Selecting, Migrating, and Preserving Digital Records

Best Practice Exchange Conference
Rick Laxman (laxmanrj@ldschurch.org)

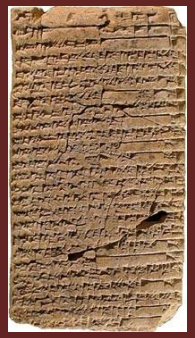
Why Preservation Planning

From

To

To

Ancient, Appraisal , Selection & Preservation



Metadata!

Models for Digital Preservation

Archive Model

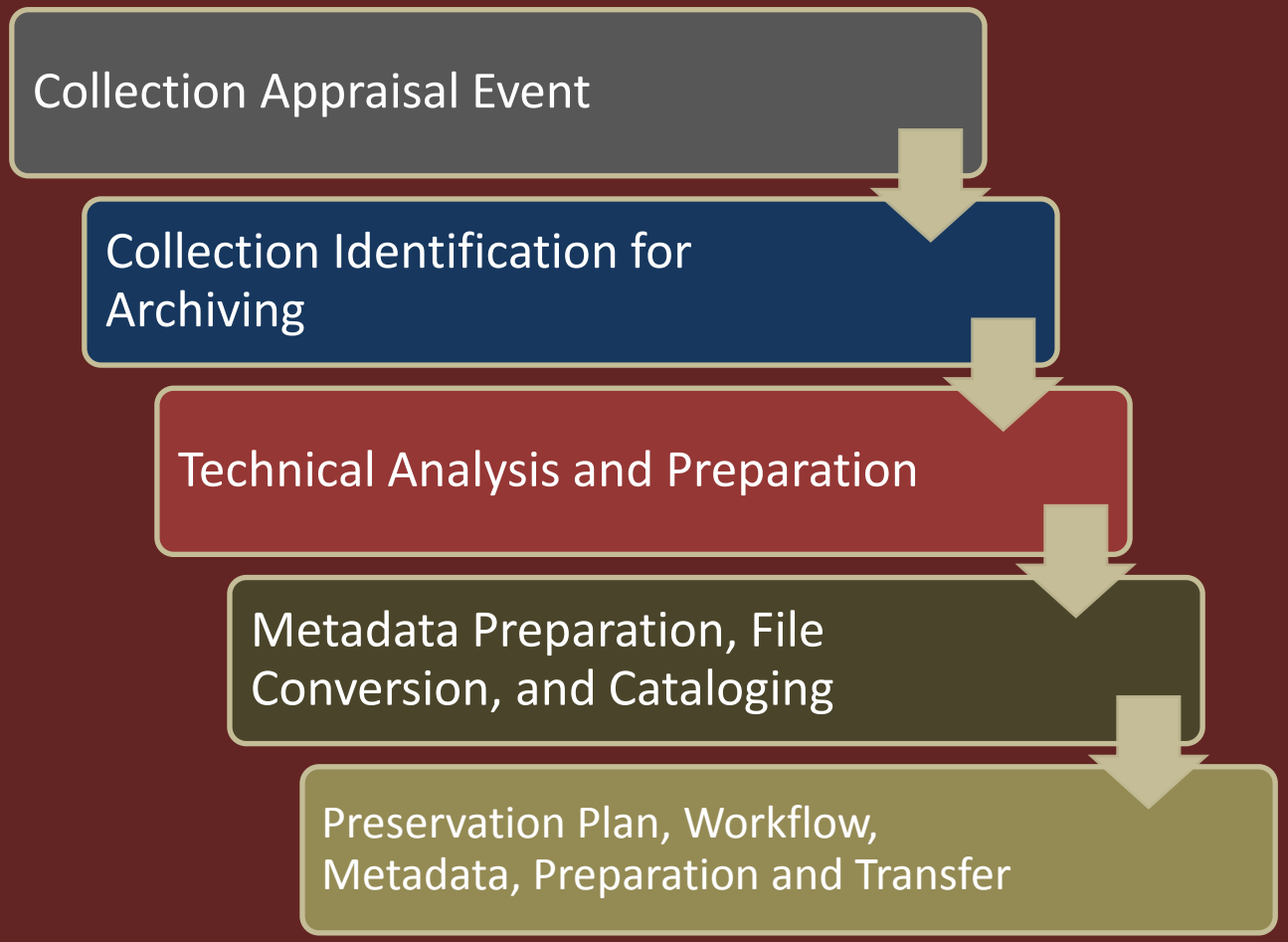
- Preserving digital content that meets CHD collecting policy for all departments, Church entities and affiliates, and 3rd party acquisitions
  - Collections or records sets currently in the Church History Library or Archive collections
  - Collections or records sets acquired from other Church departments that have historical value for the Church

Models for Digital Preservation

Service Model

- Long-term archiving needs (not necessarily preservation) for departments, entities and affiliates which have long-term needs for content that does not meet CHD collecting policy.

Digital Preservation Processes



Digital Preservation Processes

CHD Cataloging, Arranging, and Scheduling (Archive)

Digitizing, Ingest, and Unique ID (PID) Delivery

Export and Delivery

System Administration

File Format and Media Migration

CONTROL FREAK!

