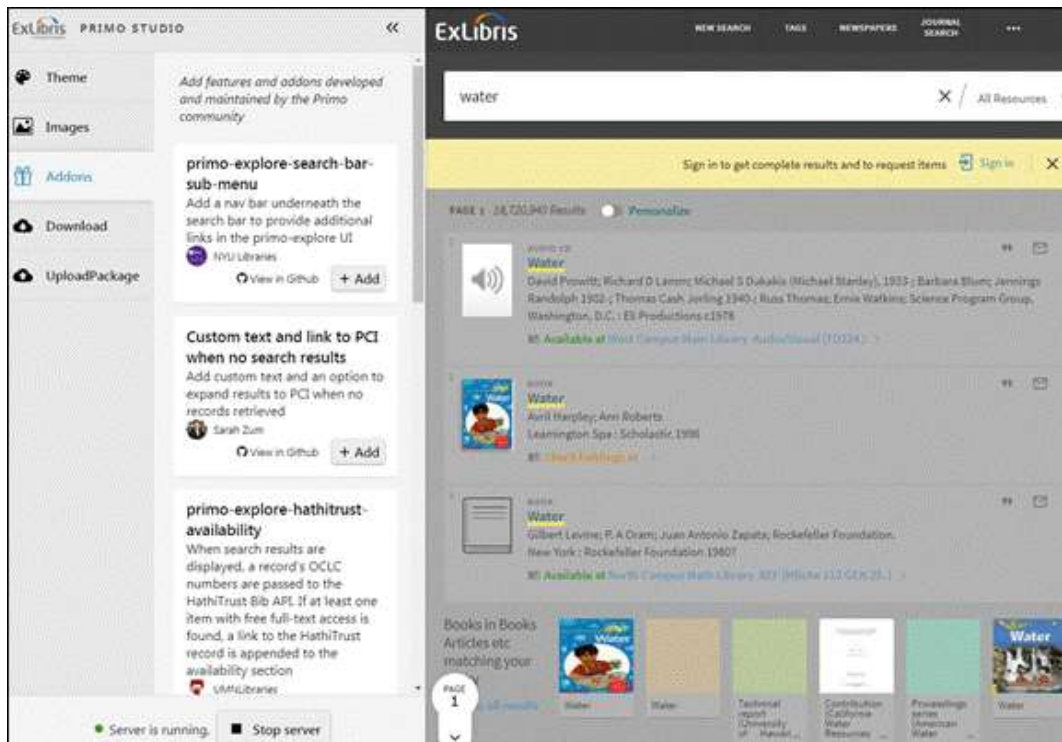
The ability to add code to the user interface, upload html, and more. With Primo's current UI, a customization package is included that can be downloaded by customers to reflect the default, client-side elements structure (html, images, css). The institution can use the customization package to easily maintain custom interfaces for different libraries.

Primo is highly customizable and flexible thanks to the Open Discovery initiative and even more now with **Primo Studio**. The Primo Studio is a project that allows users to easily configure Primo New UI. Primo Studio allows you to quickly and easily:

- Configure your color theme.
- Upload files:
  - Library Logo
  - favicon
  - Resource Type Icons
- Add features developed by the Primo Customer community
- Upload an existing package and work on it.
- Download the customization you created as a zip file that can be uploaded to your Primo instance







### Embedded Search Boxes, Online Chat

Ex Libris provides institutions with instructions on how to create custom search boxes, which can be embedded in webpages, including the library web page and LibGuides.

Yes, institutions using Primo can embedded a chat box, for example, as Aberystwyth University Library did: [http://whelf-primo.hosted.exlibrisgroup.com/primo\\_library/libweb/action/search.do?vid=44WHELF\\_ABW\\_VU1](http://whelf-primo.hosted.exlibrisgroup.com/primo_library/libweb/action/search.do?vid=44WHELF_ABW_VU1)



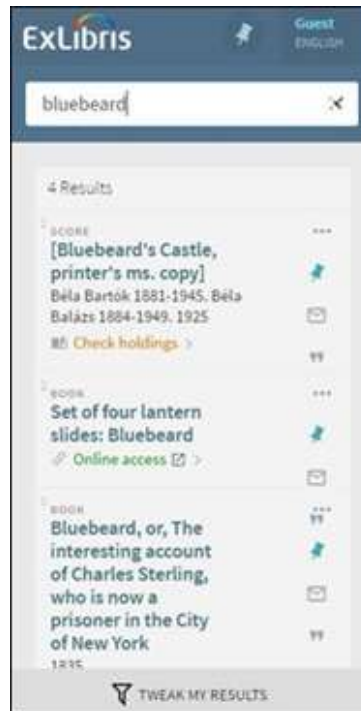
Selecting the “Ask a librarian (live chat)” opens a pop-up window where patrons can submit their questions:





29. Describe the ways in which the user interface(s) takes advantage of responsive design techniques.

**Ex Libris:** The new Primo user interface has a responsive design that allows it to support any screen size and resolution. Primo's UI is based on HTML5 Angular framework in order to provide a fully responsive design and single-page application, optimized for mobile use such that all the options and services that are available for desktops can be employed by our end-users with a wide range of mobile device platforms (iOSx, Android, BB) to interact with the Primo environment. This reduces the cost to maintain the system and interfaces with a range of disparate mobile platforms. The screenshot below is an example of how Primo's responsive design enables users to utilize the Primo interface on any screen size:



The Primo User Interface supports all the leading browsers: Chrome, Firefox, Safari, and Internet Explorer. There is an ongoing process of monitoring new browser versions and checking their compatibility with Primo.

30. Describe abilities for the library to create its own interface(s) using data from the system (e.g., through APIs, direct database connections, web services requests).

**Ex Libris:** Please refer to our response to #28 above.

31. Describe ability to customize “help” for end user.

**Ex Libris:** Primo is delivered with customizable Help files that end users may access from the search interface. Primo provides context-sensitive help and the library can include other customized help options such as chat and links to websites.

32. Describe other end user (public) interface capabilities unique or notable of the proposed system not addressed above.

**Ex Libris:** For more information, please visit our Knowledge Center site on Primo VE:  
[https://knowledge.exlibrisgroup.com/Primo/Product\\_Documentation/020Primo\\_VE](https://knowledge.exlibrisgroup.com/Primo/Product_Documentation/020Primo_VE)

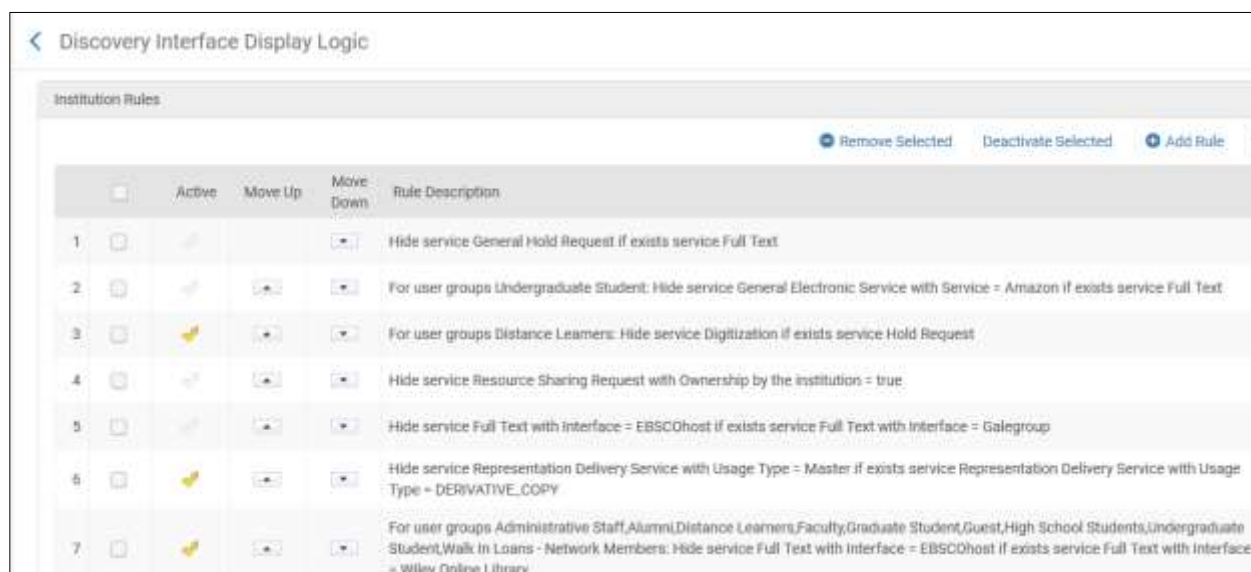
## L. Linking Interface Functionality

1. Describe interfaces that support linking the user from record views to full manifestations of items (*e.g., full-text articles, streaming audio*).

**Ex Libris:** Alma includes an embedded Link Resolver which provides patrons with context-sensitive electronic, digital and print services. The embedded link resolver is a standard functionality in Alma (no additional subscription fee is required) and is based on Ex Libris' experience delivering the SFX link resolver to over 2500 institutions worldwide.

The Alma link resolver offers services via a menu that can be customized by the institution, defining the labels of the services and the order which they appear.

In addition, the institution can define display logic rules among services based on local preferences; for example, if an electronic journal is available from more than one provider, the institution can boost one provider over the other. The institution also can define logic rules among different service types, such as not offering a document delivery service if a full text service exists for the electronic resource. An example of these library configurable rules can be seen in the following screen capture:



	Active	Move Up	Move Down	Rule Description
1	<input type="checkbox"/>			Hide service General Hold Request if exists service Full Text
2	<input type="checkbox"/>			For user groups Undergraduate Student: Hide service General Electronic Service with Service = Amazon if exists service Full Text
3	<input checked="" type="checkbox"/>			For user groups Distance Learners: Hide service Digitization if exists service Hold Request
4	<input type="checkbox"/>			Hide service Resource Sharing Request with Ownership by the institution = true
5	<input type="checkbox"/>			Hide service Full Text with interface = EBSCOhost if exists service Full Text with Interface = Galegroup
6	<input checked="" type="checkbox"/>			Hide service Representation Delivery Service with Usage Type = Master if exists service Representation Delivery Service with Usage Type = DERIVATIVE_COPY
7	<input checked="" type="checkbox"/>			For user groups Administrative Staff, Alumni, Distance Learners, Faculty, Graduate Student, Guest, High School Students, Undergraduate Student, Walk In Loans - Network Members: Hide service Full Text with Interface = EBSCOhost if exists service Full Text with Interface = Wiley Online Library

When the OpenURL resolves to multiple records, Alma will attempt to merge equivalent records into one unified list of services. When the records are deemed non-equivalent the user will be presented with a list of records based on the institution's defined display logic rules among services.

If only one resource is found, the library can configure the link resolver to link directly to the electronic resource, bypassing the electronic service page:

[<](#) Direct Linking Configuration

Enable direct linking

☐ Yes ☒ No

Enable direct linking when multiple services are available

☐

Disable direct link when additional information is available:

Authentication note

☐

Public Note

☐

Disable direct linking for electronic collections

☐

Disable direct linking for digital resources


☐

Alma augments the OpenURL in various ways (e.g. DOI) , and from various sources such as Crossref, Pubmed and more in order to enrich the context object and provide enhanced link resolution. CKB electronic resources can be localized to reflect institution-specific information such as administrative/access information, coverage information for electronic journal titles, public notes, etc.

Primo supports one-click resolution to full text access when supported by target provider. Users will be alerted to full-text availability both in brief search results, and in full results when they click to see full details.


In brief results:

PAGE 1 2,951,757 Results

 Save query

☐ Personalize

1




MULTIPLE VERSIONS

**Great expectations**

Dickens, Charles, 1812-1870.; Cardwell, Margaret.; Douglas-Fairhurst, Robert.

2 versions found. See all versions >

2




REFERENCE ENTRY

**Great Expectations**

*“ considered by many reviewers to be the finest screen adaptation of a Dickens novel. **Great Expectations** was nominated for Academy Awards for best picture...”*

**Available Online >**

3



ARTICLE

**Great expectations**

Eisenstein, Michael  
Nature, Dec 6, 2012, Vol.492(7427), pp.S6-S8

PEER REVIEWED

**Available Online >**

In full (detail) results:

The screenshot shows a Primo search result for the reference entry "Great Expectations". The entry is highlighted in yellow. Below the title, there is a quote: "considered by many reviewers to be the finest screen adaptation of a Dickens novel. Great Expectations was nominated for Academy Awards for best picture...". A green link "Available Online" is visible. On the left, there are navigation links: "TOP", "SEND TO", "VIEW ONLINE", "DETAILS", and "TAGS". Below "SEND TO", there is a "Send to:" field and a row of icons for "EXPORT BIBTEX", "EXPORT RIS", "EXPORT", "ENDNOTE", "REFWORKS", "PRINT", "CITATION", "PERMALINK", and "EMAIL". Below "VIEW ONLINE", there is a "View Online" field and a "Full text availability" section with a button "View full text in Encyclopaedia Britannica". Below "DETAILS", there is a table with the following information:

Field	Value
Title	Great Expectations
Subject	Charles Dickens > David Lean > Alec Guinness >
Description	Great Expectations, The British dramatic film Great Expectations (1948) was based on Charles Dickens's novel of the same name. Directed by David Lean, the film is still considered by many reviewers to be the finest screen adaptation of a Dickens novel. Great Expectations was nominated for Academy Awards for best picture, director, and screenplay and won for best art direction and cinematography. The film follows Pip, a poor orphan in rural England. Pip occasionally spends time at the house of the spinster

2. Describe support for additional types of links using bibliographic information, such as links to bibliographic citation management software or third party web sites.

**Ex Libris:** Primo allows end-users to save search results to a Favorites list and to save searches to rerun later. Users can also configure email or RSS alerts for saved searches so can be informed when new results for the search are added to Primo. Search results can be saved, emailed or printed.

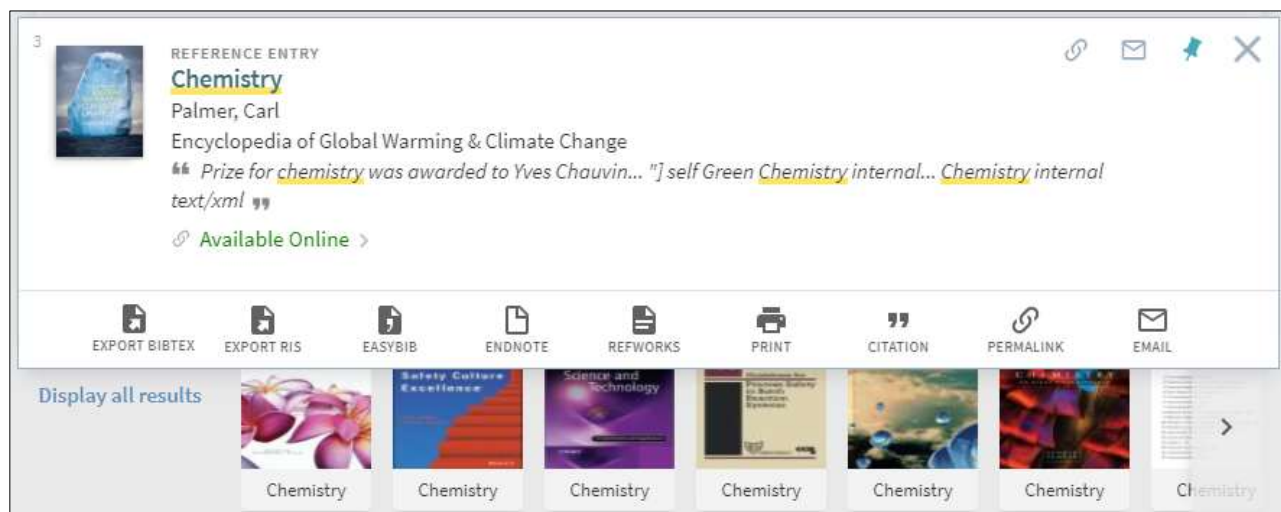
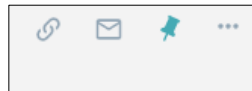
The screenshot shows the "My Favorites" section in Primo. It has tabs for "SAVED RECORDS", "SAVED SEARCHES", and "SEARCH HISTORY". Under "SAVED RECORDS", there are two entries:

1. **Chemistry**  
Palmer, Carl  
Encyclopedia of Global Warming & Climate Change  
Available Online >  
ADD
2. **Andalucia**  
Lipscomb, Kelly  
Spain Adventure Guide, Jan, 2005, p.227(4)  
Available Online >  
CBUA

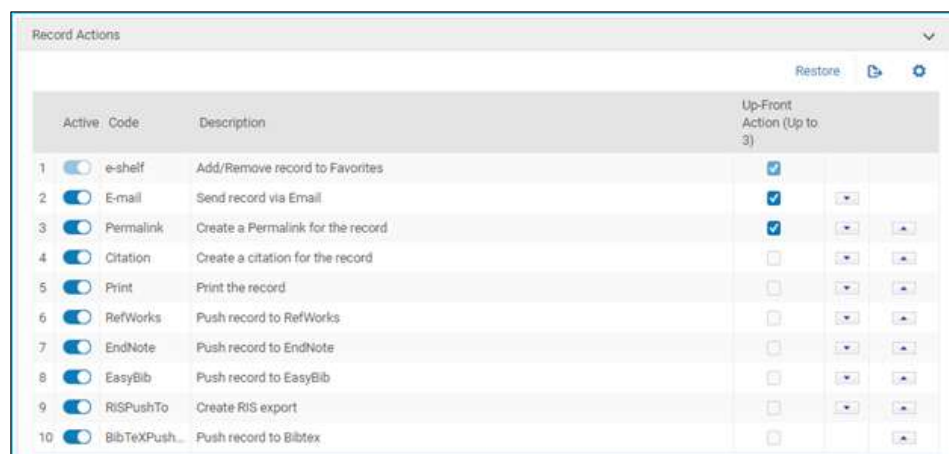
On the right, there is a "Sort by" dropdown menu set to "Date added" and a "Labels" section showing "Unlabeled items (2)" and "CBUA (2)".



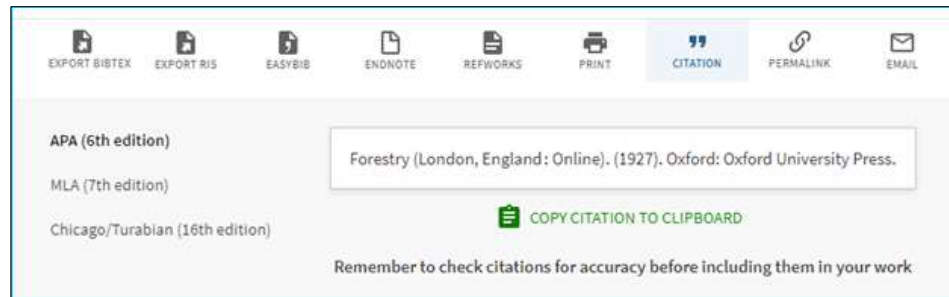
By default Primo displays the Permalink, E-mail and Favorites icon in the brief view. Clicking the Dots icon provides further options including push-to options for reference management systems, printing and citation (all options are also displayed in the full record view):



The order of the Record Actions can be sorted according to your needs. In addition you can define the 2 of 3 actions (excluding the Favourites option) to appear directly in the brief view.



Primo supports retrieval of citation management system formats, permalinks, email result lists and citations. Currently APA, MLA and Chicago/Turabian are supported out-of-the-box.



Primo also supports CSL (Citation Style Language). This enables customers to add more citation formats. CSL is an open XML-based language to format citations and bibliographies.

Please also see:

<http://citationstyles.org/>

A list of current CSL format citation styles can be found from the following website:

<https://www.zotero.org/styles/>

3. Describe ability to use third party metadata about journals (*e.g., Ulrich's*) to assist the user in differentiating among journal titles, for example, clarifying title changes over time, or differentiating among similarly-named journal titles.

**Ex Libris:** The Central KnowledgeBase is updated on a weekly basis by a dedicated team at Ex Libris. High quality data is loaded regularly and updated frequently from all major vendors, platforms, and publishers.

The ProQuest Knowledgebase (also called the “New KB”) was originally designed to be the unified metadata repository that would help realize the Intota™ vision of a next-generation library management platform.

ProQuest Workflows Solutions designed a relational data model to bring together the metadata in the Serials Solutions E-Resource Knowledgebase (now called the “360 KB”) with Ulrich’s™ authoritative serials information and tens of millions of authoritative MARC Bibliographic records for ebooks and ejournals. The Intota vision of a “New KB” included building on these foundational ProQuest assets to create a knowledgebase capable of increased scope, scale, systems, and services (such as APIs) to fully support electronic and digital resources.

When Ex Libris and ProQuest came together in December 2015, Ex Libris identified the integration of ProQuest Knowledgebase metadata into the Alma® unified resource management system as a key business initiative to incorporate the Intota vision into Alma.

Comprehensive ProQuest Knowledgebase metadata about e-resources is already a valuable contribution to the Alma Community Zone, which is the resource repository of authority records, bibliographic metadata, and electronic collections information that is shared by all Alma customers. Among the key benefits to Alma, the ProQuest Knowledgebase metadata contributes:

- Additional electronic collections from thousands of providers
- Broader coverage of Open Access resources



- Bibliographic record enrichment
- Ease of customer migrations to Alma from the 360 Services and Intota

4. Describe the options and logic for connecting the user directly to full-text versus offering them a menu of options.

**Ex Libris:** Primo supports one-click resolution to full text access when supported by target provider. See more details in question 1 above.

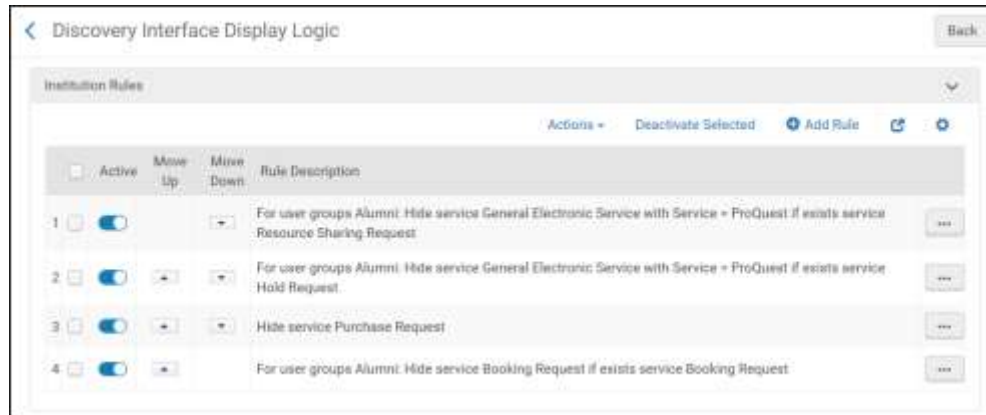
5. Describe all customization and configuration options for the ordering, display, and logic of linking users to the full manifestations of items. Describe the interface(s) or procedure(s) whereby the library would make or request changes.

**Ex Libris:** Alma allows you to granularly define the Link Resolver's behaviour and appearance. Apart from configuration that you do on specific resource, Alma provides most link resolution configuration under the "Discovery Interface Display Logic" menu.



Display logic rules define when the following fulfillment services should not appear in Primo. The following services can be set against parameters such as availability of a resource, user group and library/location:

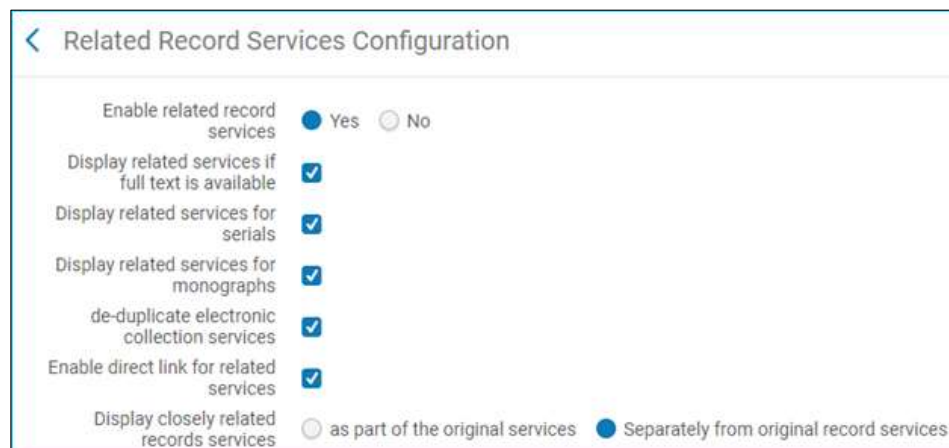
- Booking request – Request to reserve an item at a specific time.
- DB service – Link to the native interface of a third-party database.
- Digitization – Request to have an item or part of an item scanned so that it can be viewed on a computer.
- Full text – View the full text for an item online.
- General electronic services – Links that can be created by an institution for any purpose.
- General hold request – Request to have an item held at a circulation desk when the holdings record is empty, or request an issue for a journal regardless of whether any of its issues have been cataloged. For more information on general hold requests
- Hold request – Request to have an item held at a circulation desk.
- Purchase request – Request an item to be purchased.
- Representation Delivery Service – View a digital item.
- Resource sharing request – Request to retrieve an item from another institution when the patron's institution does not have the item.
- Selected full text – Links to full text (full text may not be available to all articles in the Journal).



For more information please refer to:

[https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/010Alma\\_Online\\_Help\\_\(English\)/030Fulfillment/080Configuring\\_Fulfillment/100Discovery\\_Interface\\_Display\\_Logic](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/030Fulfillment/080Configuring_Fulfillment/100Discovery_Interface_Display_Logic)

While the Discovery Interface Logic restricts services according to your preference, the Related Record Services Configuration page enables you to configure the electronic services for related titles that appear in the Primo.



- Display related services if full text is available
  - Display services for related records if full text is available. Services for related records are not shown if there is a full-text service for the original record in the OpenURL.
- Display related services for serials
  - Display related services for serials (which have a Journal material type).
- Display related services for monographs
  - Include related services for monographs (which have a Book material type).
- Deduplicate electronic collection services
  - Use deduplication of electronic collection services for remote related services. This causes Primo to display only one service if related records are associated with the same electronic collection.
- Enable direct link for related services
  - Turn on the direct-linking feature.
- Display closely related record services
  - How closely-related services (which are defined with MARC 773 or 774 fields in the bibliographic record) should appear:

- **As part of the original services** – Closely-related services are placed in the list of regular services in Primo View It with no indication that these services are for related titles.
- **Separately from the original record services** – Closely-related services are placed under the Services for Related Titles section in Primo View It.

In addition to services found in your own collection (such as full text, requests, and so forth), Alma enables you to define general HTTP services (such as searches in ProQuest dissertations and Amazon.com, Ask a Librarian, and so forth) to present to patrons in Primo.

In order to create a general electronic service, you must be familiar with the syntax of the service's URL, which includes any parameters that are required to query or access specific information from the service. The service's URL along with OpenURL context object attributes returned from Alma's link resolver are used to define the URL template, which Alma uses to create the service link that appears in Primo View It and/or Get It.

In addition, you can configure the following display settings for general electronic services:

- Specify service order
- Define display logic rules

As Primo configuration is entirely done in Alma, you will also find many configuration options in the Discovery configuration menu, where you will also find customization options for resource icons, labels, brief and full record view options (in the view configuration) and many other customization options.

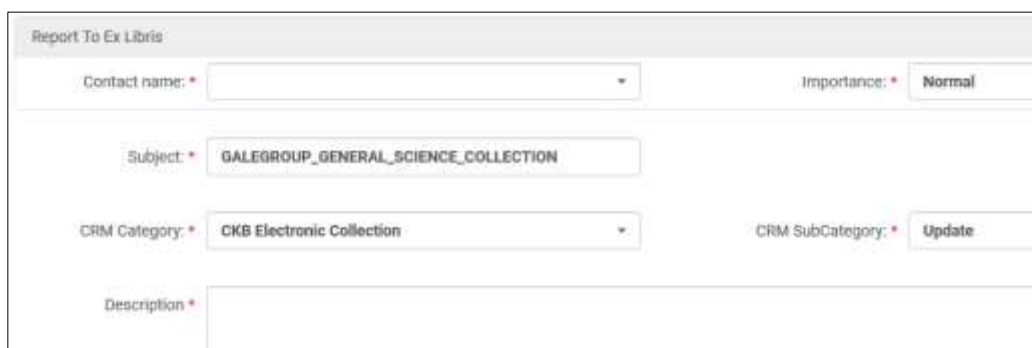
Acquisitions	<b>Search</b>	<b>GetIt</b>	<b>Loading</b>
	<b>Configuration</b>	<b>Configuration</b>	<b>External Data</b>
Resources	Search Profiles	Digitization Request	<b>Sources</b>
	Restricted Search	Hold and Booking	Normalization rules
Discovery	Groups	Request	for External Data
		Purchase Request	sources
Fulfillment	<b>Display</b>	Resource Sharing	Test Normalization
	<b>Configuration</b>	Request	Rules
	Configure Views	Items Display	Normalization
User Management	Manage Local Fields	configuration	Process Task
	Local Resource	Holdings Display	Discovery Import
	Types	Labels	Profiles
General	Manage Tags	Holdings Display	Dublin Core type to
	Hypertext Linking	Configuration	Discovery Type
Analytics	Definitions	Primo View to	mapping
	Thumbnail	Libraries	
	configuration		<b>Other</b>
	Labels	<b>Authentication</b>	Resource
		User Authentication	Recommender
		Restricted User	Configuration



**Ex Libris:** Any error reporting or support for resolving issues related to OpenURL linking is part of Ex Libris' standard support services. Additionally, patron feedback/support requests can be integrated directly into the Primo interface:

The screenshot shows a web interface for reporting a problem. At the top, there's a title 'Nash's beautiful mind pre-empted million-dollar puzzle' and a subtitle 'New Scientist, 2012, Vol.213(2853), pp.4-5'. Below this, there are tabs for 'Article', 'View Online', 'Details', 'Report problems', and 'Share'. The 'Report problems' tab is active. The form contains a text area for 'Write Comment', and input fields for 'Name' and 'Email'. A 'Send form' button is at the bottom.

It is also possible to report an issue related to packages and portfolios to Ex Libris directly from the Alma interface. This is achieved by clicking a “Send to Ex Libris” link from within the record itself. Creating a proprietary service for retrieving feedback information using the general electronic service functionality in Alma is also possible.

The screenshot shows a form titled 'Report To Ex Libris'. It has several fields: 'Contact name' with a dropdown arrow, 'Importance' set to 'Normal', 'Subject' with the value 'GALEGROUP\_GENERAL\_SCIENCE\_COLLECTION', 'CRM Category' with the value 'CKB Electronic Collection', 'CRM SubCategory' with the value 'Update', and a 'Description' field.

7. Describe other linking interface capabilities unique or notable of the proposed system not addressed above.

**Ex Libris:** Please refer to our detailed responses above.

## M. End User (Public) Mobile Interface Functionality

1. Describe your overall approach to providing mobile access to the system, including your firm's technology roadmap for support of hand-held computing devices.

**Ex Libris:** Primo provides a full responsive design for all devices by using Angular JS and Angular Material. The interface scales and re-arranges according to viewport size, so that functions are reachable and useable, whether used on smartphone, tablet or desktop. You can find more details in our blog post and the white paper we published with detailed information about the responsive Primo UI.

Blog post: <http://initiatives.exlibrisgroup.com/2016/02/ux-in-action-ex-libris-primo-new-user.html>

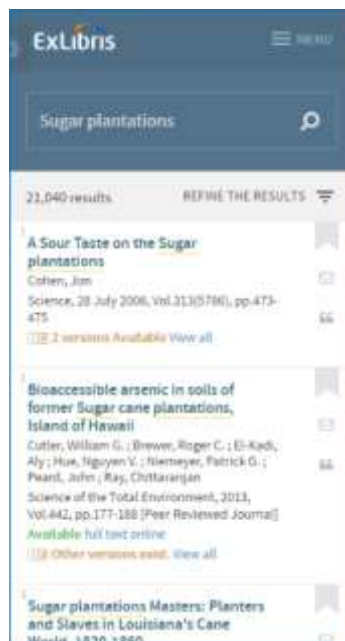


White paper: <http://www.exlibrisgroup.com/files/Products/Primo/UserExperienceWhitePaper.pdf>

One of the key advantages of the new Primo User Interface ) is the way it displays over mobile and tablet devices, making Primo searches available from any device, any time.



One of the major motivations for the New Primo UI is to provide with perfect adjusted design to fit all device resolution and provide the best “on the go” experience, we are using Angular HTML5 technology for responsive design.



2. Describe the full-featured user-experience with hand-held computing devices. List common hand-held device OS versions supported by the product (*smart phones and tablet operating systems such as iOS, Android, Windows Phone 10, etc.*).

**Ex Libris:** Primo is compatible with all leading mobile operating systems. The interface scales and re-arranges according to viewport size, so that functions are reachable and useable, whether used on smartphone, tablet or desktop.



3. Describe any different user interface requirements for tablets devices versus smart phone devices.

**Ex Libris:** Not applicable. The new Primo user interface has a responsive design that allows it to support any screen size and resolution. Primo's UI is based on HTML5 Angular framework in order to provide a fully responsive design and single-page application, optimized for mobile use such that all the options and services that are available for desktops can be employed by our end-users with a wide range of mobile device platforms (iOSx, Android, BB) to interact with the Primo environment. This reduces the cost to maintain the system and interfaces with a range of disparate mobile platforms.

4. Describe which specific features of the product have undergone a user interface redesign for smart phone/tablet devices.

**Ex Libris:** Please refer to our answer directly above. The new user interface for Primo was introduced in 2016 and featured a fully responsive design for mobile devices.

5. Describe the customization options available to the institution related to the mobile interface or responsive design settings that facilitate mobile access.

**Ex Libris:** Primo provides a full responsive design for all devices by using Angular JS and Angular Material. The interface scales and re-arranges according to viewport size, so that functions are reachable and useable, whether used on smartphone, tablet or desktop  
You can find more details in our blog post and the white paper we published with detailed information about the responsive Primo UI.

Blog post: <http://initiatives.exlibrisgroup.com/2016/02/ux-in-action-ex-libris-primo-new-user.html>

White paper: <http://www.exlibrisgroup.com/files/Products/Primo/UserExperienceWhitePaper.pdf>

One of the key advantages of the new Primo User Interface is the way it displays over mobile and tablet devices, making Primo searches available from any device, any time.



One of the major motivations for the New Primo UI is to provide with perfect adjusted design to fit all device resolution and provide the best “on the go” experience, we are using Angular HTML5 technology for responsive design.

6. Describe how the product deals with patron privacy using wireless or networked technology.

**Ex Libris:** Alma protects patron data and privacy in a number of ways:

- Access control
  - Authentication
    - Strict password rules
    - SSO Support – utilizing SAML protocol –protects the data by building a circle of trust between the different domains
    - Trust between applications support (Mutual Authentication)– ensures patron's data is exposed to only authenticated parties and remains confidential
    - Authorization
    - Role based access control and Segregation of duties – ensures only authorized persons have access to the data
    - Access Control Audit Logs and Notifications procedures – provides detailed auditing on access activities
  - Data Security
    - Secure data-in-transit (SSL) – ensures patron's data is always transmitted on a secure channel
    - Antivirus –protects against spyware attacks that might expose confidential data

All the policies and measurements above ensure that patron's data, stored or transiting is private and secured inside Alma.

In addition, Alma conforms to FERPA guidelines by providing multi-tier access control that is based on the security industry's best practices. Access to Alma consists of but is not limited to:

- Staff member authentication prior accessing Alma;
- Each staff has privileges and access to data according to his/her role;
- Only authorized staff member have access to view and edit patron data; and
- Alma's browser sessions are encrypted using SSL. Alma maintains an audit trail of access to patron data that has been exported out of Alma.

7. Describe other end user (public) mobile interface capabilities unique or notable of the proposed system not addressed above.

**Ex Libris:** Please refer to our detailed responses above.

## N. Collections Information and Reporting Functionality

1. Provide an overview of the system's capabilities for producing reports.

**Ex Libris:** Alma Analytics is used for the generation of a variety of reports, as well as for generating statistics from various library activities. Analytics is built into Alma throughout the system and is very flexible. Alma comes with a wide range of preconfigured reports and dashboards, all of which are customizable. In addition, designated staff may create reports of interest to other roles within the library and provide dashboards for staff, enabling them to access the defined reports.

Alma's analytics function provides a Business Intelligence solution centrally installed on Alma servers in the cloud. The solution serves all Alma customers, but the data of each institution is separated from other institutions, based on the Alma SaaS model. Alma Analytics is designed to work over the Web and in the

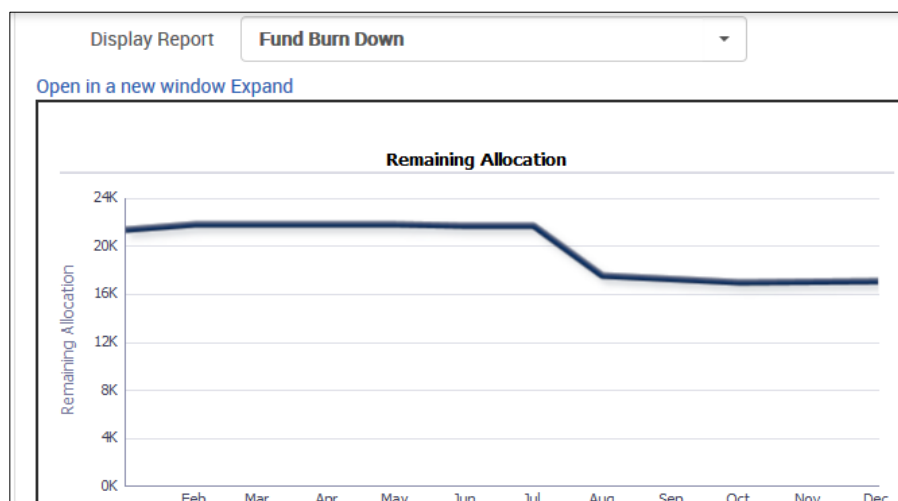
cloud so libraries can run out-of-the-box reports as well as create and run ad-hoc reports without the need for third-party reporting tools. Consortium members also have the ability to run reports on the level of the network.

Alma Analytics provides a full suite of capabilities for creating and exposing reports, and presenting dashboards of summary data using this tool:

- From screens within Alma;
- From dashboards specifically tailored to a particular staff role;
- As widgets that are accessible from lobby areas within Alma; and
- As pushed reports, sent to the interested staff as emails.

All reports can be exported in CSV, Excel or PDF.

In addition to the out of the box reports, Alma Analytics includes embedded reports as shown below:



Alma analytics includes data from different business areas (such as funds expenditure, loans, acquisitions, bibliographic data and more) and was built in mind both for operational day to day reports such as outstanding orders by supplier/fund/material type or a fund transaction report as well as for more analytical, decision support reports, such as most frequently used and least frequently used journals.

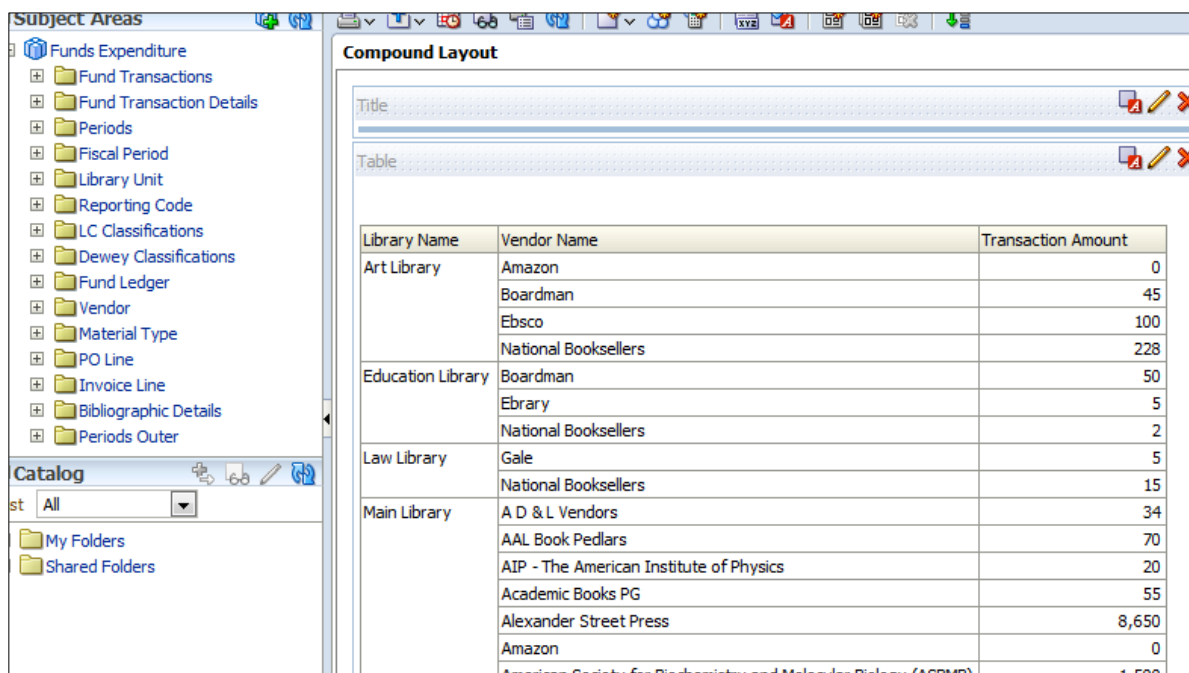
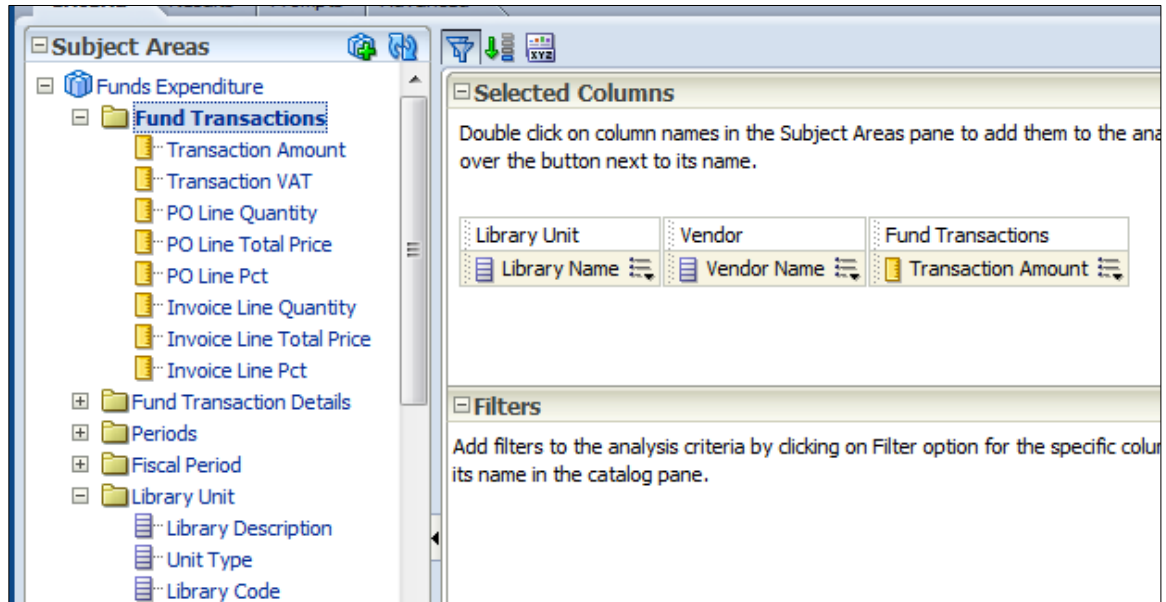
Alma roles determine which users can create reports (report designers) and which users can only view reports (report consumers).

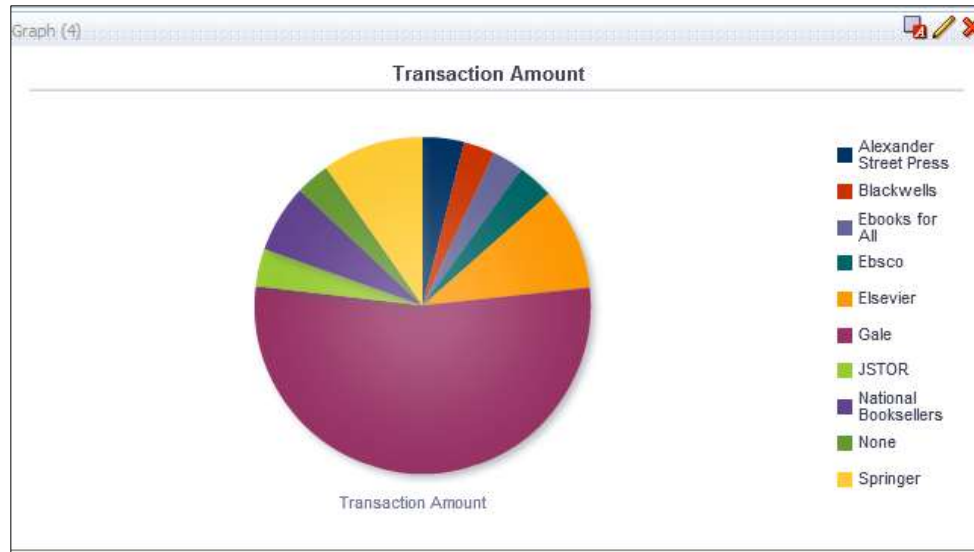
Alma provides for the automated dissemination of reports. For example, library staff can schedule a report to run periodically; authorized staff may then subscribe to the report and receive the output in an email sent automatically based on the report schedule (e.g. daily, weekly, monthly). In this way, a staff member can get to his/her email report at fixed intervals without the need to log into Alma.

2. Provide an overview of any preset or configurable dashboards generated by the system.

**Ex Libris:** There are over 100 out of the box reports available with Alma. The out-of-the-box reports that are available in Alma Analytics are listed at [https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/010Alma\\_Online\\_Help\\_\(English\)/080Analytics/060Out-of-the-Box-Reports](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/080Analytics/060Out-of-the-Box-Reports). Many other reports which have been created by other libraries and shared via the Community area in Analytics can also be used or adapted by the library.

Creating a report is simple; after choosing the relevant subject area the staff user drags and drops relevant fields from the subject area on the left, to the right hand pane. Results can be viewed, and filters and other options can be applied in order to give the desired outcome. A graphic representation can be added, or chosen as the final report output.





3. Describe the system's capability to handle inventory of the collection.

**Ex Libris:** Alma provides multiple tools and functionalities to streamline, improve and support seamless management of inventory activities at James Madison University. This includes clearly defined work orders and task chains. Alma provides rules and configurations for handling lost items, duplicates, claiming, receiving, batch loads/updates/deletions, brief record creation and handling, barcode creation, transits, label printing and more. Among these tools you will find (with descriptions given below):

- Shelf Report
- Import Profiles
- Labels
- Serials

### Shelf Report

Alma's Shelf Report provides you with an efficient process for managing the library's inventory. Using the Shelf Report functionality, you are able to manage Physical Inventory to see if items are in place, misshelved, or missing.

You can take an Excel file or a .txt file containing barcodes and compare that information with the information stored in the Alma database to identify items that are misshelved or are missing from inventory. Specify the following criteria to identify the records in Alma that you want to compare with the Excel or .txt file:

- Library
- Location
- Alma inventory range (by call number) or Alma inventory set (by set name)

The Shelf Report tool runs the Shelf Report job that provides a report with the following information to help you identify where you have issues with your physical inventory:

- Number of items in place - Items in the input file with the status **In place**.
- Number of known items that are not in place - Items that were not in the input file with status **Not in place**.
- Number of items on the shelf but are marked not in place in the database - Items that were in the input file but with the status **Not in place**.

- Number of missing items that are marked in place in the database - Items that were not in the input file but with status **In place**.
- Number of items on the shelf but are out of the range specified or not in the set specified - Items with a barcode in the input file that match an item in inventory but the item is not in the range or set.
- Number of barcodes with no matched item in the database - Items with a barcode in the input file that do not match any items in inventory.

From the report results, you can access a robust set of options for managing your inventory. You can preview the items flagged in the report (from the Repository Search results page), create an itemized set of the items flagged in the report, or download a list of barcodes (for items with no match).

4. Describe options to allow the Libraries to compile statistical data required for university, state, federal, and other reporting.

**Ex Libris:** Alma Analytics is used for the generation of a variety of reports; both out of the box and individually created reports are available.

Alma's Analytics also supports data required for a number of industry standard benchmarking reports such as SCONUL, ARL and CAUL. The reports, designed by Ex Libris and by participating institutions, are available to all Alma customers via the shared reports feature.

The Industry Statistics dashboard which contains sample reports may be useful if your institution needs to send reports to library organizations such as ARL and SCONUL. The dashboard contains the following reports:

- Number of Objects
- Items Added, Items Withdrawal
- Item Count by library and Location
- Number of Loans and Renewals
- Inventory – Physical Inventory Count
- E-Inventory – Electronic Inventory Count
- Fulfillment – Annual Count of Loans and Renewals

5. Provide a list of all reports delivered as part of the base product including a short description of each. Include a sample of several reports for review.

**Ex Libris:** Alma Analytics provides hundreds of out of the box reports. Please visit this webpage to review the available reports and descriptions:

[https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/010Alma\\_Online\\_Help\\_\(English\)/080Analytics/060Out-of-the-Box-Reports](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/080Analytics/060Out-of-the-Box-Reports)

6. Describe support for automated creation and dissemination of reports.

**Ex Libris:** Alma provides for the automated dissemination of reports. For example, library staff can schedule a report to run periodically; authorized staff may then subscribe to the report and receive the output in an email sent automatically based on the report schedule (e.g. daily, weekly, monthly). In this way, a staff member can get to his/her email report at fixed intervals without the need to log into Alma.

Dashboards can be accessed by authorized staff from Alma.



< Analytics Configuration

Title = Circulation Statistics

Analytic Folder = Alma University/Fulfillment

Name = Cash Transactions

Type = Scheduled Report

Description = Circulation Statistics

Format = PDF

Status = ☒ Active ☐ Inactive

Schedule = Every Monday at 03:00

Email Notifications

Rules

1 Fulfillment Administrator

Manages Fulfillment related configurations such as policies, forms of use, Fulfillment Units and Circulation Desks

Staff users with roles linked to a report or dashboard, may choose the reports that he/she wishes to subscribe to. These will be emailed to subscribed staff at defined intervals.

Analytics Configuration and Subscription

1 - 20 of 22

Title	Description	Schedule	Status	Subscribe
1 All items created in May 2016 and on scheduled excel	All items	Every day at 03:00		
2 All items created in May 2016 and on scheduled test	All items	Every day at 03:00		
3 All items scheduled excel	All items	Every day at 03:00		
4 All items scheduled test	All items	Every day at 03:00		
5 Cataloger Activity	Cataloger Activity	On the 02 of every month at 03:00		
6 CAUL Reports	-	On the 02 of every month at 03:00		
7 Circulation Statistics	Circulation Statistics	Every Monday at 03:00		
8 Count of Items Loaned by Patron Group	Count of Items Loaned by Patron Group	Every Monday at 03:00		
9 E-Resource Usage	Reports of E-Resource Usage	On the 02 of every month at 03:00		
10 Electronic titles in computer science with URL Link to Primo - New UI	Electronic titles in computer science with URL Link to Primo - New UI	Every day at 03:00		
11 Expenditure by Classification - Scheduled	Breakdown of expenditure by LC Classification	On the 02 of every month at 03:00		

The following is an example of a scheduled report sent to an email address:



In addition to the institution folder (where institutions can save their customized reports), there is a Community area, that allows staff from all Alma institutions to post reporting options that can be shared by the entire Alma Community.

7. Describe application approach/strategy for reporting including the approach to ad-hoc reporting for power users as well as the occasional user. Describe the process for staff to create reports using a query language.

**Ex Libris:** Viewing and creating reports in Alma is role based - for example only staff users with acquisitions roles and privileges will be able to view acquisition reports. Defining reports, widgets or dashboards requires also defining the roles that can view these outputs.

The following screenshot is for a report, that only a user with roles "Acquisitions Administrator" can view.

The screenshot shows the 'Analytics Configuration' window. The 'General Information' section includes fields for Title, Analytic Folder, Name, Type, and Description. The 'Roles' section shows a table with roles and their descriptions.

Role	Description
1. Acquisitions Administrator	Manages Acquisitions configurations such as Acquisitions processes

Alma comes with a wide range of preconfigured reports and dashboards, all of which are customizable. In addition, designated staff may create reports of interest to other roles within the library and provide dashboards for staff, enabling them to access the defined reports.

Creating a report is simple; after choosing the relevant subject area the staff user drags and drops relevant fields from the subject area on the left, to the right hand pane. Results can be viewed, and filters and other options can be applied in order to give the desired outcome. A graphic representation can be added, or chosen as the final report output.

The screenshot shows the report configuration interface. The 'Subject Areas' pane on the left lists various data sources. The 'Selected Columns' pane on the right shows the columns selected for the report. The 'Filters' pane at the bottom shows the filters applied to the report.

**Subject Areas**

- Funds Expenditure
  - Fund Transactions
    - Transaction Amount
    - Transaction VAT
    - PO Line Quantity
    - PO Line Total Price
    - PO Line Pct
    - Invoice Line Quantity
    - Invoice Line Total Price
    - Invoice Line Pct
  - Fund Transaction Details
  - Periods
  - Fiscal Period
  - Library Unit
    - Library Description
    - Unit Type
    - Library Code

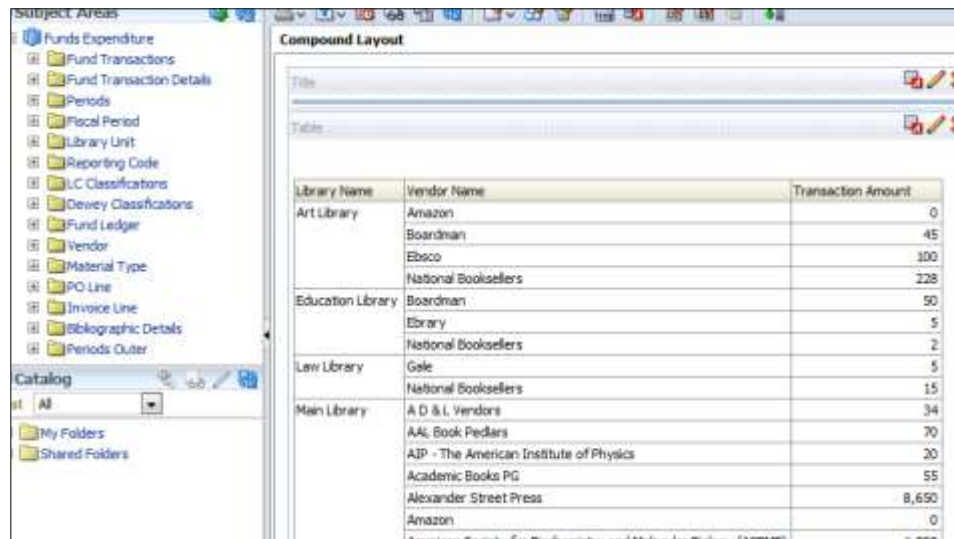
**Selected Columns**

Double click on column names in the Subject Areas pane to add them to the and over the button next to its name.

Library Unit	Vendor	Fund Transactions
Library Name	Vendor Name	Transaction Amount

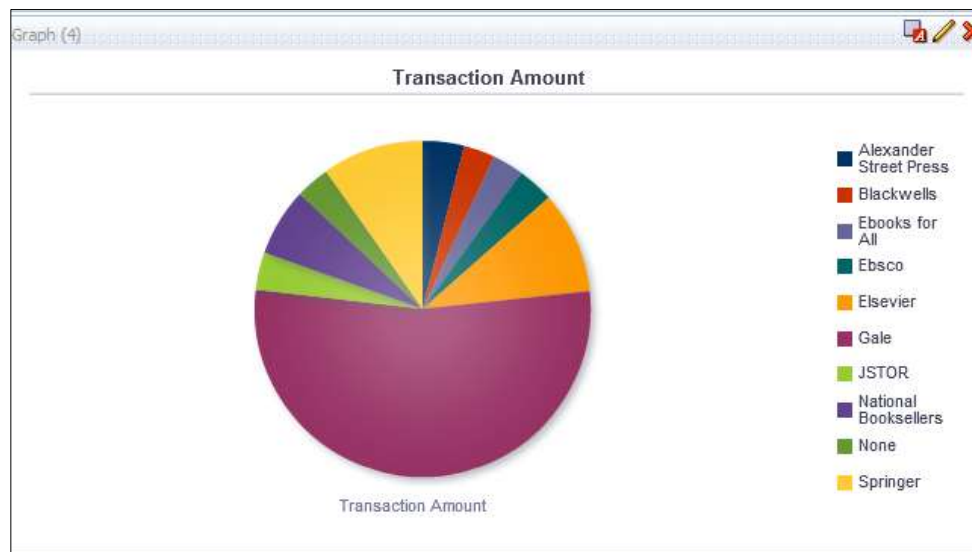
**Filters**

Add filters to the analysis criteria by clicking on Filter option for the specific color its name in the catalog pane.

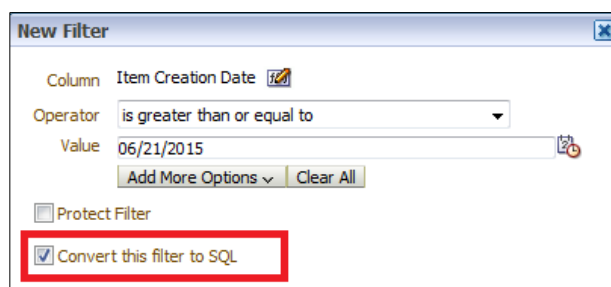


The screenshot shows the Alma analytics interface. On the left is a 'Subject Areas' tree with categories like Funds Expenditure, Fund Transactions, and Catalog. The main area is titled 'Compound Layout' and displays a table of transaction amounts.

Library Name	Vendor Name	Transaction Amount
Art Library	Amazon	0
	Boardman	45
	Ebsco	100
	National Booksellers	228
Education Library	Boardman	50
	Ebrary	5
	National Booksellers	2
Law Library	Gale	5
	National Booksellers	15
Main Library	A D & L Vendors	34
	AAE Book Pedlars	70
	AIP - The American Institute of Physics	20
	Academic Books PG	55
	Alexander Street Press	8,650
	Amazon	0
	American Society for Biochemistry and Molecular Biology (ASBMB)	> 500



All queries in Alma analytics can be converted to SQL and retrieved via SQL. For example:  
In the first screenshot items created on or after June 21 2015 will be retrieved.  
In the second screenshot items created a year or more ago will be retrieved.  
This is an automatic SQL filter whereby it will always be "one year ago" regardless of when the report is run.



The screenshot shows the 'New Filter' dialog box in Alma analytics. It contains the following fields:

- Column: Item Creation Date
- Operator: is greater than or equal to
- Value: 06/21/2015
- Buttons: Add More Options, Clear All
- Checkbox: Protect Filter
- Checkbox: Convert this filter to SQL (checked)

Advanced SQL Filter

This page allows you to enter a custom where clause using SQL syntax. (e.g. Sales Facts.Dollars < 100) After entering the SQL, press OK.

'Item Creation Date', 'Item Creation Date' >= TIMESTAMPADD(SQL\_TSI\_YEAR,-1,CURRENT\_DATE)

Help OK Cancel

- Describe any limitations on manually created queries, including which records can be included in queries together. Is there a distinct relationship between item and order records linking cost of items and usage of items?

**Ex Libris:** Data elements and subject areas in Alma Analytics can be combined.

There is however a minor limitation, and that is a relational database restriction:

It is not possible to combine different subject areas if there is not a common dimension with measures. However, to overcome this, Alma Analytics has added dimensions from many subject areas to other subject areas.

For example fund information from the "Funds Expenditures" subject area has been added to the "Physical Items" subject area.

Similarly, "Course Reserves" information has been added to the "Fulfillment" subject area.

Acquisition data in Alma Analytics covers data from vendors, transactions, funds, purchase types, bibliographic data and more. Alma's reporting function, Analytics, provides actionable information regarding usage information, budget usage trends and up-to-date expenses overviews. This complements our planned suite of collection development utilities to support selection and evaluation.

The utilities will include overlap analysis and usage statistics and cost/usage analysis data which will be presented to relevant staff during the evaluation process based on information provided by the vendors.

As an example, Alma keeps this data indefinitely, so the reports are always up to date, and can also be used to compare the spend and cost of previous years to the current year. Here is an example of a report detailing cost per use of electronic and print items.

Title	Price	# Loans	Cost per Loan
Gerontological nursing /	5.00	32	0.07
The Lifestate Harry Potter and Philosophy	5.50	60	0.05
Literature and Bibliometrics /	20.00	80	0.46
Peterkin's nursing programs 2012	5.00	36	0.14
Mexico's revolutionary avant-gardes : from Estridentismo to '30-'39 /	5.00	22	0.18
Nursing: the career of a lifetime	300.00	24	12.50
Medical-surgical nursing : an integrated approach /	5.00	20	0.25
Business in the cloud : what every business needs to know about cloud computing	6.98	36	0.44
Founding brothers : the revolutionary generation /	5.75	36	0.38
Laboratory and diagnostic tests with nursing implications /	5.00	36	0.31
	2.14	13	0.16

Title	Cost	Usage	Cost per Use
Acta mathematica Hungarica	197	1	196.49008
Advertising age	37	1,140	0.03214
Chicago tribune	217	315	0.42066
Cran's New York business	12	2,110	0.00553
Differential equations	38	3,000	0.01194
Genetica	297	965	0.30740
Harvard business review	230	2,890	0.08132
International journal of nursing studies	120	1,525	0.08003
Journal of comparative physiology	127	3,000	0.04223
Journal of the American Chemical Society	310	3,070	0.09840
Plasma physics reports	48	1,700	0.02794

- Describe all reporting tools supported and how they integrate with the product including any direct access capability your product provides where desktop software like Excel,

Access and SQLServer can link real-time to system data. Specify methods used and software supported.

**Ex Libris:** Third party analytics tools are not required. Alma Analytics is used for the generation of a variety of reports, as well as for generating statistics from various library activities. Analytics is built into Alma throughout the system and is very flexible. Alma comes with a wide range of preconfigured reports and dashboards, all of which are customizable. In addition, designated staff may create reports of interest to other roles within the library and provide dashboards for staff, enabling them to access the defined reports.

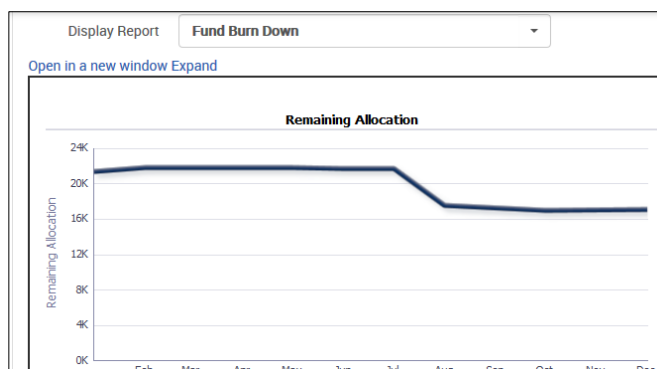
Alma's analytics function provides a Business Intelligence solution centrally installed on Alma servers in the cloud. The solution serves all Alma customers, but the data of each institution is separated from other institutions, based on the Alma SaaS model. Alma Analytics is designed to work over the Web and in the cloud so libraries can run out-of-the-box reports as well as create and run ad-hoc reports without the need for third-party reporting tools. Consortium members also have the ability to run reports on the level of the network.

Alma Analytics provides a full suite of capabilities for creating and exposing reports, and presenting dashboards of summary data using this tool:

- From screens within Alma;
- From dashboards specifically tailored to a particular staff role;
- As widgets that are accessible from lobby areas within Alma; and
- As pushed reports, sent to the interested staff as emails.

All reports can be exported in CSV, Excel or PDF.

In addition to the out of the box reports, Alma Analytics includes embedded reports as shown below:



Alma analytics includes data from different business areas (such as funds expenditure, loans, acquisitions, bibliographic data and more) and was built in mind both for operational day to day reports such as outstanding orders by supplier/fund/material type or a fund transaction report as well as for more analytical, decision support reports, such as most frequently used and least frequently used journals.

#### 10. Describe reporting output formats available.

**Ex Libris:** All reports are exportable in a variety of formats including: PDF, Excel, PowerPoint, mht, csv, tab delimited and xml.

