Making It Happen:

Building Digital Stewardship for the FDLP in Support of the National Plan for Access to U.S. Government Information

Featuring Speakers from GPO
October 18, 2016

Speakers:

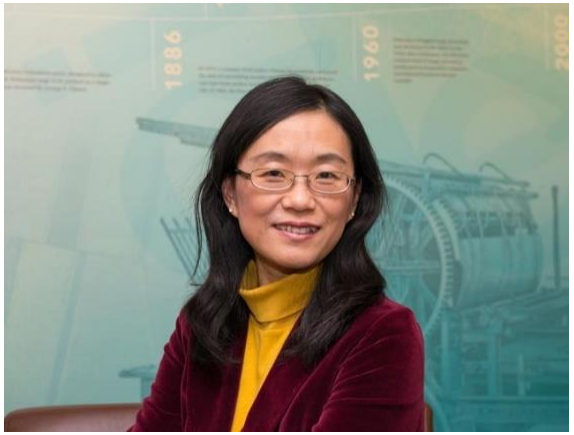
- Cindy Etkin
  - Senior Program Planning Specialist, Office of the SuDoc
- David Walls
  - Preservation Librarian & FIPNet Coordinator, LSCM
- Jessica Tieman
  - Expert Consultant; Programs, Strategy, & Technology
- Lisa LaPlant
  - FDsys/**govinfo** Program Manager; Programs, Strategy, & Technology
- Fang Gao
  - Chief, Library Technical Services, LSCM

Cindy Etkin

David Walls

Jessica Tieman

Lisa LaPlant



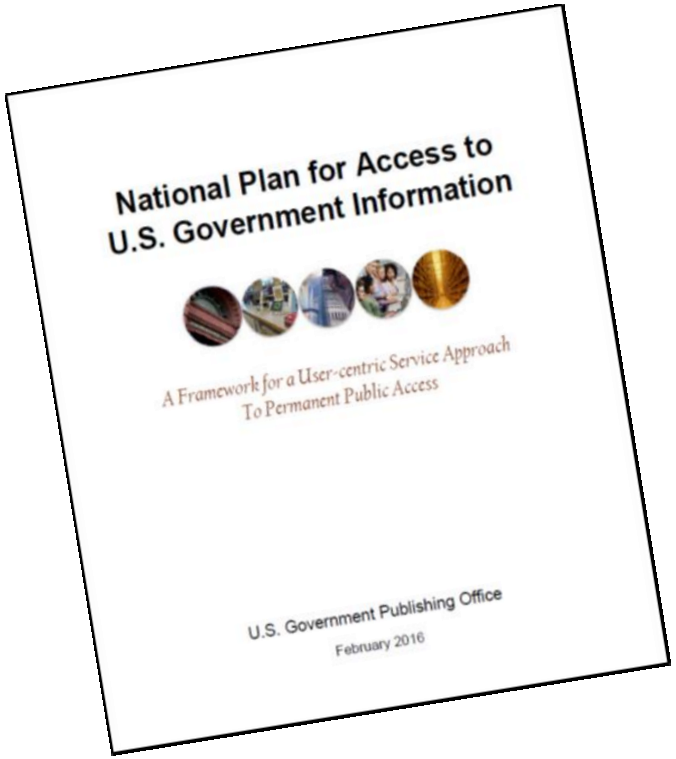
Fang Gao

Preservation of Digital Assets

The Foundation and the Path

Cindy Etkin

National Plan Outcomes



- More online official Government content will be accessible to depository libraries and the public at large.
- Federal agencies will have more awareness of and contribute their content to the FDLP, the C&I, and FIPNet.
- GPO's *Catalog of U.S. Government Publications* will be a comprehensive index to the corpus of Federal Government information.
- Users will be confident that the digital Government information they use is official, authentic, and complete.
- The National Collection of U.S. Government Information will be accessible to future generations.

Strategies for Success

STRATEGIC PRIORITY 1: LIFECYCLE MANAGEMENT OF GOVERNMENT INFORMATION

Establish Library Services and Content Management processes and procedures that apply lifecycle management best practices for all formats, and ensure permanent public access to Government information dissemination products in the digital age.

STRATEGIC PRIORITY 2: GOVERNANCE AND STRUCTURE OF THE FDLP

Provide a governance process and a sustainable network structure that ensures coordination across the Federal Depository Library Program and allows the most flexible and effective management of depository libraries and their resources.

STRATEGIC PRIORITY 3: SERVICES

Deliver dynamic, innovative, strategic services and mechanisms to support the needs of Federal depository libraries in providing accurate Government information to the public at large in a timely manner.

New Documentation

- Superintendent of Documents Public Policy Statements
  - Content Scope for GPO's System of Online Access, SOD-PPS 2016-2
  - Permanent Public Access to U.S. Government Information through Preservation, SOD-PPS 2016-4
- GPO's System of Online Access | Collection Development Plan

Actions

- Selective digitization of the National Collection of U.S. Government Information based on collection development and preservation priorities.
- Implement the Federal Information Preservation Network (FIPNet).
- Develop a Preservation Program within the LSCM business unit of GPO.
- Continue to participate in the development of preservation guidelines and standards.
- Maintain an inventory of preservation copies of record.
- Authenticate digital content sourced from FDLs and other third parties for ingest into FDsys/**govinfo**.
- Achieve trusted digital repository certification for FDsys/**govinfo**.
- Work with agencies to identify and define their corpus of Government information.
- Increase the amount of born digital and converted content available through FDsys/**govinfo**.
- Transform LSCM from a print-centric operation to a content centric operation.

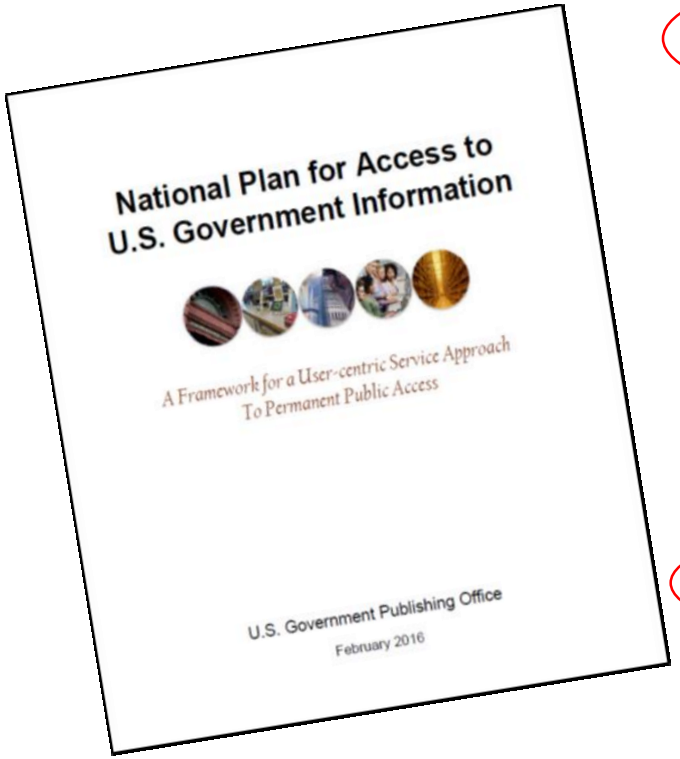
Ultimate Goal — Achieving Our Vision

To provide Government information when and where it is needed

Preservation and FIPNet

David Walls

National Plan Outcomes



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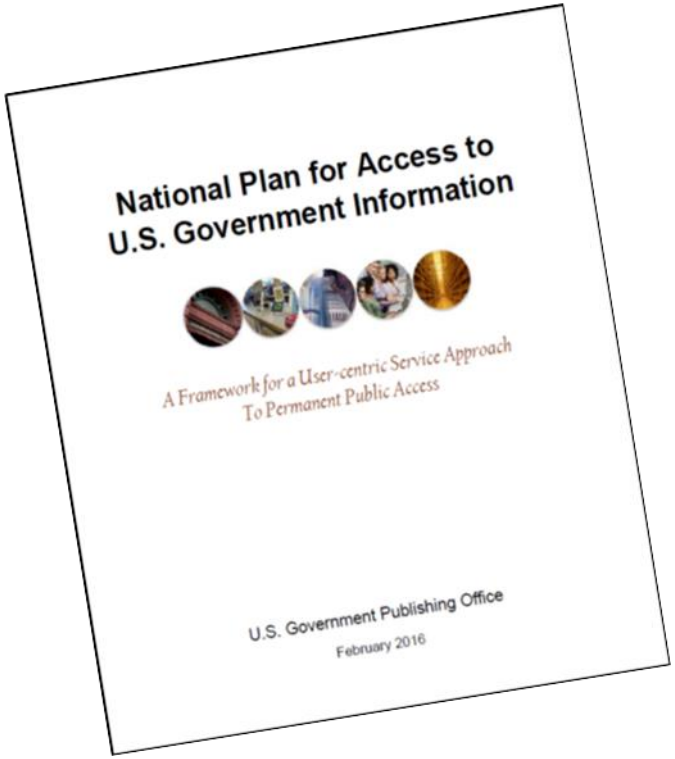
National Plan for Access



Government has an obligation to preserve its information.

