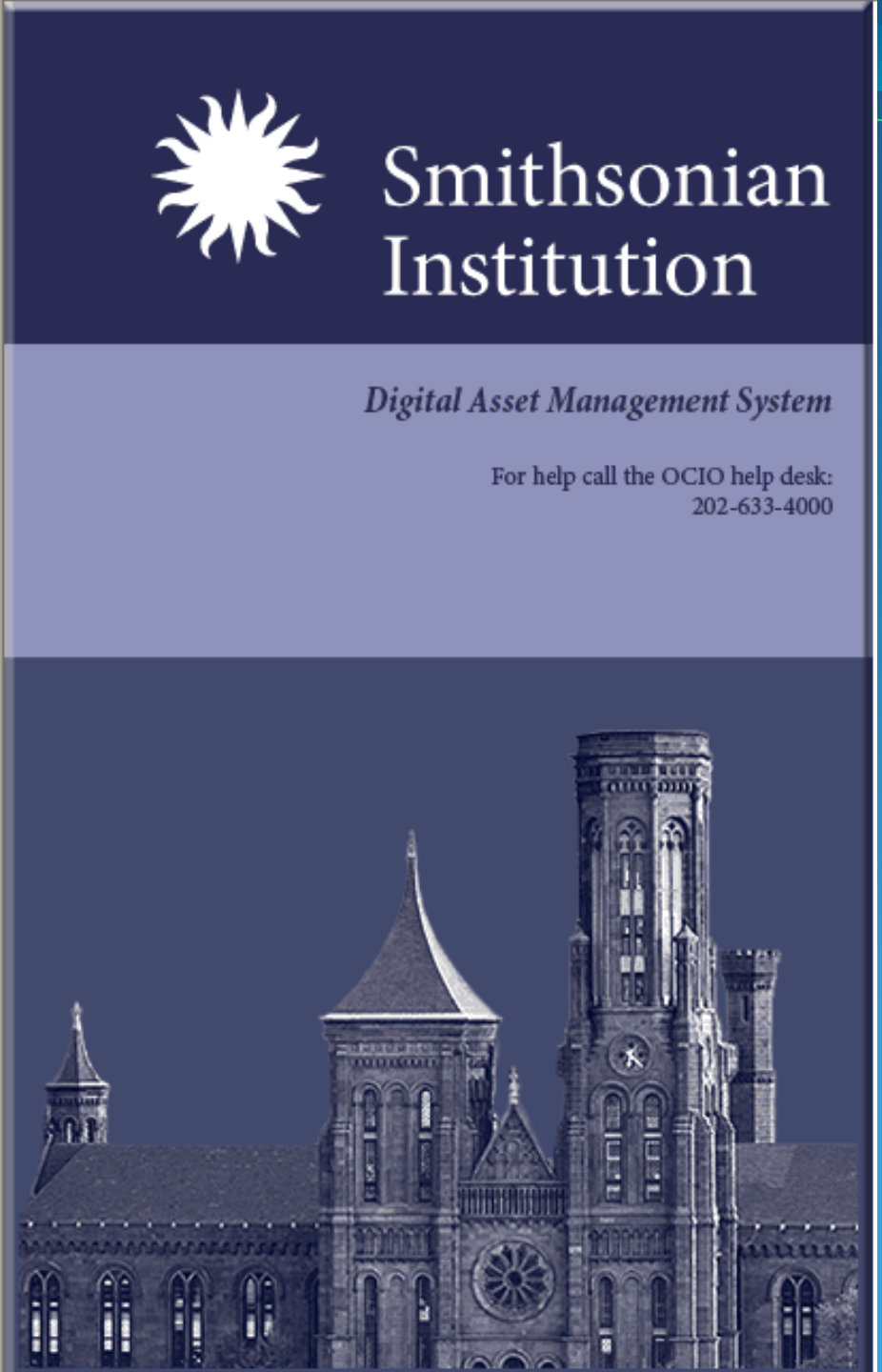


Smithsonian

Let's Talk Digital

An Approach to Managing, Storing, and Preserving Time-Based Media Art Works

Isabel Meyer
DAMS Branch Manager
Smithsonian Institution, OCIO

Love and Marriage

- Digital Asset Management??