Appraisal and Selection

General Principles

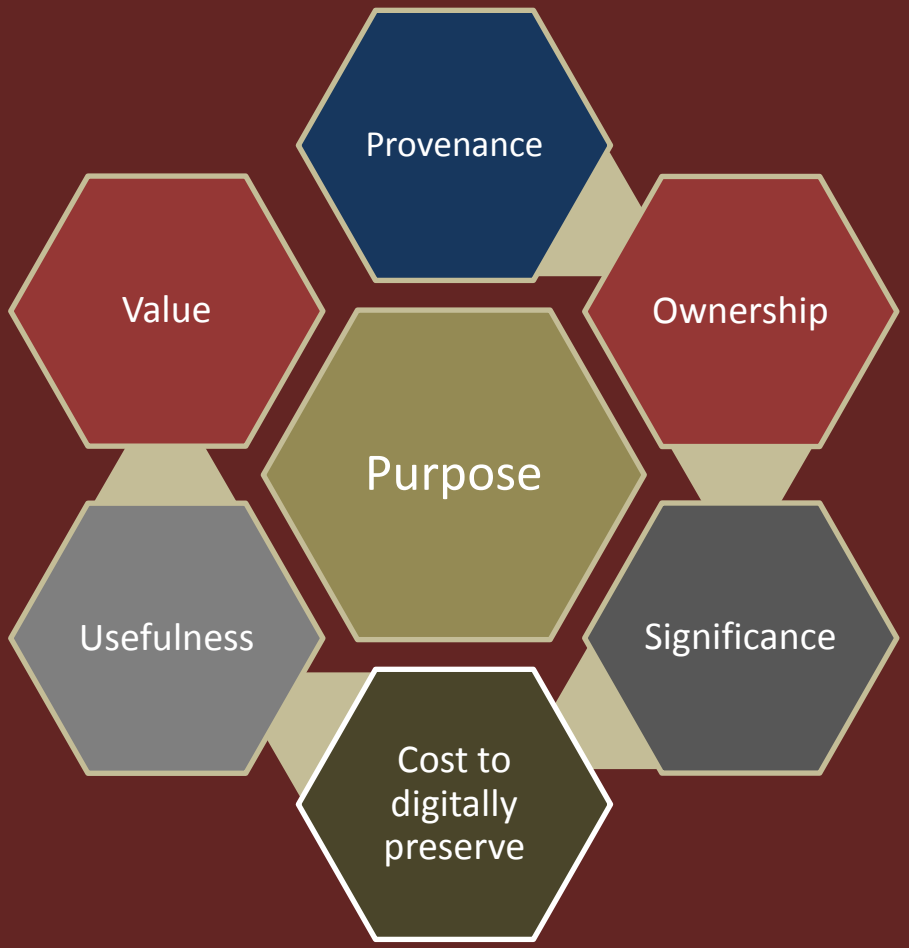
Primary Values

- Determined by the creating organization
- Business, Historical or Archive Value

Secondary Values

- Appraised by the archival institution
- Consideration for the creating organization
- Enduring value that exists long after records cease to be used for their original purpose (evidential, informational, and intrinsic value)

Appraisal and Selection



Digital Preservation Needs

Ensure the preservation of digital records of enduring value and minimize the total cost of ownership

Preservation Planning Process

- OAIS Model
- Knowledgeable staff

Technology

- Hardware, software, storage media

Maintenance and Preservation Facilities

- Protected storage locations
- Reliable power

Digital Records Preservation System (DRPS)

A-1b

broadcast

Dark archives for storing digital records using Ex Libris Rosetta

Church History's Integrated Catalog is the master catalog for records stored in DRPS

Stores multiple, high-resolution copies of digital records in multiple locations for CHD and other Church Departments

Ensures active management and preservation of multiple copies of digital records of enduring value

Authorized access to records is carefully controlled

Digital Collections Management System (DCMS)

DCMS is a digital library providing access to Church History's library and archives