See for example the two screenshots below which demonstrate this for both a graph and a table:



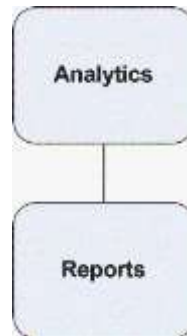
Vendor Name	Expenditures		
	2012	2013	2014
<b>Grand Total</b>	<b>4,742</b>	<b>57,661</b>	<b>6,777</b>
Springer		26,200	
Gale	500	21,419	2,781
Ebooks for All		6,261	
National Booksellers	2,280	2,199	1,524
Alexander Street Press		500	750
Elsevier	500	500	
Blackwells	445	380	
Ebsco			741
Swets Information Services			562
JSTOR	500		
A-R Editions Inc.			400
Houtschild International Booksellers	342		
Boardman	100		
AAL Book Pedlars	70		
YBP US			64
Ebook Library		5	50
Karger			50
YBO			27
International Lib			20
A D & L Vendors			

11. Describe any data visualization capabilities for reporting data and capacity for interfacing with data analysis and visualization software, such as Tableau, Visual Analytics, SAS, or SPSS.

**Ex Libris:** Alma is provided with an advanced built-in reporting and analytics solution that is an integral part of the solution and its offering. No external reporting software is needed.

The Analytics API returns an Alma report (in XML format only). This [blog](#) provides additional information on how to determine your reports' paths and how to apply pagination or filters.

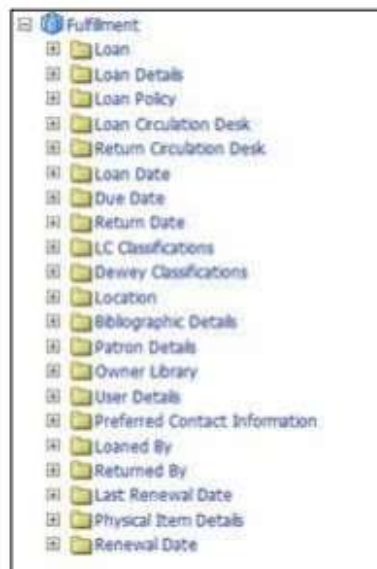




Since Alma Analytics reports can be very large, Alma supports retrieving it in several parts: The first retrieval will return a Resumption Token as part of the OBI report. This token should be used as a parameter instead of the path parameter for the next retrievals in order to get the next rows. See here for more details. <https://developers.exlibrisgroup.com...apis/analytics>

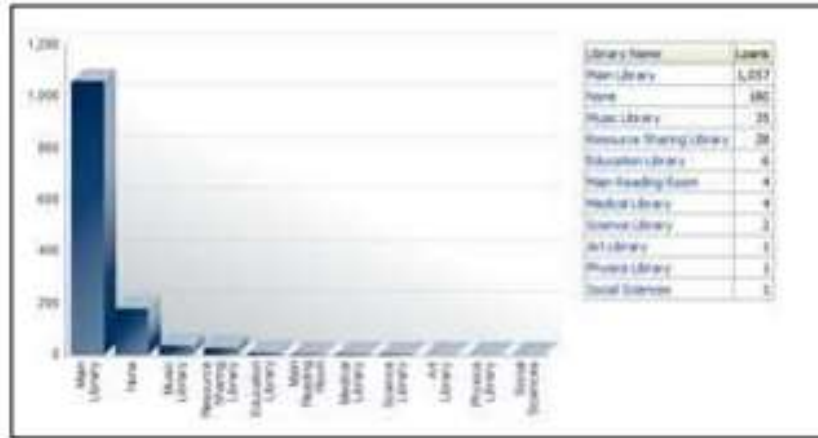
12. Explain circulation reporting for tangible items, including details about how circulation events are recorded, and the ability of the library to generate reports using historical information.

**Ex Libris:** Analytics includes 3 comprehensive subject areas in the area of circulation: Fulfillment, Fines and Fees, and Requests. An example of the Fulfillment subject area can be seen following:



Examples of reports in these areas:

Loan Statistics by Library:



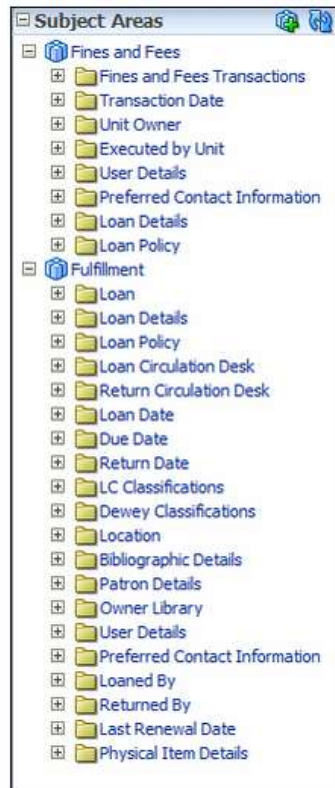
The bibliographic details dimension is a shared dimension in the fulfillment subject area. As an example, it is possible to create a report that counts loans by title:

HQS ID	Title	Call Number	Loans
991463930000121	Irish dialects and Irish-speaking districts: three lectures.	991296 .C68	129
991466120000121	Die Gärtnerei aus Lefke = (La trita gardeniera) / Konstantin Gier /		46
991334900000121	Irish: remnants of Ireland.		38
991347420000121	A Texas Blue Bonnet /	AL 3115 S.30	31
991465730000121	Everybody loves my baby, but my baby don't love nobody but me /		24
991466560000121	Exultate omnes / Beata m. Virgo Maria; and: Quasi et vita / Three motets for 12 voices /		23
991756390000121	Pride and prejudice /	923.055.864	22
991466980000121	A midsummer night's dream /		19
991194370000121	The Pender heart /		18
991151800000121	The North Korean Economy /		15
991267180000121	Angels & Demons /		13
991129440000121	Admission & Family vlt.		11
991460700000121	San Carlos de la Infancia en el Perú.		11
99129550000121	Schiller's Les of the ball, with a separate accompaniment for the organ or piano forte.	Mus 795.8 375	10
991462640000121	Tableau de la littérature espagnole depuis le 12e siècle jusqu'à nos jours. - précédé d'une introduction sur l'origine de la langue espagnole.		11
991137080000121	The interpretation of the Goshute legend in the works of W. S. Yeats.		9
991465510000121	Three-quarters of a century (1857 to 1882) a retrospect /		9
991466020000121	The abduction from the seraglio. (Die Entführung aus den Serail. Conc. opera in three acts.		9
991467330000121	Gibelzetzen /		9
991706390000121	Pride and prejudice /		9

The Users dimension is also part of the Fulfillment subject area and can be used to generate circulation statistics – e.g. by library and user group. For anonymized circulation data only information on the user group and statistical categories will be available:

User Group	Loan Days	Loans	Average loan days
Administrative Staff	237	53	4
Alumni	84	68	1
Distance Learners	0	2	0
Faculty	1,276	35	36
Graduate Student	365	22	17
Undergraduate Student	5,315	346	15
Walk In Loans - Network Members	0	1	0

The example below shows the subject area for fines and fees. The transactions are the measurable facts, and all the other attributes are dimensions. This allows for the easy measurement of expenditure by vendor, fund, purchase type, date ranges, classification etc... and any combination of these. Most dimensions are composed of multiple levels, for example Date→Quarter→Fiscal period, or Collection→Location→Library, so drilldowns on the reports are possible without any additional work.



Reports which cross subject areas are possible through dimensions, which are shared by multiple subject areas. For example, Classification is a joint dimension of Expenditure and Circulation subject areas so it is possible to create reports that match expenditure and usage of a specific location.

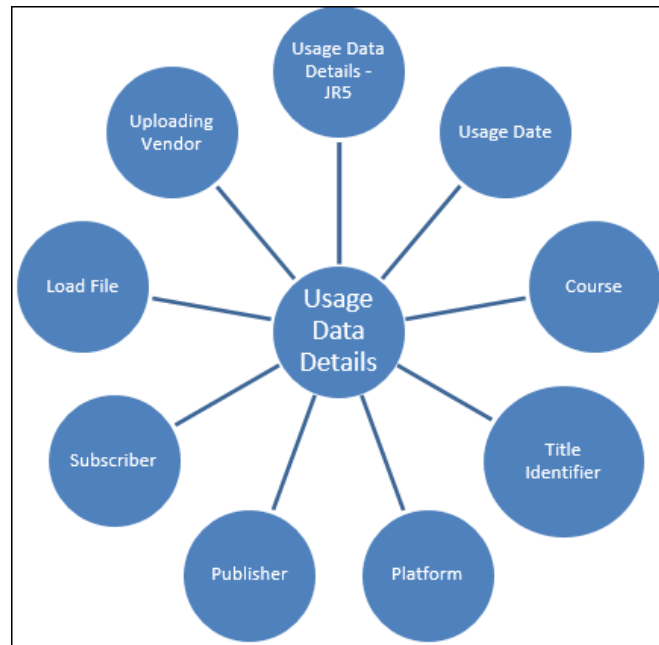
This subject area can easily provide multi-year trend reports on circulation activities per location, classification, and user types.

13. Describe how your product retrieves, stores and reports electronic resource usage, including SUSHI and supported COUNTER and non-COUNTER formats. Detail the ability for users to import usage data.

**Ex Libris:** Analytics has a usage subject area that allows for producing reports usage statistics information supplied by vendors (content providers) in COUNTER format. Usage statistics information supplied by vendors can be loaded to Alma manually or automatically with the SUSHI Automated Harvesting mechanism.

The Usage Data subject area is able to answer the following types of business questions:

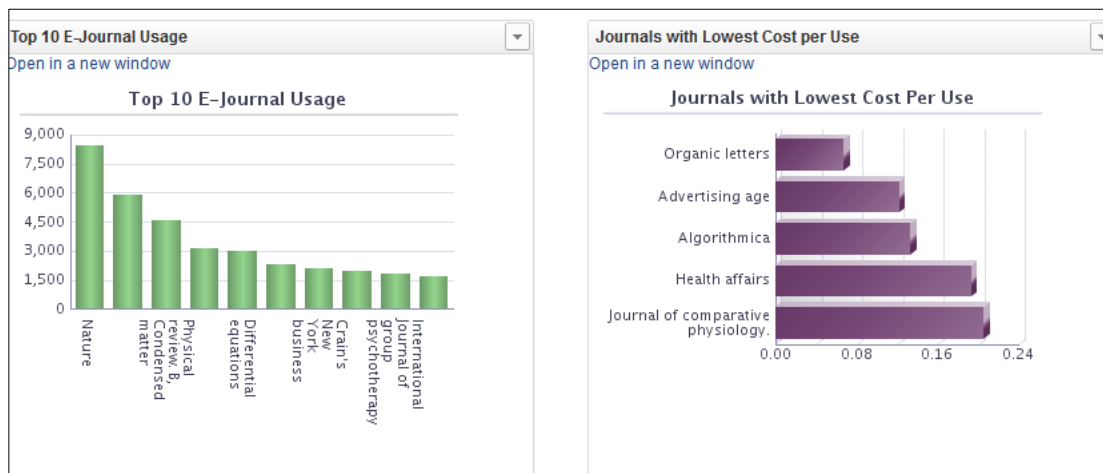
- Most frequently used journals
- Annual journal usage trend.
- Total and monthly number of successful requests per each journal
- Database Usage - Annual Trend
- Most Frequently Used Databases
- Total number of searches and sessions per each database and the monthly/yearly search statistics

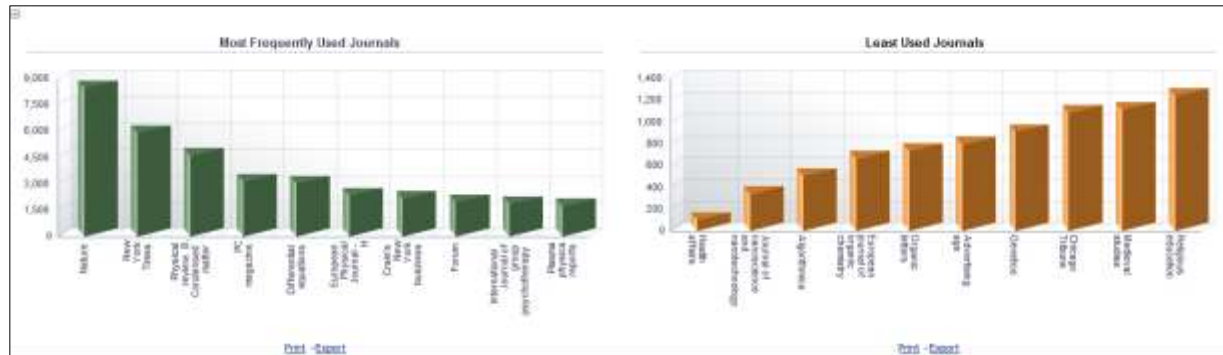


Alma also collects data on the usage of electronic resources via the Alma link resolver. These include OpenURL requests, services offered to the patrons and services which the patron chooses to use. Usage of electronic resources tracked via the link resolver can also be used for reporting using Alma Analytics. Reports can be created of usage statistics by journal, database, publisher, platform, and subscriber. The reports enable the library to drill down on data elements included in the report such as year range, titles, and so on.

The “Usage Data” subject area is typically used to ascertain the following information:

- Most frequently used journals, databases and electronic books
- Trends in usage of these electronic resources
- Number of successful requests per resource, publisher and platform
- Total number of searches and sessions
- Examples of report outputs (including cost per use):





Alma facilitates the collection and reporting of usage statistics information supplied by vendors (content providers) in COUNTER 4 format. COUNTER 5 and SUSHI lite are on the roadmap.

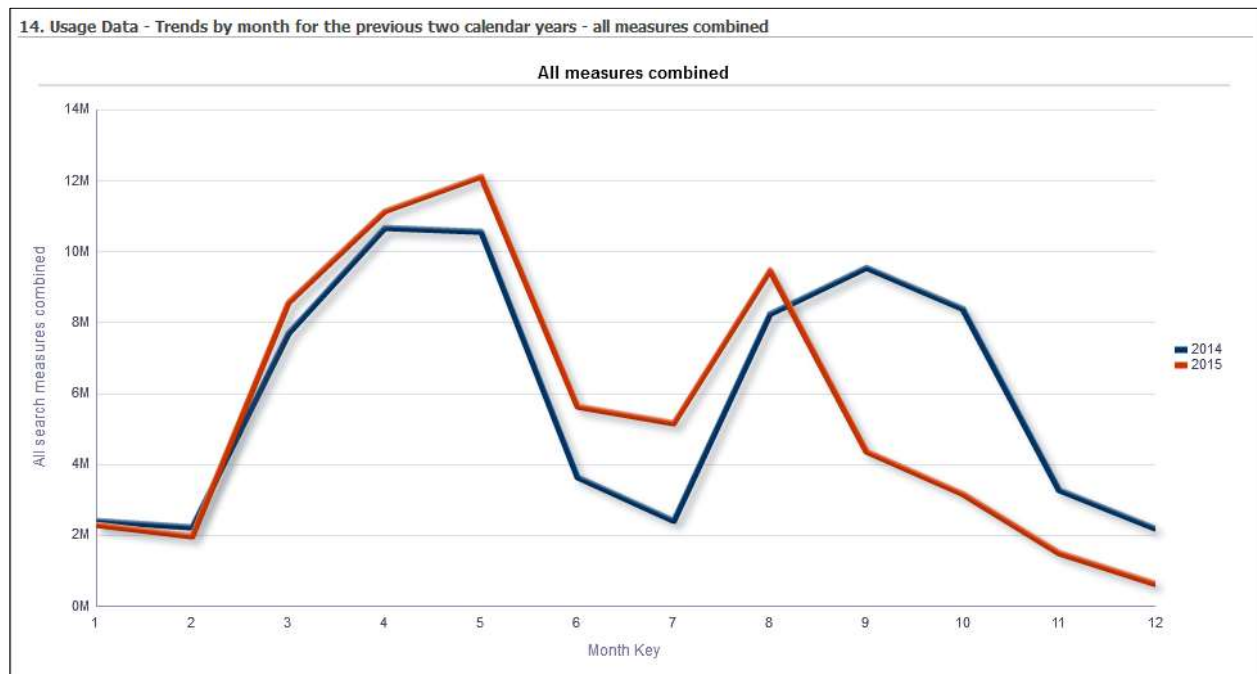
Alma Analytics provides usage statistics reporting capabilities that enable the creation of reports such as usage statistics by journal, database, publisher, platform, and subscriber. The reports enable the library to drill down on data elements included in the report such as year range, titles, etc.

14. Describe the system's ability and capacity for storing historical usage data and report specifications that might be used for repeated reports.

**Ex Libris:** Historical data can be analyzed in all areas such as electronic usage, physical usage (loans etc.) and expenditures as well as "cost per use".

Below are three screenshots showing:

- Overall electronic usage for the past two years by month.
- Electronic usage for which there has been an increase in usage in the past two years.
- Electronic usage for which there has been a decrease in usage in the past two years.



15. Usage Data - Changes in previous two calendar years - Increase in Usage				
Title	Journal Usage Counter Two years ago	Journal Usage Counter One year ago	Journal Usage Counter Change (One year ago - Two years ago)	% change (One year ago - Two Years ago) / Two Years ago
"Before I Forget...": Journal of the Poyntzpass and Distric...	4	6	2	50%
"Folia Forestalia Polonica, Seria A - Forestry"	0	1	1	
'Atiqot / עתיקות	17	85	68	400%
'Ilu Revista de Ciencias de las Religiones	0	1	1	
100 Mile House Free Press	0	1	1	
12th International Conference on Finance & Banking: Struc...	1	8	7	700%
1895: Bulletin de l'Association Fran?aise de Recherche su...	0	3	3	
19th Century Music	247	3,784	3,537	1432%
2.5G-4G	0	1	1	
20 Century British History	158	351	193	122%
20-20 Magazine	13	21	8	62%
24x7 (Online)	0	2	2	
2D Materials	23	132	109	474%
3 Biotech	38	61	23	61%
34th World Small Animal Veterinary Association Congress, ...	0	1	1	
3D Printing in Medicine	0	11	11	
3D Research	15	25	10	67%

16. Usage Data - Changes in previous two calendar years - Decrease in Usage				
Title	Journal Usage Counter Two years ago	Journal Usage Counter One year ago	Journal Usage Counter Change (One year ago - Two years ago)	% change (One year ago - Two Years ago) / Two Years ago
1-800 FLOWERS.COM, Inc. SWOT Analysis	4	0	-4	-100%
11th International Conference on Finance & Banking: Futur...	2	0	-2	-100%
24x7	13	9	-4	-31%
2nd International Scientific Conference "Tourism in South...	4	0	-4	-100%
33 Metal Producing	9	0	-9	-100%
3CMedia: Journal of Community, Citizen's & Third Sector M...	4	3	-1	-25%
3D	1	0	-1	-100%
3D Printing and Additive Manufacturing	41	28	-13	-32%
40 [degrees] South	13	11	-2	-15%
401 (k) Advisor	8	5	-3	-38%
48 Hours [CBS] (USA)	1	0	-1	-100%
4D International Journal of IT and Commerce	7	5	-2	-29%
4OR	19	13	-6	-32%
4Ps Business & Marketing (India)	1	0	-1	-100%
7 Days (Dubai, United Arab Emirates)	2	0	-2	-100%
7-Eleven, Inc. SWOT Analysis	8	0	-8	-100%
7.30	43	11	-32	-74%

The Physical Items Historical Events subject area allows for creating reports on historical events of physical items:

- Item Transit Event
- Item Temporary location Event
- Item Process Status change events
- Work Order Dept. Status change events

This data offers the option of reporting on business questions such as:

- Items that were in a temporary location any time over the past two years
- The details of items sent in-transit in the past



- The details of items that were in a temporary location in the past

15. Describe any additional analytic capabilities for evaluating collections use. Examples of such capabilities include:

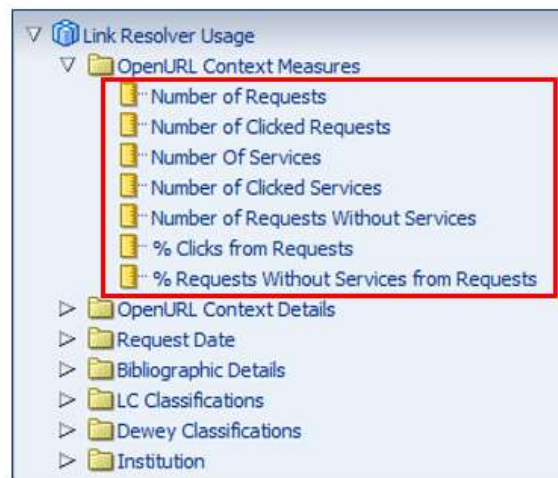
- a) web traffic reports

**Ex Libris:** Alma Analytics supports a subject area Link Resolver Usage:



The fields of this subject area can be used to create reports that provide both specific details of link resolver usage as well as a broad perspective of how the Alma link resolver is used.

The factor “OpenURL Context Measures” contains seven measurements:

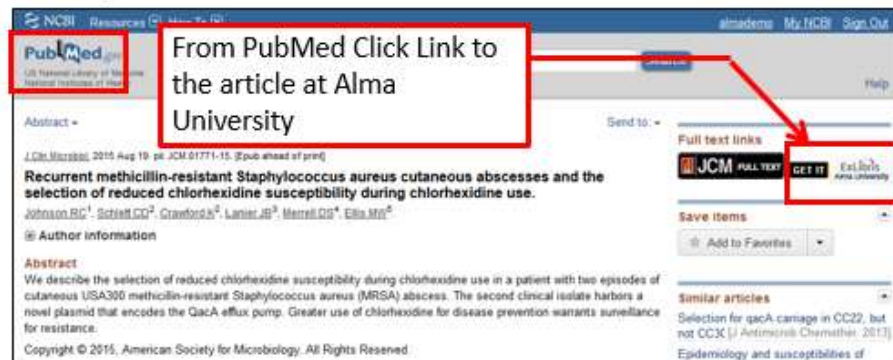


A “Number of Requests” entry will be created any time an open URL request is sent to the Alma Link resolver.

Examples of when this “Request” entry will be created are:

- If a user clicks a link to the Alma Link resolver from an external source such as PubMed or a vendor native interface
- If a user clicks “View It” from the Primo search results for an electronic resource:

### • Example 1

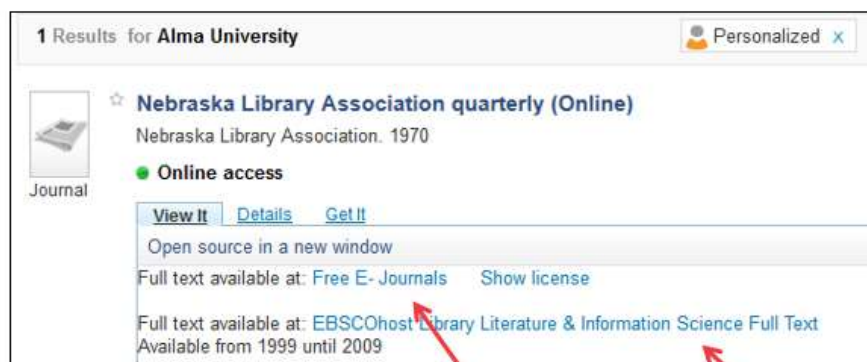


### • Example 2



The “Number of Clicked Requests” states whether or not at least one of the services was clicked. The value will be 0 or 1.

- ‘0’ means no services were clicked
- ‘1’ means that at least 1 service was clicked.

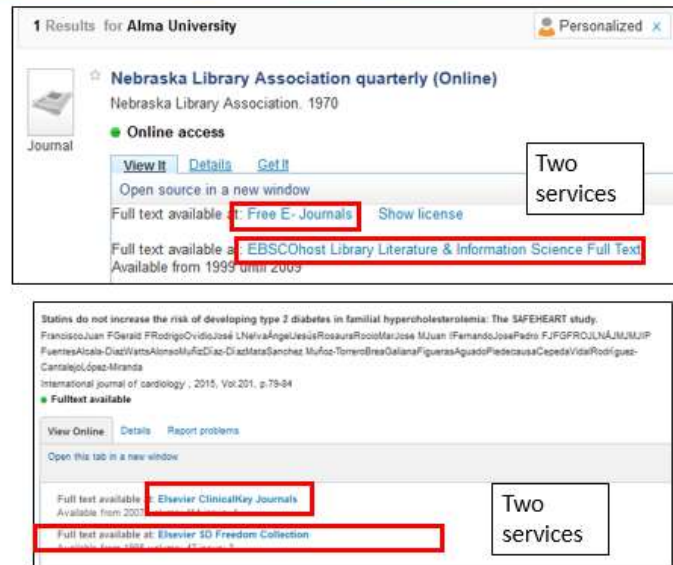


If someone clicks 1 or more of these services then the “Number of Clicked Requests” will be “1”

The “Number of services” is the number of services offered per incoming open URL request. The incoming URL request may come from

- The “View It” tab within Primo

- The electronic services page after clicking from another source



The “Number of Clicked Services” is the number of services used by (clicked by) the end user.  
A “Number of requests without services” will be created for each incoming open URL which does not result in any services.

The “Request without services” will exist if the Alma Link resolver returns no results:



The “% Clicks from Requests” is the “Number of clicked Requests” divided by the “Number of Requests”

In other words, “of all the total requests how many were actually clicked”:

Request Year	Request Month	Number of Requests	Number of Clicked Requests	% Clicks from Requests
2015	August	26,626	17,911	67.27%

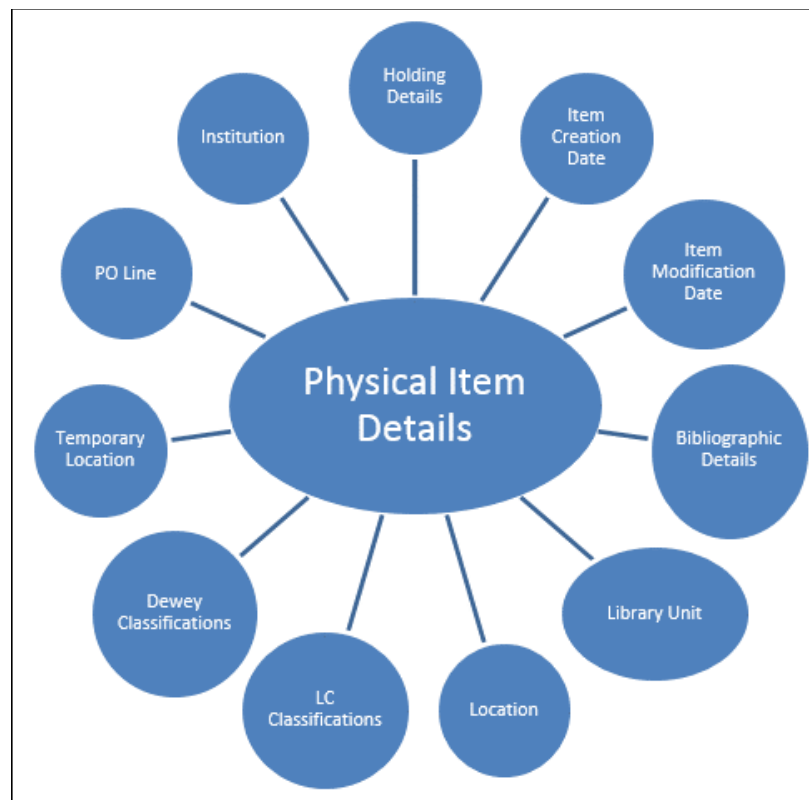
Using this subject area and these parameters, it is possible to create reports such as:

- A comparison of Number of clicked requests in the last year for collections covering a particular subject area. The library can identify which source is most used and might choose therefore to cancel the least used collection.
- A report of the top ten ‘Number of requests without services’ and the corresponding classification no. The library can identify searches made by patrons but there have not been full text services. Based on the report output the library might want to consider changing the collection development policy and purchasing more resources in these areas.
- A report of the top ten ‘Number of clicked requests’ and the corresponding classification no. The library can identify searches made by patrons with a click through for services. Based on the result, the library might want to consider continuing to purchase resources in these areas because they are being used.

b) material counts

**Ex Libris:** Using the Physical Items area (formerly Inventory), the Design Analytics user may create reports/dashboards for the Physical Items area and is able to answer the following types of business questions:

- How many physical Items exists per Library/Location
- List of all the titles based on their process type
- Number of Physical Items per material type
- How many times each item was loaned
- What is the last date that the item was loaned



## c) material costs

**Ex Libris:** Acquisition data in Alma Analytics covers data from vendors, transactions, funds, purchase types, bibliographic data and more. Alma's reporting function, Analytics, provides actionable information regarding usage information, budget usage trends and up-to-date expenses overviews. This complements our planned suite of collection development utilities to support selection and evaluation.

The utilities will include overlap analysis and usage statistics and cost/usage analysis data which will be presented to relevant staff during the evaluation process based on information provided by the vendors. The system also shows the allocations, the encumbrances (pending, actual and total), the expenditures (pending, actual and total) and the available balance for each fund. This information is updated and displayed in real-time within Alma, and available for use in analytical reports.

Alma Analytics allows for reports generated by the solution to be embedded as widgets in the Alma Dashboard or in relevant sections of the system. The solution also comes with an intuitive user interface enabling staff users to create and run customized reports.

As an example, Alma keeps this data indefinitely, so the reports are always up to date, and can also be used to compare the spend and cost of previous years to the current year. Here is an example of a report detailing cost per use of electronic and print items.

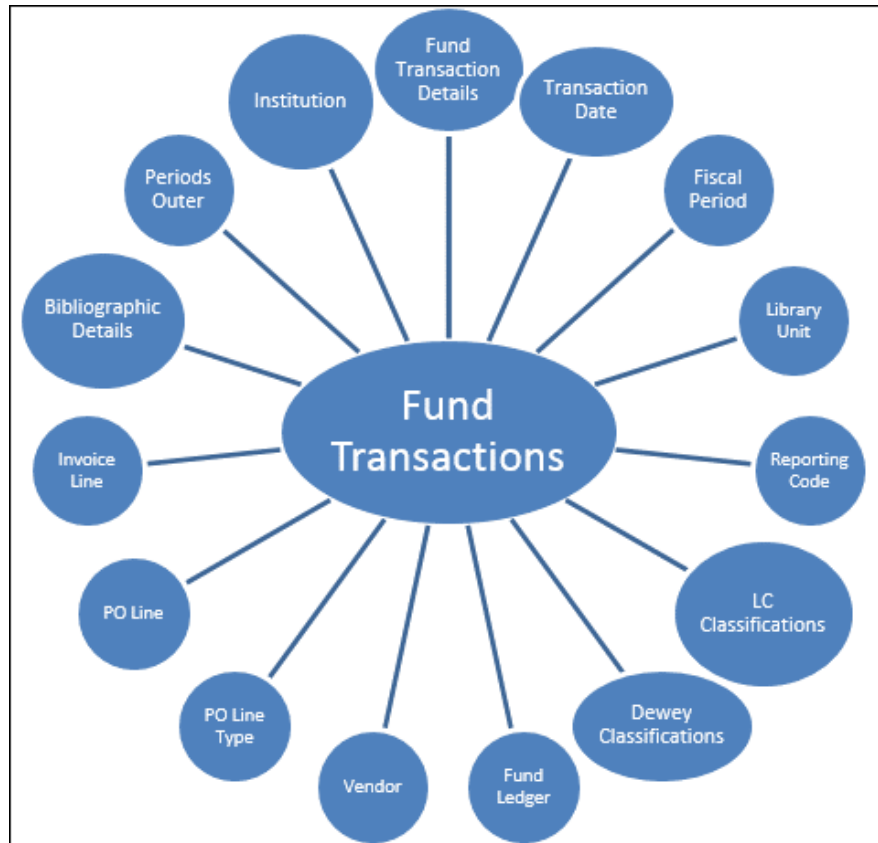
Cost Per Use - Print Items				Cost Per Use - E-Resources			
Title	Price	# Loans	Price per Loan	Title	Cost	Usage	Cost per Use
Gerontological nursing /	5.00	72	0.07	Acta mathematica Hungarica	157	1	156.4000
The Ultimate Harry Potter and Philosophy	5.50	60	0.09	Advertising age	37	1,146	0.03214
Literature and bibliography /	23.00	50	0.46	Chicago tribune	217	315	0.42066
Peterson's nursing programs 2012	5.00	36	0.14	Cran's New York business	12	2,110	0.00553
Mexico's revolutionary avant-garde : from Estridentismo to (30-30) /	5.00	32	0.16	Differential equations	36	3,000	0.01164
Nursing: the career of a lifetime	300.00	24	12.50	Genetics	297	965	0.30746
Medical-surgical nursing : an integrated approach /	5.00	20	0.25	Harvard business review	220	2,868	0.07532
Business in the cloud : what every business needs to know about cloud computing	6.98	36	0.44	International journal of nursing studies	120	1,525	0.08033
Founding brothers : the revolutionary generation /	5.75	36	0.38	Journal of comparative physiology	127	3,000	0.04221
Laboratory and diagnostic tests with nursing implications /	5.00	36	0.31	Journal of the American Chemical Society	310	3,070	0.08846
	2.14	13	0.16	Plasma physics reports	46	1,708	0.02754

## d) financial summaries

**Ex Libris:** Using the Funds Expenditure subject area, the Design Analytics user may create reports and dashboards that help to answer the following types of business questions:

- How much was expended last year per month?
- What is the comparison of encumbrances versus expenditures versus allocations?
- How much was expended per item material type or per item type?
- What is the share of E/P expenditures out of the total expenditures?
- How much was paid per vendor?
- How much was expended per reporting code?
- How much was expended per fund, ledger, or library out of the allocations?
- How much was expended per library?





Alma Analytics is based on a data warehouse created from the online transaction databases and does not run any queries directly on the operational system. This means that there is no interference with the operations of the system. Data is refreshed on a daily basis from the operational data into Alma Analytics. Acquisitions data in Alma Analytics covers data from vendors, transaction, funds, purchase types, bibliographic data and more.

Each of the elements include detailed fields for analysis.

PO Line	
PO Number	PO Creation Date
PO Line Reference	PO Modification Date
Item Description	Expected Activation Date
Status	Expected Activation Interval
Order Line Type Code	Claiming Date
Sent Date	Subscription End Date
Currency	Expected Receiving Date
List Price	Expected Receipt after Ordering Inter.
Net Price	Receiving Note
Quantity for Pricing	Receiving Status
Discount	Renewal Date
Vendor Name	Renewal Reminder Period
Vendor Code	Renewal Cycle
Vendor Account Description	Manual Renewal
Vendor Account Code	PO Creator
Vendor Contact Person Id	PO Modified By
Vendor Reference Number Type	PO Line Creator
Vendor Reference Number	PO Line Modified By
Material Supplier	Interested Users
Note To Vendor	Assigned To
Acquisition Method	Application
Rush	OKB Id
Cancellation Restriction	License Id
Cancellation Restriction Note	Source Type
Cancellation Reason	Source Id
	Associated PO Line
	Association Type



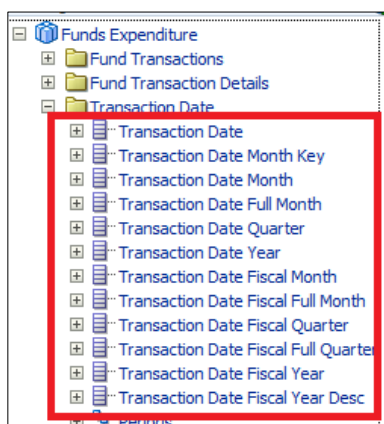
e) cost per use

**Ex Libris:** Available. See description above.

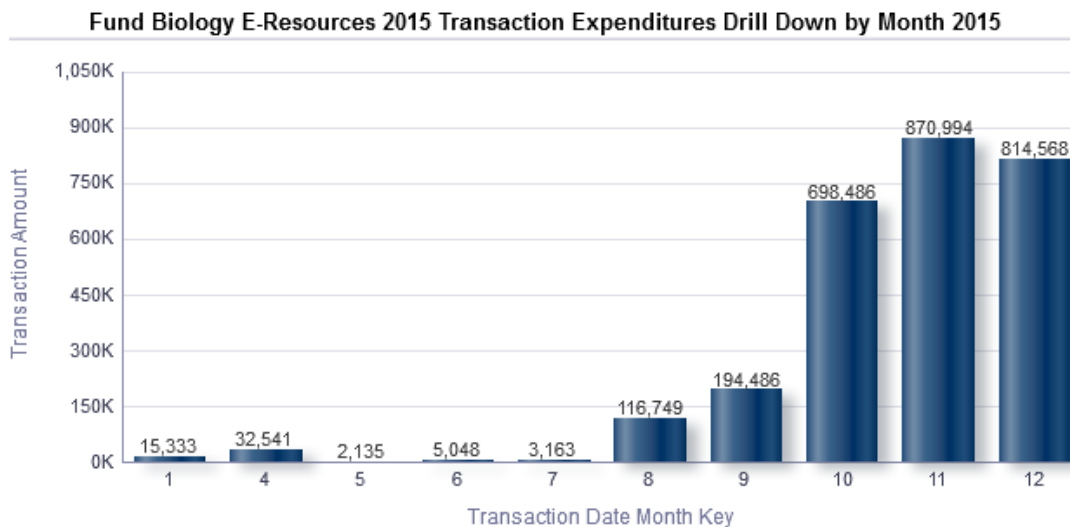
f) pre-built reports for librarian selectors to track funds

**Ex Libris:** Alma analytics includes reports for tracking funds.

Reports can drill down to expenditure by month. In the "Funds Expenditure" subject area "Transaction date" folder there is a wide variety of date periods which can be used for displaying and filtering:



An example of a graph showing the monthly expenditures of "Fund Biology E-Resources" for 2015.



Acquisitions data in Alma Analytics covers data from funds, vendors, transactions, purchase types, bibliographic data and more. Each of the elements include detailed fields for analysis. Analytics allows to create reports based on date, month, quarter and year.

The following example shows a report output of expenditure by ledger and fund:

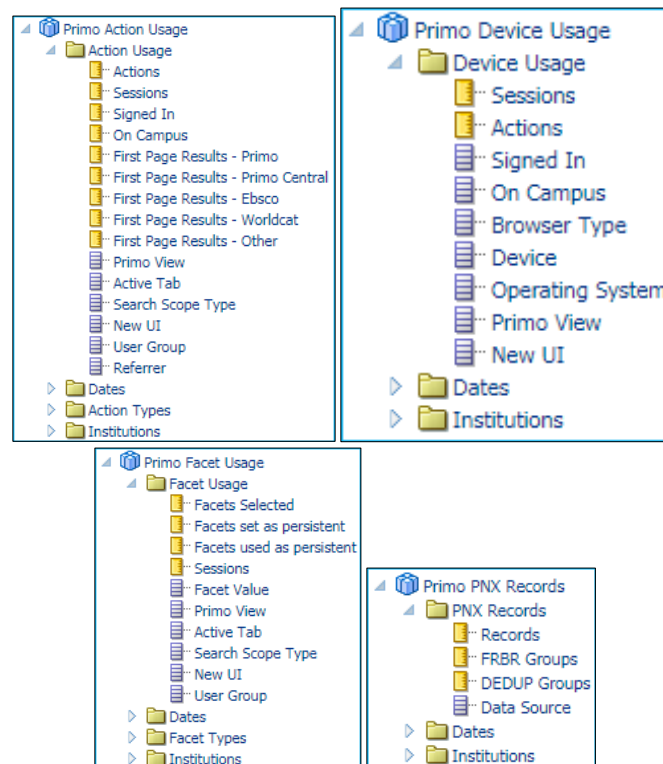
	2013		
Fund Ledger Hierarchy	Encumbrance	Expenditure	Remaining Allocation
[-] Art and Design	0	12,013	244,187
[-] Architecture	0	11,973	44,727
[-] Design			73,500
[-] Fine Arts	0	40	57,710
[-] Multimedia			68,250
[-] Arts	0	164	285,961
[-] Business and Economics	95	6,627	230,090
[-] Education	129	14	39,757
[-] Engineering	0	12,591	435,759
[-] Information Technology	354	6,221	201,300
[-] Law			105,000
[-] Medicine	0	628	326,972
[-] Pharmacy and Pharmaceutical Sciences			63,000
[-] Science	0	18,258	268,392
[-] Social Science	0	1,147	208,958
[-] Training			494

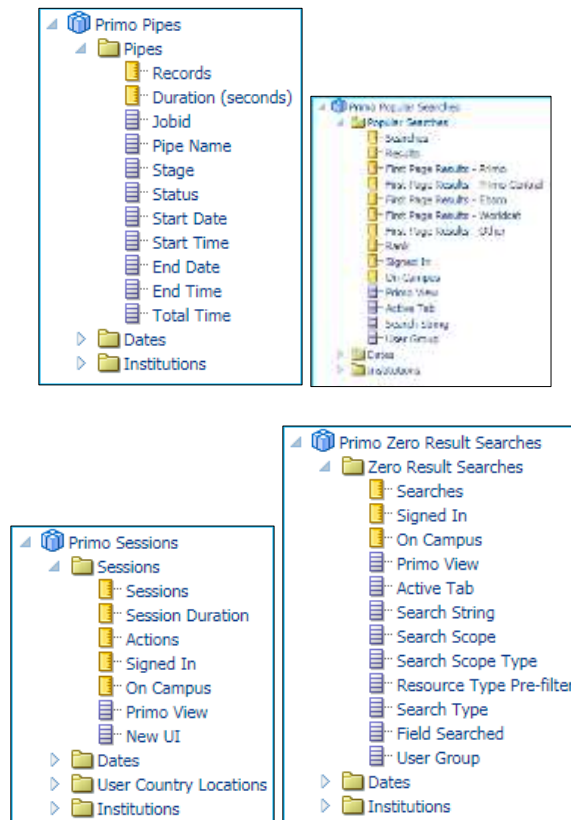
- g) system-wide reports (*number of log-ins, number of duration and time of visits, system utilization*)

**Ex Libris:** Primo Analytics allows the library to run reports on discovery activity. Primo Analytics is provided with standard out of the box reports, but the library can also adapt these and create its own reports, or use/adapt reports shared by other libraries in the Community Zone.

Primo analytics allows reporting on End User Actions in Primo, Types of devices used in Primo sessions, Primo Facet usage, Primo Popular Searches, Primo Sessions and Primo Zero Result Searches.

The following subject areas are available for Primo:

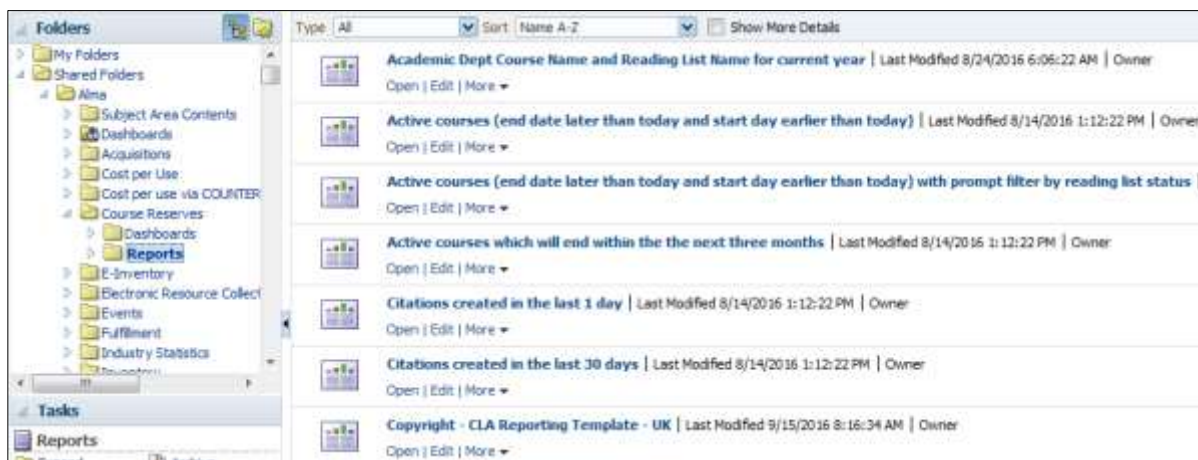


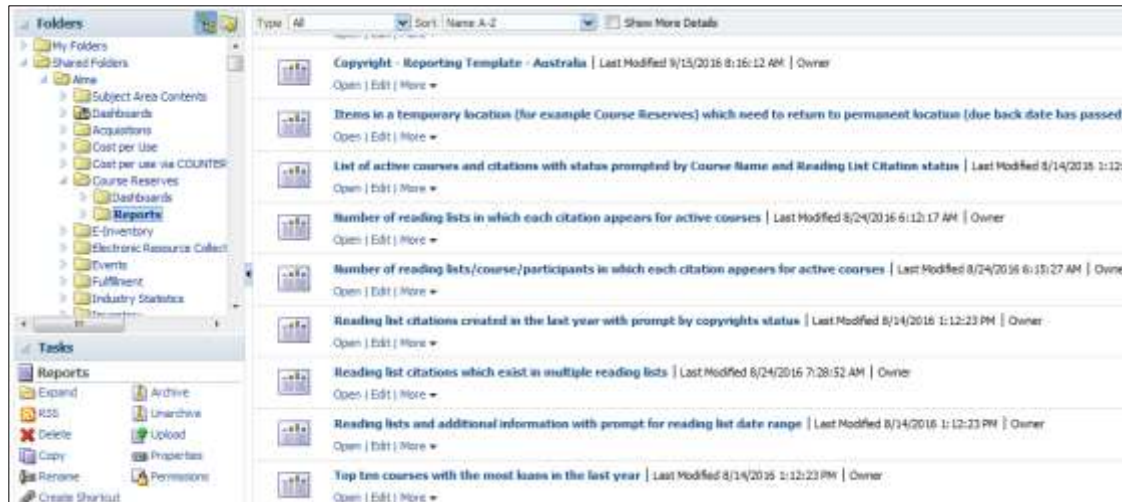


h) reports on tool usage by students/faculty to support development of training for faculty

**Ex Libris:** For end users, Primo provides a variety of statistical reports on activities performed in the system, including search statistics outlining average response time. All reports are accessible via Primo analytics.

These are sample "out of the box" reports in the "Alma" folder.





In addition, the optional course reserves management product, Leganto, which is described above in the course reserves section has reporting capabilities. There is a "Leganto Instructor Usage" subject area in Analytics that lets the library track specifically how instructors are using the system which they can use to understand which departments are making use of it, what features they're using, etc. This is in addition to reporting information about how students use Leganto.

16. Describe other collections information and reporting capabilities unique or notable of the proposed system not addressed above.

**Ex Libris:** Please refer to our detailed responses above.

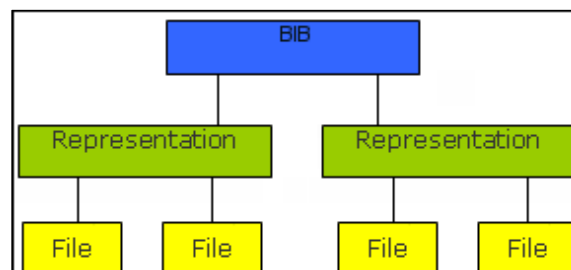
## O. Digital Content Functionality

1. Provide an overview of how your solution houses, creates, stores, makes discoverable and or delivers locally created digital content.

**Ex Libris:** Alma supports the management of digital resources.

Digital resources are organized in Alma in a three-tiered hierarchy:

- Bibliographic record – The top level consists of the bibliographic record which contains the metadata of the resource. (This is also true for physical and electronic resources.)
- Representation – Under the bibliographic record level is the representation level. This level acts as a container for the digital files. Multiple representations can be attached to the bibliographic record. One representation can be the master copy and another a derivative copy and can differ in format, resolution, or size.
- File – The third level is the file level—that is, the digital files of the resource. There can be several files in each representation.



One feature unique to Alma is the Collections capability. A collection in Alma is an entity that can aggregate all three resource types (physical, digital, and electronic) into one entity with its own bibliographic record. It can be based entirely upon topic or subject matter, such as, for example, a collection titled "Art Collection" which would hold records of physical items including biographies of artists, images of their works, sub-collections by genre (e.g. Picasso's blue period) and so forth.

Structurally, collections can have child- or sub-collections and parent collections that behave in hierarchical relationships to each other.

Collections can be used in searches (as facets and in searching by collections) and in other areas of the system such as publishing: resources of all types can be published with their collection details, including parent and child collections.

There are two paradigms of how Alma maintains digital resources:

- Remotely - Alma allows you to store your digital files remotely in a digital management system while maintaining the bibliographic records in Alma.
- Non-Remotely - You maintain all of the digital resource information in Alma, such as bibliographic records, representations, and files.

Alma includes the ability to integrate with digital repositories such as: Fedora, DSpace, Rosetta, DigiTool and CONTENTdm using standard OAI-PMH functionality.

For Alma to be able to import your repository's objects, the repository must be able to publish the objects according to the OAI-PMH protocol. So while Alma comes pre-configured for importing digital objects from some notable repositories, any repository that supports OAI-PMH and standard metadata formats can be used.

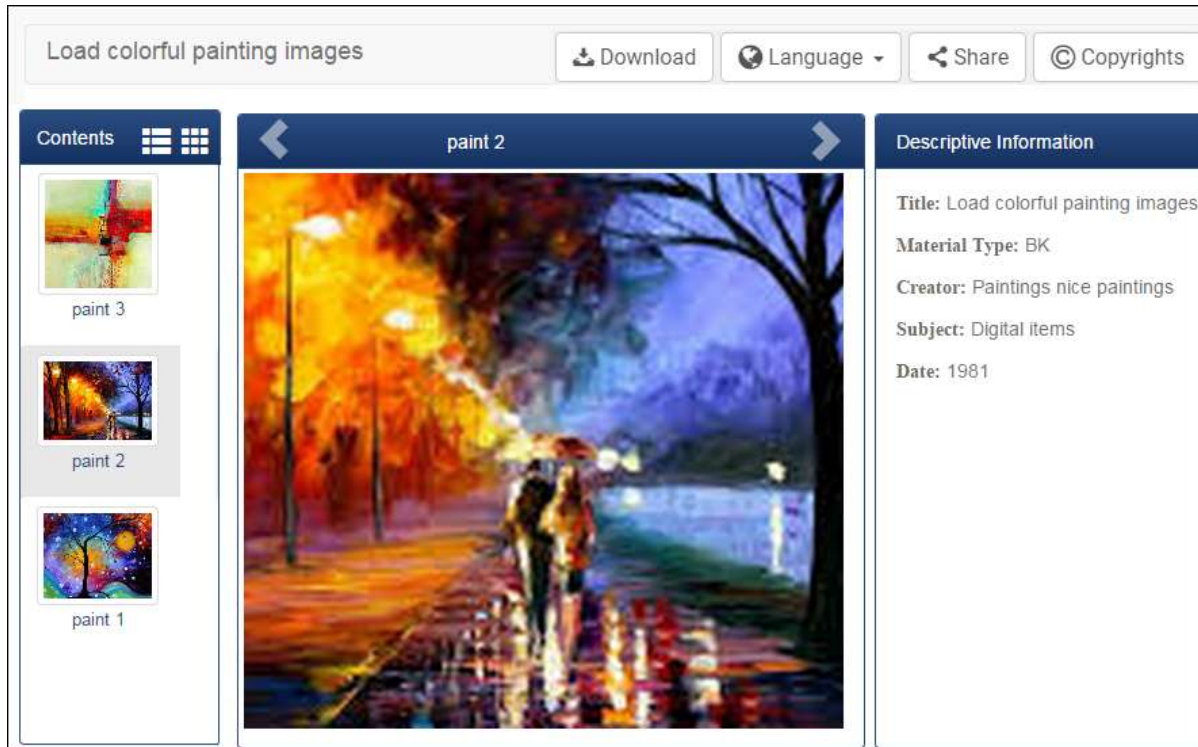
2. Describe supported formats, including multimedia formats; describe any limitations on digital content (*e.g., file size, total amount of material that can be archived*).

**Ex Libris:** The system supports a wide variety of formats, including:

- TIFF images
- JPG/JPEG images
- JP2/JPEG 2000 images
- Single page and multi-page PDFs
- Text
- Audio
- Video
- Streaming audio/video (URLs to streaming server)
- Remote content (URL links to externally stored files and embedded viewers as applicable)
- Files intended for download rather than display (e.g. data formats, spreadsheets)
- And more...

Alma includes a tool to view digital representation files called the Alma Viewer. The viewer displays JPG, GIF, and PNG images, PDF documents (with browser support), Microsoft Word documents, and audio/video formats supported by HTML5 (the list may vary between browsers).





From the top bar:

- Select Download to download the currently-displayed file.
- Select Language to change the language.
- Select Share to display a link to the representation for sharing on social media or by email. To configure the social network sharing buttons, see [Configuring Viewer Share Buttons](#).
- Select Copyrights to display copyright information about the file (if any).

The viewer itself contains three panes:

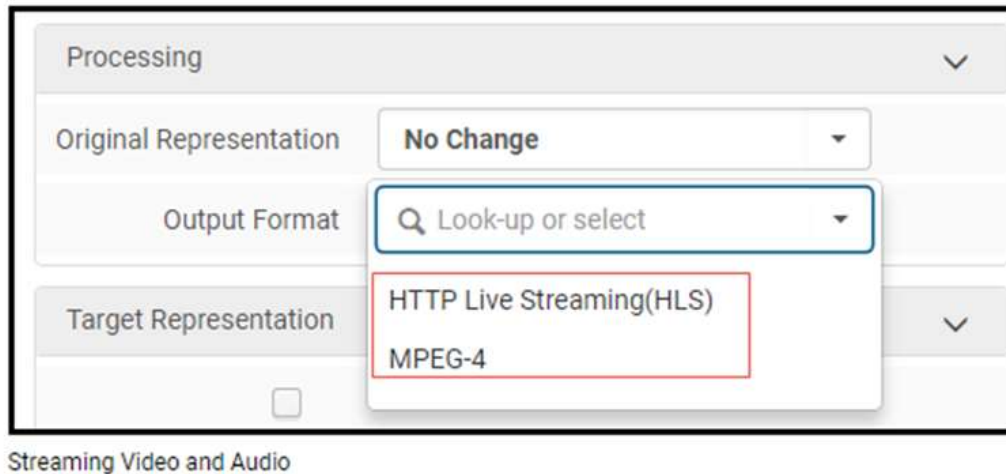
- The left pane appears only for representations with multiple files. The pane displays the files of the representation. Select an image to display it. Select the icons at the top of the pane to switch between thumbnail and list view.
- The center pane displays the image, controls for an audio file or video file, or the text of a PDF file. Select the arrows at the top of the pane to move between files. If a file cannot be displayed, a download link appears. For example:





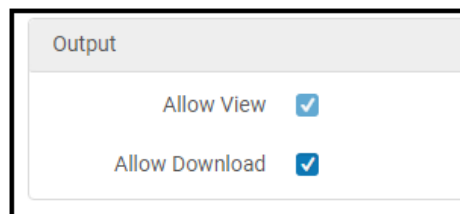
- The right pane displays bibliographic information.

The viewer supports streaming video and audio. If desired, digital representations can be converted to streaming format using the Media Conversion Job. The Job has two outputs: HTTP Live Streaming (HLS) and MPEG-4:



Please note that streaming format files are much larger than the original files.

Patron's access rights for content on the Alma Viewer can be configured on the Access Rights Rules page with check boxes to permit the viewing and downloading of content:



If the Allow Download box is unchecked, the patron will not see the download, save as, or print buttons.

3. Describe how your solution will provide library users with an interface that searches disparate resource silos (*e.g., local returnable and/or digital collections, vendor-supplied electronic resources, manuscripts and archival material, etc.*); retrieves relevant items available to them regardless of format or physical location; and displays, organizes, and limits search results in an understandable manner.

**Ex Libris:** Primo is a unified solution for the discovery and delivery of the full spectrum of library materials—print, electronic, and digital—regardless of format and location. Records that are managed within Alma, whether in MARC or Dublin Core, are indexed directly in real time into Primo, benefiting from the tight integration of the Primo and Alma on Alma Platform.

Primo supports importing records from external sources, such as digital repositories, LibGuides and others, allowing users to discover all relevant library materials. Primo supports loading records in Dublin Core or generic XML formats from external sources, using import profiles and normalization rules to map the source records metadata to be searched and displayed. All content is normalized into a single scheme

for fast, efficient searching across formats and collections, delivering results quickly in a unified results set. The library can choose to set up multiple import profiles for external data sources as needed, define the metadata normalization routines for each, test the normalization routines and run the import on-demand or on a scheduled timeframe based upon the library's preference. Records can be harvested using OAI, S/FTP methods or upload files directly from PC filer.

Primo can harvest any record standard industry metaschema (MARC Exchange, Dublin Core, etc.) as well as in raw XML, meaning that any XML-compliant source is supported.

Please also see above about collection capability for digital resources.

4. Describe your system's digital asset management tools. (*including ingestion, metadata editing, collection organization, and rights management aspects*).

**Ex Libris:** As a unified solution, Alma is designed to manage a broad range of digital collections, in addition to electronic and print resources. Digital content managed in Alma utilizes the same unified workflows as other resource types, leveraging the same consistent user interface while providing extended functionality to accommodate the special needs of digital collections.

Digital resources in Alma can be managed in two ways:

- Alma can integrate with remote digital repositories, where the metadata is managed in Alma while the files are managed in another system
- Digital resources can be managed completely in Alma, including both metadata management and file storage

5. Describe how the system integrates finding aids with digital content.

**Ex Libris:** Alma supports 2-way metadata synchronization with Digital Asset Management systems. Updates in the remote repository can be harvested by Alma, and updates in Alma can be published back to the remote repository that supports OAI-PMH harvesting.

Please note that Alma does not manage specialized archiving or archival workflows.

6. Specify any optimization available for content discovery through discovery tools (*e.g., public search engines such as Google Scholar, library-specific products such as ProQuest Summon, EBSCO Discovery Service, or Ex Libris Primo or AI-driven services that analyze unstructured text such as Yewno*).

**Ex Libris:** [Collections](#) in Alma can be used to group bibliographic records into a hierarchical structure. While any bibliographic records can be added to collection, a primary use case is to organize digital resources. As such, records which have digital inventory must be associated with a collection. Alma can be configured to publish collection information to Primo, and Primo has built-in functionality to allow users to discover and browse collections managed in Alma. Some institutions may want to expose collections in external applications, such as a university or library portal. For example, the library may wish to provide a custom home page for a collection which represents a special exhibit.

You can find a blog post on our Developer Network dedicated to how Alma can accomplish this using APIs, at the following link: <https://developers.exlibrisgroup.com/blog/exposing-collections-in-external-applications/>

7. Describe the tools for web-based presentation of multimedia content, including data files, sound, images, and video.

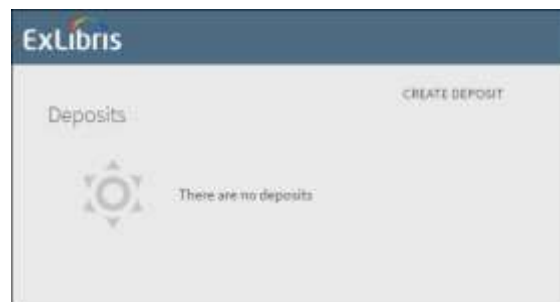
**Ex Libris:** Alma supports the International Image Interoperability Framework (IIIF) and enables viewing digital images in Alma using a built-in image server and the Universal Viewer. The Universal Viewer has the ability to display and zoom in on high-resolution images and supports formats such as tiff, jpeg, and jpeg2000.

Alma supports the use of third-party digital viewers, which enables customers to use their own viewers for viewing digital content managed in Alma. For more information, see the [Developer's Network](#).

8. Describe the ability to create exhibits or collections of items within the repository, both by the institution and end users.

**Ex Libris:** Patrons can submit digital content to Alma to be added to the repository using the Deposit interface. The patron can login with a username and password, or with a social login.

After log in in the following page displays:



Once logged in the user will click on the option 'Create Deposit'.

A deposit must be linked to a collection. The library can define deposit profiles defining the collection to which a deposit will be linked.

After choosing the collection, the deposit page displays:

After filling in title information the user can either drag and drop the files to be deposited, or alternatively can browse and select files. The patron may click on the Terms and Conditions to display the Terms and Conditions, and can then select the check box to agree to the terms.

Clicking Submit will send the deposit request to Alma. Alternatively the patron can save the request as a draft for review and additional input before finally clicking Submit.

Draft and submitted items will display in the list of deposits screen:

Deposits		Sort by ▼	CREATE DEPOSIT	≡
2 deposits				
1	Images of Doves	Draft Updated on: 04/02/2017	EDIT /  WITHDRAW	▼
2	Star Image	Submitted Updated on: 03/27/2017		▼

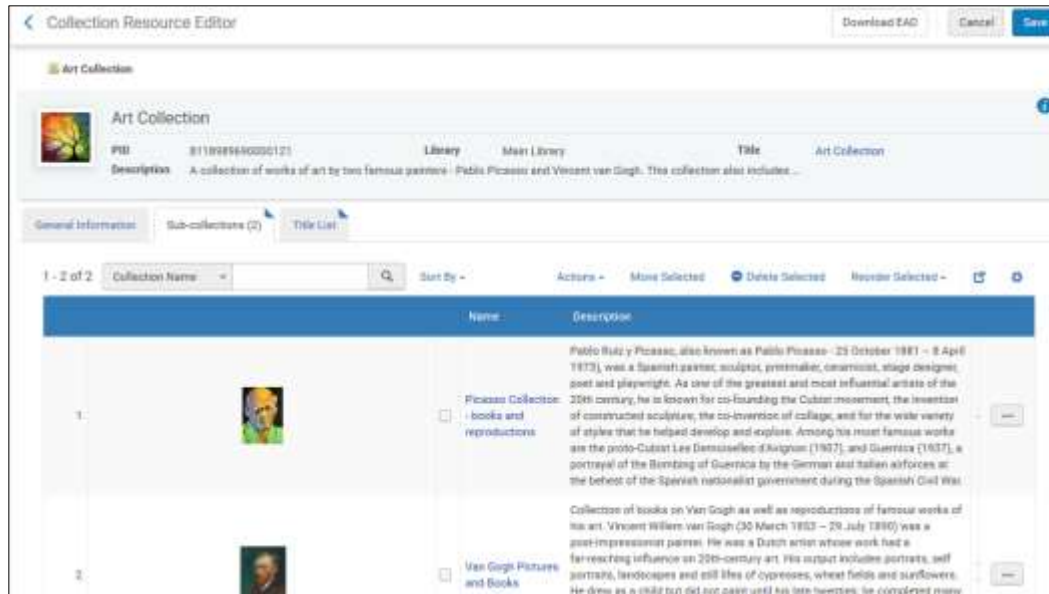
Deposits with status 'draft' can be edited or withdrawn.

Staff processing the request may approve, decline or return the request. The patron will receive an email regarding the status of the deposit submission:

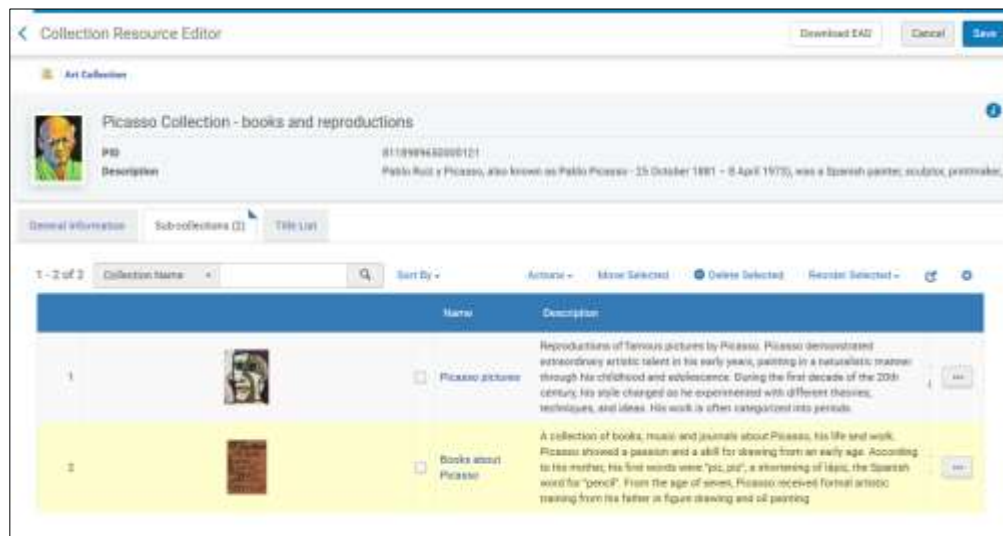
name@alma.exlibrisgroup.com  
to me ▼  
Dear Sir/Madam,  
Your deposit Is history dead? has been DECLINED for the following Reason: Inappropriate content  
...  
Deposit ID is 3506511270000121  
Alma deposit approval team  
[name@alma.exlibrisgroup.com](mailto:name@alma.exlibrisgroup.com)

One feature unique to Alma is the Collections capability. A collection in Alma is an entity that can aggregate all three resource types (physical, digital, and electronic) into one entity with its own bibliographic record. It can be based entirely upon topic or subject matter, such as, for example, a collection titled "Art Collection" which would hold records of physical items including biographies of artists, images of their works, sub-collections by genre (e.g. Picasso's blue period) and so forth.

