



**COMMONWEALTH OF VIRGINIA
STANDARD CONTRACT**

Contract No. UCPJMU4788

This contract entered into this 28th day of March 2017, by Preservica 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:

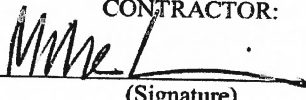
SCOPE OF CONTRACT: The Contractor shall provide the services to the Purchasing Agency as set forth in the Contract Documents.

PERIOD OF PERFORMANCE: From April 1, 2017 through March 31, 2020 with seven (7) one-year renewal options.

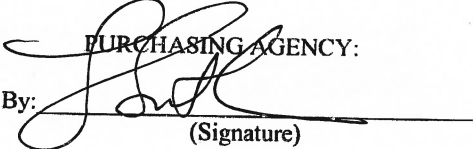
The contract documents shall consist of:

- (1) This signed form;
- (2) The following portions of the Request for Proposal LBS-945 dated December 8, 2016:
 - (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 December 7, 2016;
 - (e) Addendum Two dated December 9, 2016.
- (3) The Contractor's Proposal dated December 8, 2016 and the following negotiated modification to the Proposal, all of which documents are incorporated herein:
 - (a) Negotiations Summary, dated March 28, 2017;
 - (b) Preservica Cloud Edition Order Form and Terms and Conditions for the Use of Preservica TM Cloud Edition;
 - (c) The Commonwealth of Virginia Agency Contract Form 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: 
(Signature)
MIKE RUINN
(Printed Name)

Title: CHIEF EXECUTIVE OFFICER

PURCHASING AGENCY:
By: 
(Signature)
Lee Anne Beatty Smith
(Printed Name)

Title: Buyer Senior, JMU



**RFP # LBS-945 Long-Term Digital Preservation and Storage
Solution
Negotiation Summary for Preservica, Inc.**

3/28/17

1. Contractor agrees that this Negotiation Summary modifies the Contractor's response to RFP# LBS-945.
2. Contractor hereby rescinds confidentiality of its entire proposal dated December 8, 2016 and all subsequent negotiations.
3. Pricing:
 - a. Year One (1): 1Tb S3 / 14Tb Glacier, \$16,605
 - b. Year Two (2): 1Tb S3 / 28Tb Glacier, \$19,755
 - c. Year Three (3): 1Tb S3 / 28Tb Glacier, \$19,755
 - d. Cost per Tb per Year of Additional Storage (*can be added at any time during the contract/subscription year*): Preservica 1Tb S3 Storage, \$1450
Preservica 1Tb Glacier, \$550
 - e. The contract price(s) for subsequent renewal periods shall not exceed the contract price(s) of the previous 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.
4. Payment Processing:
 - a. Payment will be made upon the receipt of a valid invoice and in accordance with the *Code of Virginia*, §2.2-4347 through 2.2-4354, Prompt Payment.
5. There shall be no per user charge as part of the annual subscription to Preservica Cloud Edition.
6. Contractor's initial response to RFP # LBS-945 dated December 8, 2016 shall be amended as follows:
 - a. IV.A.3.c shall be supplemented with:

Preservica's website harvest workflow uses Heritrix as the underlying web crawler. Heritrix is the Internet Archive's open-source, extensible, archival-quality web crawler project.

In Preservica a website crawl can be configured very simply by just specifying the breadth and depth of the crawl. However, for advanced use cases it is possible to upload a configuration files with up to 60 parameters to tune the crawling of the selected website.

Once set up, the crawl can be initiated manually with the click of a button, or set up to run with no intervention on a fixed schedule either daily, weekly, or monthly.

The result is not only a standard WARC file which can be viewed using the built in Wayback Machine but also a fully indexed file that identifies attachments which can be managed for potential obsolescence. The payback within Perservica mimics the live web site providing a realistic and valuable experience for users of the archive and collections.

Preservica Cloud Edition submission packages have been tested up to the following:

- Contain up to 100,000 files



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- Contain individual files of up to 30 GB
- Have a total SIP size of up to 100 GB
- A maximum of 10,000 child objects (files or sub-records) within a record or collection

Preservica recommends Clients stay within these limits. Total SIP size does need to be no more than 100 GB due to the size of the cloud ingest area that a SIP is uploaded to during ingest. The total size of your archive has no theoretical limit.

b. IV.A.3.f shall be supplemented with:

Preservica maintains many types of metadata including preservation events for the audit trail. These include:

- Structural metadata, creating a hierarchy of information;
- Descriptive metadata, usually to a standard schema, giving the information context and meaning;
- Classification metadata, usually derived from other metadata and used to drive retention and access control actions;
- Technical metadata, created and maintained by the system for digital preservation purposes;
- Access control metadata used to tag data specifying and controlling who can act on it and what they do; and
- Index data maintained by the system to record what has happened to each piece of information.

Based on the OAIS Reference Model and the terminology used (*SIPs, AIPs and DIPs*), Preservica calls its internal metadata schema XIP.

c. IV.A.3.e shall be supplemented with:

Preservica is a policy neutral system that does not force you to normalize.

d. IV.A.3.h shall be supplemented with:

Customers with a good knowledge of SOLR themselves can directly modify its configuration files to set which filters and tokenizers are applied, list of stop words, etc.

- Customers can upload "custom index files" that allow them to specify how fields in any descriptive metadata schemas they use should be indexed. These custom files can be uploaded into Preservica and are applied to any indexing operations executed from that point on.



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- Building from the custom index files, the Universal Access component allows customers to specify which fields can be used for filtered searches in UA, and which fields should be used for faceting the returned results. As well as standard XIP fields, any fields defined in custom index files can then also be used.

e. **IV.A.4.b** shall be supplemented with the following:

All schema metadata defined in Preservica can be accessed via OAI-PMH. As describe in Preservica's documentation, XIP allows XML conforming to any descriptive schema to be embedded within it. So, if you make an OAI-PMH request for data in a particular schema, and if Preservica has records that contain metadata for that schema, that metadata will be returned. Basically, if JMU uses a particular descriptive schema in Preservica, records in that schema can be requested via Preservica's OAI-PMH interface.

Preservica supports the following schemas out-of-the-box:

- Dublin Core
- METS
- MODS
- EAD
- XIP

However, JMU can add their own schema at any time.

Descriptive metadata must be held in XML form. All that is needed is to upload the schema description (XSD) file and an example empty document which is used when the user asks to add new metadata.

To make this new schema usable it will also be needed to upload style sheets (XSLT) to convert this schema into HTML for display and edit and a style sheet to convert it into name value pairs for the CMIS API. Preservica can help with this process as part of your support service.

f. **IV.D.12** shall be supplemented with:

Preservica's backup and recovery strategy utilizes multiple levels of technology resilience and redundancy to guarantee availability in general, and recoverability in the event of a major incident. The key components of our strategy to achieve this are:

- Virtual server and associated configurations backup- to enable recovery of software and its 'running state';



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- Meta-database and transaction logs backup—to enable recovery of data needed by the software to the point at which failure occurred;
- Amazon storage—to safeguard the backups of data and customer content;
- Amazon compute regions—to provide alternative places to run a recovered service should an entire AWS EC instance become unavailable; and
- Documented and tested recovery procedure—to ensure the recovery is performed in a structured and controlled way guaranteeing the integrity of the recovered service.

Together these components allow the recovery of the Cloud Edition service to a point in time.

g. **IV.A.5.a.iv** shall be supplemented with:

Preservica fully recognizes how important it is for users of any of our systems to be able to extract a complete copy of all content and metadata at any time. In Preservica Cloud Edition, Preservica supports the following approaches:

- JMU can use the built in “Copy Home” storage feature to write all of the content and metadata to a remote Secure FTP server at ingest time. This can be done “live” so a separate copy of the content is kept up-to-date at all times, or this can be done at the point of exit.
- JMU can use the built-in export workflow to export the content and metadata in collections as dissemination ZIP files to an Amazon bucket (*S3 storage location*) owned by the JMU in order to download these files using Amazon’s own tools outside of Preservica.

In both cases, the metadata is held in the Preservica XIP format. This contains the descriptive metadata, technical metadata, structure, and security tags.

Preservica can write out documentation describing the XIP schema and advise on the structure of the content and how to use it. Note that both exports can take a number of days or even weeks for large collections.

Preservica is also able to set up a job to export the content audit logs to the selected exit storage location. This can be done continuously or at the point of exit.

If for any reason Preservica is unable to provide the export service, Amazon will be able to give access to JMU’s storage buckets and archives. These buckets contain all the content as digital objects and metadata per object containing the objects original file name. This means it will be possible to retrieve the content and recreate the collections in another location.

PRESERVICA CLOUD EDITION ORDER FORM

DATED: April 1, 2017

ORDER DETAILS

Preservica	Preservica Inc of 50 Milk Street, 16th Floor, Boston, MA 02109, USA
Client	James Madison University of 752 Ott Street, Wine Price Bldg, First Floor, Suite 1023, Harrisonburg, VA 22807
Permitted Purpose	For use by the Client to preserve digital information for its internal business purposes. Cannot be used to provide digital preservation services for third-party organisations.
Client Administrator	Grace Barth 540-568-5167 barthgl@jmu.edu

SUBSCRIPTION DETAILS

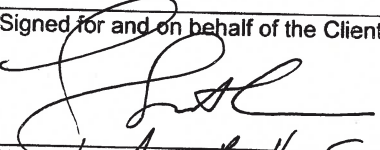

Storage Allowance	With 10% discount (i.e. single, 3 year contract): Year 1: 1Tb S3 / 14Tb Glacier, \$16,605/year Year 2: 1TB S3 / 28TB Glacier, \$19,755/year Year 3: 1TB S3 / 28TB Glacier, \$19,755/year *10% discount expires on end of Preservica FY, March 31, 2017
Server Location	Virginia
Subscription Fees	Year 1: 1Tb S3 / 14Tb Glacier, \$16,605/year Year 2: 1TB S3 / 28TB Glacier, \$19,755/year Year 3: 1TB S3 / 28TB Glacier, \$19,755/year
Payment Periods	Each year
Initial Subscription Term	36 months with seven (7) one-year renewal options. The agreed upon changes in standard terms (variations), applies to all subsequent renewals.
Download Limit	250% of Storage Allowance per year
Excess Fee for downloads	\$600 per additional Tb

TRAINING AND SERVICES DETAILS

Training	Online Training, Included in Subscription Fee
Additional Services	None at this time

SIGNATURES

By signing this order form the signatory for the client confirms on the client's behalf that the details set out in this order are correct and confirms the client's acceptance of terms and conditions within Contract# UCPJMU4788.

Signed for and on behalf of the Client	Signed for and on behalf of Preservica
	
Name: <u>Lee Anne Beatty Smith</u>	Name: <u>MIKE QUINN</u>
Title: <u>Buyer Senior, JMU</u>	Title: <u>CHIEF EXECUTIVE OFFICER</u>
Date: <u>3-30-17</u>	Date: <u>3-28-2017</u>

CONTRACT VARIATIONS

The following variations from the Terms and Conditions are agreed by both parties as applying to this Subscription

Clause	Variation
8.7	"Intentionally Deleted" (fee increases are as specified within the negotiation summary of the contract)
8.7.1	"Intentionally Deleted" (renewal increases shall not exceed the CPI-W Other services category as specified within the negotiation summary of the contract)
9.4	replace "and to be calculated in accordance with the then current Standard Rates" with "and to be calculated in accordance with Contract UCPJMU4788 pricing"
12.2	"Intentionally Deleted"
16.1.5	replace "after which Preservica shall be entitled to delete any Client Data in its possession and control" with "In the event that this takes more than 20 days, Preservica reserves the right to charge applicable fees beyond 20 days and after 60 days Preservica shall be entitled to delete any Client Data in its possession and control."
22.1	"Intentionally Deleted"

Terms and Conditions for the use of Preservica TM Cloud Edition

1 Interpretation

1.1 The definitions and rules of interpretation in this clause apply in the Agreement.

Acceptable Use Policy: Preservica's acceptable use policy, as published on the Site.

Additional Fees: the fees payable by the Client in relation to the Additional Services, as set out in the Order or otherwise agreed in writing between the Client and Preservica.

Additional Services: any additional services in relation to the Software (including any training on or configuration of the Software) set out in an Order, including any Deliverables.

Agreement: the agreement between Preservica and the Client in relation to the Subscription and any Additional Services, the terms of which are set out in these Terms and the documents referred to in them.

Applicable Laws: the laws of the Commonwealth of Massachusetts and the United States of America and any other laws or regulations, regulatory policies, guidelines or industry codes which apply to the provision of the Services.

Authorized Users: those employees, agents and independent contractors of the Client who are authorized by the Client to use the Subscription Services and the Documentation.

Business Day: any day which is not a Saturday, Sunday, public holiday in the District of Columbia or a federal holiday in the United States of America.

Business Hours: 8.30 am to 5.30 pm U.S. Eastern Time, each Business Day.

Change Order: a written request from the Client for changes to the Subscription or the Storage Allowance.

Client: the person identified in the Order as the Client.

Client Administrator: the person named in the Order as the Client administrator or any substitute appointed in accordance with these Terms.

Client Data: the data inputted, transmitted, distributed, accessed, stored or uploaded by or on behalf of the Client in connection with its use of the Subscription Services.

Client Default: means any failure of the Client to comply with the requirements of these Terms or use the Services in accordance with Preservica's instructions.

Confidential Information: information that is proprietary or confidential and is either clearly labelled as such or identified as Confidential Information in clause 12.

Deliverables: any documents, software, information or materials that Preservica provides to the Client in connection with the Additional Services.

Documentation: the documents made available to the Client by Preservica on the Site which set out a description of the Subscription Services and the user instructions for the Subscription Services.

Download Limit: the quantity of data that the Client can download or allow to be downloaded from the Subscription Services per year, as set out in the Order.

Effective Date: has the meaning set out in the Order.

Excess Charges: means the charges payable by the Client upon exceeding the Download Limit, as set out in the Order.

Fees: the Subscription Fees, the Excess Charges and the Additional Fees.

Initial Subscription Term: the initial period of the Subscription, as set out in the Order.

Insolvency Event: an event whereby a party a) is the subject of a resolution, court order, application to court or notice filed at court in respect of its winding up or administration; b) ceases to do business in the normal course; c) suspends or threatens to suspend payment of its debts or is unable to pay its debts; d) enters into a composition, compromise or similar arrangement with its creditors; e) makes an

assignment for the benefit of creditors or is subject to the appointment of an administrator, liquidator or receiver to take charge of any or all of the party's property; f) seeks protection under any bankruptcy, receivership, trust deed, creditors arrangement, composition or comparable proceeding or such a proceeding is instituted against the other Party and is not dismissed within ninety (90) days; or f) is the subject of any similar or analogous event in any jurisdiction.

Intellectual Property Rights: all patents, copyrights, design rights, trademarks, service marks, trade secrets, know-how, database rights and other rights in the nature of intellectual property rights (whether registered or unregistered) and all applications for the same, anywhere in the world whether or not now existing or applied for and all accrued rights of action in respect of any such rights

Order: means the Client's order for the Services, as set out in Preservica's standard electronic or hard copy order form and accepted in writing by Preservica.

Payment Period: means each period time during the Subscription Term in respect of which an instalment of the Fees will be payable, being each period of 1 year or 3 months (as set out in the Order).

Permitted Usage: means the use which the Client is permitted to make of the Subscription Services, as set out in the Order.

Policies: the Acceptable Use Policy, Support Service Policy and the Privacy Policy.

Preservica: Preservica Inc., as further described in the Order.

Privacy Policy: Preservica's privacy policy, as published on the Site.

Prohibited Content: any Client Data that: a) does not comply with Applicable Laws; b) does not comply with the Acceptable Use Policy; or c) which is likely to have an adverse effect on Preservica or other users of the Subscription Services.

Server Location: means the location of the server on which the Client Data will be held, as set out in the Order.

Service Levels: the service levels to which the Subscription Services are to be provided, as set out in the Support Service Policy.

Services: the Subscription Services and Additional Services.

Site: Preservica's website at www.preservica.com or any other website notified by Preservica to the Client from time to time for use in connection with the Subscription Services.

Software: the Cloud Edition software applications provided by Preservica as part of the Subscription Services.

Standard Rates: means Preservica's standard rates from time to time in respect of the Subscription Plans, as published on the Site.

Storage Allowance: the quantity of Client Data that the Client is entitled to store via the Subscription Services, being the quantity purchased by the Client under an Order or Change Order.

Subscription: means the Client's subscription to the Subscription Services on the Subscription Plan selected by the Client, being the Subscription Plan set out in the Order, as upgraded or downgraded from time to time in accordance with these Terms.

Subscription Fees: the fees payable by the Client for the Subscription Services, being the fees set out in the Order, as increased or decreased from time to time in accordance with these Terms.

Subscription Plans: in relation to the Subscription Services, the packages of services and data storage allowances offered by Preservica from time to time.

Subscription Services: the subscription services provided by Preservica to the Client via the Site, as described in the Documentation.

Support Service Policy: Preservica's policy for providing support in relation to the Subscription Services, as published on the Site.

Terms: these terms and conditions.

Virus: anything or device (including any software, code, file or program) which may: prevent, impair or otherwise adversely affect the operation of any computer software, hardware or network, any telecommunications service, equipment or network or any other service or device; prevent, impair or otherwise adversely affect access to or the operation of any program or data, including the reliability of any program or data (whether by re-arranging, altering or erasing the program or data in whole or part or otherwise); or adversely affect the

- user experience, including worms, trojan horses, viruses and other similar things or devices.
- 1.2 A person includes an individual, company, partnership, government authority, agency, corporation or other organization organized or incorporated under the laws of any of the states of the United States of America and that person's legal and personal representatives, successors and assigns.
- 1.3 Words in the singular shall include the plural and vice versa.
- 1.4 References to "including" or "includes" shall be deemed to have the words "without limitation" inserted after them.
- 1.5 A reference to a statute or statutory provision is a reference to it as it as amended from time to time and to any subordinate legislation made under it.
- 1.6 A reference to writing or written includes faxes and e-mail.
- 1.7 The term "personal data" means information about individuals that includes names, addresses, telephone numbers, social security numbers, driver's license numbers, state-issued identification card numbers, financial account number, and/or credit or debit card numbers with or without any required security code, access code, personal identification number or password.
- 1.8 In relation to the Subscription, a reference to an "upgrade" is to the Client upgrading its Subscription to a Subscription Plan that attracts higher Subscription Fees and a reference to a "downgrade" shall have the converse meaning.
- 1.9 Unless otherwise stated, a reference in these Terms to the Documentation or any Policy is to the Documentation or Policy as amended from time to time in accordance with these Terms.
- 2 Access to the Subscription Services**
- 2.1 Subject to the Client paying the Subscription Fees and to the restrictions and requirements in these Terms, Preservica hereby grants to the Client a non-exclusive, non-transferable right to permit the Authorized Users to use the Subscription Services, the Software and the Documentation during the Subscription Term for the Permitted Usage up to the limits of the Storage Allowance.
- 2.2 In relation to the Authorized Users, the Client undertakes that:
- 2.2.1 it shall, and shall procure that its Authorized Users shall, comply with the Acceptable Use Policy;
- 2.2.2 each Authorized User shall be a named individual;
- 2.2.3 each Authorized User shall be assigned a username by the Client Administrator which shall consist of that Authorized User's email address;
- 2.2.4 Authorized Users shall not be permitted or provided with the means to create guest accounts in relation to the use of the Subscription Services;
- 2.2.5 each Authorized User shall keep a secure password for his use of the Subscription Services, the Software and Documentation and that each Authorized User shall keep his password confidential; and
- 2.2.6 it shall maintain a written, up to date list of current Authorized Users and provide such list to Preservica within 5 Business Days of Preservica's written request at any time or times;
- 2.3 The Client shall permit Preservica to audit the Subscription Services to establish the Client's compliance with these Terms, provided that audits shall be conducted on reasonable notice and so as to cause as little disruption to the Client's use of the Subscription Services as is reasonably practicable. Such audits may be conducted no more than once per quarter unless Preservica has reasonable grounds to suspect that the Client is in breach of these Terms, in which case they can be conducted at such intervals as is reasonably required by Preservica to investigate its suspicions.
- 2.4 If any of the audits referred to in clause 2.3 reveal that any password has been provided to any individual who is not an Authorized User, then without prejudice to Preservica's other rights, the Client shall promptly disable such passwords and the Client Administrator may not issue any new passwords to any such individual.
- 2.5 The Client shall not, and shall procure that its Authorized Users shall not, access, store, distribute or transmit any Viruses, or any Prohibited Content.
- 2.6 The Client shall not, and shall procure that its Authorized Users shall not:
- 2.6.1 except as may be allowed by any Applicable Law which is incapable of exclusion by agreement between the parties:
- a) attempt to copy, modify, repair, duplicate, create derivative works from, frame, mirror, republish, download, display, transmit, or distribute all or any portion of the Software and/or Documentation (as applicable) in any form or media or by any means, except to the extent expressly permitted under these Terms; or
- b) attempt to reverse compile, disassemble, reverse engineer or otherwise reduce to human-perceivable form all or any part of the Software; or
- 2.6.2 access all or any part of the Subscription Services, the Software and Documentation in order to build a product or service which competes with the Subscription Services and/or the Documentation;
- 2.6.3 without Preservica's prior written consent, use the Subscription Services, the Software and/or Documentation to provide services to third parties, unless such activity is specifically permitted under the Permitted Usage;
- 2.6.4 subject to clause 23.1, license, sell, rent, lease, transfer, assign, distribute, display, disclose, or otherwise commercially exploit, or otherwise make the Subscription Services, the Software and/or Documentation available to any third party except the Authorized Users,
- 2.6.5 attempt to obtain, or assist third parties in obtaining, access to the Subscription Services, the Software and/or Documentation, other than as provided under this clause 2.
- 2.7 The Client shall ensure that all information provided to Preservica (including information provided in connection with its registration for the Subscription Services and its Change Orders) is accurate, complete and not misleading.
- 2.8 The Client shall, and shall procure that the Authorized Users shall, use its and their reasonable endeavors to prevent any unauthorized access to, or use of, the Subscription Services, the Software and/or the Documentation and, in the event of any such unauthorized access or use, promptly notify Preservica.
- 2.9 The rights provided under this clause 2 are granted to the Client only, and shall not be considered granted to any subsidiary, holding company or any other entity within the Client's group unless otherwise specifically permitted or granted under the Client's Permitted Usage.
- 3 Services**
- 3.1 Preservica shall, during the Subscription Term, provide the Subscription Services and make available the Documentation to the Client on and subject to the terms of the Agreement.
- 3.2 In consideration for the payment of the Subscription Fees, Preservica will, as part of the Subscription Services, provide the Client with Preservica's standard customer support services during Business Hours in accordance with the Support Service Policy.
- 3.3 In consideration for the payment of the Additional Fees, Preservica will provide the Additional Services.
- 4 Preservica's Obligations**
- 4.1 Preservica undertakes that the Services will be performed substantially in accordance with the Documentation and with reasonable skill and care and that any Deliverables will materially comply with any specification agreed in writing between Preservica and the Client.
- 4.2 The undertaking at clause 4.1 shall not apply to the extent of any non-conformance which is caused by a Client Default.
- 4.3 Preservica shall use its reasonable endeavors to ensure that the Subscription Services meet or exceed the Service Levels but shall not be responsible for any failure to meet or exceed the Service Levels which is caused by a Client Default.
- 4.4 If the Services do not conform with the undertaking in clause 4.1, Preservica will, at its expense, use all reasonable commercial endeavors to correct any such non-conformance promptly, or provide the Client with an alternative means of accomplishing the desired performance. Such correction or substitution constitutes the Client's sole and exclusive remedy for any breach of the undertaking set out in clause 4.1.
- 4.5 Notwithstanding the foregoing, Preservica:
- 4.5.1 does not warrant that the Client's use of the Subscription Services will be uninterrupted or error-free; nor that the Services, Software, Documentation, Deliverables and/or the information obtained by the

Client through the Subscription Services will meet the Client's requirements; and

4.5.2 is not responsible for any delays, delivery failures, or any other loss or damage resulting from the transfer of data over communications networks and facilities, including the internet, and the Client acknowledges that the Subscription Services, the Software and Documentation may be subject to limitations, delays and other problems inherent in the use of such communications facilities.

4.6 Nothing shall prevent Preservica from providing the Subscription Services to any third party.

4.7 Preservica warrants that it has and will maintain all necessary licenses, consents, and permissions necessary for the performance of its obligations under the Agreement.

5 Client data

5.1 The Client warrants that it owns, is a licensee of or has the legal right to use all rights, title and interest in and to all of the Client Data and shall have sole responsibility for the legality, reliability, integrity, accuracy and quality of the Client Data.

5.2 During the term of this agreement, Client hereby grants to Preservica a royalty-free, worldwide right and license to access, copy, store, process, distribute, transmit, display and otherwise use the Client Data for the purposes of providing the Services and the Support Services to Client.

5.3 Preservica shall, in providing the Subscription Services, comply with its Privacy Policy.

5.4 If Preservica processes any personal data on the Client's behalf when performing its obligations under the Agreement, the parties record their intention that the Client shall be the data controller and Preservica shall be a data processor and in any such case:

5.4.1 the Client shall ensure that it has all consents and permissions necessary for the lawful use, processing and transfer of such personal data in connection with the Subscription Services;

5.4.2 Preservica shall process the personal data only in accordance with these Terms and any lawful instructions reasonably given by the Client from time to time;

5.4.3 the servers on which Client Data shall be stored will be situated within the Server Location provided that personal data provided by the Client or Authorized Users may be transferred outside the Server Location in accordance with the Privacy Policy; and

5.4.4 each party shall take appropriate technical and organizational measures against unauthorized or unlawful processing of the personal data or its accidental loss, destruction or damage.

5.5 Preservica will not intentionally edit, disclose, delete, transmit or use the Client Data except:

5.5.1 for the purpose of and to the extent necessary for providing the Subscription Services or complying with the Client's instructions;

5.5.2 as required by Applicable Laws; or

5.5.3 as otherwise expressly permitted under these Terms.

5.6 Preservica shall be entitled, but not obliged, to monitor the Client Data and to delete, remove, or suspend the Client's access to any Client Data which constitutes or contains Prohibited Content.

6 Client's obligations

6.1 The Client shall:

6.1.1 provide Preservica with all necessary co-operation and access to information as Preservica reasonable requires to perform the Services, including but not limited to Client Data, security access information and configuration services;

6.1.2 comply with all Applicable Laws with respect to the Services;

6.1.3 carry out all other Client responsibilities set out in these Terms in a timely and efficient manner. In the event of any delays in the Client's provision of such assistance as agreed by the parties, Preservica may adjust any agreed timetable or delivery schedule as reasonably necessary;

6.1.4 ensure that the Authorized Users use the Subscription Services and the Documentation in accordance with these Terms and shall be responsible for any Authorized User's breach;

6.1.5 obtain and shall maintain all necessary licenses, consents, and permissions necessary for Preservica to provide the Services;

6.1.6 ensure that its network and systems comply with the relevant specifications provided by Preservica (if any) from time to time;

6.1.7 be solely responsible for procuring and maintaining all hardware, software, network connections and telecommunication links which are necessary for it to use the Subscription Services.

6.2 The Client acknowledges that neither Preservica nor its licensors are responsible in any manner, and the Client is solely responsible, for the proper configuration of user security roles and other security settings associated with the Subscription Services.

6.3 The Client shall procure that the Client Administrator takes responsibility for setting access levels, login accounts and passwords for all Authorized Users in accordance with these Terms. The Client may change the identity of the Client Administrator or written notice to Preservica but shall use its reasonable endeavors to ensure the continuity of the Client Administrator.

7 Suspension of Services

7.1 Without prejudice to any other right or remedy that Preservica may have under these Terms, Preservica shall be entitled to suspend the Client's right to access or use the Services immediately without notice if:

7.1.1 the Client is in breach of these Terms, including if it fails to pay the Fees on the due date;

7.1.2 Preservica reasonably considers that the Client's continued use of the Subscription Services is likely to:

a) incur liability on the part of Preservica to a third party;

b) poses a security risk to the Subscription Services or any third party;

c) contravene any Applicable law; or

d) amount to an unusual or excessive burden on the Subscription Services.

7.1.3 Preservica is subject to a Force Majeure Event affecting the provision of the Services, provided that Preservica shall use its reasonable endeavors to restore or provide similar services to the Services to the Client; or

7.1.4 the Client undergoes an Insolvency Event.

7.2 Except where the Services are suspended due to a Force Majeure Event affecting the Services, the Client shall remain liable for all Fees payable in respect of any period during which the Services are suspended.