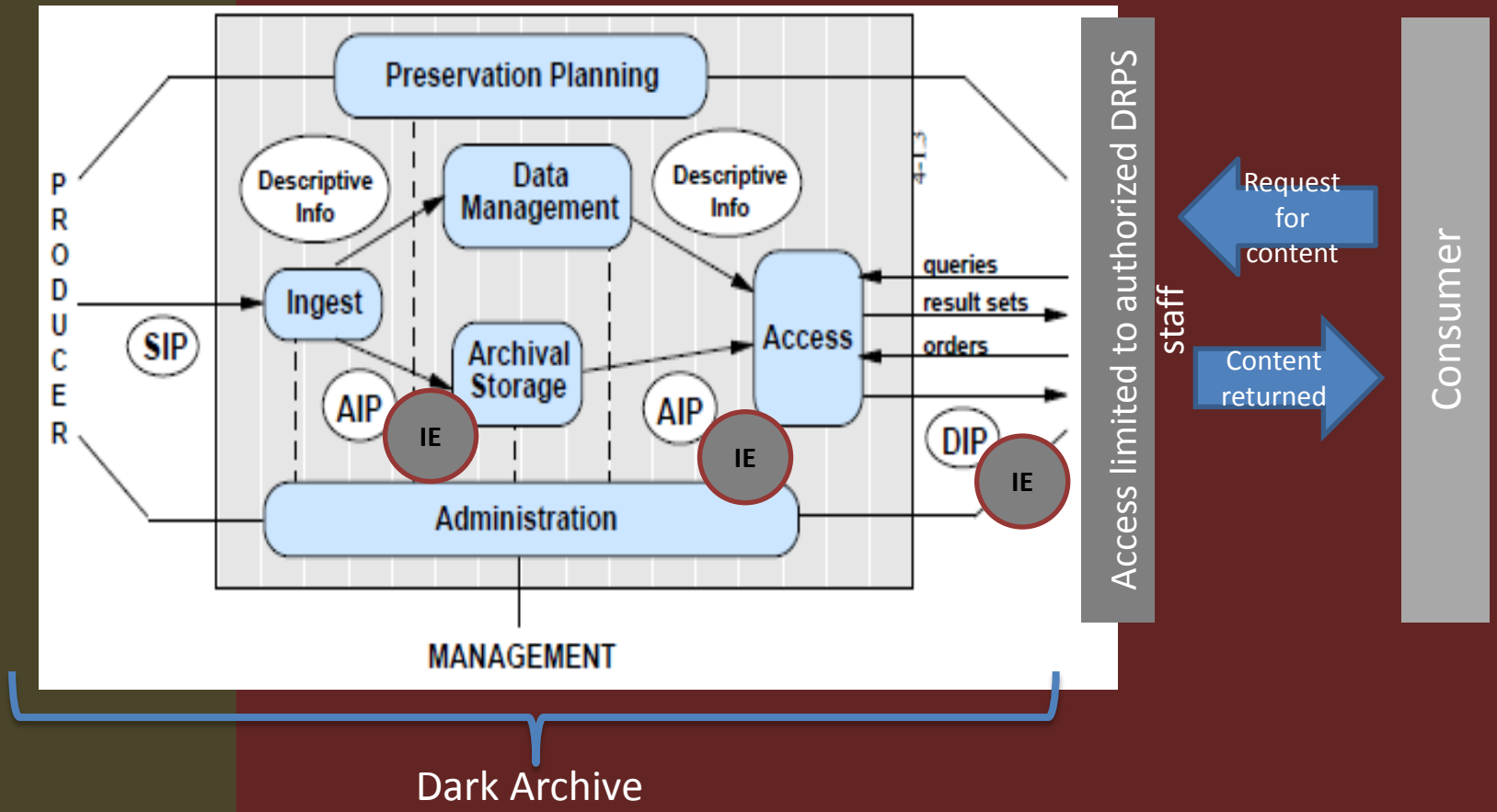
Separate DCMS instance of Ex Libris Rosetta

Church History's Integrated Catalog is the master catalog for records stored in DCMS

Utilizes a search tool that provides public access to eligible, digitally preserved records

Records are typically lower resolution for more efficient digital delivery and use

Open Archival Information System (OAIS) Model



Information Gathering

DRPS Preservation Plan – Producer Provided Information Summary

Project and Rights Information	
Project Title	Descriptive Title (e.g. Executive Minutes, X Department)
Project Description	Types of records, documents, objects, etc. and years covered
Project Duration	One-time preservation ingest, Multiple ingests or Ongoing . Also project start date
Frequency of Content Delivery	Provide the frequency of delivery for on-going content from the producer (e.g. monthly, quarterly, annually)
Producer Contacts	Names of Producer Contacts: Management, Provider of files for ingest and metadata, Technical contacts for process setup and problem resolution
Church History Contacts	Rick Laxman, Preservation Planner - Daryl Downs, Records Manager -
Access Policy and Authorized Requestors	Rights/restrictions for accessing content in DRPS preservation system; Individuals authorized to request that content be delivered to producer
Model – Archive/Service	Service Model: Producer maintains ownership of content and a catalog record of the content Archive Model: Content ownership is transferred to Church History and a catalog record for the content is created in the Church History catalog
Collection Retention Plan	Policy and plan governing the maintenance or disposal of a producer's collections of records
Collection Disposition Plan	Plan to dispose or keep original records, documents, tapes, etc. once digital files are securely preserved in DRPS – producer or Church History records manager can suggest best practices
Metadata Information	
Content Description	Type and organization of original content (e.g. books, loose pages, audio or video tapes, etc. in folders, boxes, reels, cassettes, etc.)
Catalog Record Status	Producer catalog record exists? In what format?
Required metadata (Dublin Core & LDS Terms)	Set of mandatory metadata fields required for preservation into the Church History Digital Records Preservation System (DRPS) – See list below
Optional Metadata (Dublin	Set of optional metadata fields that can be ingested into the Church History Digital Records Preservation System (DRPS) – See list below