Structurally, collections can have child- or sub-collections and parent collections that behave in hierarchical relationships to each other. An example of an Art Collection with two sub-collections:



Within this hierarchy, the Picasso collection has two sub-collections:



Collections can be used in searches (as facets and in searching by collections) and in other areas of the system such as publishing: resources of all types can be published with their collection details, including parent and child collections.

There are two paradigms of how Alma maintains digital resources:

- Remotely - Alma allows you to store your digital files remotely in a digital management system while maintaining the bibliographic records in Alma.
- Non-Remotely - You maintain all of the digital resource information in Alma, such as bibliographic records, representations, and files.

Alma includes the ability to integrate with digital repositories such as: Fedora, DSpace, Rosetta, DigiTool and CONTENTdm using standard OAI-PMH functionality.

For Alma to be able to import your repository's objects, the repository must be able to publish the objects according to the OAI-PMH protocol. So while Alma comes pre-configured for importing digital objects

from some notable repositories, any repository that supports OAI-PMH and standard metadata formats can be used.

9. Describe other options for the user to interact with collection items (*e.g., commenting, tagging*).

**Ex Libris:** Primo enables social computing features such as rating, and reviews, thus enabling users to share their expertise and experience with other community members and beyond.

10. Describe the options available for adjusting the user interface for institutions, including branding, display options, search logic settings, and adding widgets (*e.g., chat reference*).

**Ex Libris:** The ability to customize and extend Primo is one of the key features of this solution. Primo is the only discovery solution on the market that offers libraries a broad range of customization options, ranging from the end user interface to relevancy ranking to data views. Primo's relevancy ranking configuration ("boosting") allows the library to boost some items ahead of others, on a per-field basis, increasing the likelihood that a search for a specific title or author will be close to the top of the result set. Ranking is based on the metadata and full-text, and Primo provides the ability to manipulate the relevancy ranking algorithm by defining field-level boosting factors, as follows:

- Setting the importance of specific fields for boosting purposes;
- Boosting documents in publishing by use of normalization rules. A number is placed in the boost field in the Primo Normalized XML record, and the ranking algorithm relates to this number when defining the item's rank. The boost field may push the item up or down in the ranking in varying degrees, depending on the value that populates it;
- Boosting by synonyms—typically, a record that contains a synonym to the searched term should be ranked below a similar record that contains the searched term. The degree to which the record that contains the synonym should be pushed down is configurable; and,
- Boosting local collections vs. Primo Central content.

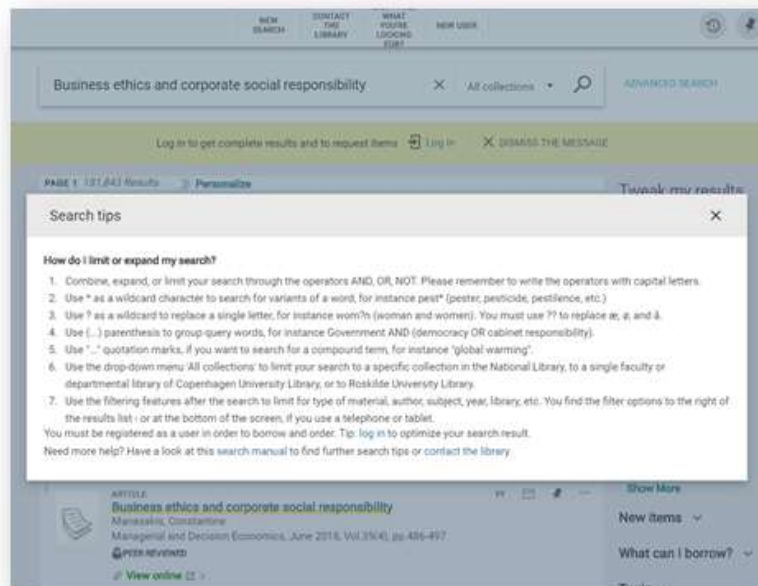
For organizations with Library developers who have Angular and CSS knowledge, you can extend the new Primo UI capabilities, develop additional functionalities, adapt the UI design, and connect Primo with external services by utilising the Primo Open Discovery Framework. At its core, an open framework is based on the idea that a full running application, with all the important functionalities, can also have unlimited options for extending its services, functionalities and design. In the initial phases of designing the Primo framework for customization, a framework we wanted to be open to all, we explored the option of a customization menu with many different skins and features. However, through investigation and ongoing feedback from the Primo user community we learned that the variety of potential customizations is too great for a defined menu options.

This brought us to the understanding that, instead of limiting customization options, we needed to provide a mechanism that allows manipulation of every element in the application, alongside consistent product upgrades that will not "break" user customizations. The Primo Open Discovery Framework aims to meet this need by allowing libraries to extend or customize Primo with the minimum possible effort, by coding only the specific element they want to add. This open framework approach provides customers with a full discovery system based on state-of-the-art technologies and a modern user interface, which customers can still enhance and make their own.

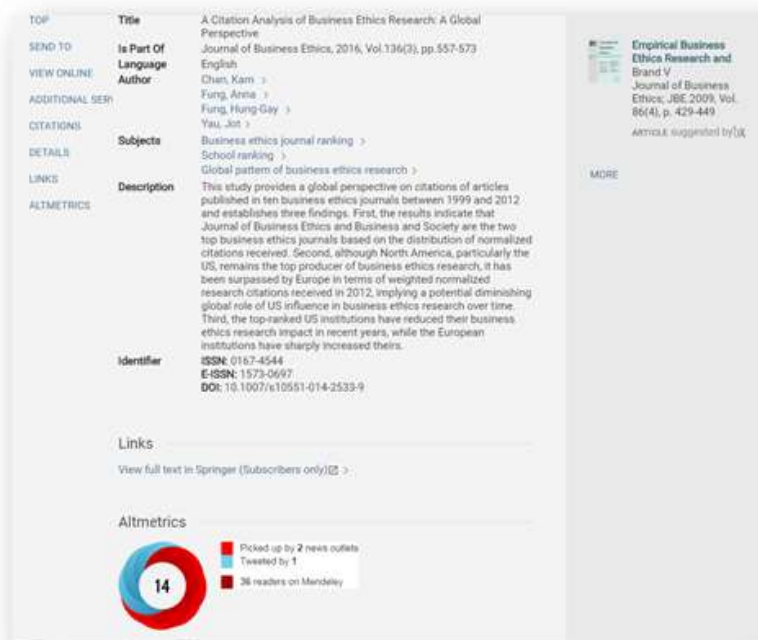
Examples of customer developments include:

**Search tips** Developed by: The Royal Danish Library Goal: Add search tips to help patrons perform effective searches Code on GitHub: <https://github.com/Det-Kongelige-Bibliotek/primo-explore-rex>





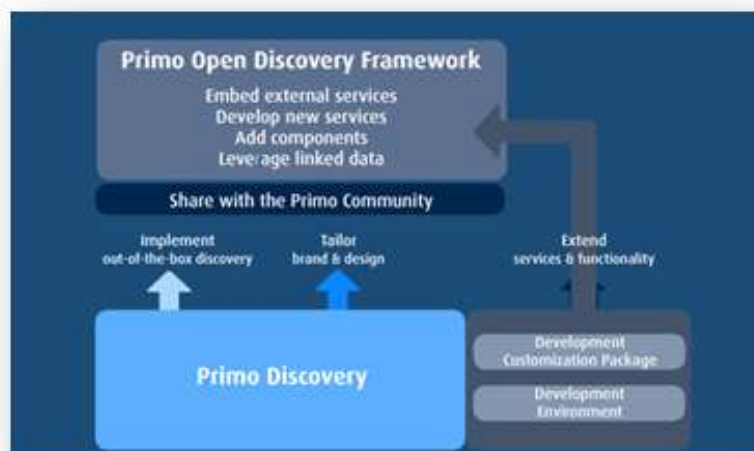
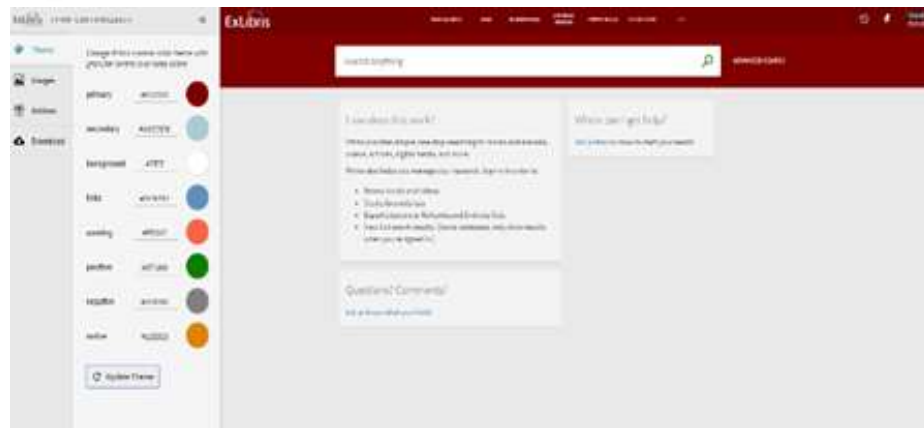
**Altmetrics** Developed by: The Royal Danish Library Goal: Enrich discovery by embedding the Altmetrics widget in Primo record pages Code on GitHub: <https://github.com/Det-Kongelige-Bibliotek/primo-explore-rex>



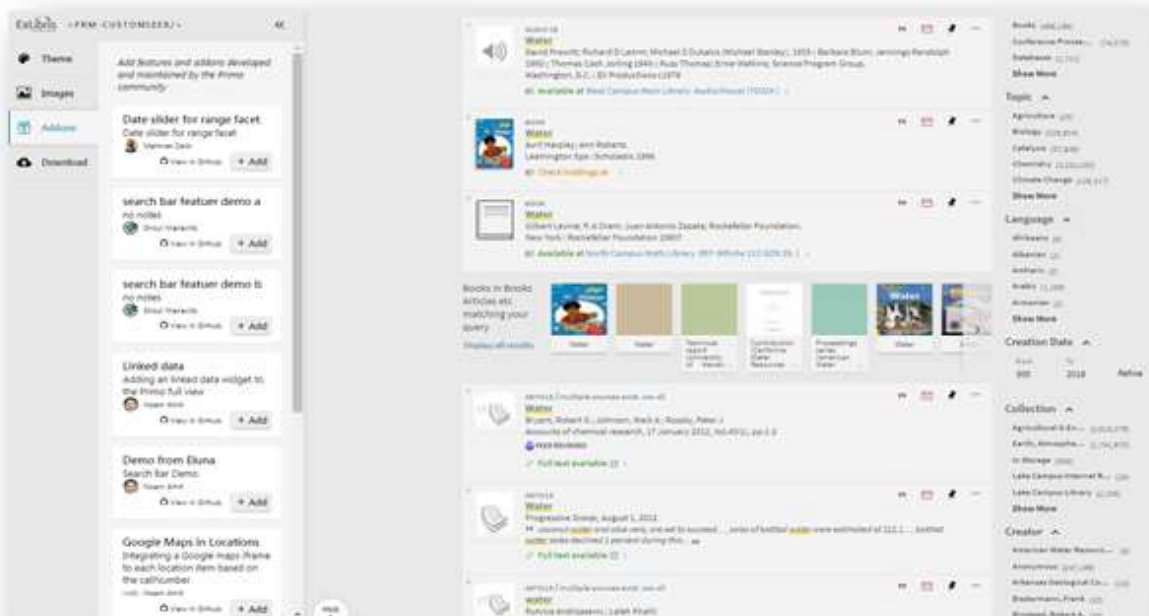
For further information, please refer to the “Driving Innovation through Collaboration” [whitepaper](#).

However, not all libraries have the time or the expertise in-house to carry out their own development, but they still want to customize the interface, and enhance the end user experience. This is where **Primo**

**Studio** comes in. **Primo Studio** is a web application that allows you to customize Primo. You can preview changes, which are immediate. You can change colors, add a logo as well as icons for results.



Mostly excitingly, you can access the new features and widgets created by other customers using the Open Discovery Framework.



Primo Studio is included as standard as part of your subscription.

Libraries may add virtual references services, LibGuides, shelflist maps, and more, to the Primo interfaces.

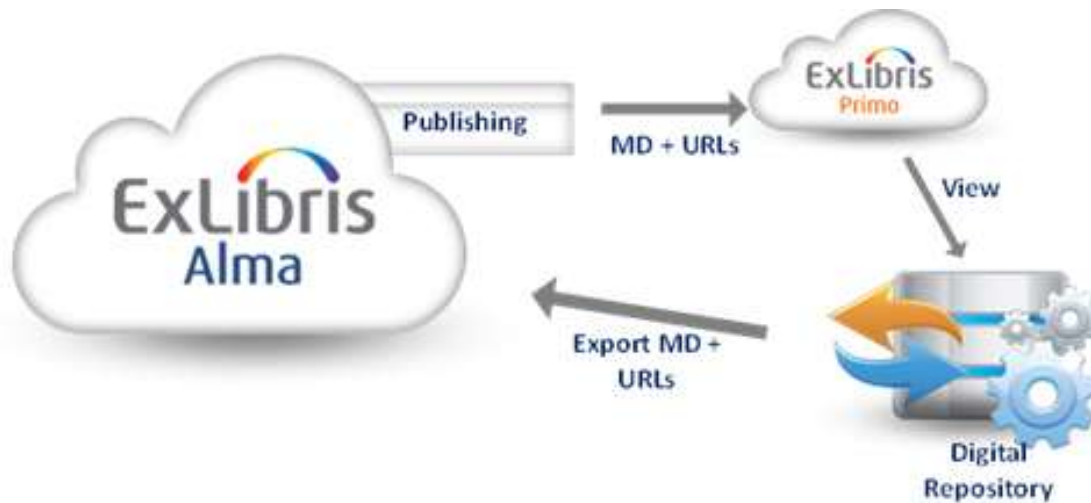
#### 11. Describe how staff manages digital content collections in this system.

**Ex Libris:** Alma can manage Physical, Electronic and Digital resources (P,E and D). A physical book, a digital copy of it and an electronic version of that book can be linked to the same bibliographic record which is managed in Alma's main metadata catalogue (MMS).

Institutions that have been curating digital collections for some time will typically have one - or more - digital repository software solutions in place. In certain cases it may be desirable to leave these solutions in place. Nevertheless, the library may wish to include the digital assets among the library's Alma inventory and allow end users to access them via Primo, while leaving the images, documents and other files exactly where they are.

This integration is already supported and includes the ability to integrate with digital repositories such as: Fedora, DSpace, Rosetta, DigiTool and CONTENTdm using standard OAI-PMH functionality.

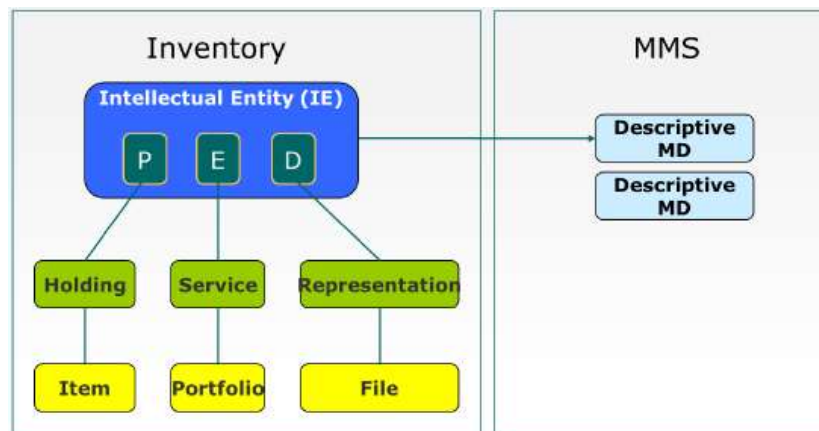
1. Alma harvests records published by the digital repository (via file or HTTP)
2. Alma creates a digital representation when a matching bib record is found; otherwise, a new bib record (having a digital representation) is created (using matching and normalization rules)
3. Alma publishes to Primo; 'View It' is available for remote digital items



After the import, you should be able to see your digital objects by searching Alma. Alma will then publish your objects to Primo (unless you have suppressed your objects). In Primo's View It tab users can access the object directly from the remote repository.

#### Digital resources managed in Alma:

The highest level of any entity managed by Alma is called the 'Intellectual Entity'. This entity can have three types of child: Physical (Holding), Electronic (Service) and Digital (Representation). The following diagram illustrates Alma's object's data model:



All three types of material are managed in the same repository.

Objects that share the same descriptive information are linked. The following is a screenshot taken from Alma which represents a record which has two versions: one physical and one digital, the green text 'Availability' points to the two available versions:

The following is a screenshot taken from Alma which represents a record which has two versions: one physical and one digital, the green bullet is an indication of the two available versions:

4 

**Pride and prejudice ; / edited by Mark Dawson.**  
**BK (Book - Physical)** By Austen, Jane, (Harmondsworth, : Penguin 1969, 1971.)  
**Subject:** England--Social life and customs--Fiction.--18th century  
England--Social conditions--Fiction.--18th century  
**Series:** Penguin English library

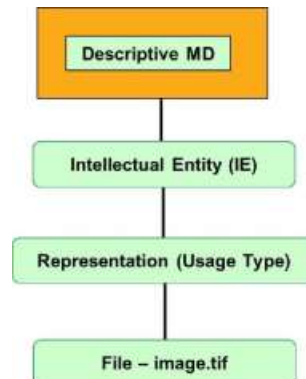
● Physical (1)

Electronic

● Digital (4)

[Other details](#)

The Digital resources are based on the same principle and the data model looks as follows:



Where the metadata description will link to an Intellectual Entity (IE) that represents a coherent set of content. Representation are set of file/s grouped in an IE by a common usage (e.g. archival tiffs versus derivative copy jpg) and the file can be any supported digital object such as JPG/MP3/pdf etc.

One feature unique to Alma is the Collections capability. A collection in Alma is an entity that can aggregate all three resource types (physical, digital, and electronic) into one entity with its own bibliographic record. It can be based entirely upon topic or subject matter, such as, for example, a collection titled "Art Collection" which would hold records of physical items including biographies of artists, images of their works, sub-collections by genre (e.g. Picasso's blue period) and so forth. Structurally, collections can have child- or sub-collections and parent collections that behave in hierarchical relationships to each other.

Collections can be used in searches (as facets and in searching by collections) and in other areas of the system such as publishing: resources of all types can be published with their collection details, including parent and child collections.

There are two paradigms of how Alma maintains digital resources:

- Remotely - Alma allows you to store your digital files remotely in a digital management system while maintaining the bibliographic records in Alma.
- Non-Remotely - You maintain all of the digital resource information in Alma, such as bibliographic records, representations, and files.

Alma includes the ability to integrate with digital repositories such as: Fedora, DSpace, Rosetta, DigiTool and CONTENTdm using standard OAI-PMH functionality.

For Alma to be able to import your repository's objects, the repository must be able to publish the objects according to the OAI-PMH protocol. So while Alma comes pre-configured for importing digital objects from some notable repositories, any repository that supports OAI-PMH and standard metadata formats can be used.

## 12. Describe how the solution accommodates multiple content standards and encoding schemas including, but not limited to, Encoded Archival Description; Metadata Object



Description Schema, Dublin Core, OAI-PMH, METS, RDF and Z39.50. Describe plans for incorporating future containers, alternative vocabularies and cataloging description methods.

**Ex Libris:** Alma's infrastructure includes robust, cross-schema metadata support, allowing libraries to manage records stored in the different standards available today, as well as providing an environment for new schemas as they are created and adopted by the community. This also provides the ability to crosswalk data between supported schemas, as well as when importing and exporting records.

Alma supports MARC 21 (with RDA extensions) bibliographic, holdings, and authority formats, as well as Dublin Core (including all terms in the dcterms namespace). We are presently evaluating the best approach to handling collection-level description of EAD files. The infrastructure supports the ability to extend to add additional vocabularies in the future. Supported metadata schemas may be searched, edited through the metadata editor, imported and exported. Records may be cross-walked from one format to another either on import or export. For example, a MARC21 bibliographic record may be cross-walked to Dublin Core when publishing to an OAI-PMH repository.

This approach to multi-schema support aligns to the principles of Dublin Core application profiles. Alma maintains a metadata registry that tracks valid fields/terms, along with administrative information about each field (such as the controlled vocabulary to validate against). Our implementation allows schemas to be edited and managed with no loss of granularity—they are not being cross-walked to an internal schema, and therefore losing the advantages of native multi-schema support. Alma supports the ability to load records in one of the supported metadata schemas (presently MARC 21 for bibliographic, holdings, and authority records, as well as Dublin Core). Data that does not align with a supported schema must be mapped into a valid form before being imported.

EAD is supported for exporting collections in EAD format.

Alma supports crosswalks from MARC21 to/from UNIMARC.

MODS integration in on the Alma Roadmap for H1 2019:

- Institutions will be able to integrate MODS systems with Alma.
- Alma MARC and DC records will be published as MODS
- MARC or DC records will be exposed as MODS in an SRU response

13. Describe how this system facilitates workflows across multiple units managing digital collections at different parts of the process, from creation through discovery (*e.g., Special Collections, Scholarly Content Systems, Metadata and Cataloging*).

**Ex Libris:** Alma supports import profiles specific to digital content:



ID	Profile type
1	2101828610
2	1735789600
3	1363262940

The inventory tab allows for defining options related to digital inventory:

A number of configuration tables are available for defining deposit workflows:

### Deposit Profiles

Active	ID	Name	Description	Updated By	Update Date
<input checked="" type="checkbox"/>	12943703800005...	Ancient Art	-	admin	2017/05/25
<input checked="" type="checkbox"/>	12943704000005...	Modern Art	-	admin	2017/05/25

The Deposit Profile page:

A profile must be linked to a collection. Access rights can be defined; post approval options can be set.

#### Deposit Return or Decline Reasons

Configuration options allow for the library to define the reasons why a deposit is returned or declined:

Filter : English							
	Enabled	Move Up	Move Down	Code	Description	Translation	Default Value
1	<input checked="" type="checkbox"/>			missing_mandatory_files	Missing mandatory files	Missing mandatory files	<input type="radio"/>
2	<input checked="" type="checkbox"/>			missing_mandatory_bib_infrc	Missing mandatory bibliogra	Missing mandatory bibliographic information	<input checked="" type="radio"/>

#### Email Templates for Approve, Decline or Return

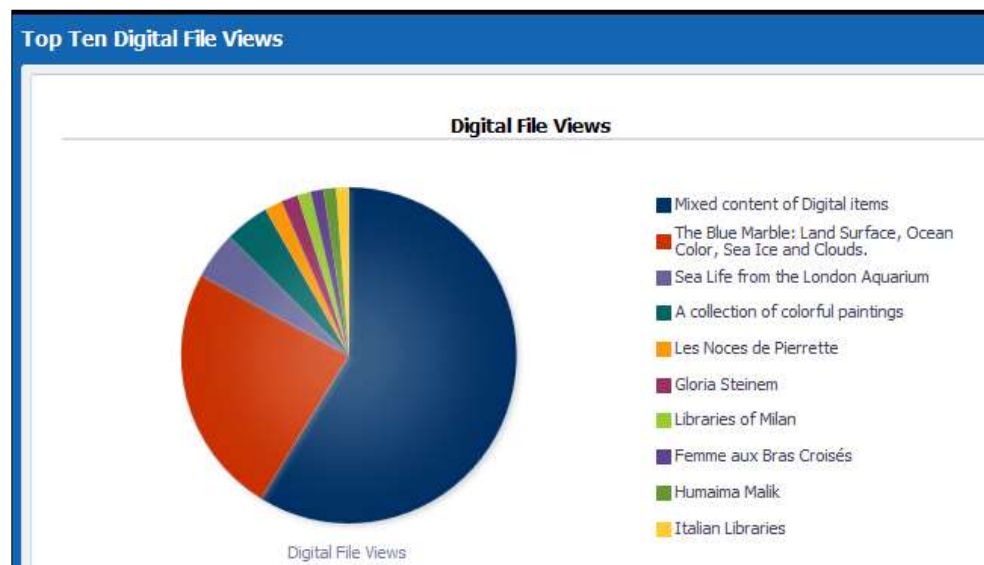
In the same manner it is possible to define email templates for the notification that will be sent to the patron.

14. Describe any reporting capabilities for evaluating digital content holdings.

**Ex Libris:** The Digital Inventory subject area allows for creating reports concerning digital inventory. The subject area supports the following types of business questions:

- How many files and remote representation do we have in the repository, grouped by library?
- What is the last usage date of a specific file or representation?
- What is the total number of file downloads for a specific file?
- What is the size (in bytes) of a specific representation?
- What is the most widely used representation access right for digital inventory?
- How many representations and remote representations do we have in the repository by LC /Dewey classifications?

An example of a report on top digital file views:



15. Describe processes, functions and methods for extracting and exporting files and metadata along with any limits on storage and numbers of files that can be extracted and supported in a batch mode.

**Ex Libris:** Alma supports the ability to export bibliographic, inventory, and authority records in their native formats, including MARC 21 XML or binary and Dublin Core XML. The export of bibliographic records makes use of Publication Profiles. These profiles are defined to determine which records to export, on what schedule to export them, and additional services to run at export (which may include enhancing or cleaning up the outgoing records). This publication approach is the same infrastructure used for synchronizing holdings with WorldCat.

Additionally, Alma supports the ability to perform ad-hoc exports on demand. This can be used for external record processing, updating for a shared repository, loading into an institutional data warehouse, or any other purpose. The most versatile and ubiquitous type of data extract is the Tools button that is found on most list screens generated in Alma. This Tools button permits the user to save whatever list is present to an Excel spread sheet for further work outside of Alma.

Alma supports workflows for exporting sets of records.

Export jobs are supported for the following:

- Physical Items
- Physical Items for Labels
- Inventory Records

- Electronic Portfolios
- Bibliographic Records
- Authority Records
- URLs

Alma enables libraries to publish records to third-party systems in a variety of formats:

- Marc 21
- Dublin Core
- BIBFRAME
- RDA/RDF

16. Provide an outline of the long-term preservation strategy for content deposited in the system that provides details on vendor and customer responsibilities.

**Ex Libris:** Alma is not designed as a preservation system, but notes about preservation can be kept within the records in Alma.

17. Describe other digital content capabilities unique or notable of the proposed system not addressed above.

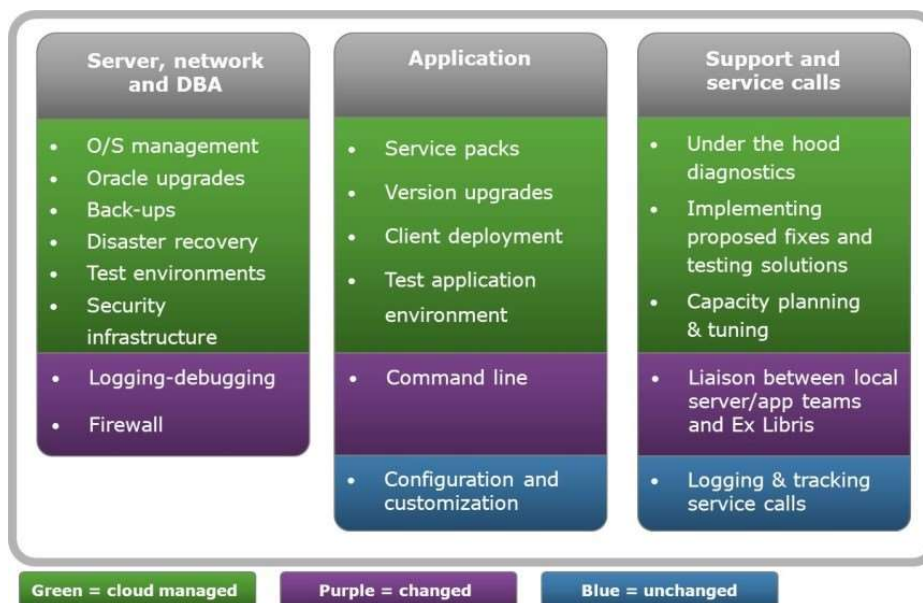
**Ex Libris:** Please refer to our detailed responses above.

## P. System Administration Functionality

1. Provide an overview of the library system administrator's capabilities for configuring and customizing the system without vendor assistance.

**Ex Libris:** Providing Alma as a cloud-based SaaS solution eliminates significant aspects of the work done typically by system administrators and DBA staff on systems installed on site. Local operations in Alma are primarily concerned with the administration of users and the configuration of local workflows. Both can be done centrally by the consortium.

The table below summarizes all areas that are traditionally managed by local staff. Marked in **green** are areas that are performed by Ex Libris, and the **purple** areas are tasks that performed by the customer's staff. Local tasks include setting firewall rules (to allow access to Alma cloud via a standard web port) or command lines that are no longer relevant with Alma since access is done via the application or through a dedicated API and web-services.



As illustrated in the diagram, configuration and customization (in **blue**) are performed at the institution level, while Alma is delivered with settings that allow for faster time to production. Customers report and track service calls through the Ex Libris CRM system, with the benefit of 24x7 monitoring and the hub team.

Alma provides a flexible environment that will allow the institution to maintain many tasks centrally, including integration development, customization, and purchasing. The library may also distribute all or part of such tasks, and work as a unified system across all members.

Thanks to Alma's flexibility, the library may choose to take several roles in Alma's ongoing operation such as:

- Help desk type support – functioning as Alma experts in resolving tier one issues that are primarily issues related to 'know-how';
- Troubleshooting for application issues – such as configuration issues;
- Integration development using Alma's API and web-services;
- Managing users and staff accounts; and
- Provide customized training to its staff members.

While Alma's architecture and support model allows for the above roles system administration is flexible and can be done by local system librarians, Ex Libris, or in cooperation with Ex Libris.

Alma is based on configurable workflows and enables great flexibility when it comes to post-implementation configuration. However, the implementation should be used as the period to make important decisions as to how the libraries and their data are mapped, to avoid the potential expense and effort of later major changes.

Implementations include two primary areas that may be challenging to change, post-implementation:

1. Decisions related to the organizational structure within Alma - key elements such as libraries and locations. These are fundamental building blocks that will appear in most of the other Alma entities, so changing these configurations later may entail substantial effort.
  2. Mapping definitions required for data migration should be carefully defined and verified once a test load is delivered. Massive changes of the data after implementation phase can require additional effort and expense.
- 
2. Describe capabilities for producing system-related reports, including the availability of prepared reports and/or templates, custom reporting writing, and scheduling reports. List

any third-party software packages (e.g., *Crystal Reports*, *Visual Basic*) recommended for custom reports. Include a list of the available prepared reports and/or templates. Examples of reports could include but are not limited to:

3.
  - a) reports about how often various staff functions are used

**Ex Libris:** As described in N 5 and 9 above, Alma Analytics is used for the generation of a variety of reports, as well as for generating statistics from various library activities. Analytics is built into Alma throughout the system and is very flexible. Alma comes with a wide range of preconfigured reports and dashboards, all of which are customizable. In addition, designated staff may create reports of interest to other roles within the library and provide dashboards for staff, enabling them to access the defined reports.

Third-party reporting software is not necessary with Alma Analytics, but reports may be exported. The Analytics API also may be used to return an Alma report (in XML format only). This [blog](#) provides additional information on how to determine your reports' paths and how to apply pagination or filters. Ex Libris also makes available an open source Tableau web data connector for use by all Ex Libris customers.

- b) reports related to user accounts

**Ex Libris:** Available. The Users dimension is part of the Fulfillment subject area in Alma Analytics and can be used to generate circulation statistics – e.g. by library and user group. For example, for anonymized circulation data only information on the user group and statistical categories will be available:

User Group	Loan Days	Loans	Average loan days
Administrative Staff	237	53	4
Alumni	84	68	1
Distance Learners	0	2	0
Faculty	1,276	35	36
Graduate Student	365	22	17
Undergraduate Student	5,315	346	15
Walk In Loans - Network Members	0	1	0

- c) number of duration and time of visits

**Ex Libris:** Each staff user gets a login. All access control activities produce logs with information to meet auditing requirements and support usage charges. In addition, the access control activities generate notifications to designated library staff to prevent users from setting up rogue accounts or otherwise modifying access entitlements.

- d) system utilization / load information

**Ex Libris:** Please refer to our response directly above.

4. Describe system support for defining and creating user accounts, including how accounts are assigned permissions to perform various actions in the system. Also, discuss the process for maintaining and deleting user accounts, including automated reminders to users and administrators (e.g., *periodic password reset reminders*).

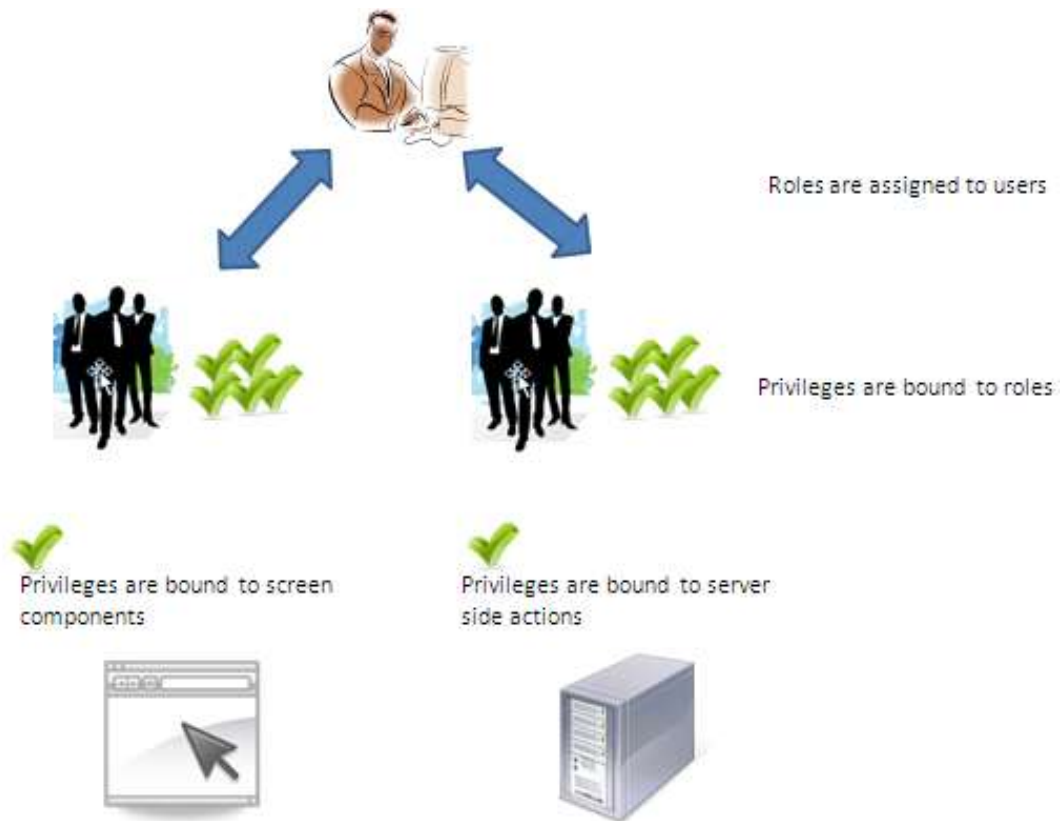
**Ex Libris:** Authorizations are managed by the authenticated user's assigned roles, which are stored and managed within Alma. The assigned roles control:

- What menus are displayed to the user



- What screens are accessible for the user
- What tables/lists/forms are accessible to the user
- What actions are allowed within screens
- What system jobs are allowed to be triggered by the user

This is illustrated below:

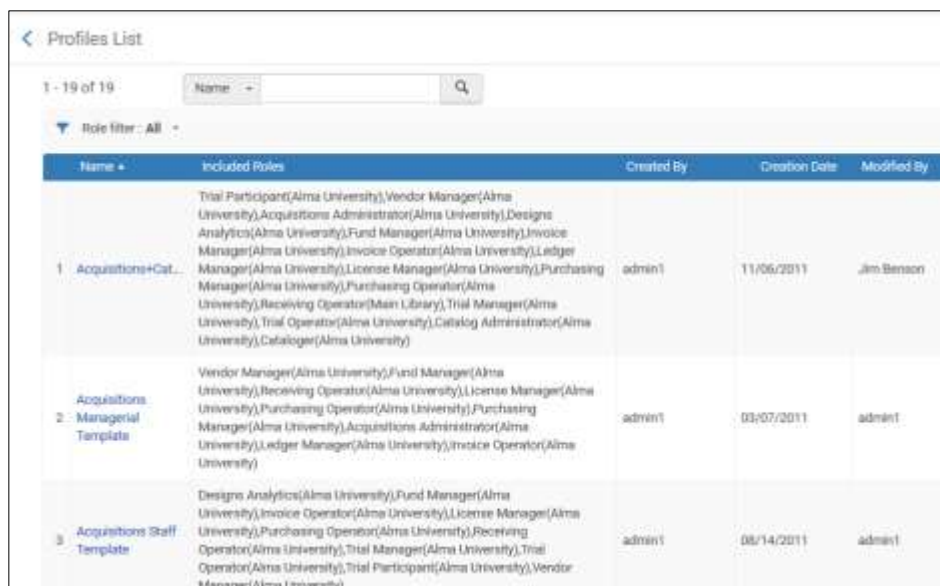


Roles are assigned to users with specific scopes, setting the specific organization unit to which the role applies. The scopes may be set up as:

- Institutional scope – Role with an institutional scope is granted relevant privileges in the entire institution.
- Library scope – Role with a library scope is granted relevant privileges only within the scope's library.

Multiple roles and scopes may be assigned to every user. Roles may be assigned manually, but this is normally done via role profiles. The profiles bind roles and scopes, enabling the profiling of common function profiles that characterize library staff work. Role profiles may then be automatically assigned to users based on user attributes such as user group, job category and job title. For example, the institution's job categories may be used to automatically assign a 'Fulfillment Manager' profile or a 'Physical Item Receiving' profile to a new user. The rules may be set up to assign more than one profile based on user attributes.

Alma handles permissions for all library functions, including circulation, via role-based management. The system includes an out-of-the-box set of roles relevant to library management (e.g. Acquisitions, Fulfillment, Cataloguing, etc.) while also allowing for the definition of role profiles that represent a pre-defined set of roles.



Name	Included Roles	Created By	Creation Date	Modified By
1 Acquisitions+Cat...	Trial Participant(Alma University), Vendor Manager(Alma University), Acquisitions Administrator(Alma University), Design Analytics(Alma University), Fund Manager(Alma University), Invoice Manager(Alma University), Invoice Operator(Alma University), Ledger Manager(Alma University), License Manager(Alma University), Purchasing Manager(Alma University), Purchasing Operator(Alma University), Receiving Operator(Alma University), Trial Manager(Alma University), Trial Operator(Alma University), Catalog Administrator(Alma University), Cataloger(Alma University)	admin1	11/06/2011	Jim Benson
2 Acquisitions Manager Template	Vendor Manager(Alma University), Fund Manager(Alma University), Receiving Operator(Alma University), License Manager(Alma University), Purchasing Operator(Alma University), Purchasing Manager(Alma University), Acquisitions Administrator(Alma University), Ledger Manager(Alma University), Invoice Operator(Alma University)	admin1	03/07/2011	admin1
3 Acquisitions Staff Template	Design Analytics(Alma University), Fund Manager(Alma University), Invoice Operator(Alma University), License Manager(Alma University), Purchasing Operator(Alma University), Receiving Operator(Alma University), Trial Manager(Alma University), Trial Operator(Alma University), Trial Participant(Alma University), Vendor Manager(Alma University)	admin1	08/14/2011	admin1

The use of profiles decreases the need to re-define the roles and privileges for each new user, and also enables bulk update in case of a change to the profile. While Alma offers quite granular permissions functionality, the interface for configuring permissions is intuitive and easy to use.

For deletion of user records Alma provides a designated area (Admin> User Management > Purge User Records):



**Add Job**

Purge User Records

Number of Days After Purge Date:

User Record Type:

User Group:

Waive Threshold:

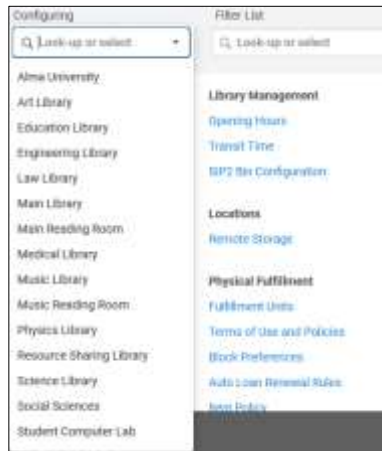
Please note passwords are not stored in Alma so no reminders are automated.

##### 5. Describe the interface(s) available for system administration.

**Ex Libris:** Moving to the cloud lowers the required threshold for entry to basic management processes. In today's systems, many mission-critical workflows require server access. The staffing requirements for basic management processes such as record loading or integrating data from other campus systems must be managed by a system administrator. Since Alma provides user-friendly and highly efficient interfaces for all tasks, the system expertise needed to manage the system is significantly reduced. Both Alma and Primo are hosted by Ex Libris and no local database expertise or maintenance is required.

Configuration and profiling are done easily via a set of configuration rules per each process (e.g., acquisition, resource management). The system-managed workflows automate many currently manual processes, reduce error, and free staff to work on those tasks that require decision making.

The following screen capture shows the configuration areas, each of which includes configuration options that can be defined at the institution or library level.



As a fully web based solution, Alma provides certain level of customizations for the user interface. The Alma web page color scheme can be customized as well as the Alma dashboard with customization of widget view. Alma also supports the ability to customize the search results table columns by changing columns location. The size of the fonts can be controlled by using the browsers zoom in/out functionality.

Throughout Alma list tables can be greatly customized. Some examples:

1 - 20 of 40

Status: All Review Status: All

Name	License code	License type	Licensor Code	Status	Review Status	Start date	End date
1 AIP	AIP	License	-	Active	Accept...	02/25/2013	-
2 AIP	AIP1	Amend...	-	Active	Accept...	02/25/2013	03/25/2015
3 Alexander Street Press	ASP	License	MIT	Active	Accept...	02/26/2013	12/31/2015
4 AMAZON License type1	AMAZON_1	License	-	Deleted	Pending	03/07/2011	-
5 AMAZON License type2	AMAZON_2	License	-	Deleted	Pending	03/07/2011	-

Hide and display columns

- ☒ Name
- ☒ License code
- ☒ License type
- ☒ Licensor Code
- ☒ Status
- ☐ Review Status
- ☒ Start date
- ☒ End date

Hide and display columns

Changing the display on result screens:

1

**Becoming Slav, Becoming Croat [electronic resource] : Identity Transformations in Medieval Dalmatia** Edit

**BK {Book - Electronic}** By Dzino, Danijel. (Leiden : BRILL 2010.)

**Subject:** Croatia - History - To 1102. Croatia – History – To 1102. Croats - Ethnic identity - History - To 1500. and others

**Series:** East Central and Eastern Europe in the Middle Ages, 450-1450

**Medium Type:** [electronic resource]

**Language:** English

**ISBN:** 90-04-18646-8 and others

**Record number:** (CKB)2670000000046127

Physical ● Electronic (1) Digital Other details

Column 1	Column 2	Column 3
<input checked="" type="checkbox"/> Creator/Publisher	<input checked="" type="checkbox"/> Medium Type	<input checked="" type="checkbox"/> Orders
<input checked="" type="checkbox"/> Subject	<input checked="" type="checkbox"/> Language	<input checked="" type="checkbox"/> Requests
<input checked="" type="checkbox"/> Series	<input checked="" type="checkbox"/> Library Unit	
<input checked="" type="checkbox"/> Relation	<input checked="" type="checkbox"/> ISBN	
<input checked="" type="checkbox"/> Edition	<input checked="" type="checkbox"/> ISSN	

Drag and drop options for moving fields from one column to another:

Column 2	Column 3
<input checked="" type="checkbox"/> Medium Type	<input checked="" type="checkbox"/> Orders
<input checked="" type="checkbox"/> Language	<input checked="" type="checkbox"/> Requests
<input checked="" type="checkbox"/> ISBN	<input checked="" type="checkbox"/> Library Unit
<input checked="" type="checkbox"/> ISSN	
<input checked="" type="checkbox"/> Record number	

Customizations are retained for each user and for each list after moving to another page, logging out, and so forth.

You configure the various general activities from the Configuration page (Configuration Menu > General).

On the Branding Management page (Configuration Menu > General > User Interface Settings > Alma Logo and Color Scheme), you can define a header logo, email logo, and/or login page logo for your institution. You can also change the default primary color in the user interface, and configure the URL of your institution's privacy policy.

In addition to the pre-defined widgets and Analytics widgets, Alma lets you link to other widgets to allow user to display them on the Alma home page.

You configure other widgets on the Customized Widgets page (Configuration Menu > General > Widgets > Customized Widgets).

Widget key	Widget name	Privileges	URL	Description	Last updated
WEATHER	Weather	MANAGE_EXPORTS	url=https://www.accowe	Weather	2017/07/05

- Describe staffing requirements and technical skills required to support the proposed system.

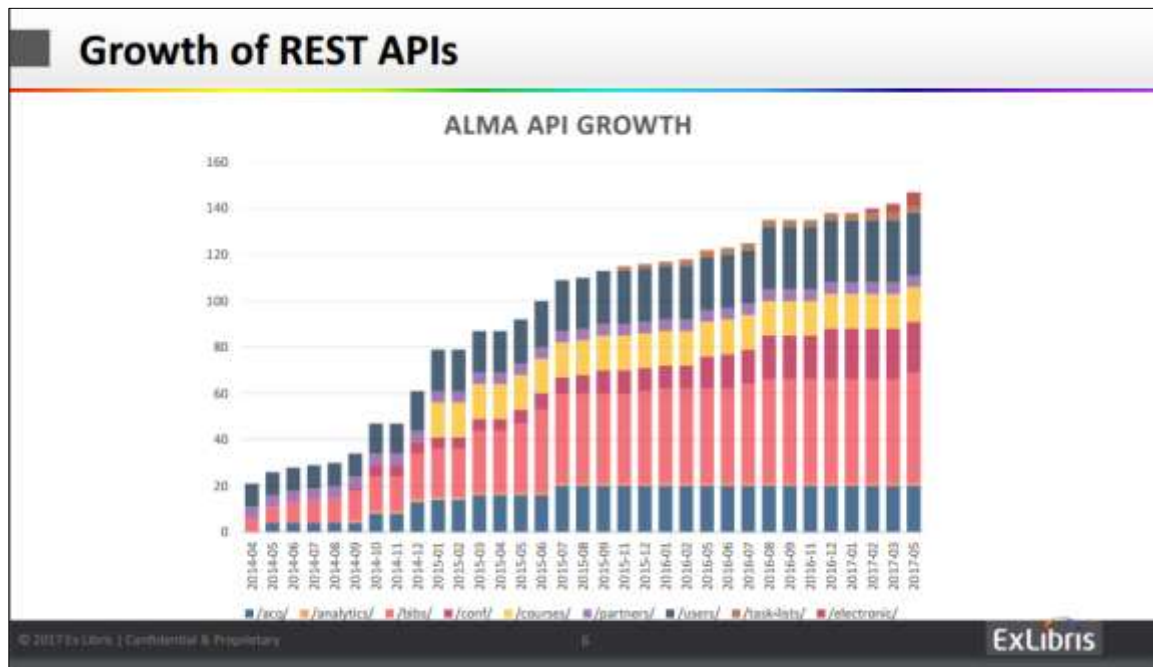
**Ex Libris:** Alma unifies the management of print, electronic and digital resources, supporting automatic, exception-based workflows for the complete lifecycle management of all of the resources managed in the library. Rather than integrating a range of existing, disparate services, Alma was designed to break down the traditional silos among formats and functions to create efficiencies that reduce the library's cost of ownership and free library staff to perform the important activities that solidify the library's role in the larger institution.



Unlike legacy function-oriented library systems, Alma is task-oriented and focuses on streamlining workflows for library staff. Common tasks are fully automated, from metadata management to ordering and invoicing and more. As a result, staff deal only with the exceptions, which are surfaced as tasks, based upon staff role or roles within the library.

7. Describe how your system's API could be used to extend system administration functionality.

**Ex Libris:** One of our major initiatives for Alma is to invest heavily in the Alma experience in order to improve services to our customer base, and a major focus of this is through the use of our APIs. As demonstrated in the screenshot below, use of our APIs has increased exponentially every year.

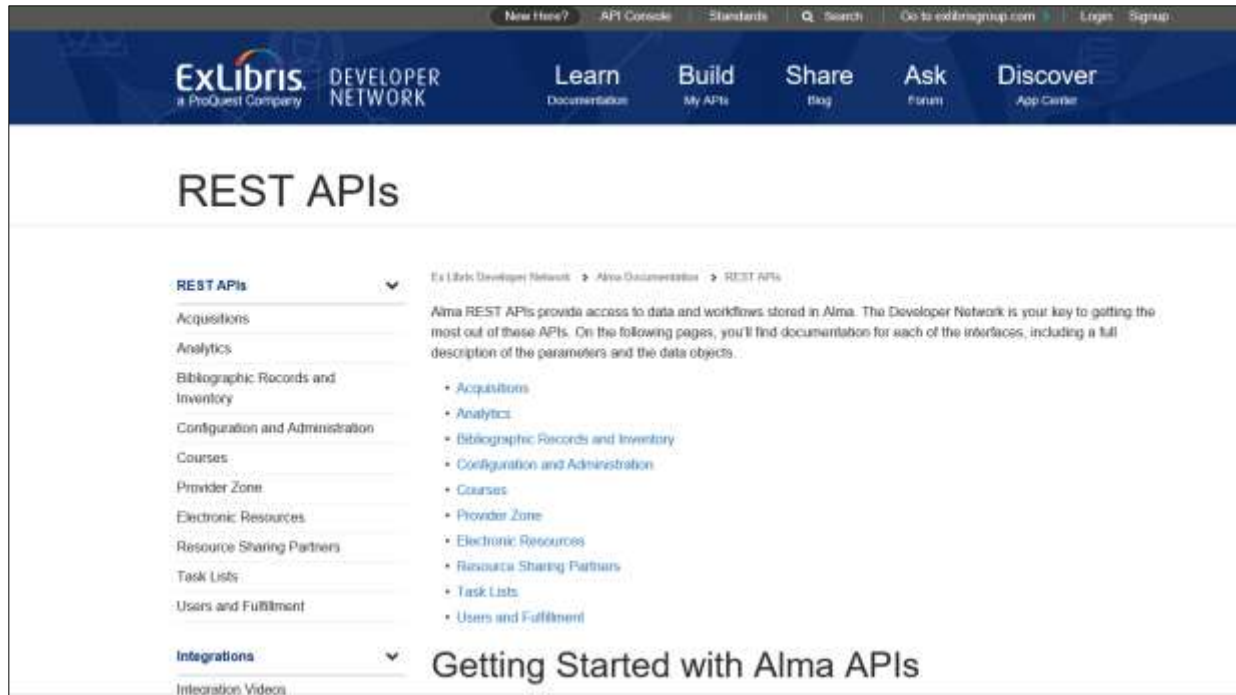


Since the launch of the Developer Network, Ex Libris has created a wide range of Alma REST APIs in important areas of library management such as Resource Sharing, Acquisitions, User Management, Fulfilment, and Resource Management. **As such Alma now routinely handles more than 3 million API transactions daily** from hundreds of institutions in all areas of the globe, giving access to additional services for Alma patrons and automating many of the library staff's daily tasks.

APIs that are available for integration with Alma and Primo can be explored on the freely accessible Developers Network - <https://developers.exlibrisgroup.com/>. Alma RESTful APIs provide access to data and workflows stored in Alma.

Customers can view all of the documentation with no need for logging into the Developer Network. However, to try out the APIs or to use them to access data, a Developer Network account is needed. Following is a screenshot from the Alma section of the Developers Network:





8. Describe other system administration capabilities unique or notable of the proposed system not addressed above.

**Ex Libris:** Please refer to our responses directly above.

## Q. Database

1. Describe general database structure including record types and structures, and relationships between records, including E-R diagram(s).

**Ex Libris:** Alma is delivered only as a cloud-based SaaS solution hosted in Ex Libris' private cloud, allowing libraries to eliminate hardware and maintenance investments. As the entire Alma interface is served via a web browser, Alma also frees system administration staff from the need to install and maintain clients on local PCs. Moving to the cloud also lowers the barrier for entry to basic management processes. In today's systems, many mission-critical workflows require server access. The staffing requirements for basic management processes such as record loading or integrating data from other campus systems must be managed by a system administrator. Since Alma provides user-friendly interfaces for all tasks, the system expertise needed to manage the system is significantly reduced.

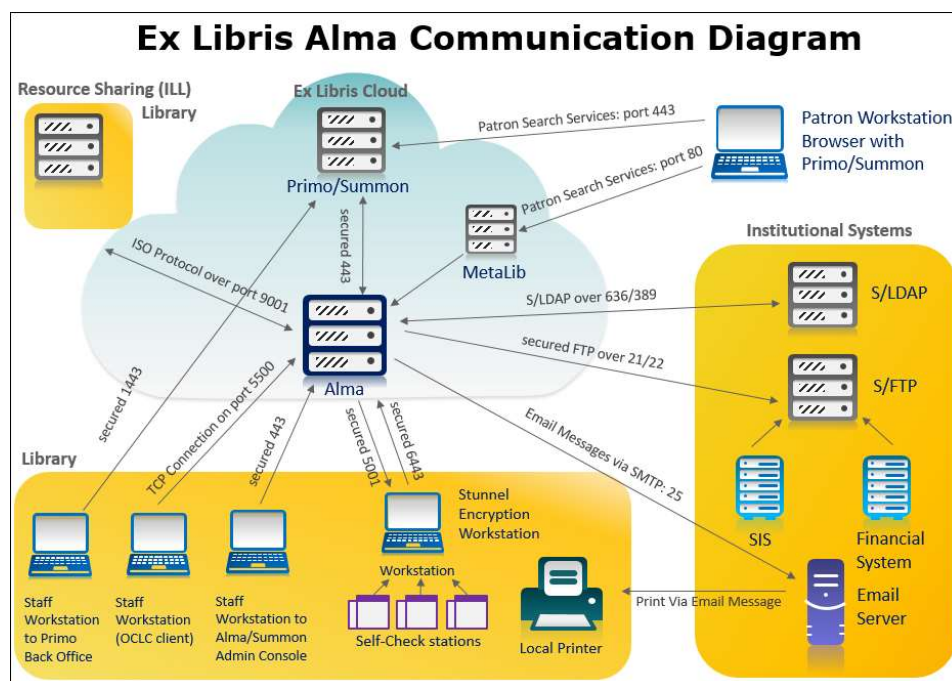
The subscription model for the Alma service allows for much more predictable budget planning. By reducing the initial investment in the system, libraries can more quickly realize the value of Alma and eliminate uncertainties associated with hardware and software updates.

Alma's cloud-based SaaS architecture allows for tremendous flexibility in shared data, and Alma has been designed to allow institutions to have robust control over what they consider local data. Within the cloud environment, the technical database architecture will be transparent to libraries—Alma instead allows functional administration over how institutions distribute and share their data.

One of the key advantages of the cloud-based architecture is that it is highly expandable. Alma is based on the multi-tenancy architecture in which one instance of Alma supports multiple institutions. Following are the top differences and benefits of multi-tenant SaaS solutions vs. Hosted (single tenant) solutions:



The following diagram describes the different possible network communications with Alma:



2. Explain the system's ability to link the cost of a resource to the item itself, including item usage.

**Ex Libris:** Alma includes readily available links to different areas of the system, making required data no more than one click away.

Alma includes cost per use data elements and reports out of the box. Below are the out of the box usage reports available in Alma. New reports can be created and out of the box reports can be customized using simple drag and drop functionality by any staff user with a Design Analytics role assigned to them.

Out of the box cost per use reports include:

- Cost per Use – Condition Most Expensive
- Cost per Use Journal Details
- Cost per Use Package Details
- Least Expensive Journals
- Least Expensive Packages
- Most Expensive Journals
- Most Expensive Packages
- Package Cost per Use – Annual Trends
- Title Cost per Use – Annual Trends

An example of a cost per use report:

		2013				
PO Line Reference	Title	Fiscal Month Key	Cost	Usage	Estimated usage	Cost per Use
POL-15207	Harvard business review.	8	58	467	467	0.12
		9	58	1,034	1,034	0.06
		10	58	834	834	0.07
		11	58	534	534	0.11
		12	58	367	367	0.16
POL-15410	Journal of the American Chemical Society	8	53	545	545	0.10
		9	53	545	545	0.10
		10	53	845	845	0.06
		11	53	1,135	1,135	0.05
POL-15412	Journal of comparative physiology.	8	32	300	300	0.11
		9	32	900	900	0.04
		10	32	600	600	0.05
		11	32	1,200	1,200	0.03
POL-15413	Genetica	8	74	73	73	1.02
		9	74	173	173	0.43
		10	74	373	373	0.20
		11	74	346	346	0.21
POL-15415	Advertising age	8	9	148	148	0.06
		9	9	198	198	0.05
		10	9	398	398	0.02
		11	9	396	396	0.02
		12	9	198	198	0.05

Alma also collects data on the usage of electronic resources via the Alma link resolver. These include OpenURL requests, services offered to the patrons and services which the patron chooses to use. Usage of electronic resources tracked via the link resolver can also be used for reporting using Alma Analytics. Reports can be created of usage statistics by journal, database, publisher, platform, and subscriber. The reports enable the library to drill down on data elements included in the report such as year range, titles, and so on.

The “Usage Data” subject area is typically used to ascertain the following information:

- Most frequently used journals, databases and electronic books
- Trends in usage of these electronic resources
- Number of successful requests per resource, publisher and platform
- Total number of searches and sessions
- Examples of report outputs (including cost per use):



3. Describe abilities for the library to connect to, query, and modify the underlying database.

**Ex Libris:** Alma does not allow access to the underlying database, as this is not possible in a multi-tenant, hosted environment. However, Alma Analytics contains an extensive index of data elements from all areas of the library's operations for example, including the age, size, and location of items, and incorporating the ability to add date elements, subject elements and usage information such as item and title counts.

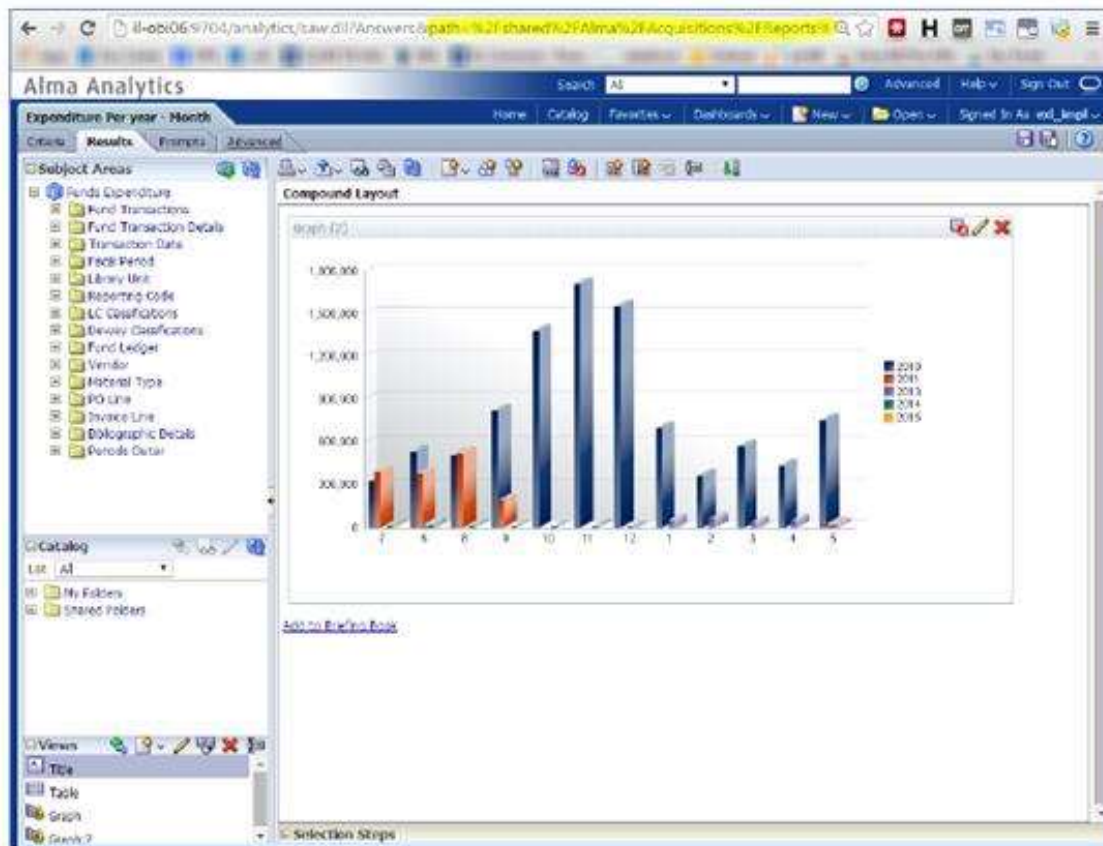
Alma Analytics is based on a data warehouse created from the online transaction databases and does not run any queries directly on the operational system. This means that there is no interference with the operations of the system. Data is refreshed on a daily basis from the operational data into Alma Analytics.

Alma's data points are organized into subject areas, and report designers utilize these subjects to build the reports they need.

Reports can reflect data historically, over a specified period of time, or real-time. For example, Alma supports real-time fund balances, including a graphical display of the fund balance showing encumbrances and expenditures.

Alma provides APIs which provide access to data and workflows stored in Alma, including API for Analytics. The Analytics API enables creating, revising, and updating Alma Analytics, and exposing analytics to other staff operators.

The reports resource (/almaws/v1/analytics/reports) requires one mandatory request parameter: path. The path is a URL-encoded full path to the report in the OBI catalog, so the simplest way to get this (and other arguments, as we will see) would be to open the report in the Analytics UI. The path will appear in the URL:



So, all you need to get started is to copy and paste the path into your REST client (with a valid API key) with GET.

Please visit <https://developers.exlibrisgroup.com/> to explore the APIs available on the Developers Network provided by Ex Libris.

4. Describe documentation available for the database.

**Ex Libris:** Ex Libris provides the Knowledge Center freely available on the web for everyone that includes:

- Knowledge Articles
- Training Materials
- Documentation
- Q&As
- Product Materials (Overviews, Uptime Reports, Roadmaps, Release Notes, Studies and White Papers)



In addition, the Knowledge Center serves as entrance for the following portals:

- The ticketing system for customer support
- Developer Network – a platform for customers to share code related to Ex Libris product as well as information and documentation about the Ex Libris suite of APIs.
- System Status page presents the latest information on the availability of all multitenant instances
- Idea Exchange – Portal for exchanging and rating of development suggestions on Ex Libris products open to everyone
- Ex Libris Corporate Website

Alma documentation is also available from directly within the application, from where it may be downloaded and reproduced. Documentation is updated according to the release schedule. Two weeks prior to the monthly release date of Alma – i.e., the second last Sunday of the previous month – we deploy the new release in all the sandbox environments, allowing customers to test and familiarize themselves with the features. At this point customers will also find relevant release notes and documentation for the new features and enhancements.

## 5. Describe index structure and indexing capabilities.








**Ex Libris:** In a cloud-based multi-tenant solution, the fields that are indexed are set by the system, and libraries can define from the indexed fields which are to be used for searching and sorting. The library can configure its own indexes based on local 99X MARC fields .

The Alma architecture is designed to allow for the immediate indexing of new data upon saving. That is, for the fields defined in the system as indexed, when new data is entered by the user for that field, it will be saved when indexing occurs. This type of system architecture and operation does not impact or limit the user experience or performance.