8 Charges and payment

8.1 The Client shall pay the Subscription Fees in equal instalments in advance of each Payment Period.

8.2 Preservica shall invoice the Client:

8.2.1 on the Effective Date for the Subscription Fees payable in respect of the first Payment Period;

8.2.2 at or around the start of each subsequent Payment Period for the Subscription Fees payable in respect of that Payment Period;

8.2.3 at the times and in the instalments agreed in writing with the Client in relation to the Additional Fees; and

8.2.4 in relation to any Excess Charges incurred by the Client, any time following the Payment Period in which the Download Limit is exceeded.

8.3 The Client shall pay each invoice submitted to it by Preservica in full, and in cleared funds, within 30 days of receipt.

8.4 If Preservica has not received payment within 30 days after the due date, and without prejudice to any other rights and remedies of Preservica:

8.4.1 Preservica may, without liability to the Client, suspend the Client's access to the Subscription Services; and

8.4.2 interest shall accrue on such due amounts at an annual rate equal to 3% or the maximum amount permitted by law, whichever is less, commencing on the due date and continuing until fully paid, whether before or after judgment.

8.5 All amounts and fees stated or referred to in the Agreement:

8.5.1 shall be payable in United States Dollars;

8.5.2 are non-cancellable and non-refundable, except as expressly stated in these Terms; and

8.5.3 are exclusive of value added tax and any other applicable sales or use taxes, which shall be added to Preservica's invoice.

8.6 The Client shall make all payments under the Agreement without set off, deduction or withholding, except to the extent required by law.

8.7 Once during each period of 12 months during the Subscription Term, Preservica may review and increase the Fees such increase to take effect on 1 April following the review, provided that:

8.7.1 Preservica gives the Client not less than 30 days' notice of the increase and the increase does not exceed inflation plus 5%; and

8.7.2 such increases will not apply during the Initial Subscription Term

9 Change Orders

9.1 Subject to clause 9.3, the Client may by issuing a Change Order:

9.1.1 upgrade its Subscription at any time; or

9.1.2 downgrade its Subscription at any time following the end of the Initial Subscription Term.

9.2 If, at any time, the Client exceeds the Storage Allowance, Preservica may, by written notice to the Client ("**Excess Notice**"), require the Client to:

9.2.1 remove the excess Client Data; or

9.2.2 submit a Change Order requesting an upgrade of its Subscription to accommodate the excess Client Data,

and if the Client fails to do so within 30 days of the date of the Excess Notice, it will be deemed to have submitted the said Change Order on the date of the Excess Notice.

9.3 Unless rejected by Preservica by written notice within 7 days of the date of a Change Order, a Change Order will be deemed to be accepted by Preservica and to take effect:

9.3.1 in relation to an upgrade or downgrade requested by the Client under clause 9.1, at the start of the next Payment Period; and

9.3.2 in relation to any upgrade or downgrade requested or deemed to have been requested by the Client under clause 9.2, upon the date or deemed date of the Change Order.

9.4 The Subscription Fees will be automatically increased or reduced to take account of any Change Order, such increases or reductions to apply from the date on which the Change Order takes effect under these Terms and to be calculated in accordance with the then current Standard Rates.

10 Changes to this Agreement

10.1.1 Preservica shall be entitled to review and revise the Documentation, the Policies and the Services at any time on written notice to the Client where such revisions:

10.1.2 are made in order to comply with or reflect Applicable Law; or

10.1.3 are unlikely to have any adverse effect on the Client or its use of the Services.

11 Proprietary rights

11.1 The Client acknowledges and agrees that Preservica and/or its licensors own all intellectual property rights in the Services, the Software and the Documentation and in any suggested improvements to them which are made at the Client's request or suggestion. Except as expressly stated herein, Preservica does not grant the Client any rights to, or in, the intellectual property rights in the Services, the Software or the Documentation.

11.2 Preservica confirms that it has all the rights in relation to the Services, the Software and the Documentation that are necessary to grant all the rights it purports to grant under, and in accordance with, these Terms.

12 Confidentiality and publicity

12.1 Each party shall, during the Subscription Term and thereafter, keep confidential all Confidential Information of the other party, and shall not use for its own purposes nor without the prior written consent of the other disclose to any third party any Confidential Information of the other party unless such information is public knowledge or already known to such party at the time of disclosure, or subsequently becomes public knowledge other than by breach of these Terms, or subsequently comes lawfully into the possession of such party from a

third party or disclosure of which is required by any Applicable Law or court order.

12.2 These Terms and the details of the Services are Preservica's Confidential Information and may not be disclosed by the Licensee without the prior written consent of Preservica.

12.3 Preservica may identify the Client as a user of the Services.

13 Indemnity

13.1 Preservica shall defend, indemnify and hold harmless the Client against third party actions, proceedings, losses, damages, expenses and costs (including without limitation court costs and reasonable legal fees) arising out of any claim that the the Software, any Deliverable or the Documentation infringes a third party's Intellectual Property Rights.

13.2 The Client shall defend, indemnify and hold harmless Preservica against, actions, proceedings, losses, damages, expenses and costs (including without limitation court costs and reasonable legal fees) arising out of any claim that the Client Data infringes a third party's Intellectual Property Rights or any Applicable Laws.

13.3 The indemnities set out in this clause 13 are subject to the party with the benefit of the Indemnity:

13.3.1 notifying the other party promptly on becoming aware of a claim triggering the indemnity (a "**Claim**");

13.3.2 allowing the other party to have sole control over the defense and/or settlement of the Claim; and

13.3.3 providing the other party, at the other party's expense, with all reasonably requested cooperation, information and assistance in relation to the Claim.

13.4 In no event shall Preservica or its employees, agents or sub-contractors be liable the Client in respect of any Claim to the extent that the alleged infringement is based on any Client Default or any use by the Client of the Services or Documentation after notice of the alleged or actual infringement has been received by the Client.

14 Limitation of liability; Disclaimer

14.1 This clause 14 sets out the entire financial liability of Preservica (including any liability for the acts or omissions of its employees, agents and sub-contractors) to the Client in connection with the Services and the Documentation.

14.2 EXCEPT AS EXPRESSLY AND SPECIFICALLY PROVIDED IN THESE TERMS:

14.2.1 THE CLIENT ASSUMES SOLE RESPONSIBILITY FOR RESULTS OBTAINED FROM THE USE OF THE SERVICES, THE SOFTWARE AND THE DOCUMENTATION BY THE CLIENT, AND FOR CONCLUSIONS DRAWN FROM SUCH USE;

14.2.2 PRESERVICA SHALL HAVE NO LIABILITY FOR ANY DAMAGE CAUSED BY ERRORS OR OMISSIONS IN ANY INFORMATION, INSTRUCTIONS OR SCRIPTS PROVIDED TO PRESERVICA BY THE CLIENT IN CONNECTION WITH THE SERVICES, OR ANY ACTIONS TAKEN BY PRESERVICA AT THE CLIENT'S DIRECTION;

14.2.3 ALL WARRANTIES, REPRESENTATIONS, TERMS AND ALL OTHER TERMS OF ANY KIND WHATSOEVER IMPLIED BY STATUTE OR COMMON LAW ARE, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAWS, EXCLUDED FROM THE AGREEMENT; AND

14.2.4 THE SERVICES AND THE DOCUMENTATION ARE PROVIDED TO THE CLIENT ON AN "AS IS" BASIS.

14.3 NOTHING IN THE AGREEMENT EXCLUDES THE LIABILITY OF PRESERVICA:

14.3.1 FOR DEATH OR PERSONAL INJURY CAUSED BY PRESERVICA'S NEGLIGENCE;

14.3.2 ANY LIABILITY WHICH CANNOT BE EXCLUDED BY APPLICABLE LAW; OR

14.3.3 FOR FRAUD OR FRAUDULENT MISREPRESENTATION.

14.4 SUBJECT TO CLAUSE 14.2 AND CLAUSE 14.3:

14.4.1 PRESERVICA SHALL NOT BE LIABLE WHETHER IN TORT (INCLUDING FOR NEGLIGENCE OR BREACH OF STATUTORY DUTY), CONTRACT, MISREPRESENTATION, RESTITUTION OR OTHERWISE FOR ANY LOSS OF PROFITS, LOSS OF BUSINESS, DEPLETION OF GOODWILL AND/OR SIMILAR LOSSES OR LOSS OR CORRUPTION OF DATA OR INFORMATION, OR PURE ECONOMIC LOSS OR FOR ANY SPECIAL, INDIRECT OR

CONSEQUENTIAL LOSS, COSTS, DAMAGES, CHARGES OR EXPENSES, HOWSOEVER ARISING; AND

14.4.2 PRESERVICA'S TOTAL AGGREGATE LIABILITY TO THE CLIENT IN CONNECTION WITH THE SUBSCRIPTION AND THE SERVICES (WHETHER ARISING IN TORT (INCLUDING NEGLIGENCE), CONTRACT OR OTHERWISE) SHALL BE LIMITED TO THE AMOUNT OF THE TOTAL AMOUNT OF FEES PAID BY THE CLIENT DURING THE 12 MONTHS IMMEDIATELY PRECEDING THE DATE ON WHICH THE CLAIM AROSE.

15 Term and termination

15.1 The Agreement shall commence on the Effective Date and, unless terminated earlier in accordance with these Terms, shall continue for the Initial Subscription Term and thereafter unless terminated by either party on not less than 30 days written notice to the other, expiring at the end of a Payment Period and expiring no earlier than the end of the Initial Subscription Term.

15.2 Without prejudice to any other rights or remedies to which the parties may be entitled, either party may terminate the Agreement on notice with immediate effect and without liability to the other if:

15.2.1 the other party commits a material breach of any of the terms of the Agreement and (if such a breach is remediable) fails to remedy that breach within 20 days of that party being notified in writing of the breach; or

15.2.2 the other party is subject to an Insolvency Event.

15.3 Without prejudice to any other rights or remedies to which the parties may be entitled, Preservica may terminate the Subscription on notice with immediate effect and without liability to the Client if:

15.3.1 it is entitled to suspend the Services under clause 7; or

15.3.2 factors beyond Preservica's reasonable control (including, without limitation, the termination of Preservica's arrangements with its suppliers or any changes in Applicable Laws) make it impractical, unfeasible or burdensome for Preservica to provide the Services.

16 Consequences of termination

16.1 On termination of the Agreement for any reason:

16.1.1 all licences granted under the Agreement shall immediately terminate;

16.1.2 each party shall return and make no further use of any equipment, property, documentation, Confidential Information and other items (and all copies of them) belonging to the other party;

16.1.3 the accrued rights of the parties as at termination, or the continuation after termination of any provision expressly stated to survive or implicitly surviving termination, shall not be affected or prejudiced;

16.1.4 the Client shall promptly pay all outstanding Fees and other amounts payable by the Client under these Terms; and

16.1.5 the Client shall be entitled during the period of twenty days from termination to retrieve its Client Data held by Preservica in connection with the Subscription Services, after which Preservica shall be entitled to delete any Client Data in its possession or control.

16.2 On termination of the Agreement by the Client under clause 15.1 or clause 15.2, the Client shall be entitled to receive a pro rata refund of any Fees paid in advance and applicable to periods of time after the date of termination. For the avoidance of doubt, the Client will not, in any other circumstances, be entitled to a refund of the Fees.

17 Force majeure

No party shall be liable to the other for any delay or non-performance of its obligations under these Terms arising from any cause beyond its reasonable control including, without limitation, any of the following: act of God, governmental act, war, fire, flood, explosion or civil commotion (a "Force Majeure Event"). For the avoidance of doubt, nothing in clause 17 shall excuse the Client from any payment obligations under these Terms.

18 Import and Export Compliance

18.1 In connection with the Agreement, each party will comply with all applicable import, re-import, export, and re-export control laws and regulations. The Client is solely responsible for compliance related to the manner in which it chooses to use the Services, including its transfer and processing of the Client Data.

19 Variation

19.1 Except as otherwise expressly stated in these Terms, no variation of the Agreement will be effective unless it is in writing and signed by the parties or their authorized representatives.

20 Waiver

20.1 A waiver of any right under the Agreement is only effective if it is in writing and it applies only to the party to whom the waiver is addressed and to the circumstances for which it is given.

20.2 Unless specifically provided otherwise, rights arising under the Agreement are cumulative and do not exclude rights provided by law.

21 Severance

21.1 If any provision (or part of a provision) of these Terms is found by any court or administrative body of competent jurisdiction to be invalid, unenforceable or illegal, the other provisions shall remain in force.

21.2 If any invalid, unenforceable or illegal provision would be valid, enforceable or legal if some part of it were deleted, the provision shall apply with whatever modification is necessary to give effect to the commercial intention of the parties.

22 Entire agreement

22.1 These Terms, and any documents referred to in them, constitute the whole agreement between the parties and supersede any previous arrangement, understanding or agreement between them relating to the subject matter they cover.

22.2 Each of the parties acknowledges and agrees that in entering into the Agreement it does not rely on any undertaking, promise, assurance, statement, representation, warranty or understanding (whether in writing or not) of any person (whether party to the Agreement or not) relating to the subject matter of the Agreement, other than as expressly set out in the Agreement.

23 Assignment

23.1 The Client shall not, without the prior written consent of Preservica, assign, transfer, charge, sub-contract or deal in any other manner with all or any of its rights or obligations under the Agreement.

23.2 Preservica may at any time assign, transfer, charge, sub-contract or deal in any other manner with all or any of its rights or obligations under the Agreement.

24 No partnership or agency

Nothing in the Agreement is intended to or shall operate to create a partnership between the parties, or authorize either party to act as agent for the other, and neither party shall have the authority to act in the name or on behalf of or otherwise to bind the other in any way (including, but not limited to, the making of any representation or warranty, the assumption of any obligation or liability and the exercise of any right or power). For purposes of this Agreement, each party shall be and act as an independent contractor.

25 Third party rights

The Agreement does not confer any rights on any person or party (other than the parties to the Agreement and, where applicable, their successors and permitted assigns).

26 Notices

26.1 Any notice required to be given under these Terms shall be in writing and shall be delivered by hand or sent by pre-paid first-class post or recorded delivery post to the other party at the addresses given in the Order or such other address as may have been notified by that party for such purposes, or sent by fax to the other party's fax number as also set out in the Order.

26.2 A notice delivered by hand shall be deemed to have been received when delivered (or if delivery is not in Business Hours, at 9 am on the first business day following delivery). A correctly addressed notice sent by pre-paid first-class post or recorded delivery post shall be deemed to have been received at the time at which it would have been delivered in the normal course of post. A notice sent by fax shall be deemed to have been received at the time of transmission (as shown by the timed printout obtained by the sender).

27 Governing law and jurisdiction

27.1 The Agreement and any disputes or claims arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) are governed by, and construed in accordance with, the law of the Commonwealth of Massachusetts, without regard to the conflicts of law provisions thereof.

- 27.2 The parties irrevocably agree that any dispute or claim that arises out of or in connection with the Agreement or its subject matter or formation (including non-contractual disputes or claims) shall be brought exclusively in the in the state courts of Suffolk County, Massachusetts or the United States District Court for the District of Massachusetts (having territorial and subject matter jurisdiction over such dispute). The parties hereby consent to such exclusive jurisdiction and venue. Client hereby consents to personal jurisdiction as set forth herein.

Preservica Policies Online

These Terms

http://us.preservica.com/terms/Terms_And_Conditions.pdf

Acceptable Use Policy

http://us.preservica.com/terms/Acceptable_Use_Policy.pdf

Support Service Policy

http://us.preservica.com/terms/Support_Service_Policy.pdf

Privacy Policy

http://us.preservica.com/terms/Privacy_Policy.pdf

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

AGENCY NAME: James Madison University

CONTRACTOR NAME: PRESERVICA INC

DATE: 3-27-2017

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.

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 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;
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.

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

Printed Name

CONTRACTOR by

Title

Printed Name

JUL 2009



50 MILK STREET, 16TH FLOOR, BOSTON, MA 02109

December 12, 2016

LeeAnne Beatty Smith
Buyer Senior Procurement Services
James Madison University
Procurement Services MSC 5720
752 Ott Street, Suite 1023
Harrisonburg, VA 22807

Dear LeeAnne and the JMU Review Committee,

In response to your **RFP # LBS-945, Long-Term Digital Preservation and Storage Solution**, Preservica is pleased to provide a widely-adopted solution that confidently meets all six of the bulleted items on page 1 (*Section IV. Statement of Needs*) and as you read the detailed response to the questions from page 2-6, you will see the advanced capabilities ready to put into practice and use today.

The proposed solution, **Preservica Cloud Edition (CE)** is based on more than a decade of development and deployments in libraries, archives, and museums around the world and currently is in its 5th generation (version 5.7). Preservica's long term commitment to international standards means you can be applying the recommended practice (OAIS) while **streamlining workflows, simplifying your infrastructure (software and systems) and minimizing impact on IT** and your organization.

As requested, included are (5) references from colleges and universities of all sizes, from a school with 1600 students to an ARL with petabytes of content tied to the reputation of the institution. This diversity validates the **value and flexibility**, not too onerous, but also **highly credentialed and trusted** as the trustworthy digital repository for the most valued collections of institutions of all sizes.

While other approaches might mean using a combination of tools, and storage providers, **Preservica provides clean lines of responsibility, communication, and support**. The Preservica team develops, and supports the total solution, from ingest, characterization, indexing, metadata, file format obsolescence, access and storage. Configurable workflows are at your disposal locally and via a browser yet the application is entirely off-premise, managed in a highly credentialed, secure computing environment.

Backed by a professional help desk and flexible training options, Libraries & Educational Technologies (LET) at JMU can begin to use the solution in the first training session (about 90 minutes). **The recommended practice entails much more than storing and Preservica helps automate those important steps needed to enable authenticity and permanence of your digital collections.**

Also mentioned in this proposal is the Enterprise Edition, which provides a growth path into the future as your needs evolve and your interest in creating custom workflows, high end scale (petabytes) or interest in running the application yourself becomes a requirement.

The solution you choose is important, as is the organization that backs it. Preservica is an **ISO 9001: 2008 and ISO 27001: 2013** certified organization that is committed to providing best quality and a secure service every time. We are looking forward to working with you in 2017 to finalize this important decision.

If you have any additional questions, please email or phone and we will be glad to be of assistance.

Yours sincerely,

Mike Thuman
Associate Vice President
Preservica Inc.
50 Milk Street, 16th Floor, Boston, MA 02109
E: mike.thuman@preservica.com, T: (1) 435 655-2814 C: (1) 585 734-3129

REQUEST FOR PROPOSAL
RFP # LBS-945

Issue Date: November 14, 2016
Title: Long-Term Digital Preservation and Storage Solution
Issuing Agency: Commonwealth of Virginia
James Madison University
Procurement Services MSC 5720
752 Ott Street, Wine Price Bldg.
First Floor, Suite 1023
Harrisonburg, VA 22807

Period of Contract: From Date of Award Through Three Years (Renewable)

Sealed Proposals Will Be Received Until 2:00 p.m. on December 13, 2016 For Furnishing The Services Described Herein.

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 540/568-7523 (Fax) 540/568-7936 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.

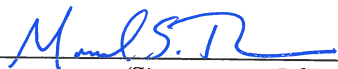
Name and Address of Firm:

Preservica Inc.

50 Milk Street, 16th Floor

Boston, MA 02109

Date: December 8, 2016

By: 
(Signature in Ink)

Name: Michael S Thuman
(Please Print)

Title: Associate VP

Phone: 435.655.2814

Web Address: www.preservica.com

Fax #: not available

Email: mike.thuman@preservica.com

ACKNOWLEDGE RECEIPT OF ADDENDUM: #1 MS #2 MS #3 _____ #4 _____ #5 _____ (please initial)

SMALL, WOMAN OR MINORITY OWNED BUSINESS:

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

Preservica is not pre-registered as a small business under SWaM, however it will qualify as a small business once registered. Preservica Inc's revenue and number of employees will meet the criteria. If required, we will register as a SWaM pursuant to an award of contract by JMU.

I. STATEMENT OF NEEDS

JMU seeks an experienced Contractor that can provide all related software, professional services, implementation services, training, and staff required for a turnkey digital preservation and off-premise (*dark archive*) digital storage solution. Specifically, the solution must:

- Support processing and long-term preservation of curated digital content;
- Enable efficient long-term maintenance and storage of unique born-digital and digitized content;
- Ensure authenticity of digital materials through compliance with national and international digital preservation and metadata standards;
- Allow for multiple units within JMU's LET, with different processes and workflows, to seamlessly use the solution;
- Facilitate access of stored content;
- Provide off-premise storage of digital content through traditional hosting or Software-as-a-Service (SaaS).

The Contractor shall have available and be able to demonstrate the use and functions of the following components and/or features of a digital preservation and off-premise (*dark archive*) digital storage solution. It is expected that any proposed software will already be fully developed, tested, offered publicly for sale and available immediately for use. For this project, the University is not interested in custom developed software. Describe in detail the manner in which each item is addressed by the system.

A. Product Description

1. Overview of Solution and Services

- a. Provide an executive summary of the proposed solution including, but not limited to, name, version, included modules, and optional modules.

Preservica's Technology Overview

Preservica's technology has been built specifically to deal with the problems of digital preservation in libraries, archives and other organisations facing the challenge of very long-term retention of digital content (sufficiently long-term that access to the material will inevitably be put at risk by the obsolescence of the software or hardware used to create it).

The primary purpose of the Preservica technology is to retain digital information objects for the long term and to provide access to these information objects in current technologies by recognising and working within the cycle of inevitable technology changes. The main driver for the design of the system has been to retain information reliably despite the software and hardware replacements that occur over time. Similarly, the ability to maintain authenticity is paramount.

Preservica's technology is a true preservation system containing both "passive" and "active" preservation functionality:

"The AIA Digital Repository is an easy way for staff to store and find our permanent digital content, and it's a preservation system to keep those permanent files uncorrupted and readable for decades to come"

Nancy Hadley, Sr. Manager, American Institute of Archivists (Washington, DC)

- Preservica provides “passive preservation” to ensure that information objects can be securely stored, managed and accessed;
- Most importantly however, it also provides “active preservation” functionality to maintain the information objects despite changes in technology including those that alter the physical file structure.

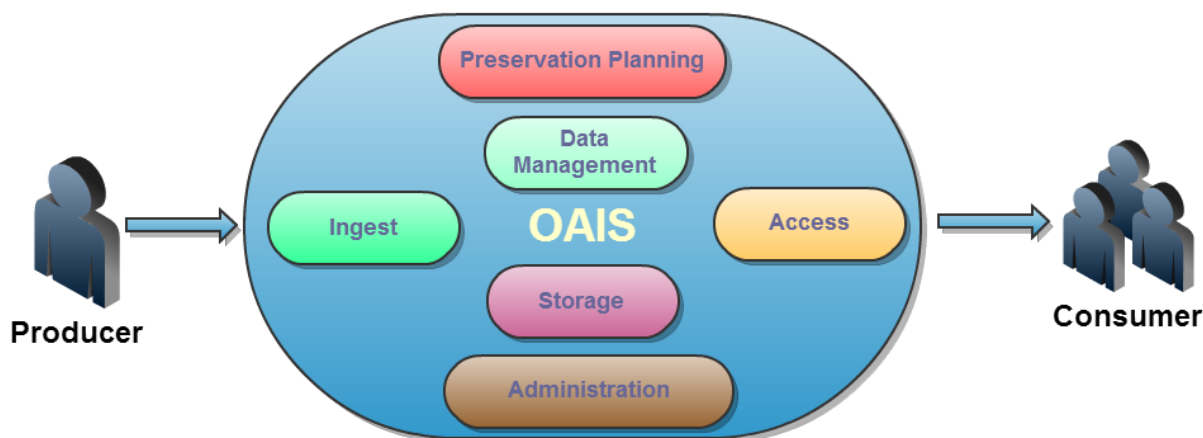
Thus, while it is quite common to find systems that store and allow access to stored information, Preservica additionally provides a framework and real tools to allow archivists and librarians to actively preserve their content in the truly long-term.

The whole Preservica product range (including ingest, workflow and passive preservation functionality and the data model behind it) has been designed with the needs of “active preservation” in mind and this is the core driver for the functionality that Preservica provides.

Based on the needs and requirements expressed in this RFP, the proposed solution is the Preservica Cloud Edition (CE), version 5.7. It is the most widely adopted Preservica Edition in the U.S. and has helped staff members quickly become digital preservation practitioners while requiring the least amount of resources in terms of people and systems, in fact you would not need any additional headcount to use the solution now, nor any new systems. It’s also highly economical and has easy options to grow as needs evolve.

All Editions of Preservica are based on the Open Archival Information System (OAIS) reference model (ISO standard 14721:2012) which provides a functional and information model to describe data repositories.

The functional entities of this are shown below:



Preservica Company Overview

Preservica is a world leader in digital preservation technology, consulting, and research. Our active preservation solutions are used by leading archives, libraries, museums, government organizations and businesses across 4 continents to safeguard and share their valuable digital content, collections, and electronic records for decades to come.

“The combination of features along with the extensible nature of its architecture will allow us to scale and connect with other systems as we grow. Our goal is to create a sustainable infrastructure to ensure long-term access to our digital collections.”

Euan Cochrane, Digital Preservation Mgr., Yale University

The award-winning Preservica active preservation and access technology is available in cloud hosted and on premise Editions and includes a full suite of OAIS (Open Archival Information System) compliant workflows for ingest, management, storage, access and long-term preservation of digital content. Preservica invests in many research initiatives in digital preservation and is a well-respected member of many international collaborations with academia, archives, libraries and corporations at the leading edge of this emerging field.

Preservica was operating as a specialist division inside the Tessella group, the international analytics, software services and consultancy company. Tessella has been at the forefront of Digital Preservation research, implementation, and delivery since the late 1990s. The two are now separate companies.

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

Preservica supports a range of open standards across its range of services and components, Preservica is designed to hold and preserve data in any file format and therefore is not limited to any specific format types. Preservica uses the industry standard DROID file format identification tool along with data from the PRONOM file format registry.

Metadata

Preservica supports XML encoded metadata in Unicode (UTF-8), Preservica can hold descriptive metadata using any well-formed XML schema, examples include standard schema's such as MODS, METS, Dublin Core, EAD, MarcXML etc. In addition, Preservica can hold custom XML schemas created for a specific use or organisation.

Storage

Preservica supports a wide range of storage protocols for both on-premise, NAS/SAN and cloud storage, these include:

- NFS
- SMB
- iSCSI
- AWS S3
- AWS Glacier
- MS Azure
- EMC Atmos

Metadata Harvesting

Preservica supports two different standard based web service (HTTP) protocols for querying and retrieving digital content and metadata in addition to its own REST based web services:

- Protocol for Metadata Harvesting (OAI-PMH)
- Content Management Interoperability Services (CMIS)

Package Formats

- Bagit
- DSpace
- ZIP files
- MS Outlook PST
- MS SharePoint CMP
- Mbox format
- Lotus Notes NSF

c. Describe any copyright compliance and access control.

Preservica has a sophisticated security model built on content tags which mark the records as open, closed, public, restricted, etc., user roles, and access privileges such as view metadata, edit metadata, delete.

For each tag in the system, an administrator can define which user roles have which privileges, and thus determine which users can access the records, and for what purposes.

These security tags are applied to each object in the submission package (a default tag will be applied if none is specifically defined) and remain associated with the objects in the archival package until such time as a sufficiently authorized user changes them.

They are thus defined through the entire life-cycle of the object. Before any operation involving that object, Preservica will determine which user is making the request and whether they have sufficient authority to perform the operation.

A sampling of Preservica's built-in system roles are:

ADMIN_USER - These users have full access to all system functionality

MANAGER_USER - These users have access to all functional areas of the system but are restricted from some system-wide activities including defining Storage Adapters, uploading reports and workflow definitions, and changing system settings.

ACCESS_USER - These users have access to the Explorer interface, search functionality, and reports and workflows based on access functionality. They are able to run export workflows for example, but they do not have access to create new workflow contexts.

INGEST_USER - These users have access to the reports and workflows based on ingest functionality. They are able to run ingest workflows but they do not have access to create new workflow contexts.

DATA_MANAGEMENT_USER - These users have access to the reports and workflows based on data management functionality. They are able to run data management workflows but they do not have access to create new workflow contexts.

TRANSFORM_USER - These users have access to the reports and workflows based on preservation functionality. They are able to run preservation workflows but they do not have access to create new workflow contexts. These users also have read access to the Technical Registry.

REGISTRY_ADMIN_USER - These users have access to modify the Technical Registry.

SUBMITTER_USER - This role is primarily for CE usage, users with this role have no access to the main application functionality but may be granted access to some content (via CMIS or REST API calls).

ANONYMOUS_USER - These users have no access to the main application functionality but may be granted access to some content (via CMIS or REST API calls).

Each of these roles can be granted permissions on specific content tags; further custom defined roles can also be used to grant permissions on specific content tags.