Technical Analysis and Preparation

Preservation Planning Technical Analysis and Preparation Checklist

✓	Step	Description		Action
☐	Evaluate current storage media		Acceptable ☐Yes ☐No	
☐	Evaluate folder structure/ organization		Acceptable ☐Yes ☐No	
☐	Evaluate file formats for compliance to preservation standards		Acceptable ☐Yes ☐No	
☐	Format 1		Acceptable ☐Yes ☐No	
☐	Format 2		Acceptable ☐Yes ☐No	
☐	Format 3		Acceptable ☐Yes ☐No	
☐	Format 4		Acceptable ☐Yes ☐No	
☐	Format 5		Acceptable ☐Yes ☐No	
☐	Format 6		Acceptable ☐Yes ☐No	
☐	Create fixity MD5 Checksum		Acceptable ☐Yes ☐No	
☐	Review catalog and metadata availability and organization		Acceptable ☐Yes ☐No	
☐	Gather metadata for SIP.xml		Acceptable ☐Yes ☐No	
☐	Determine PID delivery method		Acceptable ☐Yes ☐No	
☐	Review IE export and delivery process			
☐	Determine process for future file format migration		Acceptable ☐Yes ☐No	
☐			Acceptable ☐Yes ☐No	
☐			Acceptable ☐Yes ☐No	

Preferred Preservation Formats

Image: jp2 [lossless], tif, jpg

Text: PDF/A 1-b, PDF, xml

Data: xml, csv

Audio: wav [broadcast], mp3 > 192 Kbps

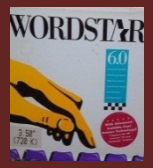
Video: avi, mov, mxf

Web: WARC

Technical Analysis and Preparation

Media migration issues

File format/conversion issues



DSS Audio

(Olympus Proprietary)

Metadata Preparation

Metadata Information Required for DPRS
*Mandatory

Metadata Term/Tag	Definition	Example	Producer Content
*dc:identifier	Unique Identifier or File Plan [Call #]/[box]/[folder] - (IE or item level)	CR 345 9/b0001/f0001	
dc:description	Brief description of the dc:identifier - (IE or item level)	Box number 000-001-974	
*ldsterms:title	505 - Brief item level description of the dc:identifier - (if no 505, "Folder #" and include box #, if not b0000)	b0001/f0001	
*dcterms:isPartOf	090a - Collection Call Number	CR 345 9	
*dc:title	100a or 110a (names in First, Middle, Last form) and 245a (not capitalized & without dates) - Collection Title	MBC-Wyoming Executive Minutes	
dcterms:created	Date span of the collection	1999	
dcterms:abstract	Descriptive summary	The minutes of George Jones Expanded President's Council meetings for February, April and June 1999, and associated attachments.	
dc:language	Primary Language (use ISO 639-2 three-character codes) - (IE or item level)	eng	
*dcterms:provenance	Description of a provenance event when, action, what & why	(e.g. 2012-01-21, Acquire digital voice, images and transcript from oral history interview (e.g. 2012-02-14, Migrate 1 in. tape to MXF for preservation) (e.g. 2011-12-31, Digitize manuscript using Copibook per department digitization plan)	
*ldsterms:subinst	Entity providing the asset (Producer, e.g. BYUI, FHD, AUD, etc.)	FHD	BYU-H
*dcterms:rightsHolder	Catalog owner (entity controlling the asset/IE)	CHD	BYU-H
key	9-digit BIB ID from the 001 tag		

Preservation Plan

DRPS Preservation Plan

PROJECT TITLE: CALL SLIPS

PROJECT DESCRIPTION

These are call slips used in the circulation of items from the secured stacks. We are preserving them in the case they are needed to determine the history of access to material. The primary source for this kind of data is catalog system. This is only a supporting resource.

SCOPE

The call slips will have to be prepared and scanned prior to each ingest. This will be all call slips created by the catalog systems including call slips from the circulation team and the vault

STAKEHOLDERS

Role	Name	Email	Office Phone	Cell Phone
Producer Contact	Brian Jones			
Authorized Requestor	Glenn Monson Brian Jones			
Preservation Planner	David Smith	smithdc@mail.org	801-123-5555	
Records Manager	Mark Brown	smithdc@mail.org	801-123-5555	
Church History Specialist	Jay Carry	smithdc@mail.org	801-123-5555	
DRPS Operations	Heidie Strong	smithdc@mail.org	801-123-5555	
Digital Operations	Jason Louder	smithdc@mail.org	801-123-5555	
Imagining Architect	McKay James	smithdc@mail.org	801-123-5555	

KEY DATES AND DURATION OF PROJECT

Ongoing or One Time	Ongoing	
Frequency of Content Delivery	Monthly	Brian Jones
Call Slips Scanned	17 May 2013	Jason Louder
Delivery of Content	20 May 2013	Jason Louder
Start Ingest	24 May 2013	Heidie Strong

Workflow

Preservation Plan Workflow/Schedule – Service Model

Project Title	Descriptive Title (e.g. Executive Minutes, X Department)
Project Description	Types of records, documents, objects, etc. and years covered
Project Duration	One-time preservation ingest, Multiple ingests or Ongoing . Also project start date
Planning Status	☐ Proposed ☐ Initial Contact ☐ Planning ☐ Active ☐ Complete