✓ Digital Diamonds
✓ To have and to hold
✓ To cherish and respect
✓ To care and protect
✓ To grow
✓ For all eternity

Digital Asset Management System (DAMS)

- Functionality Provided by SI DAMS
  - Automated Hot Folder Ingest (Load) of Digital Assets
  - Provides Secure, Robust, Reliable Storage
  - Provide Controls for User Roles and Asset Security
  - Preservation, Integrity, and Sustainability of Digital Assets
  - Thumbnails, Preview/Proxy Assets, Master Asset
  - Functionality for identification and tagging of assets (Metadata)
  - Ability to find assets (Search)
  - Tracking and Notification (Projects, Workflows)
  - Transformation (image transformers, audio/video transcoding)
  - Distribution (Export/Packaging/Delivery)

Current DAMS Production Environment

Supporting over 40 SI Units, 500+ users (Museums, Cultural Centers, Research Centers, Archives, Library, and the Zoo

Built on OpenText Media Manager (OTMM - Formerly Artesia)

High Availability Configuration & Load Balancing

Artesia DAMS Main Application Server
Version 6.8, SP4
Server - Sun M4000 , Solaris 10
Dual-Core
2 CPU - 64GB Total

Artesia DAMS Secondary Application Server
Version 6.8, SP4
Server Sun T5220, Solaris 10
8 Core T2 Processor – Solaris 10
•Asset Ingest (Hot Folder & EMu)
•IDS Export

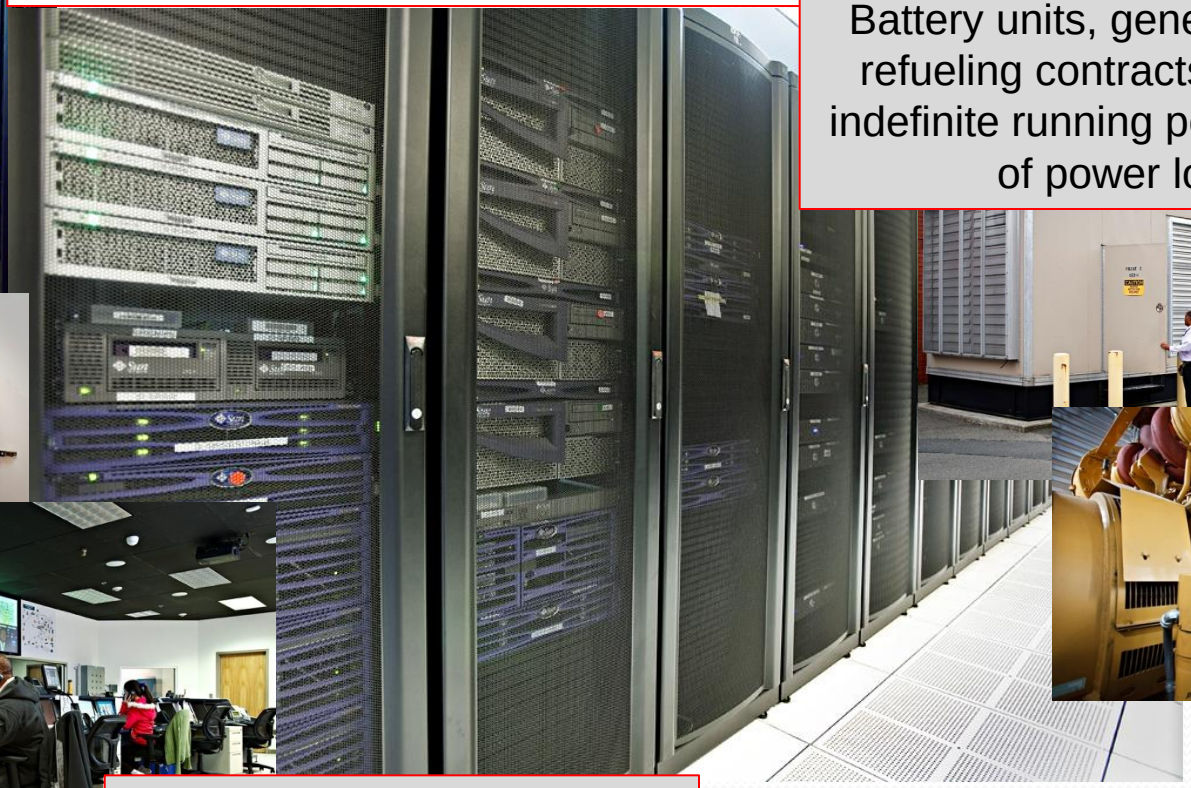
DAMS Database
(Asset Metadata)
Oracle 11G