- Implement FIPNet
- Develop a Preservation Program within LSCM
- Preservation of Government publications should be a national priority.
- Digitize, through partnerships, the historic tangible collection of Government Publications.
- Maintain an inventory of preservation copies of record.
- Continue to participate in the development of preservation guidelines and standards.

Digital Lifecycle Mangement

The progressive technology and workflow processes needed to ensure long-term sustainability of and accessibility to digital objects and metadata.

Lifecycle management is about active stewardship of digital assets over time through policies, staffing, resources, and technologies.

Preservation

Strategic initiatives, programs, and processes designed to maintain useful access to information assets, serving the information needs of both present and future generations

FIPNet: Federal Information Preservation Network

A strategy for a collaborative network of information professionals working in various partner roles to ensure access to the National Collection of Government Information for future generations

- Digital Imaging
- Content Hosting
- Cataloging & Metadata
- Web Harvesting
- Tangible Preservation Stewardship
- Collection Care & Conservation

GPO, FIPNet and Community

Within LSCM

- Staffing: Digital Curation Librarian
- Digital Collection and Lifecycle Mangement Plan
- Improving processes for metadata extraction
- Improved processes for ingest
- Requirements for Developing Digital Quality Assessment
- Improved stewardship of web harvested content
- Respond to TDR Self Assessment
- Maintain FDsys/govinfo as a TDR

FIPNet: Community

Support partner roles.

Simplify participation documentation.

Develop guidance for specific partner roles.

Present webinars on partner participation and guidance documentation.

Provide opportunities for partners to discuss and advise LSCM.

Develop future forums for stakeholder participation, collaboration, and problem solving.

Guidance for Contributing Digital Federal Publications for Ingest into FDsys/govinfo

FIPNet Digital Imaging Partners provide a valuable contribution by:

- Increasing public access to legacy and historic Federal Government information through digital formats
- Providing authentic digital surrogates of Federal Government publications in order to preserve tangible historic copies of record
- Preserving authentic digital copies of Federal government publications in a Trusted Digital Repository such as FDsys/**govinfo** for future generations.

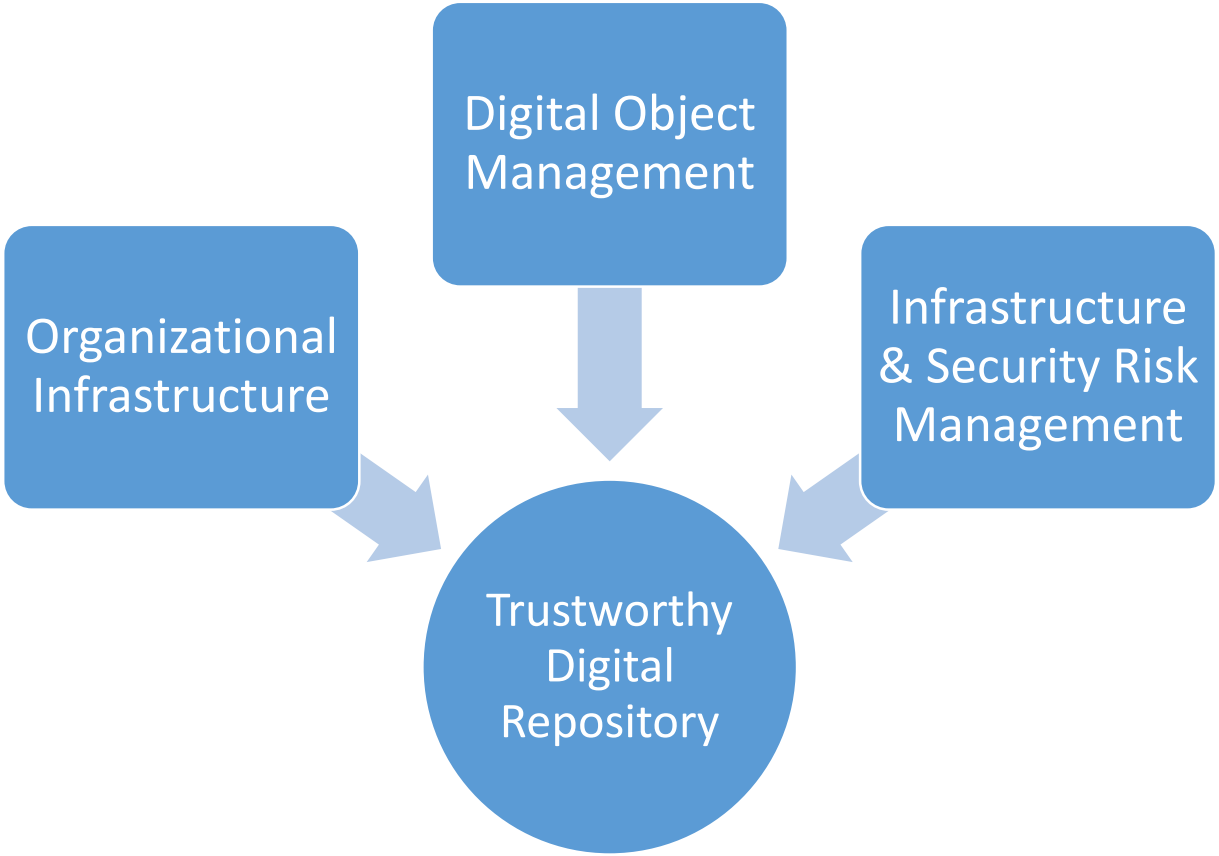
Guidance for Contributing Digital Federal Publications for Ingest into FDsys/govinfo

- Principles of digital imaging
- Preferred and Acceptable master formats
- A process for content either already digitized or resulting from a current digital imaging effort
- Simple file naming convention
- Minimal technical metadata
- Content packages if partner can provide them

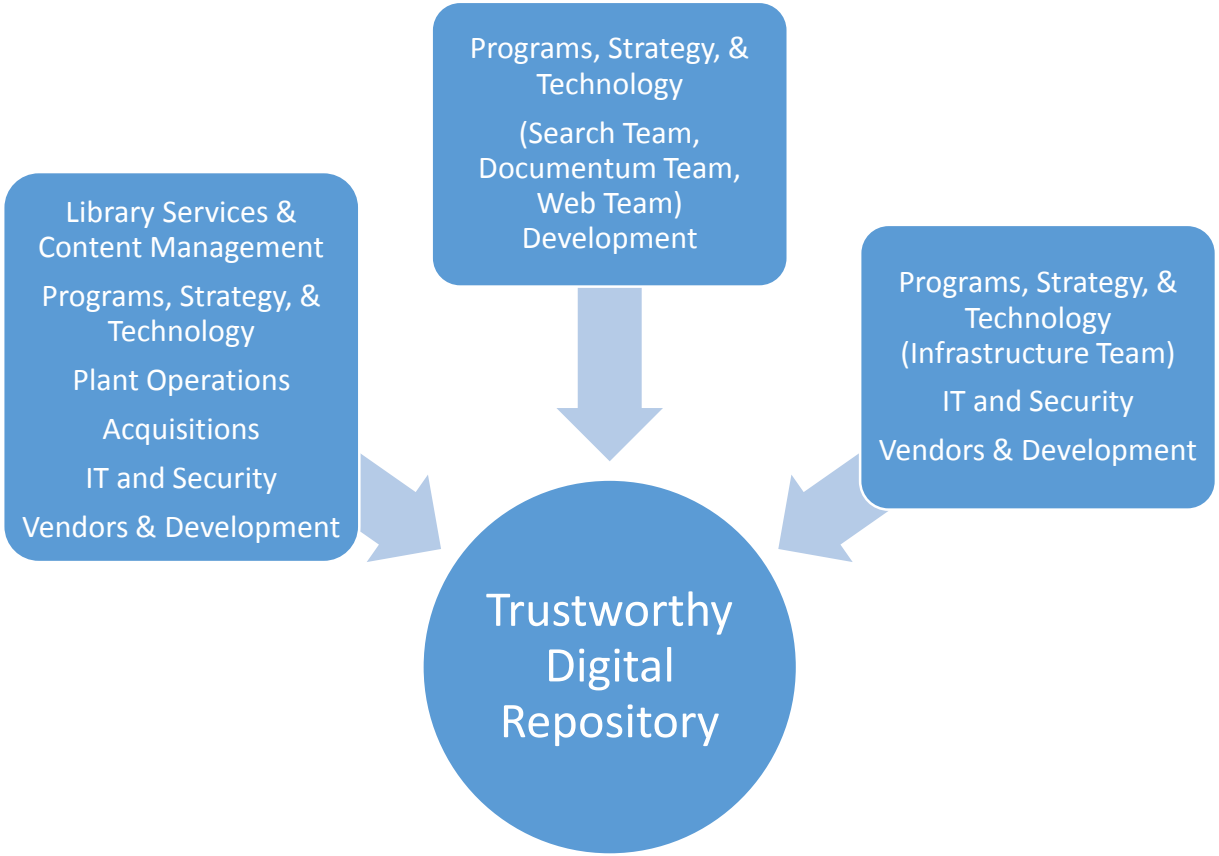
Trusted Digital Repository Internal Assessment

