Hydra North: University of Alberta’s Hydra DAMS Implementation

Background

UAL’s digital initiatives’ infrastructure has evolved over the course of more than a decade of digitization and repository development work. Technology choices of the past were based upon best fit and available expertise at the time the projects were conceived and executed - a strategy which served us well in our earlier years. UAL has experienced a steep rate of growth in the number of supported projects and collections, with even greater demands anticipated in the next 5-10 year window. To add to the equation, an increasing number of potential technologies and standards now exist where before they were few in number. The complexity of managing digital assets in stable ways requires a new way of thinking about the proper stewardship of digital assets going forward.

UAL will support a trustworthy Digital Asset Management System (DAMS), which represents a consolidated access, discovery and preservation software/technology stack. Characteristics of our stack include: scalability, extensibility, predictability, stability, and very importantly – community-based support.

Objectives

• Scalable architecture that anticipates significant growth in the years to come
• Scope controls for projects and collections
• Stability of systems, well-managed risk, and transparency of process
• Sustainability via a consolidated, community-supported technology stack
• Success measures, assessment and end-user experience improvements that can be applied broadly across collections

The heart of the DAMS is the set of content models. These govern what an object can contain and how it can be displayed, indexed and used. In the DAMS the same content model will be used for similar objects in different collections. Along with metadata standards, this will enable a coherent Blacklight index containing all items in all our digital collections. Multiple public interfaces can then be easily provided by faceting the index and skinning the display, and enabling special features. All of this is backed by a single system of identifiers (DOI, usable as ARKs) and a single storage platform (Swift), assuring data integrity.

Questions we have …

• How did you prepare your existing metadata for the same project, or separately?
• How did you go about your data and content modelling?
• How did you prepare your existing metadata for the move to Hydra? Did you tackle existing and new as part of the same project, or separately?
• What are the most difficult and important aspects of an Avalon implementation that we should consider?

Research Data

UAL is dedicated to providing services – tools, expertise and platforms – to enable researchers to organize, share, access and preserve data. Datsource and Archivematica are two tools currently in production for dealing with research data in a variety of formats from across disciplines.

Peel’s Prairie Provinces

Peel’s Prairie Provinces is a resource dedicated to assisting scholars, students, and researchers of all types in their exploration of western Canadian history and the culture of the Canadian prairies. The website contains both an online bibliography of books, pamphlets, and other materials related to the development of the Prairies, as well as a searchable full-text collection of many of these items. As of Summer 2013, after 10 years worth of additions, Peel contains approximately 7,500 digitized books, over 66,000 newspaper issues (4.8 million articles), 16,000 postcards, and 1,000 maps. These materials are extremely varied – rich in both text and images, providing an extraordinarily diverse picture of the Prairie experience. Many of the items date back to the earliest days of exploration in the region and include a vast range of material dealing with every aspect of the settlement and development of the Canadian West.

ERA

The University of Alberta hosts ERA: Education and Research Archive, a digital repository to collect, disseminate, and preserve the intellectual output of the University of Alberta. ERA is a database with robust supporting storage and preservation infrastructure, as well as a service commitment to the University of Alberta community. ERA allows open access to University of Alberta intellectual content whenever possible to promote our institution. Such a policy promotes global opportunities for discovery and promises to maximize the impact of knowledge generated at the institution. The repository will also preserve items of research importance that cannot currently be distributed due to copyright restrictions, along with all other content in the database. Current content includes nearly 17,000 theses, more than 1,600 journal articles, small datasets, audio, video and more.

OpenStack Swift

OpenStack Swift is an open-source massively-scalable object storage system, enabling redundancy across geographical locations. It is the storage platform for all of our digital preservation activities. Our initial implementation has zones in three locations in Edmonton, on two separate electrical grids. We hope to establish collaboration with other institutions to get wider geographical dispersal.