#	Step	Owner[1]		Start Date[2]	End Date	Notes
1.	Determine the scope of the project	DP				
2.	Create draft preservation plan	DP				
3.	Gather records (electronic files, paper, discs, etc.)	P				
4.	Provide metadata requirements and template & instructions for filling in the sip.xml template	DP				
5.	Gather metadata	P				
6.	Plan for conversion; resolve issues	P/DP				
7.	Determine arrangement	P				
8.	Create producer catalog record	P				
9.	Convert sample set of files to preservation format	P				
10.	Create sip.xml metadata file & SHA1 checksum sample	P				

Scheduling

Records Managment Request

CHURCH HISTORY LIBRARY

Log off | New | DeskStats | Search | Open questions | Home

Question # CH21649 | Answer | Reallocate | Qutilities | Change | Summary | Qprint

New question | Post date question

Receipt information

- Request form: Records Managment Request
- Received via: Email

Records Management Request

To be used when requesting records to be digitized for Records Management.

Requester Details

- Requesting staff member
- Email address
- Phone number
- Requesting department: [Select option]

Collection Status

- Title/Origination
- Call Number
- Ingest media: [Select option]
- If "other", please specify.
- Batch class to be used:

Processing Details

- File location
- Image type: JPEG
- Deposit images to: [Select option]
- If "other", please specify.
- Special instructions

Deadline Details

- Last useful date: 10/31/2013 02:00 PM
- Priority: Normal

Attachments

- Do you need to attach a file? [Select option]
  If you select **Yes** here, you will be given the opportunity to add attachments to this request in the next screen.

Cataloging, Arranging, and Renaming

ALEPH Cataloging - Version 21 Library: CHD BIB Library (LDS01) Server: alephprod.ldschurch.org:6991 User: RLAXMAN

ALEPH View Cataloging Items Edit Actions Edit Text Record Manager Remote *Services Help

1. Brief List | 2. My Records | 3. Brief Records

(Call Number= "CR 1234 1")

[Sorted by Year (Ascending) then Author (Ascending).] <<<<CHL BIB Library>>>>

Doc no.	Call No	Author	Title	Year	Year 2	Stock No.
1/1	CR 1234 1	Brigham Young Office	Brigham Young office files	1832	1878	

Jump to:

1. Full+Link | 2. MARC Tags | 3. MARC Public View | 4. Citation

Record Number	000280345
CORP Main Entry	Brigham Young Office .
Title	Brigham Young office files
Abstract	Files kept in Young's office by himself or his clerks during the period he served as president of the Quorum of Twelve (1844-1847) and President of the Church (1847-1877), including files accumulated during his tenure as governor of Utah Territory and ex officio territorial Superintendent of Indian Affairs (1851-1858).
Abstract	Besides documents relating to Young's church and governmental activities, these files also include records relating to his personal and family affairs and business activities.
Abstract	Young's files include letterpress copybooks and other retained copies of outgoing letters, general epistles to members of the Church, incoming letters and telegrams, personal and office journals, minutes, texts of speeches, petitions, legal documents, reports, claims, visitors' registers, financial records and other business records, etc. Materials in Young's files document not only general church activities but also local church, community, and individual activities during the Nauvoo, Iowa, and Utah eras of the Church's history, including the overland migration from Iowa to Utah, the emigration of LDS converts from Europe, relations with federal and local governments, relations with Native Americans, ecclesiastical court matters, and issues relating to church ordinances such as marriage and divorce.
Subject-Top. Term	Politics and government relations
Subject-Top. Term	Ecclesiastical courts
Subject-Top. Term	Marriage
Subject-Top. Term	Divorce
Subject-Top. Term	Pioneers -- Emigration and immigration
Subject-Top. Term	Indian relations
Index-Genre/Form	Correspondence
Index-Genre/Form	Electronic records
Index-Genre/Form	Financial records
Index-Genre/Form	Guest registers
Index-Genre/Form	Journals
Index-Genre/Form	Legal documents

Online Catalog

THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS | CHURCH HISTORY LIBRARY

Feedback | Search | Libraries | eShelf | Sign in

Home | General Information | Resources and Tools

Collection Policy
The Church History Library collects materials by or about The Church of Jesus Christ of Latter-day Saints and its members. These materials come from a wide spectrum of sources and represent numerous points of view. Users of the catalog should not assume that the Church or the Library endorses every item in the collection.

ALL | Library | Archive | Index

CR 1234 1

Material Type:
Legal documents(1)
Journals(1)

Topic:
Ecclesiastical courts(1)
Divorce(1)
Politics and government relations(1)
Marriage(1)
General Authorities(1)
show 1 more

Author/Creator:
Young, Brigham, 1801-1877(2,559)
Brigham Young Office(1)
First Presidency; Quorum of the Twelve Apostles; Utah Territory Governor; Utah Territory Office of the Indian Superintendent(1)

Decade:

2,560 Results 1 2 3 4 5 ›

Brigham Young office files, 1832-1878 (bulk 1844-1877)
Brigham Young Office
Call Number: CR 1234 1
Summary: Files kept in Young's office by himself or his clerks during the period he served as president of the Quorum of Twelve (1844-1847) and President of the Church (1847-1877), including files accumulated ...