There are options to:

- Define whether an index should be enabled or not
- If the index should be available for Simple and/or Advanced Search

The display order of the index:

	Enabled	Index Code	Object Type	Simple Search?	Adv. Search?	Index Label Table
43		available_for	PORTFOLIO	false	true	UILABELS
44		available_for_grou	PORTFOLIO	false	true	UILABELS
45		available_only_for	PORTFOLIO	false	true	UILABELS
46		available_only_for_	PORTFOLIO	false	true	UILABELS
47		barcode	ITEM	true	true	UILABELS
48		baseStatus	ITEM	false	true	UILABELS
49		bib_level	BIB_MMS	false	true	UILABELS



All local (9XX) fields can be renamed and activated:

327	✓	local_field_913	BIB_MMS	false	true	CustomizeSea
328	✓	local_field_914	BIB_MMS	false	true	CustomizeSea
329	✓	local_field_915	BIB_MMS	false	true	CustomizeSea
330	✓	local_field_916	BIB_MMS	false	true	CustomizeSea
331	✓	local_field_917	BIB_MMS	false	true	CustomizeSea
332	✓	local_field_918	BIB_MMS	false	true	CustomizeSea
333	✓	local_field_919	BIB_MMS	false	true	CustomizeSea
334	✓	local_field_920	BIB_MMS	false	true	CustomizeSea

For more information on search indexes please visit:

[https://knowledge.exlibrisgroup.com/Alma/Product\\_Documentation/010Alma\\_Online\\_Help\\_\(English\)/040Resource\\_Management/040Metadata\\_Management/180Search\\_Indexes](https://knowledge.exlibrisgroup.com/Alma/Product_Documentation/010Alma_Online_Help_(English)/040Resource_Management/040Metadata_Management/180Search_Indexes)

6. Describe any capabilities to extract and manipulate data for external sources (e.g., OCLC, document supply vendors, electronic database vendors), desktop applications (e.g., Microsoft Access, Excel), and/or reloading into the system.

**Ex Libris:** Alma supports the ability to export bibliographic, inventory, and authority records in their native formats, including MARC 21 XML or binary and Dublin Core XML. The export of bibliographic records makes use of Publication Profiles. These profiles are defined to determine which records to export, on what schedule to export them, and additional services to run at export (which may include enhancing or cleaning up the outgoing records). This publication approach is the same infrastructure used for synchronizing holdings with WorldCat.

Additionally, Alma supports the ability to perform ad-hoc exports on demand. This can be used for external record processing, updating for a shared repository, loading into an institutional data warehouse, or any other purpose. The most versatile and ubiquitous type of data extract is the Tools button that is found on most list screens generated in Alma. This Tools button permits the user to save whatever list is present to an Excel spread sheet for further work outside of Alma.

7. Describe the system's approach to locking records, explaining which type(s) of actions place locks on fields and/or records.

**Ex Libris:** When a staff user opens a record in Alma for editing, it is checked out to that user. This prevents other users from modifying the same record. When the record is released, it may be edited by other users. The system keeps a complete audit trail of all changes made to records: the type of change, when it was made, and by whom it was made.

8. Describe other database capabilities unique or notable of the proposed system not addressed above.

**Ex Libris:** Please refer to our responses directly above.

## R. Services

1. Provide a catalog of training options with detailed descriptions (*provide options for both technical staff and end-user training*). Provide any associated cost in Section X. Pricing Schedule.

**Ex Libris:** Training is conducted via several channels throughout the implementation; starting during the Onboarding phase and continuing beyond go live. Training content is timed to align with the relevant implementation activities at each project phase. The training channels are listed here, followed by more comprehensive explanations of each.

1. Recorded functional training
2. Technical discussions
3. Alma workshop
4. Alma administrative certification
5. Continuing education

### 1. Recorded functional training

*Audience:* Library project team (including testers, functional experts, and trainers)

*Format:* Recorded sessions and hands-on activities

*Timing:* Begins during Onboarding and continues throughout Define phase

*Description:* Initial training covers all major functional areas of Alma, including initial training on configuration. The key goal is to cover fundamentals so that the library staff are prepared to test the initial data migration and begin adapting the workflows to suit local needs. Each session includes recorded presentation and demonstrations, hands-on activities, and the presentations used by our trainers so that library trainers can refer to them and adapt them to train other library staff. The delivery of these sessions is scheduled throughout the Define phase and paired with topical Q&A sessions with the Ex Libris implementation team for the relevant week's training.

These functional trainings (including all subsequent updates based ongoing system development) will continue to be available for the lifetime of your Alma subscription. Initial trainings serve as a good resource to brush up on unfamiliar topics or to train staff that are new to Alma.

In order to promote interactive testing of Alma workflows prior to the delivery of the migrated data, a sandbox environment is provisioned at project kickoff. The sandbox is used to conduct hands-on exercises that accompany the recorded training. Configuration settings within the sandbox are open to the library to support development of configuration knowledge and insight into the impact of configuration settings on system functionality.

### 2. Technical Discussions

*Audience:* Library project team, functional experts

*Format:* Live web discussions

*Timing:* Onboarding phase through project close

*Description:* : During the onboarding period of your project, several technical topics will be covered in order for your team to make the appropriate decisions in your project. Topics covered include migration preparation and third-party integrations. Migration preparation will cover the data extraction process

from Voyager and your migration decisions which are captured on the Voyager Migration Form. Third party integration topics will include student information system (SIS) configuration and authentication configuration.

Once the initial data migration is delivered in a configured Alma environment, the focus of training shifts from “vanilla” workflows to workflows customized to the needs of the library. This is handled via weekly calls. Having the topical calls scheduled on a week to week basis allows the project teams to dive into much more detailed questions than prerecorded training affords. These functional calls continue throughout the life of the project, and the topics are determined by discussions with the libraries as the project progresses.

### **3. Alma workshop**

*Audience:* Library team, functional experts

*Format:* Onsite discussion and demonstration, 3 days onsite

*Timing:* Near the beginning of the Build phase, once initial data testing is complete

*Description:* As the libraries’ attention shifts to adapting basic workflows to its own needs, the project has an onsite visit scheduled. This is an opportunity to discuss any open questions from the initial training, the needs of the libraries, and the range of configuration possibilities in Alma. The format is typically guided demonstration, where the Ex Libris product expert will demonstrate end-to-end workflows in the migrated environment. This demonstration will be launching point for answering questions, discussing the goals of workflows and how to adapt them efficiently in Alma, and what additional configuration decisions need to be made. This then sets the tone for the following functional calls—focused on the needs of the library and how the systems can support those needs.

### **4. Alma administrative certification**

*Audience:* System librarians who will configure Alma

*Format:* Recorded trainings, final test

*Timing:* Near the end of the Build phase before cutover begins

*Description:* To prepare the library to configure Alma after go-live, a separate administrative certification program is offered. Each library chooses at least two representatives who will be the local experts at administering Alma and performing the more advanced aspects of configuration. This certification process both cultivates local expertise and provides a path for further development of the more advanced aspects of Alma administration. The program consists of recorded trainings covering configuration of each major functional area of Alma. The program culminates in an online test to be taken by each participant. Once the test is passed and the library has gone live with Alma, production environment configuration access will be opened so that administrators have full control over configuration of the Alma institution. Note that sandbox environment configuration access is open throughout the project.

### **5. Continuing education**

*Audience:* Any library staff who use Alma

*Format:* Recorded sessions, release notes, “What’s New” videos, “Ask the Expert” sessions, Ex Libris Technical Seminar

*Timing:* Ongoing

*Description:* Because of the rapid development of Ex Libris products and the growing user base for our next generation solutions, Ex Libris maintains a considerable investment in ongoing education. Our goal is to make a variety of formats available to support different learning styles and different depths of background knowledge.

The following are the key channels:

- Recorded sessions: As functionality develops, extended training in the Ex Libris Knowledge Center continues to be generated and updated. This is a mix of new sessions on advanced topics and updates to existing training.
- Release notes: New functionality is always described in the notes for each release, including a link to more extended documentation when appropriate. Release notes are an excellent starting place to determine what new features might be relevant to your library.
- What's New videos: Certain new features are complex or novel enough to warrant more demonstration. In such cases, short (typically about 5 minutes) recorded overviews will highlight how to use these functions via demonstration within the system. What's New videos are embedded in the online help in the relevant section, so users can find them when referencing the standard documentation as well.
- Ask the Expert: Regular live web sessions are held in which a product expert covers a predefined topic in depth. These function like a Q&A in which some answers are demonstrated in the system.
- Ex Libris Knowledge Days (formerly Technical Seminar). Ex Libris hosts an annual technical meeting immediately prior to the annual user group meeting (hosted by ELUNA). This consists of meetings between Ex Libris and library developers from institutions using all Ex Libris products. This meeting has a significant Alma and Primo focus, including live versions of some recorded trainings and topics. This two-day event is an opportunity for you to attend presentations, hands-on workshops, practical exercises, and question-and-answer sessions. It includes many advanced training and topical sessions sharing how systems have been adapted based on local needs.
- Expert Services: Once you have been live with Alma for some time and your library's needs evolve, more hands-on assistance with optimizing workflows or enabling new system features might be required. For this reason, Ex Libris offers additional Expert Services for libraries that are already in production. During an Expert Service engagement, a product expert may analyze opportunities for workflow efficiencies, set up new services, or build custom reports. These and other services can be adapted as the library's unique requirements develop.

2. Describe other services available from your firm that may be included in the final contract and provide any associated cost in Section X. Pricing Schedule.

- a) software development
- b) project management
- c) architecture and design
- d) capacity planning
- e) installation and configuration
- f) performance and scalability
- g) conversion
- h) monitoring, administration and upgrades
- i) operations metrics
- j) other

**Ex Libris:** The pricing schedule presented in our response to this RFP is all-inclusive. The one-time implementation fee includes project management, data migration services, training, configuration planning and setup, and policy/workflow planning. The all-inclusive subscription fee consists of the following functional components:

- Acquisitions (including serials and license management)
- Fulfillment (including circulation, resource sharing, reserves, and booking)
- Metadata Management (including e-resource management)
- Administration
- Link Resolution (including an A-Z journal title search which displays in Primo)

- Knowledgebase (including authority control)
- Analytics (reporting)
- Developers Network (including APIs and other integration mechanisms)
- Primo VE for end user discovery

The subscription includes hosting, back-ups, releases, IT maintenance, and traditional application support.

3. Describe the support options available through your company including ongoing support of the application. Describe which portions of support to be performed by JMU versus your firm (*provide any associated cost in Section X. Pricing Schedule*).

#### **Ex Libris:**

##### *Tiered, Customer-Focused Support*

Ex Libris is committed to providing customers with timely and accurate customer service. We hire highly skilled professionals with extensive library experience; many of these individuals are degreed librarians. Ex Libris provides tiered support so that we can understand your problem or question, and work quickly toward a resolution or response.

Ex Libris Tier 1 Support is the customer's first point of contact and is focused on understanding the customer's perspective. The Tier 1 Support Analyst will verify that we understand the problem, replicate the problem, check documentation and articles for relevant information, and communicate information to the customer. The Analyst determines whether the problem is a local configuration issue, a defect, or an enhancement request.

Tier 2 Support focuses specifically on the product to verify defects, prepare an in-depth analysis of complicated cases, and work with Tier 3 (development) to prioritize defect fixes. They handle cases that require more in-depth analysis, including System Down Cases.

Tier 3 Support develops bug fixes, code changes, and new features, as well as assists Tier 2 support with complex problem analysis.

While each tier has a specific focus, all three tiers collaborate and share knowledge. Staff members participate in our ground-up training program to become proficient in all areas of our products, from installation and implementation to general application support. To keep our support staff informed, we conduct regularly-scheduled refresher programs that include knowledge sharing with our implementation team.

##### *Contacting Support*

Ex Libris customers have access to our Support Portal (Salesforce) <http://support.exlibrisgroup.com>, which allows customers to open, update, and track support Cases handled by Ex Libris Support. Each Case is assigned a Case number for tracking, and is included in all communications about a particular Case. The Customer Center and Support Portal are available 24/7. We also offer a toll free number, 877-445-5693 for customers to discuss new and existing cases with Ex Libris Support. Hours for calls are Monday - Friday, 8:30 am to 5:30 pm U.S. Central time.

##### *Emergency Support*

For down systems or components, support is available around the clock, 24 hours a day, 7 days a week, 365 days a year. In the case of a down system, the easiest way is to open a Case via the Support Portal (Salesforce), or send an email to [24X7hub@exlibrisgroup.com](mailto:24X7hub@exlibrisgroup.com) with the name of your institution, phone number, affected product or service, and the case number.

##### *Response Levels*



Requests for Support sent as Cases from our Salesforce system are assigned response levels to help us prioritize issues, communicate in a timely manner and provide a means for us to measure our performance. See the response prioritization schedule below:

Response Level	Definition	Initial Response
I	An inoperable production system	1 hour
II	An inoperable production module	2 hours
III	Other production performance related issues	1 business day
IV	Non-performance related incidents, including: general questions, requests for information, documentation questions, enhancement requests	2 business days

Because Alma is a SaaS solution, Ex Libris monitors the system proactively and continually, so that we are aware of any service interruptions and can act on them immediately.

#### *Cloud Systems Status*

Ex Libris offers a public website presenting up-to-date system status for Ex Libris multitenant environments <http://status.exlibrisgroup.com/>. The Ex Libris System Status site is based on the latest technology for monitoring and publishing the status of cloud-based services, used by the most advanced SaaS companies worldwide. The site enables us to provide the Ex Libris community with consistently high levels of service and communication.

Ex Libris cloud customers can view the current status of their service and sign up for email alerts when there are interruptions to the service. The site includes:

- Live and historical data on system status
- The option to setup email delivery of service interruption alerts, and scheduled maintenance alerts (recommended!)
- Filter option -- Check the boxes next to your environments, and click Remember my instances to filter the list to your multi-tenant environments

#### *Updates and Escalation*

Customers can request a status update on a case by adding a comment to the case with the update request. Customers needing to escalate a case can do so by adding a comment with the escalation request to the case and providing additional details. Alternately, the case can be escalated to the Support Team Manager or regional Support Director via email.

#### *Contact Person*

Clear communication between the institution and Ex Libris Support is central to our mutual success. To facilitate that, we ask that you define a specific set of individuals to synthesize your internal communications and provide us with an overall picture of your needs and priorities. We believe that your organization is in the best position to determine how many individuals are needed to accomplish that, factoring in your structure and the products you use.

Our support organization takes advantage of Ex Libris' global structure to provide high quality, timely support on a regional basis. Within the North American support team, our analysts have broad and deep



knowledge of the systems they support. At the same time, there are areas that require deeper specialization, and we assign more complex incidents accordingly within the team.

In addition to working with individual analysts, you will also have direct access to Ex Libris Team Leads and Managers who can make sure we understand your needs and priorities, and who can serve as escalation points when needed.

#### *Customer Resources*

The Knowledge Center allows customers to find solutions to known problems and answer new questions quickly and at any time. The Knowledge Center organizes information into three types of articles:

- How-To
- Solutions
- Questions and Answers

Every time a customer submits a new Case, the Salesforce system automatically provides a list of relevant articles based on the Case Title. KCS articles are designed to be short and to the point, with clear, comprehensive, and easy to understand answers. Article content is reviewed and updated regularly by certified Ex Libris KCS support analysts, based on new experiences and information.

From this list of articles, the customer can:

- Filter the list by product;
- Modify search terms to locate more relevant articles;
- Link the case to an article that provides a solution to the issue or to the question, enabling the customer to close the case on their own; and
- Link the case to an article related to the issue or question to help resolve the problem.

The KCS can also be searched without submitting a case to find information on known issues and known solutions, customer questions and answers, and other useful information.

The Knowledge Center also provides central access to product documentation, Ex Libris news, links to the Salesforce system and other customer resources.

All software documentation is located in the Knowledge Center. All documentation is thorough, with many screenshots and step by step examples. Alma documentation is also available from directly within the application, from where it may also be downloaded and reproduced. Alma includes context-sensitive online help screens, as well as What's New videos following each monthly Alma release, and a step-by-step "Show Me How" function for specific areas of functionality in Alma.

#### *Developers*

The Developer Network is an open environment for sharing, experimenting, and managing the lifecycle of developments that extend Ex Libris products. In addition, it offers ways for users to access, share and collaborate around APIs and developments.

Our user community boasts an active developer cohort, and we are proud to be providing this advanced platform for collaboration, sharing, and development of new applications and integrations. The network reaffirms the Ex Libris commitment to openness—a commitment that is appreciated by our customers and by the wider library community. The Developers Portal is open and accessible to all, customers and non-customers alike. You can visit the site at <https://developers.exlibrisgroup.com>.

The Developer Network consists of dedicated sections for each Ex Libris product, and includes:

- **API Docs:** Comprehensive API and integration documentation and technical guides
- **Codes and Apps:** an advanced portal for sharing, experimenting, and managing the lifecycle of developments, hosted on GitHub

- **Tech Blog:** Advice, technical guidance, and best practice information offered by developers and Ex Libris development team members
- **API Console:** a testing environment (sandbox) in which users will be able to experiment with Ex Libris APIs before implementing them in their solutions.
- **Forums:** Online forums in which developers can share ideas, questions, and answers about how to get the most value from Ex Libris APIs
- **API Dashboard:** A tool enabling developers to manage their implementations of open interfaces and view usage analytics

### *Community*

ELUNA, the Ex Libris Users of North America, is the group for users of all Ex Libris' products. ELUNA facilitates communication between product users and Ex Libris, and represents user needs to Ex Libris. ELUNA meets once a year at or near a customer site, and it maintains a number of product-specific listservs as well as a web site. Ex Libris gathers feedback from our customers primarily through our user groups.

ELUNA's stated goals are to:

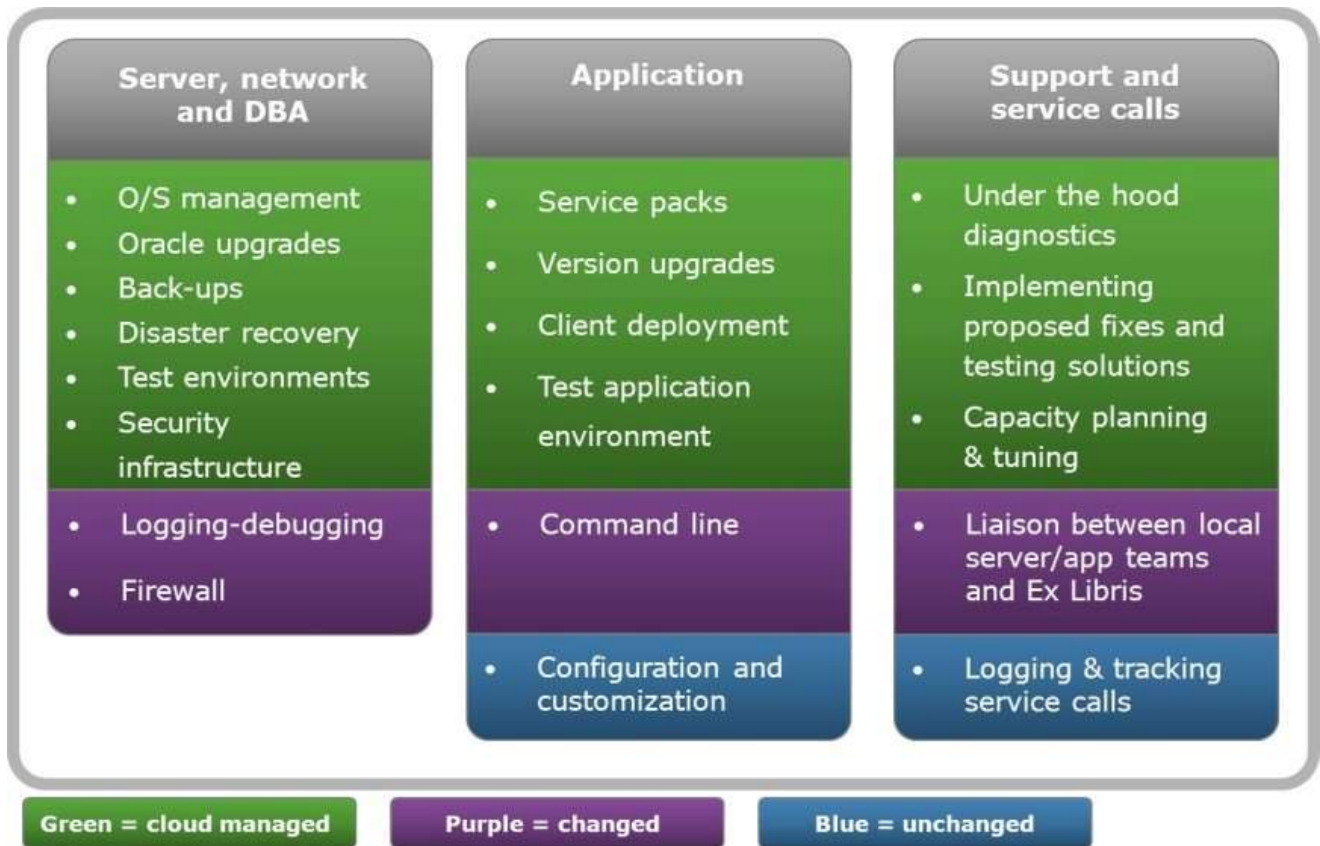
- Serve as an educational group for users of Ex Libris' products.
- Facilitate communication between product users and Ex Libris; especially, represent user needs to Ex Libris by:
  - Providing feedback on general company directions.
  - Assisting the company in identifying needed major enhancements to existing products and new products.
  - Setting priorities for the company's product enhancements.
  - Assisting the company in setting general priorities for meeting other user needs.
  - Working with the company on the development of functional and technical specifications for both small and large-scale development; reviewing, testing, and providing feedback on development work.
- Facilitate communication among users of Ex Libris' products and provide educational opportunities for users of Ex Libris' products by:
  - Organizing user conferences.
  - Maintaining e-mail discussion lists for the entire membership and appropriate subsets of the membership.
  - Maintaining a Web site for the organization.
  - Providing a means for sharing locally developed documentation and reports.
  - Providing forums for sharing best practices, e.g., workshops presented by users.
  - Facilitating formation of interest groups for users that share similar concerns.

ELUNA has defined a product enhancement process. Most Ex Libris products have their own Product Group within ELUNA, whose leaders are responsible for organizing the enhancement process, and communicating with Ex Libris product managers, their ELUNA counterparts, and users of the product. Members identify and provide feedback on suggested enhancements, and work with Ex Libris on future developments and strategic goals. Only member institutions have the opportunity to vote on enhancements.

Providing Alma as a cloud-based SaaS solution eliminates significant aspects of the work done typically by system administrators and DBA staff on systems installed on site. Local operations in Alma are primarily concerned with the administration of users and the configuration of local workflows.

The table below summarizes all areas that are traditionally managed by local staff. Marked in **green** are areas that are performed by Ex Libris, and the **purple** areas are tasks that performed by the customer's staff. Local tasks include setting firewall rules (to allow access to Alma cloud via a standard web port) or

command lines that are no longer relevant with Alma since access is done via the application or through a dedicated API and web-services.



As illustrated in the diagram, configuration and customization (in **blue**) are performed at the institution level, while Alma is delivered with settings that allow for faster time to production. Customers report and track service calls through the Ex Libris CRM system, with the benefit of 24x7 monitoring and the hub team.

Alma provides a flexible environment that will allow the institution to maintain many tasks centrally, including integration development, customization, and purchasing. The library/consortia may also distribute all or part of such tasks, and work as a unified system across all members. Thanks to Alma's flexibility, the library may choose to take several roles in Alma's ongoing operation such as:

- Help desk type support – functioning as Alma experts in resolving tier one issues that are primarily issues related to 'know-how';
- Troubleshooting for application issues – such as configuration issues;
- Integration development using Alma's API and web-services;
- Managing users and staff accounts; and
- Provide customized training to its staff.

While Alma's architecture and support model allows for the above roles system administration is flexible and can be done by local system librarians, Ex Libris, or in cooperation with Ex Libris.

#### 4. Describe procedures for JMU to report problems.

**Ex Libris:** Please see above. Customers report issues via the Salesforce Customer Portal.

- Specify the criteria used by your firm to determine high-priority, urgent support need versus low priority. Provide response time for all levels of support.

**Ex Libris:** Please see the chart provided in question 3 above.

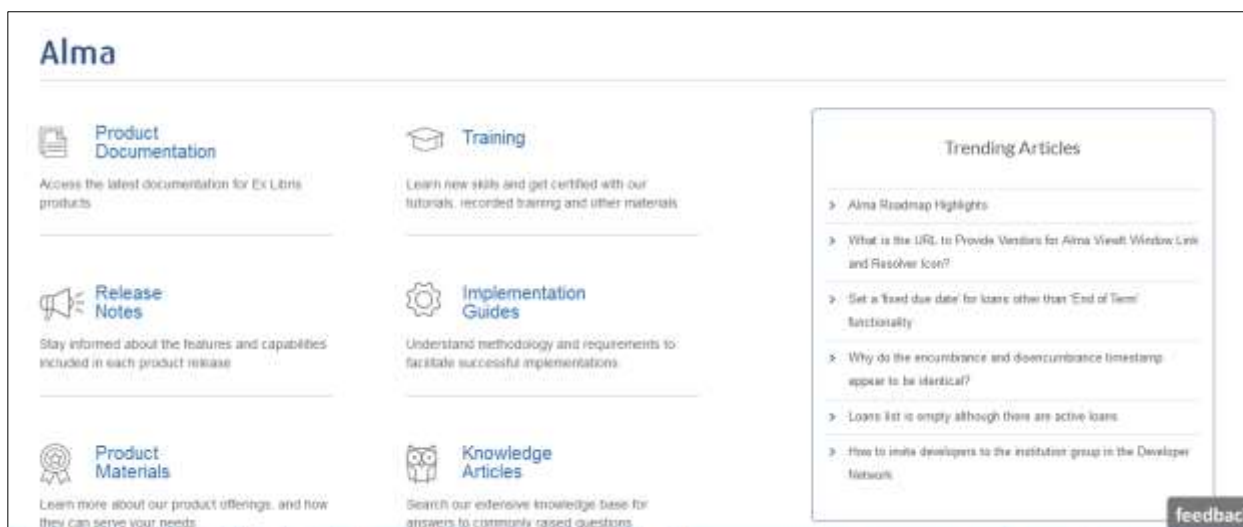
- Describe your escalation procedure.

**Ex Libris:** Ex Libris performs on-going analysis and reporting of whether we're meeting our SLA response targets. In case we fail to meet the target, the team leader will set corrective actions to ensure targets are met in future. Also, there is a support escalation policy that customers can use to escalate specific calls.

Customers can request a status update on a case by adding a comment to the case with the update request. Customers needing to escalate a case can do so by adding a comment with the escalation request to the case and providing additional details. Alternately, the case can be escalated to the Support Team Manager or regional Support Director via email.

- Describe your customer resource site (e.g., documentation, troubleshooting FAQ, product information, release notes, upgrades and patch information). Describe the extent to which customers can customize or add content to the site.

**Ex Libris:** All software documentation is located on the Ex Libris Knowledge Center (<http://knowledge.exlibrisgroup.com/>) available without any need for registration or authentication. All documentation is thorough, with many screenshots and step by step examples. Alma documentation is also available from directly within the application, from where it may also be downloaded and reproduced. Alma includes context sensitive online help screens, as well as What's New videos following each monthly Alma release, and a step-by-step "Show Me How" function for specific areas of functionality in Alma. Documentation is updated with each Alma release, as appropriate.



When requesting assistance with a question or problem, the Knowledge Center is a portal that organizes information into three types of articles:

- How-To
- Solutions
- Questions and Answers

Knowledge Center articles are designed to be short and to the point, with clear, comprehensive, and easy to understand answers. Article content is reviewed and updated regularly by certified Ex Libris Knowledge Center support analysts, based on new experiences and information. Article scope will improve constantly as Ex Libris adds and updates articles with customer collaboration.

Every time a customer submits a new Case, the Salesforce system automatically provides a list of relevant articles based on the Case Title. From this list, the customer can:

- Filter the list by product to locate more relevant articles;
- Modify search terms to locate more relevant articles;
- Link his or her case to an article that provides a solution to the issue or to the question, enabling the customer to close the case on their own; and
- Link the case to an article related to the issue or question to help resolve the problem.

Additionally, the Ex Libris Developer Network consists of dedicated sections for each Ex Libris product, and includes:

- API Docs: Comprehensive API and integration documentation and technical guides
- Codes and Apps: an advanced portal for sharing, experimenting, and managing the lifecycle of developments, hosted on GitHub
- Tech Blog: Advice, technical guidance, and best practice information offered by developers and Ex Libris development team members
- API Console: a testing environment (sandbox) in which users will be able to experiment with Ex Libris APIs before implementing them in their solutions.
- Forums: Online forums in which developers can share ideas, questions, and answers about how to get the most value from Ex Libris APIs
- API Dashboard: A tool enabling developers to manage their implementations of open interfaces and view usage analytics.

8. Specify warranty period and coverage for all proposed hardware and software.

**Ex Libris:** This type of warranty is not applicable to a multi-tenant SaaS solution such as Alma and Primo VE, where all of our customers access the same version of the solution, which is operated and periodically updated on Ex Libris cloud systems.

9. Specify customer support hours and any limitations on support outside of normal office hours. Specify emergency call response time.

**Ex Libris:** Access to the Ex Libris support staff is provided five days a week, 8:30 am to 5:30 pm, U.S. Central time. Support for critical issues, such as a down system, is provided 24x7 including weekends and holidays.

Response times are listed in the chart in response to question 3 above.

10. Provide the business address(es), telephone number(s), e-mail address(es), and fax number(s), for office(s) providing support. Specify any third party involved in support and maintenance.

**Ex Libris:** Ex Libris customers have access to our Salesforce Customer Portal, which allows customers to open, update, and track support Cases handled by Ex Libris Support. Each Case is assigned a Case number for tracking, and is included in all communications about a particular Case. Customers also have access to the Ex Libris Customer Center, which provides central access to product documentation, Ex



Libris news, the Salesforce system, and other customer resources via a single secure login provided by Ex Libris.

Support for US based customers is provided by US based teams and, for expert support and technical services, Ex Libris' affiliate in Israel (where Ex Libris R&D is based). Ex Libris US offices are as follows:

**EX LIBRIS**

**USA - CHICAGO**

1350 E Touhy Avenue, Suite 150 W  
Des Plaines, IL 60018  
Toll-free number: 1 800 762 6300  
Tel: 1 847-296-2200  
Fax: 1 847-296-5636  
[info@exlibris-usa.com](mailto:info@exlibris-usa.com)

**EX LIBRIS**

**USA - SEATTLE**

1501 1st Ave S, Suite 400  
Seattle, WA 98134  
Toll-free number: 1 800 762 6300  
Tel: 1 206 545 9056  
[info@exlibris-usa.com](mailto:info@exlibris-usa.com)

Our headquarters in Israel:

**EX LIBRIS**

**ISRAEL**

Bldg. 9  
Malcha Technological Park  
Jerusalem, 9695809  
Tel: 972 2 649 9100  
Fax: 972 2 679 8634  
[exlibris@exlibrisgroup.com](mailto:exlibris@exlibrisgroup.com)

Some support services may also be provided by our affiliates in the EU. A list of Ex Libris offices around the world is located on our corporate website at: <https://www.exlibrisgroup.com/offices/>

Ex Libris does not use any third parties for support or maintenance.

**S. Implementation and Migration Plan**

1. Describe typical implementation and migration timeline and project plan. Include examples of previously used project plans.

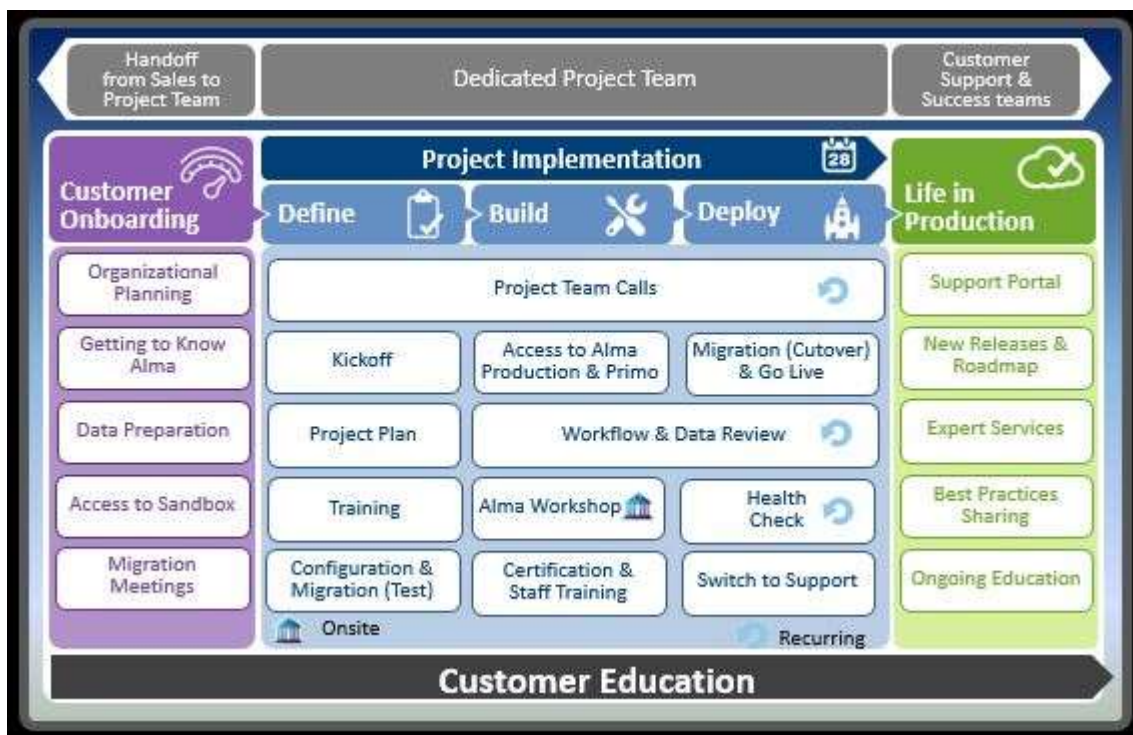
**Ex Libris:** Ex Libris has developed a unique implementation methodology that supports rapid migrations of complex data from multiple systems into a cloud platform while allowing library staff to reassess their workflows in the new environment. The structure of activities and milestones ensures risk management through iterative testing, training, and configuration guided by a dedicated project team throughout the life of the project.

The scope of an implementation includes project management, data migration services, training, configuration planning and setup, and policy/workflow planning. All projects are assigned an Ex



Libris implementation team led by the project manager, who will guide the project from kickoff to conclusion, and who will collaborate with the library to create a mutually-agreed-upon plan for the project that includes scope, roles, and timeline (within the requirements defined in the contract). Other members of the Ex Libris implementation team include implementation consultants, trainers, technical consultants, and data migration analysts to support the migration, training, configuration, and other activities throughout the project. These services are included as part of the base implementation cost.

The implementation methodology consists of sequential phases with well-defined tasks and milestones that has been developed and refined through hundreds of Alma implementations. The key goals are to rapidly provide a system for hands-on testing of migrated data, iteratively tune configuration to match the library's needs, build out training on increasingly sophisticated workflows and system functions, and support the analysis of local workflows and needs. See below for an overview of the structure of this methodology, followed by a description of each phase.



#### Customer Onboarding: Preparing for the Implementation Project

Prior to the project kickoff, the library can take advantage of the extensive “Getting Ready” materials available in the Knowledge Center (<http://knowledge.exlibrisgroup.com>), which include migration guides, recorded training sessions, and getting started documents to help both library and technical staff prepare for the implementation. At this time, the library should begin identifying project stakeholders and defining a project team that includes a project lead and subject matter experts. The library may also review existing workflows to prepare to adapt them to the new system, as well as review and clean up data to prepare it for migration. These activities will be facilitated by a customer onboarding manager.

To support initial training, Ex Libris provides the library a sandbox that includes standard data and configuration, which allows hands-on activities in parallel with the recorded trainings. The library begins the Getting to Know Alma Training, a series of recorded sessions introducing key concepts.

In parallel, Ex Libris will be preparing for the project. This includes soliciting information about the library's current environments and requirements via an implementation workbook, internal knowledge transfer of the major goals and drivers for adopting the system, and reviewing environment topology analysis performed during the sales phase. These inputs are used to refine the project scope, activities, and preliminary plan.

During the Customer Onboarding phase, the customer and Ex Libris will agree upon an overall project timeframe and will identify the key project dates including kickoff, test load period, cutover period and go live.

The project manager will take over responsibility for the project from the customer onboarding manager just prior to the kickoff. At that time the project manager will create a project plan. The key dates and deadlines will be transferred to a calendar in a Basecamp project (<https://basecamp.com/>) which will be created for the project to be used by the project teams to manage the schedule and all communication.

The project manager will remind the project teams of upcoming deadlines via Basecamp. They will also engage in regular conversations directly with the customer project manager to ensure that all tasks stay on track.

#### Implementation Project: A Phased Approach

The actual implementation is broken down into three major phases with their own activities and milestones. These phases of active implementation—Define, Build, and Deploy—are detailed below. During the active implementation, Ex Libris assigns a project team that includes a project manager and primary Alma and discovery consultants, supported by additional consultants, trainers, and analysts for relevant portions of the project. Project status meetings are held between the library and Ex Libris project teams throughout the project, with the focus evolving based on the changing project activities.

##### Phase 1: Define

Experience has shown that the most effective training, accurate configuration decisions, and thorough testing of migrated data happens when working hands-on in an environment with the library's own data. To support this, the Define phase is predominately made up of activities that help rapidly set up and migrate into an environment where further testing and training can occur.

The project begins with a kickoff meeting that outlines activities, introduces participants, and establishes roles and responsibilities. Recurring calls between the Ex Libris and library project teams commence and continue throughout the project.

Shortly after the kickoff, migration and configuration analysis sessions are scheduled. To create and configure a baseline environment into which data is migrated, Ex Libris uses streamlined workbooks that allow the library to make initial configuration decisions without extensive background knowledge or training in Alma. The migration and configuration analysis sessions are an opportunity to review these workbooks and for the Ex Libris consultants to provide guidance on making initial decisions.

To support initial training, Ex Libris provides the library a sandbox that includes standard data and configuration, which allows hands-on activities in parallel with the recorded trainings. The library begins the Alma Training, a series of recorded sessions introducing concepts and workflows.

As the Define phase progresses, the library will extract, validate, and deliver its data from source systems to be migrated according to the defined formats, tools, and procedures provided by Ex Libris

that are relevant for each source system. The Ex Libris project team configures the production environment based on configuration input collected from the library, then migrates the library's data into this production environment. The phase concludes as the Alma environment is delivered with migrated data and initial configuration.

### Phase 2: Build

Where the Define phase is focused on establishing a baseline environment, the Build phase leverages that environment. The primary goals of this phase include testing migrated data, tuning the baseline configuration to fit the library's needs, and learning how to use the system to support the library's needs and workflows.

The Build phase begins with the delivery of the configured Alma production environment containing the library's migrated data. Soon after, Ex Libris provides a Discovery environment integrated with Alma so that public services staff may further engage to review and provide feedback. During the Build phase, the focus is on functional and data review, with advanced configuration topics handled toward the end of the phase. To support this functional focus, most of the configuration during this phase will be handled by Ex Libris consultants.

As the library team begins testing their workflows, regular calls between the Ex Libris and library project teams shift focus to expanded functional topics in addition to project status information. During this period, the project teams use checklists provided by Ex Libris to identify key workflows and integrations that are required to go live. These checklists are used to prioritize additional configurations, trainings, discussions, and other activities to focus on during the Build phase.

During this phase, an onsite workshop takes place. The workshop is an opportunity to discuss workflows, the needs of the library, options for configuration, and other questions across all functional areas of Alma. The format is typically guided demonstration, where the Ex Libris product expert will demonstrate end-to-end workflows in the library's production environment. This demonstration will be a launching point for answering questions, discussing the goals of workflows and how to adapt them efficiently in Alma, and any additional configuration decisions that need to be made.

At the beginning of the implementation, the library will designate at least two individuals who will be responsible for ongoing administration of Alma, to be enrolled in the certification training course. Once the administrators are certified, Alma configuration on the production environment will be opened, and the library can start assuming management of the configuration under the guidance of the Ex Libris project team.

In the lead-up to go-live, internal library staff training takes place to ensure that all staff (including those not involved in the project before now) have the knowledge necessary to perform their work in Alma after going live. At the end of the Build phase, a technical services transaction "freeze" takes place in the libraries' source systems. Ex Libris then performs a cutover data load. The final stage of cutover consists of a total freeze of transactions in the source system, extracting final circulation transactions, and migrating them into the production environment prior to delivery.

### Phase 3: Deploy

The Deploy phase opens with the library going live with Alma and the linked discovery system. The project team continues to be available, and addresses any issues necessary to support the library through their first steps of Alma in production. Additional calls review functional or configuration questions that arise while working day to day in the system, and prepare for the formal project close.

The Deploy phase concludes with the library formally transitioning to the Ex Libris Customer Support Organization for ongoing support. This also signals the completion of the implementation project.

*Life in Production: After the Implementation Project*

Ex Libris is committed to ensuring that libraries' needs are met through various channels once the implementation concludes. Our dedicated Ex Libris Support team is available to assist customers with any product-related issues. This includes robust self-service online help tools as well as direct interactive assistance via the Support Portal for logging and receiving updates on Support cases. Access to Alma training materials continues throughout the library's subscription to Alma. These sessions are regularly updated to reflect new developments and changes in system functionality, and are excellent resources for a refresher in a specific subject or in training new staff. Each Alma release includes videos of the release highlights and customers are invited to the Alma "Ask the Expert" sessions that allow customers to ask questions about using the Alma system and incorporating best practices. Customers are also welcome to register new Alma administrators for the monthly Certification program courses.

The standard project duration is 4-6 months. A detailed timeline including migration, training and testing will be worked out with your project team during the onboarding period.

2. Describe your data migration plan and methodology for migrating from Innovative Interfaces Sierra, including:
  - a) how the integrity and quality of the data will be maintained during the migration process
  - b) library and vendor roles and responsibilities in the data migration process
  - c) the required involvement of library staff in the migration process.

**Ex Libris:** Ex Libris has decades of experience migrating thousands of libraries from legacy ILS platforms, link resolvers, and ERMs. For Alma migrations, Ex Libris has completed several hundred library migrations including systems from Sirsi Dynix (both Symphony and Horizon), Ex Libris' Voyager and Aleph, and III Sierra, Millennium and Polaris among many other ILS systems worldwide. We are attaching our standard implementation services description, as it is defined in Annex E of the contract, to this response.

Our approach to migration and mapping configuration into Alma is to provide migration and configuration workbooks that allow you to define how to map data from one system to another, alongside supporting documentation that allows you to make these mapping and configuration decisions. We have distinct documents for each source ILS that outline the process for providing us your data to be migrated, how data will map from the source system to Alma, and pointers to where the mapping is not exact and will, for example, migrate data from the source system into a free text note. These workbooks and documentation will be provided by your Ex Libris project manager, and are also available for viewing on the Knowledge Center:

[https://knowledge.exlibrisgroup.com/Alma/Implementation\\_and\\_Migration/Migration\\_Guides](https://knowledge.exlibrisgroup.com/Alma/Implementation_and_Migration/Migration_Guides)

Because Alma includes link resolver and e-resource management functionality, Alma implementations may include a migration of data from a link resolver, and in some cases an ERM as well. Past projects have included migration from SFX, 360 Link and Resource Manager, Millennium ERM, and other vendor offerings and locally developed solutions. For migrations from SFX and 360 Link, activated e-resources migrate to Alma with automatic tools and without any need for specific mapping decisions. For other

vendors' link resolvers, a workbook allows you to identify which e-resources active in your current system are available in Alma's electronic Knowledge base (which is included in Alma's global community zone); this workbook is processed and loaded as part of your migration. For ERM data (administrative data and licenses), if included in the contract per institution, Ex Libris specifies the format in which this data may be provided, which will be processed and loaded with other migrated data.

The process for migrating any data (including acquisitions data) from a non-Ex Libris ILS into Alma consists of providing Ex Libris with data extracts from the source system in our specified format, which Ex Libris will then transform, load, and index into Alma. As noted above, this includes guidance on how data maps from the source ILS into Alma and workbooks that allow you to define specific mapping when relevant.

The process of migrating to Alma includes three tiers of data validation to account for the various potential issues with data integrity and usefulness. The first tier is validation of library-submitted data prior to loading. This is a scripted set of validations to ensure that all required fields are included in the submitted data and that it is complete enough to load successfully. This will capture core issues with the data structure or format that would prevent it from loading.

The second tier of validation occurs when loading the data into Alma. Loader routines will flag errors that prevent loading or lead to unusable data in Alma, which are then reviewed and either corrected by the Ex Libris implementation team or reported back to the library for correction. Once the load is complete, the Ex Libris implementation team will check the environment and verify that the data loaders and workbooks functioned as expected and resulted in an environment ready for library testing and training.

The final and broadest tier of data validation is the delivery of this test load data to the Customer. From the kickoff, the focus of the project is on readying a test environment with a test load of the institution's data. Training is oriented around essential concepts that will allow you to begin testing that data. Once this environment is delivered with the complete test load, the project's Build phase begins. During this phase, the library will have the opportunity to continue testing not just data validity, but how well the data supports your work in Alma. Any issues or improvements identified during this phase will feed back into optimizations to the data in the source ILS or updates to the migration workbook, so that these issues may be addressed in the final cutover load.

If an issue must be corrected in the source ILS or source data, then that will be reported for library correction. Our migration reports consist of reports for each major area of data that was migrated, including lists of data with errors and the reason for the error. For broader issues that are detected during the Build phase, a plan will be worked on between the Ex Libris and library teams to identify a plan to correct the data for the final load.

Data cleanup is not included in the Alma implementation/migration scope. While completely optional, Ex Libris does recommend that an institution takes advantage of the opportunity to evaluate the potential need to perform some data cleanup. Experience has shown that these efforts improved the migration process and provided the best possible outcome in the transition to Alma. A full list of suggested data cleanup and preparation options can be viewed at the following location:

[http://knowledge.exlibrisgroup.com/Alma/Implementation\\_and\\_Migration/Implementation\\_Guides/02Getting\\_Ready\\_for\\_Alma\\_and\\_Primo\\_Implementation#Appendix\\_B\\_.E2.80.93\\_Optional\\_Data\\_Preparation\\_S](http://knowledge.exlibrisgroup.com/Alma/Implementation_and_Migration/Implementation_Guides/02Getting_Ready_for_Alma_and_Primo_Implementation#Appendix_B_.E2.80.93_Optional_Data_Preparation_S)

The project team is to be composed of Ex Libris and customer staff resources, who will address the implementation of Alma. Based on the project scope and approach outlined above, an overview of the project resources from each organization are summarized below.

### **Ex Libris**

#### **Role:**



- Get customer successfully up and running with Alma
- Coordinate all activities related to Alma implementation and perform all activities that are under Ex Libris' responsibility as detailed in the project plan (for example, data migration, configuration, training, implementation support, documentation, and so forth)
- **Customer Onboarding Manager:**
  - Answer questions about the project and product
  - Introduce resources to be utilized throughout the project (sandbox, training, and documentation)
  - Perform a systems/risk analysis by library per an implementation form process
  - Provide resources and support for the library to extract their ILS data and other data as appropriate.
  - Establish agreement regarding key project dates.
- **Project Manager:**
  - Maintain overall project plan, including schedule, scope management, risks, and issues
  - Monitor and report on project status and identify/manage issues
  - Coordinate involvement of Ex Libris resources
  - Communicate as outlined in the communications plan
- **Implementation Consultant:**
  - Analyze requirements and map to configuration and functionality
  - Perform the configuration activities
  - Deliver consulting services and implementation assistance as required to meet all project deliverables
- **Data Migration Consultant**
  - Perform data migration from customer source products to Alma
- **Training Consultant**
  - Deliver training services

## Customer

### **Role:**

- Implement Alma within the agreed upon timeframe, according to the agreed upon scope
- Manage the internal customer project team
- **Project Lead**
  - Manage involvement of customer project team resources
  - Work with the Ex Libris project manager on work planning/deadline management
  - Work with Ex Libris to monitor progress and track status
  - Drive issue resolution and escalation as appropriate at customer site.
  - Status reporting to customer management and team members at customer site
- **Functional Expert**
  - Provide expert input into all areas of business processes. This is likely to include: Acquisitions, Resource Management, Fulfillment, data in all listed areas, Public Services
  - Facilitate and perform functional review activities
  - Report issues found during testing to Ex Libris via CRM
  - Provide team updates on testing progress
  - Actively participate in training, functional meetings, and workshop
- **Training**



- Deliver training to internal customer library staff
  - Develop, modify, or re-use training materials provided by Ex Libris as needed
  - Actively participate in training, functional meetings, and workshop delivered by Ex Libris
  - **Data Integration/Authentication/Technology Team Lead and Supporting Resources**
    - Provide information/technical expertise regarding customer's existing systems and environments, and help develop/validate overall technical solution architecture
    - Monitor/assist/support the development/deployment of customer single sign-on solution
    - Ensure necessary customer technology resources are involved as needed to support project activities
    - Support testing and debugging activities
    - Coordinate technology touch points and processes on a day-to-day basis
  - **Administrator**
    - Become proficient in Alma and Primo configuration (attend Alma certification training postimplementation)
    - Open Ex Libris Support cases as needed
    - Handle day-to-day technology requests after launch
3. Describe communication channels that the library and vendor will follow during the project.

**Ex Libris:** The Ex Libris project team will communicate with JMU via scheduled weekly calls using video conferencing to review project topics and daily via Basecamp. Ad hoc calls are scheduled as needed and use of the Ex Libris CRM system is also the communication channel used to track issues encountered during the project.

4. Describe the implementation training program content, method of delivery, and materials.

**Ex Libris:** Training is conducted via several channels throughout the implementation; starting during the Onboarding phase and continuing beyond go live. Training content is timed to align with the relevant implementation activities at each project phase. The training channels are listed here, followed by more comprehensive explanations of each.

1. Recorded functional training
2. Technical discussions
3. Alma workshop
4. Alma administrative certification
5. Continuing education

#### 1. Recorded functional training

*Audience:* Library project team (including testers, functional experts, and trainers)

*Format:* Recorded sessions and hands-on activities

*Timing:* Begins during Onboarding and continues throughout Define phase

*Description:* Initial training covers all major functional areas of Alma, including initial training on configuration. The key goal is to cover fundamentals so that the library staff are prepared to test the initial data migration and begin adapting the workflows to suit local needs. Each session includes recorded presentation and demonstrations, hands-on activities, and the presentations used by our trainers so that library trainers can refer to them and adapt them to train other library staff. The delivery of these sessions is scheduled throughout the Define phase and paired with topical Q&A sessions with the Ex Libris implementation team for the relevant week's training.

These functional trainings (including all subsequent updates based ongoing system development) will continue to be available for the lifetime of your Alma subscription. Initial trainings serve as a good resource to brush up on unfamiliar topics or to train staff that are new to Alma.

In order to promote interactive testing of Alma workflows prior to the delivery of the migrated data, a sandbox environment is provisioned at project kickoff. The sandbox is used to conduct hands-on exercises that accompany the recorded training. Configuration settings within the sandbox are open to the library to support development of configuration knowledge and insight into the impact of configuration settings on system functionality.

## **2. Technical Discussions**

*Audience:* Library project team, functional experts

*Format:* Live web discussions

*Timing:* Onboarding phase through project close

*Description:* : During the onboarding period of your project, several technical topics will be covered in order for your team to make the appropriate decisions in your project. Topics covered include migration preparation and third-party integrations. Migration preparation will cover the data extraction process from Voyager and your migration decisions which are captured on the Voyager Migration Form. Third party integration topics will include student information system (SIS) configuration and authentication configuration. Once the initial data migration is delivered in a configured Alma environment, the focus of training shifts from “vanilla” workflows to workflows customized to the needs of the library. This is handled via weekly calls. Having the topical calls scheduled on a week to week basis allows the project teams to dive into much more detailed questions than prerecorded training affords. These functional calls continue throughout the life of the project, and the topics are determined by discussions with the libraries as the project progresses.

## **3. Alma workshop**

*Audience:* Library team, functional experts

*Format:* Onsite discussion and demonstration, 3 days as defined in contract

*Timing:* Near the beginning of the Build phase, once initial data testing is complete

*Description:* As the libraries’ attention shifts to adapting basic workflows to its own needs, the project has an onsite visit scheduled. This is an opportunity to discuss any open questions from the initial training, the needs of the libraries, and the range of configuration possibilities in Alma. The format is typically guided demonstration, where the Ex Libris product expert will demonstrate end-to-end workflows in the migrated environment. This demonstration will be launching point for answering questions, discussing the goals of workflows and how to adapt them efficiently in Alma, and what additional configuration decisions need to be made. This then sets the tone for the following functional calls—focused on the needs of the library and how the systems can support those needs.

## **4. Alma administrative certification**

*Audience:* System librarians who will configure Alma

*Format:* Recorded trainings, final test

*Timing:* Typically near the end of the Build phase before cutover begins

*Description:* To prepare the library to configure Alma after go-live, a separate administrative certification program is offered. Each library chooses at least two representatives who will be the local experts at administering Alma and performing the more advanced aspects of configuration. This certification process both cultivates local expertise and provides a path for further development of the more advanced aspects of Alma administration. The program consists of recorded trainings covering configuration of each major functional area of Alma. The program culminates in an online test to be taken by each participant. Once the test is passed, production environment configuration access will be opened so that administrators have full control over configuration of the Alma institution. Note that sandbox environment configuration access is open throughout the project.

## 5. Continuing education

*Audience:* Any library staff who use Alma

*Format:* Recorded sessions, release notes, “What’s New” videos, “Ask the Expert” sessions, Ex Libris Technical Seminar

*Timing:* Ongoing

*Description:* Because of the rapid development of Ex Libris products and the growing user base for our next generation solutions, Ex Libris maintains a considerable investment in ongoing education. Our goal is to make a variety of formats available to support different learning styles and different depths of background knowledge.

The following are the key channels:

- Recorded sessions: As functionality develops, extended training in the Ex Libris Knowledge Center continues to be generated and updated. This is a mix of new sessions on advanced topics and updates to existing training.
- Release notes: New functionality is always described in the notes for each release, including a link to more extended documentation when appropriate. Release notes are an excellent starting place to determine what new features might be relevant to your library.
- What’s New videos: Certain new features are complex or novel enough to warrant more demonstration. In such cases, short (typically about 5 minutes) recorded overviews will highlight how to use these functions via demonstration within the system. What’s New videos are embedded in the online help in the relevant section, so users can find them when referencing the standard documentation as well.
- Ask the Expert: Regular live web sessions are held in which a product expert covers a predefined topic in depth. These function like a Q&A in which some answers are demonstrated in the system.
- Ex Libris Knowledge Days (formerly Technical Seminar). Ex Libris hosts an annual technical meeting immediately prior to the annual user group meeting (hosted by ELUNA). This consists of meetings between Ex Libris and library developers from institutions using all Ex Libris products. This meeting has a significant Alma and Primo focus, including live versions of some recorded trainings and topics. This two-day event is an opportunity for you to attend presentations, hands-on workshops, practical exercises, and question-and-answer sessions. It includes many advanced training and topical sessions sharing how systems have been adapted based on local needs.

5. Describe the options available for post-implementation training (*e.g., 6 months or 1 year after switch to production*).

**Ex Libris:** Please see the continuing training directly above.

6. Describe your approach with regard to configuration and customization by the library during implementation. Specify and describe the tools that will be available for library staff to configure and customize various parameters.

**Ex Libris:** This is described in detail in our response to S.1, above.

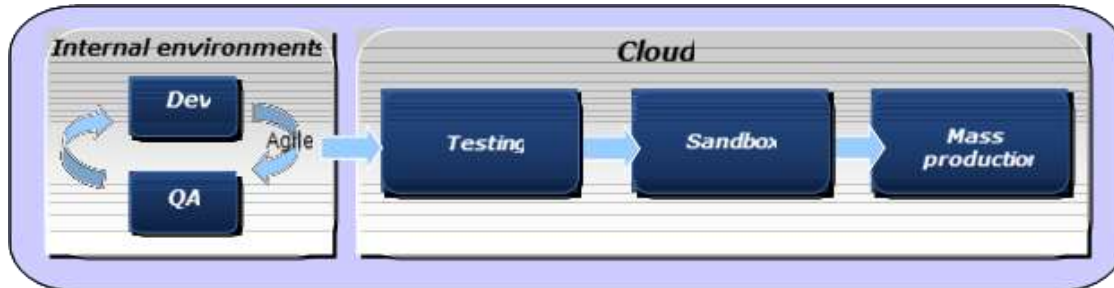
7. Describe your approach to test, development, and production environments.

**Ex Libris:** Each software update being released goes through internal QA processes.

Nevertheless, the actual deployment of the software update is done gradually.

Each new release is fully tested in a cloud testing environment using a complete set of data. Once this cloud environment test has been passed, Alma will be installed in the sandboxes environments.

Customers are able to test new functionality on the sandbox environment and report back any issue or bug found to Ex Libris to be fixed before the release is implemented in the live environments. The standard sandbox that includes Ex Libris provided standard data and configuration is included in the Alma subscription fee and provided for every customer.



In addition, each customer can choose to have a premium sandbox that will hold a full replication of the customer's data. Related activities that are done on this environment may be configuration changes, testing of new processes or training.

You can safely test changes in Alma using the Alma sandbox environment, and changes in Primo VE using both your Alma and Primo VE sandbox environments. The Alma and Primo VE sandboxes provide a means for you to develop, test, and train without making your changes visible to patrons and compromising the data in your production environment. The sandbox environments are completely isolated from your production environment. Any actions performed in the sandboxes do not affect your production environment, and any actions performed in your production environment do not affect the sandboxes. As part of a standard Alma and Primo VE offering, Ex Libris provides a standard sandbox for both Alma and Primo VE. The standard sandbox contains a significant amount of data (about 70,000 records) provided by Ex Libris that you can use for staff training and testing business scenarios, new enhancements, and integration with other systems, without affecting your production environment. Changes in the Alma sandbox can be seen within the Primo VE sandbox.

After "Go Live", Ex Libris also offers an Alma premium sandbox (for an additional annual fee). This sandbox contains a full replication of the data and configurations from your Alma and Primo VE production environment. It can also be used for training, testing, and development purposes. When you purchase the premium sandbox, it replaces your standard sandbox.

8. Describe how this system will enable decommission of one or more of the following: III Sierra ILS, III Electronic Resource Management system, Serials Solutions 360 Core and 360 Link, EBSCO Discovery Service.

**Ex Libris:** The combination of Alma and Primo will enable James Madison University to decommission all of the above, and to enjoy centralized hosting, administration, implementation and support from one organization. Alma as a library services platform replaces III Sierra ILS and III Electronic Resource Management system as well as 360 Core and link. Primo works as a discover layer and would replace your EBSCO Discovery Service, Alma and Primo are combined into one unified, integrated system.

## T. Technical

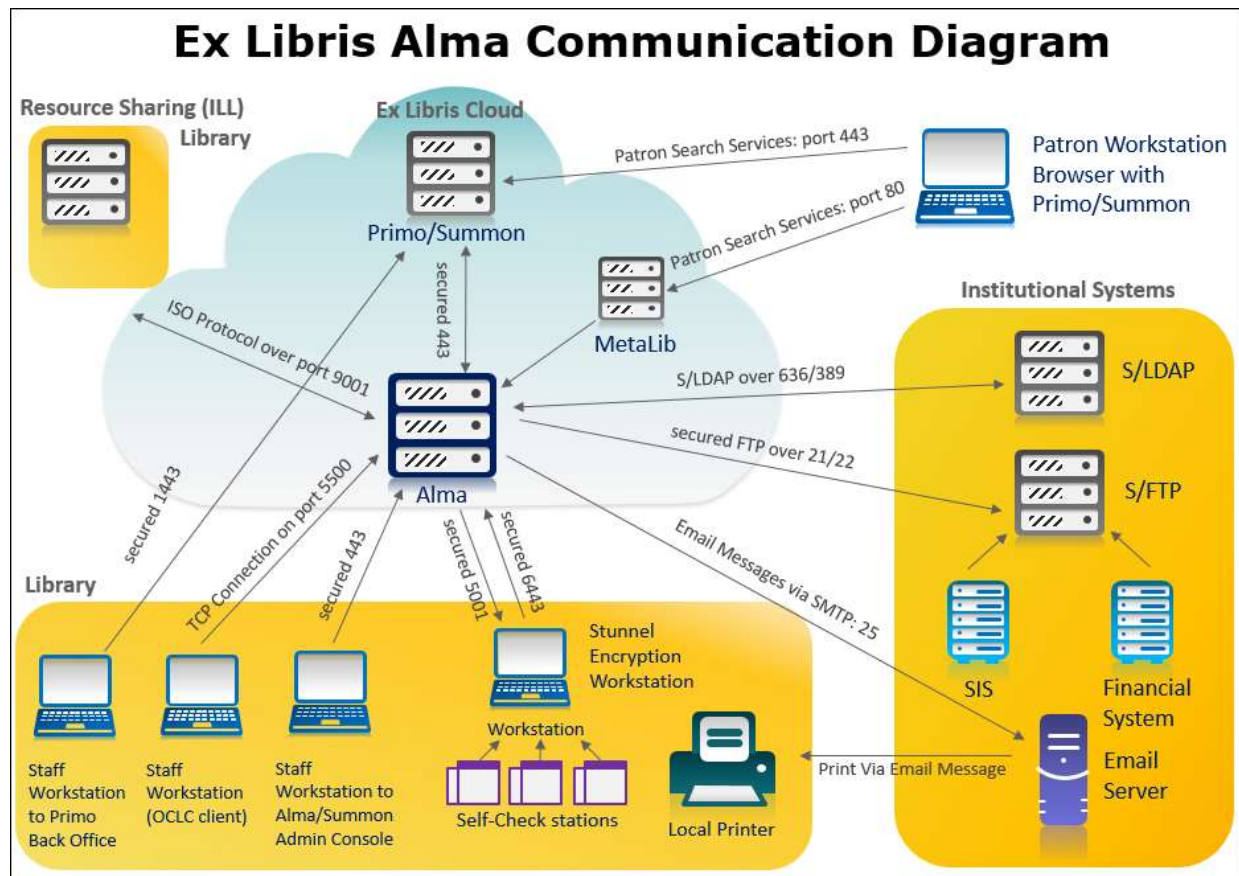
1. Provide a detailed diagram of the typical architecture/technical environment required for the system. List all protocols and ports used for communications and indicate which components are clients, if any, and which are servers and whether the communications are



fully, partially, or not encrypted. Specify any communications paths where unencrypted authentication or other sensitive data are passed. List all third party dependent integration points and data paths including any web content included from or sent to outside parties.

**Ex Libris:** Committed to providing our customers with the most secure and reliable environment, Ex Libris has developed a multi-tiered security model that covers all aspects of cloud-based Ex Libris systems. The security model and controls are based on renowned international protocols and standards and industry best practices, such as ISO/IEC 27001:2013 and ISO/IEC 27002, the standards for an information security management system (ISMS).

The following diagram describes the different possible network communications with Alma.



The table below summarizes the complete network communication between the Alma cloud and the customer's network:

Integration Type	Initiator	Target	Protocol	Ports
Staff workstation	Staff workstation	Alma	HTTPS	443
	Staff workstation	Primo (Back Office)	HTTPS	1443 (multi-tenant)
	Staff workstation	Summon Admin Console (via Alma)	HTTPS	443
Patron workstation	Patron workstation	Primo	HTTPS	443
	Patron workstation	Summon	HTTPS	443
Staff authentication	Alma	CAS (SSO) SAML (SSO) Social Login	HTTPS	443

		Secure LDAP	SSL-Secured	636
Alma-Primo	Primo	Alma	HTTPS	443
	Primo Central	Alma	HTTPS	443
Alma-Primo end-user authentication	Primo	CAS (SSO) SAML (SSO) Social Login	HTTPS	443
		Secure LDAP	SSL-Secured	636
Email	Alma	Email Server	SMTP	25
S/FTP file-based integrations (outgoing)	S/FTP Server	<ul style="list-style-type: none"> <li>• ERP/financial</li> <li>• Bursar payment fines/fees</li> <li>• EDI</li> <li>• SMS</li> <li>• Publishing platform</li> <li>• File-based remote storage</li> <li>• Link resolver statistics</li> </ul>	S/FTP	21/22
	S/FTP Server	Publishing platform - Summon	S/FTP	2022
S/FTP file-based integrations (incoming)	<ul style="list-style-type: none"> <li>• Student Information Systems (SIS)</li> <li>• ERP/financial</li> <li>• MD import including EOD</li> <li>• EDI</li> <li>• Course Loader</li> </ul>	S/FTP Server	S/FTP	21/22
Ex Libris APIs (for more information, see the <a href="#">Developer Network</a> )	Client applications	Alma	HTTPS	443
Remote storage (for file-based remote storage, see S/FTP file-based integrations - outgoing above)	Stunnel workstation (Dematic ASRS remote storage facility system)	Alma	SSL-secured	6443
	Alma	Stunnel workstation (Dematic ASRS remote storage facility system)	SSL-secured	5001
Self-check	Stunnel workstation (SIP2 Self-Check Stations)	Alma	SSL-secured SIP2	6443
Resource sharing (ILL) system (Alma or non-Alma)	Peer to peer resource sharing (ILL) system	Alma	TCP	9001



	Alma	Peer to peer resource sharing (ILL) system	TCP	9001
	Broker resource sharing (ILL) system	Alma	HTTPS	443
	Alma	Broker resource sharing (ILL) system	HTTPS	443
RFID	Alma	RFID driver installed on a user's PC	HTTP	Determined by user
OCLC Connexion	OCLC Connexion	Alma	TCP	5500
Google Scholar and other third-party electronic service providers	Electronic service provider	Alma (via Discovery)	HTTP or HTTPS	80 or 443
Z39.50 data providing	Z39.50 server	Alma	TCP	1921 or 210
OAI-PMH data providing	OAI	Alma	HTTPS	443
SRU-SRW data providing	SRU-SRW	Alma	HTTPS	443
Electronic access proxy (EZProxy, etc.)	Alma	Proxy	HTTPS	443
Webhooks	Alma	External server	HTTPS	443
Deposit using SWORD	Alma	Alma SWORD server	HTTPS	443
Online payment	Alma	WPM education system	HTTPS	443
	Primo	WPM education system	HTTPS	443
Learning Tools Interoperability (LTI)	Course management system	Alma	HTTPS	443

Alma is designed to safeguard data throughout the data lifecycle, including data in transit. Alma utilizes SSL encryption (based on a commercial SSL certificate), which creates an encrypted channel between the client computer and the Web server, and between the application server and the database server. In addition, the customer's personal data stored by Ex Libris will also be encrypted to prevent unauthorized access, and such data can be read only by the application. Ex Libris uses a standard mechanism for handling encryption keys: all encryption keys are random, and are stored separately from the credential management zone.