Jessica Tieman

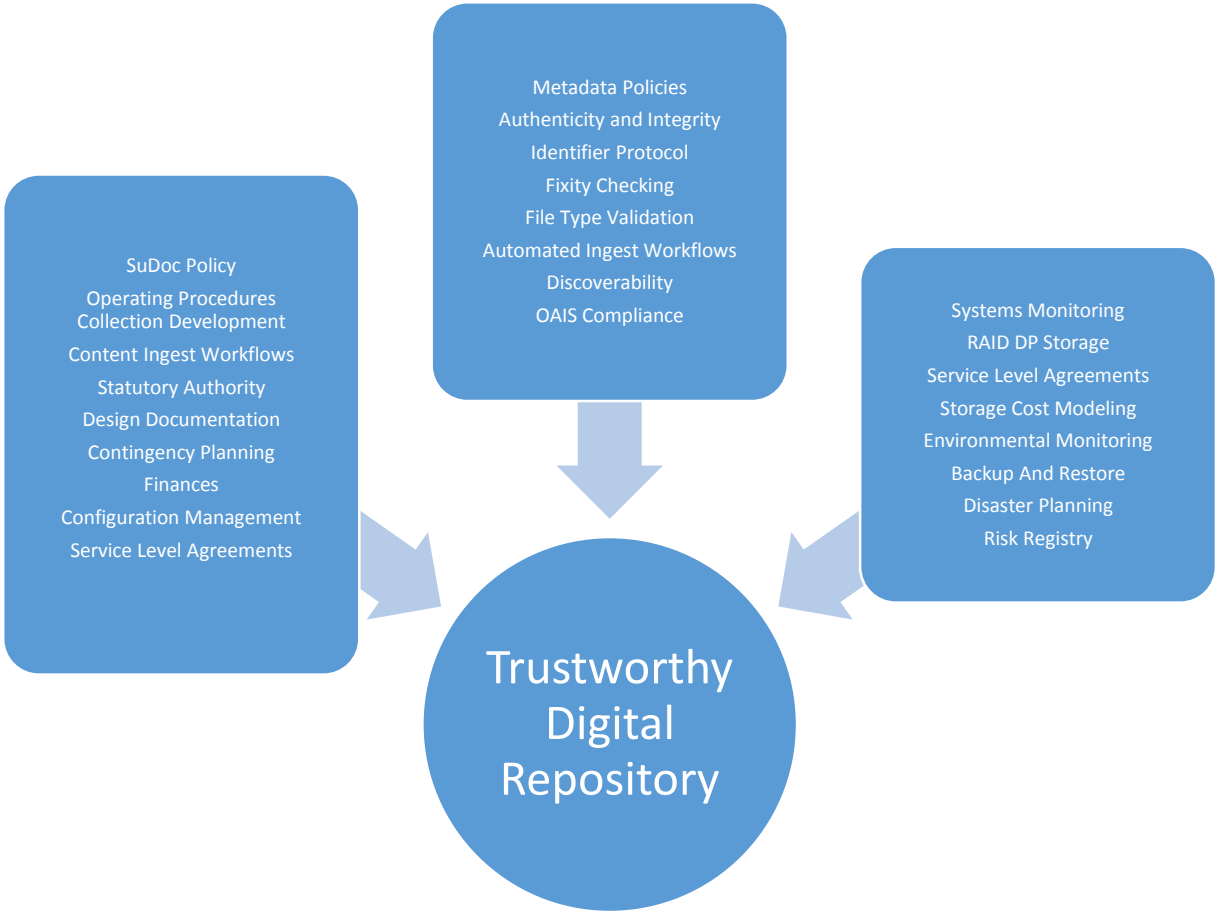
What do I evaluate?



Who?


Programs, Strategy, & Technology
(Search Team, Documentum Team, Web Team) Development
Library Services & Content Management
Programs, Strategy, & Technology
Plant Operations
Acquisitions
IT and Security
Vendors & Development
Programs, Strategy, & Technology (Infrastructure Team)
IT and Security
Vendors & Development
Trustworthy Digital Repository

What?


Metadata Policies
Authenticity and Integrity
Identifier Protocol
Fixity Checking
File Type Validation
Automated Ingest Workflows
Discoverability
OAIS Compliance
SuDoc Policy
Operating Procedures
Collection Development
Content Ingest Workflows
Statutory Authority
Design Documentation
Contingency Planning
Finances
Configuration Management
Service Level Agreements
Systems Monitoring
RAID DP Storage
Service Level Agreements
Storage Cost Modeling
Environmental Monitoring
Backup And Restore
Disaster Planning
Risk Registry
Trustworthy Digital Repository

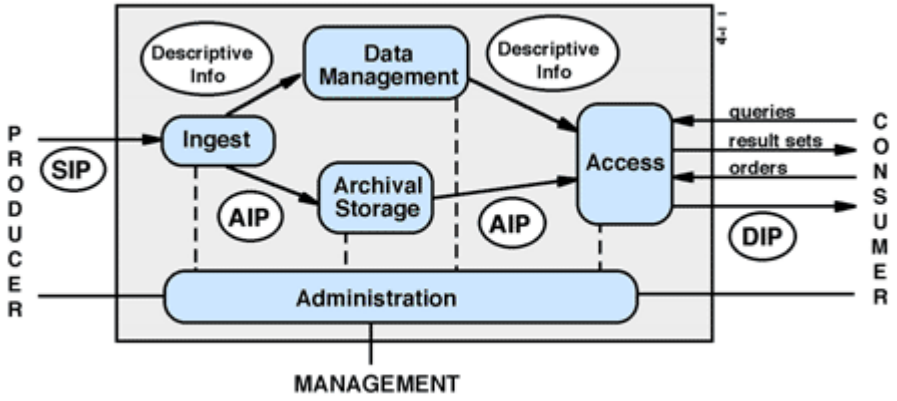
Designated Community

- In information and archival communities, a **Designated Community** is an identified group of potential consumers who should be able to understand a particular set of information. These consumers may consist of multiple communities, are designated by the archive, and may change over time.

Why ISO 16363?

ISO 16363 History Overview

- *Open Archival Information System (OAIS).* Consultative Committee for Space Data Systems. 2003.
  - Functional Model
  - Terminology



ISO 16363 History Overview

- *Trusted Digital Repositories: Attributes and Responsibilities.* Research Libraries Group and OCLC. 2002.
  - Defines Trusted Digital Repositories
  - Defines “Trust”
  - Enumerates Attributes
  - Enumerates Responsibilities
  - Defines the Designated Community
- Recommendation: Develop a process for the certification of digital repositories.

ISO 16363 History Overview

- *Trustworthy Repositories Audit & Certification: Criteria and Checklist (TRACT).* Research Libraries Group & NARA. 2005.
  - Metrics developed upon OAIS (ISO 14721)
  - Final version revised by Center for Research Libraries (CRL)
  - Six repositories audited against TRAC by CRL today

- Standardized?

ISO 16363 History Overview

- *ISO 16363:2012 Space data and information transfer systems – Audit and certification of trustworthy digital repositories.* Consultative Committee for Space Data Systems. 2012.
  - Expanded upon TRAC (minor differences)
  - International effort (expanded upon European models such as NESTOR)

- Standardized

ISO 16363 History Overview

- *ISO 16919:2014 Space data and information transfer systems – Requirements for bodies providing audit and certification of candidate trustworthy digital repositories.* Consultative Committee for Space Data Systems. 2014.
  - Training process for auditors
  - Objective measurement for accrediting auditing bodies
  - Measures competencies and digital preservation expertise required to perform audit

More info?