Co-F, 1851
Young, Brigham, 1801-1877
Call Number: CR 1234 1;
Found In: Brigham Young office files;General Correspondence, Incoming;General Letters

11-L, 1850
Young, Brigham, 1801-1877
Call Number: CR 1234 1;

Brigham Young office files, 1832-1878 (bulk 1844-1877)

Brigham Young Office
Call Number: CR 1234 1

Browse collection

Location:
Request at Reference Desk Corporate Records
Special Request Corporate Records

Details: Files kept in Young's office by himself or his clerks during the period he served as president of the Quorum of Twelve (1844-1847) and President of the Church (1847-1877), including files accumulated during his tenure as governor of Utah Territory and ex officio territorial Superintendent of Indian Affairs (1851-1858).

Besides documents relating to Young's church and governmental activities, these files also include records relating to his personal and family affairs and business activities.

Young's files include letterpress copybooks and other retained copies of outgoing letters, general epistles to members of the Church, incoming letters and telegrams, personal and office journals, minutes, texts of speeches, petitions, legal documents, reports, claims, visitors' registers, financial records and other business records, etc. Materials in Young's files document not only general church activities but also local church, community, and individual activities during the Nauvoo, Iowa, and Utah eras of the Church's history, including the overland migration from Iowa to Utah, the emigration of LDS converts from Europe, relations with federal and local governments, relations with Native Americans, ecclesiastical court matters, and issues relating to church ordinances such as marriage and divorce.

Author/Creator: Brigham Young Office

First Presidency ; Quorum of the Twelve Apostles ; Utah Territory Governor ; Utah Territory Office of the Indian Superintendent

Additional Author: Young, Brigham 1801 1877

Subjects: Politics and government relations ; Ecclesiastical courts ; Marriage ; Divorce ; Pioneers - Emigration and immigration ; Indian relations ; Illinois Hancock Nauvoo ; Iowa ; Utah ; Utah Salt Lake Salt Lake City ; Utah Industries

Material Type: Correspondence , Electronic records ; Financial records , Guest registers , Journals ; Legal documents , Letterpress copybooks , Minutes , Reports , Speeches , Telegrams

Language: English

EAD Finding Aid

Encoded Archival Description (EAD) is an international standard maintained through a partnership between the Library of Congress and the Society of American Archivists

THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS | CHURCH HISTORY LIBRARY

Home General Information Resources and Tools

CR 1234 1: Brigham Young office files 1832-1878

Overview Browse the Collection

- Letterbooks, 1844-1877
- General Correspondence, Outgoing, 1843-1876
- General Correspondence, Incoming, 1840-1877
- Telegrams, 1861-1877
- General Epistles, 1841-1868
- Federal and Local Government Files, 1844-1876
- Governor's Office Files, 1850-1867
- Utah Delegate Files, 1849-1872
- Ecclesiastical Files, 1841-1877
- Journals, 1832-1877
- President's Office Files, 1843-1877
- General Business Files, 1848-1872
- Gold Dust Accounts (Church Mint), 1848-1851
- Brigham Young Express and Carrying Company Files, 1857-1860

- Copybook, 1844 August 27-1853 May 25
- Letterbook, v. 1, 1851 November 22-1855 February 21
- Letterbook, v. 2, 1855 February 28-1856 August 19
- Letterbook, v. 3, 1856 August 20-1858 January 6
- Letterbook, v. 4, 1858 January 2-1858 November 22
- Letterbook, v. 5, 1858 November 24-1861 November 28
- Letterbook, v. 6, 1861 November 2-1864 April 15
- Letterbook, v. 7, 1860 April 19-1866 January 8
- Letterbook, v. 8, 1866 January 8-1866 June 20
- Letterbook, v. 9, 1866 June 21-1867 February 25
- Letterbook, v. 10, 1867 February 26-1868 August 28
- Letterbook, v. 11, 1868 August 27-1870 February 9

