

## Assessment of product against OAIS compliance requirements

Product name: **Archivematica**

Date of assessment: 30/11/2013

Vendor Assessment performed by: Evelyn McLellan (President), Artefactual Systems Inc.

Scoring: Use 0 to 3 range, where the requirements are: not met (0), partially met (1), fully met (2), exceeded (3).

Score weighting uses Craig Borvsowich's *Constructing a Weighted Matrix* (2006).

TOTAL = Weight x Score.

Requirement	Necessity	Met?	How met	Comments	Vendor Comments	Weight	Score	TOTAL
001: ingest mixed content	Essential	Y	Archivematica implements a default ingest to access workflow that is compliant with the ISO-OAIS functional model. The web dashboard allow users to process, monitor and control the Archivematica ingest processes.	<i>Content to be ingested needs to be transferred to the Virtual Machine running Archivematica. In coming releases, the dashboard will support a transfer backlog linked to accession data as well as indexing, analysis, arrangement and minimal description of transfer(s) into SIP(s).</i>	<b>Content to be ingested needs to be transferred to the Virtual Machine running Archivematica. In coming releases, the dashboard will support a transfer backlog linked to accession data as well as indexing, analysis, arrangement and minimal description of transfer(s) into SIP(s).</b>	5	2	10

Requirement	Necessity	Met?	How met	Comments	Vendor Comments	Weight	Score	TOTAL
002: import records from EDRMS	Conditional	N	No explicit support for EDMRS exports mentioned. No indication of future consideration on the Archivemata roadmap.	<i>Lower-level metadata imports are mentioned, i.e. metadata to be attached to subdirectories and files within a SIP. Could in theory support import of EDRMS records but requires extensive manual input.</i>		2	0	0
003: AIP creation	Essential	Y	Part of the Ingest process. After normalisation is approved, the SIP runs through a number of micro-services, including processing of the submission documentation, generation of the METS file, indexing, generation of the DIP and packaging of the AIP.		<b>Archivemata creates a highly interoperable, standards-based (METS, PREMIS, Dublin Core) AIP that can easily be opened and read on any standard file browser. The AIP is packaged in the Library of Congress BagIt format. When the AIP is placed in archival storage, a copy of the AIP is immediately extracted and BagIt verification is run on all contents to</b>	5	2	10

Requirement	Necessity	Met?	How met	Comments	Vendor Comments	Weight	Score	TOTAL
					ensure successful placement in archival storage. Please make sure that this information is included in any assessment of Archivemata, as this is one of its key features. This component should receive a higher score.			
004: UID assignment	Essential	Y	Assigns a unique universal identifier and sha-256 checksum to each file in the /objects/ directory.		All contents receive UUIDs and checksums, not just the contents of the objects directory.	5	2	10
005: virus and quarantine	Essential	Y	Uses ClamAV, parses the output and creates a PREMIS event. If a virus is found, the SIP is automatically placed in quarantined folder.		No. The user has the option of placing a transfer in quarantine for a selected period of time to allow virus definitions to mature. If a virus is found, the transfer is sent to the "failed" directory and all processing stops.	5	2	10

Requirement	Necessity	Met?	How met	Comments	Vendor Comments	Weight	Score	TOTAL
006: file format identification	Essential	Y	Identification / Characterisation: FITS (Bundles file utility, fident, DROID, JHOVE, FIDO, Tika, mediainfo).			5	2	10
007: validation	Essential	Y	Identification / Characterisation: FITS (Bundles file utility, fident, DROID, JHOVE, FIDO, Tika, mediainfo).			5	2	10
008: checksums	Essential	Y	The physical structure of an information package includes checksum. Checks any checksum files that were placed in folder of the transfer prior to moving the transfer into Archivemata.			5	2	10
009: technical metadata extraction	Essential	Y	Built in technical metadata extraction incorporated into FITS output.			5	1	5
010: descriptive metadata	Essential	Y	Uses Dublin Core and other best practice metadata standards.	<i>GUI Dublin Core template to indicate field mapping to ISAD(G) added in release 0.10. Needs testing to confirm functionality. No mention of specific resource discovery metadata standards (e.g. OAI-PMH).</i>	<b>We have not included this mapping in 1.0. Note that minimal metadata entry is included in Archivemata because we expect rich descriptive metadata enhancement be undertaken in</b>	5	1	5

Requirement	Necessity	Met?	How met	Comments	Vendor Comments	Weight	Score	TOTAL
					external access tools, including AtoM.			
011: preservation metadata	Essential	Y	Uses METS, PREMIS and other best practice metadata standards. Generates a basic METS file. Designed to capture the original order of the transfer. A copy of the METS file is automatically added to any SIP generated from the transfer.	<i>This interface also allows users to easily add or edit metadata.</i>	<b>An AIP METS file is also generated, containing a robust PREMIS implementation and any descriptive and rights metadata included in or added to the SIP.</b>	5	2	10
012: permanent storage	Essential	Y	Once ingest is complete, selecting a location to "Store AIP" in the Actions drop-down menu compresses and zips the AIP and moves it into Archival storage. A remote network mounted directory can be configured for location of AIP's.	<i>Archivematica does not provide permanent storage itself. External storage would have to be procured.</i>	<b>Archivematica 1.0 includes a storage API designed to allow it to store AIPs in different types of storage systems, including LOCKSS and Fedora. Integration with LOCKSS is currently underway.</b>	5	1	5
013: managed storage	Essential	Y	The AIP directories are broken down into UUID quad directories for efficient storage and retrieval. Archivematica uses a directory tree structure to store AIPs.	<i>Archivematica allows directories and sub-directories, though it's not clear how much the Archivist can control these features.</i>	<b>The archivist can create any level of folder hierarchy in a transfer/SIP. But this is not related to the quad storage feature, which is done for quick retrieval of AIPs</b>	5	1	5