Users belong to one or more permission groups and administrators can select which groups have access to which operations on which security tags.

The permissions available in Preservica are:

- Read Metadata
- Edit Metadata
- Read Content
- Delete Entities
- Insert Entities
- Read Permissions
- Change Permissions

Preservica allows an unlimited set of security tags and user groups to be created which allows all security models to be satisfied.

- d. Specify the number of academic libraries where this solution is currently running in a production environment. Provide a list of no less than five (5) academic libraries that are current clients who JMU can contact for references.

See Attachment A, Offeror Data Sheet for academic library references. In addition, here is a sampling of Preservica's projects that may be of interest.

Preservica User Community

A commitment to permanence and access to digital content over long or permanent retention periods requires a correspondingly long term vision backed by a commitment to support and growth. Preservica is well supported in this way and has attracted an active and growing user community that appreciates our commitment to the product. A sampling of Preservica projects includes:

- Colleges, Universities, and Public Libraries:
 - University of Illinois at Urbana-Champaign
 - The University of Manchester

- Yale University
- Emerson College
- Bates College
- Berea College
- Bowling Green State University
- DePaul University
- Loyola University of Chicago
- Michigan Technological University
- Grand Valley State University
- Pomona College
- University College London
- University of Liverpool
- University College Dublin
- University of Glasgow
- University of Richmond
- Dundee University
- DC Public Library (Martin Luther King Jr Central Library, Washington DC)

- e. Describe the development methodology used for the product including details about testing and release implementation phases.

Preservica uses an Agile software development methodology based around Scrum and has 2 to 3 major releases a year. The Preservica Product Manager acts as Product Owner and is responsible for managing the product backlog. The product backlog contains user stories provided by both Preservica to meet its long-range vision and our customer base through the user community.

Each new release is tested extensively by Preservica development and QA staff. An installation guide and set of release notes come with each new release to provide instruction on upgrading the system. **Preservica Cloud Edition upgrades are done by Preservica and users are notified when the upgrades are to be completed.**

- f. Describe the process for determining enhancements to the system.

Preservica works closely with its user group and customer base to determine the enhancements that will help the customers the most. **At the recent Society of American Archivists conference in Atlanta, GA, the US Preservica users group meeting allowed the users in attendance to vote on the enhancements they most wanted to see in the upcoming releases.** Preservica carefully considered the outcome of this vote and then prioritized these enhancements into development cycles and release schedules.

In addition, the Preservica product manager has an internal road map of future enhancements which is updated based on international digital preservation projects which we think will be of value to our customers. Preservica will also track the development of new tools used for file format characterization and migration etc.

- g. Provide an outline of the long-term preservation strategy for content deposited in the system that provides details on vendor vs. customer responsibilities.

Preservica's long term preservation strategy involves providing continual access to the information deposited through a format migration process when digital objects are either deemed obsolete or only available in formats which are not suitable for public access.

Preservica during the ingest process will build up a comprehensive technical description of the material it holds, for example detailed file format information, validity against format specification and essential characteristics. This information can be used to determine if the material is either in danger of becoming obsolete generally or just not in the most appropriate dissemination format.

For example, images from a digitization program ingested into Preservica in JP2000 format may not be obsolete and may be in the preferred long term preservation format but are still not in a suitable format for general access and therefore could be migrated on ingest to JPEG format automatically using a standard Preservica policy.

Born digital material may also be found in unsupported audio visual formats or old office documents which can be migrated to newer supported versions in addition to making access copies available.

- h. Describe staffing requirements and technical skills required of the University to support the proposed system.

Cloud Edition

The Preservica cloud edition does not require any additional staff since the operation of the system is carried out by Preservica. The Preservica operations team will provide the day to day system administration and support, this will involve tasks such as server maintenance, security patches, database backups and disaster recovery etc.

Enterprise Edition (On-Premise)

The on premise edition will require periodic system administration and database administration resources. For example, applying security patches to servers and database backup procedures. This work can form part of the University's existing server operations.

Preservica can use servers and databases already in use by the University so no additional technical skills are required.

2. Functionality (General)

- a. Provide information regarding compliance with the OAIS Reference Model (ISO 14721) and any steps taken towards certification under ISO 16363, Trusted Digital Repositories, if applicable.

Overview

Preservica Cloud Edition (CE) and Enterprise Edition (EE) contain all the functions required to deliver advanced Digital Preservation, as specified in the Open Archives Information System (OAIS) reference architecture (ISO 14721:2012):

- **Ingest:** These are the steps required to transfer items from their current location into the archive in a managed manner
- **Archival Storage:** The storage of the bulk information (usually files) within local, network and cloud storage systems
- **Data Management:** Tools to manage the information structure and metadata descriptions
- **Administration:** A set of tools to administer the system and manage access to the content and tools
- **Access:** Tools to search, browse and download the contents of the archive
- **Preservation Planning and Action:** The unique "Active Preservation" module that manages the information so that it can be accessed long into the future

Ingest

Ingest allows users to load information into the archive in a managed and efficient manner. Preservica CE and EE provides:

- Locally installable (optional) “SIP Creator” to
 - Build submission packages from locally held files
 - Assign descriptive metadata from fragments created elsewhere or by using a GUI
 - Select where in the hierarchy to place the submission
 - Submit content securely to Preservica
- Upload content directly via browser (no local tool required)
- Create and ingest a website snapshot by crawling a user supplied URL
- Ability to upload DSpace packages and Bagit Bags
- Ingest directly from Microsoft SharePoint, PastPerfect and CONTENTdm
- Preserve email Microsoft Outlook (MSG, PST), Gmail and Lotus Notes
- Workflow steps to perform quality assurance including:
 - Virus checking
 - Checksum verification
 - Checking permitted file formats
 - Checking metadata schema compliance
 - Metadata consistency
- Built in technical metadata extraction required for preservation (for more see Preservation below)
- Optional workflow to migrate file formats on ingest using user defined migration pathway (normalization)
- Automated storage processes:
 - Index selected metadata and content
 - Coordinate storage passing the material into the archival database and cloud storage
- Manual and automated workflows to perform all the ingest processes required

Archival Storage

- Preservica can store content within a local drive and network drive provided by the customer and cloud storage (Amazon Web Services).
- A range of storage types are supported
 - Simple file system (e.g. Windows or Linux servers, Axiom Pillar)
 - Network Attached Storage (NAS) / Storage Attached Network (SAN)
 - Hierarchical storage management(HSM) systems (e.g. FileTek’s StorHouse on a Sun server, Oracle SAM-QFS)
- Option to have hybrid on premise and cloud storage. Different information can be stored in different locations
- Options for how information is saved on the drive:
 - Arrange the information physically to mimic the logical hierarchy or keep at single level
 - Optionally save an additional copy of the metadata to this drive
- Integrity checking of all objects held in storage
 - Checksums calculated on storage for each copy
 - Checksum re-calculated on access or at regular timed intervals on files at rest
 - Confirmation by Preservica that when a file is accessed, it is the same as the file loaded in ingest using its own checksum (choose from MD5, SHA-1, SHA-256, SHAR-512)
 - Ability to save selected portions of the collection to an external FTP server

- Ability to split collection between local storage, network storage, Amazon S3 (fast storage) and Amazon Glacier (slow, lower cost storage)

Data Management

Preservica contains a range of capabilities to allow users to manage the metadata that describes the content:

- Metadata is held in an internal MySQL database. Alternatively use an existing external Oracle, MySQL, or SQL Server database
- Descriptive metadata can select from one or more standard metadata schemas provided (display and edit templates included)
 - Encoded Archival Descriptor (EAD) 2002
 - MODS 3.4
 - Dublin Core 1.1
- Alternately, descriptive metadata can make use of user provided descriptive metadata schemas
 - Add XML schema definition
 - Add transforms to present and edit the schema (XSLT)
 - Add templates to allow metadata with default values to be quickly added to information objects
- Content management functions provided:
 - Assign one or more metadata fragments to an information object (file, record / deliverable unit, collection)
 - Edit descriptive metadata on any information object
 - Hard delete information objects with approval steps and optional time limited recovery
 - View the audit trail of information and digital objects
- Unlimited information hierarchy, with digital objects held at any level
- Drag and drop to organize and reorganize content and create virtual hierarchies
- Synchronize catalogue metadata and collection structure from Axial CALM, Adlib and ArchivesSpace

Access

Preservica provides a Web based “Explorer” to allow the browsing, searching, viewing, and downloading of all metadata and content:

- Interactive features:
 - Explore the collection hierarchy, drilling down to information objects of interest
 - View the files and all metadata (description and audit trail) for any information object
 - View technical metadata for files
 - Thumbnail preview of files (for selected file formats)
 - Download any manifestation (representation) of an entire information object or selected file
 - In-browser rendering to view, listen, or play content without having to download the file
- Search tools including:
 - Full text search of permitted file formats and metadata
 - Logical search functions (AND OR NOT etc.)
 - Fielded searches incorporating searching over any registered descriptive schema
 - Limit search to within a selected collection or deliverable unit
- External access
 - ‘Public Access’ a brandable Web based portal to provide advanced search and easy access to collection content
 - Integration with content management systems via CMIS interface (read only)
- Workflows

- Launch Access workflows, for example creating a Dissemination Information Package (DIP) for download or delivery, transforming metadata for download into preferred schema either using the provided METS transform or a user provided transform, and sending notifications by e-mail and/or text when the DIP is ready for download
- Launch Data Management workflows for a specific information object, for example delete or move
- Ability to control access to content (or content and metadata) through roles and access control lists (see Administration)

Preservation Planning and Action

- Organization and Planning:
 - Uses File Format Registry based on the UK National Archives PRONOM database
 - Ability to perform preservation planning based on risks stored in the registry, or by simple selection of formats. This includes the ability to select preservation and presentation actions and to select migration pathways
 - Growing list of file formats recognized (currently 1200) and migration pathways (currently 587)
- Edit the Format Registry to add custom formats
- Characterizing the collection:
 - Ability to perform file-level characterization including format identification, format validation and property extraction using best available tool
 - Ability to perform component identification and measurement of component-level essential characteristics (e.g. Web pages)
- Migration
 - Ability to perform migrations including post-migration verification of component-level essential characteristics
 - Ability to create new “Digital Master “preservation copies
 - Ability to create lower quality presentation copies used for dissemination
 - Ability to see and compare pre- and post- migration component information
- Support for Long Term Non-Permanent Records
 - Automatically classify and set access permissions during ingest
 - Automate future actions (e.g. appraise, delete) based on policy rules
 - Search by classification
- Standard tools provided including:
 - Identification / Characterization: DROID 6, JHOVE (JPEG, PDF, HTML, JPEG2000, AIFF, XML, TIFF, GIF, PNG), Native XML (validation only), Java Image IO (for image formats), Jakarta POI (for MS Office), Media Info (for video formats), Entagged Library (for audio formats)
 - Migration: for example, Native Java Image library (most image formats), Oracle Open Office (various office formats to PDF and PDF/A), Imagemagick (most image formats), FFMPEG (various AV formats, Handbrake (for web friendly video)
- Ability to perform embedded object extraction and iterative file-level characterization within container formats (e.g. ZIP, GZIP, TAR, MS Office)
- Implementation of all Preservation Actions via the standard workflow engine allowing more complex pathways or actions to be automated

Administration

- Includes a set of standard reports produced in PDF, XML, or CSV formats:
 - Ingest Reports
 - Access Reports
 - Data Management Reports
 - Preservation Reports

- Administration Reports
- Create and Upload custom reports
- Administration
 - Maintain Transfer Agreements with content suppliers
 - Manage schemas used for content description
- User Management
 - Create and suspend users
 - Create roles and assign to users
 - Users requested new password
- Comprehensive security model for information objects
 - Define tags saying which actions can be performed by which user roles
 - Assign tags to collections and records (deliverable units) allowing fine grain user access control to information objects

Preservica has conducted a self-assessment of the application functionality against the ISO 16363 specification.

This standard is an assessment of the organization performing long-term preservation: not specifically of the software or technical infrastructure supporting it. Hence, using a given system cannot guarantee that an organization will comply with the standard. In Preservica's self-assessment only section 4 (Digital Object Management) and section 5 (Infrastructure and Security Risk Management) were found to have software dependent requirements, of which there were 59 in total. Of these 59 requirements, Preservica was assessed to be fully compliant with 57 and partially compliant with the other 2 requirements.

The full report of this self-assessment is available on request.

- b. Provide an overview of how the proposed solution houses, creates, stores, makes discoverable and/or delivers locally created digital content.

Preservica is a long-term preservation system repository with a digital asset management and public discovery portal. The system is based on a workflow engine which manages the various aspects of long term preservation such as ingest, access and preservation.

The digital objects are stored in one or more storage devices connected to Preservica and the structural, descriptive and technical metadata is stored in a relational database. Search is provided through the Solr search engine to provide discoverability of records and metadata. Applications exist to browse, search content and metadata via the user interface or via web services.

Preservica provides multiple methods for users to ingest a variety of digital objects and packages into the storage platform and allows for multiple copies using storage policies. Content is maintained in storage as preservation and/or presentation copies of each digital object.

Preservica maintains this content and enables users and administrators to run data management and preservation activities on the contents to keep it up to date.

Content is stored in a set of collection hierarchies defined by the users. These collections are automatically indexed during ingest and made searchable. Non-Preservica users either inside or outside your organization can search and view the content through the Universal Access portal provided by Preservica. Only content assigned as viewable to user groups through Universal access is available.

Preservica administrators have total control over access to digital content in the Preservica Archive.

- c. Describe how menus are used within the system and describe available menu customizations and configurations (*specify any associated cost in Section X. pricing Schedule*).

Preservica Menu system consists of a menu dropdown for each of the major activities users and administrators engage in on an ongoing basis.

1. **Dashboards** - Setting up reports that show Preservica activity and usage for all archive workflows
2. **Ingest** – Operate, review, manage and report on ingest workflows
3. **Access** – Explore, search, report and download ingested content
4. **Preservation** – manage the different stages of preservation workflows that migrate digital objects to current presentation formats.
5. **Data Management** – manage workflows that manage, move and manipulate the data/content held in the Preservica system
6. **Administration** – manage and administer all system activities including, users, security, schemas, transfer agreements, workflow definitions, reports, sources, collections, storage policies and adaptors and manage user accounts.

- d. Describe any additional customizations available (*specify any associated costs in Section X. Pricing Schedule*).

Preservica is designed to be extensible to accommodate a wide range of customers, industries and specific requirements. The customizations are done by configuring the various features of the Preservica system to meet the needs of the customer.

Cloud Edition

Customers can configure workflows, schemas, metadata viewers and editors, fielded metadata searching, transfer agreements, faceted search, preservation policies, catalogue integration with Adlib, ArchivesSpace or CALM. There is no cost associated with doing these things.

Enterprise Edition (On-Premise)

Preservica Enterprise Edition has all the same configuration features as the Cloud Edition and in addition customers have access to the full SDK and can add custom workflows using any additional software packages needed for their preservation plans.

- e. Describe how the proposed solution allows for multiple LET units, with various workflows and processes, to easily manage digital collections.

The Preservica system is designed as a multi-user system that enables multiple users at varying levels of security and access rights, to ingest, view, manage, preserve, and search the contents of the Preservica archive. Each user has a profile, is assigned roles and permissions within those roles, to accommodate his/her required job responsibilities within the Preservica environment. A set of activities that require various workflows and access rights are set up for these users to enable them to perform their work. A Preservica system administrator would be responsible for setting up these user profiles and managing them over time.

- f. Detail supported formats, including web-based and multimedia formats; describe any limitations on digital content.

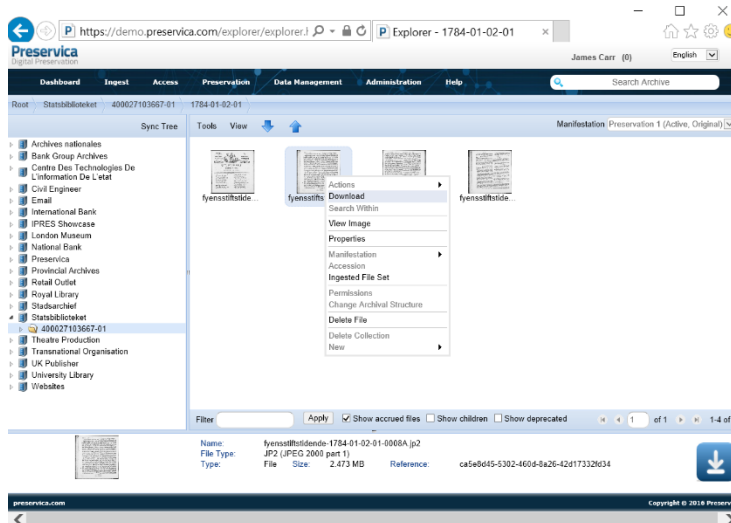
Preservica can ingest and store digital content in any file format. During the ingest process Preservica can identify over 1,200 file formats and currently has 587 migration pathways to transform and preserve these digital files in the technical registry database. The extensible nature of Preservica enables the addition of formats and migration pathways that are needed. There are no limitations on the type of the digital content Preservica can hold.

Preservica is used for a vast range of heterogeneous content including but not limited to:

- Research data from educational establishments
- Institutional records including minutes, publications (books, videos), election results, geospatial (map) data, emails and education records
- Video and audio archives including News Feeds, Music, interviews, books on tape and recordings of all types
- Confidential information pertaining to individuals
- Historical documents, often digitized from physical originals
- Web site snapshots, in ARC and WARC format.
- Compliance and legal information
- SharePoint data (.cmp files)
- EMAIL packages including .pst and MBOX files
- Image files including scanned photographs, born digital photography and digital art
- Films, Television and other multimedia content.

- g. 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.

Individual files and metadata can be exported from the system via the main repository explorer interface. In addition, a wide variety of digital objects can be rendered directly in the web browser without having to download the file to the user's computer and use a local application to view the content.



In addition, you can select one or more records or collections and initiate a dissemination workflow. This will extract all objects, build a hierarchy, extract the metadata into XML form and build a compressed file (ZIP or TAR) ready for extraction.

Depending on the workflow, you can include all manifestations (representations) of the content or just one, and you can take the metadata in the form it is held or converted to a standard format, for example extracting the descriptive fields as MODS or Dublin Core, or extracting a fuller set of metadata in METS (with embedded PREMIS elements).

Once created these compressed files can be downloaded using the browser interface over HTTP.

Cloud Edition

Preservica Cloud Edition includes a “fair use” or allocation of free downloads per year from the S3 storage area. If the customer exceeds the limit, a charge does apply. The download limit is 250% of the storage allowance per year and the excess charge is \$ 600.00 per additional 1 TB. To date, none of the Preservica CE customers have exceeded this fair use amount including State Archives which provide open access to public records via Preservica.

Enterprise Edition (On-Premise)

There are no built-in limits on the size and number of files which can be exported from an Enterprise Edition system, the limit will be due to practical limitations due to the hardware infrastructure used.

- h. Provide an overview of the system’s capabilities for producing reports, including report output formats.

Preservica includes a range of reports in text and graphical format. Preservica uses an industry standard open source reporting framework called JasperReports.

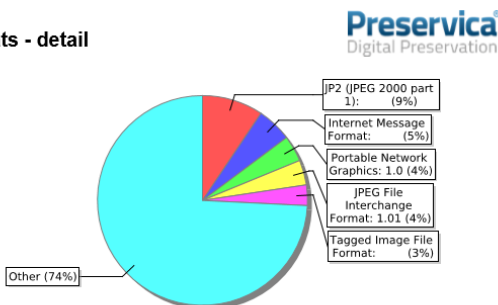
Users can run these reports from the application or automate the process so that reports are emailed to them.

Reports are generated as follows:

- Text reports in PDF, CSV for Excel, or XML
- Graphical reports on screen

The following is an example report from Preservica showing the breakdown of the repository by file format.

File formats - detail



File format	Version	Format puid	Frequency
JP2 (JPEG 2000 part 1)		x-fmt/392	435
Internet Message Format		fmt/278	248
Portable Network Graphics	1.0	fmt/11	186
JPEG File Interchange Format	1.01	fmt/43	178
Tagged Image File Format		fmt/353	146
Acrobat PDF 1.2 - Portable Document	1.2	fmt/16	136
Encapsulated PostScript File Format	3	fmt/124	120
Plain Text File		x-fmt/111	109
Windows Bitmap	3.0	fmt/116	93
Extensible Markup Language	1.0	fmt/101	85
GZIP Format		x-fmt/266	75
Acrobat PDF 1.4 - Portable Document	1.4	fmt/18	75
Hypertext Markup Language	4.01	fmt/100	75
Microsoft Word Document	97-2003	fmt/40	74
Microsoft Excel 97 Workbook (xls)	8	fmt/61	73
JPEG File Interchange Format	1.02	fmt/44	66
Truevision TGA Bitmap	1.0	x-fmt/367	58
WARC		fmt/289	51
Adobe Photoshop		x-fmt/92	47
Microsoft Word Document	6.0/95	fmt/39	38
dBASE Database	III	x-fmt/9	37
WordPerfect for MS-DOS/Windows	6.0	x-fmt/44	37
Windows Bitmap	2.0	fmt/115	36
Microsoft Excel 5.0/95 Workbook (xls)	5/95	fmt/59	35

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The major features of Preservica have a set of reports associated with them as follows:

- Ingest: submissions, record ingest rate, file ingest rate
- Preservation: file formats present, format identification problems,
- Storage: integrity check history
- Access: downloads, log-ins,
- Data Management: awaiting appraisal, appraisal decisions

A management dashboard is provided, that includes reports such as ingest rates, job queue performance, file formats, and user log-ins. Each user can lay-out their reports as they wish so they are generated live when reaching the home page.

Enterprise Edition (On-Premise)

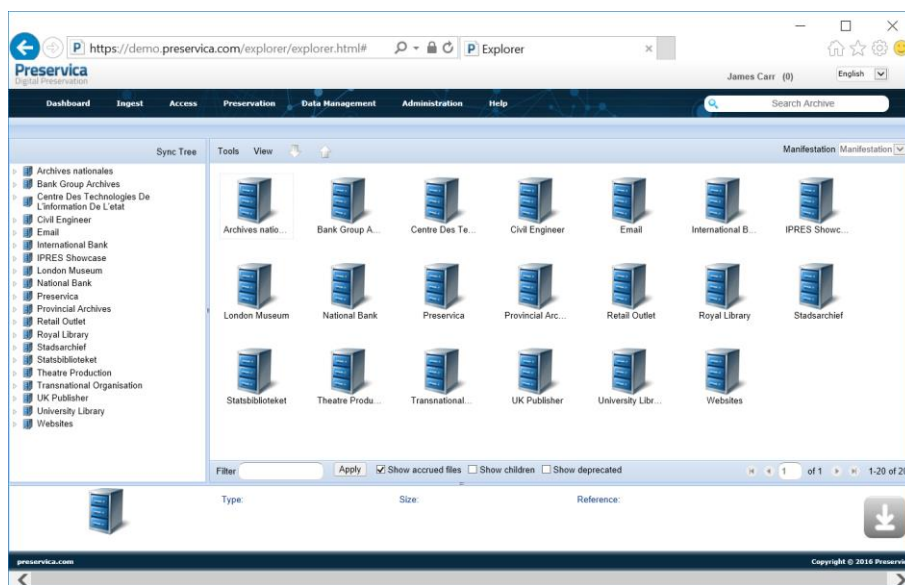
Preservica users can design and add their own reports in Preservica Enterprise Edition.

3. Functionality (Digital File Processing)

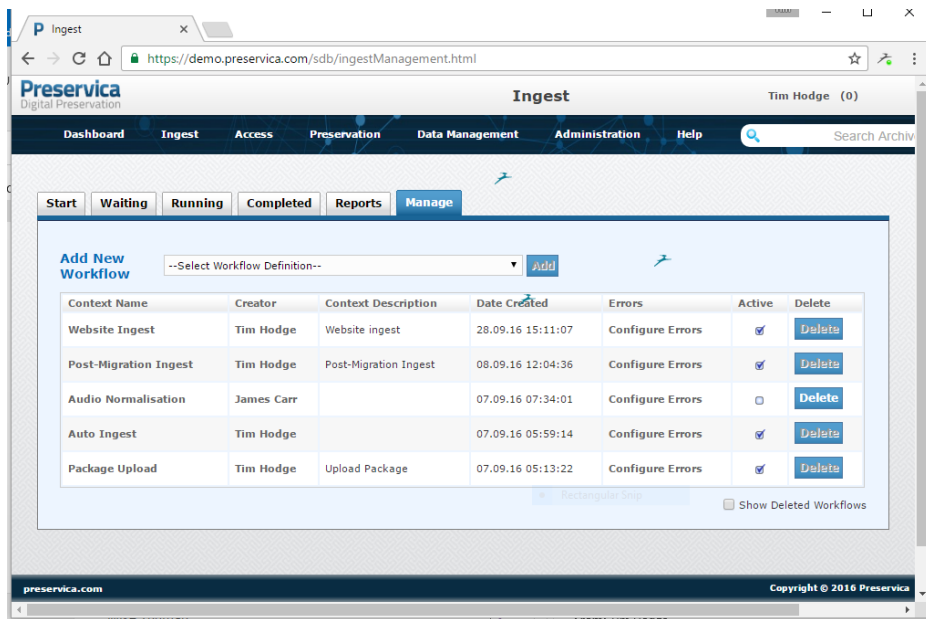
- a. Describe the user interface including any options for locally and externally hosted configurations.

The main Preservica user interface is a Browser based interface that has a menu item for each of the OAIS functional areas, Ingest, Access, Preservation, Data Management, and Administration. In addition, there is a Dashboard menu for storing frequently used system reports and a help menu for accessing documentation and downloading the desktop tools such as the SIP creator and Upload Wizard.

An example of the Explorer view from the access menu is shown below. The Explorer interface enables the user to perform many of the Preservation operations on the archive including, ingesting, viewing, searching, and exporting content, in addition to the digital asset management type functionality.



Within each menu dropdown there is a selection to access/view each of the phases a workflow goes thru, Start, Waiting, Running, and Completed. There is also a Report selection that enables the user to run reports on the workflows that have run and a manage tab that enable the user to manage the workflows for the specific OAIS process. A view of the ingest screen is shown below.



The Preservica user interface also consists of a set of tools you can download and install on your laptop to make it easy to build and upload submission packages:

- A simple Upload Wizard tool that can be pointed at a folder or a container file that contains the information you wish to preserve. The user then fills out a metadata form designed by you and the material is uploaded to the storage area(s) (This depends on your storage policy)
- A SIP Creator tool that is used to select folders of information, set various options, incorporate metadata from files on the drive, edit the metadata and upload it to the cloud or to your Storage Area(s) (This depends on your storage policy)
- A Transfer Agent used to upload very large submission packages in a controlled manner. This can be run on your laptop or a network server.

b. Describe predefined workflows. Describe the University's ability to create custom workflows.

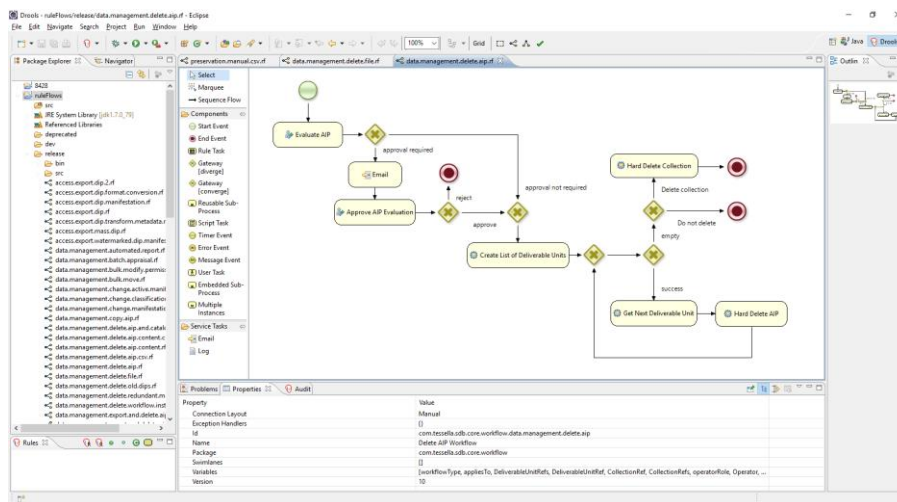
Cloud Edition

Preservica has a comprehensive set of commonly used workflows to facilitate the creation and maintenance of a living Preservation system. The following is a list of the functional areas that make up the pre-defined workflows that will handle the bulk of the preservation work. These workflows can be configured by authorized users in many ways to enable the customer to accomplish the preservation tasks needed

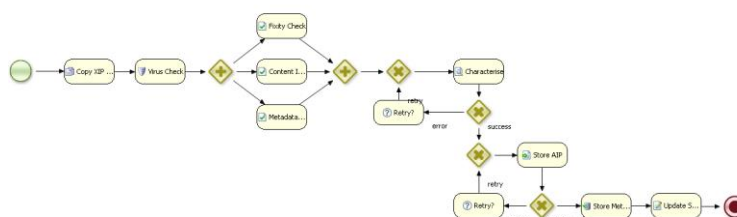
- Ingest
- Preservation
- Access
- Data Management

Enterprise Edition (On-Premise)

Preservica provides a powerful and extensible workflow engine which can be reconfigured or even extended. Preservica Enterprise Edition allows custom workflows to be created with new plugins and tools to provide additional functionality for use in quality assurance, data management and preservation planning. Workflows can be created graphically using a plugin for the open source Eclipse IDE.



