The Digital Asset Management System (DAMS) at the Smithsonian Institution

At the Smithsonian Institution, stewarding digital assets – managing how they are collected, stored, preserved, secured, accessed, and exhibited – is an institution-wide concern. The Institution has deployed an enterprise digital asset management system to support this effort.

The Smithsonian Digital Asset Management System (DAMS) is a major component of the Smithsonian's digital and collections support infrastructure and was included in the Smithsonian Information Technology Plan. The system supports all units, has 1,000+ users, and contains tens of millions of images, audio, video, and supporting documentation records. Find more information and documentation at si.edu/dams
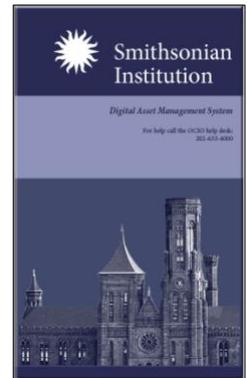
A Digital Asset Management System
A digital asset management system consists of management tasks and decisions surrounding the ingestion, annotation, cataloging, access, storage, retrieval, distribution, and preservation of digital assets. It has multiple application components including web and networked user interfaces, a database back-end, a search index, and a large, robust fault tolerant storage infrastructure. It provides automatic extraction of metadata, the ability to locate (search), transform, and deliver stored digital assets (images, audio, video, and PDF), enabling reuse of the same asset in a variety of formats and for varied purposes (editing, publishing, web, etc.). It provides a place for assets that may be stored in multiple formats and locations, all while providing cost-effective preservation, security, backup, and recovery.

Hardware
The technological infrastructure of the SI DAMS is housed and managed by the Smithsonian's centralized IT organization, the Office of the CIO (OCIO). The storage repository works together with the back-end database, transcoders, and ingest servers to support the technological needs of asset management, archiving, and delivery. Files are backed up, both on spinning disk and to tape, where redundant copies are geographically separated from the Institution's Data Center for robust preservation and disaster recovery planning. Managing the SI DAMS hardware components is a part of OCIO's larger plan for the care of SI's technology needs.
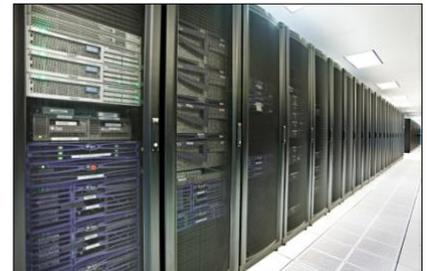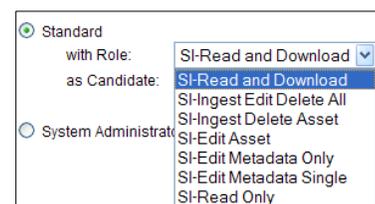
Open Text Media Manager
The Smithsonian has adopted the Open Text Media Manager (formerly Artesia) as its enterprise DAM system to address the storage, search, access, and retrieval of digitized assets. Features of the system include organization of assets and metadata, asset use, management, and security functionality. The internal system is accessible to SI staff members within the boundaries of the Smithsonian's intranet, delivered via a browser based user interface or API services to provide multi-channel distribution for re-use and repurposing of SI's digital assets. Any SI employee with a network ID can obtain a DAMS Account. The DAMS environment consists of an enterprise production DAMS system and also includes separate system development and testing environments.

Working with the Units
Of course, the Smithsonian is much more than an entity with a single mission. It encompasses nineteen museums, a zoo, nine research centers, and administrative units, each with its own mandate, stakeholders, communities, and methods for organizing and disseminating knowledge. Each organization within the Smithsonian Institution works with the DAMS team to set up permissions, roles, and administrative procedures for their unit. DAMS Point of Contacts at each Unit are essential partners to build the foundation in the DAMS according to the specific needs of each unit, whether a Museum, Archive, Research Center, Cultural Center, Administrative Body, Library, or Zoo. It is a solution that allows individual units to organize and manage their own collections and maintain their unique areas of expertise within the framework of an enterprise-wide service deployed and maintained by OCIO.

DAMS Security - User Groups and Roles
Upon creation of a user account, each user is given a DAMS role, specifying general permissions through a combination of Read, Ingest, Edit, Export, Delete roles. Users are then put into a user group in the DAMS. User groups are most often reflective of the Unit's organizational structure (NPG Education, for example), giving them access to the assets managed by this group, according to their role. All units ingesting content into the DAMS specify the level that others outside their group can access their content. This allows for a tiered, granular approach to user access and the security of assets. Only those people with appropriate security privileges and roles can access or modify the assets.

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SFF2017_7-06_Narrativ...