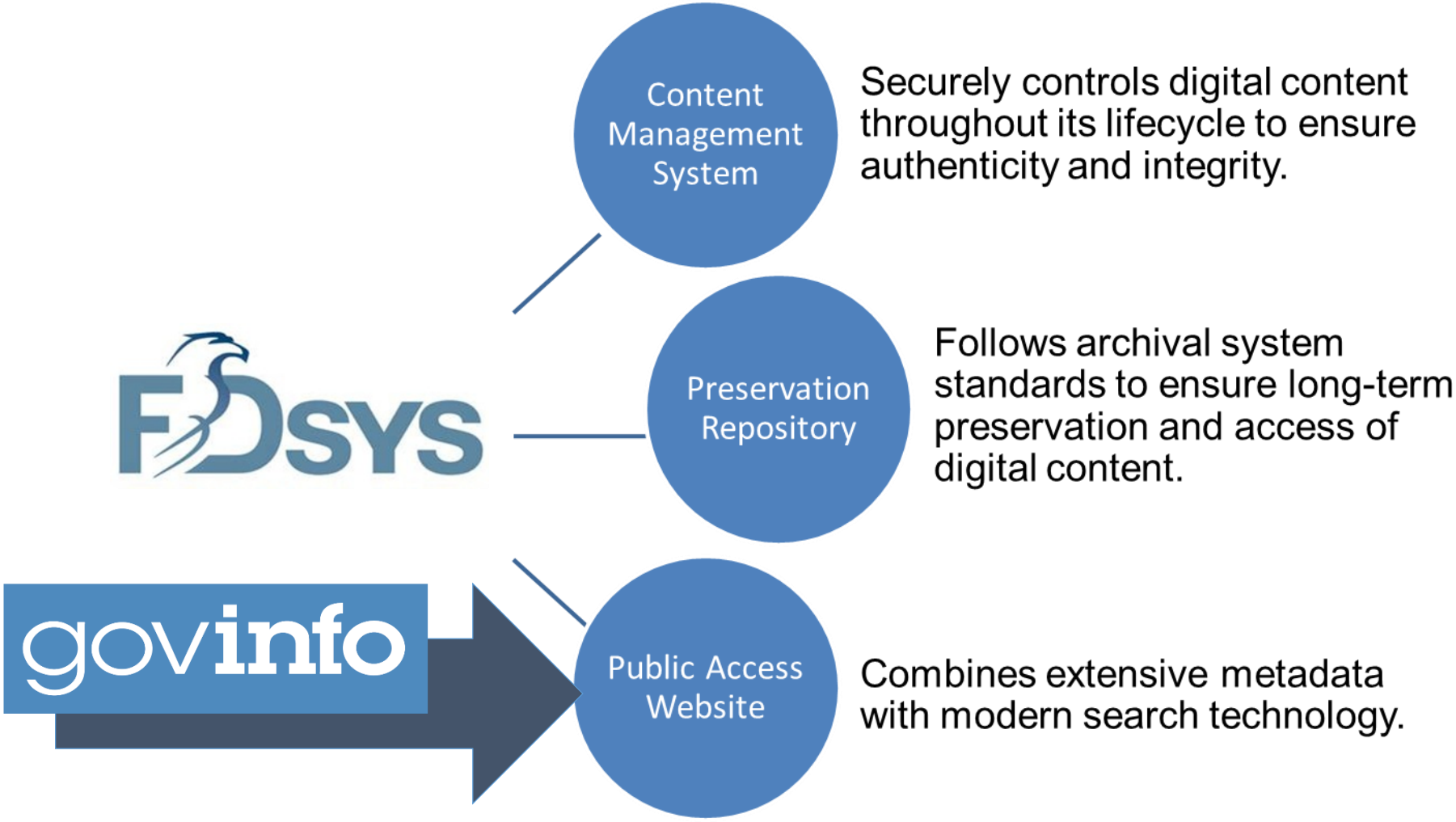
- Come to session at 2:30pm!
- Visit fdlp.gov for updates.

FDsys/govinfo

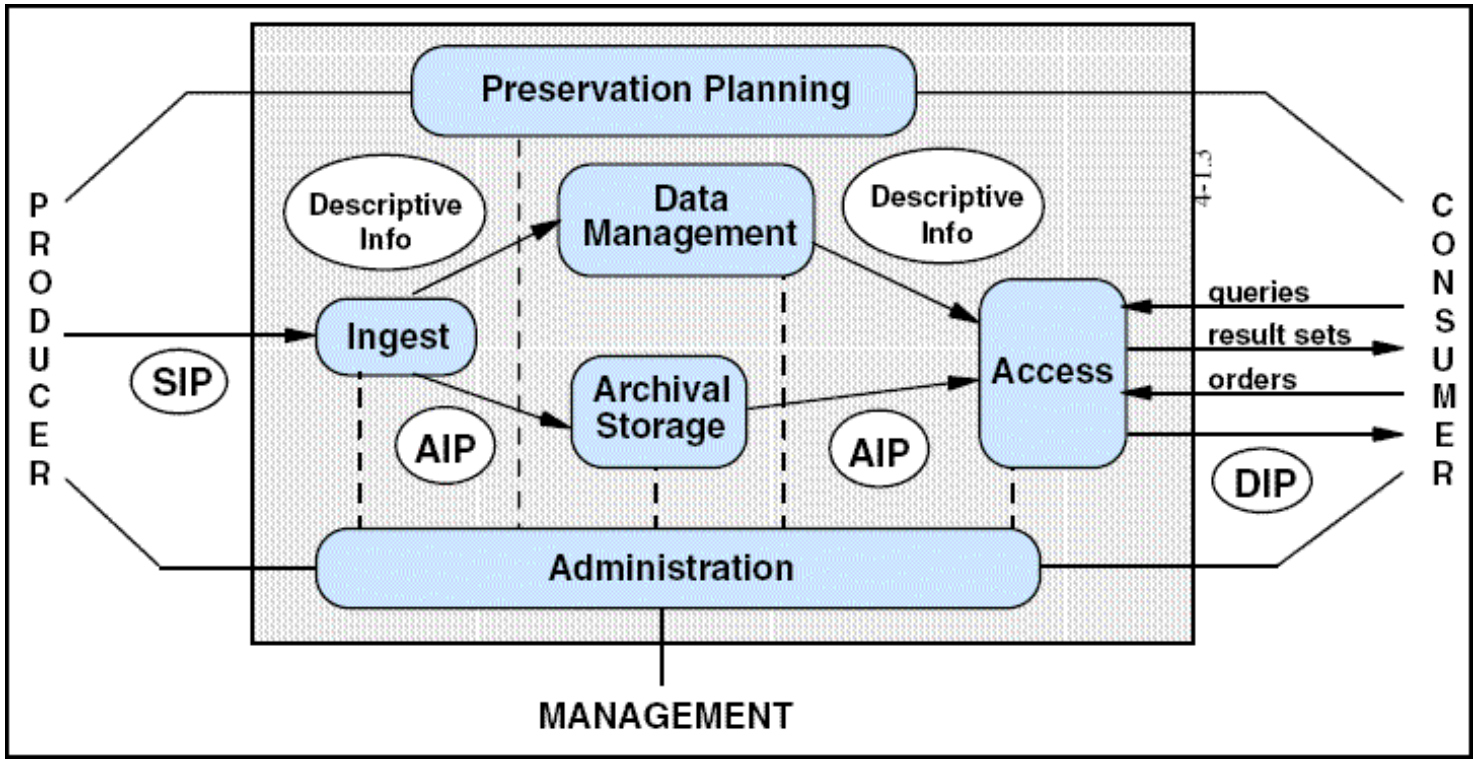
Lisa LaPlant

Background

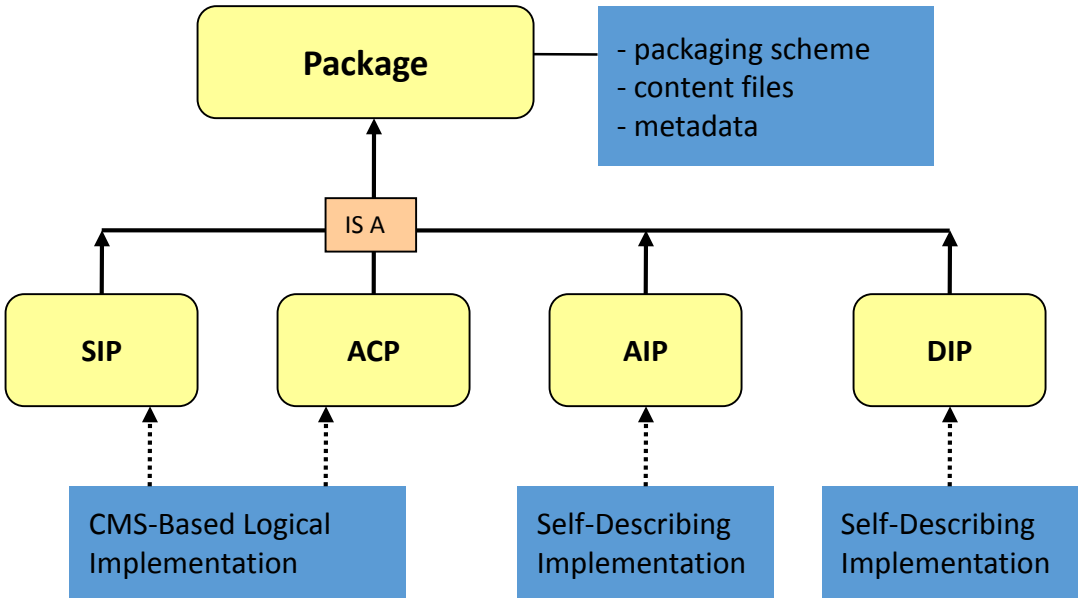
- GPO's Federal Digital System (FDsys) was launched in 2009 to replace GPO Access.
- FDsys provides access to more than one million Federal legislative, executive, and judicial documents and experiences over 40 million retrievals per month.
- **govinfo** launched as a public beta on February 3, 2016, and it will eventually replace the FDsys public website.