Ex Libris Alma makes use of the following encryption mechanism and strength:

- Data in motion: browser to application server connections are https utilizing TLS 1.0 or 1.2 using SHA-1 128 or 256 key and AES 128 or 256. The TLS version and key strength are negotiated upon session establishment, between the server and the browser
- Data at rest: personal information is kept encrypted in the database using Oracle DBMS\_CRYPTO mechanism for data encryption using AES-128 encryption. Backup of the data is made to disk and the encrypted data is kept encrypted in the backup copy

Alma encrypts patrons' personal information such as email, address, phone, etc. This data is kept encrypted in the database. Ex Libris uses a standard mechanism for handling encryption keys: all encryption keys are random, and are stored separately from the credential management zone. Encryption keys are never exposed in a clear form, and they are destroyed at the end of their designated period. The encrypted data remains as such, as well as in the backups we make to our cloud data.

2. Describe hardware and software requirements for the proposed system(s) along with any sizing assumptions made to arrive at those requirements.

**Ex Libris:** Alma is delivered only as a cloud-based SaaS solution hosted in Ex Libris' private cloud, allowing libraries to eliminate hardware and maintenance investments. A user only needs a browser with internet connectivity; there is no need for client components.

Alma is designed for scalability; because it is deployed in the cloud environment, there are no system limitations as to the number of libraries or their capacity.

3. Describe supported server hardware and/or virtualized platforms. If virtualization is supported, specify which virtualization technologies and describe the components that can be virtualized. Describe support for the following operating systems: Linux and Windows.

**Ex Libris:** Not applicable. As mentioned above, users only need an internet browser to use Alma and/or Primo.

4. Describe support for load balancing and system failover including any and all vendor specific preferences. Also, include any vendor specific configuration guides. Explain what actions might create a load issue in the system, and what the effects are.

**Ex Libris:** The Alma SaaS environment is built to handle usage fluctuations and peaks in several ways:

- Access to the Alma application is done via a load balancer that routes customers to an available application server;
- Online transactions, batch jobs and reports are each performed via dedicated resources to prevent disruption to online transactions caused by heavy jobs or reports run by users; and
- Deployment of end-point monitoring tools for high visibility.

Our monitoring tools help us gauge performance, and in the event of any service degradation, our cloud engineers are supplied with the appropriate tools. For example, if a server's resources are being consumed at a sudden high rate, an engineer is notified, and can change the load balancer rules to allocate more resources for online transactions.

As with every multi-tenant solution, Alma has Governance Thresholds that ensure that no single institution negatively impacts other Alma institutions, prevent performance degradation and help reduce the risks of malicious attacks.

Such Governance Thresholds exist in a few areas of the system for example importing and exporting data to/from Alma:

	Peak (working day) - records per hour	Off-Peak (night) - records per hour
Export	0.3M	1.2M
Manipulate	0.15M	0.6M
Import (match by system ID)	0.15M	0.6M

5. Describe how scalability is accomplished as the criticality of the system(s) and number of users increase.

**Ex Libris:** Alma is designed for scalability; because it is deployed in the cloud environment, there are no system limitations as to the number of libraries or their capacity. This architecture allows for:

- Alma to be deployed in multiple instances in each data center, without limitation on the number of parallel instances that may be deployed; and

- Each Alma instance can contain many libraries (depending on their size) in a multi-tenant architecture.

This allows us to scale Alma in multiple levels:

- An Alma instance can scale:
  - Horizontally – by adding additional application servers and database servers; and
  - Vertically - by adding additional cores, RAM, etc., to existing servers.
- An additional Alma instance can be deployed as needed via automatic deployment tools.

When a new institution is added to Alma, it is deployed in the most appropriate instance, based on its volume, and new instances are opened in advance as needed, based on our pipeline.

The Alma SaaS environment is built to handle usage fluctuations and peaks in several ways:

- Access to the Alma application is done via a load balancer that routes customers to an available application server;
- Online transactions, batch jobs and reports are each performed via dedicated resources to prevent disruption to online transactions caused by heavy jobs or reports run by users; and
- Deployment of end-point monitoring tools for high visibility.

Our monitoring tools help us gauge performance, and in the event of any service degradation, our cloud engineers are supplied with the appropriate tools. For example, if a server's resources are being consumed at a sudden high rate, an engineer is notified, and can change the load balancer rules to allocate more resources for online transactions.

While Alma and Primo are sized for the hosted environment according to user parameters provided by the institution, the application can handle fluctuations as described above.

6. Describe the system capabilities and options for the backup and restoration of the system components (*e.g., database, configuration files*).

**Ex Libris:** Part of the overall Ex Libris recovery plan includes the recovery of the entire institution's data to the last point a backup was taken. Ex Libris takes several data snapshots per day and also maintains a full backup at an offsite remote secured location. This data includes the entire institution's data and configuration.

Alma is a true multi-tenant solution, and as such the complete data of all of Alma customers is backed up together. Recovery of a customer's specific data can be done on several levels, depending on the nature of the recovery needed.

In some cases, customers can use their most recent exports of their bibliographic and holding records in order to load them again to Alma as a means for recovery. Or, for example, when patron records are loaded from the institutional student information system, the SIS can serve as a source for recovery of student data. In rare cases where data recovery is required and the customer cannot utilize any of Alma's existing capabilities, the customer is asked to open a support case for data recovery, which is handled by Ex Libris engineers. If the recovery is possible (this depends on the nature of the data loss and its dependency on other data elements in the system), then Ex Libris engineers will recover the data or advise the customer on ways they can do it. In general, Ex Libris does not charge for data recovery requests as long as these are a rare occurrence.

Ex Libris has a well-developed backup plan consisting of multiple daily snapshots including a full daily backup. The backups are made to a separate set of disks which offers a much more reliable fast retrieve backup media and is stored at the site and in a remote secured location over a private dedicated fast secured line. This guarantees that at any point in time, in case of a disaster, Ex Libris holds copies of the

data onsite and in a remote and secured disk backup. On a regular basis, Ex Libris performs a system backup to back up application files, database files, and storage files. The privacy controls in practice at the company apply as well to all backup files. All backup files are subject to the privacy controls in practice at Ex Libris. The restore procedures are tested on an ongoing basis to ensure rapid restoration in case of data loss.

- **On-site backup** – Full backup for OS platform, application, and customer data are performed at least daily (multiple snapshots during the day for critical services/systems) using storage snapshot technology. The backups are kept for one week on-site at a separated set of disks. The snapshots are automatically mounted with specific access restriction values seen by the operating system in a special set of directories allowing for an easy and immediate restore at any time by Ex Libris authorized personnel.
- **Off-site backup** – Full backup for OS platform, application, and customer data are performed daily using snap mirror technology over a private dedicated fast secured network connection from the primary data center to an off-site backup location using the same storage technology as the storage at the primary location. Subject to the privacy controls in practice at Ex Libris, Ex Libris maintains the off-site backup locations in the same territory (NA, EMEA, and APAC) as the primary locations with a sufficient best practice physical distance. The backups can be retrieved back to the main data center 24/7 by Ex Libris authorized personnel. The backups are kept at the off-site backup managed locations.

7. Describe the average client response time for all the various functions of the proposed system.

**Ex Libris:** The Ex Libris data center utilizes 1G bandwidth as its backbone, and works with multiple ISP vendors (up to 8) at every point in time. As with every SaaS vendor, we measure the performance of our servers; we do not, however, have control of the ‘last mile’ at the institution level. We can report that so far our customers report a high performance level for all operations that met web application expectations. We also monitor our application and server throughput 24/7 in order to make sure that transactions are handled and sent to the user browser as expected.

8. Describe services not available during scheduled maintenance.

**Ex Libris:** In true software-as-a-service solutions, the concept of product versions and platform upgrades is very different from that of legacy systems. Particularly in the case of Alma, there are no “upgrades” or “patches”; instead, new releases are deployed on the first Sunday of every month. Two weeks prior to the monthly release date – i.e., the second last Sunday of the previous month – we deploy the new release in all the sandbox environments, allowing customers to test and familiarize themselves with the features.

Monthly Release Notes are published with every new release, as well as ‘How-to’ videos and interactive guides to assist users in getting familiar with new features.

All of the Alma software updates are done centrally and for all Alma customers at once, so that all customers are always using the latest version (just as a user will always be on the latest version of Gmail). Since Alma runs in the Ex Libris cloud, all of the solution’s platform-related tasks are handled by Ex Libris cloud services personnel.

In addition, Alma may require ongoing maintenance performed by our SaaS team, such as hardware replacement, security patches, and practice of failover scenarios. The maintenance window for release deployment and other routine maintenance work falls between Saturday 8:00 PM and Sunday 6:00 AM, U.S. Central time. During this time, the system may be unavailable for short periods of time. Announcements to customers are sent seven days in advance.

9. Describe any features of your application that do not support the Macintosh OS. Describe

any changes to default browser or client security settings.

**Ex Libris:** Alma and Primo are both web-based and support all of the leading web browsers: Internet Explorer, Firefox and Chrome. We are not aware of any challenges related to usage of the Macintosh with our applications.

10. Provide an overall compatibility matrix of software required to operate your system. As appropriate, and at a minimum, this should include operating systems, drivers, browsers, JDKs, and compilers.

**Ex Libris:** Alma is accessed via a browser. Therefore, as long as the equipment or device (PC, laptop, tablet) has a browser and internet access there are no limitations according to platform.

Ex Libris' browser certification policy is based on industry usage statistics.

The following table describes the certified browsers:

Browser	Description
Microsoft® Internet Explorer®	Ex Libris makes every effort to test and certify the two most recent browser versions for Microsoft® Internet Explorer® when its industry usage is over 20% of all versions of this browser, and as long as these versions are still supported by Microsoft®.  Microsoft® Edge is also certified.
Mozilla® Firefox®	Ex Libris makes every effort to test and certify the most recent stable version of Firefox on an ongoing basis.  In addition, Mozilla offers an Extended Support Release (ESR), based on the official release of Firefox for desktops, for use by organizations—including schools, universities, businesses, and others who need extended support for mass deployments.  Ex Libris will make every effort to test and certify the latest ESR version, after the overlap period between the older and newer ESR version is over.
Google Chrome™	As with Firefox, Ex Libris makes every effort to test and certify the most recent stable version of Chrome™ on an ongoing basis.  <b>Note</b> Google Chrome applies updates automatically.

11. Describe support for real-time access to data through some other method (*e.g., on-the-fly access to database through ODBC, ADO, JDBC, LDAP, etc. allowing dynamic web content and applications*).

**Ex Libris:** Within the cloud environment, the technical database architecture will be transparent to libraries—Alma instead allows functional administration over how institutions distribute and share their data.

With Alma, direct database access is not necessary in order to generate highly sophisticated reports or to make global changes to records such as changing location codes, etc., since database access is done via the application or through a dedicated API and web services.

Alma is built with a service-oriented architecture (SOA) and embodies Ex Libris' Open Platform philosophy. This enables openness and interoperability between Alma, the Data Services environment, and other applications in the library environment—whether developed by third parties or locally.

The Open Platform means open interfaces. It contains Apps, Web Services, Web adapters, Application Programming Interfaces (APIs), plug-in interfaces, and more. The Open Platform allows customers to share customer-written code so that one customer can benefit from the developments of another customer, leveraging the investments made by others for the benefit of everyone.



Moving to the cloud lowers the required threshold for entry to basic management processes. In today's systems, many mission-critical workflows require server access. The staffing requirements for basic management processes such as record loading or integrating data from other campus systems must be managed by a system administrator. Since Alma provides user-friendly and highly efficient interfaces for all tasks, the system expertise needed to manage the system is significantly reduced. Both Alma and Primo are hosted by Ex Libris and no local database expertise or maintenance is required.

Configuration and profiling are done easily via a set of configuration rules per each process (e.g., acquisition, resource management). The system-managed workflows automate many currently manual processes, reduce error, and free staff to work on those tasks that require decision making.

Alma's basic design is based on two organizational levels, the Institution and the Library:

1. **The Institution** is the basic level of data and workflow management in Alma; it also holds all of the institution, or local library, data. Some processes and configurations, however, may be managed at the Library level.
2. **The Library** is one or more physical locations that are normally housed in a single building or in several buildings that are in close proximity to one another. It has locations and circulation desks that are familiar to the library patrons.

An institution manages the following, accessible to all institution operators with the proper role:

- User management
- Vendors
- Funds management
- Licenses
- Metadata management
- Configurations

At the cloud infrastructure level, Ex Libris collects and archives system logs and retains all records of access by Ex Libris cloud personnel. Since the service is a multi-tenant cloud service, these security/system logs include data related to all customers sharing the cloud environment and as such can't be provided. The application includes an audit trail that could be used by the university to identify all access/logins to the customer data (customer institution) - this audit trail includes access records for all the logins of the customer staff and access records of Ex Libris support personnel. The audit trail report could be generated by the customer without the help of Ex Libris.

12. Describe support for integration with JMU's existing systems listed in the background statement including pricing, availability of APIs, toolkits for creating connectors, available services, etc (*provide any associated pricing in Section X. Pricing Schedule*). Provide a full list of application connectors. Describe any other methods of integration supported.

**Ex Libris:** Alma provides exceptional integration with a range of third-party applications and key enterprise systems used on campuses today, including for services such as financial and ordering systems, self-check, interlibrary loan, proxy services, collection agency services and ERP systems, and discovery.

Achieving Alma's seamless handshaking with external systems, integration points are based on both evolving and well-established trend market standards. In addition to standards, Alma's integration approach makes use of plugin -capabilities, allowing institution-specific adaptations to specific systems and needs. The framework for utilizing integration points with third-party systems is the Integration Profile. The Integration Profile is where integration definitions may be set up for many types of Alma-supported integrations, including systems such as:

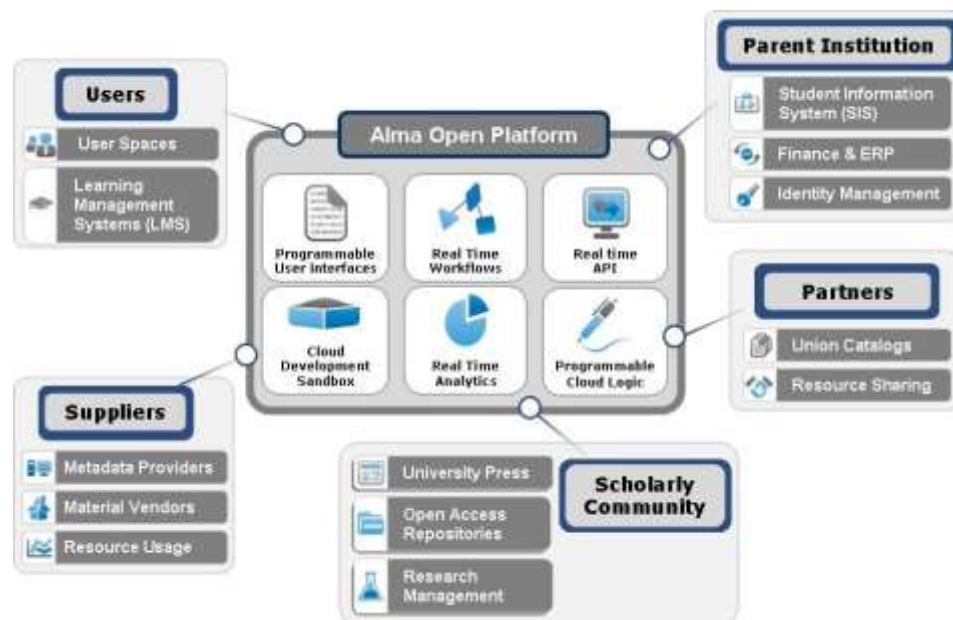
- Self-check
- Resource sharing systems
- Link resolution and proxies
- Collection agency services



- Discovery interfaces
- Cataloging clients
- Learning management systems
- Financial management systems
- Student Information systems

A unified and centralized platform, the Integration Profiles provide a single interface for defining the different required attributes for a variety of integrated systems.

The diagram below shows the variety of integration interfaces of Alma with multiple third-party systems using its open platform.



Alma supports a wide array of RESTful APIs as well as other integration points. APIs cover many different functional areas in Alma such as Bibliographic records, Physical Resources, Electronic Resources, Digital Resources, User Records and related fulfillment transactions, Configuration, Resource sharing requests and more. Details can be seen on the Developer Network site at <https://developers.exlibrisgroup.com/alma/apis>

Alma supports the ability to integrate with a wide variety of systems, using both the above RESTful APIs as well as other open interfaces (e.g. z39.50, SIP2, NCIP, ISO-ILL, etc...) as well as file based data exchange. Alma can integrate with your institution's financial systems, user management systems, Self Check machines, RFID software and more. For more details please see <https://developers.exlibrisgroup.com/alma/integrations>

13. Describe the ability for your product to create consumable web standards-based content (e.g., RSS feeds, hcard, ical, and other microformat specifications), the ability to pull XML/JSON based content from your system, and any APIs (RESTful or otherwise) supporting the delivery of such data/content.

**Ex Libris:** Alma supports a wide array of RESTful APIs as well as other integration points. APIs cover many different functional areas in Alma such as Bibliographic records, Physical Resources, Electronic Resources, Digital Resources, User Records and related fulfillment transactions, Configuration, Resource sharing requests and more. Details can be seen on the Developer Network site at <https://developers.exlibrisgroup.com/alma/apis>

Alma supports the ability to integrate with a wide variety of systems, using both the above RESTful APIs as well as other open interfaces (e.g. z39.50, SIP2, NCIP, ISO-ILL, etc...) as well as file based data exchange. Alma can integrate with your institution's financial systems, user management systems, Self Check machines, RFID software and more. For more details please see <https://developers.exlibrisgroup.com/alma/integrations>

The input and output of Alma RESTful API can be in XML or JSON formats.

The output is determined by either:

An Accept header: Accept: application/json

Query param: .https://...?apikey=XXX&format=json

The default is XML.

When sending XML as an input add the following header: Content-Type: application/xml

When sending JSON as an input add the following header: Content-Type: application/json

RSS feeds are also available.

#### 14. Describe storage including file formats.

**Ex Libris:** While Alma manages the metadata and workflows related to print and electronic resources, digital resources are unique in that the objects themselves are stored in Alma. Alma provides library staff with the ability to manage digital workflows and objects through its user interface, hiding the complexity of cloud storage, and offers integrated resource delivery to patrons via Primo.

Alma uses the Amazon Web Services (AWS) Simple Storage Solution (S3) cloud storage service as the backend for digital resources stored in Alma. AWS is a best-of-breed cloud service, and S3 offers a reliable, durable storage solution. S3 is deeply integrated into Alma workflows, so there's no need to interact with it directly from the Alma user interface. Those institutions that require access to the files stored in Alma have the option of using third party tools to communicate directly with the S3 service. Digital resources in Alma are stored in the relevant AWS region, depending on the location of the Alma data center.

#### 15. Describe operational monitoring and reporting capabilities. Include the capabilities for application, content, access, and storage metrics, security and the method for obtaining them (e.g., command line tools, SNMP, and GUI).

**Ex Libris:** In Alma's multi-tenant cloud environment, command line tools are not available, and Ex Libris maintains full control over operational monitoring.

Alma Analytics is fully integrated into Alma and transparent. It provides actionable information for staff users about the data stored in the application, such as cross-institutional usage information, impact factors for journals, budget usage trends and up-to-date expenses, circulation, bibliographic data and more.

#### 16. Provide information about the number and duration of downtime incidents in the past year.

**Ex Libris:** Ex Libris' standard SLA commitment is to deliver service availability of at least 99.5%, measured over any calendar year. The cloud environment is monitored 24x7, with staff attending to all issues in real time. Based on our experience with thousands of institutions deployed in our cloud environment, a number of which are large consortia, actual system availability is significantly higher. In practice we have constantly exceeded the annual 99.5% uptime SLA since the first day of going live.

To deliver this performance, all aspects of the physical infrastructure are designed to have no single point of failure in any of the cloud layers: electricity, access to internal networking and switches, load

balancers, firewall and storage, as well as edge routers and multiple Internet Service providers (ISPs) to the data center, ensuring high availability and accessibility to the Alma service in the cloud.

Ex Libris believes in full transparency and post all our Uptime Reports on the web – you can review quarterly reports from the past 3 years including Root-Cause-Analysis reports for downtime events at [http://knowledge.exlibrisgroup.com/Alma/Product\\_Materials/Uptime\\_Reports](http://knowledge.exlibrisgroup.com/Alma/Product_Materials/Uptime_Reports)

17. Specify any limits on the number of concurrent sessions supported by the proposed system.

**Ex Libris:** Not applicable in the cloud environment.

18. Describe life expectancy for any hardware that is part of this proposal.

**Ex Libris:** Not applicable , as the solutions are hosted by Ex Libris.

## U. Security

1. Describe handling access to licensed/copyrighted content where access must be restricted.

**Ex Libris:** Permissions and privileges in Alma are based on the authenticated staff user's roles, which are stored and managed within Alma. Each role and scope controls the exact actions the user may perform in the system, and the exact scope in which the actions may be performed. So, only the License Manager role has access to electronic licenses and relevant attachments.

For end users, such restrictions are handled in Primo, where the library may require authentication on a per-resource basis. Also, Primo allows the ability to restrict by collections. These collections can be a collection of one item, all items owned by an institution or something in-between. So, for example, you can restrict access to a collection of licensed resources, a special collection, digital objects or all digital collections. You also may include a copyright statement that must be agreed to before a digital object is accessed.

2. Describe your use of authentication credentials and associated attributes, group membership, roles, etc. to make authorization decisions. Include method(s) and granularity of authorization of access to data and services (*e.g., individual accounts, IP address, UNIX groups, LDAP groups, Active Directory accounts*).

**Ex Libris:** Alma supports very granular privileges and roles that can define the exact data and operation each user can do or access in the system. It also supports the ability to group roles and assign them to a user. Authorizations are managed by the authenticated user's assigned roles, which are stored and managed within Alma. The assigned roles control:

- What menus are displayed to the user
- What screens are accessible for the user
- What tables/lists/forms are accessible to the user
- What actions are allowed within screens
- What system jobs are allowed to be triggered by the user

Roles are assigned to users with specific scopes, setting the specific organization unit to which the role applies. The scopes may be set up as:

- Institutional scope – Role with an institutional scope is granted relevant privileges in the entire institution.

- Library scope – Role with a library scope is granted relevant privileges only within the scope's library.

Multiple roles and scopes may be assigned to every user. Roles may be assigned manually, but this is normally done via role profiles. The profiles bind roles and scopes, enabling the profiling of common function profiles that characterize library staff work. Role profiles may then be automatically assigned to users based on user attributes such as user group, job category and job title. For example, the institution's job categories may be used to automatically assign a 'Fulfillment Manager' profile or a 'Physical Item Receiving' profile to a new user. The rules may be set up to assign more than one profile based on user attributes.

**V. Maintenance and Support-** Because consistency and stability of the operating environment and rapid correction of system failures are critical to James Madison University, major consideration will be given to the amount and extent of hardware and software maintenance coverage and to the quality of maintenance.

1. Describe maintenance and support offered (*provide any associated cost in Section X. Pricing Schedule*).

**Ex Libris:** In true software-as-a-service solutions, the concept of product versions and platform upgrades is very different from that of legacy systems. Particularly in the case of Alma, there are no "upgrades" or "patches"; instead, new releases are deployed on the first Sunday of every month. Two weeks prior to the monthly release date – i.e., the second last Sunday of the previous month – we deploy the new release in all the sandbox environments, allowing customers to test and familiarize themselves with the features. Monthly Release Notes are published with every new release, as well as 'How-to' videos and interactive guides to assist users in getting familiar with new features.

All of the Alma software updates are done centrally and for all Alma customers at once, so that all customers are always using the latest version (just as a user will always be on the latest version of Gmail). Since Alma runs in the Ex Libris cloud, all of the solution's platform-related tasks are handled by Ex Libris cloud services personnel.

In addition, Alma may require ongoing maintenance performed by our SaaS team, such as hardware replacement, security patches, and practice of failover scenarios. The maintenance window for release deployment and other routine maintenance work falls between Saturday 8:00 PM and Sunday 6:00 AM, U.S. Central time. During this time, the system may be unavailable for short periods of time. Announcements to customers are sent seven days in advance.

Ex Libris is committed to providing customers with timely and accurate customer service. We hire highly skilled professionals with extensive library experience; many of these individuals are degreed librarians. New staff members participate in our ground-up training program to become proficient in all areas of our products, from installation and implementation to general application support. To keep our support staff informed, we conduct regularly scheduled refresher programs that include knowledge sharing with our implementation group.

Access to the Ex Libris support staff is provided five days a week, 8:30 am to 5:30 pm, U.S. Central time. Support for critical issues, such as a down system, is provided 24x7 including weekends and holidays. Ex Libris customers have access to our Salesforce Customer Portal, which allows customers to open, update, and track support Cases handled by Ex Libris Support. Each Case is assigned a Case number for tracking, and is included in all communications about a particular Case. Customers also have access to the Ex Libris Customer Center, which provides central access to product documentation, Ex Libris news, the Salesforce system, and other customer resources via a single secure login provided by Ex Libris.

Requests for Support sent as Cases from our Salesforce system are assigned response levels to help us prioritize issues, communicate in a timely manner and provide a means for us to measure our performance.

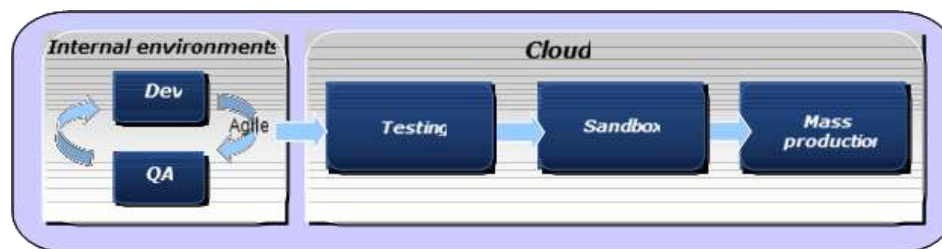
2. Describe the nature of continuing research and development performed to detect and correct problems in the system design, to improve efficiency, and/or to enhance the capabilities of the system proposed.

**Ex Libris:** Each software update being released goes through internal QA processes.

Nevertheless, the actual deployment of the software update is done gradually.

Each new release is fully tested in a cloud testing environment using a complete set of data. Once this cloud environment test has been passed, Alma will be installed in the sandbox environments.

Customers are able to test new functionality on the sandbox environment and report back any issue or bug found to Ex Libris to be fixed before the release is implemented in the live environments. The standard sandbox that includes Ex Libris provided standard data and configuration is included in the Alma subscription fee and provided for every customer.



In addition, each customer can choose to have a premium sandbox that will hold a full replication of the customer's data. Related activities that are done on this environment may be configuration changes, testing of new processes or training.

As the end user interface, allowing for the discovery and delivery of the full breadth of resources the library has to offer, Primo was designed from day one around the end user. Primo was developed in collaboration with customers (a small number of early adopters and a broader charter group) from the field, who helped us to evaluate every change in the user interface. We have continued to hone and improve the usability during the years in which Primo has been in production and in use at some of the most distinguished and heavily used research libraries around the globe.

We get specific input through the customers' product working group (both the North American user group and the worldwide one) with whom we have monthly calls, as well as through our CRM. We encourage customers to contact our product management and support teams with further suggestions for improvement. We have used input from usability studies, feedback from the customer community and our own testing to continuously improve the usability of our solution.

We research usage patterns and draw conclusions from big data collected in our usage logs regarding the way users use our software. For privacy reasons, we do not save data associated with a specific user, not even one-way encrypted, unless explicitly requested by the library.

We continue to improve the Primo user interface based on feedback from customers, and to run usability studies from time to time. For more detailed information on our user experience studies, you can visit our Knowledge Center:

[http://knowledge.exlibrisgroup.com/Primo/Product\\_Materials/Overview\\_Materials/User\\_Experience](http://knowledge.exlibrisgroup.com/Primo/Product_Materials/Overview_Materials/User_Experience)



3. Describe the nature of system enhancements in development that are scheduled for release in the next two years.

**Ex Libris:** The Alma and Primo development roadmaps are published on the Ex Libris Knowledge Center at [https://knowledge.exlibrisgroup.com/Alma/Product\\_Materials/Overview\\_Materials/Roadmap](https://knowledge.exlibrisgroup.com/Alma/Product_Materials/Overview_Materials/Roadmap) and [https://knowledge.exlibrisgroup.com/Primo/Product\\_Materials/Overview\\_Materials/Roadmap](https://knowledge.exlibrisgroup.com/Primo/Product_Materials/Overview_Materials/Roadmap) .

Alma has a monthly release on the first weekend of each month. Primo has a quarterly release in February, May, August and November of each year.

As a real Software-as-a-Service (SaaS) system, Ex Libris Alma follows the Agile Development Methodology. This methodology, as described below, allows us to adapt to changes and develop new functionalities rapidly. Therefore we publish our roadmaps 18 months in advance and is continually reviewed with updates regularly published to the Knowledge Centre.

Alma's Agile development methodology is based on the concept of monthly sprints, which are task-and time-delineated. This allows the Alma team to inject customers' requests into the system in short intervals and enable the Alma Development, Implementation and Operations Teams to solve development issues on an ongoing basis, thereby contributing greatly to the quality of the product.

The Agile methodology allows Ex Libris Alma to deploy new functionalities as well as critical fixes and security patches rapidly to all our customers.

All of the Alma software updates are done centrally and for all Alma customers at once, so that all customers are always using the latest version (just as a user will always be on latest Gmail version). Since Alma runs in the Ex Libris cloud, all of the solution's platform-related tasks are handled by Ex Libris cloud services personnel.

QA is conducted as part of the sprints as an ongoing process. This is achieved by the QA staff working together with the development team, testing as early as possible during the sprints. In addition, automatic sanity testing is performed on a weekly basis to ensure that the system is stable during the sprint. A key benefit of the Agile methodology applicable for Alma is that frequent progress is made in 3 parallel tracks:

- Functionality
- Data migration
- SaaS deployment

This allows Alma development, implementation and operations to encounter and solve problems early in the process, greatly contributing to the quality of the product.

Priorities are set based on several factors such as criticality to customer's production as well as the level of impact of an issue or new enhancement to customers. That being said, the agile methodology allows us to respond fast to needs even when some do not get highest priority.

Libraries can address their development needs directly to Ex Libris, and through the user group IGeLU ([www.igelu.org](http://www.igelu.org)) which covers all aspects of product development, and has an enhancement voting system in place (<http://igelu.org/development-cooperation/enhancements/ners>). The ELUNA and IGeLU international user groups have created a comprehensive enhancement voting system.

With membership of the user groups customers can submit enhancement requests to NERS (New Enhancement Request System).

<http://igelu.org/development-cooperation/enhancements/ners>



There are fixed procedures for enhancements and collaborative testing of existing products, development and implementation partnerships for new products, joint focus groups on major new product developments and on strategic topics in the library world. Ex Libris also facilitates regular "developer meets developer" meetings where technical staff from Ex Libris and from customers sites can freely meet, exchange ideas, and develop code together.

From the help menu in Alma users can also reach Ex Libris' Idea Exchange portal. From here users can share ideas, support ideas by other users and receive feedback to their contributions. Many ideas have been awarded and included in our monthly releases and roadmap plans.

Priorities are set based on several factors such as criticality to customer's production as well as the level of impact of an issue or new enhancement to customers. That being said, the agile methodology allows us to respond fast to needs even when some do not get highest priority.

All Alma and Primo releases are included in the SaaS subscription.

4. Describe all responsibilities of both the contractor and James Madison University in the isolation and diagnosis of system failures.

**Ex Libris:** Deploying Alma as a SaaS offering, combined with the high uptime we commit to our customers, makes Alma monitoring a fundamental part of our operation. We separate monitoring into two main parts:

- 24x7 monitoring for real-time issues such as identification and resolution; and
- Proactive trend analysis and health check validation.

### **24x7 monitoring**

The 24x7 hub Team provides 24x7 first-line support (in tandem with regular support personnel) for all cloud production environments, using advanced monitoring and dashboard capabilities.

Alma is designed with multiple layers of real-time monitoring of all facets of the solution. These layers include:

- Hardware (servers, storage, networking, FW, LB and all other devices);
- Operating system level monitoring;
- Database monitoring;
- Application level logs reflecting errors including database issues, software issues, and business level issues;
- Application performance as measured in the servers;
- Internet performance; and
- Security.

All components (physical and logical) are fault-tolerant with redundancy. All critical components work in active-active mode, such that loss of a component is invisible to users. In some cases, failover may result in very short outages (of a few minutes), and the return to full availability is completely automatic.

Monitoring teams are equipped with processes for provisioning decisions based on application performance monitoring and degradation of service scenarios.

### **Proactive trend analysis and health check validation**

This type of monitoring is responsible for tracking system stability and forecasting provisioning needs to meet the system's uptime SLA:

- Run operational reports to track abnormal behavior and growth trends such as :
  - Total daily transactions
  - Per instance transactions/sec
  - Min hour transactions /sec

- Max hour transactions /sec
  - Average transactions /sec
- Application health checks:
  - Validity of indexes, triggers, stored procedures
  - System job failures
  - External interfaces failures
- Running the operational BI
  - Provide uptime and performance reports for our customers
- Execute provisioning of new servers based on the analysis of system usage and capacity, taking into consideration lead time and required over-provisioning for meeting the uptime and performance SLA.

In addition, Ex Libris provides users with web access to view system status, including the ability to register for email alerts in case of performance issues or a system down event. The status page is available to all via the below link: <http://status.exlibrisgroup.com> and provides a live status on the system, with alerts in case of performance issues, planned maintenance or of a system down event.

**ExLibris System Status**

System Status | Privacy Policy | Security

The Ex Libris System Status page presents the latest information on the availability of all multi-tenant Ex Libris instances. You may check this page at any time to see the current status information, or subscribe to be notified via email of interruptions to any individual service. If you are experiencing a real-time, operational issue that is not indicated below, please inform us by opening a customer support request.

System:  Region:

Instances	Email Alerts	Current Status	Apr-12	Apr-11	Apr-10	Apr-09	Apr-08	Scheduled Maintenance
<input type="checkbox"/> Alma NA00	<input type="checkbox"/>							
<input type="checkbox"/> Alma NA01	<input type="checkbox"/>							
<input type="checkbox"/> Alma NA02	<input type="checkbox"/>							
<input type="checkbox"/> Alma EU00	<input type="checkbox"/>							2015-Mar-29
<input type="checkbox"/> Alma EU01	<input type="checkbox"/>							
<input type="checkbox"/> Alma AP01	<input type="checkbox"/>							
<input type="checkbox"/> ICC81	<input type="checkbox"/>							

Service is operating normally Performance issues Service disruption Scheduled maintenance

## W. Privacy

1. Provide your privacy statement.

**Ex Libris:** Our privacy policy is available online at: <https://www.exlibrisgroup.com/privacy-policy/>

2. Identify the type/specific information being collected (*User Data – Anonymous or Personally Identifiable*). For the information identified:

**Ex Libris:** Customer should only store basic personal information necessary to operating library systems (i.e., names, postal addresses, email addresses, telephone numbers, institutional ID and loan and fines information, as applicable) shall be stored on the SaaS Services. Alma requires one unique ID in order to

enable the linkage between the Alma user record and the institutional student information system. This may be any unique ID, not necessarily the patron barcode.

Other data elements are not required, but where they are defined they are used by the system to provide library services. For example:

An e-mail address is not mandatory but is used by Alma to enable send library notices, such as overdue letters and courtesy notices. If there is no email in the record then Alma will not be able to send these notices.

A phone number is not mandatory, but is used by Alma to send SMS messages to the patron. If there is no phone number in the record then Alma will not be able to send these SMS messages.

Additional Identifiers are not mandatory, but may be used by Alma where they are defined to facilitate links to other integrated systems, such as a bursar system.

A user Group indication is used to facilitate fulfilment rules. Fulfilment rules are based on the user group, and can be implemented only when user group indications are assigned to the user record.

Alma does not store photos. Rather, they are stored on a customer server at the library premise. Alma links to the server using HTTPS in order to retrieve and display the photos in real time.

In Alma, personal data is kept encrypted in the database using Oracle DBMS\_CCRYPTO mechanism for data encryption using AES-128 encryption. Backup of the data is made to disk and the encrypted personal data is kept encrypted in the backup copy.

- a) Specify who collects the information

**Ex Libris:** The University collects the information.

- b) Specify why the information is collected

**Ex Libris:** To allow for the discovery and circulation of items from the library's catalog, as well as to access licensed databases the library subscribes to; to allow for the library's staff users to acquire and catalog materials, to circulate library items to patrons, and to respond to patron requests.

- c) Describe how the information is collected (*explicitly, via Cookies, via Web Bugs, etc.*)

**Ex Libris:** Alma does not collect user information through web techniques (such as cookies). Instead, all user information is collected explicitly through the authentication of a user in Alma and the services provided to that user by Alma.

- d) Describe how the information is used

**Ex Libris:** The information is used to identify authorized patrons of the library, to allow the library to loan its items to its patrons. The information also identifies authorized library staff, to allow them to perform the functions within the applications.

- e) Specify how long the information is retained and the library's ability to customize and configure retention policies

**Ex Libris:** The library decides how long to retain the information. Patron and staff records may be purged at the library's discretion and schedule.

- f) Describe how the information is stored and kept

**Ex Libris:** Sensitive patron identification information such as patron ID, email, address, etc. is kept encrypted in Alma. The information is stored in the Alma database.

- g) Describe how the information is secured

**Ex Libris:** As mentioned above, sensitive patron information is kept encrypted, and all traffic between Alma and the user's browser is made through SSL.

3. Specify whether you share information with another party. If information is shared with another party, respond to Items a. through h.:
  - a) Identify the type/specific information being shared (*User Data – Anonymous or Personally Identifiable*)
  - b) Specify who collects the information
  - c) Specify why the information is collected
  - d) Describe how the information is collected (*explicitly, via Cookies, via Web Bugs, etc.*)
  - e) Describe how the information is used
  - f) Specify how long the information is retained
  - g) Describe how the information is stored and kept
  - h) Describe how the information is secured

**Ex Libris:** Information would not be shared with a third party; therefore, items a-h are not applicable.

4. Specify whether you collect information on JMU or any party related to JMU from third parties. Respond to Items a. through j. :
  - a) Identify the type/specific information being collected (*User Data – Anonymous or Personally Identifiable*).
  - b) Specify who collects the information.
  - c) Specify why the information is collected
  - d) Describe how the information is collected (*explicitly, via Cookies, via Web Bugs, etc.*).
  - e) Describe how the information is used.
  - f) Specify how long the information is retained.
  - g) Describe how the information is stored and kept.
  - h) Describe how the information is secured.
  - i) Specify whether you share the information with another party.
  - j) Specify the transaction information collected/maintained.

**Ex Libris:** Information on JMU or any party related to JMU is not collected through Alma or Primo; therefore, items a. through j. are not applicable.

**X. PCI Compliance:** Provide the following if the proposed solution processes card holder data or redirects to a separate payment site:

1. Up-to-date, signed documentation that the proposed solution and firm is compliant with

all PCI-DSS requirements.

**Ex Libris:** In terms of payment standards such as the Payment Card Industry Data Security Standard (PCI-DSS), Alma does not maintain credit card information and as such this regulation does not apply.

2. Documentation of your firm's most recent PCI system scan and the signature page from your Attestation of Compliance (AOC).

**Ex Libris:** Not applicable. See above.

3. If your firm and/or the proposed solution is not PCI-DSS compliant, explain why your firm/solution falls outside PCI-DSS scope and provide the most recent SOC 1 or SSAE-16 report.

**Ex Libris:** As mentioned, Alma does not maintain credit card information and as such this regulation does not apply.

The Ex Libris data centers received an in-depth audit of the centers' control objectives and control activities, including controls over information technology and all other related processes, resulting in a SSAE16 SOC1 service auditor's report.

#### **Y. Trial Access, Administrative Documentation, and Demonstration**

1. Provide information/instructions for JMU to test the functionality of the proposed system through trial access. JMU should be able to access the trial via username and password access or via IP-authenticated access from the date that the RFP closes through award of the contract. The JMU IP addresses are 134.126.\*.\* Specify if the trial access is being provided on any server other than the normal production server. If possible, the trial system(s) should demonstrate all features and contain a roughly equivalent number of records to JMU's collections (*e.g. 1.3 million bibliographic records, 100,000+ journal subscriptions*) for purposes of evaluating system robustness and responsiveness.

**Ex Libris:** We do not generally provide a trial environment for Alma with Primo VE. As an enterprise system, Alma is a library services platform that unifies workflows across print, electronic and optionally digital resource management. As such it replaces a number of legacy silos in use by the library including the integrated library system, e-resource management system, link resolver, MARC bibliographic and authority record services and more. Primo VE is built on the Alma platform with the end-user discovery services deeply integrated with and driven by back-office workflows and preferences in Alma. Primo VE replaces EDS.

Alma with Primo VE will be configured to appropriately reflect JMU's workflows and preferences as well as include your data as part of the implementation process. It is impossible to replicate the configurations, preferences and desired workflows that you would have in a generic trial environment. Without the comprehensive training provided by Ex Libris it would also be difficult to determine in a generic trial environment which capabilities are available in a real-world implementation (based on how the trial environment is configured or not to match JMU's preferences) in order to take advantage of the system's rich functionality and unified workflows.

As an alternative, Ex Libris would like to offer a hands-on workshop for JMU where our solution experts will come onsite and provide a guided hands-on orientation to Alma and Primo VE. This session would be in addition to any onsite demonstrations required as part of this procurement process. Following this hands-on workshop we are willing to provide access to a trial environment if JMU feels that this is still necessary.

In addition, the current Ex Libris customer noted in X.2 below have agreed to allow James Madison University access to their live production environments of Alma.

Finally, in addition to the references provided, we can also provide additional references that significantly exceed JMU's collection size and that can speak to the system's robustness and responsiveness.

2. Provide access to another customer's implementation of the proposed solution (*with their permission*) in order for JMU to test user experiences, including search and retrieval.

**Ex Libris:** Julie Kane from Washington and Lee University has agreed to allow James Madison University access to their Alma and Primo solutions to test user experiences such as search and retrieval.

3. Provide access (*via link or other electronic means*) to the full technical and administrative documentation for the proposed system.

**Ex Libris:** All software documentation is located on the Ex Libris Knowledge Center (<http://knowledge.exlibrisgroup.com/>) available without any need for registration or authentication. All documentation is thorough, with many screenshots and step by step examples. Alma documentation is also available from directly within the application, from where it may also be downloaded and reproduced. Alma includes context sensitive online help screens, as well as What's New videos following each monthly Alma release, and a step-by-step "Show Me How" function for specific areas of functionality in Alma. Documentation is updated with each Alma release, as appropriate.

4. The University may request select offerors to provide an in-person demonstration of their proposed system on either July 23<sup>rd</sup>, July 25<sup>th</sup>, or July 30<sup>th</sup>, 2019. **Selected offerors will be given as much advance notice as possible; however, all offerors should maintain flexibility in scheduling during those days.**

**Ex Libris:** Acknowledged. Ex Libris preference would be July 30<sup>th</sup>, 2019.



## ATTACHMENT A

## OFFEROR DATA SHEET

## TO BE COMPLETED BY OFFEROR

1. **QUALIFICATIONS OF OFFEROR:** Offerors must have the capability and capacity in all respects to fully satisfy the contractual requirements.
2. **YEARS IN BUSINESS:** Indicate the length of time you have been in business providing these types of goods and services.

Years 33 Months           

3. **REFERENCES:** Indicate below a listing of at least five (5) organizations, either commercial or governmental/educational, that your agency is servicing. Include the name and address of the person the purchasing agency has your permission to contact.

CLIENT	LENGTH OF SERVICE	ADDRESS	CONTACT PERSON/PHONE #
Northern Arizona University	Live on Alma/Primo since June 30, 2017	S San Francisco St. Flagstaff, AZ 86011	[REDACTED]
Fresno State University Library	Live on Alma/Primo since June 17, 2017	5200 North Barton Ave, M/S ML34 Fresno, CA 93740-8014	[REDACTED]
University of Lynchburg	Live on Alma/Primo since January 2018	1501 Lakeside Dr Lynchburg, VA 24501-3199	[REDACTED]
Virginia Commonwealth University	Live on Alma/Primo since October 2012	901 Park Ave 509 N 12th St Richmond, VA 23284-9056	[REDACTED]
Ball State University	Live on Alma since May 2018	2000 W University Ave Muncie, IN 47306	[REDACTED]

4. List full names and addresses of Offeror and any branch offices which may be responsible for administering the contract.

**EX LIBRIS****USA - CHICAGO**

1350 E Touhy Avenue, Suite 150 W

Des Plaines, IL 60018

Toll-free number: 1 800 762 6300

Tel: 1 847-296-2200

Fax: 1 847-296-5636

[info@exlibris-usa.com](mailto:info@exlibris-usa.com)

**EX LIBRIS****USA - SEATTLE**

1501 1st Ave S, Suite 400  
Seattle, WA 98134  
Toll-free number: 1 800 762 6300  
Tel: 1 206 545 9056  
[info@exlibris-usa.com](mailto:info@exlibris-usa.com)

---

**EX LIBRIS**

**ISRAEL**

Bldg. 9  
Malcha Technological Park  
Jerusalem, 9695809  
Tel: 972 2 649 9100  
Fax: 972 2 679 8634  
[exlibris@exlibrisgroup.com](mailto:exlibris@exlibrisgroup.com)

On rare occasions, some support services may be provided by our European affiliates. A list of our global offices is available on our corporate website, located at: <https://www.exlibrisgroup.com/offices/>

---

5. RELATIONSHIP WITH THE COMMONWEALTH OF VIRGINIA: Is any member of the firm an employee of the Commonwealth of Virginia who has a personal interest in this contract pursuant to the [CODE OF VIRGINIA](#), SECTION 2.2-3100 – 3131?

[ ] YES [ X ] NO

IF YES, EXPLAIN: \_\_\_\_\_

---

---

---

## ATTACHMENT B

Small, Women and Minority-owned Businesses (SWaM) Utilization Plan

Offeror Name: Ex Libris (USA) Inc Preparer Name: Rebecca CohenDate: May 14, 2019Is your firm a **Small Business Enterprise** certified by the Department of Small Business and Supplier Diversity (SBSD)? Yes        No XIf yes, certification number:                      Certification date:                     Is your firm a **Woman-owned Business Enterprise** certified by the Department of Small Business and Supplier Diversity (SBSD)? Yes        No XIf yes, certification number:                      Certification date:                     Is your firm a **Minority-Owned Business Enterprise** certified by the Department of Small Business and Supplier Diversity (SBSD)? Yes        No XIf yes, certification number:                      Certification date:                     Is your firm a **Micro Business** certified by the Department of Small Business and Supplier Diversity (SBSD)? Yes        No XIf yes, certification number:                      Certification date:                     

**Instructions:** *Populate the table below to show your firm's plans for utilization of small, women-owned and minority-owned business enterprises in the performance of the contract. Describe plans to utilize SWaMs businesses as part of joint ventures, partnerships, subcontractors, suppliers, etc.*

**Small Business:** "Small business " means a business, independently owned or operated by one or more persons who are citizens of the United States or non-citizens who are in full compliance with United States immigration law, which, together with affiliates, has 250 or fewer employees, or average annual gross receipts of \$10 million or less averaged over the previous three years.

**Woman-Owned Business Enterprise:** A business concern which is at least 51 percent owned by one or more women who are U.S. citizens or legal resident aliens, or in the case of a corporation, partnership or limited liability company or other entity, at least 51 percent of the equity ownership interest in which is owned by one or more women, and whose management and daily business operations are controlled by one or more of such individuals. **For purposes of the SWAM Program, all certified women-owned businesses are also a small business enterprise.**

**Minority-Owned Business Enterprise:** A business concern which is at least 51 percent owned by one or more minorities or in the case of a corporation, partnership or limited liability company or other entity, at least 51 percent of the equity ownership interest in which is owned by one or more minorities and whose management and daily business operations are controlled by one or more of such individuals. **For purposes of the SWAM Program, all certified minority-owned businesses are also a small business enterprise.**

**Micro Business** is a certified Small Business under the SWaM Program and has no more than twenty-five (25) employees **AND** no more than \$3 million in average annual revenue over the three-year period prior to their certification.

**All small, women, and minority owned businesses must be certified by the Commonwealth of Virginia Department of Small Business and Supplier Diversity (SBSD) to be counted in the SWAM program. Certification applications are available through SBSD at 800-223-0671 in Virginia, 804-786-6585 outside Virginia, or online at <http://www.sbsd.virginia.gov/> (Customer Service).**

***RETURN OF THIS PAGE IS REQUIRED***

**ATTACHMENT B (CNT'D)**  
**Small, Women and Minority-owned Businesses (SWaM) Utilization Plan**

Procurement Name and Number: Library Services and Discovery Platform(s)- RFP LBS-1035      Date Form Completed: May 14, 2019

Listing of Sub-Contractors, to include, Small, Woman Owned and Minority Owned Businesses  
for this Proposal and Subsequent Contract

Offeror / Proposer:

Ex Libris (USA) Inc.

Firm

1350 East Touhy Ave, Suite 150W, Des Plaines IL 60018

Address

Rebecca Cohen/ 847-544-9878

Contact Person/No.

Sub-Contractor's Name and Address	Contact Person & Phone Number	SBSD Certification Number	Services or Materials Provided	Total Subcontractor Contract Amount (to include change orders)	Total Dollars Paid Subcontractor to date (to be submitted with request for payment from JMU)
<p>Ex Libris is not a SWaM certified business, nor do we use subcontractors. We perform all services on our own, including implementation, support, training, and product development. While we have no objection to working with certified businesses, the specialized nature of our services, together with the expectations of our customers, normally dictates that our staff have advanced degrees in library science and/or computer science, and at least several years' experience in implementing and supporting software for academic libraries. Therefore, in the past we have not found it practical to partner with third parties.</p> <p>ProQuest, our parent company, is committed to improving the communities in which we work, live and serve. Our Procurement Policy supports the use of local, diverse and disadvantaged organizations to support our global platforms. We have a demonstrated commitment to exploring suitable options when conducting business and engaging in new partnerships. This includes seeking out and engaging in the appropriate business partner relationships that allow us to deliver a better research product. Despite our rapid growth, ProQuest has stayed true to our core value of allowing flexibility at the local level to engage business partners that help us to create better communities, not just a better bottom line. We work hard to incorporate this approach throughout our company so that we're not simply viewed as a supplier to our customers, but rather as part of their communities in turn.</p>					

*(Form shall be submitted with proposal and if awarded, again with submission of each request for payment)*

***RETURN OF THIS PAGE IS REQUIRED***

**ATTACHMENT D**  
**James Madison University**  
Information Technology Services Addendum

REDACTED- Final Negotiated version present at the beginning of contract

ATTACHMENT E  
COMMONWEALTH OF VIRGINIA AGENCY  
CONTRACT FORM ADDENDUM TO CONTRACTOR'S FORM

REDACTED- Unedited signed version of the COV Addendum Form is present at the beginning of the Contract.



## Section 7 REDACTED

pgs 357-424 of the ExLibris Proposal

HECVAT

SOC 2 Reports

Alma and Primo Penetration Test Scope &  
Evidence

**B. 8:**

Identify the amount of sales your company had during the last twelve months with each VASCUPP Member Institution. A list of VASCUPP Members can be found at: [www.VASCUPP.org](http://www.VASCUPP.org).

**Ex Libris:** No new contracts have been entered into with VASCUPP members in the past twelve months. Below, please find a list of the VASCUPP Member Institutions who are current Ex Libris customers and the products to which they most recently subscribed:

- Old Dominion University, contracted for Alma and Primo in November 2015
- George Mason University, contracted for Alma and Primo in June 2016
- University of Mary Washington, contracted for Alma and Primo in June 2016
- College of William and Mary, contracted for Alma and Primo in December 2015
- Virginia Commonwealth University became early adopters of Alma and the discovery layer Primo in June 2011.



## X. PRICING SCHEDULE

The offeror shall provide pricing for all products and services included in proposal indicating one-time and on-going costs including, but not limited to, the following:

- A. Licensing
- B. Data Migration
- C. Implementation Services
- D. Customization and Configuration Cost
- E. Ongoing Maintenance and Support
- F. Integrations
- G. Initial and Ongoing Training
- H. Professional Services
- I. All Other Cost (including optional costs)

Specify any associated charge card processing fees, if applicable, to be billed to the university. Vendors shall provide their VISA registration number when indicating charge card processing fees. Any vendor requiring information on VISA registration may refer to <https://usa.visa.com/support/small-business/regulations-fees.html> and for questions <https://usa.visa.com/support/small-business/regulations-fees.html>.

## Ex Libris Business Proposal for James Madison University

### Alma w/ Primo VE

#### **Annual Subscription Fee - \$215,529 USD**

*Alma with Primo VE is provided based on an all-inclusive subscription encompassing print, electronic, and optionally, digital resource management workflows. A standard sandbox for Alma and Primo VE is included with the subscription.*

*Alma is delivered as a cloud service. The date of project completion (go-live) will become the anniversary date of the subscription and the 1<sup>st</sup> subscription fee payment will be due at that time.*

#### **Implementation Services - \$118,909 USD**

*The Alma professional services project includes project management, kick-off meeting, training (web-based), on-site functional workshop and Alma certification. Pricing includes premium data migration for Alma; configuration of Alma for print and e-resource management across acquisitions, fulfillment, resource management, standard third-party integration, standard authentication (CAS, Shibboleth/SAML, LDAP).*

*An initial 50% payment for implementation services is due upon contract execution. The remaining 50% of the implementation services fee is due upon go-live.*



### **Optional items:**

#### **Alma Digital**

Annual Subscription Fee:	\$34,349
Implementation Services Fee:	\$8,000

#### **Alma/Primo VE Premium Sandbox**

*An optional premium offering including all of your data and configurations.*

Annual Subscription Fee:	\$32,644
--------------------------	----------

#### **Leganto, Affordable Learning Solution**

Annual Subscription Fee:	\$43,976
Implementation Services fee:	\$12,623

### **Notes:**

- ***Pricing is valid until Sept. 30, 2019 and is based on:***
  - *FTE – up to 22,310*
  - *Named users –155*
  - *Bibliographic titles (including e-books) – 1,748,363*
  - *Unique e-journal titles – 169,373*
  - *Alma Digital pricing based on 430,000 digital metadata records & 2.2 TB of cloud storage*
- *Changes to the metrics outlined above may result in changes to the price proposal.*
- *Pricing assumes a topology of one Alma institution and one Primo institution*
- *The initial subscription term is 5 years*
- *Travel and expenses are not included and will be billed based upon actual costs*
- *The annual subscription fee may be increased by no more than 5% on an annual basis, beginning in year 2 of the initial term.*
- *Vendor prefers ACH payment method*

### **James Madison University Growth Pricing Options**

As noted above, the pricing offered is based upon the metrics outlined and provided by James Madison University with applicable growth for the three-year initial subscription term. In the event that JMU exceeds any of these metrics during the initial term, an associated increase in subscription fees will be required. For the sake of price certainty, Ex Libris can provide growth pricing in the subscription agreement executed with JMU. Below we have provided an example of such growth pricing for FTE and named users as requested in Addendum One. In the event that the subscription parameters decrease, Ex Libris will work with JMU to adjust the subscription pricing at the start of the first renewal term, following the initial subscription term.

For a period of thirty-six (36) months from the Go Live Date, JMU may choose to:



- (i) Increase the number of Alma named users from 155 to up to 165, in which event the then-current annual Subscription Fee shall be increased by an amount of \$6,217 each year.
- (ii) Increase the number of Alma bibliographic titles (including e-books and local authority records) from 1,750,000 to up to 2,000,000 in which event the then-current annual Subscription Fee shall be increased by an amount of \$4,610 each year.
- (iii) Increase the number of Alma unique e-journal titles from 170,000 to up to 180,000 in which event the then-current annual Subscription Fee shall be increased by an amount of \$3,756 each year.
- (iv) Increase the number of Primo FTE from 22,310 to up to 28,000 in which event the then-current annual Subscription Fee shall be increased by an amount of \$2,971 each year.
- (v) Increase the number of Primo documents from 1,850,000 to up to 2,000,000 in which event the then-current annual Subscription Fee shall be increased by an amount of \$2,971 each year.

**SaaS Service Level Agreement  
(the "SLA")**

The Final Negotiated version of the Ex Libris SaaS License and SLA are present at the beginning of the Contract.



- operating systems
- network devices (switches/routers)
- backup systems
- server side performance

**B. For Sandbox**

Ex Libris makes no warranty or representation regarding Uptime. Ex Libris shall respond to Support Cases for Sandbox as follows:

- (i) Performance related issues: within two (2) business days.
- (ii) Non-performance related matters, including: general questions, requests for information, documentation questions, and enhancement requests: within four (4) business days.

# Ex Libris Accessibility Conformance Report

## Revised Section 508 Edition

VPAT® Version 2.2 – July 2018

**Name of Product/Version:** Ex Libris Primo – Primo VE / May 2019 release

**Product Description:** Ex Libris Primo provides a fast, comprehensive, and personalized discovery solution with the intuitive user experience library patrons have come to expect. A single search interface provides a gateway to a wealth of scholarly content, including print, electronic and digital collections. Primo's sophisticated search and relevancy ranking algorithm ensures the most relevant results, based on the context of the search and the user's profile.

**Date:** April 2019

### **Contact information:**

- Current customers: submit questions or issues by opening a case using the Support Portal.
- Prospective customers: contact [Primo\\_Product\\_Management@exlibrisgroup.com](mailto:Primo_Product_Management@exlibrisgroup.com)

**Notes:** Ex Libris is committed to providing an experience that is fully accessible to everyone. We make every effort to ensure that all Primo new Interface pages comply with

web accessibility guidelines. Due to the scale and complex nature of Primo Platform and services, this is an ongoing effort. We appreciate your feedback.

### **Evaluation Methods Used:**

Ex Libris Primo code is checked for accessibility using a range of visual, and manual checks. We also engaged in 2018 an outside accessibility firm to review core workflows of the site. This evaluation included review and feedback by individuals with disabilities.

Other tools used to test accessibility include:

- NVDA with Firefox
- Color Contrast Analyzer provided by WebAIM
- Chrome aXe Extension
- Mozilla Web Developer Add-On
- Browser developer tools
- Manual keyboard checks
- Manual code inspection

### **Applicable Standards/Guidelines**

This report covers the degree of conformance for the following accessibility standard/guidelines:

Standard/Guideline	Included In Report
--------------------	--------------------

Web Content Accessibility Guidelines 2.0, at <a href="http://www.w3.org/TR/2008/REC-WCAG20-20081211/">http://www.w3.org/TR/2008/REC-WCAG20-20081211/</a>	Level A (Yes) Level AA (Yes)
<a href="#">Revised Section 508 standards</a> as published by the U.S. Access Board in the Federal Register on January 18, 2017 <a href="#">Corrections to the ICT Final Rule</a> as published by the US Access Board in the Federal Register on January 22, 2018	(Yes)

## Terms

The terms used in the Conformance Level information are defined as follows:

- **Supports:** The functionality of the product has at least one method that meets the criterion without known defects or meets with equivalent facilitation.
- **Partially Supports:** Some functionality of the product does not meet the criterion.
- **Does Not Support:** The majority of product functionality does not meet the criterion.
- **Not Applicable:** The criterion is not relevant to the product.
- **Not Evaluated:** The product has not been evaluated against the criterion. This can be used only in WCAG 2.0 Level AAA.

## WCAG 2.0 Report

Tables 1 and 2 also document conformance with:

- Chapter 5 – 501.1 Scope, 504.2 Content Creation or Editing
- Chapter 6 – 602.3 Electronic Support Documentation

Note: When reporting on conformance with the WCAG 2.0 Success Criteria, they are scoped for full pages, complete processes, and accessibility-supported ways of using technology as documented in the [WCAG 2.0 Conformance Requirements](#).