Asset Repository
Isilon SX200
292 TB Total Size (Including Replication)
Currently >3 Million Assets, 80TB

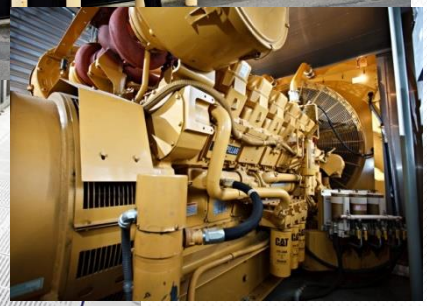
Telestream FlipFactory 7.2
Server - Dell PowerEdge R710
Video Proxies and TransCoding

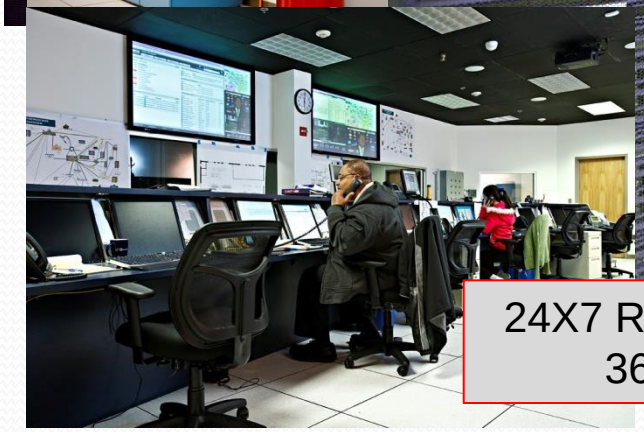
Infrastructure - Smithsonian Data Center

State of the Art
15K sq. ft raised floor
Multiple Redundant Systems



Battery units, generators, and refueling contracts to ensure indefinite running power in case of power loss.





24X7 Real Time Monitoring
365 days a year.

Preservation and Stewardship

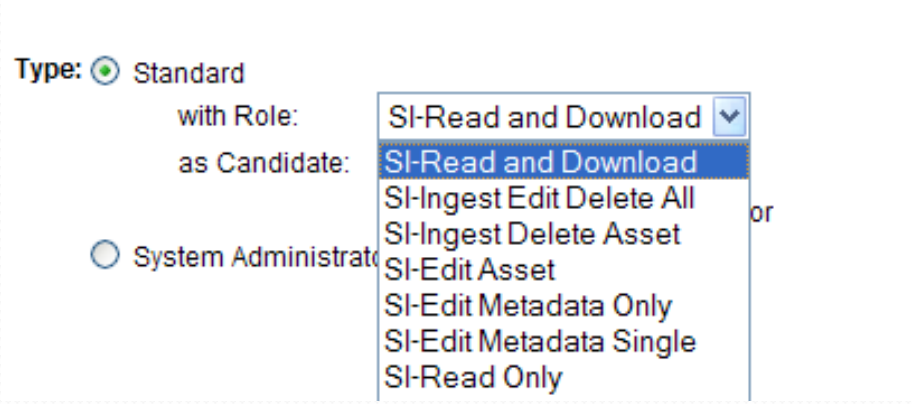
- Secure, Robust, Reliable Storage
  - Asset Repository - Isilon SX200 - 290 TB (Including Replication).
  - Assets are replicated onto another Isilon node upon ingest.
  - Isilon maintains snapshots of active and replicated nodes.
  - Constant error checking.
  - Isilon Phone Home support – If system detects any disk failure it auto calls Isilon support (24X7). Isilon notifies OCIO technicians.
  - Nightly backup of asset repository to Tivoli Archive.
  - Near-line and 3 taped copies – 1 copy sent off site to First Federal.

