The Academic Preservation Trust
Consortial approach to preservation and services

Abstract

The Academic Preservation Trust (APTrust) is a consortium started by twelve universities to create a preservation repository "*Owned by the Academy*" for aggregating academic and research content from a wide array of institutions.   Our central architecture links evolving, reusable, open source tools and development and content communities into a rich overall preservation system for expanded preservation workflow, restoration and future added-value services. As a Replicating Node in the Digital Preservation Network (DPN), we also facilitate the depositing of materials into DPN and help negotiate added succession and dark archiving services through that Federation. Building on a fundamental architecture for preservation, APTrust strives for openness and extensibility, allowing future services to be driven by community needs or developed in partnership with members.

History & Partnership Network

The APTrust consortium is committed to the creation and management of a preservation repository that will aggregate academic and research content from many institutions. Started in 2012 as a collaboration of twelve universities to provide a preservation repository owned by the academy with a growing service model and practices driven directly by feedback from its partners, which will in turn help refine and expand best practices for digital preservation across the field. Consortium members formed APTrust with the idea that a joint effort can provide greater utility, fuller administrative support, and opportunities to reduce redundancy and lower cost while better enabling content to support future access services.

Preservation Goals & Operating Principles

APTrust extends existing repository preservation practices by providing a geographically diverse, durable and reliable architecture that offers services that support robust preservation workflows. By serializing original repository content to reusable open formats like BagIt we can operate efficiently across a diverse population of repositories without limitations on content types. Aggregating serialized content allows APTrust to preserve materials as they were originally submitted, enabling restoration in the event of a catastrophic failure at the originating institution. Building a robust management interface over preservation packages allows institutions to take better control of their preservation workflows. Providing an extensible architecture will allow partners to help build expanded services and add value across the aggregated content.
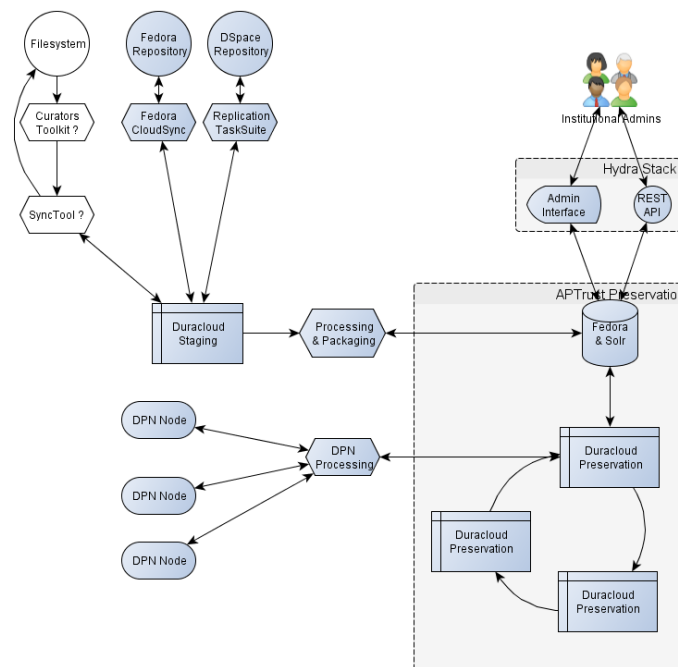
Aggregate Repository and Added-Value Services

Aggregating multi-institutional content creates broad opportunities to leverage economies of scale, improve practices by analyzing trends or connect content in ways not previously imagined.   Auditing and assessing preservation methods will inform better policy

recommendations and build better communities of practice. Aggregating digital content will provide the opportunity to offer alerts and build services for content-type migrations vital to long term durability. Services to identify shared resources in preserved collections will help reduce duplication and waste across the community as a whole. Extensible architecture will allow partners to build services over the aggregate repository to expand possibilities for all participants.

Leveraging Community Tools and Building Enhanced Services

Our architecture interconnects existing reusable software and standards developed by the preservation community. Content is copied with integrity using Duracloud open source software and utilities to support a variety of original repository types. Content is packaged with open standards like BagIt to ensure durability and reusable best practices. Preservation metadata and fixity data is managed through Fedora Commons for robustness and positions APTrust to work in partnership with Fedora Futures as it evolves. Workflow management interfaces, reporting tools, and APIs are built using the Hydra Stack for rapid development, strength of the expanding Hydra developer community and lowers the bar to entry for community contributions. Commitment to reusable tools and practices allows APTrust to focus on its core features and allows partners to participate in expanding our services.

Figure 1. APTrust Diagram.

Node in the DPN Federation

APTrust serves as a node in the DPN Federation to offer even deeper levels of preservation, including succession-rights planning and support. DPN is a dark archive comprising a Federation of nodes each providing resilience through diverse architecture and even greater durability. DPN allows content to survive the failure of any single node via redundancy of the

network and succession of content throughout the Federation. APTrust focuses on workflows for preserving, updating or deleting current digital objects while DPN offers permanent preservation and versioning of digital content to maintain its integrity and recoverability for posterity.

Figure 2. DPN Node structure. (copyright cc-by 2013, Andrew Woods)