## Table 1: Success Criteria, Level A

Notes:

Criteria	Conformance Level	Remarks and Explanations
<p><b>1.1.1 Non-text Content</b> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Partially Supports	<p>Primo is designed to support alternative access to non-text content wherever possible.</p> <p>Images used to represent functionality or actions have associated text labels (or alt /title text if a text label is not appropriate).</p> <p>Decorative images have blank alt text, so they will be ignored by assistive technology.</p> <p>Controls: Text labels identify all form fields. Label / ids and other accessible code necessary for screen readers are associated with all form elements.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• Virtual Browse - images have missing ALT attributes</li> <li>• The term "Multiple Versions Image" is used for all image descriptions, regardless of whether the item is a Book, Journal, or is an item that is listed with Multiple Versions. This information should be specific to the element referenced.</li> </ul> <p>Compliance of this standard was validated with NVDA with Firefox</p>
<p><b>1.2.1 Audio-only and Video-only (Prerecorded)</b> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul>	Not Applicable	There is no time-based and synchronized media

Criteria	Conformance Level	Remarks and Explanations
<ul style="list-style-type: none"> <li>602.3 (Support Docs)</li> </ul>		
<p><b><u>1.2.2 Captions (Prerecorded)</u></b> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Not Applicable	There is no prerecorded audio
<p><b><u>1.2.3 Audio Description or Media Alternative (Prerecorded)</u></b> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Not Applicable	There is no time-based media or audio description of the prerecorded video content
<p><b><u>1.3.1 Info and Relationships</u></b> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Partially Supports	<p>The site employs the following to support this:</p> <ul style="list-style-type: none"> <li>labels/ids with form elements</li> <li>markup for lists &amp; headings</li> <li>CSS to control the visual presentation of text</li> <li>Correct use of semantic markup (bold, italics, etc.)</li> </ul> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>In My Favorites – Search History, the heading element is empty</li> <li>Missing heading in sections: "How does this work?" "Where can I get help?" "Questions?" and "No records found"</li> <li>In Library Card, NVDA reads wrong identification of tabs in Firefox</li> <li>The first "Click to sign in, change language and access library card" button opens the main menu modal. There's no main heading in the modal.</li> </ul>



Criteria	Conformance Level	Remarks and Explanations
		Compliance of this standard was validated by NVDA, Mozilla Web Developer Add-On and manual visual checks.
<p><a href="#"><u>1.3.2 Meaningful Sequence</u></a> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Partially Supports	<p>Content is ordered in a meaningful sequence even supporting facet to the left of the page.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• In Browse – Content, it does not have a meaningful sequence</li> </ul> <p>Compliance of this standard was validated by NVDA, Mozilla Web Developer Add-On and manual visual checks.</p>
<p><a href="#"><u>1.3.3 Sensory Characteristics</u></a> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports	<p>Instructions provided do not rely solely on sensory characteristics of components such as shape, size, visual location, orientation, or sound. Typically, descriptive text and labels are used.</p> <p>Compliance of this standard was validated using manual visual and keyboard checks.</p>
<p><a href="#"><u>1.4.1 Use of Color</u></a> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Partially Supports	<p>Color is used to enhance usability by drawing attention to certain areas of the screen.</p> <p>Color is not the only means of conveying information,</p>

Criteria	Conformance Level	Remarks and Explanations
		<p>indicating an action, prompting a response, or distinguishing a visual element.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>Section "Where can I get help?" Hyperlinks are indicated by color alone</li> </ul> <p>Compliance of this standard was validated using manual visual checks.</p>
<p><a href="#">1.4.2 Audio Control</a> (Level A)</p> <p>Also applies to:</p> <p>Revised Section 508</p> <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Not Applicable	There is no audio content
<p><a href="#">2.1.1 Keyboard</a> (Level A)</p> <p>Also applies to:</p> <p>Revised Section 508</p> <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Partially Supports	<p>This product is designed for keyboard access. Product functionality is available and executable from a keyboard.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>Advanced Search - Content presentation changes on mouse-over and changes differently on keyboard focus</li> <li>Full display: screen reader doesn't read non linked text when using keyboard navigation</li> <li>Tweak My Results -when using multiple selection of filters values there is no indication on "Apply Filters" button</li> </ul>

Criteria	Conformance Level	Remarks and Explanations
		Compliance of this standard was validated using manual keyboard checks.
<p><a href="#">2.1.2 No Keyboard Trap</a> (Level A)</p> <p>Also applies to:</p> <p>Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Partially Supports	<p>Focus can be moved to and away from components using only a keyboard.</p> <ul style="list-style-type: none"> <li>• When using the keyboard to navigate through a full record display, a user is unable to navigate backwards (using shift+tab) out of the "Send To" area, same for navigating via the main menu links ( Issue was reported by Ex Libris to Angular materials )</li> </ul> <p>Compliance of this standard was validated using manual keyboard checks.</p>
<p><a href="#">2.2.1 Timing Adjustable</a> (Level A)</p> <p>Also applies to:</p> <p>Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports	<p>This site does not require timed responses.</p> <p>There is a time limit to the user's session, however the user is alerted when the time limit is approaching and can extend their session if required.</p> <p>Compliance of this standard was validated using manual visual checks.</p>
<p><a href="#">2.2.2 Pause, Stop, Hide</a> (Level A)</p> <p>Also applies to:</p> <ul style="list-style-type: none"> <li>• </li> </ul> <p>Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports	<p>There is no moving, blinking, scrolling, or auto-updating content on the site.</p> <p>Compliance of this standard was validated using manual visual checks.</p>

Criteria	Conformance Level	Remarks and Explanations
<p><b><u>2.3.1 Three Flashes or Below Threshold</u></b> (Level A)</p> <p>Also applies to:</p> <p>Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports	This product does not use flashing or blinking elements in the user interface.
<p><b><u>2.4.1 Bypass Blocks</u></b> (Level A)</p> <p>Also applies to:</p> <p>Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software) – Does not apply to non-web software</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs) – Does not apply to non-web docs</li> </ul>	Partially Supports	<p>Heading structure and landmark markup can be used to skip blocks of content. In addition "Skip Navigation" links allow to bypass the header, search bar etc...</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• Skip Links - "Skip to search" doesn't work</li> <li>• Collection Discovery - Skip links not present</li> </ul> <p>Compliance of this standard was validated using manual keyboard checks.</p>
<p><b><u>2.4.2 Page Titled</u></b> (Level A)</p> <p>Also applies to:</p> <p>Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Partially Supports	<p>All pages on the site have descriptive page titles. Primo allows customers to customize their own descriptive page titles.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• Services Page in case of invalid record – missing page title</li> </ul> <p>Compliance of this standard was validated using WAVE and manual visual checks.</p>
<p><b><u>2.4.3 Focus Order</u></b> (Level A)</p> <p>Also applies to:</p> <p>Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> </ul>	Supports	Page elements and functionality are placed in an order that follows the sequences and relationships in the content

Criteria	Conformance Level	Remarks and Explanations
<ul style="list-style-type: none"> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>		Compliance of this standard was validated using manual keyboard checks.
<p><a href="#">2.4.4 Link Purpose (In Context)</a> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Partially Supports	<p>Meaningful link text has been used throughout Primo. Where link text could be considered ambiguous, we have provided title attribute text with additional information.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>The pagination links are not clear to a screen reader user</li> </ul> <p>Compliance of this standard was validated using manual visual checks and NVDA+Fireforx</p>
<p><a href="#">3.1.1 Language of Page</a> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Supports	<p>The language of each page has been specified in the HTML.</p> <p>Compliance of this standard was validated using manual visual and keyboard checks.</p>
<p><a href="#">3.2.1 On Focus</a> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Supports	<p>Context is not changed on focus alone.</p> <p>Compliance of this standard was validated using manual visual and keyboard checks.</p>
<p><a href="#">3.2.2 On Input</a> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> </ul>	Supports	<p>Context is not changed automatically – appropriate controls are provided.</p> <p>Compliance of this standard was validated using manual visual and keyboard checks.</p>

Criteria	Conformance Level	Remarks and Explanations
<ul style="list-style-type: none"> <li>602.3 (Support Docs)</li> </ul> <b>3.3.1 Error Identification</b> (Level A) Also applies to: Revised Section 508 <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Partially Supports	Invalid fields are visual marked, required fields are marked Errors describe the problem and inform the user where the problem occurred  <b>Exceptions</b> <ul style="list-style-type: none"> <li>In the "Personalize my results screen" when more than five disciplines are selected, the message appears on the screen is not announced</li> <li>Errors are not identified on submission of an empty or invalid form. Empty search query</li> </ul>
<b>3.3.2 Labels or Instructions</b> (Level A) Also applies to: Revised Section 508 <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Partially Supports	Labels or instructions are provided when content requires input. Upon focus on components important cues and instructions are provided.  <b>Exceptions</b> <ul style="list-style-type: none"> <li>Send Email - Error messages have not been included in the LABEL element or programmatically associated with the input field</li> <li>Citation Linker – missing Month/Date field label</li> <li>Advanced Search - Date fields are not coded using the FIELDSET element</li> <li>Citation Linker - The Submit button text does not adequately describe the function of the button</li> <li>Advanced search – Day, Month, Year are missing labels or instructions about behavior or use of these form fields</li> </ul> Compliance of this standard was validated using manual visual checks and NVDA+Firefox



Criteria	Conformance Level	Remarks and Explanations
<p><b>4.1.1 Parsing</b> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Partially Supports	<p>Pages conform to HTML web standards.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• In Actions, when selecting one of the Action buttons (Citation, Email, etc), the tabbed interface is incorrectly implemented</li> </ul> <p>Compliance of this standard was validated using WAVE and developer tools.</p>
<p><b>4.1.2 Name, Role, Value</b> (Level A)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Partially Supports	<p>Pages conform to HTML web standards, so the name and role of all UI components can be determined.</p> <p>Text labels identify all form fields. Label / ids and other accessible code necessary for screen readers are associated with all form elements.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• Save Query is missing instructions how to "Turn on notification for this query"</li> <li>• When opening the main menu modal dialog, the content is wrapped with role="document" to keep NVDA from switching into forms mode, works in Chrome not in Firefox</li> </ul> <p>Compliance of this standard was validated using WAVE and manual visual checks.</p>

**Table 2: Success Criteria, Level AA**

Notes:

Criteria	Conformance Level	Remarks and Explanations
<b><u>1.2.4 Captions (Live)</u></b> (Level AA) Also applies to: Revised Section 508 <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Not applicable	The product does not contain live audio or video content.
<b><u>1.2.5 Audio Description (Prerecorded)</u></b> (Level AA) Also applies to: Revised Section 508 <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Not applicable	The product does not contain video content.
<b><u>1.4.3 Contrast (Minimum)</u></b> (Level AA) Also applies to: Revised Section 508 <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Supports	The product meets minimum color contrast guidelines.  Verified using WebAIM and Chrome aXe Extension
<b><u>1.4.4 Resize text</u></b> (Level AA) Also applies to: Revised Section 508 <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Supports	Text can be resized, Primo designed to be responsive ensuring that the content remains usable when the text is resized.  Verified using manual browser zooms
<b><u>1.4.5 Images of Text</u></b> (Level AA) Also applies to: Revised Section 508 <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> </ul>	Supports	HTML/CSS is used to present visual elements whenever possible.  This standard was evaluated using manual visual checks.

Criteria	Conformance Level	Remarks and Explanations
<ul style="list-style-type: none"> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul> <p><b>2.4.5 Multiple Ways</b> (Level AA)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software) – Does not apply to non-web software</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs) – Does not apply to non-web docs</li> </ul>	Supports	<p>More than one way is available to locate the following in Primo:</p> <ul style="list-style-type: none"> <li>• Search results by using "Save Query" or "Search history"</li> <li>• Content can be found by using the Search bar from the Library search page or My Favorites page ...</li> <li>• Content can be found by navigating via the Main Menu links</li> <li>• My favorites allows user to navigate to his favorites records.</li> <li>• Primo allows patrons to email / print / push records to citations managers etc...</li> </ul> <p>Compliance of this standard was validated using manual visual checks.</p>
<p><b>2.4.6 Headings and Labels</b> (Level AA)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Partially Supports	<p>Descriptive headings and labels have been used throughout the interface.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• Meaningful label/alert message for loading graphic</li> </ul> <p>Compliance of this standard was validated using manual visual checks and Mozilla Web Developer Add-On.</p>
<p><b>2.4.7 Focus Visible</b> (Level AA)</p> <p>Also applies to: Revised Section 508</p>	Supports	<p>The site has been implemented to support the default focus indicator for the device being used.</p>

Criteria	Conformance Level	Remarks and Explanations
<ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>		<p>In addition, most link text and other elements have been styled to change in visual appearance when the mouse hovers or tabs over them.</p> <p>For instance, on mouse hover, links are underlined. On tab focus, links are underlined and display a gray outline. Form input fields display with a heavier border on focus.</p> <p>Compliance of this standard was validated using manual visual checks.</p>
<p><b>3.1.2 Language of Parts</b> (Level AA)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Partially Supports	<p>Single language is used on pages. Primo supports out of the box translations for 22 languages and allow to adjust the translations of pre-defined headings and labels</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• The content (e.g. searched titles, facet values) may include text that is in a different language than the primary language of document. The site is not coded to identify changes to language in the content.</li> <li>• Also content integrated from other systems i.e. bX recommendations or Syndetics Unbound will remain with its original language.</li> </ul>
<p><b>3.2.3 Consistent Navigation</b> (Level AA)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software) – Does not apply to non-web software</li> </ul>	Supports	<p>The primary site navigation links appear in the same place and the same order on every page of the site.</p> <p>Compliance of this standard was validated using manual</p>

Criteria	Conformance Level	Remarks and Explanations
<ul style="list-style-type: none"> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs) – Does not apply to non-web docs</li> </ul>		visual checks.
<p><b>3.2.4 Consistent Identification</b> (Level AA)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>501 (Web)(Software) – Does not apply to non-web software</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs) – Does not apply to non-web docs</li> </ul>	Supports	<p>Care has been taken to identify components with the same functionality consistently throughout the site.</p> <p>Compliance of this standard was validated using manual visual checks.</p>
<p><b>3.3.3 Error Suggestion</b> (Level AA)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Partially Supports	<p>Suggestions for error correction are made when applicable.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>In Send Email, the error messages have not been included in the LABEL element or programmatically associated with the input field</li> </ul> <p>Compliance of this standard was validated using manual visual checks.</p>
<p><b>3.3.4 Error Prevention (Legal, Financial, Data)</b> (Level AA)</p> <p>Also applies to: Revised Section 508</p> <ul style="list-style-type: none"> <li>501 (Web)(Software)</li> <li>504.2 (Authoring Tool)</li> <li>602.3 (Support Docs)</li> </ul>	Not Applicable	

# Revised Section 508 Report

Notes:

## Chapter 3: Functional Performance Criteria (FPC)

Notes:

Criteria	Conformance Level	Remarks and Explanations
302.1 Without Vision	Partially Supports	<p>Primo is coded to work with screen readers and other assistive technologies, taking in mind the needs of people without vision. However there are some issues that may affect the user. These exceptions are listed in the following sections:</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• <a href="#">2.1.1 Keyboard (Level A)</a></li> <li>• <a href="#">2.4.4 Link Purpose (In Context) (Level A)</a></li> <li>• <a href="#">3.3.2 Labels or Instructions (Level A)</a></li> <li>• <a href="#">3.3.1 Error Identification (Level A)</a></li> <li>• <a href="#">4.1.2 Name, Role, Value (Level A)</a></li> </ul>
302.2 With Limited Vision	Partially Supports	<p>Primo is coded to work with screen readers and other assistive technologies. In addition, text size can be adjusted through standard browser functionality. However there are some issues that may affect the user. These exceptions are listed in the following sections:</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• <a href="#">2.1.1 Keyboard (Level A)</a></li> <li>• <a href="#">2.4.4 Link Purpose (In Context) (Level A)</a></li> <li>• <a href="#">3.3.1 Error Identification (Level A)</a></li> <li>• <a href="#">3.3.2 Labels or Instructions (Level A)</a></li> <li>• <a href="#">4.1.2 Name, Role, Value (Level A)</a></li> </ul>
302.3 Without Perception of Color	Supports	<p>Color is used to enhance usability by drawing attention to certain areas of the screen. Color is never the only means of conveying information, indicating an action, prompting a response, or</p>



Criteria	Conformance Level	Remarks and Explanations
		distinguishing a visual element.  If needed, the product's CSS can be overridden using the browser.
302.4 Without Hearing	Supports	User hearing is not required to use features that are available in the product.
302.5 With Limited Hearing	Supports	User hearing is not required to use features that are available in the product.
302.6 Without Speech	Supports	User hearing is not required to use features that are available in the product.
302.7 With Limited Manipulation	Partially Supports	All screen elements are designed to be accessible for users with poor motor control (e.g., clickable areas are suitably sized and spaced). Links and form elements can be accessed using the tab key.  <b>Exceptions</b>  In a few cases controls are not reachable with keyboard only (see <a href="#">2.1.1 Keyboard (Level A)</a> )
302.8 With Limited Reach and Strength	Partially Supports	At least one mode of operation that is operable with limited reach and limited strength.  <b>Exceptions</b>  In a few cases controls are not reachable with keyboard only (see <a href="#">2.1.1 Keyboard (Level A)</a> )
302.9 With Limited Language, Cognitive, and Learning Abilities	Supports	The product provides features that make its use by individuals with limited cognitive, language, and learning abilities simpler and easier.  For example: <ul style="list-style-type: none"> <li>• Audio does not automatically play on load, minimizing distractions.</li> <li>• Form fields are presented in a standard, consistent way across the product.</li> </ul> Form elements are properly labeled.

## Chapter 4: Hardware

Notes: This section is not applicable to this web product and has been removed.

## Chapter 5: Software

Notes:

Criteria	Conformance Level	Remarks and Explanations
501.1 Scope – Incorporation of WCAG 2.0 AA	See <a href="#">WCAG 2.0</a> section	See information in WCAG section
<b>502 Interoperability with Assistive Technology</b>	Heading cell – no response required	Heading cell – no response required
502.2.1 User Control of Accessibility Features	Supports	Primo is coded in a consistent way not interfere with accessibility features that are available through the user's operating system or browser. For example, users can use high contrast mode, text resize, and speech output.
502.2.2 No Disruption of Accessibility Features	Supports	Primo is coded in a way so that platform features that are defined in the platform documentation as accessibility features are not disrupted.
<b>502.3 Accessibility Services</b>	Heading cell – no response required	Heading cell – no response required
502.3.1 Object Information	Partially Supports	<p>Primo is coded in a way so that object role, state(s), properties, boundary, name, and description are available for assistive technology.</p> <p><b>Exceptions</b></p> <p>In a few cases control names and states are not available to the user (see <a href="#">3.3.2 Labels or Instructions (Level A)</a>) and <a href="#">4.1.2 Name, Role, Value (Level A)</a>).</p>
502.3.2 Modification of Object Information	Partially Supports	<p>Primo is coded in a way so that states and properties states and properties that can be set by the user are capable of being set programmatically, including through assistive technology.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• <a href="#">3.3.2 Labels or Instructions (Level A)</a></li> </ul>

Criteria	Conformance Level	Remarks and Explanations
502.3.3 Row, Column, and Headers	Supports	Primo is coded in a way to programmatically identify tabular controls as tables and expose row and column headers for a table control.
502.3.4 Values	Partially Supports	<p>Primo is coded in a way to expose the current value of all user interface controls.</p> <p>If user interface controls represent one of a range of values, programmatically exposing the minimum and maximum values to determine the range of allowed values</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• see <a href="#">3.3.2 Labels or Instructions (Level A)</a></li> </ul>
502.3.5 Modification of Values	Partially Supports	<p>Primo is coded in a way so that the value of a user interface control can be set by the user, allowing the value to be set programmatically including through assistive technology</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• <a href="#">3.3.2 Labels or Instructions (Level A)</a></li> </ul>
502.3.6 Label Relationships	Partially Supports	<p>Primo is coded in a way exposing labels, exposing relationships between a control and any text or other component that provides additional information about the control such as description, instructions, grouping or identifying a required field.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• <a href="#">3.3.2 Labels or Instructions (Level A)</a></li> </ul>
502.3.7 Hierarchical Relationships	Partially Supports	Primo is coded in a way to programmatically expose the parent of all user interface

Criteria	Conformance Level	Remarks and Explanations
		<p>objects, expose the children, if any, of all user interface objects, and expose any relations between user interface objects and those that contain them</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• <a href="#">4.1.2 Name, Role, Value (Level A)</a></li> </ul>
502.3.8 Text	Supports	Primo is coded in a way to expose the content of text objects, text attributes, and the boundary of text rendered to the screen
502.3.9 Modification of Text	Supports	Primo is coded in a way so that when the rich text is editable, it exposes the ability to cut, copy, paste, insert and set the attributes of the text
502.3.10 List of Actions	Partially Supports	<p>Primo is coded in a way to expose all actions that can be executed on an object</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• <a href="#">2.4.4 Link Purpose (In Context) (Level A)</a></li> <li>• <a href="#">3.3.2 Labels or Instructions (Level A)</a></li> <li>• <a href="#">4.1.2 Name, Role, Value (Level A)</a></li> </ul>
502.3.11 Actions on Objects	Partially Supports	<p>Primo is coded in a way to expose all actions that can be executed on an object</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• <a href="#">2.4.4 Link Purpose (In Context) (Level A)</a></li> <li>• <a href="#">3.3.2 Labels or Instructions (Level A)</a></li> <li>• <a href="#">4.1.2 Name, Role, Value (Level A)</a></li> </ul>
502.3.12 Focus Cursor	Partially Supports	The current input focus can be discerned by assistive technology (using standard html code for forms, etc.).

Criteria	Conformance Level	Remarks and Explanations
		<p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• <a href="#">2.4.7 Focus Visible (Level AA)</a></li> </ul>
502.3.13 Modification of Focus Cursor	Partially Supports	<p>Users are able to modify the location of focus (for user focusable controls), the text insertion point (caret) (when a caret exists), and change selection attributes of objects (when text and items can be selected by the user).</p> <p>This standard was evaluated using keyboard and manual visual checks.</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• <a href="#">2.4.7 Focus Visible (Level AA)</a></li> </ul>
502.3.14 Event Notification	Partially Supports	<p>Primo is coded in a way to</p> <p>notify assistive technologies (AT) of events relevant to user interactions, including but not limited to changes in the component's state(s), value, name, description, or boundary</p> <p><b>Exceptions</b></p> <ul style="list-style-type: none"> <li>• <a href="#">3.3.1 Error Identification (Level A)</a></li> </ul>
502.4 Platform Accessibility Features	Supports	<p>This product is coded in a way to:</p> <ul style="list-style-type: none"> <li>• Enable sequential entry of multiple (chorded) keystrokes</li> <li>• Provide adjustment of delay before key acceptance</li> <li>• Provide adjustment of same-key double-strike</li> </ul>

Criteria	Conformance Level	Remarks and Explanations
		acceptance  Note: there is no audio or video output
<b>503 Applications</b>	Heading cell – no response required	Heading cell – no response required
503.2 User Preferences	Supports	Primo is coded to: Support systems settings for high contrast for all user interface controls and client area content  Inherit system settings for color, font type and font size for all elements of the user interface  Inherit system settings for the focus cursor The CSS style sheet can be overridden in the product using the browser settings. Compliance of this standard was validated using manual visual checks and browser contrast plugins
503.3 Alternative User Interfaces	Not Applicable	Primo doesn't provide alternative user interface that functions as assistive technology
<b>503.4 User Controls for Captions and Audio Description</b>	Heading cell – no response required	Heading cell – no response required
503.4.1 Caption Controls	Not Applicable	There is no audio or video content
503.4.2 Audio Description Controls	Not Applicable	There is no audio or video content
<b>504 Authoring Tools</b>	Heading cell – no response required	Heading cell – no response required
504.2 Content Creation or Editing (if not authoring tool, enter "not applicable")	See <a href="#">WCAG 2.0</a> section	See information in WCAG section
504.2.1 Preservation of Information Provided for Accessibility in Format Conversion	Not Applicable	There are no web content authoring tools



Criteria	Conformance Level	Remarks and Explanations
504.2.2 PDF Export	Not Applicable	There are no web content authoring tools
504.3 Prompts	Not Applicable	There are no web content authoring tools
504.4 Templates	Not Applicable	There are no web content authoring tools

## Chapter 6: Support Documentation and Services

Notes:

Criteria	Conformance Level	Remarks and Explanations
<b>601.1 Scope</b>	Heading cell – no response required	Heading cell – no response required
<b>602 Support Documentation</b>	Heading cell – no response required	Heading cell – no response required
602.2 Accessibility and Compatibility Features		
602.3 Electronic Support Documentation	See <a href="#">WCAG 2.0</a> section	See information in WCAG section
602.4 Alternate Formats for Non-Electronic Support Documentation		
<b>603 Support Services</b>	Heading cell – no response required	Heading cell – no response required
603.2 Information on Accessibility and Compatibility Features		
603.3 Accommodation of Communication Needs		

This report does not cover the following product areas:

- **Primo Admin**
- **Primo Analytics** uses Oracle Business Intelligence (OBI), a third-party tool. Please see Oracle's [accessibility statement](#)
- **Primo Studio**

## Legal Disclaimer (Company)

This Accessibility Conformance Report represents the specific release of the product described, as of the date of this document. Notwithstanding the information contained in the Accessibility Conformance Report, if use of the product is subject to a license agreement, the terms and conditions of the product's license agreement remain in full force and effect, including any limitation of liability and disclaimer of warranties provisions.

## Accessibility Roadmap

### Vendor/Product Information

Vendor Name	Ex Libris
Product Name	Primo \ Primo VE
Product Version	Primo May 2019 release
Completion Date	17 April 2019
Contact Name/Title	Nili Natan – Product Manager of Discovery & Delivery
Contact Email/Phone	Nili.Natan@exlibrisgroup.com

### Specific Issues

Issue Description	Current Status (Open, Closed, I/P)	Disposition (Planned, Deferred, I/P)	Remediation Timeline	Available Workarounds	Comments	WCAG Success Criteria
In the "Personalize my results screen" when more than five disciplines are selected, the message appearing on the screen is not announced	I/P	I/P			Pending NVDA support response	SC 3.3.1
In Citations, after clicking on "Copy the citation to clipboard" the indication of "Citation is copied" is not announced	Closed	Planned	First half of 2019		Fixed in May	SC 3.3.2
In "Tweak my results" the Exclude button can't be reached using keyboard	Closed	Planned	First half of 2019		Fixed in May	SC 2.1.1
In Advanced Search panel, the listbox controls (Title, Contains, etc.), at the bottom, are unlabeled	Closed	Planned	First half of 2019		Fixed in May	SC 3.3.2

Issue Description	Current Status (Open, Closed, I/P)	Disposition (Planned, Deferred, I/P)	Remediation Timeline	Available Workarounds	Comments	WCAG Success Criteria
Selecting "Save this search" button produces a status message that disappears after a few seconds. No information is provided to screen reader users	I/P	I/P			Pending NVDA Support's response.	
In My Favorites, the action controls are disabled when the page is displayed - This is unclear to users as there are no instructions	Closed	Planned			Fixed in May	SC 3.3.2
The "Add to favorites" button label is confusing, as is "Keep item number X to favorites"	Closed	Planned			Fixed in May	SC 3.3.2
When selecting the Citation button, the tabbed interface is incorrectly implemented	Closed	Planned	First half of 2019		Fixed in May	SC 4.1.1
Error messages in the Sign In dialog are not associated with the fields, and fields are not marked as invalid	Closed	Planned	First half of 2019		Fixed in May	3.3.1 Error Identification 3.3.3 Error Suggestion
Selecting "Sign In" displays a modal dialog. Focus is not placed in the dialog, and not returned to the activating element	Closed	Planned	First half of 2019		Fixed in May	2.1.1 Keyboard 2.4.3 Focus Order

Issue Description	Current Status (Open, Closed, I/P)	Disposition (Planned, Deferred, I/P)	Remediation Timeline	Available Workarounds	Comments	WCAG Success Criteria
The first "Click to sign in, change language and access library card" button opens the main menu modal. There's no main heading in the modal.	Closed	Planned	first half OF 2019		Fixed in May	1.3.1 Info and Relationships 2.4.1 Bypass Blocks 2.4.6 Headings and Labels
Virtual Browse - images have missing ALT attributes	Open	Planned	Second half of 2019			SC 1.1.1
The Virtual Browse – screen reader reads non linked text (such as the item description, publisher) only on hovering, missing announcement upon keyboard navigation	Open	Planned	Second half of 2019			SC 2.1.1
The term "Multiple Versions Image" is used for all image descriptions, regardless of whether the item is a Book, Journal, or is an item that is listed with Multiple Versions. This information should be specific to the element referenced.	Open	Planned	Second half of 2019		Ensure the image description is relevant and appropriate to the element being referenced	SC 1.1.1

Issue Description	Current Status (Open, Closed, I/P)	Disposition (Planned, Deferred, I/P)	Remediation Timeline	Available Workarounds	Comments	WCAG Success Criteria
In Advanced Search, the Date fields are not coded using the FIELDSET element	Open	Planned	Second half of 2019			SC 3.3.2
In Citation Linker, the Submit button text does not adequately describe the function of the button.	Open	Planned	Second half of 2019			SC 3.3.2
In Advanced search, the Day, Month, Year are missing labels or instructions about behavior or use of these form fields	Open	Planned	Second half of 2019			SC 3.3.2
Errors are not identified on submission of an empty or invalid form. For example, when submitting empty fields in simple search, there is no error message or indication that the search did not execute.	Open	Planned	Second half of 2019			SC 3.3.1
In Citation Linker, it is missing Month/Date field label	Open	Planned	Second half of 2019			SC 3.3.2
In Send Email, the error messages have not been included in the LABEL element or programmatically associated with the input field	Open	Planned	Second half of 2019			SC 3.3.2 / SC 3.3.3



Issue Description	Current Status (Open, Closed, I/P)	Disposition (Planned, Deferred, I/P)	Remediation Timeline	Available Workarounds	Comments	WCAG Success Criteria
The pagination links are not clear to a screen reader user	Open	Planned	First half of 2020			SC 2.4.4
In Skip Links, the "Skip to search" doesn't work	Open	Planned	Second half of 2019			SC 2.4.1
In Collection Discovery, the skip links are not present	Open	Planned	Second half of 2019			SC 2.4.1
In Services Page, in case of invalid record is missing page title	Open	Planned	First half of 2020			SC 2.4.2
In My Favorites – Search History, the heading element is empty	Open	Planned	Second half of 2019			SC 1.3.1
Missing heading in sections: "How does this work?" " Where can I get help?" " Questions?" and " No records found"	Open	Planned	First half of 2020			SC 1.3.1
In Browse – Content, it does not have a meaningful sequence	Open	Planned	First half of 2019			SC 1.3.2
In the "Where can I get help?", the hyperlinks are indicated by color alone	Open	Planned	First half of 2019			SC 1.4.1
In Advanced Search, the content presentation changes on mouse-over and changes differently on keyboard focus e.g. Any field contains...	Open	Planned	Second half of 2020			SC 2.1.1

Issue Description	Current Status (Open, Closed, I/P)	Disposition (Planned, Deferred, I/P)	Remediation Timeline	Available Workarounds	Comments	WCAG Success Criteria
In Full Display – "Send To", is unable to navigate in reverse tab order out of the "Send To". Same for the "Main Menu" dialog	I/P	I/P			Issue was reported by Ex Libris to Angular materials, following this to get solution <a href="https://github.com/angular/material/issues/10419">https://github.com/angular/material/issues/10419</a>	SC 2.1.2
In Chrome, the results section is not read at all by NVDA & JAWS	I/P	I/P			<b>Inconsistent</b> in reproducing. Pending NVDA support response.	SC 2.4.6
In Actions, when selecting one of the Action buttons (Citation, Email, etc), the tabbed interface is incorrectly implemented	Open	Planned	Second half of 2020			SC 4.1.1
In Library Card, NVDA reads wrong identification of tabs in Firefox	Open	Planned			Works as expected in Chrome  Pending NVDA support response	SC 1.3.1

Issue Description	Current Status (Open, Closed, I/P)	Disposition (Planned, Deferred, I/P)	Remediation Timeline	Available Workarounds	Comments	WCAG Success Criteria
Save Query is missing instructions how to "Turn on notification for this query"	Open	Planned	Second half of 2020	Option to turn on notification from My Favorites - Save Searches		SC 4.1.2
In Tweak My Results, there is no indication on "Apply Filters" button when using multiple selection of filters value	Open	Planned	First half of 2020			SC 2.1.1
Meaningful label/alert message for loading graphic	Open	Planned	First half of 2020		When Jaws tries to provide an interpretation for the loading graphic it reads a long string of code e.g. "right brace, right brace, ::\$\$.....".	2.4.6

### Additional Information

This Primo accessibility roadmap is based on input from accessibility report conducted in April 2018 by an external accessibility company, other accessibility reports sent by customers after moving to the new interface, and cases submitted by customers.

It is relevant for both Primo VE and Primo customers using the new interface.

# Ex Libris Accessibility Conformance Report

## Level A and AA

VPAT® Version 2.0

**Name of Product:** Ex Libris Alma

**Product Description:** Library services platform that unifies your library resources management: electronic, print, and digital. Consolidates your library processes, such as acquisition, purchasing, and digitization, for improved efficiency. Supports evidence-based decision making using advanced analytics to optimize your collection.

**Last updated:** March 2018

**Contact information:**

- Current customers: submit questions or issues by opening a case using the [Support Portal](#).
- Prospective customers: contact [AlmaAccessibility@exlibrisgroup.com](mailto:AlmaAccessibility@exlibrisgroup.com).

**Notes:** Ex Libris is committed to providing an experience that is fully accessible to everyone. We make every effort to ensure that all pages comply with web accessibility guidelines. Due to the scale and complex nature of the Alma Platform, this is an ongoing effort. We appreciate your feedback.

**Evaluation Methods Used:**

The Ex Libris Alma code is checked for accessibility using a range of visual, automated, and manual checks. We also engage an outside accessibility firm to review core workflows of the site. This evaluation includes review and feedback by individuals with disabilities.

Other tools that Ex Libris uses to test accessibility include:

- NVDA with Firefox
- WAVE (web accessibility evaluation tool), provided by WebAIM
- Color Contrast Analyzer, provided by WebAIM
- Browser developer tools
- High contrast browser plugin
- Manual keyboard checks
- Manual code inspection

## Applicable Standards/Guidelines

This report covers the degree of conformance for the following accessibility standard/guidelines:

Standard/Guideline	Included In Report
Web Content Accessibility Guidelines 2.0, at <a href="http://www.w3.org/TR/2008/REC-WCAG20-20081211/">http://www.w3.org/TR/2008/REC-WCAG20-20081211/</a>	Level A (Yes) Level AA (Yes)
Section 508 as published in 2017, at <a href="http://www.Section508.gov">http://www.Section508.gov</a>	(Yes)
EN 301 549 Accessibility requirements suitable for public procurement of ICT products and services in Europe, at <a href="http://mandate376.standards.eu/standard">http://mandate376.standards.eu/standard</a>	(See WCAG 2.0 Report)

## Terms

The terms used in the Conformance Level information are as follows:

- **Supports:** The functionality of the product has at least one method that meets the criterion without known defects or meets with equivalent facilitation.
- **Supports with Exceptions:** Some functionality of the product does not meet the criterion.
- **Does Not Support:** The majority of product functionality does not meet the criterion.
- **Not Applicable:** The criterion is not relevant to the product.
- **Not Evaluated:** The product has not been evaluated against the criterion. This can be used only in WCAG 2.0 Level AAA.

## WCAG 2.0 Report

Tables 1 and 2 also document conformance with:

- EN 301 549: Chapter 9 - Web, Chapter 10 - Non-Web documents, Section 11.2.1- Non-Web Software (excluding closed functionality), and Section 11.2.2 - Non-Web Software (closed functionality).
- Revised Section 508: Chapter 5 – 501.1 Scope, 504.2 Content Creation or Editing, and Chapter 6 – 602.3 Electronic Support Documentation.

**Note:** When reporting on conformance with the WCAG 2.0 Success Criteria, the evaluation is scoped for full pages, complete processes, and accessibility-supported means of using technology, as documented in the [WCAG 2.0 Conformance Requirements](#).

**Table 1: Success Criteria, Level A**

- Notes:

Criteria	Conformance Level	Remarks and Explanations
<b><u>1.1.1 Non-text Content</u></b> (Level A) Also applies to: EN 301 549 Criteria <ul style="list-style-type: none"> <li>• 9.2.1 (Web)</li> <li>• 10.2.1 (non-web document)</li> <li>• 11.2.1.1 (Software)</li> <li>• 11.2.2.1 (Closed Functionality Software)</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> 2017 Section 508 <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports with exceptions	Alma supports alternative access to non-text content wherever possible. Images used to represent functionality or actions have associated text labels (or alt/title text, if a text label is not appropriate). Decorative images have blank alt text, so they are ignored by assistive technology. Form controls and other elements have text labels. Labels, IDs, and other accessible codes necessary for screen readers are associated with all form elements. There are a few places which don't meet the standard: selected tab in title search results; enable toggle in the Analytics User Statistics table; and the page loading spinner.
<b><u>1.2.1 Audio-only and Video-only (Prerecorded)</u></b> (Level A) Also applies to: EN 301 549 Criteria <ul style="list-style-type: none"> <li>• 9.2.2 (Web)</li> <li>• 10.2.2 (non-web document)</li> <li>• 11.2.1.2 (Software)</li> <li>• 11.2.2.2.1 and 11.2.2.2.2 (Closed Software)</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> 2017 Section 508 <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Not Applicable	There is no time-based and synchronized media.
<b><u>1.2.2 Captions (Prerecorded)</u></b> (Level A) Also applies to: EN 301 549 Criteria <ul style="list-style-type: none"> <li>• 9.2.3 (Web)</li> <li>• 10.2.3 (non-web document)</li> <li>• 11.2.1.3 (Software)</li> <li>• 11.2.2.3 (Closed Software) – Does not apply</li> </ul>	Not Applicable	There is no pre-recorded audio.



Criteria	Conformance Level	Remarks and Explanations
<ul style="list-style-type: none"> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> 2017 Section 508 <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>		
<u><b>1.2.3 Audio Description or Media Alternative (Prerecorded)</b></u> (Level A) Also applies to: EN 301 549 Criteria <ul style="list-style-type: none"> <li>• 9.2.4 (Web)</li> <li>• 10.2.4 (non-web document)</li> <li>• 11.2.1.4 (Software)</li> <li>• 11.2.2.4 (Closed Software)</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> 2017 Section 508 <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Not Applicable	There is no time-based media or audio description of pre-recorded video content.
<u><b>1.3.1 Info and Relationships</b></u> (Level A) Also applies to: EN 301 549 Criteria <ul style="list-style-type: none"> <li>• 9.2.7 (Web)</li> <li>• 10.2.7 (non-web document)</li> <li>• 11.2.1.7 (Software)</li> <li>• 11.2.2.7 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> 2017 Section 508 <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports	Alma employs the following features to support this requirement: <ul style="list-style-type: none"> <li>• Labels/IDs with form elements.</li> <li>• Markup for lists &amp; headings.</li> <li>• CSS to control the visual presentation of text.</li> <li>• Correct use of semantic markup (bold, italics, and so forth).</li> </ul>
<u><b>1.3.2 Meaningful Sequence</b></u> (Level A) Also applies to: EN 301 549 Criteria <ul style="list-style-type: none"> <li>• 9.2.8 (Web)</li> </ul>	Supports	Content is ordered in a meaningful sequence, even when page styling is turned off.

Criteria	Conformance Level	Remarks and Explanations
<ul style="list-style-type: none"> <li>• 10.2.8 (non-web document)</li> <li>• 11.2.1.8 (Software)</li> <li>• 11.2.2.8 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>		
<p><b><u>1.3.3 Sensory Characteristics</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.9 (Web)</li> <li>• 10.2.9 (non-web document)</li> <li>• 11.2.1.9 (Software)</li> <li>• 11.2.2.9 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports with Exceptions	<p>Instructions do not rely solely on sensory characteristics of components, such as shape, size, visual location, orientation, or sound. Typically, descriptive text and labels are used, except for the search results customize view panel, which relies on location and orientation to convey relationships between information and actions.</p>
<p><b><u>1.4.1 Use of Color</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.10 (Web)</li> <li>• 10.2.10 (non-web document)</li> <li>• 11.2.1.10 (Software)</li> <li>• 11.2.2.10 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports	<p>Color is used to enhance usability by drawing attention to certain areas of the screen. Color is not the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.</p>

Criteria	Conformance Level	Remarks and Explanations
<p><b><u>1.4.2 Audio Control</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.11 (Web)</li> <li>• 10.2.11 (non-web document)</li> <li>• 11.2.1.11 (Software)</li> <li>• 11.2.2.11 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Not Applicable	There is no audio content.
<p><b><u>2.1.1 Keyboard</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.15 (Web)</li> <li>• 10.2.15 (non-web document)</li> <li>• 11.2.1.15 (Software)</li> <li>• 11.2.2.15 (Closed Software)</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports with Exceptions	<p>Alma is designed for keyboard access, as a general guiding principal. Alma's functionality is available and executable from a keyboard in various screens and forms. However, there are some exceptions to this:</p> <ul style="list-style-type: none"> <li>• In some forms, the location field includes collapsed sections which are expanded automatically; the user can't bypass that list and skip to the next collapsed section using the keyboard.</li> <li>• In some screens, the Escape key doesn't close the screen; you must use the Cancel/Close control.</li> <li>• In date fields, the date picker can't be accessed using a keyboard. However, the user can enter the date manually.</li> </ul> <p>The customize view panel is part of the personalization functionality which is used with low frequency. Currently, the panel doesn't support working with a keyboard.</p>

Criteria	Conformance Level	Remarks and Explanations
<p><b><u>2.1.2 No Keyboard Trap</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.16 (Web)</li> <li>• 10.2.16 (non-web document)</li> <li>• 11.2.1.16 (Software)</li> <li>• 11.2.2.16 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports	In Alma screens, the focus can be moved to and away from components using only a keyboard, without being locked or trapped.
<p><b><u>2.2.1 Timing Adjustable</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.17 (Web)</li> <li>• 10.2.17 (non-web document)</li> <li>• 11.2.1.17 (Software)</li> <li>• 11.2.2.17 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports	<p>There are no timed responses.</p> <p>There is a time limit to the user's session. However, the user is alerted when the time limit is approaching and can extend their session, if required.</p>

Criteria	Conformance Level	Remarks and Explanations
<p><b><u>2.2.2 Pause, Stop, Hide</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.18 (Web)</li> <li>• 10.2.18 (non-web document)</li> <li>• 11.2.1.18 (Software)</li> <li>• 11.2.2.18 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports	There is no moving, blinking, scrolling, or auto-updating content in Alma screens.
<p><b><u>2.3.1 Three Flashes or Below Threshold</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.19 (Web)</li> <li>• 10.2.19 (non-web document)</li> <li>• 11.2.1.19 (Software)</li> <li>• 11.2.2.19 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports	Alma does not use flashing or blinking elements in the user interface.

Criteria	Conformance Level	Remarks and Explanations
<p><b><u>2.4.1 Bypass Blocks</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.20 (Web)</li> <li>• 10.2.20 (non-web document) – Does not apply</li> <li>• 11.2.1.20 (Software) – Does not apply</li> <li>• 11.2.2.20 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software) – Does not apply to non-web software</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs) – Does not apply to non-web docs</p>	Supports with Exceptions	In Alma screens and forms, heading structure and landmark markup can be used to skip blocks of content, except for the header and search bar.
<p><b><u>2.4.2 Page Titled</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.21 (Web)</li> <li>• 10.2.21 (non-web document)</li> <li>• 11.2.1.21 (Software) - Does not apply</li> <li>• 11.2.2.21 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports	All pages on the site have descriptive page titles.



Criteria	Conformance Level	Remarks and Explanations
<p><b><u>2.4.3 Focus Order</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.22 (Web)</li> <li>• 10.2.22 (non-web document)</li> <li>• 11.2.1.22 (Software)</li> <li>• 11.2.2.22 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports with Exceptions	Page elements and functionality are placed in an order that follows the sequences and relationships in the content, except table button order is right-to-left instead of left-to-right and in Search Results the Customize View pane elements.
<p><b><u>2.4.4 Link Purpose (In Context)</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.23 (Web)</li> <li>• 10.2.23 (non-web document)</li> <li>• 11.2.1.23 (Software)</li> <li>• 11.2.2.23 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports with Exceptions	Meaningful text is used throughout Alma for links. Where link text could be considered ambiguous, Alma provides title attribute text with additional information. However, the following text might be not specific enough: in search results for records, links are followed by counts, such as “Orders: 1” or “Request: 1”; also in search results, the current search string; in page summaries, some links lack descriptive text (for example, Patron services > Available balance, ID).

Criteria	Conformance Level	Remarks and Explanations
<p><b><u>3.1.1 Language of Page</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.27 (Web)</li> <li>• 10.2.27 (non-web document)</li> <li>• 11.2.1.27 (Software)</li> <li>• 11.2.2.27 (Closed Software)</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports	The language of each page is specified in the HTML.
<p><b><u>3.2.1 On Focus</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.29 (Web)</li> <li>• 10.2.29 (non-web document)</li> <li>• 11.2.1.29 (Software)</li> <li>• 11.2.2.29 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports	Context is not changed on focus alone throughout Alma.

Criteria	Conformance Level	Remarks and Explanations
<p><b><u>3.2.2 On Input</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.30 (Web)</li> <li>• 10.2.30 (non-web document)</li> <li>• 11.2.1.30 (Software)</li> <li>• 11.2.2.30 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports	Context is not changed automatically and appropriate controls are provided.
<p><b><u>3.3.1 Error Identification</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.33 (Web)</li> <li>• 10.2.33 (non-web document)</li> <li>• 11.2.1.33 (Software)</li> <li>• 11.2.2.33 (Closed Software)</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports	<p>Invalid fields are visual marked and required fields are marked.</p> <p>Errors describe problems and inform the user where problems have occurred.</p>

Criteria	Conformance Level	Remarks and Explanations
<p><b><u>3.3.2 Labels or Instructions</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.34 (Web)</li> <li>• 10.2.34 (non-web document)</li> <li>• 11.2.1.34 (Software)</li> <li>• 11.2.2.34 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports with exceptions	Proper labels or instructions are provided when content requires input or to assist user input using the keyboard. In some cases, labels might lack the needed detailed instructions, for example: Choose location; Quick Cataloging in Add Physical Item; the search bar autocomplete drop-down field; search results, and so forth.
<p><b><u>4.1.1 Parsing</u></b> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.37 (Web)</li> <li>• 10.2.37 (non-web document)</li> <li>• 11.2.1.37 (Software)</li> <li>• 11.2.2.37 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	Supports	Pages conform to HTML web standards.

Criteria	Conformance Level	Remarks and Explanations
<p><a href="#"><u>4.1.2 Name, Role, Value</u></a> (Level A)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.38 (Web)</li> <li>• 10.2.38 (non-web document)</li> <li>• 11.2.1.38 (Software)</li> <li>• 11.2.2.38 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> </ul> <p>602.3 (Support Docs)</p>	<p>Supports with Exceptions</p>	<p>Pages conform to HTML web standards, so the name and role of all UI components can be determined.</p> <p>Text labels identify all form fields. Labels, IDs, and other accessible codes necessary for screen readers are associated with all form elements, except for the following cases: View full list of locations when using keyboard; addition to Quick Links; facets / filtering in search results.</p>

## Table 2: Success Criteria, Level AA

Notes:

Criteria	Conformance Level	Remarks and Explanations
<b><u>1.2.4 Captions (Live)</u></b> (Level AA) Also applies to: EN 301 549 Criteria <ul style="list-style-type: none"> <li>• 9.2.5 (Web)</li> <li>• 10.2.5 (non-web document)</li> <li>• 11.2.1.5 (Software)</li> <li>• 11.2.2.5 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> 2017 Section 508 <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Not Applicable	Alma does not contain live audio or video content.
<b><u>1.2.5 Audio Description (Prerecorded)</u></b> (Level AA) Also applies to: EN 301 549 Criteria <ul style="list-style-type: none"> <li>• 9.2.6 (Web)</li> <li>• 10.2.6 (non-web document)</li> <li>• 11.2.1.6 (Software)</li> <li>• 11.2.2.6 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> 2017 Section 508 <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Not Applicable	Alma does not contain video content.
<b><u>1.4.3 Contrast (Minimum)</u></b> (Level AA) Also applies to: EN 301 549 Criteria <ul style="list-style-type: none"> <li>• 9.2.12 (Web)</li> <li>• 10.2.12 (non-web document)</li> <li>• 11.2.1.12 (Software)</li> <li>• 11.2.2.12 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> </ul>	Supports with Exceptions	In Alma UI controls and elements, sufficient color contrast is provided between foreground and background text colors to meet, at least, the 4.5:1 contrast ratio for easy and clear legibility for people with moderately low vision. Some textual information presented in the Dashboard, configuration, and search result



Criteria	Conformance Level	Remarks and Explanations
<ul style="list-style-type: none"> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> 2017 Section 508 <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>		screens do not meet the minimum standards.
<u><b>1.4.4 Resize text</b></u> (Level AA) Also applies to: EN 301 549 Criteria <ul style="list-style-type: none"> <li>• 9.2.13 (Web)</li> <li>• 10.2.13 (non-web document)</li> <li>• 11.2.1.13 (Software)</li> <li>• 11.2.2.13 (Closed Software)</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> 2017 Section 508 <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports	Most of the text and images in Alma screens can be resized with the browser zoom feature to 200%. The following pages or controls have a few issues: main menu, record view, and search result customization.
<u><b>1.4.5 Images of Text</b></u> (Level AA) Also applies to: EN 301 549 Criteria <ul style="list-style-type: none"> <li>• 9.2.14 (Web)</li> <li>• 10.2.14 (non-web document)</li> <li>• 11.2.1.14 (Software)</li> <li>• 11.2.2.14 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> 2017 Section 508 <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports	HTML/CSS is used to present visual elements whenever possible.
<u><b>2.4.5 Multiple Ways</b></u> (Level AA) Also applies to: EN 301 549 Criteria <ul style="list-style-type: none"> <li>• 9.2.24 (Web)</li> <li>• 10.2.24 (non-web document) – Does not apply</li> <li>• 11.2.1.24 (Software) – Does not apply</li> </ul>	Supports	More than one way is available to locate the main pages of the site. For instance, links to the main pages of the site are available on every page using the global navigation links. All main pages of the site provide a search form, so users can access

Criteria	Conformance Level	Remarks and Explanations
<ul style="list-style-type: none"> <li>• 11.2.2.24 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software) – Does not apply to non-web software</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs) – Does not apply to non-web docs</li> </ul>		<p>content. All main pages can also be added to a quick links menu so that they can be accessed easily. The homepage also contain links to recently visited pages.</p>
<p><b><u>2.4.6 Headings and Labels</u></b> (Level AA)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.25 (Web)</li> <li>• 10.2.25 (non-web document)</li> <li>• 11.2.1.25 (Software)</li> <li>• 11.2.2.25 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports with Exceptions	<p>Descriptive headings and labels are used throughout Alma, except for a few places: the Manage Patron Services page, the Add Local Portfolio page, and the customize search results panel.</p>
<p><b><u>2.4.7 Focus Visible</u></b> (Level AA)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.26 (Web)</li> <li>• 10.2.26 (non-web document)</li> <li>• 11.2.1.26 (Software)</li> <li>• 11.2.2.26 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports	<p>Alma supports the default focus indicator for the device being used.</p> <p>In addition, most link text and other elements are styled to change in visual appearance when the mouse hovers or tabs over them.</p> <p>For instance, on mouse hover, links are underlined. On tab focus, links are underlined and display a gray outline. On focus, form input fields display with a heavier border.</p>

Criteria	Conformance Level	Remarks and Explanations
<p><b><u>3.1.2 Language of Parts</u></b> (Level AA)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.28 (Web)</li> <li>• 10.2.28 (non-web document)</li> <li>• 11.2.1.28 (Software) – Does not apply</li> <li>• 11.2.2.28 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports	<p>The Alma interface can be switched between different languages. At any given time, a single language is used on pages.</p> <p>The content presented in Alma can be multilingual according to the nature of the library managed content.</p>
<p><b><u>3.2.3 Consistent Navigation</u></b> (Level AA)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.31 (Web)</li> <li>• 10.2.31 (non-web document) – Does not apply</li> <li>• 11.2.1.31 (Software) – Does not apply</li> <li>• 11.2.2.31 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software) – Does not apply to non-web software</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs) – Does not apply to non-web docs</li> </ul>	Supports	<p>The primary site navigation links appear in the same place and the same order on every page of the site.</p>
<p><b><u>3.2.4 Consistent Identification</u></b> (Level AA)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.32 (Web)</li> <li>• 10.2.32 (non-web document) – Does not apply</li> <li>• 11.2.1.32 (Software) – Does not apply</li> <li>• 11.2.2.32 (Closed Software) – Does not apply</li> </ul>	Supports	<p>Care has been taken to identify components with the same functionality consistently throughout the site.</p>

Criteria	Conformance Level	Remarks and Explanations
<ul style="list-style-type: none"> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software) – Does not apply to non-web software</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs) – Does not apply to non-web docs</li> </ul>		
<p><b><u>3.3.3 Error Suggestion</u></b> (Level AA)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.35 (Web)</li> <li>• 10.2.35 (non-web document)</li> <li>• 11.2.1.35 (Software)</li> <li>• 11.2.2.35 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Supports	Suggestions for error corrections are made when applicable.
<p><b><u>3.3.4 Error Prevention (Legal, Financial, Data)</u></b> (Level AA)</p> <p>Also applies to:</p> <p>EN 301 549 Criteria</p> <ul style="list-style-type: none"> <li>• 9.2.36 (Web)</li> <li>• 10.2.36 (non-web document)</li> <li>• 11.2.1.36 (Software)</li> <li>• 11.2.2.36 (Closed Software) – Does not apply</li> <li>• 11.6.2 (Authoring Tool)</li> <li>• 12.1.2 (Product Docs)</li> <li>• 12.2.4 (Support Docs)</li> </ul> <p>2017 Section 508</p> <ul style="list-style-type: none"> <li>• 501 (Web)(Software)</li> <li>• 504.2 (Authoring Tool)</li> <li>• 602.3 (Support Docs)</li> </ul>	Not Applicable	

## 2017 Section 508 Report

Notes:

Same evaluation methods applied as the ones indicate in section [Evaluation Methods Used](#).

### Chapter 3: Functional Performance Criteria (FPC)

Notes:

Criteria	Conformance Level	Remarks and Explanations
302.1 Without Vision	Supports with Exceptions	Alma is coded to work with screen readers and other assistive technologies, taking in mind the needs of people without vision. However there are some issues that may affect the user. These exceptions are listed in the following sections: <ul style="list-style-type: none"> <li>• <a href="#">1.1.1 Non-text Content (Level A)</a></li> <li>• <a href="#">2.1.1 Keyboard (Level A)</a></li> <li>• <a href="#">2.4.4 Link Purpose (In Context) (Level A)</a></li> <li>• <a href="#">3.3.2 Labels or Instructions (Level A)</a></li> <li>• <a href="#">4.1.2 Name, Role, Value (Level A)</a></li> </ul>
302.2 With Limited Vision	Supports with Exceptions	Alma is coded to work with screen readers and other assistive technologies. In addition, text size can be adjusted through standard browser functionality. However there are some issues that may affect the user. These exceptions are listed in the following sections: <ul style="list-style-type: none"> <li>• <a href="#">1.1.1 Non-text Content (Level A)</a></li> <li>• <a href="#">1.4.3 Contrast (Minimum) (Level AA)</a></li> <li>• <a href="#">2.1.1 Keyboard (Level A)</a></li> <li>• <a href="#">2.4.4 Link Purpose (In Context) (Level A)</a></li> <li>• <a href="#">3.3.2 Labels or Instructions (Level A)</a></li> <li>• <a href="#">4.1.2 Name, Role, Value (Level A)</a></li> </ul>
302.3 Without Perception of Color	Supports	Color is used to enhance usability by drawing attention to certain areas of the screen. Color is never the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element. If needed, the product's CSS can be overridden using the browser.
302.4 Without Hearing	Supports	User hearing is not required to use features that are available in the product.
302.5 With Limited Hearing	Supports	User hearing is not required to use features that are available in the product.
302.6 Without Speech	Supports	User hearing is not required to use features that are available in the product.
302.7 With Limited Manipulation	Supports with Exceptions	All screen elements are designed to be accessible for users with poor motor control (for example, clickable areas are suitably

Criteria	Conformance Level	Remarks and Explanations
		sized and spaced). Links and form elements can be accessed using the tab key. In a few cases, controls are not using the keyboard, only (see <a href="#">2.1.1 Keyboard (Level A)</a> ).
302.8 With Limited Reach and Strength	Supports with Exceptions	At least one mode of operation is operable with limited reach and limited strength. In a few cases, controls are not reachable using the keyboard, only (see <a href="#">2.1.1 Keyboard (Level A)</a> ).
302.9 With Limited Language, Cognitive, and Learning Abilities	Supports	Alma provides features that make its use by individuals with limited cognitive, language, and learning abilities simpler and easier. For example: <ul style="list-style-type: none"> <li>• Audio does not automatically play on load, minimizing distractions.</li> <li>• Form fields are presented in a standard, consistent way across the product.</li> <li>• Form elements are properly labeled.</li> </ul>

## Chapter 4: Hardware

Notes: This section is not applicable to this web product and has been removed.

## Chapter 5: Software

Notes:

Criteria	Conformance Level	Remarks and Explanations
501.1 Scope – Incorporation of WCAG 2.0 AA	See <a href="#">WCAG 2.0</a> section	See information in WCAG section
<b>502 Interoperability with Assistive Technology</b>	Heading cell – no response required	Heading cell – no response required
502.2.1 User Control of Accessibility Features	Supports	Alma is coded in a consistent way to not interfere with accessibility features that are available through the user's operating system or browser. For example, users can use high contrast mode, text resizing, and speech output.
502.2.2 No Disruption of Accessibility Features	Supports	Alma is coded in a way so that platform features that are defined in the platform documentation as accessibility features are not disrupted.
<b>502.3 Accessibility Services</b>	Heading cell – no response required	Heading cell – no response required
502.3.1 Object Information	Supports with exceptions	Alma is coded in a way so that object role, state(s), properties, boundary, name, and description is available for assistive technology. In a few cases, control names and states are not available to the user (see <a href="#">3.3.2 Labels or Instructions (Level A)</a> ) and <a href="#">4.1.2 Name, Role, Value (Level A)</a> ).



Criteria	Conformance Level	Remarks and Explanations
502.3.2 Modification of Object Information	Supports with exceptions	Alma is coded in a way so that states, property states, and properties that can be set by the user can be set programmatically, including through assistive technology, except for a few cases, as described in <a href="#">3.3.2 Labels or Instructions (Level A)</a> .
502.3.3 Row, Column, and Headers	Supports	Alma is coded in a way to programmatically identify tabular controls as tables and expose row and column headers for a table control.
502.3.4 Values	Supports with exceptions	Alma is coded in a way to expose the current value of all user interface controls. If user interface controls represent one of a range of values, Alma programmatically exposes the minimum and maximum values to determine the range of allowed values, except for a few cases, as described in <a href="#">3.3.2 Labels or Instructions (Level A)</a> .
502.3.5 Modification of Values	Supports with exceptions	Alma is coded in a way so that the value of a user interface control can be set by the user, enabling the value to be set programmatically, including through assistive technology, except for a few cases, as described in <a href="#">3.3.2 Labels or Instructions (Level A)</a> .
502.3.6 Label Relationships	Supports with exceptions	Alma is coded in a way to expose labels, expose relationships between a control and any text or other component, and provide additional information about the control, such as description, instructions, grouping, and identifying a required field, except for a few cases, as described in <a href="#">3.3.2 Labels or Instructions (Level A)</a> .
502.3.7 Hierarchical Relationships	Supports with exceptions	Alma is coded in a way to programmatically expose the parent of all user interface objects, expose the children, if any, of all user interface objects, and expose any relations between user interface objects and those that contain them, except for a few cases, as described in <a href="#">4.1.2 Name, Role, Value (Level A)</a> .
502.3.8 Text	Supports	Alma is coded in a way to expose the content of text objects, text attributes, and the boundaries of text rendered to the screen.
502.3.9 Modification of Text	Supports	Alma is coded in a way such that, when rich text is editable, Alma exposes the ability to cut, copy, paste, insert, and set the attributes of the text.
502.3.10 List of Actions	Supports with exceptions	Alma is coded in a way to expose all actions that can be executed on an object. In some cases, the purpose of controls is not communicated properly, as described in:

Criteria	Conformance Level	Remarks and Explanations
		<ul style="list-style-type: none"> <li>• <a href="#">2.4.4 Link Purpose (In Context) (Level A)</a></li> <li>• <a href="#">3.3.2 Labels or Instructions (Level A)</a></li> <li>• <a href="#">4.1.2 Name, Role, Value (Level A)</a></li> </ul>
502.3.11 Actions on Objects	Supports with exceptions	<p>Alma is coded in a way to allow assistive technologies (AT) to programmatically execute available actions on objects. In some cases, the purpose of controls is not communicated properly, as described in:</p> <ul style="list-style-type: none"> <li>• <a href="#">2.4.4 Link Purpose (In Context) (Level A)</a></li> <li>• <a href="#">3.3.2 Labels or Instructions (Level A)</a></li> <li>• <a href="#">4.1.2 Name, Role, Value (Level A)</a></li> </ul>
502.3.12 Focus Cursor	Supports	The current input focus can be discerned by assistive technology (using standard HTML code for forms, and so forth).
502.3.13 Modification of Focus Cursor	Supports	Users are able to modify the location of focus (for user focusable controls), modify the text insertion point (caret) (when a caret exists), and change selection attributes of objects (when text and items can be selected by the user).
502.3.14 Event Notification	Supports with exceptions	Alma is coded in a way to notify assistive technologies (AT) of events relevant to user interactions, including, but not limited to, changes in the component's state(s), value, name, description, or boundaries, except for a few cases, as described in <a href="#">1.1.1 Non-text Content (Level A)</a> .
502.4 Platform Accessibility Features	Supports	<p>Alma is coded in a way to:</p> <ul style="list-style-type: none"> <li>• Enable sequential entry of multiple (chorded) keystrokes.</li> <li>• Provide adjustment of delay before key acceptance.</li> <li>• Provide adjustment of same-key double-strike acceptance.</li> </ul> <p>Note: there is no audio or video output.</p>
<b>503 Applications</b>	Heading cell – no response required	Heading cell – no response required
503.2 User Preferences	Supports	<p>Alma is coded to:</p> <ul style="list-style-type: none"> <li>• Support systems settings for high contrast for all user interface controls and client area content.</li> </ul>

Criteria	Conformance Level	Remarks and Explanations
		<ul style="list-style-type: none"> <li>Inherit system settings for color, font type and font size for all elements of the user interface.</li> <li>Inherit system settings for the focus cursor.</li> </ul> The CSS style sheet can be overridden in the product using the browser settings.
503.3 Alternative User Interfaces	Not Applicable	Alma doesn't provide an alternative user interface that functions as assistive technology.
<b>503.4 User Controls for Captions and Audio Description</b>	Heading cell – no response required	Heading cell – no response required
503.4.1 Caption Controls	Not Applicable	There is no audio or video content.
503.4.2 Audio Description Controls	Not Applicable	There is no audio or video content.
<b>504 Authoring Tools</b>	Heading cell – no response required	Heading cell – no response required
504.2 Content Creation or Editing (if not authoring tool, enter "not applicable")	See <a href="#">WCAG 2.0</a> section	See information in WCAG section
504.2.1 Preservation of Information Provided for Accessibility in Format Conversion	Not Applicable	There are no web content authoring tools.
504.2.2 PDF Export	Not Applicable	There are no web content authoring tools.
504.3 Prompts	Not Applicable	There are no web content authoring tools.
504.4 Templates	Not Applicable	There are no web content authoring tools.

## Chapter 6: Support Documentation and Services

Notes: This section will be provided later, since support documentation is provided by the **Online Help** as a separated application.

Criteria	Conformance Level	Remarks and Explanations
<b>601.1 Scope</b>	Heading cell – no response required	Heading cell – no response required
<b>602 Support Documentation</b>	Heading cell – no response required	Heading cell – no response required
602.2 Accessibility and Compatibility Features		
602.3 Electronic Support Documentation	See <a href="#">WCAG 2.0</a> section	See information in WCAG section
602.4 Alternate Formats for Non-Electronic Support Documentation		
<b>603 Support Services</b>	Heading cell – no response required	Heading cell – no response required

Criteria	Conformance Level	Remarks and Explanations
603.2 Information on Accessibility and Compatibility Features		
603.3 Accommodation of Communication Needs		

#### EXCLUDED PRODUCT'S COMPONENTS:

This report does not cover the following product areas:

- **Alma Analytics** uses Oracle Business Intelligence (OBI), a third-party tool. Please see Oracle's [accessibility statement](#).
- The Alma **Digital Viewer**, which enables viewing digital content stored by Alma, is not included in this report.
- The Alma **Metadata Editor**, a tool for updating bibliographic records in Alma – is not included in this version of the report and will be covered in a future review.

## Legal Disclaimer (Company)

This Accessibility Conformance Report represents the results of testing the release of the product as of the date of this document. Notwithstanding the information contained in the Accessibility Conformance Report, if use of the product is subject to a license agreement, the terms and conditions of the product's license agreement remain in full force and effect, including any limitation of liability and disclaimer of warranties provisions

**Ex Libris Exceptions to and Comments on the  
RFP Terms and Conditions**

REDACTED pgs 489-493 of the ExLibris  
Proposal

Negotiated Terms and Conditions are  
specified within the Negotiation Summary  
of the Contract.

**SaaS SUBSCRIPTION AGREEMENT**

REDACTED pgs 494-515

Negotiated Version of the ExLibris SaaS  
Agreement has replaced the initially  
proposed version.





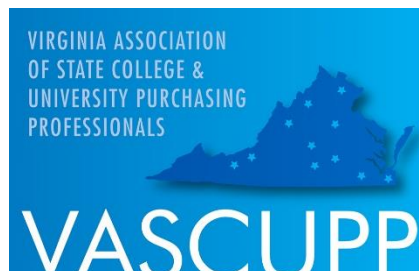
# Request for Proposal

## **RFP# LBS-1035**

**Library Services and Discovery Platform(s)**

**April 16, 2019**

**JMU will be closed on May 27, 2019 for Memorial Day.**



# ***REQUEST FOR PROPOSAL***

## ***RFP# LBS-1035***

**Issue Date:** 4/16/19  
**Title:** Library Services and Discovery Platform  
**Issuing Agency:** Commonwealth of Virginia  
James Madison University  
Procurement Services MSC 5720  
752 Ott Street, Wine Price Building  
First Floor, Suite 1023  
Harrisonburg, VA 22807

**Period of Contract: From Date of Award Through One Year (Renewable)**

**Sealed Proposals Will Be Received Until 2:00 PM on May 30, 2019 for Furnishing The Services Described Herein. **JMU will be closed on May 27, 2019 for Memorial Day.****

*SEALED PROPOSALS MAY BE MAILED, EXPRESS MAILED, OR HAND DELIVERED DIRECTLY TO THE ISSUING AGENCY SHOWN ABOVE.*

All Inquiries For Information And Clarification Should Be Directed To: LeeAnne Beatty Smith, Buyer Senior, Procurement Services, [smith2LB@jmu.edu](mailto:smith2LB@jmu.edu); 540-568-7523; (Fax) 540-568-7935 not later than five business days before the proposal closing date.

**NOTE: THE SIGNED PROPOSAL AND ALL ATTACHMENTS SHALL BE RETURNED.**

In compliance with this Request for Proposal and to all the conditions imposed herein, the undersigned offers and agrees to furnish the goods/services in accordance with the attached signed proposal or as mutually agreed upon by subsequent negotiation.