Integrity and Validity

- DAMS is SI Digital Asset Vault – behind SI Firewall.
- Continual system monitoring and oversight.
- Technology and system upgrades.
- Hardware refresh.
- Security vulnerability scans..
- Checksums and system audits.

Access and Security: User Roles

- Assigned to each user.
- Define access to application functionality.



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Asset Security

Security Policy: NPG-ADO-Dsgn and Production RESTRICTED SecPol

Info | Permissions | Administrators

- Everyone
  - AAA-Archives of American Art
  - ACM-Anacostia Community Museum
  - APAP-Asian Pacific American Pg
  - CFCH-Ctr Folklife & Cltr Hertg
  - CHNDM-Cooper Hewitt Ntl Dsgn Mus
  - FS-Freer Sackler Galleries
  - HMSG-Hirshhorn Msm & Sclpt Gdn
  - NASM-Natl Air and Space Museum
  - NMAAHC-Natl Msm Afr Amer Hist & Cultr
  - NMAH-Natl Museum Amer History
  - NMAI-Natl Museum Amer Indian
  - NMAfA-Natl Museum African Art
  - NMNH-Natl Museum Natural Hist
  - NPG-National Portrait Gallery
    - NPG-Associate Director's Office
      - NPG-ADO-Collections Info & Research
      - NPG-ADO-Collections Management
      - **NPG-ADO-Dsgn & Production**
      - NPG-ADO-New Media & Publications
    - NPG-Chief Curator's Office
      - NPG-CCO-Conservation Laboratory
      - NPG-CCO-Curatorial Depts
      - NPG-CCO-Department of Education
      - NPG-CCO-Department of History

User Group: Everyone > NPG-National Portrait Gallery > NPG-Associate D
Production

Permissions

Permission Name	Allowed?	Permission Info
View Asset	✔	
View Summary	✔	
Preview Asset	✔	
View Project	✔	
Export	✔	
Subscribe	✔	
Edit Comments	✔	
Edit Metadata	✔	
Edit Content	✔	
Apply/Remove Security Policies	✔	
Delete Asset	✔	
Custom 01	-	
Custom 02	-	
Custom 03	-	
Custom 04	-	

Other Considerations

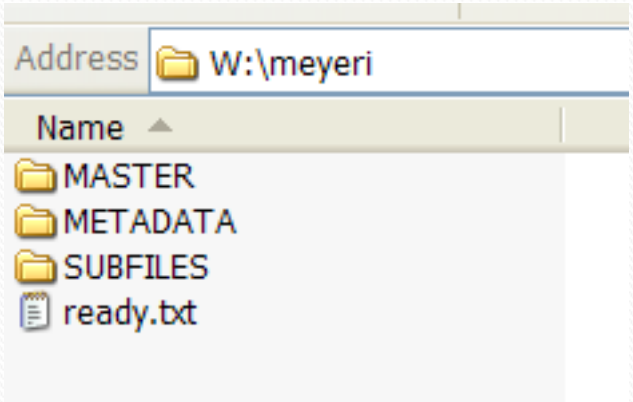
- Strategic Planning
- Budget and Costs
- Infrastructure Support within your Organization
  - DAMS Staff = 1 Project Manager, 1 Developer, 1 Photographer/Imaging Specialist, 1 Video/Digital Preservation Specialist
  - OCIO Operations Support Staff = Approx. 80 (SI Staff and Contractors)
  - 24 X 7 SI Technical Support
- Knowledge of Assets and Workflows
  - Digital Asset Formats
  - Access to Knowledge Staff
    - ✓ Digital Asset Owners
    - ✓ Digital Asset Stewards
    - ✓ Digital Asset Consumers