Preservica provides a fully configurable workflow engine based on the open source jBPM <http://www.jbpm.org/> suite. jBPM is an open-source workflow engine written in Java that can execute business processes described in XML notation. In essence jBPM takes graphical process descriptions as input. A process is composed of tasks that are connected with sequence flows. Processes represent an execution flow. The graphical diagram (flow chart) of a process is used as the basis for the communication between non-technical users and developers.



Each execution of a process definition is called a "process instance". jBPM manages the process instances. Some activities are automatic like sending an e-mail or invoking a service. Some activities act as wait states, like for example human tasks or waiting for an external service to return results. jBPM will manage and persist the state of the process instances at all times.

jBPM also provides various tools for developers (Eclipse) to create and manage the workflow definitions.

Within Preservica, a jBPM process is referred to as a Workflow Definition. A Workflow Definition is a specific arrangement of a number of (small) processing tasks (or workflow steps) to achieve a specific business need.

Preservica is supplied with a number of standard workflow steps and standard workflow definitions.

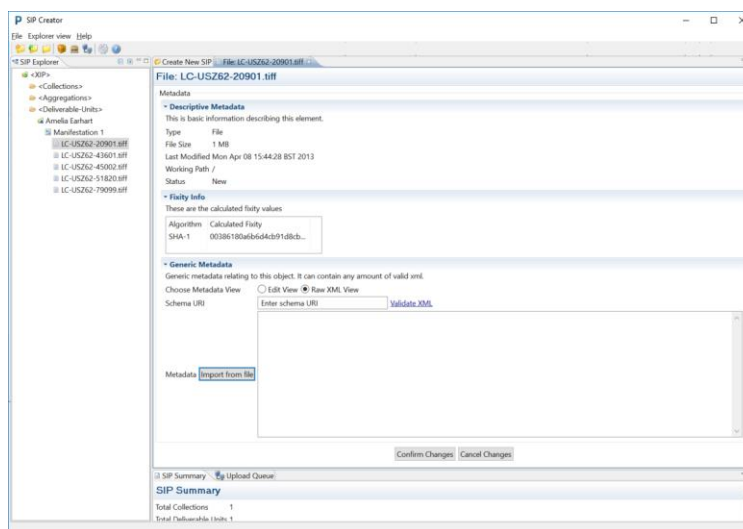
Typically, workflow definitions will be loaded when Preservica is installed and will be changed infrequently thereafter. Workflow definitions are created in the form of XML files, and the ability to upload these files into the Preservica system is restricted to the Preservica Administration role.

Each workflow definition has a defined Workflow Type, which indicates the functional area of the system that it applies to (i.e. ingest, preservation, access, data management).

Using Preservica's Java APIs, Enterprise Edition customers can develop their own Workflow Definitions, re-using steps from Preservica's standard workflows, or developing their own custom code to perform actions not available in the default steps.

- c. Describe the ingest process including ingest of individual files and batch ingest. Provide the recommended maximum of files per batch ingest, if applicable.

The ingest process requires files be contained in a Submission Information Package (SIP). Preservica provides a lightweight SIP Creator desktop application to help create these packages.



To ingest a new submission information package (SIP) into the Preservica system, you will need a valid SIP. Each SIP should contain all the files you wish to ingest, along with a valid metadata file (an XML file containing metadata about the ingested files). Preservica's SIP creator program will build a valid SIP for ingest. The Preservica system requires that the XML file conforms to the XIP standard.

Often SIP packages are created by an external system and if these are not in Preservica format, a client-specific workflow step is used to convert the source package to Preservica format. If it is necessary to create a SIP package from source files the SIP Creator is available as a lightweight tool to generate the metadata file describing the collection of files and add this into the SIP along with the collection of files (the SIP's content files). The SIP Creator generates SIPs that conform to the Preservica standard and can be imported into Preservica without conversion.

Once generated the SIP should be “exported” to the filesystem folder specified as the source file location in the workflow context.

Preservica provides multiple workflows to ingest digital objects from a SIP and store the contents and metadata. Preservica can automatically create SIPs from several types of content including:

- Outlook PST files.
- Mbox mailbox files (e.g. Gmail mailbox exports).
- Lotus Notes mailbox files
- SharePoint CMP files.
- Zipped file containing DSpace, BagIt, METS or CONTENTdm export packages.
- Zipped file containing any folder hierarchy including metadata files

Additionally, the Preservica SIP Creator can be used to manually create SIPs from any source folder with the option to add custom metadata to this SIP.

The Upload Wizard is a simple tool that can be pointed at a folder or a container file that contains the information you wish to ingest. The user then fills out a metadata form designed by the customer and the material is uploaded to the storage area(s) (This depends on your storage policy)

The transfer agent is used to ingest very large submission packages in a controlled manner. This is a tool that can be loaded on your laptop and used to manage large bulk ingests of content.

Preservica submission packages have been tested up to the following

- Contain up to 100,000 files
- Have a total SIP size of up to 100GB

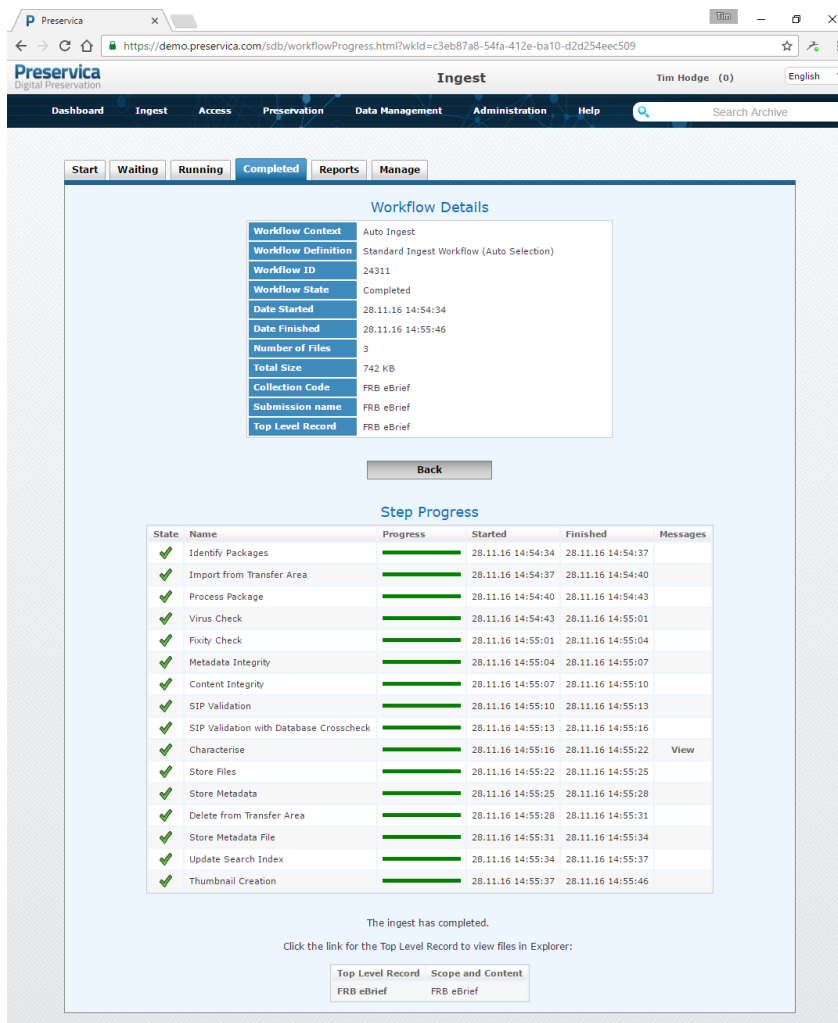
There is a bulk upload option that can be used and the mechanism for that can hold 80TB of data at a time. Multiple 80TB devices can be used as well.

Preservica Edition (On-Premise)

The size of submission packages that Preservica can handle will depend on the hardware configuration but will not be less than this.

d. Describe automated single file and batch ingest functionality including:

Preservica has an automated ingest workflow that monitors a submission area for any SIPs ready for ingest. This can be for single files or large SIPs containing 1000s of files. Each file is processed according to the ingest workflow. The steps are shown in the diagram below.



Workflow Details

Workflow Context	Auto Ingest
Workflow Definition	Standard Ingest Workflow (Auto Selection)
Workflow ID	24311
Workflow State	Completed
Date Started	28.11.16 14:54:34
Date Finished	28.11.16 14:55:46
Number of Files	3
Total Size	742 KB
Collection Code	FRB eBrief
Submission name	FRB eBrief
Top Level Record	FRB eBrief

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Step Progress

State	Name	Progress	Started	Finished	Messages
✓	Identify Packages	100%	28.11.16 14:54:34	28.11.16 14:54:37	
✓	Import from Transfer Area	100%	28.11.16 14:54:37	28.11.16 14:54:40	
✓	Process Package	100%	28.11.16 14:54:40	28.11.16 14:54:43	
✓	Virus Check	100%	28.11.16 14:54:43	28.11.16 14:55:01	
✓	Fixity Check	100%	28.11.16 14:55:01	28.11.16 14:55:04	
✓	Metadata Integrity	100%	28.11.16 14:55:04	28.11.16 14:55:07	
✓	Content Integrity	100%	28.11.16 14:55:07	28.11.16 14:55:10	
✓	SIP Validation	100%	28.11.16 14:55:10	28.11.16 14:55:13	
✓	SIP Validation with Database Crosscheck	100%	28.11.16 14:55:13	28.11.16 14:55:16	
✓	Characterise	100%	28.11.16 14:55:16	28.11.16 14:55:22	View
✓	Store Files	100%	28.11.16 14:55:22	28.11.16 14:55:25	
✓	Store Metadata	100%	28.11.16 14:55:25	28.11.16 14:55:28	
✓	Delete from Transfer Area	100%	28.11.16 14:55:28	28.11.16 14:55:31	
✓	Store Metadata File	100%	28.11.16 14:55:31	28.11.16 14:55:34	
✓	Update Search Index	100%	28.11.16 14:55:34	28.11.16 14:55:37	
✓	Thumbnail Creation	100%	28.11.16 14:55:37	28.11.16 14:55:46	

The ingest has completed.

Click the link for the Top Level Record to view files in Explorer:

[Top Level Record](#) [Scope and Content](#)

FRB eBrief FRB eBrief

i. Fixity generation

A fixity value or checksum is part of the required metadata for each file in a SIP (and an AIP). Preservica supports the use of the MD5, SHA-1, SHA-256 and SHA-512 algorithms for generating this fixity value and multiple values can be provided for a single file (i.e., an MD5 and SHA-1 value for the same file). This checksum must be generated as part of the SIP creation process. The SIP Creation tools provided will create the fixity values during the SIP creation process.

ii. Verification of fixity values of original and item following ingest

Preservica will detect corrupt data during the ingest process to guarantee that corrupt files cannot be stored within the repository. The SIP metadata holds the fixity value which was created during the SIP creation, the fixity values for each file are then re-calculated as part of the ingest workflow.

Preservica holds a least one and potentially multiple fixity values for each digital object. Supported algorithms include:

- MD5
- SHA-1
- SHA-256
- SHA-512

Administrators can configure Preservica to do periodic fixity checking after ingest which requests files from the storage device, measures the fixity value and compares the result with the value held in the metadata store. This process will detect if a digital file has become corrupt on the storage device.

The administrator can decide how often the checks are run. If the system has been configured to hold multiple copies of digital objects, then Preservica can be configured to automatically repair any damaged file it finds.

iii. Virus check

Virus checking is performed as part of the standard steps in an ingest workflow. Preservica records the results of each anti-virus scan as part of the virus check event metadata associated with each accession of files. The Ingest workflow also records the results of the virus check and can be configured to halt or terminate the workflow if required. Preservica records the anti-virus software version used as part of the virus check event metadata associated with each accession of files.

Preservica Enterprise Edition currently supports the following virus scanning software out the box.

- Symantec Endpoint Protection 12.1
- AVG Command Line Windows or Linux
- Kaspersky Anti-Virus 6.0 for Windows or Workstations 5.7 for Linux
- McAfee Command Line 8.5 8.7.0i P3
- Symantec Scan Engine 4.3
- Sophos 7.6 Windows

Preservica Cloud Edition includes full virus check and its bundled and integrated into the CE implementation.

iv. File characterization

Preservica will automatically perform the following file characterization including validation and analysis during the standard ingest process:

Unlike some systems Preservica is not reliant on just the file name to determine the type of files in a submission since this is prone to error. Preservica uses the file format identification tool DROID which was developed by Preservica in conjunction with the UK National Archives to accurately identify files based on internal signatures. The internal signatures are held in Preservica's linked data registry.

Within Preservica file characterization is a three-step process.

- File format identification. Preservica's Technical Registry contains a "signature" for each format that represents a bit level search term that allows the format to be positively identified. Preservica uses the open source DROID software to use this signature to identify which formats a particular file matches. In practice, it can be complex to distinguish between similar variants and further steps to validate the formats are needed. This is automatically built in. Preservica can currently identify around 1200 different formats specifically by signature.

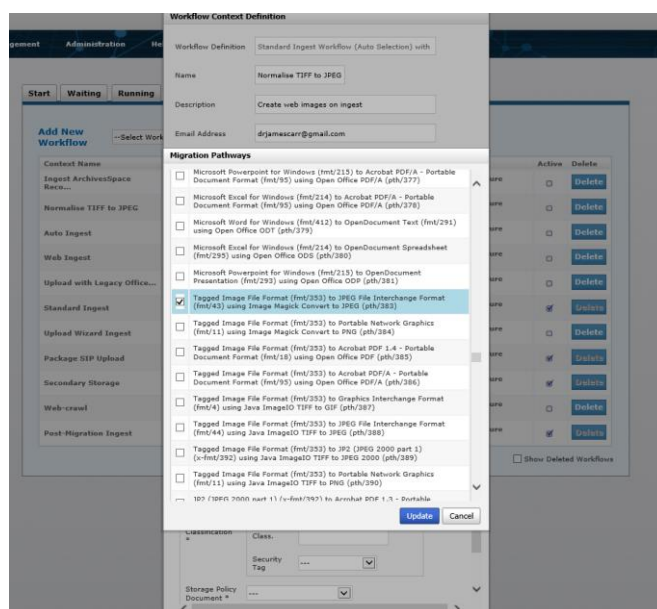
- Validation. Once a file format has been identified, Preservica can perform validation for a number of file types; this depends on the availability of published format definitions and validation tools.
- Property Extraction. Preservica extracts as much information as possible to support it when it needs to migrate the files. These essential characteristics of each file are extracted using a range of tools that is always growing. The characteristics depend on the format, so for documents this may include the number of pages, words and characters, and for movies would include the frame rate and running time.

- e. Describe any ability for automated normalization of files and ability to control or override those features.

Preservica provides normalization workflows out the box which allow presentation or long term preservation surrogates to be created automatically on ingest.

The workflows can be setup to implement the preservation policy of the organization.

The screenshot below shows the workflow configuration form which allows the user to select which formats will be migrated to new digital surrogates and which tool which carry out the migration.



Collection Code	JMU University
Submission name	Amelia Earhart
Top Level Record	Amelia Earhart

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Step Progress

State	Name	Progress	Started	Finished	Messages
✓	Identify Packages	<div></div>	19.10.16 09:37:47	19.10.16 09:37:52	
✓	Import from Transfer Area	<div></div>	19.10.16 09:37:52	19.10.16 09:37:58	
✓	Process Package	<div></div>	19.10.16 09:37:58	19.10.16 09:38:01	
✓	Virus Check	<div></div>	19.10.16 09:38:01	19.10.16 09:38:22	
✓	Metadata Integrity	<div></div>	19.10.16 09:38:22	19.10.16 09:38:25	
✓	Content Integrity	<div></div>	19.10.16 09:38:25	19.10.16 09:38:28	
✓	Fixity Check	<div></div>	19.10.16 09:38:28	19.10.16 09:38:31	
✓	SIP Validation	<div></div>	19.10.16 09:38:31	19.10.16 09:38:34	
✓	SIP Validation with Database Crosscheck	<div></div>	19.10.16 09:38:34	19.10.16 09:38:37	
✓	Characterize	<div></div>	19.10.16 09:38:37	19.10.16 09:38:43	View
✓	Store Files	<div></div>	19.10.16 09:38:43	19.10.16 09:39:07	
✓	Store Metadata	<div></div>	19.10.16 09:39:07	19.10.16 09:39:10	
✓	Store Metadata File	<div></div>	19.10.16 09:39:10	19.10.16 09:39:13	
✓	Update Search Index	<div></div>	19.10.16 09:39:13	19.10.16 09:39:16	View
✓	Thumbnail Creation	<div></div>	19.10.16 09:39:16	19.10.16 09:39:22	
✓	Format at Risk	<div></div>	19.10.16 09:39:22	19.10.16 09:39:28	
✓	Preservation Planning 1	<div></div>	19.10.16 09:39:28	19.10.16 09:39:31	
✓	Update Entity Status	<div></div>	19.10.16 09:39:31	19.10.16 09:39:34	
✓	Preservation Planning 2	<div></div>	19.10.16 09:39:34	19.10.16 09:39:37	
✓	Preservation Planning 3	<div></div>	19.10.16 09:39:37	19.10.16 09:39:40	
✓	Migration	<div></div>	19.10.16 09:39:40	19.10.16 09:39:46	View
✓	Store Migrated Files	<div></div>	19.10.16 09:39:46	19.10.16 09:39:49	
✓	Store Migrated Metadata	<div></div>	19.10.16 09:39:49	19.10.16 09:39:52	
✓	Store Migrated Metadata File	<div></div>	19.10.16 09:39:52	19.10.16 09:39:55	
✓	Update Search Index (Migrated)	<div></div>	19.10.16 09:39:55	19.10.16 09:39:58	View
✓	Thumbnail Creation (Migrated)	<div></div>	19.10.16 09:39:58	19.10.16 09:40:04	
✓	Delete from Transfer Area	<div></div>	19.10.16 09:40:04	19.10.16 09:40:07	

Migration can also be performed at any time after ingest, over a subset of records or the entire repository.

Multiple automated ingest workflows can be defined that contain different normalization lists. These workflows can be activated and deactivated as needed.

- f. Describe system abilities to track actions performed on digital content (*audit trails*) and versioning.

All actions that are implemented within the application (ingests, DIP creation, metadata edits, deletions, file format migrations, integrity checks etc) are recorded as an audit trail for each individual object. This records the user initiating the action (where applicable), the timestamp of the action, and the details of any changes made. The details of each workflow run (including which steps were run and any warnings or errors generated) are also recorded and, where appropriate, linked to from the affected object's audit trail.

The full audit trail for each object can be displayed on demand through the application GUI and exported as a report in CSV, XML or PDF format.

List of audited activities:

- Creation of collections and records, ingest of content
- Insertion, changes and deletion of metadata (descriptive and technical)
- Changes to the structure and permissions
- Deletion of files, records, and collections
- Preservation actions (characterization, migration)
- Access of material (downloads, dissemination package creation)
- Validation of storage (integrity check events)

User activities

- User login

System activities

- The creation and change of workflows, reports, schemas, XML documents and various tenant properties
- System configuration changes

Registry

- Insertion, change and deletion of file format definitions, migration pathways and migration tools

Workflows

- Detailed workflow audit trail including each workflow step status and messages

- g. Describe the verification and validation of formats, including specific tools and format registries utilized.

Preservica incorporates its own Linked Data Registry of file format information. It is based on the UK National Archives' PRONOM database, which we helped develop. This database contains a list of around 1,200 file formats that have been identified and documented. This includes a list of their properties and the software that can create and read these files, along with ownership information.

Preservica's registry contains the ability for remote update and information sharing. In practice the UK National Archives (who use Preservica) operate as the master registry and we copy and distribute their definitions.

The Linked Data Registry contains a "signature" for each format that represents a bit level search term that allows the format to be positively identified. Preservica uses the open source DROID software to use this signature to identify which formats you are loading.

In practice, it can be complex to distinguish between similar variants and further steps to validate the formats are needed. **This is automatically built in.**

Preservica will automatically perform the following validation and analysis during the standard ingest process:

- **Metadata validation.** Preservica will ensure that the supplied package metadata is valid XIP metadata. It will ensure the content and metadata integrity such that each digital file in the submission package has a corresponding metadata record, and each file listed in the metadata is present in the package. Preservica does not validate embedded metadata by default, although a custom step to perform such validation could be developed using the Preservica APIs. This would be for Enterprise Edition only.

- **File format identification.** Preservica's Technical Registry contains a "signature" for each format that represents a bit level search term that allows the format to be positively identified. Preservica uses the open source DROID software to use this signature to identify which formats a particular file matches. In practice it can be complex to distinguish between similar variants and further steps to validate the formats are needed. This is automatically built in. Preservica can currently identify around 800 different formats specifically by signature.

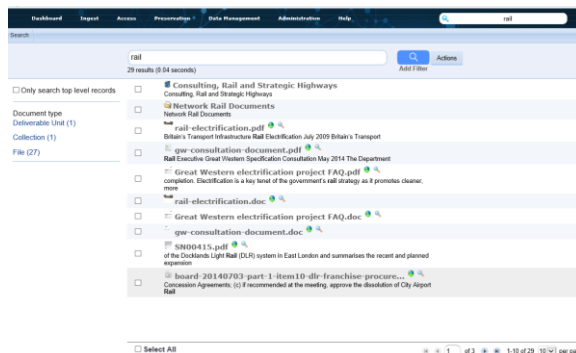
- **Validation.** Once a file format has been identified, Preservica can perform validation for a number of file types; this depends on the availability of published format definitions and validation tools. Examples of validation tools include, JHOVE (JPEG, AIFF, TIFF, PDF, GIF, HTML, JP2000, PNG, WAVE) and OpenOffice.

- **Property Extraction.** Preservica extracts as much information as possible to support it when it needs to migrate the files. These essential characteristics of each file are extracted using a range of tools that is always growing. The characteristics depend on the format, so for documents this may include the number of pages, words, and characters, and for movies would include the frame rate and running time.

Examples of validation tools include, MediaInfo, JHOVE, DCRAW, SleuthKit, OLE2, EXIF

h. Describe the search capabilities within the proposed solution for ingested content.

All Preservica content and selected metadata fields can be indexed using the in-built SOLR search engine.



This allows users to make use of the power of SOLR to search using a variety of rules including the following:

Explorer, Universal Access and the APIs

- Full text search of all content and the selected metadata fields
- Use of logical operators and brackets for “(John AND Smith) NOT (Helen AND Jones)”
- Limit searches to within certain collections

Explorer and Universal Access

- Fielded searches using metadata to build complex queries

Universal Access only

- Faceted searches using selected metadata terms such as object type, date and collection

In Universal Access you can link through to the identified object for viewing or download. In addition, in the Explorer interface you can kick off a collection management action with the search results, for example move or delete.

i. Describe any ability to create manifests, including manifest content. Provide a sample manifest.

Preservica supports a number of tools and file packages that either are, or create, ingest ready containers or packages. Zip, TAR, Outlook .pst files can all be exported to Excel to create a manifest of the files/objects that will be ingested. Bagit, a file packaging program that was developed by the Library of Congress, produces a file package that is easily ingested into Preservica. The Bagit package has a manifest included in the package. Preservica has a powerful desktop tool, SIP creator, that packages files for ingest into Preservica. The SIP package created can be exported as a ZIP file and from there the contents can be exported to Excel which is a way to create a manifest. Preservica has a reporting function that enables the user to print out a report of all ingested records or objects. These reports can be created using a date range to isolate groups of ingested records. An example of an ingest report is below.

Ingested files

		Start	08 December	Total	27
		End	08 December	Total	14.3 MB
Top Level DU Catalogue Reference / Description	Date Ingested	File Name	Manifestatio	File Size	
Authors					
Authors	08 December 2016				
		Macbeth_consulting_the_Vision_of_the_Armed_Head.jpg	1	25.9 KB	
		Shakespeare.txt	1	2.88 KB	
		Frontispiece_to_Frankenstein_1831.jpg	1	188 KB	
		Henry_Puseli_rendering_of_Hamlet_and_his_father's_Oh	1	399 KB	
		delete_me.txt	1	11.0 bytes	
		Millais_-_Ophelia_(detail).jpg	1	3.21 MB	
		84.txt	1	438 KB	
		Sonnets-Titelblatt_1609.png	1	145 KB	
		Sanders_portrait2.gif	1	1.23 MB	
		Mary_Shelley.txt	1	3.81 KB	
		RothwellMaryShelley.gif	1	729 KB	
		Frankenstein1910.gif	1	67.0 KB	
		ShakespeareMonument_cropped.jpg	1	286 KB	
		WordPerfect_for_MS-DOS_5.0.wpd	1	1.39 KB	
		delete_me.txt	1	11.0 bytes	
		Pity.jpg	1	68.4 KB	
		shaka12.txt	1	5.32 MB	
		FrankensteinDraft.jpg	1	70.8 KB	
		Shakespeare.jpg	1	527 KB	
		Mary_Shelley.docx	1	13.5 KB	
		Frankenstein.mov	1	299 KB	
		First_Folio.gif	1	81.7 KB	
		Shakespeare.jpg	1	22.5 KB	
		Frankenstein's_monster_(Boris_Karloff).gif	1	397 KB	
		Oberon,_Titania_and_Puck_with_Fairies_Dancing.	1	81.9 KB	
		84-h.htm	1	452 KB	
		Punch_Anti-	1	336 KB	

12/8/16 6:35 PM

Page 1 of 1

4. Functionality (Metadata)

- Describe any support for automated extraction of metadata from individual files.

Preservica automatically extracts technical metadata from digital files according to policies defined in the Technical Registry. The type of properties extracted depend on the nature of the file format and the availability of software tools for measuring these properties.

Preservica also performs a higher-level “conceptual” characterization, where “components” of the record are identified. These components correspond to high-level identifications of the type of digital information, for example, a record containing one TIFF and one JPEG would have two “Image” components. For each of these components the technology independent significant properties are recorded (e.g., image dimensions, number of pages, video length etc.).

The Technical Registry also contains the policy determining which properties of the digital file are recorded as the significant properties of the higher-level component.

This metadata is stored with the file and cannot be edited. Additional metadata is added to the file if any activity is performed on that file. This audit trail is maintained for the life of the file. A sample of the basic metadata is shown below.

LC-USZ62-20901.tiff

Description Technical Metadata History

File Properties

Name	Value
Samples Per Pixel	1
Byte Order	little-endian
Bits Per Sample	[8]
Y Sampling Frequency	1200/1
X Sampling Frequency	1200/1
Sampling Frequency Unit	inch
Colour Space	black is zero
Image Height	1536
Image Width	1164
Compression Type	uncompressed

- b. Detail the metadata encoding schemas and content standards supported by the system, including but not limited to XML, Encoded Archival Description (EAD), Metadata Object Description Schema (MODS), Dublin Core, Visual Resources Association Core (VRA Core), PBCore, and PREMIS. Detail plans for incorporating future containers, alternative vocabularies and cataloging description methods.

Preservica supports the following schemas out of the box:

- Dublin Core
- METS
- MODS
- EAD
- XIP

However, you can add your own schema at any time.

Custom metadata may be added to the system. This custom descriptive metadata must be held in XML form. All you need to do is upload the schema description (XSD) file and an example empty document which is used when the user asks to add new metadata.

To make this new schema usable you also need to upload style sheets (XSLT) to convert this schema into HTML for display and edit and a style sheet to convert it into name value pairs for the CMIS API. While this isn't programming it does require some IT knowledge so we can help you with it as part of your support service

- c. Describe support for thesauri, taxonomies, and standard language.