Title:
Letterbook, v. 1, 1851 November 22-1855 February 21

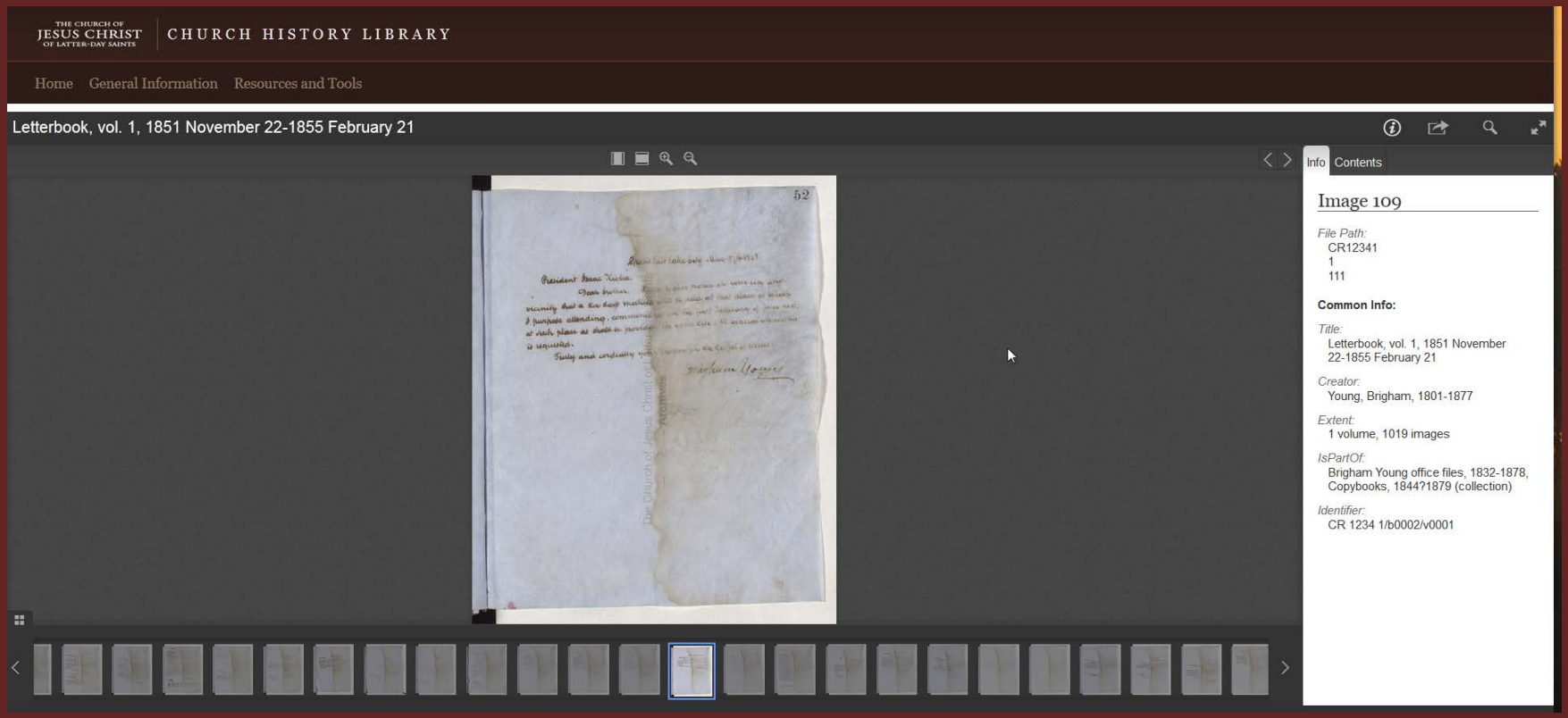
Description:
Manuscripts (volume 1, DVD 21).

Physical Description:
1 v. ; 28 cm. : Letterpress.

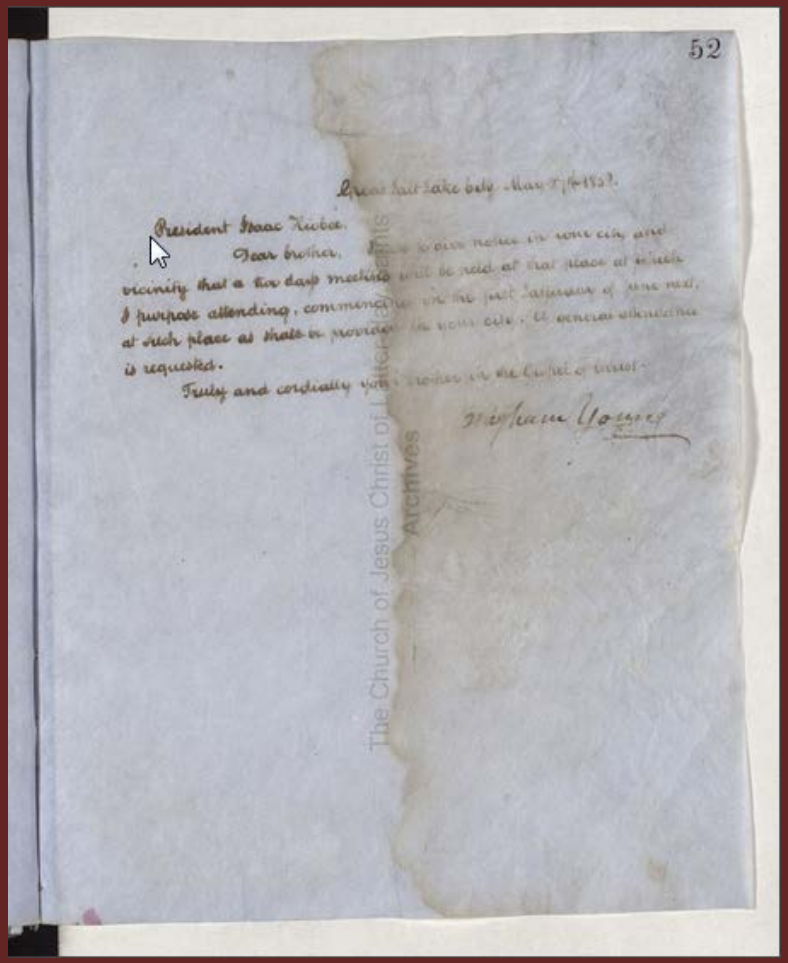
Containers:
Reel 2
Box 2
Volume 1

Letterbooks, 1844-1877; Letterbook, v. 1, 1851 November 22-1855 February 21

Viewing the Image



Public Image



52

Great Salt Lake City, May 7, 1853.