Content Management System
Securely controls digital content throughout its lifecycle to ensure authenticity and integrity.
FDSYS
Preservation Repository
Follows archival system standards to ensure long-term preservation and access of digital content.
govinfo
Public Access Website
Combines extensive metadata with modern search technology.

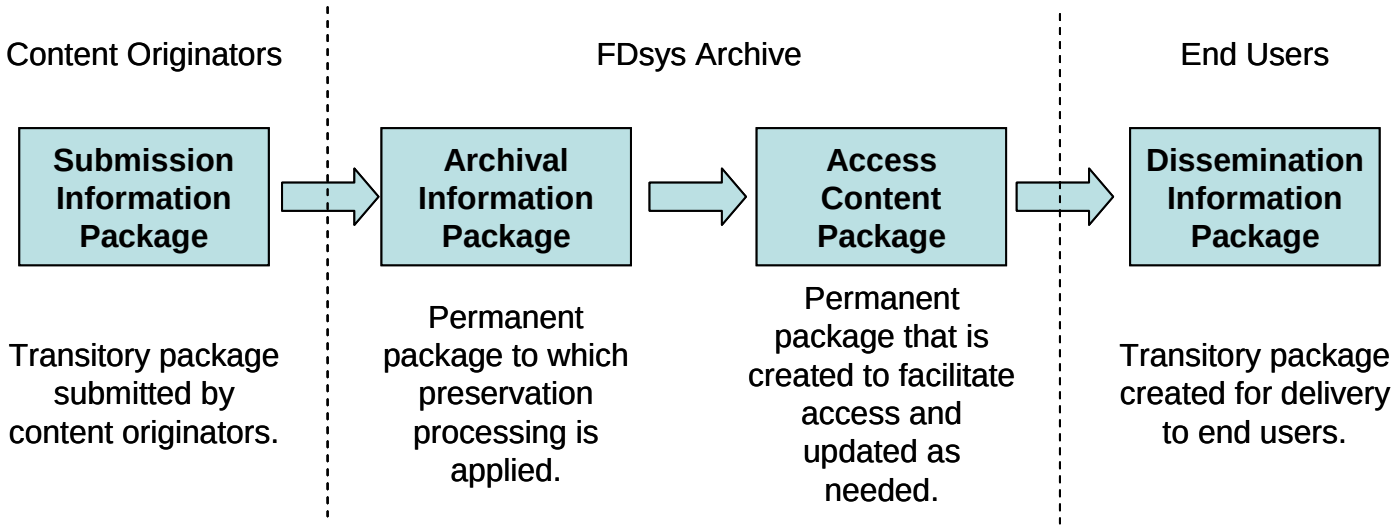
Reference Model for an Open Archival Information System (OAIS) (ISO 14721)



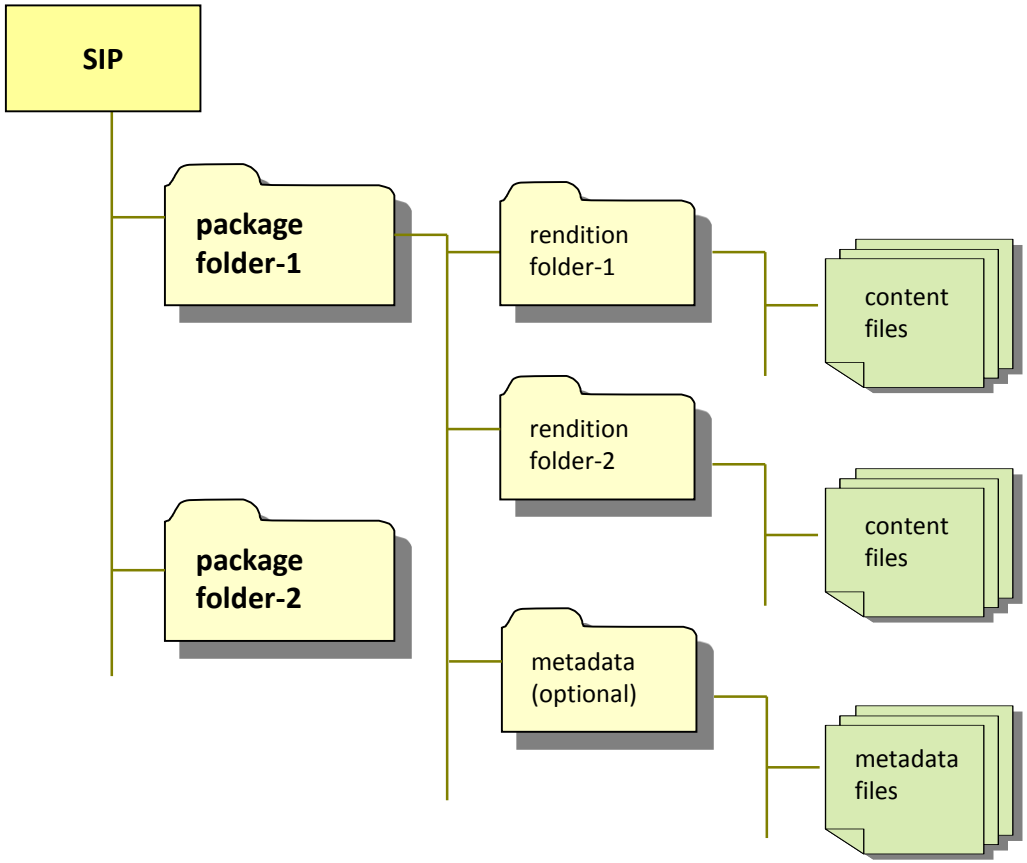
Conceptual Model of a Package



Content Lifecycle



Submission Information Package (SIP)