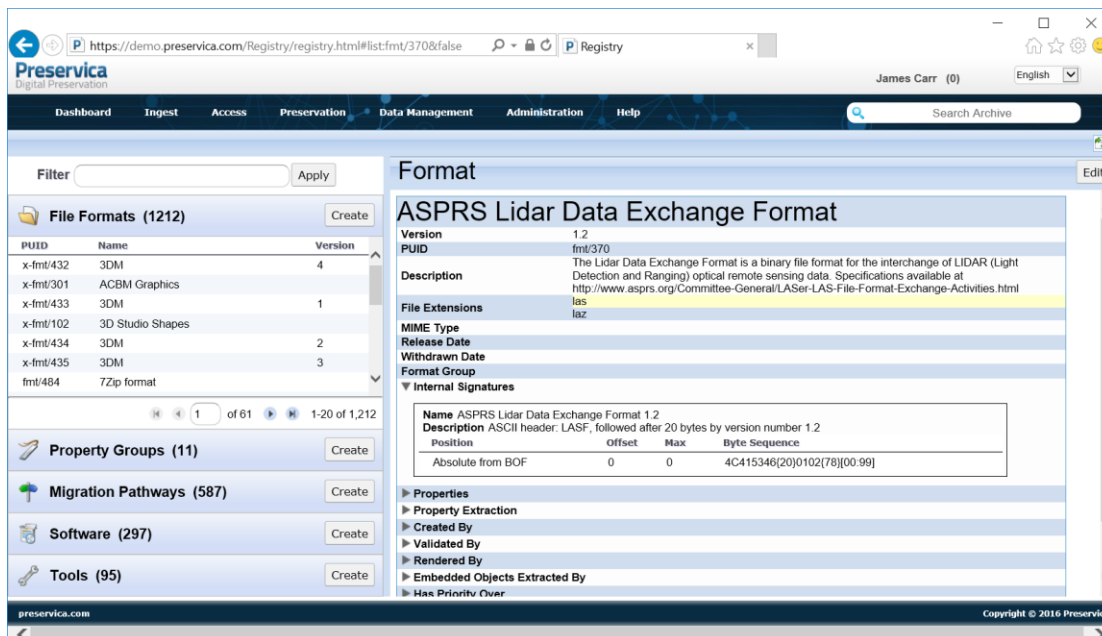
Currently Preservica does not support controlled vocabularies for editing metadata. Although pre-defined XML templates can be loaded as descriptive metadata for intellectual entities.

- d. Describe support for Linked Data model technologies (e.g. Microdata, RDFa, JSON-LD, other RDF standards).

The Preservica Linked Data Registry stores information about, file formats, software and tools.

The registry holds both the factual and policy information in a triple-store and can serialize the data in RDF and XML formats.

The registry provides web services to query and update the information.



e. Describe the process for updating metadata records, including any batch process.

Preservica handles metadata editing in the Explorer GUI using XML transforms that generate editable HTML forms from any valid XML metadata used in the Archive (see first screenshot below for an example). These already prevent a number of fields such as the unique identifier, from being modified. Custom XML transforms can be used in place of the defaults provided which could further prevent some fields from being presented as editable. These XML transforms can be created by customers, a third party company or Preservica and they can be uploaded via the Preservica User Interface without requiring any code change or interruption of the service (see second screenshot below).

All changes to the metadata of a digital object are recorded and previous metadata states can be reverted in the case of an accidental modification.

Dublin Core Schema

Creator	
Subject	Dry plate negatives--1900-1910.
Publisher	Library of Congress
Contributor	
Type	
Source	Library of Congress Prints and Photographs Division Washington, D
Rights	
No known restrictions.	

XML Schemas	XML Transforms	XML Documents				
Name	XSD Input	XSD Output	Purpose	Context	Remove	Download
ContentDM to XIP	ContentDM ▼	XIP ▼	Transform ▼	▼	Remove	Download
DC Editor	OAI_DC ▼	XHTML 1.0 ▼	Edit ▼	▼	Remove	Download
DC to CMIS	Simple DC X ▼	Simple CMIS ▼	Transform ▼	▼	Remove	Download
DC Viewer	OAI_DC ▼	XHTML 1.0 ▼	View ▼	▼	Remove	Download
Dublin Core Editor	Simple DC X ▼	XHTML 1.0 ▼	Edit ▼	▼	Remove	Download
Dublin Core Viewer	Simple DC X ▼	XHTML 1.0 ▼	View ▼	▼	Remove	Download
EAD Digital Editor	EAD 2002 W ▼	XHTML 1.0 ▼	Edit ▼	▼	Remove	Download
EAD Digital Viewer	EAD 2002 W ▼	XHTML 1.0 ▼	View ▼	▼	Remove	Download
EAD Paper Editor	EAD 2002 W ▼	XHTML 1.0 ▼	Edit ▼	▼	Remove	Download
EAD Paper Viewer	EAD 2002 W ▼	XHTML 1.0 ▼	View ▼	▼	Remove	Download

123

Add New XSLT Transform

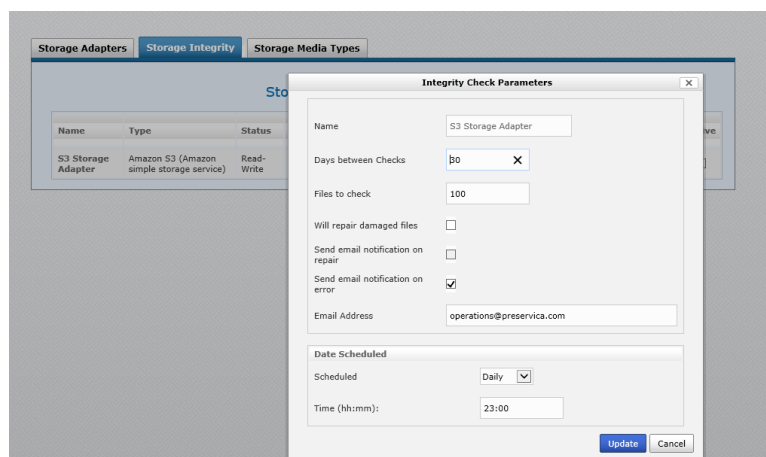
- f. Describe safeguards, data validation, error detection, and other system support for ensuring accuracy and integrity of records.

Preservica ingest workflows have a number of steps which provide data validation and quality control. These include comprehensive checks of the submission package to make sure it is consistent with the repository it is going to be ingested into. In addition, the fixity and validity of the digital files is checked during the ingest process.

Preservica also periodically checks the fixity of files stored in every defined storage location. The interval at which files are checked and the checksum algorithms are configurable. The checksum of each file is verified against values stored in the system database. Preservica supports MD5, SHA-1, SHA-256 and SHA-512.

Preservica periodically checks files stored in every defined storage location. The interval at which files are checked and the checksum algorithms are configurable. The checksum of each file is verified against values stored in the system database.

Preservica records integrity check events and their results, file repairs attempted and their results. These can be audited by running management reports.



g. Describe the ability to extract, manipulate, and reload data.

AIPs can be exported from Preservica as DIPs, re-processed and subsequently re-ingested as SIPs. Depending on the nature of the processing, this may have the effect of creating a new AIP, updating the existing AIP, or creating a new version of the existing AIP. Preservica can maintain multiple “Manifestations” (versions in the sense of ISO14721) of an AIP. The metadata for these manifestations record the AIP ID, and thus they are linked at the AIP level. These manifestations can be created outside of Preservica or within Preservica as part of its Preservation activities.

Logically, the complete metadata record for a given AIP may contain the metadata record for all, or a subset of the manifestations of that AIP (both of which satisfy the definition of AIP). Most business metadata may be edited through Preservica’s “Explorer” GUI, without needing to explicitly export and re-ingest the information package.

h. Describe interoperability and data/content synchronization with other systems, including library catalogs, discovery tools, and repositories, including but not limited to OAI-PMH, SOAP, RESTful APIs.

We currently provide integration with the following systems:

- Axiell CALM
- Axiell Adlib
- ArchivesSpace (see description behind Additional Information tab)

In each of these we support metadata management within the catalogue system with changes being replicated to Preservica, and various actions (e.g. ingest) in Preservica being replicated to the catalogue using a user supplied

map between the data in the catalogue and the data in Preservica. We are gradually extending the level of integration to include full two-way synchronization between the systems.

Preservica Cloud Edition user can also make use of the CMIS API and OAI-PMH web services for interoperability.

Preservica Enterprise Edition also provides machine readable interfaces including a REST API, CMIS API and OAI-PMH interface for accessing data, and a SOAP-based web-service for external workflow control. The application tier is a series of Java based applications, using J2EE standards. Preservica requires the Java 7 JRE or JDK to be installed.

- i. Describe other notable metadata capabilities.

Custom metadata may be added to the system. This custom descriptive metadata must be held in XML form. All you need to do is upload the schema description (XSD) file and an example empty document which is used when the user asks to add new metadata.

To make this new schema usable you also need to upload style sheets (XSLT) to convert this schema into HTML for display and edit and a style sheet to convert it into name value pairs for the CMIS API. While this isn't programming it does require some IT knowledge so we can help you with it as part of your support service

5. Functionality (Preservation Storage)

- a. Describe method of storage (*internal servers, cloud storage, etc.*) including:
 - i. commercial content providers utilized, replication strategy,
 - ii. geographic diversity of storage,
 - iii. steps taken to ensure secure storage of content, including back-up protocols and schedules,
 - iv. process and costs associated with retrieving files from all storage methods.

Preservica Cloud Edition

Preservica cloud edition provides two storage options AWS S3 and AWS Glacier.

S3 is a low latency object store. It is designed to deliver 99.999999999% durability, and scale past trillions of objects. Data is encrypted during transit and can be also encrypted at rest. The Data is redundantly stored across multiple AWS facilities and multiple devices in each facility.

Amazon Glacier is a low cost and high-latency storage system which provides a highly durable storage infrastructure designed for long-term data archival storage. It is designed to provide average annual durability of 99.999999999% for an archive. The service redundantly stores data in multiple facilities and on multiple devices within each facility. To increase durability, Amazon Glacier synchronously stores your data across multiple facilities before confirming a successful upload.

Requests for digital objects from Amazon Glacier can take 3-4 hours to be completed.

To prevent corruption of data packets over the wire, Amazon Glacier uploads the checksum of the data during data upload. It compares the received checksum with the checksum of the received data to detect bit flips over the wire. Similarly, it validates data authenticity with checksums during data retrieval. Unlike traditional systems, that can require laborious data verification and manual repair, Amazon Glacier performs regular, systematic data integrity checks and is built to be automatically self-healing.

Preservica Enterprise Edition is independent of the storage technology and supports different types of storage systems including but not limited to the following:

- Simple file system (e.g. Windows or Linux servers, Axiom Pillar)
- Network Attached Storage / Storage Attached Network
- Hierarchical storage management (HSM) systems (e.g., FileTek's StorHouse on a Sun server, Oracle SAM-QFS)
- Amazon's S3 and Glacier
- Microsoft Azure Storage
- Secure FTP to remote storage location
- EMC Atmos

Enterprise Edition supports hybrid storage with a storage policy. The storage policy is a set of rules used to control what types of content are stored in which storage locations. For example, content required for quick access can be held in a local storage location. Content can also be stored in a remote location either as a Primary copy (not held elsewhere) or a Secondary Copy (extra copy saved asynchronously for safe keeping). Additionally, content can be stored in all storage locations if required.

There is a dedicated sub-system for managing storage. Multiple storage locations ("Storage Adapters") can be defined and configured (see screenshot below). These Storage Adapters allow connections to a number of types of storage media including disk, Amazon S3 and Glacier, EMC Atmos and XAM. Custom Adapters for other media types can also be written using the Preservica storage API.

Preservica also supports the definition of storage policies. These are sets of rules that are used to control what types of content are stored in which storage locations and can be configured separately for each Ingest source. Preservica comes with configurable workflows for duplicating content across multiple storage locations, and migrating from one storage location to another, as well as being able to retro-actively apply a new storage policy.

Preservica updates the metadata in the archival database with storage location information each time a file is written to a new storage location. Preservica records integrity check events and their results, file repairs attempted and their results. Replication strategy and geographic diversity is defined as part of the storage policy developed by the customer during implementation and ongoing use of Preservica. The storage policies are configured and modified as needed.

Storage Adapters

Storage Integrity

Storage Media Types

Disk Storage (Logical File Structure)

Disk Storage (Logical File Structure)

Database Storage (Native Database Storage)

Disk Storage (Physical AIP structure with XIP metadata file)

Disk Storage (Physical AIP Structure)

Amazon S3 (Amazon simple storage service)

S3 Server-Side Encryption (S3-Managed Encryption Keys (SSE-S3))

SNIA XAM (eXtensible Access Method)

XAM DU Package (XAM with DU Packages)

Atmos (EMC Atmos Storage)

SFTP Storage (Physical AIP Structure)

Glacier File (Amazon Glacier file based adapter)

Create New Adapter

Name	Type	Status	Location	Access Speed
Logical 01	Disk	Read-Write		Near-Line
Logical 03	Disk	Read-Write	Local	Near-Line
Logical 04	Disk	Read-Write		Near-Line
Logical 07	Disk	Read-Write		Near-Line
Physical 02	Disk	Read-Write	Local	Near-Line
Physical 10	Disk	Read-Write		Near-Line

Costs for storage is included in the subscription price for Preservica Cloud Edition, and retrieval costs and storage costs for Preservica Enterprise Edition are provided by the Storage vendor in the case of Cloud storage.

- b. Describe the methods employed for ensuring the authenticity and integrity of individual digital objects.

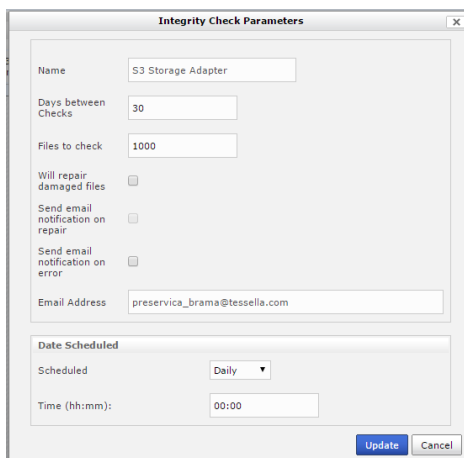
Preservica calculated the fixity of each object at the time of submission. These resulting checksums are kept with each file for the life of that file. Preservica periodically checks the fixity of files stored in every defined storage location. The interval at which files are checked and the checksum algorithms are configurable. The checksum of each file is verified against values stored in the system database. Preservica supports MD5, SHA-1, SHA-256 and SHA-512. All activities associated with checking the fixity of records is logged and stored with each file as an audit trail to verify the files accuracy and authenticity. If a file becomes corrupt and is restored using a duplicated copy, this event is logged in the files history.

- c. Describe recovery procedure utilized in case of loss of content.

Preservica records integrity check events and their results, file repairs attempted and their results. These can be audited by management reports.

Note that in order to repair a corrupted file, Preservica must be managing at least two copies of that file. Preservica can be configured to automatically repair any corrupt files detected by copying from a secondary storage location. The second copy can also be configured to maintain geographic diversity.

Preservica has a process that allows for deleted files to be recovered and stored up to 60 days the deletion has been done. A process can be run in Cloud and Enterprise Editions by the administrator and deleted files will be restored. After the 60-day period, files are removed permanently.



d. Detail storage capacity and increments for upgrades, if applicable.

Preservica Cloud Edition uses a storage capacity requested by the customer to accommodate the size of the digital content to be stored. As that storage reaches capacity the customer can contact Preservica to increase the storage as needed. Additional costs apply per storage volume requested. The Cloud Edition adds storage in 1 TB increments. There is no known storage limit.

Preservica Enterprise Edition storage is typically handled by the customer's IT Staff. Local and Cloud storage can be configured using Preservica's storage adaptor interface to set storage policy.

6. Functionality (Administration)

a. Provide an overview of the capabilities for administering the solution that the library can perform without vendor assistance.

The Administration menu on the Preservica system allows the administrator user to perform all the functions required to set up and maintain all the activities of the Preservica system. Administrator training is available and a user trained to administer the Preservica system will be able to perform the following functions without Preservica's assistance.

- Schema management
- Transfer agreement set up
- Workflow definition
- Security, set roles, permissions and security tags
- Reporting, define and run reports
- Dashboards, define and set up Dashboards
- Sources, define and set content sources
- Define Collection Properties
- Storage, create Storage adaptors, Storage Policies
- Account management, set up and maintain user accounts
- Recoverable Deletions
- System configuration, System paths, URLs, Web Services, email notifications
- Universal Access, Preservica configuration, WordPress configuration

b. Describe active user groups and associated functions.

Preservica has a sophisticated security model built on content tags which mark the records as open, closed, public, restricted, etc., user roles, and access privileges such as view metadata, edit metadata, delete. For each tag in the system, an administrator can define which user roles have which privileges, and thus determine which users can access the records, and for what purposes.

These security tags are applied to each object in the SIP (a default tag will be applied if none is specifically defined) and remain associated with the objects in the AIP until such time as a sufficiently authorized user changes them.

They are thus defined through the entire life-cycle of the object. Before any operation involving that object, Preservica will determine which user is making the request and whether they have sufficient authority to perform the operation.

Preservica's in-built system roles are:

ADMIN_USER - These users have full access to all system functionality.

MANAGER_USER - These users have access to all functional areas of the system but are restricted from some system-wide activities including defining Storage Adapters, uploading reports and workflow definitions, and changing system settings.

ACCESS_USER - These users have access to the Explorer interface, search functionality, and reports and workflows based on access functionality. They are able to run export workflows for example, but they do not have access to create new workflow contexts.

INGEST_USER - These users have access to the reports and workflows based on ingest functionality. They are able to run ingest workflows but they do not have access to create new workflow contexts.

DATA_MANAGEMENT_USER - These users have access to the reports and workflows based on data management functionality. They are able to run data management workflows but they do not have access to create new workflow contexts.

TRANSFORM_USER - These users have access to the reports and workflows based on preservation functionality. They are able to run preservation workflows but they do not have access to create new workflow contexts. These users also have read access to the Technical Registry.

REGISTRY_ADMIN_USER - These users have access to modify the Technical Registry.

SUBMITTER_USER - This role is primarily for CE usage, users with this role have no access to the main application functionality but may be granted access to some content (via CMIS or REST API calls).

ANONYMOUS_USER - These users have no access to the main application functionality but may be granted access to some content (via CMIS or REST API calls).

Each of these roles can be granted permissions on specific content tags; further custom defined roles can also be used to grant permissions on specific content tags.

c. Describe system support for user accounts, including:

The User Management module is an easy-to-use front-end for managing user accounts in the back-end user credentials store (e.g. OpenLDAP). User accounts can be created, modified, and deleted from this page by admin users.

Preservica Enterprise Edition users can connect to a corporate Active Directory server.

i. defining and creating user accounts,

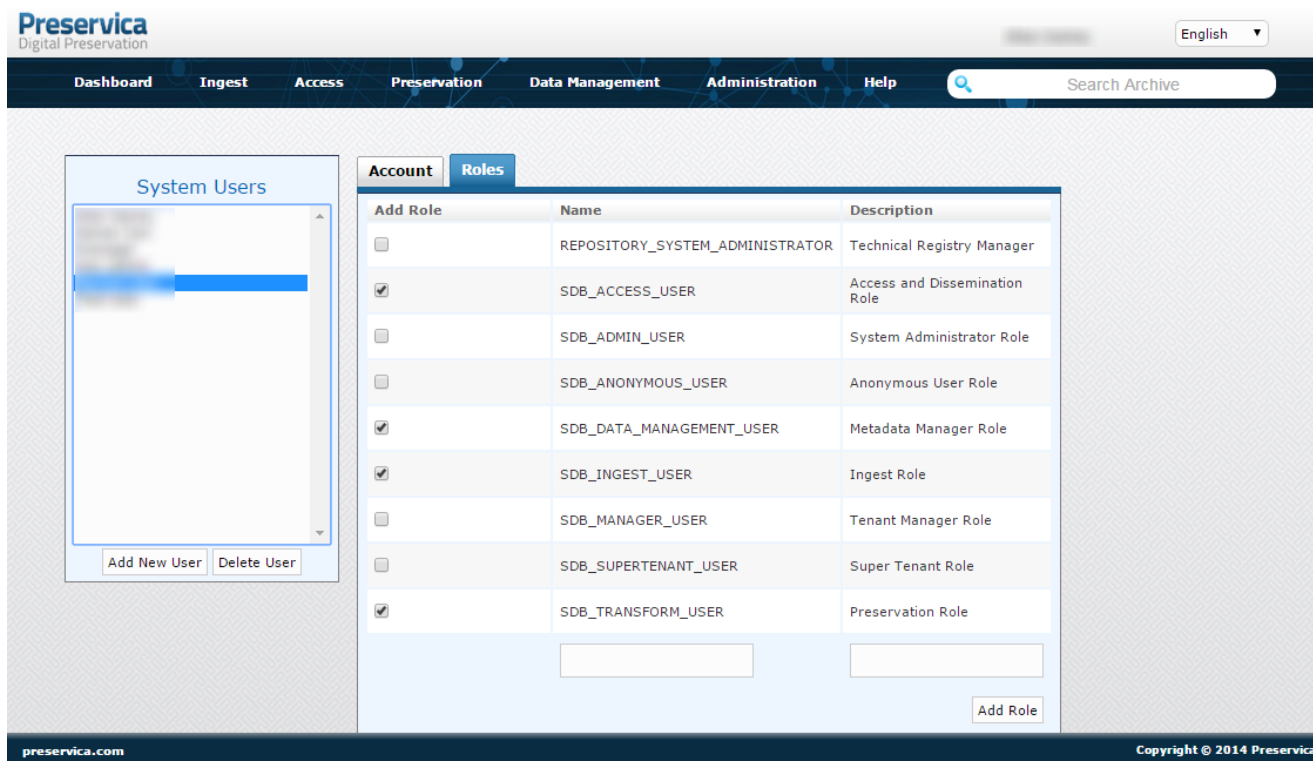
To add a new Preservica user, simply click on the Add New User button under the list of existing users. In the dialog that pops up, enter a valid email address (this also acts as the user name for the new account), a display name, and select which functional and data access roles should be assigned to the user. Then click the Save button; the new user is added to the list on the page.

A strong password is automatically generated and emailed to the user. On their first login to Preservica they are redirected to their account page and recommended to change their password. Passwords must be between 8 - 64 characters in length, and contain at least 3 out of the following:

- uppercase letters
- lowercase letters
- numbers
- symbols

ii. assigning permissions for individual functions or function groups,

To assign and remove functional and data access roles to/from a user account, select the user in the list on the left of the page, and then click on the Roles tab. This will display a list of the currently defined roles, with those currently assigned to the user ticked.



Preservica Digital Preservation

English ▼

Dashboard Ingest Access Preservation Data Management Administration Help Search Archive

System Users

Add New User Delete User

Account Roles

Add Role	Name	Description
<input type="checkbox"/>	REPOSITORY_SYSTEM_ADMINISTRATOR	Technical Registry Manager
<input checked="" type="checkbox"/>	SDB_ACCESS_USER	Access and Dissemination Role
<input type="checkbox"/>	SDB_ADMIN_USER	System Administrator Role
<input type="checkbox"/>	SDB_ANONYMOUS_USER	Anonymous User Role
<input checked="" type="checkbox"/>	SDB_DATA_MANAGEMENT_USER	Metadata Manager Role
<input checked="" type="checkbox"/>	SDB_INGEST_USER	Ingest Role
<input type="checkbox"/>	SDB_MANAGER_USER	Tenant Manager Role
<input type="checkbox"/>	SDB_SUPERTENANT_USER	Super Tenant Role
<input checked="" type="checkbox"/>	SDB_TRANSFORM_USER	Preservation Role

Add Role

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To modify the roles assigned to the user, simply tick / untick the roles as required.

A new role can be added to the system by entering a name and description for the new role in the text boxes at the bottom of the list, and then clicking on the Add Role button

iii. process for maintaining and deleting user accounts,

To delete an existing Preservica user, select their name in the list and click on the Delete User button. Click OK on the confirmation dialog; the user account will then be permanently deleted from the system.

A user's password can be reset by selecting the user in the list on the left of the page, and then clicking the password Reset button. This will generate a strong password for the user, and send it to them via email. As noted above, the next time the user logs in to Preservica, they will be redirected to their account page and recommended to change their password.

Depending on how the back-end user credential store (e.g. OpenLDAP) is configured, a user account may be automatically disabled for a period of time after a number of unsuccessful login attempts. If this is the case, then when that user is selected in the list, the User enabled? checkbox will reflect the account status; i.e. if the account has been temporarily disabled, the checkbox will be unticked.

iv. options for periodic password reset reminders.

Preservica Enterprise Edition can be set up to require password reset on a periodic basis either using OpenLDAP, which is the default, or by using the customers security system, such as Active Directory to enforce this requirement.

B. Technical

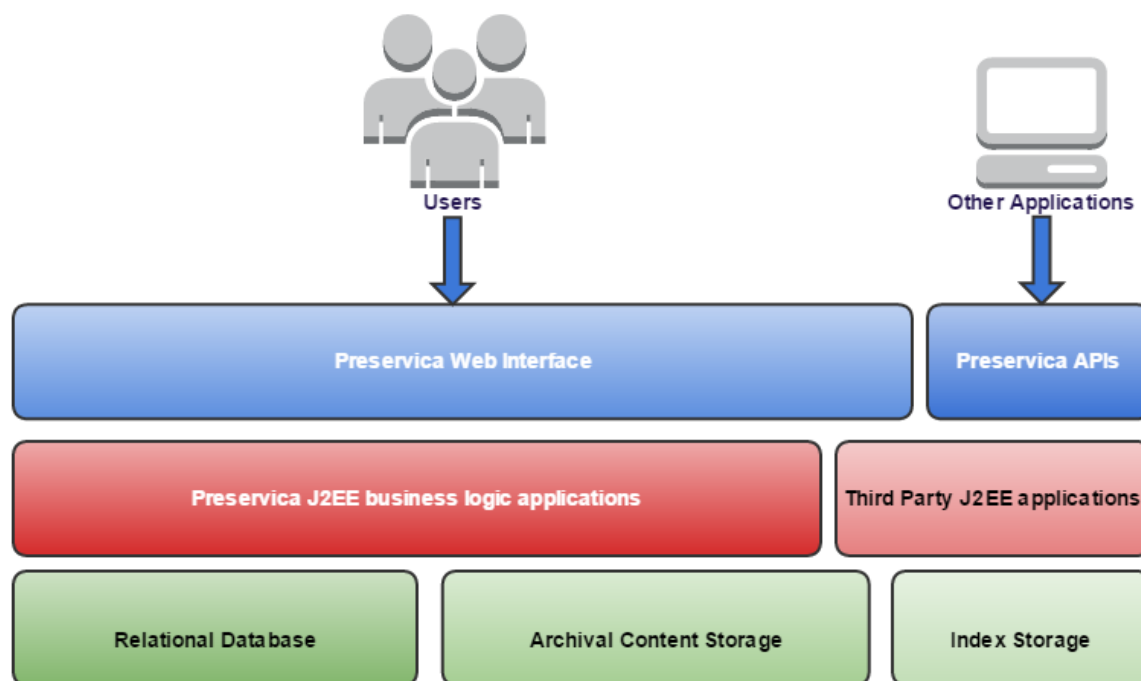
1. Describe platform, system architecture, and storage environment.

Preservica is a web-based Long Term Digital Preservation system. The logical architecture is a standard three-tier web-application architecture, as illustrated below.

The presentation tier is primarily a web interface serving a combination of static and dynamic HTML pages. At this top tier, Preservica also provides machine readable interfaces including a REST API, CMIS API and OAI-PMH interface for accessing data, and a SOAP-based web-service for external workflow control.

The application tier is a series of Java based applications, using J2EE standards. Most of these are developed by Preservica, however some third-party tools such as the Solr search index and Wayback Machine web-archive viewer have been wrapped and implemented.

The data tier is comprised of both a relational database for archival metadata and system data, and long term storage for archival content and indexes.



Within each of these tiers, Preservica has a modular architecture with well-defined interfaces between loosely coupled components. Some of these components are implemented as a Service Oriented Architecture (SOA), with communications between modules being handled by web services implemented in SOAP, and information passed in a well-documented data model implemented in XML (the XIP schema). Others are implemented as a Representation State Transfer (REST) architecture, with communications between modules being handled using HTTP.

Although these are standard design decisions, they are particularly important for a digital archive whose contents may need to be retained for decades or even centuries; Preservica's architecture minimises the effort involved in replacing any module of the system and means that one part of the system can be changed without affecting other parts.