Requirement	Necessity	Met?	How met	Comments	Vendor Comments	Weight	Score	TOTAL
					from archival storage.			
014: error-checking	Essential	N	No mention of ability to perform integrity checking on storage. media.	<i>External storage could provide this functionality, e.g. Arkivum uses active integrity checking at all times.</i>	A checksum verification and AIP restore from backup module are under development and will be released next year.	5	0	0
015: AIP to DIP transformation	Essential	Y	Ability to create lower quality presentation copies used for dissemination.			5	2	10
016: technical metadata in database	Essential	Y	During archival storage, the AIP is moved into its storage repository.	<i>As of the 0.10 release, all METS metadata is indexed and searchable.</i>	The METS file is indexed by ElasticSearch and the data stored in a MySQL database.	5	2	10
017: descriptive metadata in database	Essential	Y	During archival storage, the AIP is moved into its storage repository.		See above.	5	2	10
018: preservation metadata in database	Essential	Y	During archival storage, the AIP is moved into its storage repository.	<i>As of the 0.10 release, all METS metadata is indexed and searchable.</i>	See above.	5	2	10
019: rights metadata in database	Conditional	Y	During archival storage, the AIP is moved into its storage repository.		See above.	2	2	4
020: database ease of use	Essential	Y	Database can be used out of the box in a relatively straightforward manner. Further customisation and support may require	<i>Open source deployment. Dependent on community for further refinements.</i>	Archivematica is under active development and is fully supported by Artefactual	5	1	5

Requirement	Necessity	Met?	How met	Comments	Vendor Comments	Weight	Score	TOTAL
			developer.		<b>Systems.</b>			
021: database queries on objects and events	Essential	Y	View the files and metadata description for information object.			5	1	5
022: database updates	Essential	Y	Edit descriptive metadata on any information object.			5	2	10
023: database reports	Essential	?	No explicit information found.			5	0	0
024: user requests	Conditional	?	No explicit information found.			2	0	0
025: inventories and reports	Essential	Y	Creates inventories for all file formats and digital objects but does not produce reports on their metadata.			5	1	5
026: audit trails	Conditional	Y	View the files and metadata description for information object.		<b>Archivematica produces a very comprehensive audit trail using PREMIS events, which capture the logged-in user as agent. This component should receive a higher score.</b>	2	1	2
027: automated agreements	Optional	?	No explicit information found.			0	0	0
028: rights policies	Conditional	Y	PREMIS rights added prior to normalisation.			2	2	4
029: migration	Essential	Y	Archivematica's primary preservation strategy is to normalise files to preservation and access formats upon			5	2	10

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			<p>ingest. Maintains the original format of all ingested files to support migration and emulation preservation strategies. Various normalisation options available:</p> <ol style="list-style-type: none"> <li>1) Normalise for preservation and access</li> <li>2) Normalize for preservation</li> <li>3) Normalize for access</li> <li>4) Do not normalize.</li> </ol>					
030: policy enactment	Optional	Y	The Format Policy Registry (FPR) is how Archivemataca manages preservation planning using format policies. A format policy indicates the actions, tools and settings to apply to a file of a particular file format.			0	2	2
031: template design	Optional	Y	Supports management of schemas used for content description.			0	2	2
032: DIP creation	Essential	Y	Creates a DIP containing access copies of the objects, thumbnails and a copy of the METS file.			5	2	10
033: DIP delivery	Essential	Y	Archivemataca provides a dashboard to allow the browsing, searching, viewing and downloading of DIP's.		<b>No, it allows the user to upload DIPs to access systems such as AtoM. The user can view and</b>	5	2	10

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					retrieve AIPs (or individual files within AIPs) via the archival storage tab, however.			
034: AIP to DIP audit	Essential	Y	View the files and all metadata (description only) for any information object. No audit trail included for transformation of AIP into a DIP.			5	1	5
035: access rights	Essential	Y	The dashboard provides a simple cookie-based user authentication system. Users can be created, modified and deleted.	<i>Access levels are not possible in current version, only creation of new users.</i>		5	2	10
036: managed access	Essential	Y	Partially, see 032.		Access management is excellent if default bundled access system is used. This component should receive a higher score.	5	1	5
037: consumer front end	Essential	Y	Archivemata provides a dashboard to allow the browsing, searching, viewing and downloading of DIP's.		Archivemata comes bundled with a default access system, AtoM, which allows users to create and manage accession records, archival	5	2	10

Requirement	Necessity	Met?	How met	Comments	Vendor Comments	Weight	Score	TOTAL
					descriptions, authority records and hierarchical taxonomies, and to view uploaded access copies of preserved digital objects. This component should receive a higher score.			
038: finding aid support	Essential	Y	Archivemata can upload DIP's to a limited amount of access systems (AtoM and CONTENTdm). AtoM is bundled with Archivemata as a default access system.	<i>Neither CALM nor ISAD(G) is mentioned.</i>	<b>ISAD(G) is explicitly supported in AtoM, as are Dublin Core, DACS, Canadian Rules for Archival Description, ISAAR(CPF), ISDIAH, and hierarchical taxonomies. Descriptions can be imported using EAD, DC XML, EAC and SKOS. This component should receive a higher score.</b>	5	1	5
039: representations	Essential	Y	Download any manifestation (representation) of an entire information object or selected file.			5	2	10
040: readers and	Essential	?	No explicit information found.		<b>Archivemata</b>	5	0	0

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access tools					comes bundled with a sophisticated access tool, AtoM. AtoM converts uploaded access copies to web-friendly display copies to allow rendering in the context of descriptive metadata.			
				<b>TOTAL SCORE:</b>			57	254