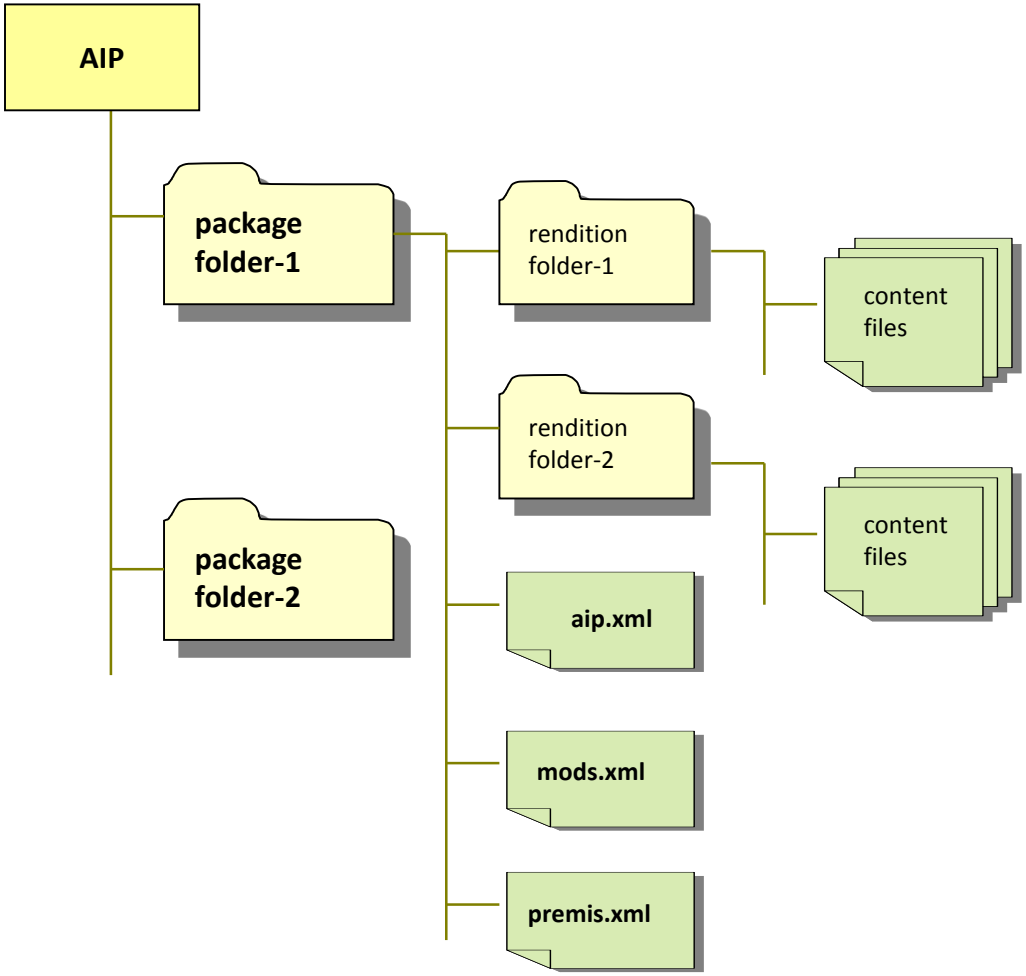
SIP in Content Management System

Cabinets/Work in Progress (SIP)/Federal Register/FR-2012-04-27

FR-2012-04-27

Name	Link Count	Collection	Packag	Size	Format	Modified
graphics-submitted	1	FR	SIP			4/27/2012 12:16 F
locator-submitted	1	FR	SIP			4/27/2012 12:16 F
pdf-submitted	1	FR	SIP			4/27/2012 12:16 F
postscript-submitted	1	FR	SIP			4/27/2012 12:16 F
sgml-submitted	1	FR	SIP			4/27/2012 12:16 F
text-submitted	1	FR	SIP			4/27/2012 12:16 F

Archival Information Package (AIP)



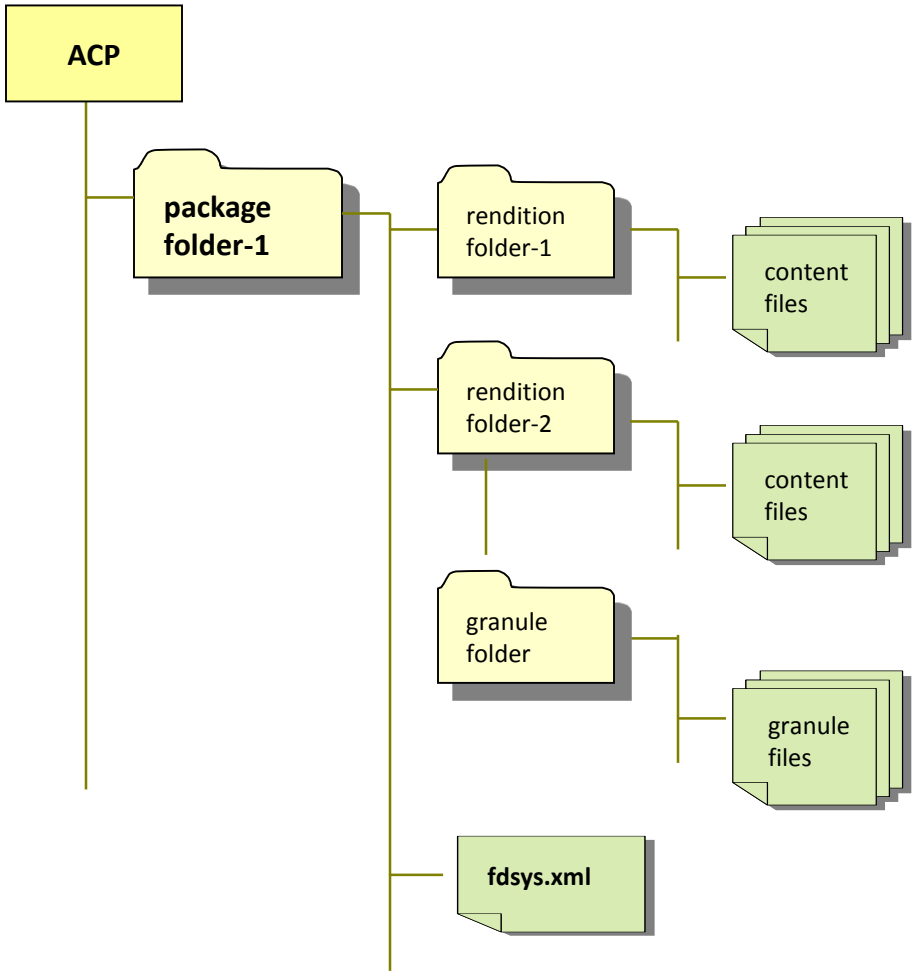
AIP in Preservation Repository

Cabinets/Archived (AIP)/Federal Register/2012/Apr/FR-2012-04-27

FR-2012-04-27

Name	Link Count	Collection	Packag	Size	Format	Modified
locator-submitted	12	FR	AIP			4/27/2012 3:50 AM
pdf-submitted	12	FR	AIP			4/27/2012 3:50 AM
postscript-submitted	11	FR	AIP			4/27/2012 3:50 AM
graphics-submitted	9	FR	AIP			4/27/2012 3:50 AM
text-submitted	1	FR	AIP			4/27/2012 3:50 AM
sgml-submitted	8	FR	AIP			4/27/2012 3:50 AM
mods.xml	0	FR	AIP	626 I	XML Doc	4/27/2012 3:50 AM
premis.xml	0	FR	AIP	583 I	XML Doc	4/27/2012 3:50 AM
aip.xml	0	FR	AIP	21 KI	XML Doc	4/27/2012 3:50 AM

Access Content Package (ACP)