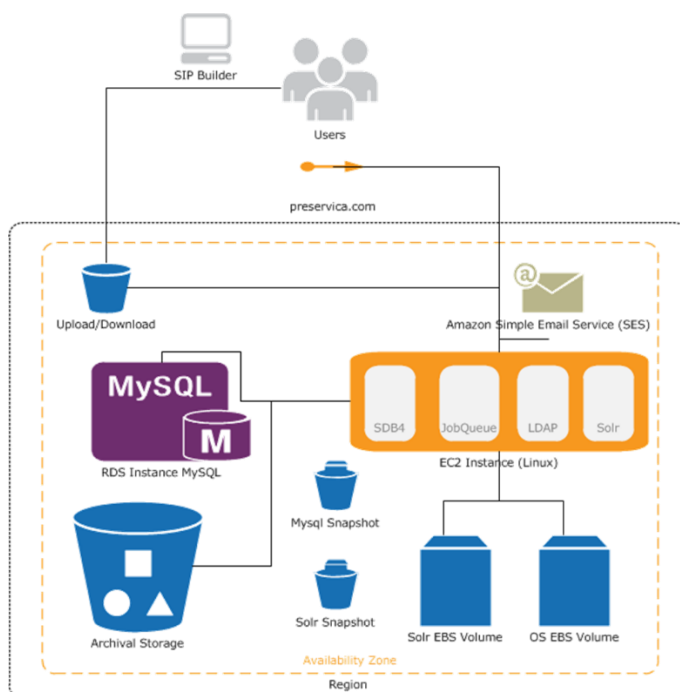
One of the most important parts of Preservica's design is that it is modular. This is since at least five of the six OAIS functional entities (ingest, access, preservation, data management and storage) require workflows to be performed to fulfil their functions with the details of the steps to be performed changing based on the context.

Thus, rather than the logical design being based around the functional entities, it is more generic and based around a workflow system. Each workflow consists of a number of workflow steps. This means that the system can be customised simply by adding new workflow steps and creating new workflows (probably consisting of a mixture of new and existing workflow steps).

Note that workflows are typed based on the OAIS functional entities and will appear in different dashboards based on these types (e.g., ingest workflows will appear on the ingest dashboard). However, this is simply a user interface layer choice and should not mask the unified design underneath.

Preservica Cloud Edition

The Preservica cloud hosted SaaS solution is deployed in the Amazon Web Service Infrastructure. The high-level architecture is shown below. The long-term storage is provided by AWS S3 and Glacier.

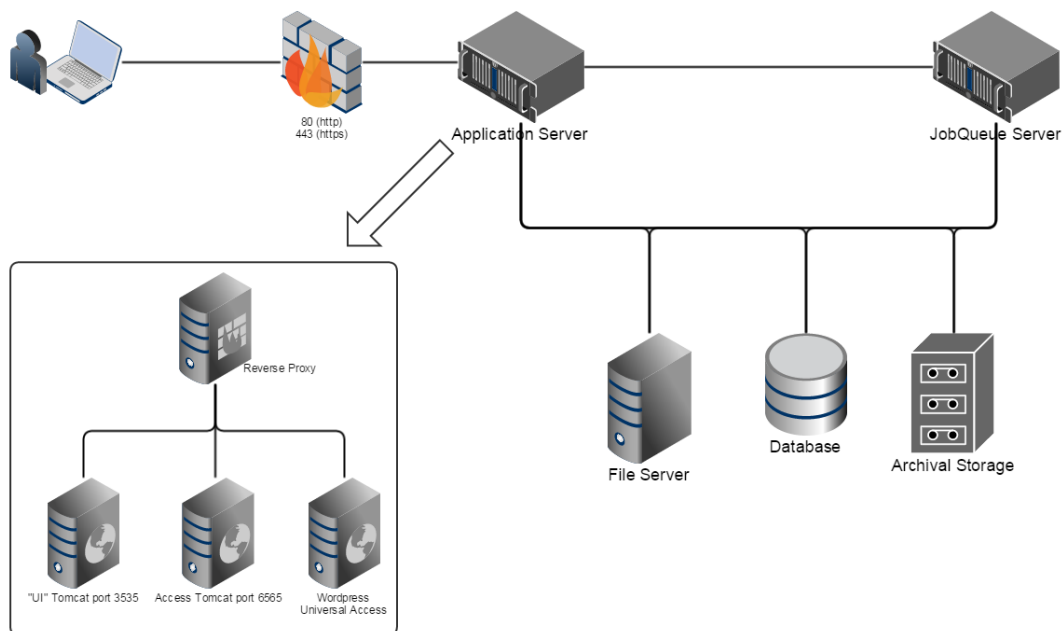


Preservica Enterprise Edition (On-Site)

Preservica comprises the following components:

- A web application used to manage the system
- One of more job queue engines to do background processing of the workflows
- A Tomcat server that hosts these applications that itself runs on Windows Server or Linux
- A bulk storage area to hold the digital objects
- Local storage for working areas and the indexes

A relational database to hold the metadata



2. Provide detailed hardware, software, network, and technical requirements for services and associated software for both Windows and Macintosh desktop environments, including any associated local technical requirements, including but not limited to browser versions supported, browser configuration requirements, or necessary plug-ins.

Preservica Cloud Edition-

The Cloud Edition is a fully hosted, Software as a Service. As a web based application, you will need one of the following web browsers:

Web Browser support

- Internet Explorer Version 11 on
- Firefox Version 30 onwards
- Chrome

Other browsers are expected to function but we do not explicitly test against these.

Local software

Preservica comes with three standalone Java clients which can be installed and run on staff machines to aid the ingest process. These have the following requirements:

- The SIP Creator is an application to allows for the creation of Submission Packages ready for upload to Preservica (CE, EE). It can be run on 32 bit or 64 bit Windows or Linux desktop machines. At least 1GB RAM is required.

- The Transfer Agent is a Windows Service which will monitor a directory on a local machine and transfer SIPs placed there to Preservica CE via HTTPS. It requires a 32 bit or 64 bit Windows desktop machine. At least 1GB RAM is required. It can be run on individual workstations or on a central server.
- The Upload Wizard is an application that allows for easy upload of content to Preservica CE via HTTPS. It can be run on 32 bit or 64 bit Windows desktop machines. At least 1GB RAM is required.

It is possible to upload directly via the browser so all of these are optional.

Enterprise Edition—if in the future your requirements evolved to where you needed Enterprise Edition, Preservica will provide up to date specifications. Enterprise Edition runs natively on Windows Server (2008R2, 2012) or a Linux Server (Red Hat (6, 7) or CentOS (6, 7)). You will need to provide a mount point to one or more bulk storage areas, a mount point to an ingest area, access to your own database (MySQL, Oracle, MS SQL Server or PostgreSQL) and optionally access to a LDAP server for authentication.

3. Describe security features for the solution, including possible login methods (*LDAP, Shibboleth, User Account*).

Preservica includes a simple User Management console that allows administrators to create new users, assign roles that map onto access rights, suspend/de-activate, and delete users, and reset passwords for users who have forgotten them.

Users are identified by their email address and assigned a password. When they are created, they are sent an email asking them to agree to the access policies and to re-set their password. They are then ready to use the system. Most organizations prefer to use the Active Directory integration to enable single sign-on. This incorporates LDAP to allow authentication against a central user directory. If you do not wish to use your own LDAP, the User Management tool is available for on premise use as well as with Cloud Edition.

Preservica also supports CAC and is typically used as part of the sign in process to SAML and Preservica in turn supports SAML. Preservica does not support Shibboleth.

Preservica takes the following steps to enforce user security with the following features:

- Password complexity rules
- Increasing wait periods between failed login attempts
- Administrator can force a change of password on next login

We do not enforce password expiry as this is no longer considered good practice.

4. Describe scalability of solution, include any system limitations whether hard-coded or incidental (*e.g., maximum upload file size, maximum files in container*).

Preservica Cloud Edition runs in an elastic storage environment meaning the upper limit for how much storage can be made available is not defined and essentially so high current use cases do not threaten to reach such a ceiling. Regarding the upload file size, Cloud Edition is currently set up and thus limited to ingests of the following size:

Preservica CE submission packages have been tested up to the following

- Contain up to 100,000 files
- Have a total SIP size of up to 100GB

There is a new bulk upload service that can be used with the Cloud Edition. It can transfer 80TB at a time and multiple 80TB devices can be used together to accommodate significantly large bulk uploads. This service has a cost defined by technical parameters of your content and it's an extra cost beyond the standard cloud subscription.

Preservica Enterprise Edition has no hard limits on size of files, containers, or size of the overall archive. Limits are only set based on the hardware configuration of the system. Preservica can be configured to handle many terabytes of files per day. One of Preservica's customers has an ingest rate of 50TB per day.

5. Describe operational monitoring.

Preservica does not provide operational monitoring at the server and data center level although standard tools such as Nagios can be used.

All Preservation activities within Preservica are logged and available for reporting on an ongoing basis

The following is a list of activities and processes that are logged and available for reporting.

- Creation of collections and records, ingest of content
- Insertion, changes, and deletion of metadata (descriptive and technical)
- Changes to the structure and permissions
- Deletion of files, records, and collections
- Preservation actions (characterization, migration)
- Access of material (downloads, dissemination package creation)
- Validation of storage (integrity check events)

User activities

- User login

System activities

- The creation and change of workflows, reports, schemas, XML documents and various tenant properties
- System configuration changes

Registry

- Insertion, change and deletion of file format definitions, migration pathways and migration tools

Workflows

Detailed workflow audit trail including each workflow step status and messages

C. Implementation and Training

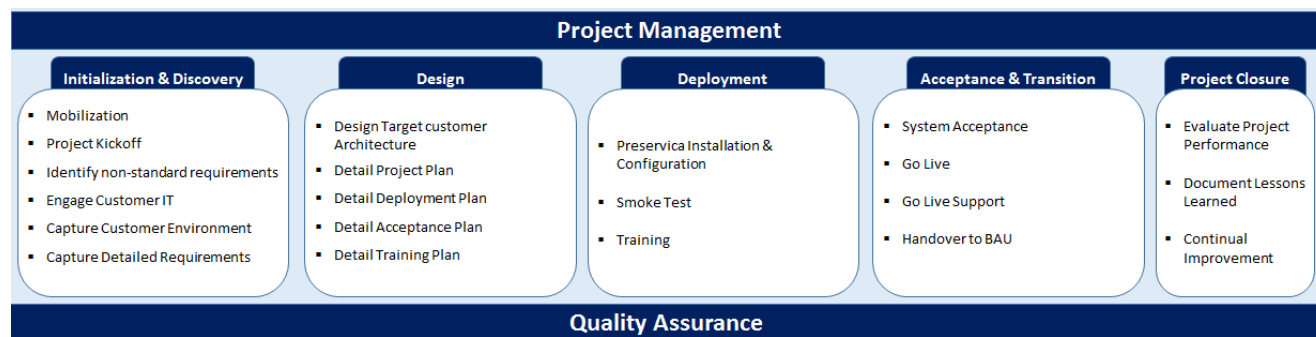
1. Describe implementation and migration timeline and project plan. Include a sample project plan(s) (*specify any associated cost in Section X. Pricing Schedule*).

Cloud Edition

There is no implementation phase required for the cloud edition as it is a SaaS platform. There is a simple on-boarding process for new users who are walked through the steps to get signed up for the training, how to set up user accounts, how to use the help desk and other operational activities. The project plan is sufficiently short in that on-boarding can happen with a few days' time. Preservica does all the setup of the Cloud instance.

Enterprise Edition (On-Premise)

Preservica provides a proven and effective 5 step solution delivery process that conforms to project management industry standards. A dedicated project manager is assigned to the project to ensure a smooth implementation of the Preservica solution.



2. Describe training offerings for initial installation and for subsequent trainings as needed (*specify any associated cost in Section X. Pricing Schedule*).

Preservica Cloud Edition users are invited to take the standard webinar series. Every 2 weeks, users can sign up and take the classes that are applicable and needed. The cost of training is included in the subscription. A reasonable number of people from each institution can attend the training. As new releases become available Preservica holds customer briefing sessions to explain new functionality. When new staff might join an organization, well after a project has commenced, they can sign up for training as well.

Preservica Enterprise Edition, on-premise training will typically have 2 days of training onsite which includes system administrator training.

Additional training is available online or onsite and is contracted based on need.

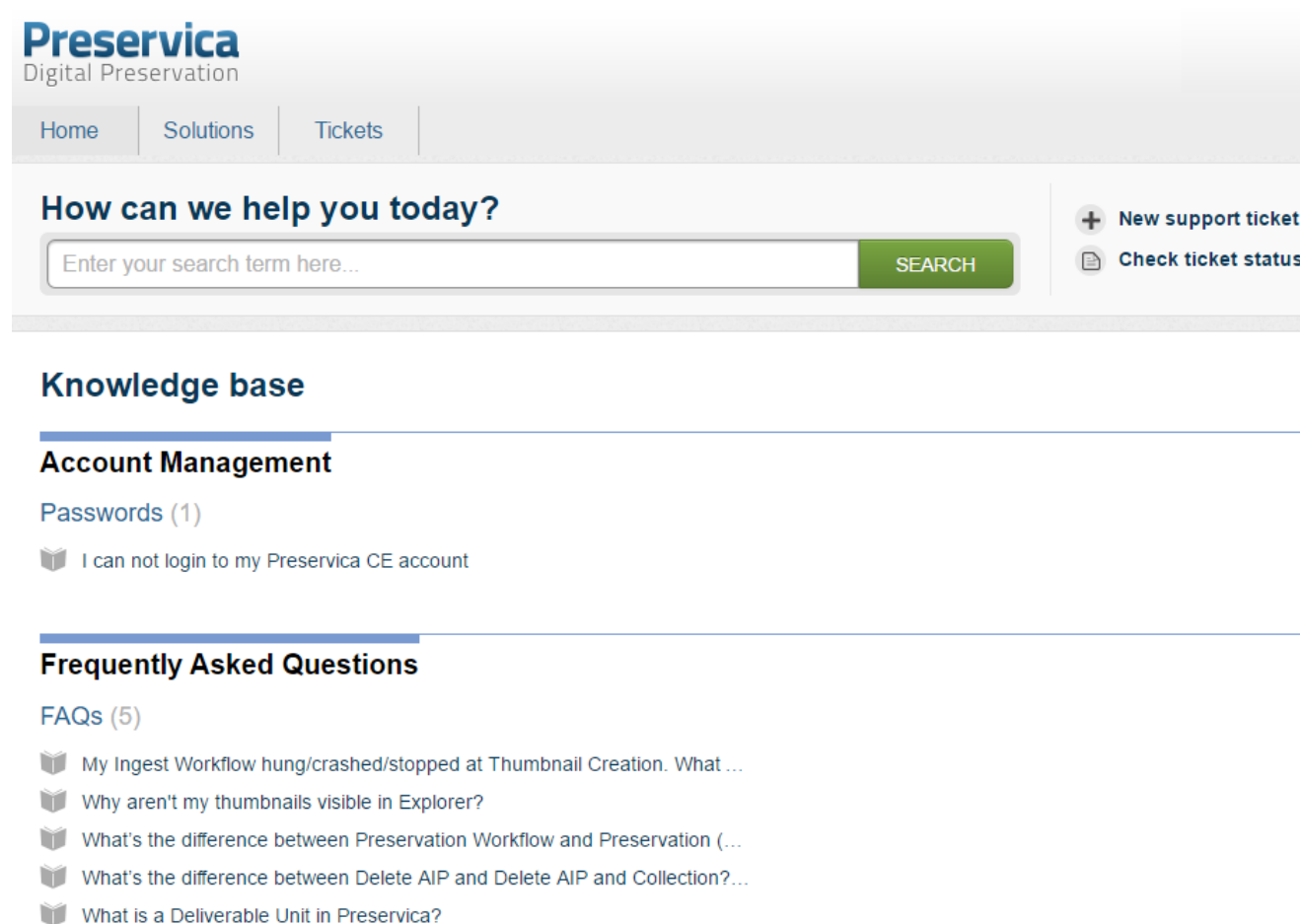
D. Maintenance and Support

1. Describe procedures that the University would follow for reporting issues with the system.
Describe escalation procedure.

A professional help is staffed with a specialized help desk application to allow them to hand a wide variety of requests. Simply sending an email to support@preservica.com and indicating a priority level when reporting an incident (Critical / Urgent / Routine / Suggestion) is all that is needed in the normal course of business. The Help Desk will then respond based on the Service Level Agreements.

As part of Preservica's Quality Management System, all concerns about the quality of service received or failure to comply with the Service Levels should be reported to the Preservica's Client Support Manager at support.manager@preservica.com without delay. The Client Support Manager will promptly attempt to resolve the concern and will report the issue internally through the management chain to Preservica's Chief Executive Officer.

Preservica users can be registered with the Preservica helpdesk and can login in and submit a Help Desk Ticket. These tickets can be tracked by the user on this site. A picture of the Help Desk page is shown below.



The screenshot shows the Preservica Digital Preservation Help Desk interface. At the top, there is a navigation bar with links for Home, Solutions, and Tickets. Below this is a search bar with the text "How can we help you today?" and a "SEARCH" button. To the right of the search bar are two links: "+ New support ticket" and "Check ticket status". Below the search bar is a section titled "Knowledge base" with a sub-section "Account Management" containing a link "Passwords (1)" and a document icon with the text "I can not login to my Preservica CE account". Below this is another section titled "Frequently Asked Questions" with a link "FAQs (5)" and a list of five questions, each preceded by a document icon: "My Ingest Workflow hung/crashed/stopped at Thumbnail Creation. What ...", "Why aren't my thumbnails visible in Explorer?", "What's the difference between Preservation Workflow and Preservation (...)", "What's the difference between Delete AIP and Delete AIP and Collection?...", and "What is a Deliverable Unit in Preservica?".

2. Specify customer support hours and any limitations on support outside of normal office hours.

Customer support hours are 9:00 AM to 5:00 PM EST in the USA. Support issues can be submitted via email or the support desk website at any time of day. Customer support personnel monitor support issues as they arrive. SLAs are described in another section.

3. Describe procedure for handling software upgrades and updates.

Preservica Cloud Edition upgrades are done by Preservica and users are notified when the upgrades are to be installed and notified when those updates are complete. Upgrades happen in the night time hours so not to disrupt the use of your systems.

Preservica Enterprise Edition-An installation guide and set of release notes come with each new release to provide instruction on upgrading the system.

4. Describe procedure for acquiring additional storage during existing contract year.

The University would contact Preservica either thru the technical support helpdesk, support email or Preservica account manager and make a request for the additional storage needed. With Cloud Edition, you can add storage at any time during your contract term.

5. Describe the nature of services and associated software enhancements in development that are scheduled for release in the next two years.

The Preservica product is constantly under development with a dedicated engineering team; there are 2-3 major releases a year. The roadmap is not made available publicly but it is regularly reviewed with Preservica users.

Preservica have an active user community. Users could meet face to face twice a year and can meet virtually for regular online user briefings. During these sessions users get sight of the Preservica roadmap and could provide feedback on the current system, the roadmap and the product strategy. The Preservica team will meet with users on an ad-hoc basis to discuss the roadmap and specific new features.

Preservica frequently works collaboratively with users on the design and validation of new features. Users interested in a new feature are encouraged to get involved in the early design phases and are often provided with opportunity to provide feedback on early prototypes.

6. Describe services not available during scheduled maintenance.

Preservica Cloud Edition services are all not available during scheduled maintenance which are during the night time hours. The scheduled maintenance does not affect most users since they are not happening during normal business hours. It is important to note that given scheduled maintenance, Preservica Cloud Edition uptime in the last month was 99.97% which is higher than the SLA promised by Preservica.

7. Describe capabilities for remote support and indicate the access to accounts and systems that would be required. Describe the locations from which this activity would take place.

Preservica Cloud Edition is managed remotely by design since its running as a service. Customers do not have to take any action, its handled for you as part of the subscription.

To enable remote access to a Preservica Enterprise Edition system, Preservica would need access to servers running Preservica software thru a remote access/VPN service and the appropriate system access rights to

perform the work requested. Preservica personnel would typically be from the US based office in Boston, MA. It is possible that staff from our UK office may be asked to handle some aspects of work requested.

8. Describe all maintenance options/tiers and whether they vary in cost by time of day, response time, etc. (*specify any associated cost in Section X. Pricing Schedule*).

The Cloud Edition subscription includes the cost of maintenance. It's all inclusive and you do not have to choose between maintenance tiers. The SLA does govern the required response times although the help desk can respond quicker than the agreed SLA. Preservica Cloud customers have provided excellent feedback on the service and support they receive with their subscription.

Preservica Standard Support Service provided to all Preservica customers is described below. If any enhanced or additional service is required, we are happy to discuss and to cost separately:

SERVICE LEVELS

The speed of response to a request for Technical Support is proportionate to the urgency of the request, as shown in the table below.

	Acknowledge Request	Start Work
Critical: A problem that causes a total or significant failure endangering business	2 service hrs	4 service hrs
Urgent: A problem that limits full operational service without corrections to specific areas of operation. The problem has a significant business impact	2 service hrs	2 service days
Routine: A problem that does not prevent the use of a facility in operational service, or for which a locally identified cure or circumvention is available. Problems in this category do not need immediate attention, but require agreement of a delivery date for a fix	2 service days	N/A

Our target response time is to start work on 90% of critical and urgent incidents within 2 hours. In the year 2013-14 we achieved this 2-hour target for 95% of incidents. Once work has started, we will report on progress at least every 4 hours on critical incidents and at least once a day on urgent tickets.

9. Describe services that may be required in the normal course of operating the system that are not covered under a maintenance agreement.

There are no normal services required outside of maintenance not listed here. Only services requested by the customer for specific contract work that would be scoped and priced ahead of time, would occur in the normal course of service.

10. Describe your system availability and uptime Service Level Agreement (SLA).

Preservica makes its service available with an uptime service availability level of at least 98% during each subscription quarter but regularly exceeds this.

Amazon Web Services provides eleven 9's of durability (99.9999999999 %) for storage.

Preservica Enterprise Edition is similar, but is subject to the customer's IT services SLA

11. Describe your notification process for scheduled maintenance and upgrade downtime.

Preservica Cloud Edition is as follows:

Planned maintenance is carried out during the maintenance window depending on the server location. These are currently:

- US Eastern: 3:00am to 7:00am EDT
- Dublin: 6.00pm to 10.00pm GMT
- US GovCloud: 3:00am to 7:00am EDT

You will be given one month's notice for a major planned software upgrade.

Preservica Enterprise Edition upgrades are scheduled by the customer and can be done anytime that works for the user community.

12. Provide a copy of your Disaster Recovery Plan.

Corporate

Most time a disaster recovery plan is thought to be associated with the solution you are buying but it equally as important to understand the vendor or even open source partner that you are relying on and do they have a plan. Preservica has a business continuity plan covering all aspects of its business (people, technical infrastructure, premises) across all risk types (environmental, security, people, financial etc.). This business continuity plan is a core part of our operating model and additionally meets the needs of ISO27001 (information security) and ISO9001 (quality management). It includes detailed response and recovery action plans for identified risks. The plan is reviewed and tested annually.

For CE & hosted Enterprise Edition

Preservica's cloud-based solutions (CE and hosted EE) are deployed on AWS, Amazon Web Services, infrastructure. AWS has extensive high availability, scaling and recovery capability built into its network, compute, and storage services, much of it automated and 'hands free', achieved through a vast degree of infrastructure redundancy and planned replication. This reduces the risk of service interruption to well below that most organizations can achieve with their own infrastructure.

Notwithstanding the business continuity capability provided via AWS, Preservica has a documented and tested CE Disaster Recovery procedure to recreate our Cloud Edition (or Hosted Enterprise Edition) instance to a point-in-time recovery, in the unlikely event that the existing instance becomes unavailable.

For Enterprise Edition (on premise)

For on-premise customers seeking guidance on including Preservica-based solutions into their business continuity plans, Preservica publishes a System Maintenance Guide, available on the user portal. This document has guidance on backing up and restoring a Preservica installation which a customer can integrate into their backup regime and D

E. Trial Access, Documentation, and Demonstration

1. Provide to the University the opportunity to test the functionality of the proposed system via username and password access or via IP-authenticated access. The JMU IP addresses are 134.126.*.*. Provide instructions for this trial access with submitted response. Specify if the trial access is being provided on any server other than the normal production server.

Access to the Preservica system can be set up for JMU to test for a 2-week period of time unless an evaluation plan is discussed and alternative amount of time is required and mutually agreed. The login in would be provided in a confidential transmission and not in this document. A training session is required for the testing group before access is made available. Tests of this nature can occur typically on a demo server; the software would be the same as the production systems.

2. Provide to the University the full and complete technical and administrative documentation for the proposed system. Provide instructions for access to the documentation with submitted response. JMU may consider the technical and administrative documentation and access to the documentation proprietary and confidential if specified.

Preservica comes with a comprehensive set of technical and user documentation that will be available with a trial or production system. User and Administrator documentation is available via the Preservica application help menu and via the <https://usergroup.preservica.com/>. The application provides context specific on-line help, available at every screen and contains all documentation available to download as PDF/HTML.











The documentation is revised and updated with each new release. A list of Cloud Edition documentation is shown below

Preservica Documentation

















[Documentation](#) [CE v5.7](#)

Guide To System Documentation

User Documentation

- [System User Guide](#)  
- [Registry User Guide](#)  
- [SIP Creator User Guide](#)  
- [System Administration Guide](#)  
- [Guide to Universal Access Search](#)  

Architectural Design Documents

- [Standard Workflows](#)  
- [Standard Reports](#)  
- [Information Package Structure Definition](#)  
- [XIP Schema](#)  
- [Logical Data Model](#)  
- [Adlib Getting Started Guide](#)  
- [ArchivesSpace Getting Started Guide](#)  
- [Calm Getting Started Guide](#)  

[View Document as single HTML page](#) [View PDF](#)

3. Describe customer resource site (e.g., documentation, troubleshooting FAQ, product information, release notes, upgrades and patch information) and provide the url.

Preservica maintains both an open and public website with white papers, research reports, best practices and more. The Preservica user group website provides resources such as downloads, documentation, user forums and training class registration. A list of the Preservica Cloud Edition Documentation from the Preservica user group website is shown under questions 2. The URL - <https://usergroup.preservica.com/>

Before a new release becomes available, Preservica will hold briefing sessions to also prepare the community for the new functionality that will be available.

B. Specific Proposal Instructions

[Please provide] a written narrative statement to include, but not limited to the expertise, qualifications, and experience of the firm and resumes for specific personnel to be assigned to perform the work.

Digital Preservation and Storage Risks

Preservica's technology has been built specifically to deal with the problems of digital preservation in libraries, archives and other organisations facing the challenge of very long-term retention of digital content (sufficiently long-term that access to the material will inevitably be put at risk by the obsolescence of the software or hardware used to create it).

"It was vital to protect our digital assets from the risks of technology obsolescence by using digital preservation techniques much more sophisticated than simply storing the "bits and bytes"

Valerie Komor Director, Associated Press

The primary purpose of the Preservica technology is to retain digital information objects for the long term and to provide access to these information objects in current technologies by recognising and working within the cycle of inevitable technology changes. The main driver for the design of the system has been to retain information reliably despite the software and hardware replacements that occur over time. **Similarly, the ability to maintain authenticity is paramount.**

Technology Obsolescence & The Digital Dark Age



"You and I are experiencing things like this. Old formats of documents that we've created or presentations may not be readable by the latest version of the software ... even if we accumulate vast archives of digital content, we may not actually know what it is"

Vint Cerf, Google

"As formats change, software is retired and hardware becomes obsolete, the data that organizations might want to keep can be lost forever."

Gartner

"Long-term retention of digital content means preservation issues must be addressed. Hardware, software, and file format obsolescence risks will haunt us if not taken seriously"

FORRESTER

Preservica's technology is a true preservation system containing both "passive" and "active" preservation functionality:

- Preservica provides "passive preservation" to ensure that information objects can be securely stored, managed and accessed;
- Most importantly however, it also provides "active preservation" functionality to maintain the information objects despite changes in technology including those that alter the physical file structure.

Thus, while it is quite common to find systems that store and allow access to stored information, Preservica additionally provides a framework and real tools to allow archivists and librarians to actively preserve their content in the truly long-term.

The whole Preservica product range (including ingest, workflow and passive preservation functionality and the data model behind it) has been designed with the needs of "active preservation" in mind and this is the core driver for the functionality that Preservica provides.

Preservica took a leadership role before the turn of the millennium, to begin researching and collaborating with organizations that had legal and institutional mandates and were required to guarantee the authenticity and permanence of digital content of all types. The goal was focused on how to stabilize the potential loss of digital content and address the "health" and the **ability for us to use digital content now and in the coming decades**. Preservica built tools (some of which are open source and still in use today) after which Preservica implemented the first Digital Preservation Solution of its kind at the UK National Archives (2003).

Today, while systems can still be built from scratch or by taking open source components and building out your own solution, Preservica's unique approach offers production ready preservation capabilities from an organization that understands open source technology and integration with storage systems using a collaborative model that will deliver leadership and best value against your key criteria.