Name and Address of Firm:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

By: \_\_\_\_\_  
(Signature in Ink)

Name: \_\_\_\_\_  
(Please Print)

Date: \_\_\_\_\_

Title: \_\_\_\_\_

Web Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

Fax #: \_\_\_\_\_

ACKNOWLEDGE RECEIPT OF ADDENDUM: #1\_\_\_\_\_ #2\_\_\_\_\_ #3\_\_\_\_\_ #4\_\_\_\_\_ #5\_\_\_\_\_ (please initial)

SMALL, WOMAN OR MINORITY OWNED BUSINESS:

☐ YES; ☐ NO; *IF YES* ⇒ ☐ SMALL; ☐ WOMAN; ☐ MINORITY ***IF MINORITY:*** ☐ AA; ☐ HA; ☐ AsA; ☐ NW; ☐ Micro

**Note: This public body does not discriminate against faith-based organizations in accordance with the *Code of Virginia*, § 2.2-4343.1 or against an offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.**

# ***REQUEST FOR PROPOSAL***

***RFP # LBS-1035***

## ***TABLE OF CONTENTS***

I.	PURPOSE .....	Page	1
II.	BACKGROUND .....	Pages	1-3
III.	SMALL, WOMAN-OWNED, AND MINORITY PARTICIPATION .....	Pages	3-4
IV.	STATEMENT OF NEEDS .....	Pages	4-27
V.	PROPOSAL PREPARATION AND SUBMISSION .....	Pages	28-30
VI.	EVALUATION AND AWARD CRITERIA .....	Pages	30-31
VII.	GENERAL TERMS AND CONDITIONS .....	Pages	31-38
VIII.	SPECIAL TERMS AND CONDITIONS .....	Pages	38-46
IX.	METHOD OF PAYMENT .....	Page	46
X.	PRICING SCHEDULE .....	Page	46
XI.	ATTACHMENTS .....	Page	47
	A. Offeror Data Sheet		
	B. SWaM Utilization Plan		
	C. Sample of Standard Contract		
	D. Information Technology Services Addendum ( <i>All Offerors are required to complete</i> )		
	E. Commonwealth of Virginia Agency Contract Form Addendum to Contractor's Form ( <i>All Offerors are required to complete</i> )		
	F. Higher Education Cloud Vendor Assessment Tool (HECVAT) - attached as a separate Excel spreadsheet ( <i>All Offerors are required to complete</i> )		

## I. PURPOSE

The purpose of this Request for Proposal (RFP) is to solicit sealed proposals from qualified sources to enter into a contract to provide a library services platform, or integrated library system, and discovery platform for James Madison University (JMU), an agency of the Commonwealth of Virginia. Initial contract shall be for one (1) year with an option to renew for nine (9) additional one-year periods.

## II. BACKGROUND

James Madison University (JMU) is a comprehensive university in Harrisonburg, Virginia that is part of the statewide system of public higher education in the Commonwealth. The university offers programs on the bachelor's, master's and doctoral levels with its primary emphasis on the undergraduate student. JMU's current enrollment is approximately 22,000 full and part-time students. The University employs approximately 2,900 full-time and part-time faculty and staff.

JMU has been using Innovative Interfaces' integrated library system (ILS) since 1994 and is at present on Sierra version 4.1, with an in-house server and a hosted test/training server. JMU Libraries uses the ILS to perform business and back office functions including acquisitions, funding accounting, cataloging, authority control, holdings control, circulation, reserves, and campus departmental delivery. The Libraries also uses Innovative's Electronic Resource Management (ERM) system for tracking resource platforms, licenses, and title holdings. In addition, the ILS provides the web-based online public access catalog (OPAC) that serves as one major interface between the information resources managed by the libraries and our users. The Libraries also utilizes Sierra to produce statistical and collection management reports for local, state, and national reporting requirements and to inform collection decisions.

JMU currently uses Serials Solutions' 360 Core product to manage electronic journals and electronic book holdings, both in a Serials Solutions-hosted A-Z journal list and within the Sierra and ERM systems. Additionally, this product supports 360 Link, which is the link resolver software connecting records in one system to full-text in another system using the OpenURL protocol.

JMU currently interfaces Atlas' ILLiad and Aries system with its Sierra system for interlibrary loan and course reserve, respectively.

JMU Libraries has been using EBSCO Discovery Service since fall 2010 as our primary search and discovery point for the most common library research needs. A full data export is performed from the ILS into the discovery service on a monthly basis, with weekly updates to add new records and remove deleted records. Additional updates follow major e-resource package additions.

JMU Libraries consists of two (2) main libraries and two (2) branch locations <https://www.lib.jmu.edu/spaces/>. There are currently 110 active ILS login accounts. Because the current system allows one login to use multiple ports, it is difficult to determine the number of simultaneous users logged in (*as opposed to ports used*).

### Database

As of Fall 2018 JMU's ILS database record counts are as follows:

Bibliographic	1,500,029
Order	230,539
Checkin	26,678

Authority	379,286
Item	1,568,442
Patron	42,568
Course	221
Vendor	556
Resource	1,166
License	1,038
Contact	349
Invoice	30,051

Counts from JMU's Serials Solutions' knowledge base are as follows:

- Collections/databases: 681, which contain:
  - Journals (*unique titles, includes titles in aggregated collections*): 153,331
  - Journals (*total holdings, includes titles in aggregated collections*): 208,280
  - E-books (*unique titles, includes titles in aggregated collections*): 686,330
  - E-books (*total holdings, includes titles in aggregated collections*): 779,285

Counts from the ILS reflect the 5-year growth in the collections:

<b>Collections Over Time (FY13-FY18)</b>				
	<b>FY13</b>	<b>FY18</b>	<b>Total Growth (FY13-18)</b>	<b>% Change (FY13-18)</b>
<b>Volumes/Pieces Held</b>	633,551	655,990	22,439	4%
Monographs	494,180	520,499	26,319	5%
Periodicals	71,137	65,409	(5,728)	-8%
Scores	24,316	25,738	1,422	6%
Cartographic Materials	460	497	37	8%
Audio-visual Materials	43,141	43,442	301	1%
Manuscripts and Archives	317	405	88	28%
<b>Microforms (pieces)</b>	397,660	296,098	(101,562)	-26%
<b>Resources</b>	475,065	844,474	369,409	78%
Ejournals	15,712	19,211	3,499	22%
Ebooks	375,888	607,194	231,306	62%
Databases	448	321	(127)	-28%
Streaming media	83,017	217,748	134,731	162%

### Other Systems

The University uses the Oracle/PeopleSoft Campus Solutions, Human Capital Management and Financials which includes support for financial management, human resource management and student administration. JMU's suite of applications, in addition to PeopleSoft includes other applications running Oracle's relational database management system (RDBMS) on architecture consisting of Red Hat Linux and Windows Server 2008. The library system relies on JMU's HR and Student systems for patron loads. Additionally, the Libraries also receives patron data from the

University's Peoplesoft financial system. The University issues a single e-ID and password to campus constituents. On-campus applications utilize LDAP services and DUO for authentication. Off-campus resources utilize OpenAthens or Shibboleth and InCommon federation services paired with DUO two-factor authentication.

The Libraries also interfaces or plans to interface with a number of vendors for such functions as uploading records, electronic ordering, electronic invoicing, and electronic claiming. ProQuest/Coutts and EBSCO/GOBI Library Services are among the vendors from which the Libraries currently receives EDIFACT ordering and invoice files.

JMU Libraries obtains MARC bibliographic records, often with attached financial, order, and item metadata, from a variety of sources; including, but not limited to OCLC, Marcive, book and electronic resource vendors, and other Virginia libraries. It is anticipated that the number of sources of metadata will continue to increase.

The Libraries is currently using OCLC's WorldShare Management Services for tracking and sharing of e-journal and e-book holdings.

LibGuides serves as the Libraries' A-Z Resource (Database) List and to provide detailed information for users on online content (e.g., e-journals, e-books, streaming media).

Bepress Digital Commons, NJEdge's Illumira, JSTOR Forum, and Preservica are some of the products that serve as solutions for the Libraries' digital content. A Lyrasis-hosted ArchiveSpace and Atlas' Aeon serve as the Libraries' primary management tools for its unique and rare collections.

### Circulation

The main libraries and each branch perform circulation/reserve activities. Each library has its own circulation policies. Below are the JMU Libraries circulation statistics.

<b>Circulation Statistics, James Madison University Libraries, FY17 and FY18</b>		
<b>Libraries</b>	<b>Circulation Charges &amp; Renewals FY17</b>	<b>Circulation Charges &amp; Renewals FY18</b>
Carrier Library	47,477	39,690
Rose Library	19,738	15,401
Music Library	4,710	4,712
ETMC	5,770	5,420
<b>TOTALS</b>	<b>214,875</b>	<b>190,605</b>

*Circulation Charges & Renewals* are checkouts and renewals of physical items. Counts transactions, not the number of borrowers. Transactions include general collections; physical reserve; non-laptop equipment; and laptops. Includes transactions for interlibrary loans to other institutions.

## **III. SMALL, WOMAN-OWNED AND MINORITY PARTICIPATION**

It is the policy of the Commonwealth of Virginia to contribute to the establishment, preservation, and strengthening of small businesses and businesses owned by women and minorities, and to encourage their participation in State procurement activities. The Commonwealth encourages contractors to provide for the participation of small businesses and businesses owned by women



and minorities through partnerships, joint ventures, subcontracts, and other contractual opportunities. Attachment B contains information on reporting spend data with subcontractors.

## IV. STATEMENT OF NEEDS

JMU is seeking a library services platform (integrated library system) and related solutions to support back-end and business workflows and to provide an intuitive user interface for library patrons to discover and access relevant materials. Proposed solutions may support centralized hosting either on-premise by JMU or off-premise by the vendor under a traditional hosting contract or a Software-as-a-Service (*SaaS*) contract.

It is expected that any proposed system will already be fully developed, tested, offered publicly for sale and available immediately for installation. For this project, the University is not interested in a custom developed system. The Offeror shall have available and be able to demonstrate the use and functions of the following components and/or features for an integrated library system or library services platform.

### A. General Overview

1. Describe the overall suite of your company's ILS-related products.
2. Provide all licensing agreements, documents, and/or standard terms and conditions that your firm would request become part of a resulting contract.
3. Describe the extent to which your ILS software interoperates with the systems and solutions JMU currently uses (detailed in the Background section), including Serials Solutions 360 Suite, EBSCO Discovery Service, WorldShare Management Services, and ILLiad, Aries, and Aeon.
4. Describe library and industry standards, formats, data types, and protocols supported.
5. Describe copyright compliance and access control.
6. Describe your relationship with the vendor(s) of any third-party tools (*i.e., reporting tools, linkresolvers, discovery tools, cloud services, application server and DBMS vendors, etc.*) included in this proposal including licensing, costs, support for the product(s), and versions (*e.g., full or modified*). Provide any associated cost in Section X. Pricing Schedule.
7. Describe active user groups and how they function.
8. Describe the development methodology used for your system. Provide details about the testing phases, and the roles of the people involved in the development of the software.
9. Describe process for determining enhancements that will be made to the application software.
10. Describe any standard and proprietary APIs, integration/connection resources, and development languages and tools that extend your toolset. Specifically, explain your system's potential for integration with other systems using Learning Tools Integration specification (<http://www.imsglobal.org/lti/>). Provide details for any and all functions of the system that can take advantage of APIs, including acquisitions, e-resources,

metadata/cataloging, circulation, discovery, end-user interfaces, mobile interfaces, collection reporting, digital content management systems, and open source technologies.

## **B. Offeror Data**

1. Experience: Describe offeror's experience in providing the proposed resources to academic libraries. Provide the list of academic libraries where this system is currently running in a production environment.
2. Longevity: Describe the length of time offeror has been actively engaged in providing the proposed resources to academic libraries. Describe your track record of developing and implementing such systems.
3. Personnel:
  - a) Provide general descriptions of the educational background and experience of personnel with whom JMU staff will be expected to work with on a regular basis.
  - b) Specify the total number and general level of experience of professional librarians and/or other technical specialists employed.
  - c) Provide a specific representative (*include name, title, direct contact information, and length of time with the firm*) for the initial project and continued customer support and technical assistance during the term of the contract. Contractor shall be responsible for updating JMU with any change in representatives.

## **C. General Library Staff Functionality**

1. Describe how any modules function as an integrated whole and detail any limitations in their ability to function independently from other modules.
2. Describe configurability of workflow(s) within and across application and across applications, modules or functions.
3. Describe the system's approach to codes, including locations, statuses, and resource types. Include details about codes from the library staff and administrative perspective, including ability to add and change codes. Include a list of all fields and code values for the system.
4. Describe how coding supports end-user interaction with the system.
5. Describe the application security features for data, for each component, and for the system. Describe all row-level security options as well as any field-level encryption available.
6. Describe the extent to which library staff users can configure or customize the application, including views and menus. Define what customizable and configurable mean for your application.
7. Describe additional potential configuration and customizations process (*provide any associated cost in Section X. Pricing Schedule*).

8. Describe how configuration and customization will affect future releases of software (*e.g., level of support provided*).
9. Describe functionality integrated within the system that supports library staff workflows, differentiating between native workflow functions versus customizable workflow function.
10. Describe how JMU's e-mail systems would be incorporated with your system's operation. (*Faculty/Staff – on-premise Exchange and students - Live@Edu*).
11. Describe third party e-mailing or other protocol if this functionality is part of your solution. Specify the messaging service utilized by your system. Describe details of how message header information is created and can be customized (*e.g., the subject line, the "From" address*.)
12. Describe possibilities for single-sign on solutions to the system, such as Shibboleth and OpenAthens (*provide any associated cost in Section X. Pricing Schedule*).
13. Describe all system requirements for public and staff desktop clients, if any, and web interfaces, including browser and/or operating systems and versions supported, necessary plug-ins, or browser configuration requirements.
14. Describe where client profiles and configurations are maintained (*i.e., on the server or on the workstation*).
15. Describe frequency and installation mechanism for upgrades to desktop clients and indicate programming language used.
16. Describe any mobile interfaces for library staff. Explain the difference between staff functionality on mobile interfaces versus desktop interfaces.
17. Describe how product(s) addresses accessibility for library staff interfaces to ensure the application is accessible to people with disabilities. Describe testing for adherence to accessibility guidelines and standards. Provide documentation of the testing performed and results of that testing including the Web Accessibility and Template Guide (*WATG located at <http://www.vadsa.org/watg>*).

**D. Acquisitions and Financial Management Functionality-** Describe the proposed solution's acquisitions and fiscal management capabilities, including but not limited to each of the items below:

1. Acquisitions workflow for creation and placement of orders, including:
  - a) single order entry and submission
  - b) batch import from vendor systems
  - c) checks to avoid duplication of orders or of owned titles
  - d) batch submission to vendors
  - e) accepting and storing communications from vendor (*e.g., order acknowledgements, order status updates, cancellation triggers*)

- f) integration with vendor ordering portals
- 2. Updating and processing of orders, including both individual receiving and batch options.
- 3. Support for acquisition of items not requiring order or invoice, such as government documents and gifts.
- 4. Options for patron or faculty notifications of receipts.
- 5. Ability to handle and track blanket orders and approval plans with deposit accounts.
- 6. Ability to facilitate Patron Driven Acquisitions (PDA/PDD) plans for print and electronic resources.
- 7. Support for end-user purchase requests and Purchase-on-Demand (POD) plans for Interlibrary Loans (ILL).
- 8. Electronic invoicing. Specify accepted invoice file types.
- 9. Claiming process.
- 10. Single and batch order record deletion, including safeguards to prevent records with payments from being inadvertently deleted.
- 11. System tracking of complete order, invoice, and financial processing transactions and ability to provide a clear audit trail including the following:
  - a) data tracked
  - b) ability to report out
  - c) length of time data may be stored
- 12. Coding capabilities to differentiate formats, locations, purchase models, payment types, etc.
- 13. Vendor information, including capabilities for storing and sharing vendor data and for monitoring vendor performance.
- 14. Posting of encumbrances and payments. Specify whether updates are done in real time or batch.
- 15. Fund structure.
- 16. Safeguards and system checks for preventing fund over-encumbrances, mathematical errors, and overpayments.
- 17. Credits, refunds, added charges, discounts, shipping and handling charges, and partial order.
- 18. Process for fiscal close.

19. Staff searching of financial information (*e.g., by invoice number, paid date, fund, etc.*).
20. Financial and statistical reporting, querying, and list creation, including export capabilities and compatibility with Microsoft Excel, Crystal Reports, and other third-party software.
  - a) any limitations on size of report or query result set
  - b) any limitations on type of information which can be queried
21. Interoperability with third party systems such as PeopleSoft for financial transactions and ILLiad or other ILL systems for purchase on demand.
22. Ability to query or automate any of the above functions, including use of APIs.
23. Describe other acquisitions and fiscal management capabilities unique or notable of the proposed system not addressed above.

**E. Serials Functionality-** Describe the proposed solution's serials management capabilities, including but not limited to each of the items below:

1. Overview of serials control features and workflows.
2. Capabilities for predicting patterns of chronology and enumeration and adjustment of these patterns.
3. Managing subscriptions to print resources.
4. Provisions for abbreviated records for inactive titles.
5. Ability to create and display local notes and special instructions, both public and nonpublic.
6. Handling of non-standard items (*e.g., multiple copies, volume sets, special issues, analytics, and supplements*).
7. Archiving and transfer of check-in information.
8. Statistical reporting, querying, and list creation, including export capabilities and compatibility with Excel, Crystal Reports, and other third-party software.
  - a) any limitations on size of report or query result set
  - b) any limitations on type of information that can be queried
9. Interoperability with third party systems for both descriptive and holdings metadata, claiming, order information, etc.
10. Specify capabilities for handling multiple formats of one title.
11. Specify capabilities for handling title and ISSN changes.
12. Describe capabilities for displaying holdings for multiple locations.

13. Specify capabilities for inputting an item-specific control number in barcode form at the point of check in.
14. Detail capabilities for claiming.
15. Describe binding management functionalities, including flagging titles for binding, reflecting binding statuses, collapsing holdings once materials have been bound, etc.
16. Describe other serials management capabilities unique or notable of the proposed system not addressed above.

**F. E-resources Functionality-** Describe the proposed solution's e-resource subscription and management capabilities, including but not limited to each of the items below:

1. Staff workflows for acquiring, renewing, and canceling e-resources including:
  - a) databases
  - b) e-journals, e-journal collections, aggregators, and full-text articles
  - c) e-books, e-book collections and downloadable/loanable e-books
  - d) streaming media and streaming media collections
  - e) datasets
  - f) other
2. Staff workflows for setting and maintaining holdings metadata for e-journals and e-journal collections, owned and leased.
3. All record structures and relationships including:
  - a) multiple orders and resources on a single license
  - b) multiple licenses for a single resource (*e.g., renewals, vendor changes*)
  - c) links to vendor information
  - d) individual titles within a collection
  - e) ability to pre-populate fields, standardize terminology, etc.
4. Management of contracts, licenses, and other agreements, including ability to import, query, link, and store digital copies of agreements (*e.g., PDF, XML*).
5. Trials and resource evaluation.
6. Integration of e-resources into other system functionality (*e.g., acquisitions, serials, cataloging/metadata*).



7. Support for KBART, GOKb, TRANSFER, and other e-resource standards, initiatives and codes of practice.
8. Support for discovery and management of Open Access content.
9. Integration with third-party or open source ERMs.
10. Integration of e-resources into the public interface including:
  - a) authentication (*OpenAthens, Shibboleth, SSL/VPN, etc.*)
  - b) public and nonpublic notes
  - c) downtime and technical alerts
  - d) A-Z lists for journals, e-books, and databases.
11. OpenURL and link resolution. Include information on link resolver adherence to NISO's OpenURL standards. If there is no integrated OpenURL resolver, describe ability to integrate with a third party OpenURL application including these details:
  - a) setup
  - b) adding/removing resources
  - c) any error reporting or support for resolving issues related to OpenURL linking
12. Describe capabilities for creating and maintaining URL data in the holdings and/or item record for making web-based materials accessible to patrons.
13. Describe capabilities for handling journal publisher transfer titles.
14. Management of e-resources and e-resource licensing, including any alerts or tickler features, including broken links, renewal notices, contract expirations, trial expirations, etc.
15. Ability to harvest, store, and report usage statistics.
16. Reporting, querying, and list creation, including export capabilities and compatibility with Microsoft Excel and other third-party software including:
  - a) any limitations on size of report or query result set
  - b) any limitations on type of information that can be queried
17. Integration with e-resource vendors for exchange of metadata, invoices, usage statistics harvesting, and resource management.
18. Integration of e-resources with third party solutions and library web spaces, such as LibGuides, Serials Solutions, OCLC, EBSCO, web publishing software, and content management systems for display purposes, sharing holdings with other systems, usage statistics harvesting, etc.

19. Specify capabilities for inputting an item-specific control number in barcode form at the point of check in.
20. Specify whether your product provides any aids in normalizing data, such as titles, ISBNs and ISSNs. Examples of the end use would be matching of print and electronic resources for overlap analysis and matching of electronic usage data from vendors to cataloged titles/collections.
21. Describe other e-resource subscription and management capabilities unique or notable of the proposed system not addressed above.

**F. Metadata and Cataloging Functionality-** Describe the proposed solution's metadata and cataloging capabilities, including but not limited to each of the items below:

1. Support of multiple metadata encoding schemas and content standards, including but not limited to Encoded Archival Description, Metadata Object Description Schema, Dublin Core, Visual Resources Association Core, and BIBFRAME or other RDF-based standards. Differentiate current, active features from planned or beta features.
2. Support for multiple cataloging rules, such as AACR2, RDA, and Descriptive Cataloging of Rare Materials.
3. Support for vocabularies in bibliographic and authority records from sources other than LC or PCC, such as AAT, GND, RGENR.
4. Describe how the system provides help and support to staff learning and working with multiple schemas and cataloging standards.
5. Support for different call numbers schemas associated with the same bibliographic record (*e.g., Dewey, SuDoc, LC local*).
6. Support for linked records (*e.g., items which are bound together in a common collection and with shared holdings records, but with separate bibliographic records.*)
7. Support for multiple holdings locations and sub-locations.
8. Staff search capabilities including, but not limited to, regular expressions (*if so, which flavor*), capacity to save searches, capacity to save and edit search result sets, capacity to search across record types (*e.g., bibliographic, authority, order, holdings*).
9. Any limitations imposed on MARC 21 bibliographic, authority, or holdings records by the system.
10. Support for non-roman characters and diacritics.
11. Capabilities for importing bibliographic and holdings/item records in MARC and other metadata schemas from multiple sources (*e.g. OCLC, Marcive, Serials Solutions, book and e-resource vendors, OAI-compliant repositories*) including any capabilities for importing large files of records.
12. Updating records, including batch updates.

13. Support for automatic authority control, including any availability of dynamic cross-referencing, automatic suppression of blind cross-references, real-time heading conflict detection, and global heading change capabilities for authority control.
14. Safeguards, data validation, error detection, and other database system support for assuring accuracy and integrity of records.
15. Support for record overlay or import.
16. URL storage and linking capabilities, including link checking.
17. Capabilities for library staff to control the display of all record types in the public interface, including all MARC 21 fields and subfields.
18. Abilities to extract, manipulate, transform, and reload data. Specify the available data formats, such as MARC binary, XML, JSON, csv. Specify whether the system supports batch updating using regular expressions and if so, specify flavor.
19. Ability to export selected MARC fields and subfields, with and without delimiter coding.
20. Support for library-created transformation scripting, such as XSLT, XQuery, SPARQL Update.
21. Support for record versioning and rollback.
22. Support for bibliographic record templating.
23. Support for transferring item and order records across bibliographic records.
24. Support for setting holdings in OCLC from within the vendor system.
25. Support for printing spine labels.
26. Capabilities for enriching bibliographic records and displaying book jackets, TOC, book reviews, etc.
27. Reporting, querying, and record list creation, including export capabilities and compatibility with Microsoft Excel and other third-party software including:
  - a) any limitations on size of report or query result set
  - b) any limitations on type of information which can be queried
28. Describe other metadata and cataloging capabilities unique or notable of the proposed system not addressed above.

## **G. Circulation Functionality**

1. Provide a brief overview of the circulation module functionality of the system.
2. Describe capabilities to allow multiple circulation units to retain individual circulation policies and procedures.

3. Describe how item type, location, and status codes can be defined and configured.
4. Specify whether the system can accommodate Code 39 barcodes with 10 digits using the following sequence: (start) number (line feed) (stop) with no check digit and with the first digit of “1” or “2” used to indicate an item record.
5. Describe options for uploading patron data from external sources (*i.e., university human resource and student information systems*).
6. Describe capabilities and safeguards for allowing library staff to override system limits.
7. Describe how the system calculates due dates.
8. Describe off-line circulation capabilities.
9. Detail system handling of financial transactions, including how they might be exported to another system.
10. Detail capabilities for patron notices, and to what extent processes can be automated and integrated into workflows. Specify whether notices can be customized, whether the system supports e-mail notices, and whether a specific sub-library can generate its own notices.
11. Describe the system’s ability to generate any additional reports related to patrons, fines, etc., including ability to automate such reports or integrate into workflows.
12. Describe process for circulating uncatalogued materials.
13. Describe capabilities for indicating the status of items in the OPAC (*e.g., lost, on order, on reserve*) including the library’s ability to define conditions and the process for adding and removing statuses.
14. Describe hold and recall capabilities, including abilities to specify hold / recall multiple volumes on the same record.
15. Describe system-generated and manual blocks including criteria used for system generated blocks, process for adding, removing and overriding blocks, and the effect of blocks on patron notices.
16. Describe the provision for handling delivery of materials to another location or a departmental mailbox or office.
17. Describe any abilities for the system to allow patrons to pay for fines or other bills, including credit cards, and the patron’s campus account.
18. Describe abilities of the system to support communication with patrons, including instant messaging and inserting manual messages into library accounts.
19. Describe any integration between circulation and interlibrary loan software, including support for NISO Circulation Interchange Protocol (NCIP).
20. Describe options for patron self-checkout.

21. Describe privacy policies for patron information, including the ability to disable patron reading histories.
22. Describe other circulation functionality unique or notable of the proposed system not addressed above.

#### **H. Course Reserves Functionality**

1. Describe procedure for creating course records.
2. Describe capabilities for allowing multiple locations to create and maintain course reserves with distinct policies, codes, etc.
3. Describe the availability of an electronic request form for instructors to place materials on reserve.
4. Describe procedure for adding materials already in the catalog and for materials that are not part of the library collection. Specify whether original location is retained.
5. Describe provisions for removing items from course reserves (*e.g., scanning barcodes*).
6. Describe capabilities for archiving course records and reserves lists for future use.
7. Describe capabilities for tracking reserve usage.
8. Describe support for including a URL for an item on reserve.
9. Describe the capabilities for working with reserves materials in batches, including importing, viewing, exporting, and activating / de-activating things from reserves.
10. Describe capabilities for integrating course reserves functions into learning management systems (*e.g., Canvas*) or for the library to create bridges between course reserves and learning management systems.
11. Describe other course reserves capabilities unique or notable of the proposed system not addressed above.

#### **I. Equipment/Room Scheduler Functionality**

1. Describe the system's ability to schedule and reserve equipment, rooms, and other non-collection items, including, but not limited to, the ability to interact with the schedule of library hours and loan periods.
2. Describe capabilities for allowing multiple locations to create and maintain items with distinct policies, codes, etc.
3. Describe provisions for using barcodes or RFID for checking out equipment.
4. Describe capabilities for grouping and lending items as a whole (*e.g., camera, tripod, power cord*).

5. Describe options for listing features of rooms available for scheduling (*e.g., occupancy levels, equipment, furniture, location*).
6. Describe available analytics for use of equipment and rooms, including the library's ability to configure and customize tracked data and reports.
7. Describe other equipment/room scheduler capabilities unique or notable of the proposed system not addressed above.

#### **J. Discovery Service Content and Metadata Functionality**

1. Describe your overall approach to integrating the library's catalog records with additional metadata (*often called "discovery tool"*), including the tool's relationship to the library catalog, linkresolver, knowledgebases, etc.
2. Indicate which knowledgebase or systems may be indexed by public search engines (*e.g., Google, Google Scholar, Bing*). Describe any search engine optimization, customization and configuration options available to the Libraries.
3. Describe your relationships with journal article publishers/aggregators, abstract & indexing platforms, open access repositories, and other discovery metadata providers.
4. Provide a list of the content that may be included in the discovery service, including the level of indexing for each type of content or collection.
5. Describe the various ways an institution can import metadata into the discovery service, including the process for manual and automated updates and deletions.
6. Describe the level of control the institution has about what content is included or excluded, what fields are searched, and what fields are displayed.
7. Describe how library catalog metadata is mapped to the discovery tool's fields, especially facets and limiters. Include an explanation of the extent to which the institution can specify fields to be searched / included and to customize this mapping.
8. Describe the customizability and configurability of the discovery service, including the ability to have different instances of the discovery service with different customization, configuration, and content.
9. Describe the ability of the discovery tool to de-duplicate results before displaying to patrons.
10. Describe the way the discovery tool is able to use library catalog data, including authority information, status information, patron data, and circulation data.
11. Describe any integration of the discovery tool with course reserves, learning management systems (*e.g., Canvas*), LibGuides, or other user-services-related systems.
12. Describe updating processes for discovery service (*real time from catalog, lag time, etc.*)
13. Describe other discovery service content and metadata functionality that is unique or notable of the proposed system not addressed above.



**K. End User (Public) Interface Functionality-** In this section, describe all public interfaces for searching content, including discovery interfaces, or catalog interfaces.

1. Describe the interface(s) designed for the public to discover and access all types of resources in the system.
2. Describe how the public interface supports discovery of additional search tools, such as research databases or locally created subject guides, whether or not the contents of these tools/database are present within the system (*e.g., research databases portal, database recommender services, facets*).
3. Detail search capabilities, including keyword searching, left-anchored index searching (*i.e. left-anchored title searching*), controlled vocabulary searching, and call number searching. Explain how the system takes advantage of the library's structured metadata.
4. Describe the system's ability to support the user in browsing library collections by subject area, call number, title, etc. Explain how the browsing approach differs from searching, if applicable.
5. Explain the system's relevancy ranking and options for customizing it. Explain any different search "modes" for the user (*e.g., basic, advanced, "google-like" versus Boolean*) and how these affect the relevance algorithm(s).
6. Describe user-support search features that promote self-service, such as dictionaries, spell-check, and term suggestions (*e.g., Did you mean...*).
7. Describe the system's functionality related to searching for journals, including by title and by subject area, and how the holdings information is presented in an intuitive fashion.
8. Describe all pre- and post- search limit options (*e.g., language, location, availability, full-text*).
9. Describe all additional capabilities of the system for users when they are logged in (*e.g., personalization, customization, reading history, search history, setting up alerts, storing items in folder(s) and lists, renewing online*). Detail any integration with discovery tools and interlibrary loan software, including integration of patron account functions (*renewal, request, etc.*).
10. Describe public interface support for playing multimedia files, including audio and video, including information about options for embedding media.
11. Describe any affordances in the system for clarifying what type of thing an item is, including basic formats like book, book chapter, and article, video and more specialized document genres, such as reference books, government documents, and dissertations.
12. Explain the influence of system codes on how item formats / types are displayed in the interface and how the user can intuitively create limits to desired types of items.
13. Describe any support for integrating reference works into the user interface, including use of tables of contents and indexes of print or electronic works. Describe how reference works are displayed in the interface.

14. Describe how the public interface displays relevant information about e-books, including discussion of the user interface's flexibility for adapting to changing e-book models and options over time.
15. Specify supported browsers, noting any necessary plug-ins, and helper applications (*e.g., Flash*). Note any browser configuration settings required for use of the interface, such as security settings, JavaScript settings, and cookie settings.
16. Describe the way the system uses authority records to support end user queries and any options for the institution to customize this use.
17. Describe how the interface uses metadata to support linking to other records and searches, both within and without of the system (*e.g., using subject fields to launch a subject search; "view similar titles"*).
18. Describe the system's interface support for helping users understand related works, compilations, and series.
19. Describe how diacritics and non-roman characters appear in the public interface(s).
20. Describe any use of linked data (*either as a provider or consumer of linked data*) to support end user discovery.
21. Describe user interface and functionality for access to course reserves materials.
22. Describe capabilities for providing custom electronic forms for common types of patron requests (*e.g., suggestions, hold requests*).
23. Describe any integration of technical support requests / feedback requests from end-users to the library concerning records in the system.
24. Describe features to support user creation, saving, export, and formatting of lists, including the ability to format such lists in scholarly style, export, email, or save.
25. Describe user ability to share discoveries with others via social media, including lists, records, and searches.
26. Describe any limitation on making durable URLs to public interface screens, including search results sets, search results sets with limiters applied, and individual records.
27. Describe how the system helps the user find and retrieve physical items once discovered, such as interactive library maps, texting call numbers, and similar affordances.
28. Describe public web interface customization options available to the library, including details about including / suppressing specific fields in various views (*results sets, individual records*), and linking fields. Also, describe the capabilities for creating separate instances (*i.e., profiles*) of web interfaces (*e.g., a music interface*). Include information about how the library can integrate its chat service, library web guides (*e.g., LibGuides*), and other services into the interface.
29. Describe the ways in which the user interface(s) takes advantage of responsive design techniques.

30. Describe abilities for the library to create its own interface(s) using data from the system (*e.g., through APIs, direct database connections, web services requests*).
31. Describe ability to customize “help” for end user.
32. Describe other end user (public) interface capabilities unique or notable of the proposed system not addressed above.

#### **L. Linking Interface Functionality**

1. Describe interfaces that support linking the user from record views to full manifestations of items (*e.g., full-text articles, streaming audio*).
2. Describe support for additional types of links using bibliographic information, such as links to bibliographic citation management software or third party web sites.
3. Describe ability to use third party metadata about journals (*e.g., Ulrich's*) to assist the user in differentiating among journal titles, for example, clarifying title changes over time, or differentiating among similarly-named journal titles.
4. Describe the options and logic for connecting the user directly to full-text versus offering them a menu of options.
5. Describe all customization and configuration options for the ordering, display, and logic of linking users to the full manifestations of items. Describe the interface(s) or procedure(s) whereby the library would make or request changes.
6. Describe any integration of technical support requests / feedback requests into the linking interface (*for users to submit questions or problem citations*).
7. Describe other linking interface capabilities unique or notable of the proposed system not addressed above.

#### **M. End User (Public) Mobile Interface Functionality**

1. Describe your overall approach to providing mobile access to the system, including your firm's technology roadmap for support of hand-held computing devices.
2. Describe the full-featured user-experience with hand-held computing devices. List common hand-held device OS versions supported by the product (*smart phones and tablet operating systems such as iOS, Android, Windows Phone 10, etc.*).
3. Describe any different user interface requirements for tablets devices versus smart phone devices.
4. Describe which specific features of the product have undergone a user interface redesign for smart phone/tablet devices.
5. Describe the customization options available to the institution related to the mobile interface or responsive design settings that facilitate mobile access.

6. Describe how the product deals with patron privacy using wireless or networked technology.
7. Describe other end user (public) mobile interface capabilities unique or notable of the proposed system not addressed above.

#### **N. Collections Information and Reporting Functionality**

1. Provide an overview of the system's capabilities for producing reports.
2. Provide an overview of any preset or configurable dashboards generated by the system.
3. Describe the system's capability to handle inventory of the collection.
4. Describe options to allow the Libraries to compile statistical data required for university, state, federal, and other reporting.
5. Provide a list of all reports delivered as part of the base product including a short description of each. Include a sample of several reports for review.
6. Describe support for automated creation and dissemination of reports.
7. Describe application approach/strategy for reporting including the approach to ad-hoc reporting for power users as well as the occasional user. Describe the process for staff to create reports using a query language.
8. Describe any limitations on manually created queries, including which records can be included in queries together. Is there a distinct relationship between item and order records linking cost of items and usage of items?
9. Describe all reporting tools supported and how they integrate with the product including any direct access capability your product provides where desktop software like Excel, Access and SQLServer can link real-time to system data. Specify methods used and software supported.
10. Describe reporting output formats available.
11. Describe any data visualization capabilities for reporting data and capacity for interfacing with data analysis and visualization software, such as Tableau, Visual Analytics, SAS, or SPSS.
12. Explain circulation reporting for tangible items, including details about how circulation events are recorded, and the ability of the library to generate reports using historical information.
13. Describe how your product retrieves, stores and reports electronic resource usage, including SUSHI and supported COUNTER and non-COUNTER formats. Detail the ability for users to import usage data.
14. Describe the system's ability and capacity for storing historical usage data and report specifications that might be used for repeated reports.

15. Describe any additional analytic capabilities for evaluating collections use. Examples of such capabilities include:
  - a) web traffic reports
  - b) material counts
  - c) material costs
  - d) financial summaries
  - e) cost per use
  - f) pre-built reports for librarian selectors to track funds
  - g) system-wide reports (*number of log-ins, number of duration and time of visits, system utilization*)
  - h) reports on tool usage by students/faculty to support development of training for faculty
16. Describe other collections information and reporting capabilities unique or notable of the proposed system not addressed above.

#### **O. Digital Content Functionality**

1. Provide an overview of how your solution houses, creates, stores, makes discoverable and or delivers locally created digital content.
2. Describe supported formats, including multimedia formats; describe any limitations on digital content (*e.g., file size, total amount of material that can be archived*).
3. Describe how your solution will provide library users with an interface that searches disparate resource silos (*e.g., local returnable and/or digital collections, vendor-supplied electronic resources, manuscripts and archival material, etc.*); retrieves relevant items available to them regardless of format or physical location; and displays, organizes, and limits search results in an understandable manner.
4. Describe your system's digital asset management tools. (*including ingestion, metadata editing, collection organization, and rights management aspects*).
5. Describe how the system integrates finding aids with digital content.
6. Specify any optimization available for content discovery through discovery tools (*e.g., public search engines such as Google Scholar, library-specific products such as ProQuest Summon, EBSCO Discovery Service, or Ex Libris Primo or AI-driven services that analyze unstructured text such as Yewno*).
7. Describe the tools for web-based presentation of multimedia content, including data files, sound, images, and video.
8. Describe the ability to create exhibits or collections of items within the repository, both by the institution and end users.

9. Describe other options for the user to interact with collection items (*e.g., commenting, tagging*).
10. Describe the options available for adjusting the user interface for institutions, including branding, display options, search logic settings, and adding widgets (*e.g., chat reference*).
11. Describe how staff manages digital content collections in this system.
12. Describe how the solution accommodates multiple content standards and encoding schemas including, but not limited to, Encoded Archival Description; Metadata Object Description Schema, Dublin Core, OAI-PMH, METS, RDF and Z39.50. Describe plans for incorporating future containers, alternative vocabularies and cataloging description methods.
13. Describe how this system facilitates workflows across multiple units managing digital collections at different parts of the process, from creation through discovery (*e.g., Special Collections, Scholarly Content Systems, Metadata and Cataloging*).
14. Describe any reporting capabilities for evaluating digital content holdings.
15. Describe processes, functions and methods for extracting and exporting files and metadata along with any limits on storage and numbers of files that can be extracted and supported in a batch mode.
16. Provide an outline of the long-term preservation strategy for content deposited in the system that provides details on vendor and customer responsibilities.
17. Describe other digital content capabilities unique or notable of the proposed system not addressed above.

#### **P. System Administration Functionality**

1. Provide an overview of the library system administrator's capabilities for configuring and customizing the system without vendor assistance.
2. Describe capabilities for producing system-related reports, including the availability of prepared reports and/or templates, custom reporting writing, and scheduling reports. List any third-party software packages (*e.g., Crystal Reports, Visual Basic*) recommended for custom reports. Include a list of the available prepared reports and/or templates. Examples of reports could include but are not limited to:
  - a) reports about how often various staff functions are used
  - b) reports related to user accounts
  - c) number of duration and time of visits
  - d) system utilization / load information
3. Describe system support for defining and creating user accounts, including how accounts are assigned permissions to perform various actions in the system. Also, discuss the process



for maintaining and deleting user accounts, including automated reminders to users and administrators (*e.g., periodic password reset reminders*).

4. Describe the interface(s) available for system administration.
5. Describe staffing requirements and technical skills required to support the proposed system.
6. Describe how your system's API could be used to extend system administration functionality.
7. Describe other system administration capabilities unique or notable of the proposed system not addressed above.

#### **Q. Database**

1. Describe general database structure including record types and structures, and relationships between records, including E-R diagram(s).
2. Explain the system's ability to link the cost of a resource to the item itself, including item usage.
3. Describe abilities for the library to connect to, query, and modify the underlying database.
4. Describe documentation available for the database.
5. Describe index structure and indexing capabilities.
6. Describe any capabilities to extract and manipulate data for external sources (*e.g., OCLC, document supply vendors, electronic database vendors*), desktop applications (*e.g., Microsoft Access, Excel*), and/or reloading into the system.
7. Describe the system's approach to locking records, explaining which type(s) of actions place locks on fields and/or records.
8. Describe other database capabilities unique or notable of the proposed system not addressed above.

#### **R. Services**

1. Provide a catalog of training options with detailed descriptions (*provide options for both technical staff and end-user training*). Provide any associated cost in Section X. Pricing Schedule.
2. Describe other services available from your firm that may be included in the final contract and provide any associated cost in Section X. Pricing Schedule.
  - a) software development
  - b) project management
  - c) architecture and design
  - d) capacity planning

- e) installation and configuration
  - f) performance and scalability
  - g) conversion
  - h) monitoring, administration and upgrades
  - i) operations metrics
  - j) other
3. Describe the support options available through your company including ongoing support of the application. Describe which portions of support to be performed by JMU versus your firm (*provide any associated cost in Section X. Pricing Schedule*).
  4. Describe procedures for JMU to report problems.
  5. Specify the criteria used by your firm to determine high-priority, urgent support need versus low priority. Provide response time for all levels of support.
  6. Describe your escalation procedure.
  7. Describe your customer resource site (*e.g., documentation, troubleshooting FAQ, product information, release notes, upgrades and patch information*). Describe the extent to which customers can customize or add content to the site.
  8. Specify warranty period and coverage for all proposed hardware and software.
  9. Specify customer support hours and any limitations on support outside of normal office hours. Specify emergency call response time.
  10. Provide the business address(es), telephone number(s), e-mail address(es), and fax number(s), for office(s) providing support. Specify any third party involved in support and maintenance.

## **S. Implementation and Migration Plan**

1. Describe typical implementation and migration timeline and project plan. Include examples of previously used project plans.
2. Describe your data migration plan and methodology for migrating from Innovative Interfaces Sierra, including:
  - a) how the integrity and quality of the data will be maintained during the migration process
  - b) library and vendor roles and responsibilities in the data migration process
  - c) the required involvement of library staff in the migration process.
3. Describe communication channels that the library and vendor will follow during the project.
4. Describe the implementation training program content, method of delivery, and materials.
5. Describe the options available for post-implementation training (*e.g., 6 months or 1 year*

*after switch to production).*

6. Describe your approach with regard to configuration and customization by the library during implementation. Specify and describe the tools that will be available for library staff to configure and customize various parameters.
7. Describe your approach to test, development, and production environments.
8. Describe how this system will enable decommission of one or more of the following: III Sierra ILS, III Electronic Resource Management system, Serials Solutions 360 Core and 360 Link, EBSCO Discovery Service.

## **T. Technical**

1. Provide a detailed diagram of the typical architecture/technical environment required for the system. List all protocols and ports used for communications and indicate which components are clients, if any, and which are servers and whether the communications are fully, partially, or not encrypted. Specify any communications paths where unencrypted authentication or other sensitive data are passed. List all third party dependent integration points and data paths including any web content included from or sent to outside parties.
2. Describe hardware and software requirements for the proposed system(s) along with any sizing assumptions made to arrive at those requirements.
3. Describe supported server hardware and/or virtualized platforms. If virtualization is supported, specify which virtualization technologies and describe the components that can be virtualized. Describe support for the following operating systems: Linux and Windows.
4. Describe support for load balancing and system failover including any and all vendor specific preferences. Also, include any vendor specific configuration guides. Explain what actions might create a load issue in the system, and what the effects are.
5. Describe how scalability is accomplished as the criticality of the system(s) and number of users increase.
6. Describe the system capabilities and options for the backup and restoration of the system components (*e.g., database, configuration files*).
7. Describe the average client response time for all the various functions of the proposed system.
8. Describe services not available during scheduled maintenance.
9. Describe any features of your application that do not support the Macintosh OS. Describe any changes to default browser or client security settings.
10. Provide an overall compatibility matrix of software required to operate your system. As appropriate, and at a minimum, this should include operating systems, drivers, browsers, JDKs, and compilers.
11. Describe support for real-time access to data through some other method (*e.g., on-the-fly access to database through ODBC, ADO, JDBC, LDAP, etc. allowing dynamic web content*

*and applications).*

12. Describe support for integration with JMU's existing systems listed in the background statement including pricing, availability of APIs, toolkits for creating connectors, available services, etc (*provide any associated pricing in Section X. Pricing Schedule*). Provide a full list of application connectors. Describe any other methods of integration supported.
13. Describe the ability for your product to create consumable web standards-based content (*e.g., RSS feeds, hcard, ical, and other microformat specifications*), the ability to pull XML/JSON based content from your system, and any APIs (*RESTful or otherwise*) supporting the delivery of such data/content.
14. Describe storage including file formats.
15. Describe operational monitoring and reporting capabilities. Include the capabilities for application, content, access, and storage metrics, security and the method for obtaining them (*e.g., command line tools, SNMP, and GUI*).
16. Provide information about the number and duration of downtime incidents in the past year.
17. Specify any limits on the number of concurrent sessions supported by the proposed system.
18. Describe life expectancy for any hardware that is part of this proposal.

#### **U. Security**

1. Describe handling access to licensed/copyrighted content where access must be restricted.
2. Describe your use of authentication credentials and associated attributes, group membership, roles, etc. to make authorization decisions. Include method(s) and granularity of authorization of access to data and services (*e.g., individual accounts, IP address, UNIX groups, LDAP groups, Active Directory accounts*).

#### **V. Maintenance and Support-** Because consistency and stability of the operating environment and rapid correction of system failures are critical to James Madison University, major consideration will be given to the amount and extent of hardware and software maintenance coverage and to the quality of maintenance.

1. Describe maintenance and support offered (*provide any associated cost in Section X. Pricing Schedule*).
2. Describe the nature of continuing research and development performed to detect and correct problems in the system design, to improve efficiency, and/or to enhance the capabilities of the system proposed.
3. Describe the nature of system enhancements in development that are scheduled for release in the next two years.
4. Describe all responsibilities of both the contractor and James Madison University in the isolation and diagnosis of system failures.

## W. Privacy

1. Provide your privacy statement.
2. Identify the type/specific information being collected (*User Data – Anonymous or Personally Identifiable*). For the information identified:
  - a) Specify who collects the information
  - b) Specify why the information is collected
  - c) Describe how the information is collected (*explicitly, via Cookies, via Web Bugs, etc.*)
  - d) Describe how the information is used
  - e) Specify how long the information is retained and the library's ability to customize and configure retention policies
  - f) Describe how the information is stored and kept
  - g) Describe how the information is secured
3. Specify whether you share information with another party. If information is shared with another party, respond to Items a. through h.:
  - a) Identify the type/specific information being shared (*User Data – Anonymous or Personally Identifiable*)
  - b) Specify who collects the information
  - c) Specify why the information is collected
  - d) Describe how the information is collected (*explicitly, via Cookies, via Web Bugs, etc.*)
  - e) Describe how the information is used
  - f) Specify how long the information is retained
  - g) Describe how the information is stored and kept
  - h) Describe how the information is secured
4. Specify whether you collect information on JMU or any party related to JMU from third parties. Respond to Items a. through j. :
  - a) Identify the type/specific information being collected (*User Data – Anonymous or Personally Identifiable*).
  - b) Specify who collects the information.
  - c) Specify why the information is collected.
  - d) Describe how the information is collected (*explicitly, via Cookies, via Web Bugs, etc.*).

- e) Describe how the information is used.
- f) Specify how long the information is retained.
- g) Describe how the information is stored and kept.
- h) Describe how the information is secured.
- i) Specify whether you share the information with another party.
- j) Specify the transaction information collected/maintained.

**X. PCI Compliance:** Provide the following if the proposed solution processes card holder data or redirects to a separate payment site:

- 1. Up-to-date, signed documentation that the proposed solution and firm is compliant with all PCI-DSS requirements.
- 2. Documentation of your firm's most recent PCI system scan and the signature page from your Attestation of Compliance (AOC).
- 3. If your firm and/or the proposed solution is not PCI-DSS compliant, explain why your firm/solution falls outside PCI-DSS scope and provide the most recent SOC 1 or SSAE-16 report.

**Y. Trial Access, Administrative Documentation, and Demonstration**

- 1. Provide information/instructions for JMU to test the functionality of the proposed system through trial access. JMU should be able to access the trial via username and password access or via IP-authenticated access from the date that the RFP closes through award of the contract. The JMU IP addresses are 134.126.\*.\* Specify if the trial access is being provided on any server other than the normal production server. If possible, the trial system(s) should demonstrate all features and contain a roughly equivalent number of records to JMU's collections (*e.g. 1.3 million bibliographic records, 100,000+ journal subscriptions*) for purposes of evaluating system robustness and responsiveness.
- 2. Provide access to another customer's implementation of the proposed solution (*with their permission*) in order for JMU to test user experiences, including search and retrieval.
- 3. Provide access (*via link or other electronic means*) to the full technical and administrative documentation for the proposed system.
- 4. The University may request select offerors to provide an in-person demonstration of their proposed system on either July 23<sup>rd</sup>, July 25<sup>th</sup>, or July 30<sup>th</sup>, 2019. **Selected offerors will be given as much advance notice as possible; however, all offerors should maintain flexibility in scheduling during those days.**



## V. PROPOSAL PREPARATION AND SUBMISSION

### A. GENERAL INSTRUCTIONS

**To ensure timely and adequate consideration of your proposal, offerors are to limit all contact, whether verbal or written, pertaining to this RFP to the James Madison University Procurement Office for the duration of this Proposal process. Failure to do so may jeopardize further consideration of Offeror's proposal.**

1. RFP Response: In order to be considered for selection, the **Offeror shall submit a complete response to this RFP**; and shall submit to the issuing Purchasing Agency:
  - a. **One (1) original and nine (9) copies** of the entire proposal, INCLUDING ALL ATTACHMENTS. Any proprietary information should be clearly marked in accordance with 3.f. below.
  - b. **One (1) electronic copy (one file) in WORD format or searchable PDF (CD or flash drive)** of the entire proposal, INCLUDING ALL ATTACHMENTS. Any proprietary information should be clearly marked in accordance with 3.f. below.
  - c. Should the proposal contain **proprietary information**, provide **one (1) redacted hard copy** of the proposal and all attachments with **proprietary portions removed or blacked out**. This copy should be clearly marked "*Redacted Copy*" on the front cover. The classification of an entire proposal document, line item prices, and/or total proposal prices as proprietary or trade secrets is not acceptable. JMU shall not be responsible for the Contractor's failure to exclude proprietary information from this redacted copy.

No other distribution of the proposal shall be made by the Offeror.

2. The version of the solicitation issued by JMU Procurement Services, as amended by an addenda, is the mandatory controlling version of the document. Any modification of, or additions to, the solicitation by the Offeror shall not modify the official version of the solicitation issued by JMU Procurement services unless accepted in writing by the University. Such modifications or additions to the solicitation by the Offeror may be cause for rejection of the proposal; however, JMU reserves the right to decide, on a case-by-case basis in its sole discretion, whether to reject such a proposal. If the modification or additions are not identified until after the award of the contract, the controlling version of the solicitation document shall still be the official state form issued by Procurement Services.
3. Proposal Preparation
  - a. Proposals shall be signed by an authorized representative of the Offeror. All information requested should be submitted. Failure to submit all information requested may result in the purchasing agency requiring prompt submissions of missing information and/or giving a lowered evaluation of the proposal. Proposals which are substantially incomplete or lack key information may be rejected by the purchasing agency. Mandatory requirements are those required by law or regulation or are such that they cannot be waived and are not subject to negotiation.

- b. Proposals shall be prepared simply and economically, providing a straightforward, concise description of capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.
  - c. Proposals should be organized in the order in which the requirements are presented in the RFP. All pages of the proposal should be numbered. Each paragraph in the proposal should reference the paragraph number of the corresponding section of the RFP. It is also helpful to cite the paragraph number, sub letter, and repeat the text of the requirement as it appears in the RFP. If a response covers more than one page, the paragraph number and sub letter should be repeated at the top of the next page. The proposal should contain a table of contents which cross references the RFP requirements. Information which the offeror desires to present that does not fall within any of the requirements of the RFP should be inserted at the appropriate place or be attached at the end of the proposal and designated as additional material. Proposals that are not organized in this manner risk elimination from consideration if the evaluators are unable to find where the RFP requirements are specifically addressed.
  - d. As used in this RFP, the terms “must”, “shall”, “should” and “may” identify the criticality of requirements. “Must” and “shall” identify requirements whose absence will have a major negative impact on the suitability of the proposed solution. Items labeled as “should” or “may” are highly desirable, although their absence will not have a large impact and would be useful, but are not necessary. Depending on the overall response to the RFP, some individual “must” and “shall” items may not be fully satisfied, but it is the intent to satisfy most, if not all, “must” and “shall” requirements. The inability of an offeror to satisfy a “must” or “shall” requirement does not automatically remove that offeror from consideration; however, it may seriously affect the overall rating of the offeror’s proposal.
  - e. Each copy of the proposal should be bound or contained in a single volume where practical. All documentation submitted with the proposal should be contained in that single volume.
  - f. Ownership of all data, materials and documentation originated and prepared for the State pursuant to the RFP shall belong exclusively to the State and be subject to public inspection in accordance with the Virginia Freedom of Information Act. Trade secrets or proprietary information submitted by the offeror shall not be subject to public disclosure under the Virginia Freedom of Information Act; however, the offeror must invoke the protection of Section 2.2-4342F of the Code of Virginia, in writing, either before or at the time the data is submitted. The written notice must specifically identify the data or materials to be protected and state the reasons why protection is necessary. The proprietary or trade secret materials submitted must be identified by some distinct method such as highlighting or underlining and must indicate only the specific words, figures, or paragraphs that constitute trade secret or proprietary information. The classification of an entire proposal document, line item prices and/or total proposal prices as proprietary or trade secrets is not acceptable and will result in rejection and return of the proposal.
4. Oral Presentation: Offerors who submit a proposal in response to this RFP may be required to give an oral presentation of their proposal to James Madison University. This provides an opportunity for the Offeror to clarify or elaborate on the proposal. This is a fact-finding and explanation session only and does not include negotiation. James Madison University will schedule the time and location of these presentations. Oral presentations are an option

of the University and may or may not be conducted. Therefore, proposals should be complete.

## B. SPECIFIC PROPOSAL INSTRUCTIONS

Proposals should be as thorough and detailed as possible so that James Madison University may properly evaluate your capabilities to provide the required services. Offerors are required to submit the following items as a complete proposal:

1. Return RFP cover sheet and all addenda acknowledgements, if any, signed and filled out as required.
2. Plan and methodology for providing the goods/services as described in Section IV. Statement of Needs of this Request for Proposal.
3. Offeror Data Sheet, included as *Attachment A* to this RFP.
4. Small Business Subcontracting Plan, included as *Attachment B* to this RFP. Offeror shall provide a Small Business Subcontracting plan which summarizes the planned utilization of Department of Small Business and Supplier Diversity (SBSD)-certified small businesses which include businesses owned by women and minorities, when they have received Department of Small Business and Supplier Diversity (SBSD) small business certification, under the contract to be awarded as a result of this solicitation. This is a requirement for all prime contracts in excess of \$100,000 unless no subcontracting opportunities exist.
5. Sign and return the JMU IT Services Addendum, included as *Attachment D* to this RFP, which shall be included as part of a resulting contract and govern in the event of conflict with all Contractor's license agreements, privacy policies, forms, etc.
6. Sign and return the Commonwealth of Virginia Agency Contract Form Addendum to Contractor's Form, included as *Attachment E* to this RFP, which shall be included as part of a resulting contract and shall govern in the event of conflict with all Contractor's license agreements, forms, etc.
7. Completed Higher Education Cloud Vendor Assessment Tool (HECVAT), included as *Attachment F* to this RFP. **The HECVAT should be returned as an Excel file on a CD or flash drive (reference Section V.A.1.b.).**
8. Identify the amount of sales your company had during the last twelve months with each VASCUPP Member Institution. A list of VASCUPP Members can be found at: [www.VASCUPP.org](http://www.VASCUPP.org).
9. Proposed Cost. See Section X. Pricing Schedule of this Request for Proposal.

## VI. EVALUATION AND AWARD CRITERIA

### A. EVALUATION CRITERIA

Proposals shall be evaluated by James Madison University using the following criteria:

1. Quality of products/services offered and suitability for intended purposes
2. Qualifications and experience of Offeror in providing the goods/services
3. Specific plans or methodology to be used to perform the services
4. Participation of Small, Women-Owned, & Minority (SWaM) Businesses
5. Cost

Allocation of points for evaluation criteria will be published to the eVA solicitation posting prior to the closing date and time.

- B. AWARD TO MULTIPLE OFFERORS: Selection shall be made of two or more offerors deemed to be fully qualified and best suited among those submitting proposals on the basis of the evaluation factors included in the Request for Proposals, including price, if so stated in the Request for Proposals. Negotiations shall be conducted with the offerors so selected. Price shall be considered, but need not be the sole determining factor. After negotiations have been conducted with each offeror so selected, the agency shall select the offeror which, in its opinion, has made the best proposal, and shall award the contract to that offeror. The Commonwealth reserves the right to make multiple awards as a result of this solicitation. The Commonwealth may cancel this Request for Proposals or reject proposals at any time prior to an award, and is not required to furnish a statement of the reasons why a particular proposal was not deemed to be the most advantageous. Should the Commonwealth determine in writing and in its sole discretion that only one offeror is fully qualified, or that one offeror is clearly more highly qualified than the others under consideration, a contract may be negotiated and awarded to that offeror. The award document will be a contract incorporating by reference all the requirements, terms and conditions of the solicitation and the contractor's proposal as negotiated.

## **VII. GENERAL TERMS AND CONDITIONS**

- A. PURCHASING MANUAL: This solicitation is subject to the provisions of the Commonwealth of Virginia's Purchasing Manual for Institutions of Higher Education and Their Vendors and any revisions thereto, which are hereby incorporated into this contract in their entirety. A copy of the manual is available for review at the purchasing office. In addition, the manual may be accessed electronically at <http://www.jmu.edu/procurement> or a copy can be obtained by calling Procurement Services at (540) 568-3145.
- B. APPLICABLE LAWS AND COURTS: This solicitation and any resulting contract shall be governed in all respects by the laws of the Commonwealth of Virginia and any litigation with respect thereto shall be brought in the courts of the Commonwealth. The Contractor shall comply with applicable federal, state and local laws and regulations.
- C. ANTI-DISCRIMINATION: By submitting their proposals, offerors certify to the Commonwealth that they will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act and §10 of the Rules Governing Procurement, Chapter 2, Exhibit J, Attachment 1 (available for review at <http://www.jmu.edu/procurement>). If the award is made to a faith-based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the contract on the basis of the recipient's religion,

religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith-based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body. (*§6 of the Rules Governing Procurement*).

In every contract over \$10,000 the provisions in 1. and 2. below apply:

1. During the performance of this contract, the contractor agrees as follows:
    - a. The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
    - b. The contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that such contractor is an equal opportunity employer.
    - c. Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting these requirements.
  2. The contractor will include the provisions of 1. Above in every subcontract or purchase order over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.
- D. ETHICS IN PUBLIC CONTRACTING: By submitting their proposals, offerors certify that their proposals are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other offeror, supplier, manufacturer or subcontractor in connection with their proposal, and that they have not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.
- E. IMMIGRATION REFORM AND CONTROL ACT OF 1986: By entering into a written contract with the Commonwealth of Virginia, the Contractor certifies that the Contractor does not, and shall not during the performance of the contract for goods and services in the Commonwealth, knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.
- F. DEBARMENT STATUS: By submitting their proposals, offerors certify that they are not currently debarred by the Commonwealth of Virginia from submitting proposals on contracts for the type of goods and/or services covered by this solicitation, nor are they an agent of any person or entity that is currently so debarred.
- G. ANTITRUST: By entering into a contract, the contractor conveys, sells, assigns, and transfers to the Commonwealth of Virginia all rights, title and interest in and to all causes of action it may now have or hereafter acquire under the antitrust laws of the United States and the

Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by the Commonwealth of Virginia under said contract.

- H. MANDATORY USE OF STATE FORM AND TERMS AND CONDITIONS RFPs: Failure to submit a proposal on the official state form provided for that purpose may be a cause for rejection of the proposal. Modification of or additions to the General Terms and Conditions of the solicitation may be cause for rejection of the proposal; however, the Commonwealth reserves the right to decide, on a case by case basis, in its sole discretion, whether to reject such a proposal.
- I. CLARIFICATION OF TERMS: If any prospective offeror has questions about the specifications or other solicitation documents, the prospective offeror should contact the buyer whose name appears on the face of the solicitation no later than five working days before the due date. Any revisions to the solicitation will be made only by addendum issued by the buyer.
- J. PAYMENT:

1. To Prime Contractor:

- a. Invoices for items ordered, delivered and accepted shall be submitted by the contractor directly to the payment address shown on the purchase order/contract. All invoices shall show the state contract number and/or purchase order number; social security number (for individual contractors) or the federal employer identification number (for proprietorships, partnerships, and corporations).
- b. Any payment terms requiring payment in less than 30 days will be regarded as requiring payment 30 days after invoice or delivery, whichever occurs last. This shall not affect offers of discounts for payment in less than 30 days, however.
- c. All goods or services provided under this contract or purchase order, that are to be paid for with public funds, shall be billed by the contractor at the contract price, regardless of which public agency is being billed.
- d. The following shall be deemed to be the date of payment: the date of postmark in all cases where payment is made by mail, or the date of offset when offset proceedings have been instituted as authorized under the Virginia Debt Collection Act.
- e. Unreasonable Charges. Under certain emergency procurements and for most time and material purchases, final job costs cannot be accurately determined at the time orders are placed. In such cases, contractors should be put on notice that final payment in full is contingent on a determination of reasonableness with respect to all invoiced charges. Charges which appear to be unreasonable will be researched and challenged, and that portion of the invoice held in abeyance until a settlement can be reached. Upon determining that invoiced charges are not reasonable, the Commonwealth shall promptly notify the contractor, in writing, as to those charges which it considers unreasonable and the basis for the determination. A contractor may not institute legal action unless a settlement cannot be reached within thirty (30) days of notification. The provisions of this section do not relieve an agency of its prompt payment obligations with respect to those charges which are not in dispute (*Rules*

2. To Subcontractors:
    - a. A contractor awarded a contract under this solicitation is hereby obligated:
      - (1) To pay the subcontractor(s) within seven (7) days of the contractor's receipt of payment from the Commonwealth for the proportionate share of the payment received for work performed by the subcontractor(s) under the contract; or
      - (2) To notify the agency and the subcontractors, in writing, of the contractor's intention to withhold payment and the reason.
    - b. The contractor is obligated to pay the subcontractor(s) interest at the rate of one percent per month (unless otherwise provided under the terms of the contract) on all amounts owed by the contractor that remain unpaid seven (7) days following receipt of payment from the Commonwealth, except for amounts withheld as stated in (2) above. The date of mailing of any payment by U. S. Mail is deemed to be payment to the addressee. These provisions apply to each sub-tier contractor performing under the primary contract. A contractor's obligation to pay an interest charge to a subcontractor may not be construed to be an obligation of the Commonwealth.
  3. Each prime contractor who wins an award in which provision of a SWAM procurement plan is a condition to the award, shall deliver to the contracting agency or institution, on or before request for final payment, evidence and certification of compliance (subject only to insubstantial shortfalls and to shortfalls arising from subcontractor default) with the SWAM procurement plan. Final payment under the contract in question may be withheld until such certification is delivered and, if necessary, confirmed by the agency or institution, or other appropriate penalties may be assessed in lieu of withholding such payment.
  4. The Commonwealth of Virginia encourages contractors and subcontractors to accept electronic and credit card payments.
- K. PRECEDENCE OF TERMS: Paragraphs A through J of these General Terms and Conditions and the Commonwealth of Virginia Purchasing Manual for Institutions of Higher Education and their Vendors, shall apply in all instances. In the event there is a conflict between any of the other General Terms and Conditions and any Special Terms and Conditions in this solicitation, the Special Terms and Conditions shall apply.
- L. QUALIFICATIONS OF OFFERORS: The Commonwealth may make such reasonable investigations as deemed proper and necessary to determine the ability of the offeror to perform the services/furnish the goods and the offeror shall furnish to the Commonwealth all such information and data for this purpose as may be requested. The Commonwealth reserves the right to inspect offeror's physical facilities prior to award to satisfy questions regarding the offeror's capabilities. The Commonwealth further reserves the right to reject any proposal if the evidence submitted by, or investigations of, such offeror fails to satisfy the Commonwealth that such offeror is properly qualified to carry out the obligations of the contract and to provide the services and/or furnish the goods contemplated therein.