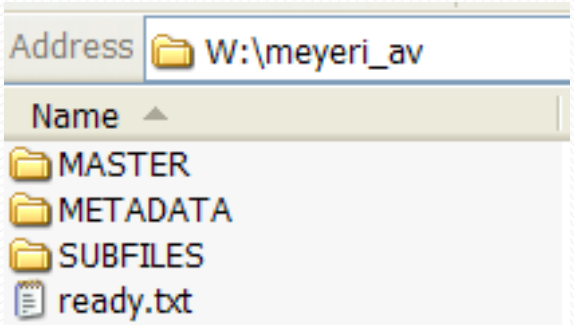
Defining and Formalizing

- TBMA Metadata Model
- Storage Audit
- Backup Audit
- CODEC Analysis
- Disaster Recovery Exercise
- File Formats Inventory
- File Formats Status and Obsolescence Audit
- Checksum Audit – For Specific Asset Classes
- TBMA Metadata Model
- Digital Artwork Submission Package Definitions
- Digital Artwork Export Tracking and Reporting

Hot Folder Ingest

- Each User with Ingest Permissions has a Hot Folder.
- Separate Hot Folders for Images and Audio/Video.
- DAMS polls every 15 minutes and looks for the ready.txt file in the MASTER folder to ingest assets.
- User is notified via e-mail with status of ingest.





From: no-reply@dams.si.edu
To: Christensen, Stephanie (Ogeneski)
Cc: Phan, Duy My; Meyer, Isabel; Rahaim, Ken; Babcock, Matthew
Subject: SI DAMS Hot Folder Import - Report for Metadata Profile [christensens]

---------- HOT FOLDER IMPORT SUMMARY ----------
Total files to import : 1753
Number of files imported : 1753
Number of files not imported: 0
Number of warnings : 1115

*** SUCCESSFULLY IMPORT FILES***
/damsrepo/hotImport/christensens/MASTER/02801500.tif
/damsrepo/hotImport/christensens/MASTER/02801600.tif
/damsrepo/hotImport/christensens/MASTER/02801700.tif
/damsrepo/hotImport/christensens/MASTER/02801800.tif

DAMS Metadata Models

- Three Metadata Models – Core Image, Core Video, Core Audio
- Each model contains metadata elements grouped into Sections:
  - **Administrative elements**
  - **Descriptive elements**
  - **Technical elements**
  - **Rights Management elements**
  - **Embedded elements (for Images, Audio, and Video)**
  - **Structural Elements**
  - **Notes**

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Stewardship Metadata

Administrative

Asset ID:	d54f1ab21bffa8593248da94348c8ba0f97087a1
SI Holding Unit:	NPG-National Portrait Gallery
Other Managing Unit:	Other Managing Unit There is no data to display.
SI Department:	SI Department There is no data to display.
Source System Identifier:	NPG.2008.133
Origination Tape/Disk #:	
Preservation ID #:	
Date Imported:	07/12/2012
Imported By:	admin, DAM
Hot Folder Import ID:	Cooper, Alexander
Date: Properties Last Modified:	05/29/2013
Last Edited By:	Cooper, Alexander
For Public Use:	No
Acquisition Notes:	
Acquisition From:	
Acquisition Date:	
Embargo:	No
Source: Reference:	

Integrity and Validity Metadata

Technical

Start Time SMPTE:	00:00:00:00
End Time SMPTE:	00:03:34:24
Capture Device:	
Caption Format:	
MIME Type:	video/avi
Format Type:	Video
Digital File Size:	811501806
Checksum:	9088aef3cfb4860867ebad518f36ce53
Video Originating format:	
Audio Originating Format:	
Asset Coding History:	
Regional Coding Format:	NTSC
Frame Height:	480.0
Frame Width:	720.0
Bit Rate:	0.0
Video Aspect Ratio:	1.50:1
Video Codec:	
Video Codec Name:	
Number Video Tracks:	0
Audio Codec Name:	
Audio Profile Name:	
Audio Sample Rate:	0.0
Number Audio Tracks:	0
AV Color Space:	