Preservica Company Overview

Preservica is a world leader in digital preservation technology, consulting, and research. Our active preservation solutions are used by leading archives, libraries, museums, government organizations and businesses across 4 continents to safeguard and share their valuable digital content, collections, and electronic records for decades to come.

"Preservica is truly exceptional in its willingness to listen and respond to the needs of the archival community"

Lorraine A. Stuart, Chief of Archives, Museum of Fine Arts, Houston

The award-winning Preservica active preservation and access technology is available in cloud hosted and on premise Editions and includes a full suite of OAIS (Open Archival Information System) compliant workflows for ingest, management, storage, access and long-term preservation of digital content. Preservica invests in many research initiatives in digital preservation and is a well-respected member of many international collaborations with academia, archives, libraries, and corporations at the leading edge of this emerging field.

Preservica was operating as a specialist division inside the Tessella group, the international analytics, software services and consultancy company. Tessella has been at the forefront of Digital Preservation research, implementation, and delivery since the late 1990s. The two are now separate companies.

Preservica User Community

A commitment to permanence and access to digital content over long or permanent retention periods requires a correspondingly long term vision backed by a commitment to support and growth. Preservica is well supported in this way and has attracted an active and growing user community that appreciates our commitment to the product. In addition to the sample list of academic institutions provided in an earlier section, other community members include:

State Libraries/Archives rely on Preservica in order to meet their legal mandates; they must have a highly-trusted system for any type of digital content:

- Kentucky Department for Libraries and Archives
- Arkansas History Commission
- Texas State Library and Archives Commission
- Georgia Archives
- South Carolina Department of Archives and History
- Massachusetts State Archives
- Vermont State Archives and Records Administration
- Michigan Archives
- Wisconsin Historical Society
- Minnesota Historical Society
- North Dakota State Historical Society
- California Secretary of State/California State Archives
- Others who will self-identify in the User Community
- Cities also are now implementing Preservica (e.g. City of Boston)

The Museum Community is relying on Preservica to curate their most important content:

- Museum of Fine Arts Houston
- Museum of Modern Art (MoMA)
- The Frick Collection
- Hillwood Estate, Museum and Gardens
- Philadelphia Museum of Art

Corporations and Corporate Archives

- HSBC Bank
- Lloyds Banking Group
- Unilever
- Associated Press
- British Telecom

Of special note:

- **UK National Archives.** Preservica has been in use there **since 2003**, one of the first digital preservation systems of its kind ever deployed.
- **Wellcome Trust Library.** Preservica EE has been integrated with the Trust's CALM catalogue system. It is now being used to preserve the digitised copies of all the out of copyright books in the library and provides public access via a sophisticated book viewer.
- **FamilySearch US.** An implementation of Preservica EE configured to hold very large quantities of digitised material and public donated content. The system handled ingest rates of 50TB every day and has grown to approximately 10 Petabytes in scale.
- **STFC (Science and Technology Facilities Council).** Preservica is being used to manage neutron scattering research data.

Preservica has a very active **User Group**, which meets up to twice a year and assists in steering product developments and ensuring that the various sources of enhancements are part of a coherent vision. In addition, this group assists in building a community of best practice so that tools can be utilised in a consistent manner across the user base and encourages user organisations to learn from each other.

The User Group also have regional meetings, online webinars, and a community portal at which specific items are discussed and ideas are exchanged.

“We’ve been working with Preservica staff very regularly and they’ve been very responsive at trying to either solve little glitches or alter their programs. They regularly do updates to the program with inputs from the users around the world. We like that approach of being able to have some input on how things are developing so that it meets our needs and, I hope, the needs of others.”

Glen McAninch (retired), Kentucky Department for Libraries and Archives.

Preservica at James Madison University


- Preservica makes for a well-rounded partner who is a **published thought leader** AND has **deep implementation skills** that will support the goals and requirements set forth in this RFP. Gartner Research has recently recognized Preservica as a **“Cool Vendor”** offering validation from one of the top information technology analysts.
- JMU can immediately benefit from the production readiness of Preservica Cloud Edition, widely used across the US for the same goals and objectives.
- Preservica’s **metadata model accommodates diverse needs** that arise in academic institutions.
- With a **dedicated development team** and Product Director, the sustained commitment Preservica has made to the rapid development of new features and releases, **JMU will not have to expend significant in-house hours on this solution.**
- There is an **active user community** globally with practitioners throughout the US and around the world. The modern user group portal supports the community-wide and global interaction. In person meetings provide additional networking and sharing of best practices.
- There is a content and metadata exit strategy with Preservica. **JMU is not locked in.**
- Preservica is a **small business** with a very experienced staff, **many with PhDs** (see our team members and resumes) and the company carries several **must have accreditations** (e.g. ISO 27001).




Preservica Meets all of JMU’s high level *Statement of Needs*

JMU seeks an experienced Contractor that can provide all related software, professional services, implementation services, training, and staff required for a turnkey digital preservation and off-premise (dark archive) digital storage solution. Specifically, the solution must:

JMU Statement of Needs	Preservica Fit
* Support processing and long-term preservation of curated digital content	Configurable and trusted workflows ready to process digitized and born digital content.
*Enable efficient long-term maintenance and storage of unique born-digital and digitized content;	Active preservation a leading strength, helps keep content useable for decades to come. Integrated, intelligent storage policies and ability to automate use of S3 and Glacier storage options
* Ensure authenticity of digital materials through compliance with national and international digital preservation and metadata standards;	That's why Preservica was created in the early 2000s. A leader in helping develop and implement standards. Built in conformance with these standards.
*Allow for multiple units within JMU's LET, with different processes and workflows, to seamlessly use the solution;	Advanced roles and permissions allows many users to use the solution, securely.
*Facilitate access of stored content;	Everything (content and metadata) is indexed thus searchable and browseable. Integrated access options included, free with CE
*Provide off-premise storage of digital content through traditional hosting or Software-as-a-Service (SaaS).	Leader in Software as a Service for digital preservation. Wide adoption and diverse community in the US using the Cloud Edition

Preservica Resume/Bios

Name	Role	Background
Dr. Jack O'Sullivan 	Digital Preservation Expert	<p>Jack O'Sullivan, Consultant, has been with Preservica and Tessella since 2011. He has worked as a developer on a number of digital preservation projects for many of Preservica's major customers including The UK Parliamentary Archives, HSBC Corporate Archives and The National Library of Australia. He has extensive experience in Java programming, but is also proficient in a wide range of software languages and technologies. He has been responsible for leading development on a number of Preservica workflows and features, including migration of content within container formats, integration to Amazon's Glacier storage and integration to the PostgreSQL database engine. He has worked closely with Family Search on a number of projects, including providing support to maintain their 50 TB/day ingest rate.</p> <p>Jack has delivered consultancy and Preservica training for a number of customers in the US both on-site and via remote web-sessions. He has delivered a digital preservation workshop at Best Practices Exchange on behalf of CoSA's State Electronic Records Initiative.</p> <p>Jack has a PhD in Optoelectronics from the University of Southampton.</p>

<p>Dr. Maïté Braud</p> 	<p>Project Manager</p>	<p>Maïté Braud, Operations Director, is one of the senior members of Preservica and very experienced in Digital Preservation. She worked initially as a DP developer before moving into project management five years ago. Since then she has helped deliver long-term preservation solutions to many organisations such as National Archives and Libraries (Switzerland, the Netherlands, Austria, Malaysia, Australia, etc).</p> <p>She has managed Preservica's contribution to European digital preservation research projects such as ENSURE and APARSEN and most recently oversaw the movement of the Texas State Library and Archives Commission into the Amazon Government Cloud</p> <p>Maïté has a PhD X-Ray Laser Physics from the University of Bern and is fluent in English, French and German</p>
<p>Dr. James Carr</p> 	<p>Architect / Senior Developer</p>	<p>James Carr, Senior Solution Architect, has been with Preservica and Tessella for over 17 years and is a highly experienced software engineer and requirements analyst. He has worked on a large number of diverse projects, and has technical expertise in both Windows and Unix as well as design and development experience in a number of programming languages and development environments.</p> <p>James is a senior software architect in Preservica and has been responsible for leading the design of the Preservica Digital Preservation technology since 2006. James has designed and implemented a range of digital preservation technologies and tool-sets, including OAIS compliant digital archives for The UK National Archives, The Swiss Federal Archives, the Dutch Nationaal Archief, The Wellcome Library, the Estonia National Archive, the Arkib Negara (National Archives of Malaysia), the Austrian Federal Chancellery and National Library of Australia.</p> <p>James was a member of the technical coordination committee of the EU PLANETS project and represents Preservica on the JHOVE2 advisory panel. He currently spending some of his time on the EU funded PREFORMA project and recently James ran digital preservation workshops on behalf of The Archives & Records Association of UK & Ireland (ARA).</p> <p>James has a PhD Applied Mathematics from University of Nottingham.</p>
<p>Mike Thuman</p> 	<p>Associate VP</p>	<p>In his current role, Mike is dedicated to working with organizations of all sizes to collaborate on the education, definition, and deployment of digital preservation programs. With 10 years dedicated focus in the digital preservation domain, he has delivered educational symposia, assessed institutional readiness and helped plan deployments ranging in size from gigabytes to petabytes of data. In September 2011, Mike served as one of the instructors for the first Library of Congress Digital Preservation Outreach and Education (DPOE) national, train-the-trainer class. In January 2015, Mike attended the High Level Training Course on ISO 16363 for Managers of Digital Repositories. In his spare time, he has served two terms as a member of the Board of Trustees for the Summit County Library System.</p>

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 13 Months 0

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 #
Yale University	1.5 years	New Haven, CT	Euan Cochrane, (203) 432- 1721
Berea College	2 years	Berea, KY	Rachel Vagts, (859) 985-3267
University of Richmond	< 1 year	Richmond, VA	Crista Lembeck LaPrade, (804) 289-8412
University of Southern Mississippi	<1 year	Hattiesburg, MS	Elizabeth La Beaud, (601) 266-5606
DePaul University	3 years	Chicago, IL	Kyle Henke, (773) 325-7925

4. List full names and addresses of Offeror and any branch offices which may be responsible for administering the contract.

Mike Thuman, 50 Milk Street, 16th Floor, Boston, MA 02109

Mike Quinn, 22 The Quadrant, Abingdon Science Park, Abingdon, Oxfordshire OX14 3YS, United Kingdom

3. **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: Preservica Inc **Preparer Name:** Mike Thuman

Preservica is not pre-registered as a small business under SWaM. However, Preservica Inc's revenue is under both thresholds (revenue and employees) and we would qualify as a Small Business. If required, we will register as a SWaM pursuant to an award of contract by JMU

Date: 12/5/2016

Is your firm a **Small Business Enterprise** certified by the Department of Small Business and Supplier Diversity (SBSD)? Yes _____ No X

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 X

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_X_____

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 SBSB 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: RFP # LBS-945, Long-Term Digital Preservation and Storage Solution

Listing of Sub-Contractors, to include, Small, Woman Owned and Minority Owned Businesses
for this Proposal and Subsequent Contract

12/7/2016
Date Form Completed

Offeror / Proposer:

Preservica Inc
Firm

50 Milk Street, 16th Floor, Boston, MA 02109
Address

Mike Thuman/617.294.6676
Contact Person/No.

Preservica is not pre-registered as a small business under SWaM, however it will qualify as a small business once registered. Preservica Inc's revenue and number of employees will meet the criteria. If required, we will register as a SWaM pursuant to an award of contract by JMU

Preservica's proposed solution is a Software as a Service (SaaS) solution. It will not require contractors of any type in the Commonwealth of Virginia since the solution will be set up in a data center and this work is handled by the Preservica help desk in Boston. There are no extra services or materials required to set up Preservica Cloud Edition.

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)
See above notes on small business status and definition of a SaaS solution	n/a	n/a	There are no extra services or materials required to set up Preservica Cloud Edition	n/a	n/a

(Form shall be submitted with proposal and if awarded, again with submission of each request for payment)

RETURN OF THIS PAGE IS REQUIRED



50 MILK STREET, 16TH FLOOR, BOSTON, MA 02109

IX. Pricing Schedule

RFP #LBS-945

Pricing for Preservica's Cloud Edition is open/public and available on www.preservica.com

In response to the information provided in **Section II. Background**, the stated and presumed starting point of the project is 14TB of storage in a dark archive where "there are no requirements regarding the amount of access to content JMU expects to have" as confirmed in Addendum #1. Based on this, the following configuration of the Preservica Cloud Edition (CE) Service is proposed (see also the Preservica CE Service Description under the Additional Information Section for a detailed explanation of the solution)

14TB (Glacier) Configuration

Item	Term/Qty	Cost	Total
Preservica Volume (1TB S3 Storage, 14TB Glacier storage)	12 months	\$18,450/year	\$18,450/year
One time installation/setup fees	12 months	N/C	N/C
Training fees	12 months	N/C	N/C
Support for initial setup	12 months	N/C	N/C
Maintenance fees	12 months	N/C	N/C
Upload of data, fees	12 months	N/C	N/C
Download of data from S3, (up to 250% of total Storage Bundle) *	12 months	N/C *	N/C *
			\$18,450/year

(*) The charge for exceeding download allowance from S3 occurs when you exceed download transactions over and above 250% of your storage volume or storage bundle. For a 1TB plan that would mean downloading more than 2.5TB in one year. The excess download charge from S3, if reached, would be \$600/TB.

Please note that should you exceed your storage or download allocation the price of the subscription will increase but you will be given notice and a chance to reduce your storage and download activity if this occurs. Alternatively, at any point you can expand the storage; pricing for other storage configurations is shown on www.preservica.com. Pricing is subject to agreement of terms and conditions.

In response to the information provided in **Section II. Background**, the anticipated growth during FY2017 is specified as 28TB. It is noted, same as for the 14TB starting point that “there are no requirements regarding the amount of access to content JMU expects to have” as confirmed in Addendum #1. A 28TB Glacier based configuration would be the following:

28TB (Glacier) Configuration

Item	Term/Qty	Cost	Total
Preservica Volume (1TB S3 Storage, 28TB Glacier storage)	12 months	\$21,950/year	\$21,950/year
One time installation/setup fees	12 months	N/C	N/C
Training fees	12 months	N/C	N/C
Support for initial setup	12 months	N/C	N/C
Maintenance fees	12 months	N/C	N/C
Upload of data, fees	12 months	N/C	N/C
Download of data from S3, (up to 250% of total Storage Bundle) *	12 months	N/C *	N/C *
			\$21,950/year

(*) The charge for exceeding download allowance from S3 occurs when you exceed download transactions over and above 250% of your storage volume or storage bundle. For a 1TB plan that would mean downloading more than 2.5TB in one year. The excess download charge from S, if reached, would be \$600/TB.

Please note that should you exceed your storage or download allocation the price of the subscription will increase but you will be given notice and a chance to reduce your storage and download activity if this occurs. Alternatively, at any point you can expand the storage; pricing for other storage configurations is shown on www.preservica.com. Pricing is subject to agreement of terms and conditions.

In response to the information provided in **Section II. Background**, the subsequent growth is projected at 5%/year. In either configuration, additional storage can be added at any time during the agreement. The add-on amounts are in 1TB increments. The following table confirms the price per TB per year for additional storage for either the 14TB or 28TB configuration.

Subsequent Growth, Cost per TB per Year of Additional Storage

Item	Term/Qty	Cost	Total
Preservica 1TB S3 Storage, Add-on storage	12 months/1	\$1,450/year	\$1,450/year
Preservica 1TB Glacier, Add-on storage	12 months/1	\$550/year	\$550/year
Set up fees for add-on storage	12 months/1	N/C	N/C
Support fee for add-on storage	12 months/1	N/C	N/C
Maintenance fees for add-on storage	12 months/1	N/C	N/C

Pricing Summary Notes:

Section F, Renewal of Contract: Preservica can provide a multi-year (e.g. 3, 4 or 5 years) Initial Term of Contract that will **guarantee prices** of the entire period to JMU.

- Preservica does not currently have active projects or revenue with VASCUPP Member Institutions (www.vascupp.org)
- Preservica does not accept charge cards thus there will be no charge card processing fees billed to the University.

Preservica utilizes a **Customer Care Manager** to quickly on-board you and get the project moving without delay.

The **Professional Help Desk** included in the subscription is staffed by experts who utilize a professional help desk system to manage help desk requests and responses. There is no limit on the number of trouble tickets that can be submitted and customers are highly pleased with the support they receive.

The **Customer/Community Portal and User Group** is included in the subscription as well to allow you to connect with community members and to share your input and even vote on new features and functions that you would like to see in upcoming releases (for example, Aug 2016 user group meeting in Atlanta).

The Preservica service is the **Recognized Solution** for preserving digital records and content, built to international specifications including the Open Archival Information System reference architecture (OAIS-ISO-14721:2012) and is in use by academic libraries, archives (city/state/national/corporate) museums, and cultural heritage institutions around the world.

Preservica is an **ISO 9001: 2008 and ISO 27001: 2013** information security management certified organization that is committed to providing best quality, secure service, on time and to budget every time.



Preserving Appalachian History, 100 Terabytes and Counting

The sound of Appalachian music is alive at Berea College, and Preservica is working closely with the Special Collection and Archives department to ensure its large and unique sound collection, as well as the rest of its archives, are both digitally preserved and universally accessible.

Background

Berea College is a small liberal arts college in Kentucky formed by ardent abolitionists and radical reformers in 1855. The school's original mission – that all people deserve an education – continues today, and Berea provides educational opportunities primarily for students from Appalachia, who have great promise and limited economic resources. No student is charged tuition, and all students must work at least 10 hours per week to earn money for books and room and board.

As the South's first interracial and co-educational college, Berea has generated a rich legacy, with many historical treasures to archive. The Berea College Special Collections and Archives department houses materials that document the history and culture of Berea College and the Southern Appalachian Mountain region. The collection has particular strength in its sound and video collections; documenting traditional music and mountain culture.

The digital archives being preserved are all non-commercial – one of a kind, stored on a variety of now mostly obsolete formats.

They document Appalachian history and culture, as well as the history of Berea College. The collection is especially strong in the areas of traditional music (banjo and fiddle for example), religious expression, spoken lore, radio programs, oral history, and college events and personalities. It includes field recordings from homes and churches by collectors, including local and regional folk festivals, student performances, presentations of notable scholars, preachers, and social activists who have visited Berea.

Challenges

The digital collection is vast, approaching 100TB due to the inclusion of many large sound files. The large size is due to the inclusiveness of the files. Rather than deleting intervals between recital sound recordings to reduce file size, Berea has kept all files in their entirety in an effort to capture an end-to-end cultural experience, complete with background chatter from the audience. The video files were especially large, with some files over 500 GB each. For a liberal arts college with an annual enrollment of 1,600 students, this is an unusually large volume of digital material.

The migration of such a large collection was an important consideration in the project and had to be perfectly planned and scheduled so that nothing was lost.

In 2015, after an extensive research and selection process, Berea selected Preservica as its partner of choice to digitally preserve and protect its collection, and to make it publicly accessible. "The Preservica team is fantastic to work with," says Rachel Vagts, Head of Special Collections and Archives at Berea. "They have come up with a solution that works perfectly, and we always have a variety of people to answer our questions."

During the selection process of determining what would work well for us, it quickly emerged that Preservica Cloud Edition was the most economically feasible choice for the institution. "Preservica have been a great technical resource, and the solution has not broken the bank," says Vagts.

Solution

The first challenge the collection presented was that, because of the college's desire to allow access to the large collection, Berea needed not only a digital preservation system but also an access front end. To solve this issue, Preservica was able to easily integrate with the archive's existing IT ecosystem, including the ArchivesSpace application.

Preservica demonstrated a proof of concept that met all Berea's requirements, including their use of the cloud, which would preserve the collection and make it universally accessible to the wider research community.

To enable Berea to safely and rapidly move its collection to the cloud, they are using Preservica's Bulk Upload Service. The Preservica Bulk Upload Service works in conjunction with Amazon Web Services (AWS) Import/Export tool to accelerate moving very large amounts of content into and out of the AWS Cloud. This is accomplished by using portable storage devices for transport.

The Future

The finished solution will be available via Berea College Special Collections and Archives website, the objective being to share its fascinating history as widely as possible. "We're very excited about this project," says Vagts. "We have such an extensive collection of unique sound and video, and it's great that our students and the worldwide research community will be able to access it."

As Berea pioneers the way forward for other educational institutions in the US and beyond, Vagts highlights that the project is not only helping Berea, but also archivists around the world:

"I love the collaborative nature of this," she says. "I love the fact that we've been able to fund a project that will ultimately help my profession. Berea's history is so great, and the giving nature of the college has really filtered down through the collections we have. We are documenting history and making it accessible to everyone, and that's something to be proud of."



"The Preservica team are fantastic to work with. They provided a solution that will allow us to securely preserve our unique digital collection as well as make it accessible to a wider audience."

Rachel Vagts, Head of Special Collections and Archives, Berea College



Preservica Cloud Edition v5.7

Preservica is a world leader in digital preservation technology, consulting and research. Our active preservation solutions are used by leading businesses, archives, libraries, museums and government organizations globally, to safeguard and share valuable digital content, collections and electronic records, for decades to come. Preservica Cloud Edition (CE) is a comprehensive cloud-hosted active preservation and public access platform. CE combines a rich set of OAIS compliant preservation workflow's with affordable and durable cloud storage, most suited for small and mid-sized organizations with limited local IT resources or servers, looking for a comprehensive out-of-the-box preservation solution.

Overview

Preservica CE contains all the functions required to deliver advanced Digital Preservation, as specified in the Open Archives Information System (OAIS) reference architecture (ISO 14721:2012):

Content Upload

Ingest allows users to load information into the archive in a managed and efficient manner. Preservica CE provides:

- Locally installable “SIP Creator” to
 - Build submission packages from locally held files
 - Assign descriptive metadata from fragments created elsewhere or by using a GUI
 - Select where in the hierarchy to place the submission
 - Upload content securely to Preservica
- Locally Installable “Transfer Agent”
 - Upload large submission packages, up to 100 GB per package, to the Cloud
 - Deploy locally or centrally as a shared service
 - Offload to the shared service for efficient background upload
- Upload content directly via browser (no local tool required)
- An optional CE Bulk Upload Service enables uploads of up to 80TB at a time quickly and easily, working in conjunction with AWS Import/Export Snowball
- Locally Installable “Upload Wizard”
 - Simple four step upload
 - Aimed at records producers and content creators

- Create and ingest a website snapshot by crawling a user supplied URL
 - Easily upload content, in multiple formats, resulting from digitization projects
 - Ability to upload DSpace packages and BagIt Bags
 - Ingest ISO disks images (e.g. images of CD, DVD and Hard Disk Drives)
 - Ingest directly from Microsoft SharePoint, PastPerfect and CONTENTdm
 - Preserve email from Microsoft Outlook (MSG, PST), Gmail and Lotus Notes
 - Workflow steps to perform quality assurance including:
 - Virus checking
 - Checksum verification
 - Checking permitted file formats
 - Checking metadata schema compliance
 - Metadata consistency
 - Built in technical metadata extraction required for preservation (for more see Preservation below)
 - Optional workflow to migrate file formats on ingest using user defined migration pathway (normalization)
 - Automated storage processes:
 - Index selected metadata and content
 - Coordinate storage passing the material into the archival database and cloud storage
 - Manual and automated workflows to perform all the ingest processes required
 - Ability to detect the ingest of duplicate files
- Checksums calculated on storage for each copy
 - Checksum re-calculated on access or at regular timed intervals on files at rest
 - Confirmation by Preservica CE that when a file is accessed, it is the same as the file loaded in ingest using its own checksum (choose from MD5, SHA-1, SHA-256, SHAR-512)
 - Ability to save selected portions of the collection to an external FTP server
 - Ability to split collection between Amazon S3 (fast storage) and Amazon Glacier (slow, lower cost storage)

Data Management

Preservica CE contains a range of capabilities to allow users to manage the metadata that describes the content:

- Metadata is held in Amazon's Web Services Relational Database Service
- Descriptive metadata can select from one or more standard metadata schemas provided (display and edit templates included)
 - Encoded Archival Descriptor (EAD) 2002
 - MODS 3.4
 - Dublin Core 1.1
- Alternately, descriptive metadata can make use of user provided descriptive metadata schemas
 - Add XML schema definition
 - Add transforms to present and edit the schema (XSLT)
 - Add templates to allow metadata with default values to be quickly added to information objects
- Content management functions provided:
 - Assign one or more metadata fragments to an information object (file, record / deliverable unit, collection)
 - Edit descriptive metadata on any information object
 - Hard delete information objects with approval steps and optional time limited recovery
 - View the audit trail of information and digital objects

Archival Storage

- Preservica CE stores its content within Amazon Web Services (AWS) storage systems. This provides the following functions
- Use of AWS Simple Storage Service (S3) to hold bulk information (files)
- Within S3, save files to multiple servers in multiple data centres within a given geography (usually within a 10km radius)
- Optionally encrypt content stored in AWS
- Isolation of content– each S3 logical "bucket" stores the content for one organization only
- Integrity checking of all objects held in storage

- Unlimited information hierarchy, with digital objects held at any level
- Drag and drop to organize and reorganize content and create virtual hierarchies
- Synchronize catalog metadata and collection structure from Axiell CALM, Adlib and ArchivesSpace

Access

Preservica CE provides a Web based “Explorer” to allow the browsing, searching, viewing and downloading of all metadata and content:

- Interactive features:
 - Explore the collection hierarchy, drilling down to information objects of interest
 - Flexible post ingest collection arrangement with drag-and-drop
 - Easy to build Virtual Collections to enable the rapid creation of temporary exhibitions
 - View the files and all metadata (description and audit trail) for any information object
 - View technical metadata for files
 - Thumbnail preview of files (for selected file formats)
 - Download any manifestation (representation) of an entire information object or selected file
 - In-browser rendering to view, listen or play content without having to download the file
- Search tools including:
 - Full text search of permitted file formats and metadata
 - Logical search functions (AND OR NOT etc.)
 - Fielded searches incorporating searching over any registered descriptive schema
 - Limit search to within a selected collection or deliverable unit
- External access
 - A brandable Web based portal to provide advanced search and easy public and internal access to collection content
 - Integration with content management systems via CMIS interface (read only)
- Workflows
 - Launch Access workflows, for example creating a Dissemination Information Package (DIP) for download or delivery,

transforming metadata for download into preferred schema either using the provided METS transform or a user provided transform, and sending notifications by e-mail and/or text when the DIP is ready for download

- Launch Data Management workflows for a specific information object, for example delete or move
- Ability to control access to content (or content and metadata) through roles and access control lists (see Administration)

Preservation Planning and Action

- Organization and Planning:
 - Uses File Format Registry based on the UK National Archives PRONOM database
 - Ability to perform preservation planning based on risks stored in the registry, or by simple selection of formats. This includes the ability to select preservation and presentation actions and to select migration pathways
 - Growing list of file formats recognized (currently 1200) and migration pathways (currently 590)
- Characterizing the collection:
 - Ability to perform file-level characterization including format identification, format validation and property extraction using best available tool
 - Ability to perform component identification and measurement of component-level essential characteristics (e.g. Web pages)
- Migration
 - Ability to perform migrations including post-migration verification of component-level essential characteristics
 - Ability to create new “Digital Master” preservation copies
 - Ability to create lower quality presentation copies used for dissemination
 - Ability to see and compare pre- and post- migration component information
- Support for Long Term Non-Permanent Records
 - Automatically classify and set access permissions during ingest

- Automate future actions (e.g. appraise, delete) based on policy rules
- Search by classification
- Standard tools provided including:
 - Identification / Characterization: DROID 6, JHOVE (JPEG, PDF, HTML, JPEG2000, AIFF, XML, TIFF, GIF, PNG), Native XML (validation only), Java Image IO (for image formats), Jakarta POI (for MS Office), Media Info (for video formats), Entagged Library (for audio formats), FiWalk (for disk images)
 - Migration: for example Native Java Image library (most image formats), Oracle Open Office (various office formats to PDF and PDF/A), Imagemagick (most image formats), FFMPEG (various AV formats), iCat, Handbrake (for web friendly video)
- Ability to perform embedded object extraction and iterative file-level characterization within container formats (e.g. ZIP, GZIP, TAR, MS Office)
- Implementation of all Preservation Actions via the standard workflow engine allowing more complex pathways or actions to be automated

Administration

- Includes a set of standard reports produced in PDF, XML or CSV formats:
 - Ingest Reports
 - Access Reports
 - Data Management Reports
 - Preservation Reports
 - Administration Reports
- Administration
 - Maintain Transfer Agreements with content suppliers
 - Manage schemas used for content description
- User Management
 - Create and suspend users
 - Create roles and assign to users
 - Users requested new password
- Comprehensive security model for information objects

- Define tags saying which actions can be performed by which user roles
- Assign tags to collections and records (deliverable units) allowing fine grain user access control to information objects

Support

Operations

- Preservica CE is operated by a professional operations team that keeps the system operating, maintains backups, checks performance and does test restores
- The hardware platforms are provided by Amazon Web Services via either a US (N. Virginia) or EU (Dublin) location
- Operations fall under our ISO 27001 (Information Security Management System) accredited processes
- There is no system administration requirement for the customer

Professional Services

Preservica CE is provided as the core at the heart of a Digital Preservation solution. It can be ordered and operating with 24 hours, and a range of professional services is provided to assist:

- Free “Digital Preservation Business Case” template
- Free “Calculating your Digital Value at Risk” spreadsheet
- Data migration service to define the process and method for preserving legacy application data
- Training for users and managers of the system

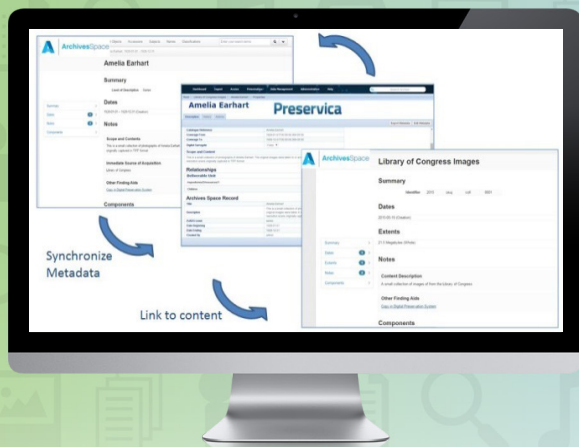
Professional Support

Preservica provides a full ongoing support service including telephone support, advice and guidance, and bug fixing.