- M. TESTING AND INSPECTION: The Commonwealth reserves the right to conduct any test/inspection it may deem advisable to assure goods and services conform to the specifications.
- N. ASSIGNMENT OF CONTRACT: A contract shall not be assignable by the contractor in whole or in part without the written consent of the Commonwealth.
- O. CHANGES TO THE CONTRACT: Changes can be made to the contract in any of the following ways:
1. The parties may agree in writing to modify the scope of the contract. An increase or decrease in the price of the contract resulting from such modification shall be agreed to by the parties as a part of their written agreement to modify the scope of the contract.
  2. The Purchasing Agency may order changes within the general scope of the contract at any time by written notice to the contractor. Changes within the scope of the contract include, but are not limited to, things such as services to be performed, the method of packing or shipment, and the place of delivery or installation. The contractor shall comply with the notice upon receipt. The contractor shall be compensated for any additional costs incurred as the result of such order and shall give the Purchasing Agency a credit for any savings. Said compensation shall be determined by one of the following methods:
    - a. By mutual agreement between the parties in writing; or
    - b. By agreeing upon a unit price or using a unit price set forth in the contract, if the work to be done can be expressed in units, and the contractor accounts for the number of units of work performed, subject to the Purchasing Agency's right to audit the contractor's records and/or to determine the correct number of units independently; or
    - c. By ordering the contractor to proceed with the work and keep a record of all costs incurred and savings realized. A markup for overhead and profit may be allowed if provided by the contract. The same markup shall be used for determining a decrease in price as the result of savings realized. The contractor shall present the Purchasing Agency with all vouchers and records of expenses incurred and savings realized. The Purchasing Agency shall have the right to audit the records of the contractor as it deems necessary to determine costs or savings. Any claim for an adjustment in price under this provision must be asserted by written notice to the Purchasing Agency within thirty (30) days from the date of receipt of the written order from the Purchasing Agency. If the parties fail to agree on an amount of adjustment, the question of an increase or decrease in the contract price or time for performance shall be resolved in accordance with the procedures for resolving disputes provided by the Disputes Clause of this contract or, if there is none, in accordance with the disputes provisions of the Commonwealth of Virginia Purchasing Manual for Institutions of Higher Education and their Vendors. Neither the existence of a claim nor a dispute resolution process, litigation or any other provision of this contract shall excuse the contractor from promptly complying with the changes ordered by the Purchasing Agency or with the performance of the contract generally.
- P. DEFAULT: In case of failure to deliver goods or services in accordance with the contract terms and conditions, the Commonwealth, after due oral or written notice, may procure them from other sources and hold the contractor responsible for any resulting additional purchase and administrative costs. This remedy shall be in addition to any other remedies which the Commonwealth may have.

- Q. **INSURANCE:** By signing and submitting a proposal under this solicitation, the offeror certifies that if awarded the contract, it will have the following insurance coverage at the time the contract is awarded. For construction contracts, if any subcontractors are involved, the subcontractor will have workers' compensation insurance in accordance with § 25 of the Rules Governing Procurement – Chapter 2, Exhibit J, Attachment 1, and 65.2-800 et. Seq. of the Code of Virginia (available for review at <http://www.jmu.edu/procurement>) The offeror further certifies that the contractor and any subcontractors will maintain these insurance coverage during the entire term of the contract and that all insurance coverage will be provided by insurance companies authorized to sell insurance in Virginia by the Virginia State Corporation Commission.

**MINIMUM INSURANCE COVERAGES AND LIMITS REQUIRED FOR MOST CONTRACTS:**

1. Workers' Compensation: Statutory requirements and benefits. Coverage is compulsory for employers of three or more employees, to include the employer. Contractors who fail to notify the Commonwealth of increases in the number of employees that change their workers' compensation requirement under the Code of Virginia during the course of the contract shall be in noncompliance with the contract.
  2. Employer's Liability: \$100,000
  3. Commercial General Liability: \$1,000,000 per occurrence and \$2,000,000 in the aggregate. Commercial General Liability is to include bodily injury and property damage, personal injury and advertising injury, products and completed operations coverage. The Commonwealth of Virginia must be named as an additional insured and so endorsed on the policy.
  4. Automobile Liability: \$1,000,000 combined single limit. *(Required only if a motor vehicle not owned by the Commonwealth is to be used in the contract. Contractor must assure that the required coverage is maintained by the Contractor (or third party owner of such motor vehicle.)*
- R. **ANNOUNCEMENT OF AWARD:** Upon the award or the announcement of the decision to award a contract over \$50,000, as a result of this solicitation, the purchasing agency will publicly post such notice on the DGS/DPS eVA web site ([www.eva.virginia.gov](http://www.eva.virginia.gov)) for a minimum of 10 days.
- S. **DRUG-FREE WORKPLACE:** During the performance of this contract, the contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.

For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution,

dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

T. NONDISCRIMINATION OF CONTRACTORS: An offeror, or contractor shall not be discriminated against in the solicitation or award of this contract because of race, religion, color, sex, national origin, age, disability, faith-based organizational status, any other basis prohibited by state law relating to discrimination in employment or because the offeror employs ex-offenders unless the state agency, department or institution has made a written determination that employing ex-offenders on the specific contract is not in its best interest. If the award of this contract is made to a faith-based organization and an individual, who applies for or receives goods, services, or disbursements provided pursuant to this contract objects to the religious character of the faith-based organization from which the individual receives or would receive the goods, services, or disbursements, the public body shall offer the individual, within a reasonable period of time after the date of his objection, access to equivalent goods, services, or disbursements from an alternative provider.

U. eVA BUSINESS TO GOVERNMENT VENDOR REGISTRATION, CONTRACTS, AND ORDERS: The eVA Internet electronic procurement solution, website portal [www.eVA.virginia.gov](http://www.eVA.virginia.gov), streamlines and automates government purchasing activities in the Commonwealth. The eVA portal is the gateway for vendors to conduct business with state agencies and public bodies. All vendors desiring to provide goods and/or services to the Commonwealth shall participate in the eVA Internet eprocurement solution by completing the free eVA Vendor Registration. All offerors must register in eVA and pay the Vendor Transaction Fees specified below; failure to register will result in the proposal being rejected. Vendor transaction fees are determined by the date the original purchase order is issued and the current fees are as follows:

Vendor transaction fees are determined by the date the original purchase order is issued and the current fees are as follows:

1. For orders issued July 1, 2014 and after, the Vendor Transaction Fee is:
  - a. Department of Small Business and Supplier Diversity (SBSD) certified Small Businesses: 1% capped at \$500 per order.
  - b. Businesses that are not Department of Small Business and Supplier Diversity (SBSD) certified Small Businesses: 1% capped at \$1,500 per order.
2. For orders issued prior to July 1, 2014 the vendor transaction fees can be found at [www.eVA.virginia.gov](http://www.eVA.virginia.gov).
3. The specified vendor transaction fee will be invoiced by the Commonwealth of Virginia Department of General Services approximately 60 days after the corresponding purchase order is issued and payable 30 days after the invoice date. Any adjustments (increases/decreases) will be handled through purchase order changes.

V. AVAILABILITY OF FUNDS: It is understood and agreed between the parties herein that the Commonwealth of Virginia shall be bound hereunder only to the extent of the funds available or which may hereafter become available for the purpose of this agreement.

W. PRICING CURRENCY: Unless stated otherwise in the solicitation, offerors shall state offered prices in U.S. dollars.

- X. E-VERIFY REQUIREMENT OF ANY CONTRACTOR: Any employer with more than an average of 50 employees for the previous 12 months entering into a contract in excess of \$50,000 with James Madison University to perform work or provide services pursuant to such contract shall register and participate in the E-Verify program to verify information and work authorization of its newly hired employees performing work pursuant to any awarded contract.
- Y. TAXES: Sales to the Commonwealth of Virginia are normally exempt from State sales tax. State sales and use tax certificates of exemption, Form ST-12, will be issued upon request. Deliveries against this contract shall usually be free of Federal excise and transportation taxes. The Commonwealth's excise tax exemption registration number is 54-73-0076K.

## VIII. SPECIAL TERMS AND CONDITIONS

- A. AUDIT: The Contractor hereby agrees to retain all books, records, systems, and other documents relative to this contract for five (5) years after final payment, or until audited by the Commonwealth of Virginia, whichever is sooner. The Commonwealth of Virginia, its authorized agents, and/or State auditors shall have full access to and the right to examine any of said materials during said period.
- B. CANCELLATION OF CONTRACT: James Madison University reserves the right to cancel and terminate any resulting contract, in part or in whole, without penalty, upon 60 days written notice to the contractor. In the event the initial contract period is for more than 12 months, the resulting contract may be terminated by either party, without penalty, after the initial 12 months of the contract period upon 60 days written notice to the other party. Any contract cancellation notice shall not relieve the contractor of the obligation to deliver and/or perform on all outstanding orders issued prior to the effective date of cancellation.
- C. IDENTIFICATION OF PROPOSAL ENVELOPE: The signed proposal should be returned in a separate envelope or package, sealed and identified as follows:

From: _____	
Name of Offeror	Due Date      Time
Street or Box No.	RFP #
City, State, Zip Code	RFP Title
Name of Purchasing Officer: _____	

The envelope should be addressed as directed on the title page of the solicitation.

The Offeror takes the risk that if the envelope is not marked as described above, it may be inadvertently opened and the information compromised, which may cause the proposal to be disqualified. Proposals may be hand-delivered to the designated location in the office issuing the solicitation. No other correspondence or other proposals should be placed in the envelope.

- D. LATE PROPOSALS: To be considered for selection, proposals must be received by the issuing office by the designated date and hour. The official time used in the receipt of proposals is that time on the automatic time stamp machine in the issuing office. Proposals received in the issuing office after the date and hour designated are automatically non responsive and will not be considered. The University is not responsible for delays in the delivery of mail by the U.S. Postal Service, private couriers, or the intra university mail system. It is the sole responsibility

of the Offeror to ensure that its proposal reaches the issuing office by the designated date and hour.

- E. UNDERSTANDING OF REQUIREMENTS: It is the responsibility of each offeror to inquire about and clarify any requirements of this solicitation that is not understood. The University will not be bound by oral explanations as to the meaning of specifications or language contained in this solicitation. Therefore, all inquiries deemed to be substantive in nature must be in writing and submitted to the responsible buyer in the Procurement Services Office. Offerors must ensure that written inquiries reach the buyer at least five (5) days prior to the time set for receipt of offerors proposals. A copy of all queries and the respective response will be provided in the form of an addendum to all offerors who have indicated an interest in responding to this solicitation. Your signature on your Offer certifies that you fully understand all facets of this solicitation. These questions may be sent by Fax to 540/ 568-7936 or 540/568-7935.
- F. RENEWAL OF CONTRACT: This contract may be renewed by the Commonwealth for a period of nine (9) successive one year periods under the terms and conditions of the original contract except as stated in 1. and 2. below. Price increases may be negotiated only at the time of renewal. Written notice of the Commonwealth's intention to renew shall be given approximately 90 days prior to the expiration date of each contract period.
1. If the Commonwealth elects to exercise the option to renew the contract for an additional one-year period, the contract price(s) for the additional one year shall not exceed the contract price(s) of the original contract increased/decreased by no more than the percentage increase/decrease of the other services category of the CPI-W section of the Consumer Price Index of the United States Bureau of Labor Statistics for the latest twelve months for which statistics are available.
  2. If during any subsequent renewal periods, the Commonwealth elects to exercise the option to renew the contract, the contract price(s) for the subsequent renewal period shall not exceed the contract price(s) of the previous renewal period increased/decreased by more than the percentage increase/decrease of the other services category of the CPI-W section of the Consumer Price Index of the United States Bureau of Labor Statistics for the latest twelve months for which statistics are available.
- G. SUBMISSION OF INVOICES: All invoices shall be submitted within sixty days of contract term expiration for the initial contract period as well as for each subsequent contract renewal period. Any invoices submitted after the sixty day period will not be processed for payment.
- H. OPERATING VEHICLES ON JAMES MADISON UNIVERSITY CAMPUS: Operating vehicles on sidewalks, plazas, and areas heavily used by pedestrians is prohibited. In the unlikely event a driver should find it necessary to drive on James Madison University sidewalks, plazas, and areas heavily used by pedestrians, the driver must yield to pedestrians. For a complete list of parking regulations, please go to [www.jmu.edu/parking](http://www.jmu.edu/parking); or to acquire a service representative parking permit, contact Parking Services at 540.568.3300. The safety of our students, faculty and staff is of paramount importance to us. Accordingly, violators may be charged.
- I. COOPERATIVE PURCHASING / USE OF AGREEMENT BY THIRD PARTIES: It is the intent of this solicitation and resulting contract(s) to allow for cooperative procurement. Accordingly, any public body, (to include government/state agencies, political subdivisions, etc.), cooperative purchasing organizations, public or private health or educational institutions or any University related foundation and affiliated corporations may access any resulting contract if authorized by the Contractor.

Participation in this cooperative procurement is strictly voluntary. If authorized by the Contractor(s), the resultant contract(s) will be extended to the entities indicated above to purchase goods and services in accordance with contract terms. As a separate contractual relationship, the participating entity will place its own orders directly with the Contractor(s) and shall fully and independently administer its use of the contract(s) to include contractual disputes, invoicing and payments without direct administration from the University. No modification of this contract or execution of a separate agreement is required to participate; however, the participating entity and the Contractor may modify the terms and conditions of this contract to accommodate specific governing laws, regulations, policies, and business goals required by the participating entity. Any such modification will apply solely between the participating entity and the Contractor.

The Contractor will notify the University in writing of any such entities accessing this contract. The Contractor will provide semi-annual usage reports for all entities accessing the contract. The University shall not be held liable for any costs or damages incurred by any other participating entity as a result of any authorization by the Contractor to extend the contract. It is understood and agreed that the University is not responsible for the acts or omissions of any entity and will not be considered in default of the contract no matter the circumstances.

Use of this contract(s) does not preclude any participating entity from using other contracts or competitive processes as needed.

J. SMALL BUSINESS SUBCONTRACTING AND EVIDENCE OF COMPLIANCE:

1. It is the goal of the Commonwealth that 42% of its purchases are made from small businesses. This includes discretionary spending in prime contracts and subcontracts. All potential offerors are required to submit a Small Business Subcontracting Plan. Unless the offeror is registered as a Department of Small Business and Supplier Diversity (SBSD)-certified small business and where it is practicable for any portion of the awarded contract to be subcontracted to other suppliers, the contractor is encouraged to offer such subcontracting opportunities to SBSD-certified small businesses. This shall not exclude SBSD-certified women-owned and minority-owned businesses when they have received SBSD small business certification. No offeror or subcontractor shall be considered a Small Business, a Women-Owned Business or a Minority-Owned Business unless certified as such by the Department of Small Business and Supplier Diversity (SBSD) by the due date for receipt of proposals. If small business subcontractors are used, the prime contractor agrees to report the use of small business subcontractors by providing the purchasing office at a minimum the following information: name of small business with the SBSD certification number or FEIN, phone number, total dollar amount subcontracted, category type (small, women-owned, or minority-owned), and type of product/service provided. **This information shall be submitted to: JMU Office of Procurement Services, Attn: SWAM Subcontracting Compliance, MSC 5720, Harrisonburg, VA 22807.**
2. Each prime contractor who wins an award in which provision of a small business subcontracting plan is a condition of the award, shall deliver to the contracting agency or institution with every request for payment, evidence of compliance (subject only to insubstantial shortfalls and to shortfalls arising from subcontractor default) with the small business subcontracting plan. **This information shall be submitted to: JMU Office of Procurement Services, SWAM Subcontracting Compliance, MSC 5720, Harrisonburg, VA 22807.** When such business has been subcontracted to these firms and upon completion of the contract, the contractor agrees to furnish the purchasing office at a minimum the following information: name of firm with the Department of Small Business

and Supplier Diversity (SBSD) certification number or FEIN number, phone number, total dollar amount subcontracted, category type (small, women-owned, or minority-owned), and type of product or service provided. Payment(s) may be withheld until compliance with the plan is received and confirmed by the agency or institution. The agency or institution reserves the right to pursue other appropriate remedies to include, but not be limited to, termination for default.

3. Each prime contractor who wins an award valued over \$200,000 shall deliver to the contracting agency or institution with every request for payment, information on use of subcontractors that are not Department of Small Business and Supplier Diversity (SBSD)-certified small businesses. When such business has been subcontracted to these firms and upon completion of the contract, the contractor agrees to furnish the purchasing office at a minimum the following information: name of firm, phone number, FEIN number, total dollar amount subcontracted, and type of product or service provided. **This information shall be submitted to: JMU Office of Procurement Services, Attn: SWAM Subcontracting Compliance, MSC 5720, Harrisonburg, VA 22807.**
- K. AUTHORIZATION TO CONDUCT BUSINESS IN THE COMMONWEALTH: A contractor organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the Code of Virginia or as otherwise required by law. Any business entity described above that enters into a contract with a public body shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of the contract. A public body may void any contract with a business entity if the business entity fails to remain in compliance with the provisions of this section.
- L. PUBLIC POSTING OF COOPERATIVE CONTRACTS: James Madison University maintains a web-based contracts database with a public gateway access. Any resulting cooperative contract/s to this solicitation will be posted to the publicly accessible website. Contents identified as proprietary information will not be made public.
- M. CRIMINAL BACKGROUND CHECKS OF PERSONNEL ASSIGNED BY CONTRACTOR TO PERFORM WORK ON JMU PROPERTY: The Contractor shall obtain criminal background checks on all of their contracted employees who will be assigned to perform services on James Madison University property. The results of the background checks will be directed solely to the Contractor. The Contractor bears responsibility for confirming to the University contract administrator that the background checks have been completed prior to work being performed by their employees or subcontractors. The Contractor shall only assign to work on the University campus those individuals whom it deems qualified and permissible based on the results of completed background checks. Notwithstanding any other provision herein, and to ensure the safety of students, faculty, staff and facilities, James Madison University reserves the right to approve or disapprove any contract employee that will work on JMU property. Disapproval by the University will solely apply to JMU property and should have no bearing on the Contractor's employment of an individual outside of James Madison University.
- N. INDEMNIFICATION: Contractor agrees to indemnify, defend and hold harmless the Commonwealth of Virginia, its officers, agents, and employees from any claims, damages and actions of any kind or nature, whether at law or in equity, arising from or caused by the use of any materials, goods, or equipment of any kind or nature furnished by the contractor/any services of any kind or nature furnished by the contractor, provided that such liability is not



attributable to the sole negligence of the using agency or to failure of the using agency to use the materials, goods, or equipment in the manner already and permanently described by the contractor on the materials, goods or equipment delivered.

- O. ADDITIONAL GOODS AND SERVICES: The University may acquire other goods or services that the supplier provides than those specifically solicited. The University reserves the right, subject to mutual agreement, for the Contractor to provide additional goods and/or services under the same pricing, terms, and conditions and to make modifications or enhancements to the existing goods and services. Such additional goods and services may include other products, components, accessories, subsystems, or related services that are newly introduced during the term of this Agreement. Such additional goods and services will be provided to the University at favored nations pricing, terms, and conditions.
- P. ADVERTISING: In the event a contract is awarded for supplies, equipment, or services resulting from this proposal, no indication of such sales or services to James Madison University will be used in product literature or advertising without the express written consent of the University. The contractor shall not state in any of its advertising or product literature that James Madison University has purchased or uses any of its products or services, and the contractor shall not include James Madison University in any client list in advertising and promotional materials without the express written consent of the University.
- Q. PRIME CONTRACTOR RESPONSIBILITIES: The contractor shall be responsible for completely supervising and directing the work under this contract and all subcontractors that he may utilize, using his best skill and attention. Subcontractors who perform work under this contract shall be responsible to the prime contractor. The contractor agrees that he is as fully responsible for the acts and omissions of his subcontractors and of persons employed by them as he is for the acts and omissions of his own employees.
- R. SUBCONTRACTS: No portion of the work shall be subcontracted without prior written consent of the purchasing agency. In the event that the contractor desires to subcontract some part of the work specified herein, the contractor shall furnish the purchasing agency the names, qualifications and experience of their proposed subcontractors. The contractor shall, however, remain fully liable and responsible for the work to be done by its subcontractor(s) and shall assure compliance with all requirements of the contract.
- S. CONFIDENTIALITY OF PERSONALLY IDENTIFIABLE INFORMATION: The contractor assures that information and data obtained as to personal facts and circumstances related to faculty, staff, students, and affiliates will be collected and held confidential, during and following the term of this agreement, and will not be divulged without the individual's and the agency's written consent and only in accordance with federal law or the Code of Virginia. This shall include FTI, which is a term of art and consists of federal tax returns and return information (*and information derived from it*) that is in contractor/agency possession or control which is covered by the confidentiality protections of the Internal Revenue Code (*IRC*) and subject to the IRC 6103(p)(4) safeguarding requirements including IRS oversight. FTI is categorized as sensitive but unclassified information and may contain personally identifiable information (*PII*). Contractors who utilize, access, or store personally identifiable information as part of the performance of a contract are required to safeguard this information and immediately notify the agency of any breach or suspected breach in the security of such information. Contractors shall allow the agency to both participate in the investigation of incidents and exercise control over decisions regarding external reporting. Contractors and their employees working on this project may be required to sign a confidentiality statement.

T. CONTINUITY OF SERVICES:

- a. The Contractor recognizes that the services under this contract are vital to the Agency and must be continued without interruption and that, upon contract expiration, a successor, either the Agency or another contractor, may continue them. The Contractor agrees:
  - (i) To exercise its best efforts and cooperation to effect an orderly and efficient transition to a successor;
  - (ii) To make all Agency owned facilities, equipment, and data available to any successor at an appropriate time prior to the expiration of the contract to facilitate transition to successor; and
  - (iii) That the Agency Contracting Officer shall have final authority to resolve disputes related to the transition of the contract from the Contractor to its successor.
- b. The Contractor shall, upon written notice from the Contract Officer, furnish phase-in/phase-out services for up to ninety (90) days after this contract expires and shall negotiate in good faith a plan with the successor to execute the phase-in/phase-out services. This plan shall be subject to the Contract Officer's approval.
- c. The Contractor shall be reimbursed for all reasonable, pre-approved phase-in/phase-out costs (i.e., costs incurred within the agreed period after contract expiration that result from phase-in, phase-out operations) and a fee (profit) not to exceed a pro rata portion of the fee (profit) under this contract. All phase-in/phase-out work fees must be approved by the Contract Officer in writing prior to commencement of said work.

U. RENEWAL OF MAINTENANCE: Maintenance of the hardware or software specified in the resultant contract may be renewed by the mutual written agreement of both parties for additional one-year periods, under the terms and conditions of the original contract except as noted herein. Price changes may be negotiated at time of renewal; however, in no case shall the maintenance costs for a succeeding one-year period exceed the prior year's contract price(s), increased or decreased by more than the percentage increase or decrease in the other services category of the CPI-W section of the US Bureau of Labor Statistics Consumer Price Index, for the latest twelve months for which statistics are available.

V. NONVISUAL ACCESS TO TECHNOLOGY: All information technology which, pursuant to this Agreement, is purchased or upgraded by or for the use of any State agency or institution or political subdivision of the Commonwealth (the "Technology") shall comply with the following nonvisual access standards from the date of purchase or upgrade until the expiration of this Agreement:

- (i) effective, interactive control and use of the Technology shall be readily achievable by nonvisual means;
- (ii) the Technology equipped for nonvisual access shall be compatible with information technology used by other individuals with whom any blind or visually impaired user of the Technology interacts;
- (iii) nonvisual access technology shall be integrated into any networks used to share communications among employees, program participants or the public; and

- (iv) the technology for nonvisual access shall have the capability of providing equivalent access by nonvisual means to telecommunications or other interconnected network services used by persons who are not blind or visually impaired.

Compliance with the foregoing nonvisual access standards shall not be required if the head of the using agency, institution or political subdivision determines that (i) the Technology is not available with nonvisual access because the essential elements of the Technology are visual and (ii) nonvisual equivalence is not available.

Installation of hardware, software or peripheral devices used for nonvisual access is not required when the Technology is being used exclusively by individuals who are not blind or visually impaired, but applications programs and underlying operating systems (including the format of the data) used for the manipulation and presentation of information shall permit the installation and effective use of nonvisual access software and peripheral devices.

If requested, the Contractor must provide a detailed explanation of how compliance with the foregoing nonvisual access standards is achieved and a validation of concept demonstration.

The requirements of this Paragraph shall be construed to achieve full compliance with the Information Technology Access Act, 2.2-3500 through 2.2-3504 of the *Code of Virginia*.

All information technology which, pursuant to this Agreement, is purchased or upgraded by or for the use of any Commonwealth agency or institution or political subdivision of the Commonwealth (the "Technology") shall comply with Section 508 of the Rehabilitation Act (29 U.S.C. 794d), as amended. If requested, the Contractor must provide a detailed explanation of how compliance with Section 508 of the Rehabilitation Act is achieved and a validation of concept demonstration. (<http://www.section508.gov/>). The requirements of this Paragraph along with the Non-Visual Access to Technology Clause shall be construed to achieve full compliance with the Information Technology Access Act, §§2.2-3500 through 2.2-3504 of the *Code of Virginia*.

- W. DEFINITION - SOFTWARE: As used herein, the terms software, product, or software products shall include all related materials and documentation whether in machine readable or printed form.
- X. EXCESSIVE DOWNTIME: Equipment or software furnished under the contract shall be capable of continuous operation. Should the equipment or software become inoperable for a period of more than 24 hours, the contractor agrees to pro-rate maintenance charges to account for each full day of in operability. The period of in operability shall commence upon initial notification.
- Y. LATEST SOFTWARE VERSION: Any software product(s) provided under the contract shall be the latest version available to the general public as of the due date of this solicitation.
- Z. SOFTWARE UPGRADES: The Commonwealth shall be entitled to any and all upgraded versions of the software covered in the contract that becomes available from the contractor. The maximum charge for upgrade shall not exceed the total difference between the cost of the Commonwealth's current version and the price the contractor sells or licenses the upgraded software under similar circumstances.
- AA. SOURCE CODE: In the event the contractor ceases to maintain experienced staff and the resources needed to provide required software maintenance, the Commonwealth shall be entitled to have, use, and duplicate for its own use, a copy of the source code and associated

documentation for the software products covered by the contract. Until such time as a complete copy of such material is provided, the Commonwealth shall have exclusive right to possess all physical embodiments of such contractor owned materials. The rights of the Commonwealth in this respect shall survive for a period of twenty years after the expiration or termination of the contract. All lease and royalty fees necessary to support this right are included in the initial license fee as contained in the pricing schedule.

- BB. TERM OF SOFTWARE LICENSE: Unless otherwise stated in the solicitation, the software license(s) identified in the pricing schedule shall be purchased on a perpetual basis and shall continue in perpetuity. However the Commonwealth reserves the right to terminate the license at any time, although the mere expiration or termination of this contract shall not be construed as an intent to terminate the license. All acquired license(s) shall be for use at any computing facilities, on any equipment, by any number of users, and for any purposes for which it is procured. The Commonwealth further reserves the right to transfer all rights under the license to another state agency to which some or all of its functions are transferred.
- CC. THIRD PARTY ACQUISITION OF SOFTWARE: The contractor shall notify the procuring agency in writing should the intellectual property, associated business, or all of its assets be acquired by a third party. The contractor further agrees that the contract's terms and conditions, including any and all license rights and related services, shall not be affected by the acquisition. Prior to completion of the acquisition, the contractor shall obtain, for the Commonwealth's benefit and deliver thereto, the assignee's agreement to fully honor the terms of the contract.
- DD. TITLE TO SOFTWARE: By submitting a bid or proposal, the bidder or offeror represents and warrants that it is the sole owner of the software or, if not the owner, that it has received all legally required authorizations from the owner to license the software, has the full power to grant the rights required by this solicitation, and that neither the software nor its use in accordance with the contract will violate or infringe upon any patent, copyright, trade secret, or any other property rights of another person or organization.
- EE. WARRANTY AGAINST SHUTDOWN DEVICES: The contractor warrants that the equipment and software provided under the contract shall not contain any lock, counter, CPU reference, virus, worm, or other device capable of halting operations or erasing or altering data or programs. Contractor further warrants that neither it, nor its agents, employees, or subcontractors shall insert any shutdown device following delivery of the equipment and software.
- FF. PCI DSS COMPLIANCE: James Madison University requires that the contractor shall at all times maintain compliance with the most current Payment Card Industry Data Security Standards (PCI DSS). The contractor will be required to provide written confirmation of compliance. Contractor acknowledges responsibility for the security of cardholder data as defined within the PCI DSS. Contractor acknowledges and agrees that cardholder data may only be used for completing the contracted services as described in the full text of this document, or as required by the PCI DSS, or as required by applicable law. In the event of a breach or intrusion or otherwise unauthorized access to cardholder data stored at or for the contractor, contractor shall immediately notify the Assistant Vice President for Finance at: (540) 568-6433, MSC 5719, Harrisonburg, VA 22807 (fax (540) 568-3346) to allow the proper PCI DSS compliant breach notification process to commence. The contractor shall provide appropriate payment card companies, acquiring financial institutions and their respective designees access to the contractor's facilities and all pertinent records to conduct a review of the contractor's compliance with the PCI DSS requirements.

In the event of a breach or intrusion the contractor acknowledges any/all costs related to breach or intrusion or unauthorized access to cardholder data entrusted to the contractor deemed to be the fault of the contractor shall be the liability of the contractor. Vendor agrees to assume responsibility for informing all such individuals in accordance with applicable law and to indemnify and hold harmless the Commonwealth of Virginia, James Madison University and its officers and employees from and against any claims, damages or other harm related to such breach.

## **IX. METHOD OF PAYMENT**

The contractor will be paid on the basis of invoices submitted in accordance with the solicitation and any negotiations. James Madison University recognizes the importance of expediting the payment process for our vendors and suppliers. We are asking our vendors and suppliers to enroll in the Wells Fargo Bank single use Commercial Card Number process or electronic deposit (ACH) to your bank account so that future payments are made electronically. Contractors signed up for the Wells Fargo Bank single use Commercial Card Number process will receive the benefit of being paid in Net 15 days. Additional information is available online at:

<http://www.jmu.edu/financeoffice/accounting-operations-disbursements/cash-investments/vendor-payment-methods.shtml>

## **X. PRICING SCHEDULE**

The offeror shall provide pricing for all products and services included in proposal indicating one-time and on-going costs including, but not limited to, the following:

- A. Licensing
- B. Data Migration
- C. Implementation Services
- D. Customization and Configuration Cost
- E. Ongoing Maintenance and Support
- F. Integrations
- G. Initial and Ongoing Training
- H. Professional Services
- I. All Other Cost (including optional costs)

Specify any associated charge card processing fees, if applicable, to be billed to the university. Vendors shall provide their VISA registration number when indicating charge card processing fees. Any vendor requiring information on VISA registration may refer to <https://usa.visa.com/support/small-business/regulations-fees.html> and for questions <https://usa.visa.com/support/small-business/regulations-fees.html>.

## **XI. ATTACHMENTS**

Attachment A: Offeror Data Sheet

Attachment B: Small, Women, and Minority-owned Business (SWaM) Utilization Plan

Attachment C: Standard Contract Sample

Attachment D: Information Technology Services Addendum (*All Offerors are required to complete*)

Attachment E: Commonwealth of Virginia Agency Contract Form Addendum to Contractor's Form (*All Offerors are required to complete*)

Attachment F: Higher Education Cloud Vendor Assessment Tool (HECVAT)- attached as a separate Excel spreadsheet (*All Offerors are required to complete*)

## ATTACHMENT A

### OFFEROR DATA SHEET

#### TO BE COMPLETED BY OFFEROR

1. **QUALIFICATIONS OF OFFEROR:** Offerors must have the capability and capacity in all respects to fully satisfy the contractual requirements.
2. **YEARS IN BUSINESS:** Indicate the length of time you have been in business providing these types of goods and services.

Years \_\_\_\_\_ Months \_\_\_\_\_

3. **REFERENCES:** Indicate below a listing of at least five (5) organizations, either commercial or governmental/educational, that your agency is servicing. Include the name and address of the person the purchasing agency has your permission to contact.

CLIENT	LENGTH OF SERVICE	ADDRESS	CONTACT PERSON/PHONE #
--------	-------------------	---------	---------------------------


4. List full names and addresses of Offeror and any branch offices which may be responsible for administering the contract.


5. **RELATIONSHIP WITH THE COMMONWEALTH OF VIRGINIA:** Is any member of the firm an employee of the Commonwealth of Virginia who has a personal interest in this contract pursuant to the [CODE OF VIRGINIA](#), SECTION 2.2-3100 – 3131?

[ ] YES [ ] NO

IF YES, EXPLAIN: \_\_\_\_\_




## ATTACHMENT B

### Small, Women and Minority-owned Businesses (SWaM) Utilization Plan

**Offeror Name:** \_\_\_\_\_ **Preparer Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Is your firm a **Small Business Enterprise** certified by the Department of Small Business and Supplier Diversity (SBSD)? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, certification number: \_\_\_\_\_ Certification date: \_\_\_\_\_

Is your firm a **Woman-owned Business Enterprise** certified by the Department of Small Business and Supplier Diversity (SBSD)? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, certification number: \_\_\_\_\_ Certification date: \_\_\_\_\_

Is your firm a **Minority-Owned Business Enterprise** certified by the Department of Small Business and Supplier Diversity (SBSD)? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, certification number: \_\_\_\_\_ Certification date: \_\_\_\_\_

Is your firm a **Micro Business** certified by the Department of Small Business and Supplier Diversity (SBSD)? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, certification number: \_\_\_\_\_ Certification date: \_\_\_\_\_

**Instructions:** *Populate the table below to show your firm's plans for utilization of small, women-owned and minority-owned business enterprises in the performance of the contract. Describe plans to utilize SWaMs businesses as part of joint ventures, partnerships, subcontractors, suppliers, etc.*

**Small Business:** "Small business " means a business, independently owned or operated by one or more persons who are citizens of the United States or non-citizens who are in full compliance with United States immigration law, which, together with affiliates, has 250 or fewer employees, or average annual gross receipts of \$10 million or less averaged over the previous three years.

**Woman-Owned Business Enterprise:** A business concern which is at least 51 percent owned by one or more women who are U.S. citizens or legal resident aliens, or in the case of a corporation, partnership or limited liability company or other entity, at least 51 percent of the equity ownership interest in which is owned by one or more women, and whose management and daily business operations are controlled by one or more of such individuals. **For purposes of the SWaM Program, all certified women-owned businesses are also a small business enterprise.**

**Minority-Owned Business Enterprise:** A business concern which is at least 51 percent owned by one or more minorities or in the case of a corporation, partnership or limited liability company or other entity, at least 51 percent of the equity ownership interest in which is owned by one or more minorities and whose management and daily business operations are controlled by one or more of such individuals. **For purposes of the SWaM Program, all certified minority-owned businesses are also a small business enterprise.**

**Micro Business** is a certified Small Business under the SWaM Program and has no more than twenty-five (25) employees **AND** no more than \$3 million in average annual revenue over the three-year period prior to their certification.

**All small, women, and minority owned businesses must be certified by the Commonwealth of Virginia Department of Small Business and Supplier Diversity (SBSD) to be counted in the SWaM program. Certification applications are available through SBSD at 800-223-0671 in Virginia, 804-786-6585 outside Virginia, or online at <http://www.sbsd.virginia.gov/> (Customer Service).**

***RETURN OF THIS PAGE IS REQUIRED***

**ATTACHMENT B (CNT'D)**  
Small, Women and Minority-owned Businesses (SWaM) Utilization Plan

Procurement Name and Number: \_\_\_\_\_

Date Form Completed: \_\_\_\_\_

Listing of Sub-Contractors, to include, Small, Woman Owned and Minority Owned Businesses  
for this Proposal and Subsequent Contract

Offeror / Proposer:

\_\_\_\_\_  
Firm

\_\_\_\_\_  
Address

\_\_\_\_\_  
Contact Person/No.

Sub-Contractor's Name and Address	Contact Person & Phone Number	SBSD Certification Number	Services or Materials Provided	Total Subcontractor Contract Amount (to include change orders)	Total Dollars Paid Subcontractor to date (to be submitted with request for payment from JMU)

*(Form shall be submitted with proposal and if awarded, again with submission of each request for payment)*

***RETURN OF THIS PAGE IS REQUIRED***

ATTACHMENT C



**COMMONWEALTH OF VIRGINIA  
STANDARD CONTRACT**

Contract No. \_\_\_\_\_

This contract entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_ hereinafter called the "Contractor" and Commonwealth of Virginia, James Madison University called the "Purchasing Agency".

WITNESSETH that the Contractor and the Purchasing Agency, in consideration of the mutual covenants, promises and agreements herein contained, agree as follows:

**SCOPE OF CONTRACT:** The Contractor shall provide the services to the Purchasing Agency as set forth in the Contract Documents.

**PERIOD OF PERFORMANCE:** From \_\_\_\_\_ through \_\_\_\_\_

The contract documents shall consist of:

- (1) This signed form;
- (2) The following portions of the Request for Proposals dated \_\_\_\_\_:
  - (a) The Statement of Needs,
  - (b) The General Terms and Conditions,
  - (c) The Special Terms and Conditions together with any negotiated modifications of those Special Conditions;
  - (d) List each addendum that may be issued
- (3) The Contractor's Proposal dated \_\_\_\_\_ and the following negotiated modification to the Proposal, all of which documents are incorporated herein.
  - (a) Negotiations summary dated \_\_\_\_\_.

IN WITNESS WHEREOF, the parties have caused this Contract to be duly executed intending to be bound thereby.

**CONTRACTOR:**

**PURCHASING AGENCY:**

By: \_\_\_\_\_  
(Signature)

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Printed Name)

Title: \_\_\_\_\_

Title: \_\_\_\_\_

**ATTACHMENT D**  
**James Madison University**  
Information Technology Services Addendum

CONTRACTOR NAME: \_\_\_\_\_

PRODUCT/SOLUTION: \_\_\_\_\_

**Definitions:**

- **Agreement:** The “Agreement” includes the contract, this addendum and any additional addenda and attachments to the contract, including the Contractor’s Form.
  - **University:** “University” or “the University” means James Madison University, its trustees, officers and employees.
  - **University Data:** “University Data” is defined as any data that the Contractor creates, obtains, accesses, transmits, maintains, uses, processes, stores or disposes of in performance of the Agreement. It includes all Personally Identifiable Information and other information that is not intentionally made generally available by the University on public websites.
  - **Personally Identifiable Information:** “Personally Identifiable Information” (PII) includes but is not limited to: Any information that directly relates to an individual and is reasonably likely to enable identification of that individual or information that is defined as PII and subject to protection by James Madison University under federal or Commonwealth of Virginia law.
  - **Security Breach:** “Security Breach” means a security-relevant event in which the security of a system or procedure involving University Data is breached, and in which University Data is exposed to unauthorized disclosure, access, alteration, or use.
  - **Service(s):** “Service” or “Services” means any goods or services acquired by the University from the Contractor.
1. **Rights and License in and to University Data:** The parties agree that as between them, all rights including all intellectual property rights in and to University Data shall remain the exclusive property of the University, and Contractor has a limited, nonexclusive license to use the data as provided in the Agreement solely for the purpose of performing its obligations hereunder. The Agreement does not give a party any rights, implied or otherwise, to the other’s data, content, or intellectual property.
  2. **Disclosure:** All goods, products, materials, documents, reports, writings, video images, photographs, or papers of any nature including software or computer images prepared or provided to the Contractor (or its subcontractors) for the University will not be disclosed to any other person or entity without the written permission of the University.
  3. **Data Privacy:**
    - a. Contractor will use University Data only for the purpose of fulfilling its duties under the Agreement and will not share such data with or disclose it to any third party without the prior written consent of the University, except as required by law.
    - b. University Data will not be stored outside the United States without prior written consent from the University.
    - c. Contractor will provide access to University Data only to its employees and subcontractors who need to access the data to fulfill obligations under the Agreement. The Contractor will ensure that the Contractor’s employees, and subcontractors when applicable, who perform work under the Agreement have received appropriate instruction as to how to comply with the data protection provisions of the Agreement and

have agreed to confidentiality obligations at least as restrictive as those contained in this Addendum.

- i. If the Contractor will have access to the records protected by the Family Educational Rights and Privacy Act (FERPA), Contractor acknowledges that for the purposes of the Agreement it will be designated as a “school official” with “legitimate educational interests” in such records, as those terms have been defined under FERPA and its implementing regulations, and Contractor agrees to abide by the limitations and requirements imposed on school officials. Contractor will use such records only for the purpose of fulfilling its duties under the Agreement for University’s and its End Users’ benefit, and will not share such data with or disclose it to any third party except as required by law or authorized in writing by the University. Contractor acknowledges that its access to such records is limited to only those directly related to and necessary for the completion of Contractor’s duties under the Agreement.
- d. The Contractor shall be responsible and liable for the acts and omissions of its subcontractors, including but not limited to third-party cloud hosting providers, and shall assure compliance with the requirements of the Agreement.

**4. Data Security:**

- a. Contractor will store and process University Data in accordance with commercial best practices, including appropriate administrative, physical, and technical safeguards, to secure such data from unauthorized access, disclosure, alteration, and use. Such measures will be no less protective than those used to secure Contractor’s own data of a similar type, and in no event less than reasonable in view of the type and nature of the data involved.
- b. Contractor will store and process University Data in a secure site and will provide a SOC 2 or other security report deemed sufficient by the University from a third party reviewer along with annual updated security reports. If the Contractor is using a third-party cloud hosting company such as AWS, Rackspace, etc., the Contractor will obtain the security audit report from its hosting company and give the results to the University. The University should not have to request the report directly from the hosting company.
- c. Contractor will use industry-standards and up-to-date security tools, technologies and practices such as network firewalls, anti-virus, vulnerability scans, system logging, intrusion detection, 24x7 system monitoring, and third-party penetration testing in providing services under the Agreement.
- d. Without limiting the foregoing, Contractor warrants that all electronic University Data will be encrypted in transmission (including via web interface) and stored at AES 256 or stronger.

**5. Data Authenticity, Integrity and Availability:**

- a. Contractor will take reasonable measures, including audit trails, to protect University Data against deterioration or degradation of data quality and authenticity. Contractor shall be responsible for ensuring that University Data, per the Virginia Public Records Act, is “preserved, maintained, and accessible throughout their lifecycle, including converting and migrating electronic records as often as necessary so that information is not lost due to hardware, software, or media obsolescence or deterioration.”
- b. Contractor will ensure backups are successfully completed at the agreed interval and that restoration capability is maintained for restoration to a point-in-time and/or to the most current backup available.
- c. Contractor will maintain an uptime of 99.99% or greater as agreed to for the contracted services via the use of appropriate redundancy, continuity of operations and disaster recovery planning and implementations, excluding regularly scheduled maintenance time.

**6. Employee Background Checks and Qualifications:**

- a. Contractor shall ensure that its employees have undergone appropriate background screening and possess all needed qualifications to comply with the terms of the Agreement including but not limited to all terms relating to data and intellectual property protection.
- b. If the Contractor must under this agreement create, obtain, transmit, use, maintain, process, or dispose of the subset of University Data known as Personally Identifiable Information or financial or business data, the Contractor shall perform the following background checks on all employees who have potential to access such data in accordance with the Fair Credit Reporting Act: Social Security Number trace; seven (7) year felony and misdemeanor criminal records check of federal, state, or local records (as applicable) for job related crimes; Office of Foreign Assets Control List (OFAC) check; Bureau of Industry and Security List (BIS) check; and Office of Defense Trade Controls Debarred Persons List (DDTC).

**7. Security Breach:**

- a. Response: Immediately (within one day) upon becoming aware of a Security Breach, or of circumstances that could have resulted in unauthorized access to or disclosure or use of University Data, Contractor will notify the University, fully investigate the incident, and cooperate fully with the University's investigation of and response to the incident. Except as otherwise required by law, Contractor will not provide notice of the incident directly to individuals whose Personally Identifiable Information was involved, regulatory agencies, or other entities, without prior written permission from the University.
- b. Liability:
  - i. If Contractor must under this agreement create, obtain, transmit, use, maintain, process, or dispose of the subset of University Data known as Personally Identifiable Information, the following provisions apply. In addition to any other remedies available to the University under law or equity, Contractor will reimburse the University in full for all costs incurred by the University in investigation and remediation of any Security Breach caused by Contractor, including but not limited to providing notification to individuals whose Personally Identifiable Information was compromised and to regulatory agencies or other entities as required by law or contract; providing one year's credit monitoring to the affected individuals if the Personally Identifiable Information exposed during the breach could be used to commit financial identity theft; and the payment of legal fees, audit costs, fines, and other fees imposed by regulatory agencies or contracting partners as a result of the Security Breach.
  - ii. If Contractor will NOT under this agreement create, obtain, transmit, use, maintain, process, or dispose of the subset of University Data known as Personally Identifiable Information, the following provisions apply. In addition to any other remedies available to the University under law or equity, Contractor will reimburse the University in full for all costs reasonably incurred by the University in investigation and remediation of any Security Breach caused by Contractor.

**8. Requests for Data, Response to Legal Orders or Demands for Data:**

- a. Except as otherwise expressly prohibited by law, Contractor will:
  - i. immediately notify the University of any subpoenas, warrants, or other legal orders, demands or requests received by Contractor seeking University Data;
  - ii. consult with the University regarding its response;

- iii. cooperate with the University's requests in connection with efforts by the University to intervene and quash or modify the legal order, demand or request; and
  - iv. Upon the University's request, provide the University with a copy of its response.
- b. Contractor will make itself and any employees, contractors, or agents assisting in the performance of its obligations under the Agreement, available to the University at no cost to the University based upon claimed violation of any laws relating to security and/or privacy of the data that arises out of the Agreement. This shall include any data preservation or eDiscovery required by the University.
- c. The University may request and obtain access to University Data and related logs at any time for any reason and at no extra cost.

**9. Data Transfer Upon Termination or Expiration:**

- a. Contractor's obligations to protect University Data shall survive termination of the Agreement until all University Data has been returned or securely destroyed, meaning taking actions that render data written on media unrecoverable by both ordinary and extraordinary means.
- b. Upon termination or expiration of the Agreement, Contractor will ensure that all University Data are securely transferred, returned or destroyed as directed by the University in its sole discretion within 60 days of termination of the Agreement. Transfer/migration to the University or a third party designated by the University shall occur without significant interruption in service. Contractor shall ensure that such transfer/migration uses facilities, methods, and data formats that are accessible and compatible with the relevant systems of the University or its transferee, and to the extent technologically feasible, that the University will have reasonable access to University Data during the transition.
- c. In the event that the University requests destruction of its data, Contractor agrees to securely destroy all data in its possession and in the possession of any subcontractors or agents to which Contractor might have transferred University data. Contractor agrees to provide documentation of data destruction to the University.
- d. Contractor will notify the University of impending cessation of its business and any contingency plans. This includes immediate transfer of any previously escrowed assets and data and providing the University access to Contractor's facilities to remove and destroy University-owned assets and data. Contractor shall implement its exit plan and take all necessary actions to ensure a smooth transition of service with minimal disruption to the University. The Contractor will also provide, as applicable, a full inventory and configuration of servers, routers, other hardware, and software involved in service delivery along with supporting documentation, indicating which if any of these are owned by or dedicated to the University. Contractor will work closely with its successor to ensure a successful transition to the new service, with minimal downtime and effect on the University, all such work to be coordinated and performed in advance of the formal, final transition date.

**10. Audits:**

- a. The University reserves the right in its sole discretion to perform audits of the Contractor to ensure compliance with the terms of the Agreement. Contractor shall reasonably cooperate in the performance of such audits. This provision applies to all agreements under which Contractor must create, obtain, transmit, use, maintain, process, or dispose of University Data.
- b. If Contractor must under the Agreement create, obtain, transmit, use, maintain, process, or dispose of the subset of University Data known as Personally Identifiable Information or financial or business data, Contractor will at its expense conduct or have conducted at least annually a(n):



- i. American Institute of CPAs Service Organization Controls 2 (SOC 2) audit, or other independent security audit with audit objectives deemed sufficient by the University, which attests to Contractor's security policies, procedures, and controls. Contractor shall also submit such documentation for any third-party cloud hosting provider(s) they may use (e.g. AWS, Rackspace, Azure, etc.) and for all subservice providers or business partners relevant to the Agreement. Contractor shall also provide James Madison University with a designated point of contact for the SOC reports and risks related to the contract. This person shall address issues raised in the SOC reports of the Contractor and its relevant providers and partners, and respond to any follow up questions posed by the University in relation to technology systems, infrastructure, or information security concerns related to the contract.
  - ii. vulnerability scan of Contractor's electronic systems and facilities that are used in any way to deliver electronic services under the Agreement; and
  - iii. formal penetration test performed by qualified personnel of Contractor's electronic systems and facilities that are used in any way to deliver electronic services under the Agreement.
- c. Additionally, Contractor will provide the University upon request the results of the above audits, scans and tests, and will promptly modify its security measures as needed based on those results in order to meet its obligations under the Agreement. The University may require, at University expense, the Contractor to perform additional audits and tests, the results of which will be provided promptly to the University.

**11. Compliance:**

- a. Contractor will comply with all applicable laws and industry standards in performing services under the Agreement. Any Contractor personnel visiting the University's facilities will comply with all applicable University policies regarding access to, use of, and conduct within such facilities. The University will provide copies of such policies to Contractor upon request.
- b. To the extent applicable to the design and intended use of the service, Contractor warrants that the service it will provide to the University is fully compliant with and will enable the University to be compliant with relevant requirements of all laws, regulation, and guidance applicable to the University and/or Contractor, including but not limited to: the Family Educational Rights and Privacy Act (FERPA), Health Insurance Portability and Accountability Act (HIPAA), Health Information Technology for Economic and Clinical Health Act (HITECH), Gramm-Leach-Bliley Financial Modernization Act (GLB), Payment Card Industry Data Security Standards (PCI-DSS), Americans with Disabilities Act (ADA), Federal Export Administration Regulations, and Defense Federal Acquisitions Regulations.

- 12. No End User Agreements:** Any agreements or understandings, whether electronic, click through, verbal or in writing, between Contractor and University employees or other end users under the Agreement that conflict with the terms of the Agreement, including but not limited to this Addendum, shall not be valid or binding on the University or any such end users.

IN WITNESS WHEREOF, the parties have caused this addendum to be duly executed, intending thereby to be legally bound. In the event of conflict or inconsistency between terms of the Agreement and this Addendum, the terms of this Addendum shall prevail.

**JAMES MADISON UNIVERSITY**

**CONTRACTOR**

SIGNATURE: _____	SIGNATURE: _____
PRINTED NAME: _____	PRINTED NAME: _____
TITLE: _____	TITLE: _____
DATE: _____	DATE: _____

ATTACHMENT E  
COMMONWEALTH OF VIRGINIA AGENCY  
CONTRACT FORM ADDENDUM TO CONTRACTOR'S FORM

AGENCY NAME: James Madison University

CONTRACTOR NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

The Commonwealth and the Contractor are this day entering into a contract and, for their mutual convenience, the parties are using the standard form agreement provided by the Contractor. This addendum, duly executed by the parties, is attached to and hereby made a part of the contract. In the event that the Vendor enters into terms of use agreements or other agreements of understanding with University employees and students (whether electronic, click-through, verbal, or in writing), the terms and conditions of this Agreement shall prevail.

The Contractor represents and warrants that it is a(n) // individual proprietorship // association // partnership // corporation // governmental agency or authority authorized to do in Virginia the business provided for in this contract. (Check the appropriate box.)

Notwithstanding anything in the Contractor's form to which this Addendum is attached, the payments to be made by the Commonwealth for all goods, services and other deliverables under this contract shall not exceed Purchase Order Amounts; payments will be made only upon receipt of a proper invoice, detailing the goods/services provided and submitted to James Madison University. The total cumulative liability of the Commonwealth, its officers, employees and agents in connection with this contract or in connection with any goods, services, actions or omissions relating to the contract, shall not under any circumstance exceed payment of the above maximum purchase price plus liability for an additional amount equal to such maximum purchase price. In its performance under this contract, the Contractor acts and will act as an independent contractor, and not as an agent or employee of the Commonwealth.

The Contractor's form contract is, with the exceptions noted herein, acceptable to the Commonwealth. Nonetheless, because certain standard clauses that may appear in the Contractor's form agreement cannot be accepted by the Commonwealth, and in consideration of the convenience of using that form, and this form, without the necessity of specifically negotiating a separate contract document, the parties hereto specifically agree that, notwithstanding any provisions appearing in the attached Contractor's form contract, none of the following paragraphs **1 through 18** shall have any effect or be enforceable against the Commonwealth:

1. **Requiring the Commonwealth to maintain any type of insurance either for the Commonwealth's benefit or for the contractor's benefit;**
2. **Renewing or extending the agreement beyond the initial term or automatically continuing the contract period from term to term;**
3. **Requiring or stating that the terms of the attached Contractor's form agreement shall prevail over the terms of this addendum in the event of conflict;**
4. **Requiring the Commonwealth to indemnify or to hold harmless the Contractor for any act or omission;**
5. **Imposing interest charges contrary to that specified by the Code of Virginia, §2.2-4347 through 2.2-4354, Prompt Payment;**
6. **Requiring the application of the law of any state other than Virginia in interpreting or enforcing the contract or requiring or permitting that any dispute under the contract be resolved in the courts of any state other than Virginia;**
7. **Requiring any total or partial compensation or payment for lost profit or liquidated damages by the Commonwealth if the contract is terminated before its ordinary period;**

8. Requiring that the contract be "accepted" or endorsed by the home office or by any other officer subsequent to execution by an official of the Commonwealth before the contract is considered in effect;
9. Delaying the acceptance of this contract or its effective date beyond the date of execution;
10. Limiting or adding to the time period within which claims can be made or actions can be brought;
11. Limiting the liability of the Contractor for property damage or personal injury. The parties agree that this clause does not extend the Contractor's liability beyond its own acts or those of its agents/employees;
12. Permitting unilateral modification of this contract by the Contractor;
13. Binding the Commonwealth to any arbitration or to the decision of any arbitration board, commission, panel or other entity;
14. Obligating the Commonwealth to pay costs of collection or attorney's fees;
15. Granting the Contractor a security interest in property of the Commonwealth;
16. Bestowing any right or incurring any obligation that is beyond the duly granted authority of the undersigned agency representative to bestow or incur on behalf of the Commonwealth.
17. Requiring the "confidentiality" of the agreement, in whole or part, without (i) invoking the protection of Section 2.2-4342F of the Code of Virginia in writing prior to signing the agreement (ii) identifying the data or other materials to be protected, and (iii) stating the reasons why protection is necessary.
18. Requiring the Commonwealth to reimburse for travel and living expenses in excess of the agency policy located at <https://www.jmu.edu/financemanual/procedures/4215mie.shtml>

This Agency contract consisting of this Agency addendum and the attached Contractor's form contract constitute the entire agreement between the parties and may not be waived or modified except by written agreement between the parties.

This contract has been reviewed by staff of the agency. Its substantive terms are appropriate to the needs of the agency and sufficient funds have been allocated for its performance by the agency. This contract is subject to appropriations by the Virginia General Assembly.

IN WITNESS WHEREOF, the parties have caused this contract to be duly executed, intending thereby to be legally bound.

AGENCY by \_\_\_\_\_

CONTRACTOR by \_\_\_\_\_

Title \_\_\_\_\_

Title \_\_\_\_\_

Printed Name \_\_\_\_\_

Printed Name \_\_\_\_\_



April 30, 2019

**ADDENDUM NO.: ONE**

**TO ALL OFFERORS:**

**REFERENCE:** Request for Proposal No: **RFP# LBS-1035**  
Dated: April 16, 2019  
Commodity: Library Services and Discovery Platform(s)  
RFP Closing On: May 30, 2019 at 2:00 pm EST

Please note the clarifications and/or changes made on this proposal program:

1. Question: Provide/confirm the following information about the size and composition of your library collections:
  - a. Is the bibliographic record count (*listed on page 4 of the RFP*) inclusive of the number of e-books noted on page 5?

**Answer:** Yes, the bibliographic record count on page 4 does include the ebooks in the page 5 table.

- b. Total number of digital objects (*if applicable*)?

**Answer:** The Libraries does not currently include digital objects in our catalog; however, we do include our digital collections in our discovery service. The current total number of digital objects is just over 440,000; however, some of these are duplicated across repositories.

- c. Size of your digital collection in MBs (*if applicable*)?

**Answer:** Again, the Libraries does not currently include digital objects in our catalog; however, we do include our digital collections in our discovery service. The current size is approximately 1,600 GB. Again, this includes some duplication and a few collections not owned by the library and, therefore, unlikely to be included in any new library services platform. These non-library and duplicative collections total about 30 GB.

2. Question: What is the total number of individuals who will require login access to the system (*including part-time staff*)?

**Answer:** The Libraries uses between 130-150 staff logins in our current system. This number varies slightly depending on the number of student assistants employed in a period. We are uncertain how many logins would be required for another system without knowing more about that system. The Libraries currently has 155 employees, including part-time staff and student assistants. **Important Note: If the number of staff logins will impact pricing, offerors should provide detailed pricing information that specify how pricing will change if the number of staff logins increases or decreases.**

MSC 5720  
752 Ott Street, Room 1042  
Wine Price Building  
Harrisonburg, VA 22807  
Office of 540.568.3145 Phone  
PROCUREMENT SERVICES 540.568.7936 Fax

3. Question: What is the total number of end users and patrons (*that is, FTEs*) who need access to library online services?

**Answer:** Current FTE is 22,310. **Important Note: If the FTE number will impact pricing, offerors should provide detailed pricing information that specify how pricing will change if the FTE number increases or decreases.**

4. Question: What is the desirable timeframe for you to 'go live' with a new LSP?

**Answer:** The Libraries is prepared to begin migration soon after contract award, but would currently anticipate going live in Summer 2020 to both minimize impact on patrons and open the 2020-2021 fiscal year, which begins July 1<sup>st</sup>, in the new system.

5. Question: Do you have multiple installations or multiple databases (*not including test instances*) of your ILS? This may include multiple catalogs or multiple separate 'silos' where libraries are working separately. If yes, provide details.

**Answer:** No

6. Question: Are there any additional libraries on campus, other than those already detailed in the RFP? Are you serving other libraries in any other capacity?

**Answer:** No. JMU Libraries has collections and the associated desk services in four buildings within our campus. We do currently allow two non—Libraries locations on campus to use our catalog for the purpose of checking out equipment to their users. This is not a practice which we would normally offer nor like to continue and would welcome alternative solutions for our campus partners.

7. Question: Are you planning on organizational changes for these libraries and/or campuses (*merges or splits*)?

**Answer:** N/A

8. Question: Does your library system have any overseas libraries or campuses? If so, provide details.

**Answer:** No

9. Question: Do you have a central unit/office or governance structure that provides services to all JMU libraries?

**Answer:** Yes

10. Question: If applicable, describe services provided to libraries by the central unit (*for example, configuration, cataloging*).

**Answer:** With the exception of circulation, services and workflows are governed and handled centrally within the appropriate department/team in Carrier Library. For circulation, loan rules are set and maintained centrally in consultation with the satellite locations; however, overdue notices, holds, and other reporting is distributed between the buildings along with physical check-out services and Music and Education reserves.

11. Question: Do libraries today share the same configuration definitions?

**Answer:** With the current system, individuals, locations, and departments have some customization ability for the desktop application.

12. Question: Are all JMU libraries within the same time zone?

**Answer:** Yes

13. Question: Do you have a shared catalog (*a shared Metadata Management System where the JMU libraries contribute and share a single, de-duplicated set of bibliographic records*)?
- Answer:** Yes, within JMU, the Libraries share a single catalog. However, we do not participate in any other system or consortial catalog at this time.
14. Question: If you do not have a shared catalog, are you intending to start creating and using a shared catalog as part of the move to the new system?
- Answer:** N/A
15. Question: Do you have a central unit that manages acquisitions operations for all JMU libraries? If yes, describe the central operation (*the central negotiation, central acquisitions, and central activation of e-resources*).
- Answer:** Yes. The libraries has a designated contract administrator for each library contract/agreement who negotiates resource pricing and terms for licensing/acquisitions (*JMU Procurement is involved as needed*). A state procurement officer in JMU's Procurement Office has signature authority for the libraries' procurement contracts/agreements. Upon full execution of any contract/agreement, the libraries' staff, who are within a department supervised by the contracts administrator, are responsible for activating, paying for, and maintaining e-resources provided under that agreement and any subsequent addendum.
16. Question: Do you have a central receiving department?
- Answer:** Yes
17. Question: Do the JMU libraries share the same vendor file (*manage administration of vendor details centrally*)?
- Answer:** Yes
18. Question: Do the JMU libraries share the same funds file (*manage administration of fund details centrally*)?
- Answer:** Yes
19. Question: Do the JMU libraries share the same license file?
- Answer:** Yes
20. Question: Do the JMU libraries share a single financial system (ERP)? If there are multiple systems, provide details.
- Answer:** The Libraries share the same financial system. Outside of the library system, the University Financial System is PeopleSoft.
21. Question: Do the JMU libraries share the same user file (*manage administration of user details centrally*)?
- Answer:** Yes. This file is provided from PeopleSoft by Campus IT and uploaded to the library system by library personnel.
22. Question: Do the JMU libraries use a separate authentication system?
- Answer:** Yes. The Libraries preference for authentication is OpenAthens, but Campus IT also supports Shibboleth, VPN, and LDAP.
23. Question: Do the JMU libraries use a separate student information system? If so, provide details.
- Answer:** No. See the response to #21 above.
24. Question: Can patrons borrow resources from any library (*walk in and borrow resources from another library*)?



**Answer:** Yes, with appropriate identification.

25. Question: Can patrons access e-resources licensed by any library?

**Answer:** JMU affiliates (*e.g., student, faculty, staff*) may access licensed e-resources. Walk-in/community patrons may access e-resources only within the library buildings.

26. Question: Regarding your electronic resource management, do the individual JMU libraries share subscriptions with the other libraries? If yes, please describe the sharing model.

**Answer:** JMU libraries manage one subscription relationship for all JMU libraries either through entering into our own subscription agreement or through the use of consortial subscription licenses. JMU Libraries is a member of a Virginia consortium, The Virtual Library of Virginia (VIVA), which shares its licenses with members through state-provided funds or through cost-share arrangements. In case of the latter, JMU Libraries is billed for its portion of the costs by VIVA. For other consortial or subscription sharing, JMU is invoiced separately for its portion of any agreement or "Big Deal" package either by the publisher or by our subscription agent, EBSCO.

27. Question: What do you expect your patrons to search in the discovery interface (*for example one library only, all university libraries*)?

**Answer:** The discovery interface currently defaults to all libraries/collections. Searches can currently be limited by location (*e.g., Carrier, Music, Institutional Repository, Online, Browsing, Reference*), material type (*e.g., Monograph, Periodical, Video, Microform*), Language, Collection (*e.g., Catalog only, Conference, Graduate Showcase, Honors Symposium, JMU faculty/staff publications*).

Signify receipt of this addendum by initialing "*Addendum #1* \_\_\_\_\_" on the signature page of your proposal.

Sincerely,



LeeAnne Beatty Smith, CPPB, VCA, CUPO  
Buyer Senior  
Phone: (540-568-7523)



May 15, 2019

**ADDENDUM NO.: TWO**

**TO ALL OFFERORS:**

**REFERENCE:** Request for Proposal No: **RFP# LBS-1035**  
Dated: April 16, 2019  
Commodity: Library Services and Discovery Platform(s)  
RFP Closing On: ~~May 30, 2019 at 2:00 pm EST~~  
**June 6, 2019 at 2:00 pm EST**

Please note the clarifications and/or changes made on this proposal program:

**The closing date/time has been extended until June 6, 2019 at 2:00 pm EST.**

Signify receipt of this addendum by initialing "*Addendum #2* \_\_\_\_\_" on the signature page of your proposal.

Sincerely,

LeeAnne Beatty Smith, CPPB, VCA, CUPO  
Buyer Senior  
Phone: (540-568-7523)

MSC 5720  
752 Ott Street, Room 1042  
Wine Price Building  
Harrisonburg, VA 22807  
Office of 540.568.3145 Phone  
PROCUREMENT SERVICES 540.568.7936 Fax