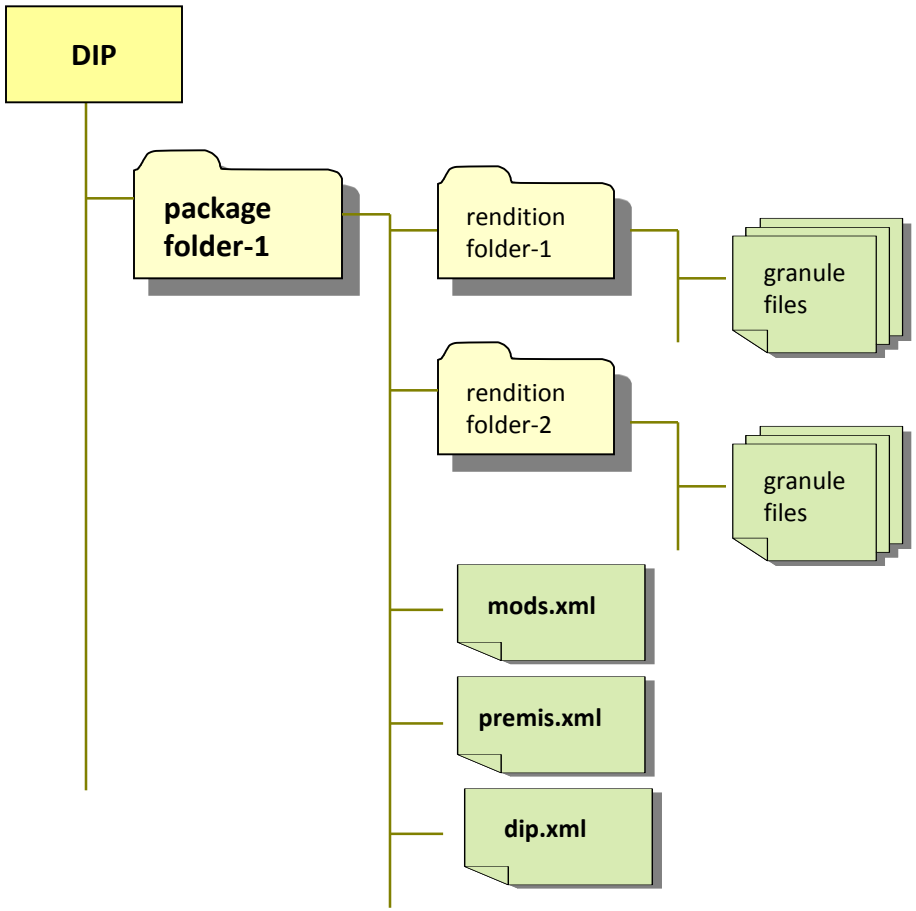
ACP in Content Management System

Cabinets/Submitted (ACP)/Federal Register/2012/Apr/FR-2012-04-27

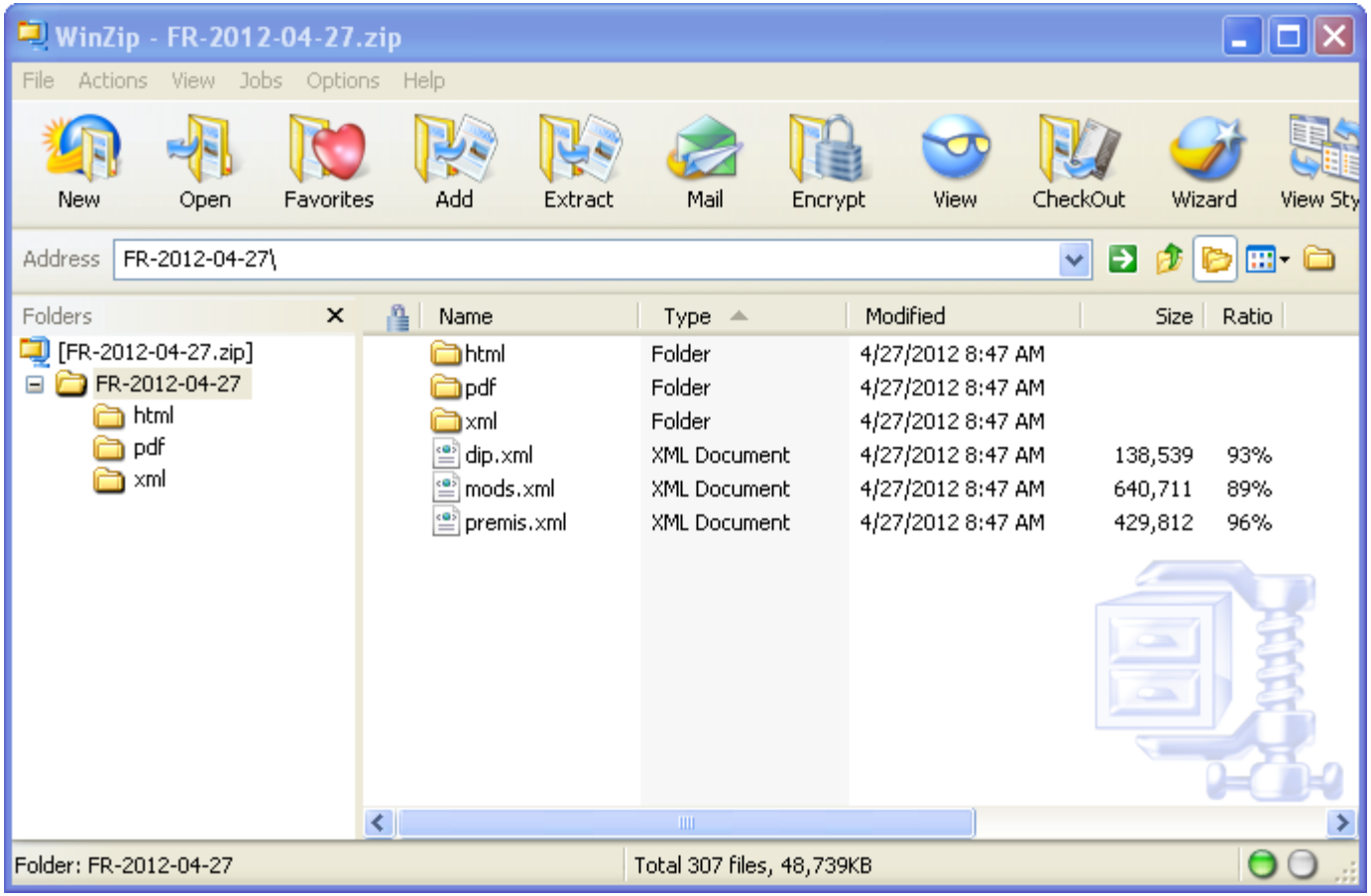
FR-2012-04-27

Name	Link Count	Collection	Packag	Size	Format	Modified
graphics-submitted	9	FR	ACP			4/27/2012 3:50 AM
html	1	FR	ACP			4/27/2012 3:50 AM
locator-submitted	12	FR	ACP			4/27/2012 3:50 AM
pdf	2	FR	ACP			4/27/2012 3:50 AM
pdf-submitted	12	FR	ACP			4/27/2012 3:50 AM
postscript-submitted	11	FR	ACP			4/27/2012 3:50 AM
sgml-submitted	8	FR	ACP			4/27/2012 3:50 AM
text-submitted	1	FR	ACP			4/27/2012 3:50 AM
xml	1	FR	ACP			4/27/2012 3:50 AM
fdsys.xml	0	FR	ACP	405 I	FDsys Pa	4/27/2012 3:50 AM

Dissemination Information Package (DIP)



DIP on Public Access Website



FDsys/govinfo Instances

1. Production
2. Continuity of Operations (COOP)

Servers and Filers at Each Instance

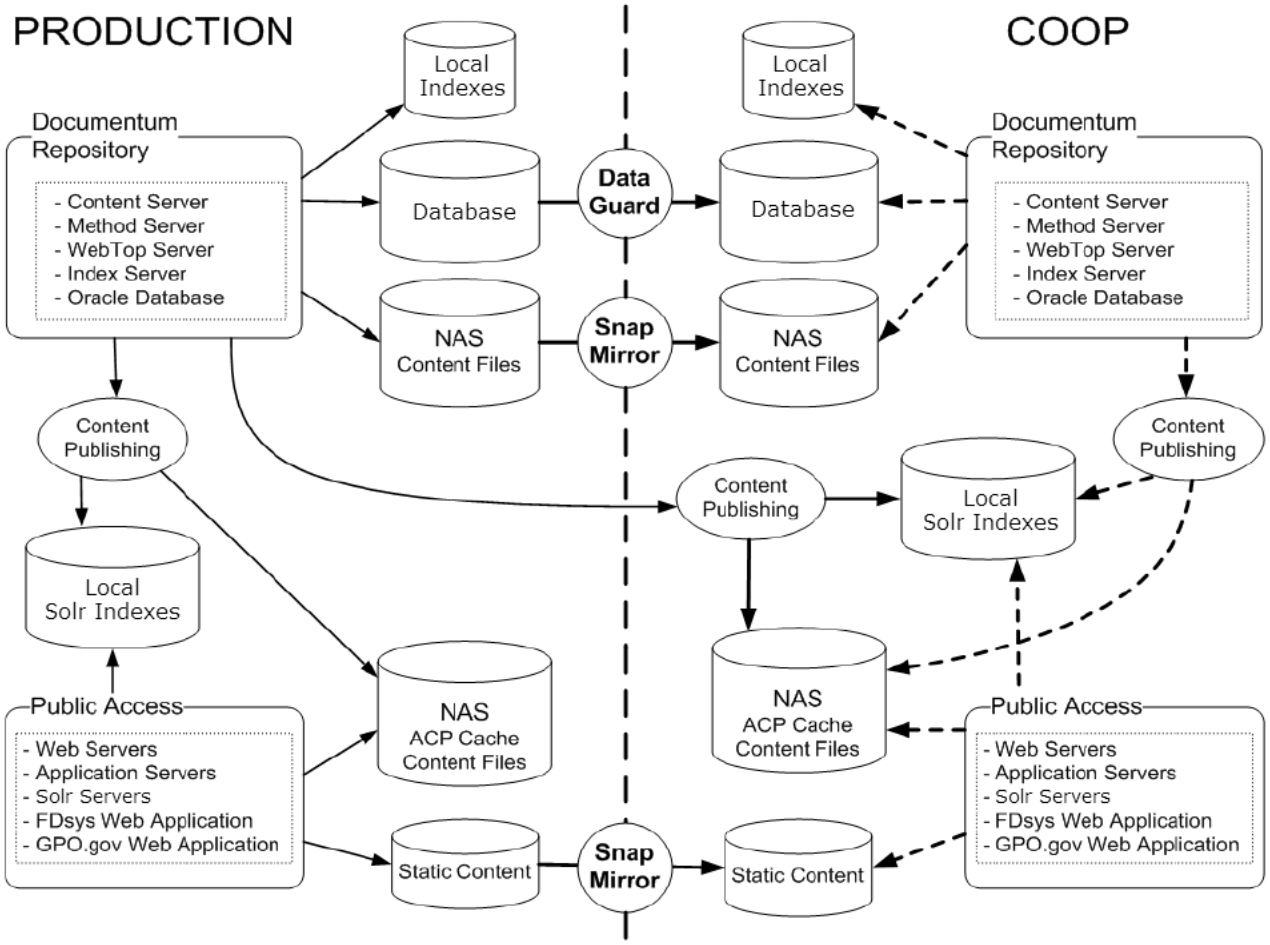
- Storage Filers
- Database Servers
- CMS Servers
- Processor Servers
- Search Servers
- Search Admin Servers
- Application Servers
- Web Servers
- Virtualization Servers

The filers can be thought of as a storage brain that manages storage, performance, synchronization, failures, parity, and growth without impacting the individual availability of a storage volume, a file, or a bit.

