

The University of British Columbia Library	Document No.	###
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Title	Digital Preservation Implementation Plan	

Digital Preservation Activities

UBC Library’s digital preservation strategies are based around the preservation of the digital objects contained in its repository through the transformation of these objects to delay or prevent file obsolescence. In the course of these transformations, priority is given to maintaining the information contained in an individual digital asset, unless preservation of the original representation is necessary to maintain the context or authority of the asset.

To this end, UBC Library utilizes the following approaches to preservation.

Archival File Formats

UBC Library is committed to the use of file formats that support long term sustainability (*UBC Library File Format Policy*). The considerations for selecting file formats include the “openness” of the file format, its level of support as a preservation format in the scholarly community, and its suitability for later format migration.

Normalization

Upon ingest, materials not conforming to UBC Library File Format Policy will be ingested and converted to an accepted format, wherever possible. UBC Library will attempt to preserve the essential characteristics of the object, however, UBC Library reserves the right to transform the object in order to preserve its content rather than its presentation. In the case of digitized and born-digital textual records, where the representation of the record (i.e., the documentary form) communicates the record’s content, administrative and documentary context, and authority, the representation of the record will be preserved through the use of archivally recommended digital formats, such as PDF/A.

Format Migration

In the event that a portion of content is at risk of obsolescence, a new version of this content in a format more suited to long term preservation and use. This process may consist of migration to a newer version of an existing format, or transformation to a different format altogether. In all cases, preservation of the object’s intellectual content will be prioritized over presentation style.

Bit Stream Copying

UBC Library maintains regularly scheduled backups of all information contained in the repository for use in the event of data loss. All virtual machines are on high performance disks which by default are backed up weekly. AIPs are stored on network attached storage with both local and remote backup policies. A snapshot is taken every morning at 3am and vaulted over to a remote location at midnight the same day. Retention for AIPs is 7 days locally and 30 days remotely.

Fixity Checking

Materials stored in Archivematica are subject to regular fixity checks – comparisons of checksum values calculated at a given point in time with those generated at time of ingest. To check fixity of AIPs in storage, Artefactual has a separate command-line app called Fixity (further user documentation for Fixity is pending). Fixity checking alongside with bit stream copying mitigates the risk of objects becoming corrupt in the repository since it enables managers to identify damaged/corrupt data and to revert to a valid version of the object from a previous point in time. Materials stored on networked storage are not subject to fixity checks and there are no plans to implement fixity checks in the near future.

Documentation of File Formats

Upon ingest, every file in the repository is subject to identification of its file format and validation of that format using JHOVE. Also generated is a reference to the file format's entry in PRONOM. This association ensures that information is always available on the internal structure of the file, and can be further used to determine when the format migration activity should take place in order to mitigate risks posed by obsolete file formats.

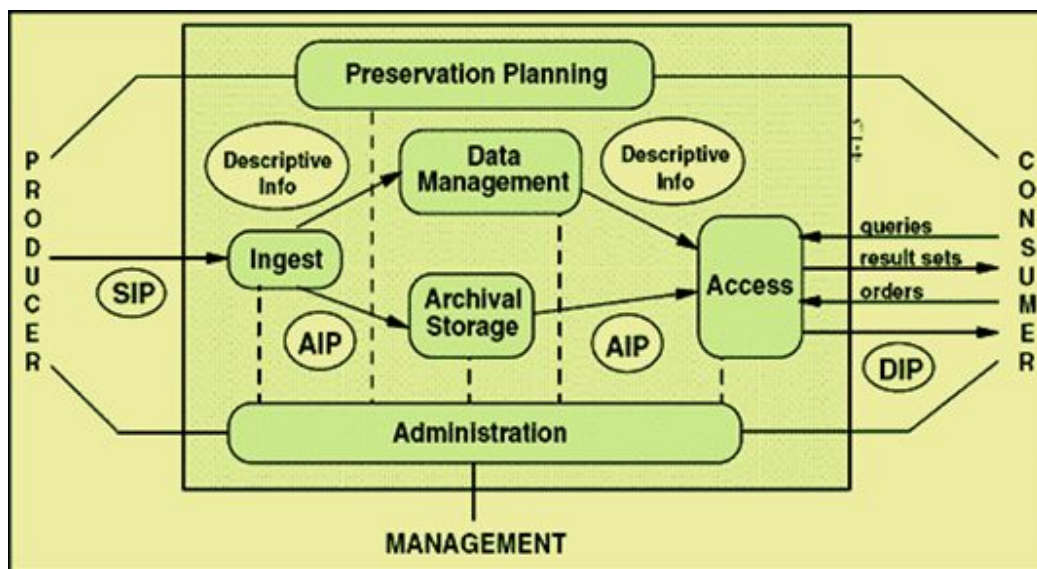


Figure 1. OAIS Diagram (citation)

Digital Preservation Scope

UBC Library's digital preservation program encompasses all digital materials that require decision and action from either a legal obligation or a perspective of interest (i.e., materials identified to be of significant interest to UBC Library and its community that fall within its overall collection policy/scope). Preservation decisions are based on the documented criteria (*Collection Management Policy* and *Preservation Levels* documentation) for assessing the fitness and long term access requirements of individual digital resources or collections. The scope of UBC Library's preservation program includes:

- UBC produced born-digital resources
- Digital surrogates produced by UBC Library
- Digital resources acquired by UBC Library through purchase, donation, or other agreement
- Digital resources preserved in partnership with other parties