Description Footage of the 2017 Smithsonian Folklife Festival, held on the National Mall in Washington D.C.
ID 95750ec0c6d61d47c56157cfbab927c43b897ab3
Unique Asset Name CFCH-SFF2017_7-06_NarrativeSession_0010
SI Holding Unit CFCH-Ctr Folklife & Cltr Hertg
Digital File Size (MB) 20.19
Hot Folder Import ID Administrator, CDIS
Date Imported 08/02/2018
Export for Delivery Service No, Yes (For Internal Delivery Only)
Date: Properties Last Modified 08/02/2018

What Goes in the SI DAMS?

Digital assets exist as collection objects; as digital reproductions or "surrogates" for physical items in the collections; and as digital records as a result of research, programming, or events conducted by the Smithsonian Units. They exist in museum collections, in archival collections, in all departments across a unit, and through collaborative initiatives across units. Whether a collection asset, a digital derivative, or documentation of activities, all Smithsonian digital assets that are intended to be archived for current and future reuse may be stored in the SI DAMS. All units decide what assets will be retained and in what format. It is generally recommended that the highest resolution of an asset is stored in the DAMS, of which derivative copies can be made according to delivery purposes and needs, i.e. for print publication, website streaming, Museum exhibition, or reading room access, etc.

DAMS Metadata

Every asset in the DAMS is given a metadata record upon ingest. The DAMS currently has metadata models for images, audio, video, and digital art - with many overlapping fields. Each model contains metadata elements grouped into sections that include Administrative, Descriptive, Technical, Rights, Embedded (supporting field standards for images, audio, and video), Structural, Asset Delivery Controls, and Notes field groups. Over 100 fields have been standardized for each model across the Smithsonian, with just four required fields. Each unit works internally to standardize their process, create consistent metadata, and establish controlled vocabularies.

DAMS Ingest

Ingest to the DAMS predominately happens through an automated process using a configured mapped network folder, or a hot folder. This allows for the loading of large collections, metadata mapping, and automated relationship linking between assets. Any user with Ingest permissions can request a set of hot folders. Upon ingest, an asset is given a record with the established metadata fields and a security policy that defines the permissions on the asset. Thumbnail and preview sized derivatives are made for each asset, so they can be seen, listened to, or watched within the DAMS application. In this way the original file is archived and only accessed occasionally for high-res derivatives, and yet the asset can be shared at multiple levels across the Smithsonian.
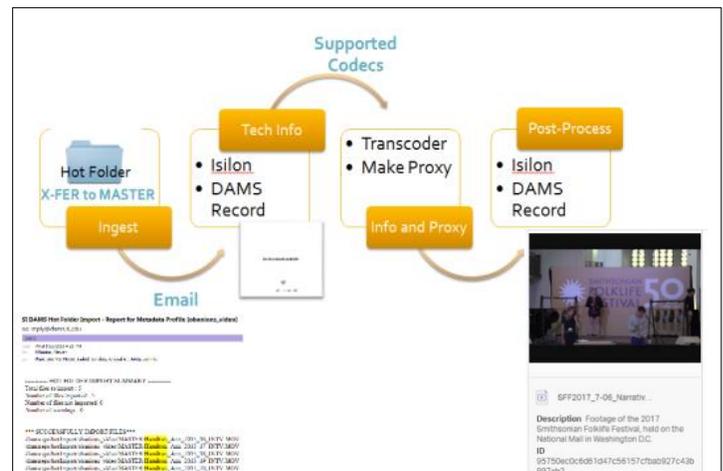
Asset Delivery out of the DAMS

The DAMS can export copies of the original or specified derivatives and prepare them for delivery. With the correct permissions, users can export assets to a local computer at specified sizes, or solely retrieve metadata in xml or csv formats. Mass export services were built to deliver very large collections of assets out of DAMS to specified locations and for mission driven projects like Open Access.

A Part of the Smithsonian Ecosystem

The DAMS is a key system in the Smithsonian's Digital Ecosystem and is integrated with various unit Collection Information Systems, linking records with the Collections-DAMS Integration System (CDIS). Image, Audio, Video, and PDF formats can be edited in DAMS to be available through automated Delivery Services, where derivates are created and available for pickup both internally or outside the firewall for websites, Collections Search, TMS, Transcription Center, Open Access, etc. DAMS asset metadata is pushed to EDAN for use in downstream uses, including the creation of image slideshows, the control of download features in Collections Search, rights and accessibility needs, etc. The DAMS team is also actively building comprehensive digital preservation policies and procedures involving regular software, hardware, security, and file level auditing to ensure the long-term care of digital collections and the trust of all users.

The SI DAMS and DAMS team is managed through the OCIO Digital Platforms Division. The DAMS team consists of IT Specialists, Digital Image, Audio, and Video Specialists, and Software Engineers. The DAMS team offers demos, consultations, and trainings; please contact us at OCIO, or visit the internal SI DAMS SharePoint site for more information.