Network at Each Instance

- Multi-Tiered VLAN (Virtual Local Area Network)
  - Web
  - Application
  - Database
- Routers and Switches
- Firewalls
- Load Balancer

Synchronization Architecture



Copies of Files in a Package

1. Production AIP in Preservation Repository
2. Production ACP in Content Management System
3. Production ACP on Public Site
4. COOP AIP in Preservation Repository
5. COOP ACP in Content Management System
6. COOP ACP on Public Site
7. Weekly Backup

Authenticity and Integrity

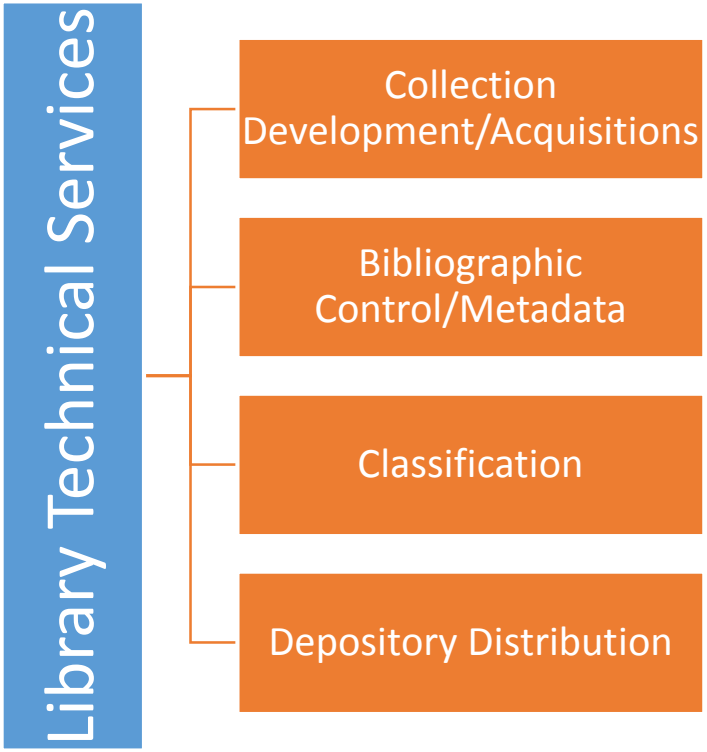
- SHA-256 hash value for all content files recorded in PREMIS metadata
- Each significant event in the lifecycle of content recorded in PREMIS metadata
- Digital signatures on PDF files

Making It Happen with Metadata

Fang Gao

Library Technical Services

Library Technical Services identifies, acquires, classifies, catalogs, disseminates, and makes Government publications and information products accessible to depository libraries and the general public.



40 FTEs

Creating Metadata for Historic Collections in FDsys / govinfo

- **GPO Publications**

  e.g., GPO Annual Reports

- **Treasury Department Publications**

  e.g., Official Register of the United States by Civil Service Commission

- **Coastal Zone Information Center (CZIC) Collection** (Publications 1951-1999)

Current Metadata Creation Process

- Staff involved: Catalogers, System Librarians, Project and Program Staff
- Panama Canal Commission publications publications

  Title: Canal Record

  ALEPH system no. 943086

URL Not Used for PURL

FDsys > Search Results

SEARCH RESULTS

Search Government Publications

Canal Record

Within Results SEARCH

Advanced Search
Retrieve by Citation
Help

Results 51 - 60 of 25498 <Prev 1 . . . 4 5 6 7 8 . . . 2550 Next> **Sort by:** Relevance Go 10 per page Go

51. Panama Canal Review, August 3, 1962 [PDF 2239 KB]
Canal Zone Government. Friday, August 3, 1962.
... force in building an excellent **record** of accomplishment and cooperation between residents of the **Canal**... architect employed by the Isthmian **Canal** Commission. According to The **Canal Record**, "Mr. Lord made a careful... Rodolfo Valdes Will Arey Panama **Canal** Information Officer Editorial Assistants: Eunice Richard.... More Information

52. Annual Report of the Isthmian Canal Commission for the Fiscal Year Ending June 30, 1912 [2] [PDF 59599 KB]
War Department. Isthmian Canal Commission. Sunday, June 30, 1912.
... Commission JosEPH Bu.cKL.fN BisHoP I Secra.+ary and The. **Canal Record** J . O. CoLLINS WC.HASKINS SEYI'tiOUR... UNIVERSITY OF FLORIDA LIBRARY • . . . \ . ' ' I f . .. I . .. ANNUAL REPORT, ISTHMIAN **CANAL**..., machinery for Gatun and Afiraflores spillways, general assembly. 75 Lighting and buoying **canal**, pro:files... More Information

53. Panama Canal Review, August 6, 1954 [PDF 3051 KB]
Canal Zone Government. Friday, August 6, 1954.
.... The **Canal Record** commented LOUIS L. MOOLGHAN has worl (jiir sLTviiemeii in World War II who used it to... Gift ofthe Panama **Canal** Museum. im. qq^I'^^OI'd) Vol. 5, No. 1 BALBOA HEIGHTS, **CANAL** ZONE AUGUST 6... month when General R. E. Wood paid a brief visit to the **Canal** Zone. Former Chairman of the Board... More Information

URL Used for PURL

FDsys > Search Results

SEARCH RESULTS

Search Government Publications

mods:identifier:(@"ILS system id":"000943086") Within Results SEARCH

Advanced Search
Retrieve by Citation
Help

Results 1 - 9 of 9 **Sort by:** Relevance Go 10 per page Go

1. Canal Record, Volume VI, August 28, 1912 to August 20, 1913 [PDF 361182 KB]
War Department. Canal Zone Government. Wednesday, August 20, 1913.
... canalrecord6152isth_0000 canalrecord6152isth_0001 canalrecord6152isth_0002 canalrecord6152isth_0003 canalrecord6152isth_0004 canalrecord6152isth_0005 canalrecord6152isth_0006 canalrecord6152isth_0007 canalrecord6152isth_0008 canalrecord6152isth_0009 canalrecord6152isth_0010 canalrecord6152isth_0011 canalrecord6152isth_0012... More Information

2. Canal Record, Volume II, September 2, 1908 to August 25, 1909 [PDF 52500 KB]
War Department. Canal Zone Government. Wednesday, August 25, 1909.
... «WiOtfwt»iWTr»«j%«.WJ II CANAL RECORD ; VOLUME 2 ^1 Mm 'iiiiiiiiiiiiiii 1 L.. ;tit)ii)!j)ji UNIVERSITY OF FLORIDA LIBRARIES Digitized by the Internet Archive in 2009 with funding from University of Florida, George A. Smathers Libraries http://www.archive.org/details/panamacanalrecor02isth CANAL RECORD PUBLISHED WEEKLY UNDER THE AUTHORITY... More Information

3. Canal Record, Volume IV, August 31, 1910 to August 23, 1911 [PDF 344819 KB]
War Department. Canal Zone Government. Wednesday, August 23, 1911.
... canalrecord4152isth_0000 canalrecord4152isth_0001 canalrecord4152isth_0002 canalrecord4152isth_0003 canalrecord4152isth_0004 canalrecord4152isth_0005 canalrecord4152isth_0006 canalrecord4152isth_0007 canalrecord4152isth_0008 canalrecord4152isth_0009 canalrecord4152isth_0010 canalrecord4152isth_0011 canalrecord4152isth_0012... More Information

Moving Forward (1)

Designate a single, authoritative source of metadata, from which metadata are extracted and transformed for multiple purposes.

Explore automated ways to exchange metadata between different systems (CGP and FDsys/**govinfo**).

Develop metadata exchange requirements and procedures when adding new digitized collections in FDsys/**govinfo**.

Moving Forward (2)

- Equip staff with new skill sets.

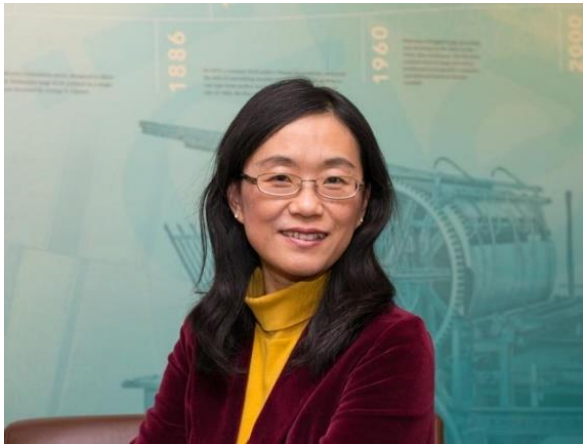
  e.g., proficiency in XML coding; familiarity with different metadata standards; metadata crosswalks

- Improve organizational infrastructure to better meet the needs of processing U.S. Government information in the digital environment.

- More collaboration with other business units

  e.g., Programs, Strategy, & Technology (PST)

cetkin@gpo.gov



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Questions?

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