Development Program

Peservica CE is under active development with major and minor releases made throughout the year. All development is performed under our ISO 9001 Quality Management System.

CE also includes a Software Development Kit (SDK), allowing third party systems to query for metadata & content stored in the archive.



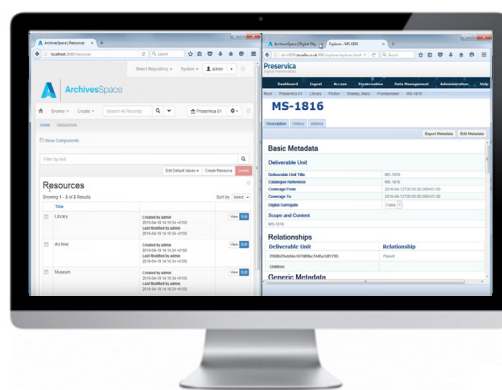
Preservica ArchivesSpace Connector

The Preservica ArchivesSpace connector provides an easy and automated way to synchronize metadata and catalog hierarchy between the two systems – simplifying the ingest of digital content and automatically maintaining changes after ingest.

This makes it easy to maintain a single ArchivesSpace catalog view across both physical and digital artefacts, avoids the need to re-key metadata and ensures your valuable digital content is safely preserved and accessible into the future.

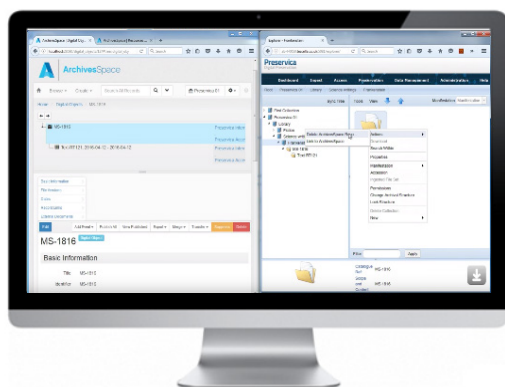
Maintain a Single Catalog View

During the ingest of digital content for safekeeping in Preservica the ArchivesSpace hierarchy and descriptive metadata is automatically recreated in Preservica. An easy to click link to the digital content in Preservica is also then added to the ArchivesSpace catalog entry.



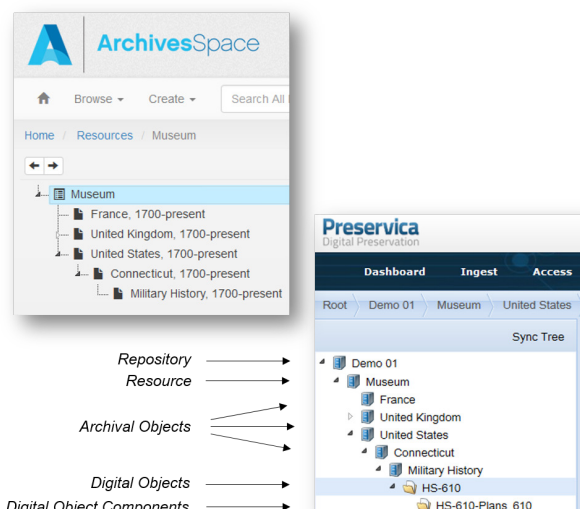
Automatically Synchronize after Ingest

Subsequent changes to the ArchivesSpace hierarchy or metadata are also automatically synchronized to Preservica on an on-going basis, even after ingest. In addition, digital objects deleted from Preservica will also be removed from the ArchivesSpace entry.



Metadata and Hierarchy Mapping

The Preservica ArchivesSpace connector comes with a default metadata and hierarchy mapping. Preservica provides a service to help build other custom mappings.



Key Benefits

- ✓ Maintain a single ArchivesSpace catalog view across both physical and digital artefacts
- ✓ Ensure your valuable digital content is safely preserved and accessible into the future
- ✓ Boost productivity by eliminating the need to re-key descriptive metadata or manually recreate collection hierarchy
- ✓ Simplify ingest and preservation of digital content by automatically synchronizing ArchivesSpace catalog hierarchy and metadata with Preservica
- ✓ Automatically maintain synchronization of changes made in ArchivesSpace on an on-going basis, even after ingest
- ✓ Automatically create one-to-one mapping and easy to click link to the Preservica object in the ArchivesSpace record
- ✓ Automatically synchronize deletions in Preservica, removing the matching ArchivesSpace entity
- ✓ Uses standard ArchivesSpace APIs – no need to use any additional plug-ins
- ✓ Developed in collaboration with Yale University Library, and built on proven catalog synchronization framework already used for Axiell CALM and Axiell Adlib connectors

Supported Preservica Editions		Supported in Preservica v5.6 onwards
Preservica Cloud Edition <ul style="list-style-type: none"> Limited to 100Gb per ingest 		Preservica All Editions <ul style="list-style-type: none"> Current version supports synchronization via the ArchivesSpace URI (the standard unique identifier used in ArchivesSpace) Workflow customization is not supported Default metadata and structure mapping provided Custom metadata and structure mapping available at extra cost

Requirements

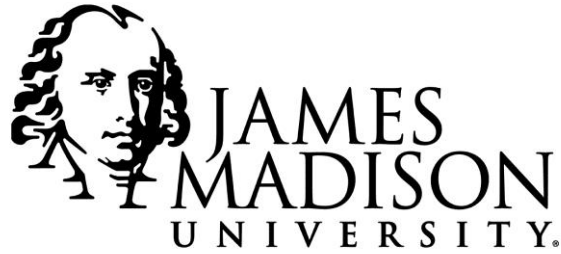
- ArchivesSpace version 1.4.2 onwards and compatible ArchivesSpace REST API
- Https access to ArchivesSpace (Preservica CE)
- Firewall rules for the Preservica JobQueue server to access the ArchivesSpace REST API
- Preservica upload client (SIP creator or Upload Wizard)

See it in Action

Preservica Product Insights Video: ArchivesSpace Synchronization: <http://preservica.com/resources/videos/>

www.preservica.com

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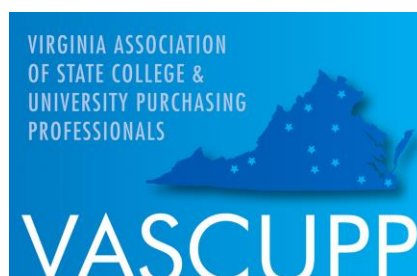
Request for Proposal

RFP # LBS-945

James Madison University will be closed for the Thanksgiving holiday from November 21st – 25th, 2016

**Long-Term Digital Preservation and Storage
Solution**

November 14, 2016



REQUEST FOR PROPOSAL
RFP # LBS-945

Issue Date: November 14, 2016
Title: Long-Term Digital Preservation and Storage Solution
Issuing Agency: Commonwealth of Virginia
James Madison University
Procurement Services MSC 5720
752 Ott Street, Wine Price Bldg.
First Floor, Suite 1023
Harrisonburg, VA 22807

Period of Contract: From Date of Award Through Three Years (Renewable)

Sealed Proposals Will Be Received Until 2:00 p.m. on December 13, 2016 For Furnishing The Services Described Herein.

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 540/568-7523 (Fax) 540/568-7936 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)

Title: _____

Date: _____

Phone: _____

Web Address: _____

Fax #: _____

Email: _____

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-945

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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 long-term digital preservation and off-premise (*dark archive*) storage solution for James Madison University (JMU), an agency of the Commonwealth of Virginia. Initial contract shall be for three (3) years with an option to renew for seven (7) 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 20,000 full and part-time students. The University employs approximately 2,900 full-time and part-time faculty and staff. More information about JMU can be found at www.jmu.edu.

Libraries & Educational Technologies (LET) at JMU supports learning across all academic units through robust programs offered by librarian liaisons and faculty development professionals, support for instructional technologies, collaborative learning spaces, and a progressive, user-oriented service model. LET provides services in three physical locations—Carrier Library, Rose Library, and the Music Library—as well as through comprehensive online services.

LET's Digital Collections is responsible for the maintenance and preservation of born-digital and digitized content for LET collections and select digital repositories. Currently, preservation of these materials is performed manually by Digital Collections staff using a variety of commercial and open-source tools. Content managed by Digital Collections is currently stored within LET by the Technology unit, and is approximately 14TB with anticipated growth during FY2017 to 28TB. Subsequent growth is projected at a rate of 5% per year.

III. SMALL, WOMAN-OWNED AND MINORITY (SWAM) 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 seeks an experienced Contractor that can provide all related software, professional services, implementation services, training, and staff required for a turnkey digital preservation and off-premise (*dark archive*) digital storage solution. Specifically, the solution must:

- Support processing and long-term preservation of curated digital content;
- Enable efficient long-term maintenance and storage of unique born-digital and digitized content;
- Ensure authenticity of digital materials through compliance with national and international digital preservation and metadata standards;
- Allow for multiple units within JMU's LET, with different processes and workflows, to seamlessly use the solution;
- Facilitate access of stored content;

- Provide off-premise storage of digital content through traditional hosting or Software-as-a-Service (SaaS).

The Contractor shall have available and be able to demonstrate the use and functions of the following components and/or features of a digital preservation and off-premise (*dark archive*) digital storage solution. It is expected that any proposed software will already be fully developed, tested, offered publicly for sale and available immediately for use. For this project, the University is not interested in custom developed software. Describe in detail the manner in which each item is addressed by the system.

A. Product Description

1. Overview of Solution and Services

- Provide an executive summary of the proposed solution including, but not limited to, name, version, included modules, and optional modules.
- Describe library and industry standards, formats, data types, and protocols supported.
- Describe any copyright compliance and access control.
- Specify the number of academic libraries where this solution is currently running in a production environment. Provide a list of no less than five (5) academic libraries that are current clients who JMU can contact for references.
- Describe the development methodology used for the product including details about testing and release implementation phases.
- Describe the process for determining enhancements to the system.
- Provide an outline of the long-term preservation strategy for content deposited in the system that provides details on vendor vs. customer responsibilities.
- Describe staffing requirements and technical skills required of the University to support the proposed system.

2. Functionality (General)

- Provide information regarding compliance with the OAIS Reference Model (ISO 14721) and any steps taken towards certification under ISO 16363, Trusted Digital Repositories, if applicable.
- Provide an overview of how the proposed solution houses, creates, stores, makes discoverable and/or delivers locally created digital content.
- Describe how menus are used within the system and describe available menu customizations and configurations (*specify any associated cost in Section X. pricing Schedule*).
- Describe any additional customizations available (*specify any associated costs in Section X. Pricing Schedule*).

- e. Describe how the proposed solution allows for multiple LET units, with various workflows and processes, to easily manage digital collections.
- f. Detail supported formats, including web-based and multimedia formats; describe any limitations on digital content.
- g. 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.
- h. Provide an overview of the system's capabilities for producing reports, including report output formats.

3. **Functionality (Digital File Processing)**

- a. Describe the user interface including any options for locally and externally hosted configurations.
- b. Describe predefined workflows. Describe the University's ability to create custom workflows.
- c. Describe the ingest process including ingest of individual files and batch ingest. Provide the recommended maximum of files per batch ingest, if applicable.
- d. Describe automated single file and batch ingest functionality including:
 - i. Fixity generation
 - ii. Verification of fixity values of original and item following ingest
 - iii. Virus check
 - iv. File characterization
- e. Describe any ability for automated normalization of files and ability to control or override those features.
- f. Describe system abilities to track actions performed on digital content (*audit trails*) and versioning.
- g. Describe the verification and validation of formats, including specific tools and format registries utilized.
- h. Describe the search capabilities within the proposed solution for ingested content.
- i. Describe any ability to create manifests, including manifest content. Provide a sample manifest.

4. **Functionality (Metadata)**

- a. Describe any support for automated extraction of metadata from individual files.
- b. Detail the metadata encoding schemas and content standards supported by the system, including but not limited to XML, Encoded Archival Description (EAD), Metadata Object Description Schema (MODS), Dublin Core, Visual Resources Association Core (VRA Core), PBCore, and PREMIS. Detail plans for incorporating future containers, alternative vocabularies and cataloging description methods.

- c. Describe support for thesauri, taxonomies, and standard language.
- d. Describe support for Linked Data model technologies (*e.g. Microdata, RDFa, JSON-LD, other RDF standards*).
- e. Describe the process for updating metadata records, including any batch process.
- f. Describe safeguards, data validation, error detection, and other system support for ensuring accuracy and integrity of records.
- g. Describe the ability to extract, manipulate, and reload data.
- h. Describe interoperability and data/content synchronization with other systems, including library catalogs, discovery tools, and repositories, including but not limited to OAI-PMH, SOAP, RESTful APIs.
- i. Describe other notable metadata capabilities.

5. Functionality (Preservation Storage)

- a. Describe method of storage (*internal servers, cloud storage, etc.*) including:
 - i. commercial content providers utilized, replication strategy,
 - ii. geographic diversity of storage,
 - iii. steps taken to ensure secure storage of content, including back-up protocols and schedules,
 - iv. process and costs associated with retrieving files from all storage methods.
- b. Describe the methods employed for ensuring the authenticity and integrity of individual digital objects.
- c. Describe recovery procedure utilized in case of loss of content.
- d. Detail storage capacity and increments for upgrades, if applicable.

6. Functionality (Administration)

- a. Provide an overview of the capabilities for administering the solution that the library can perform without vendor assistance.
- b. Describe active user groups and associated functions.
- c. Describe system support for user accounts, including:
 - i. defining and creating user accounts,
 - ii. assigning permissions for individual functions or function groups,
 - iii. process for maintaining and deleting user accounts,
 - iv. options for periodic password reset reminders.

B. Technical

1. Describe platform, system architecture, and storage environment.
2. Provide detailed hardware, software, network, and technical requirements for services and associated software for both Windows and Macintosh desktop environments, including any associated local technical requirements, including but not limited to browser versions supported, browser configuration requirements, or necessary plug-ins.
3. Describe security features for the solution, including possible login methods (*LDAP, Shibboleth, User Account*).
4. Describe scalability of solution, include any system limitations whether hard-coded or incidental (*e.g., maximum upload file size, maximum files in container*).
5. Describe operational monitoring.

C. Implementation and Training

1. Describe implementation and migration timeline and project plan. Include a sample project plan(s) (*specify any associated cost in Section X. Pricing Schedule*).
2. Describe training offerings for initial installation and for subsequent trainings as needed (*specify any associated cost in Section X. Pricing Schedule*).

D. Maintenance and Support

1. Describe procedures that the University would follow for reporting issues with the system. Describe escalation procedure.
2. Specify customer support hours and any limitations on support outside of normal office hours.
3. Describe procedure for handling software upgrades and updates.
4. Describe procedure for acquiring additional storage during existing contract year.
5. Describe the nature of services and associated software enhancements in development that are scheduled for release in the next two years.
6. Describe services not available during scheduled maintenance.
7. Describe capabilities for remote support and indicate the access to accounts and systems that would be required. Describe the locations from which this activity would take place.
8. Describe all maintenance options/tiers and whether they vary in cost by time of day, response time, etc. (*specify any associated cost in Section X. Pricing Schedule*).
9. Describe services that may be required in the normal course of operating the system that are not covered under a maintenance agreement.
10. Describe your system availability and uptime Service Level Agreement (SLA).

11. Describe your notification process for scheduled maintenance and upgrade downtime.
12. Provide a copy of your Disaster Recovery Plan.

E. Trial Access, Documentation, and Demonstration

1. Provide to the University the opportunity to test the functionality of the proposed system via username and password access or via IP-authenticated access. The JMU IP addresses are 134.126.*.*. Provide instructions for this trial access with submitted response. Specify if the trial access is being provided on any server other than the normal production server.
2. Provide to the University the full and complete technical and administrative documentation for the proposed system. Provide instructions for access to the documentation with submitted response. JMU may consider the technical and administrative documentation and access to the documentation proprietary and confidential if specified.
3. Describe customer resource site (*e.g., documentation, troubleshooting FAQ, product information, release notes, upgrades and patch information*) and provide the url.
4. **The University may request select offerors to provide a demonstration of the proposed system during the week of January 30th – February 3rd, 2017.** Selected offerors will be given as much advance notice as possible; however, all offerors should maintain flexibility in scheduling during this week.

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 five (5) 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 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 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 any 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 modifications 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 should 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 acknowledgments, 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. A written narrative statement to include, but not limited to the expertise, qualifications, and experience of the firm and resumes of specific personnel to be assigned to perform the work.
4. Offeror Data Sheet, included as Attachment A to this RFP.
5. 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.
6. 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.
7. Proposed Cost. See Section X. “*Pricing Schedule*” of this Request for Proposal.

V. EVALUATION and AWARD CRITERIA

A. EVALUATION CRITERIA:

1. Quality of products/services offered and suitability for the 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 and 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.

VI. GENERAL TERMS AND CONDITIONS (Revised 8/18/15 ABS)

- 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 Governing Procurement, Chapter 2, Exhibit J, Attachment 1 § 53; available for review at <http://www.jmu.edu/procurement>*).
 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 subcontractor(s), 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 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) 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, 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:

- a. For orders issued July 1, 2014 and after, the Vendor Transaction Fee is:
 - (i) Department of Small Business and Supplier Diversity (SBSD)-certified Small Businesses: 1%, capped at \$500 per order.
 - (ii) Businesses that are not Department of Small Business and Supplier Diversity (SBSD)-certified Small Businesses: 1%, capped at \$1,500 per order.

For orders issued prior to July 1, 2014 the vendor transaction fees can be found at www.eVA.virginia.gov.

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 US 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.

VII. 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 Number	

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 seven (7) 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; 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. **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.
- L. **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.

- M. 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,
- N. 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.
- O. 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.
- 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. 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. 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*.

- V. STANDARDS OF CONDUCT: The work site will be occupied by students and University Personnel during the times work is performed. Contractor and Contractor's personnel shall exercise a particularly high level of discipline, safety and cooperation at all times while on the job site. The Contractor shall be responsible for controlling employee conduct, for assuring that its employees are not boisterous or rude, and assuring that they are not engaging in any destructive or criminal activity. The Contractor is also responsible for ensuring that its employees do not disturb papers on desks, or open desk drawers, cabinets, or briefcases, or use State phones, and the like, except as authorized.
- W. 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.
- X. 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.

- Y. 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.
- 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. 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.
- CC. 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.
- DD. 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.

VIII. 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/acctgserv/expenditures/vendor_pay_methods.shtml

IX. PRICING SCHEDULE

The offeror shall provide pricing for all products and services included in proposal indicating one-time and on-going costs.

Specify any associated charge card processing fees, if applicable, to be billed to the University.

The resulting contract will be cooperative and pricing shall be inclusive for the attached Zone Map, of which JMU falls within Zone 2.

X. ATTACHMENTS

Attachment A: Offeror Data Sheet

Attachment B: Small, Women and Minority-owned Businesses (SWaM) Utilization Plan

Attachment C: Standard Contract Sample

Attachment D: Zone Map

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 #
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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: _____
Listing of Sub-Contractors, to include, Small, Woman Owned and Minority Owned Businesses
for this Proposal and Subsequent Contract

Date Form Completed

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)

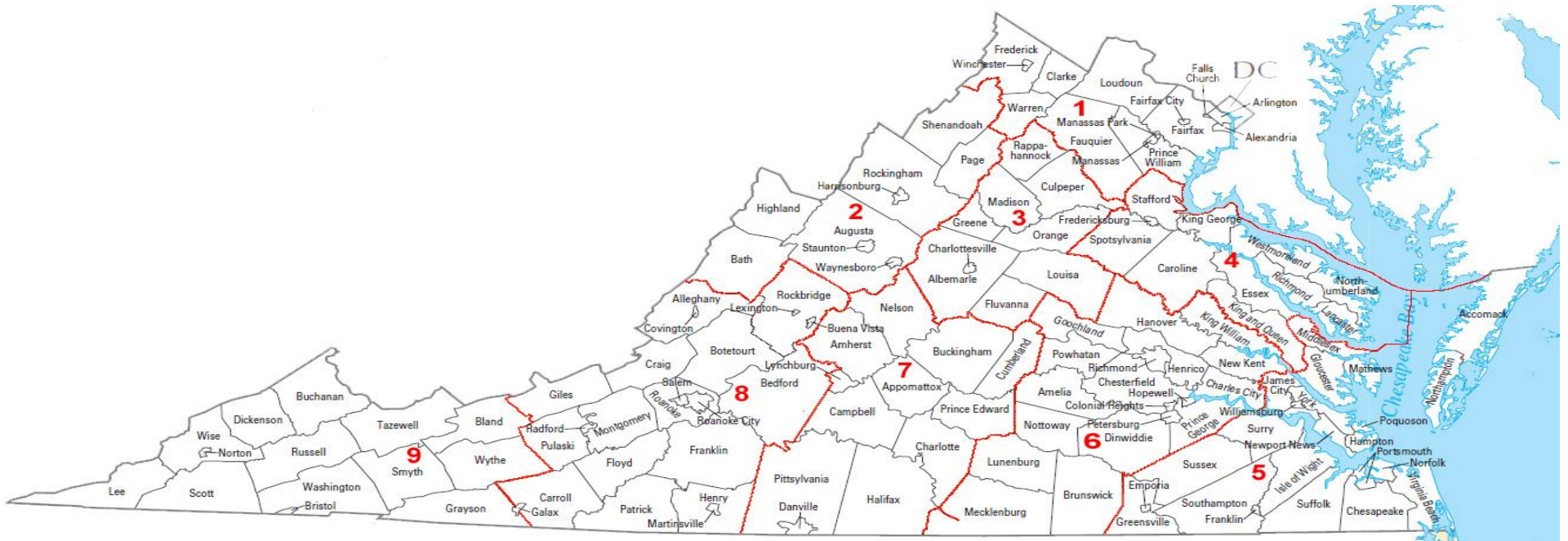
(Printed Name)

Title: _____

Title: _____

ATTACHMENT D

Zone Map



Virginia Association of State College & University Purchasing Professionals (VASCUPP)

List of member institutions by zones

Zone 1

George Mason University (Fairfax)

Zone 4

University of Mary Washington (Fredericksburg)

Zone 7

Longwood University (Farmville)

Zone 2

James Madison University (Harrisonburg)

Zone 5

College of William and Mary (Williamsburg)

Old Dominion University (Norfolk)

Zone 8

Virginia Military Institute (Lexington)

Virginia Tech (Blacksburg)

Radford University (Radford)

Zone 3

University of Virginia (Charlottesville)

Zone 6

Virginia Commonwealth University (Richmond)

Zone 9

University of Virginia - Wise (Wise)



December 7, 2016

ADDENDUM NO. ONE

TO ALL OFFERORS:

REFERENCE: Request for Proposal No: **RFP# LBS-945**
RFP Issue Date: **November 14, 2016**
Commodity: **Long-Term Digital Preservation and Storage Solution**
RFP Closing On: **December 13, 2016 at 2:00 p.m. (Eastern)**

Please note the clarifications or change(s) made on this proposal:

1. Question: Is this RFP for a totally hosted, completely off-premise solution?

Answer: Storage would be off-premise; tools need to be accessible locally- either locally hosted or hosted-by-provider as part of a total preservation solution.

2. Question: Reference Section IV, Part D Maintenance and Support, Question 7: *Describe capabilities for remote support and indicate the access to accounts and systems that would be required. Describe the locations from which this activity would take place.*

This question infers that JMU is requiring that preservation tools be installed at JMU. Is this a requirement? If so, do you have existing hardware servers that can be used and what are their specifications or would servers need to be procured as well?

Answer: JMU is not requiring that preservation tools be installed at JMU (*see response to Question 1 above*). Depending on where the preservation tools are hosted (locally or off-premise), offerors should indicate within their response to this question if remote support is a component of the product support strategy. For locally hosted preservation tools, servers do not need to be a part of the offeror's proposal; however, offerors should indicate any server specifications within their proposal.

3. Question: What operating system is the standard within JMU and expected to be used on this project?

Answer: Offerors should provide information regarding the proposed system's operating system requirements in their response to IV. B. 2 of RFP# LBS-945.

4. Question: Reference Section IV, Part A.5 Functionality (Preservation Storage), Question a: *Describe method of storage (internal servers, cloud storage, etc.).*

Regarding the storage aspect, it seems clear that JMU is asking for an off-premise (dark archive) digital storage solution; however, why ask about "internal servers" if the storage solution being sought is off-premise?

Answer: Within their response, Offerors should specify the location of off-premise storage (*i.e. on the offerors internal servers, cloud storage, etc.*)

Question: Regarding access and knowing that you are seeking a dark archive, which indicates little or no access, can you explain at what frequency you expect to access your content that is in the off-premise storage solution? Roughly how often?

Answer: **There are no requirements regarding the amount of access to content JMU expects to have. Offerors should provide all options in their response to IV. A. 5. a. iv of RFP# LBS-945.**

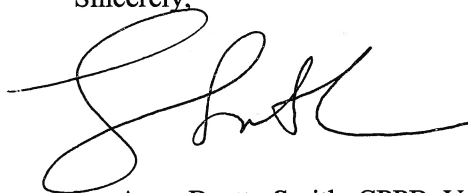
Question: Is there a separate system that is providing access copies of what is in the dark archive and if so what is that system and does it need to integrate with the new Long-Term Digital Preservation and Storage solution?

Answer: **There are no requirements regarding the proposed solutions integration capabilities. If relevant, offerors should indicate which systems have been integrated with the proposed system previously and also describe plans for future integration capabilities in their response to IV. A. 1 of RFP# LBS-945.**

Question: Does JMU have access to IT expertise, programmers, and resources for this project? What skills are available and will they be expected to work on this project?

Answer: **JMU recognizes that a level of IT support may be needed to implement and support a solution. LET has expertise both in-house and with campus IT. JMU's level of IT support will depend upon the solution that is implemented. Offerors should provide detail on JMU staffing and technical requirements to *support* the proposed system in their response to IV.A. 1. h of RFP# LBS-945. Offerors should provide detail on JMU staffing and technical requirements to *implement* the proposed system in their response to IV. C.1 of RFP# LBS-945. JMU's preference is not to expend significant in-house hours on this solution.**

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Beatty Smith', with a large, stylized initial 'L'.

LeeAnne Beatty Smith, CPPB, VCA, CUPO
Buyer Senior, Contract Purchases
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December 9, 2016

ADDENDUM NO. TWO

TO ALL OFFERORS:

REFERENCE: Request for Proposal No: **RFP# LBS-945**
RFP Issue Date: **November 14, 2016**
Commodity: **Long-Term Digital Preservation and Storage Solution**
RFP Closing On: ~~December 13, 2016 at 2:00 p.m. (Eastern)~~
January 5, 2017 at 2:00 p.m. (Eastern)

Please note the clarifications or change(s) made on this proposal:

- 1. The closing date and time of RFP#LBS-945 has been extended. The new closing date/time is January 5, 2017 at 2:00 p.m. (Eastern).**
- 2. James Madison University will be closed for a Winter Holiday from December 21, 2016 through January 2, 2017. The University will reopen on January 3, 2017 at 8:00 a.m. (Eastern)**

Sincerely,

LeeAnne Beatty Smith, CPPB, VCA, CUPO
Buyer Senior, Contract Purchases
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