President Isaac Riches.

Dear brother,

[illegible] vicinity that a saw mill will be rented at that place at which I purpose attending, commencing on the first Saturday of June next, at such place as shall be provided in your city. A general attendance is requested.

Truly and cordially your brother in the bonds of love,

William Hooper

The Church of Jesus Christ of Latter-Day Saints Archives

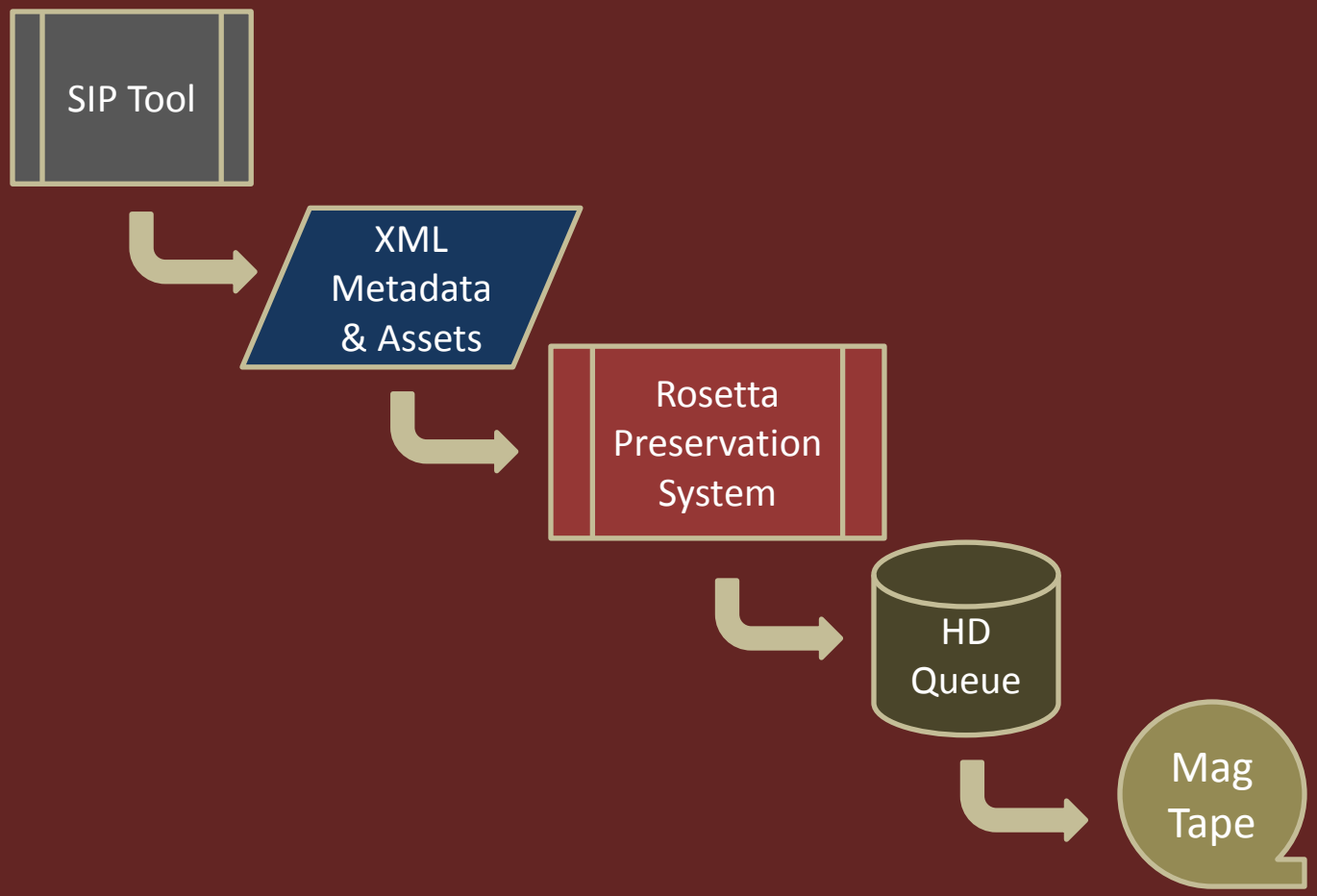
Digitizing for Access

Collection Identification for Digitization

CHD patrons, donors and library staff identify collections for access through digitization which are also preserved

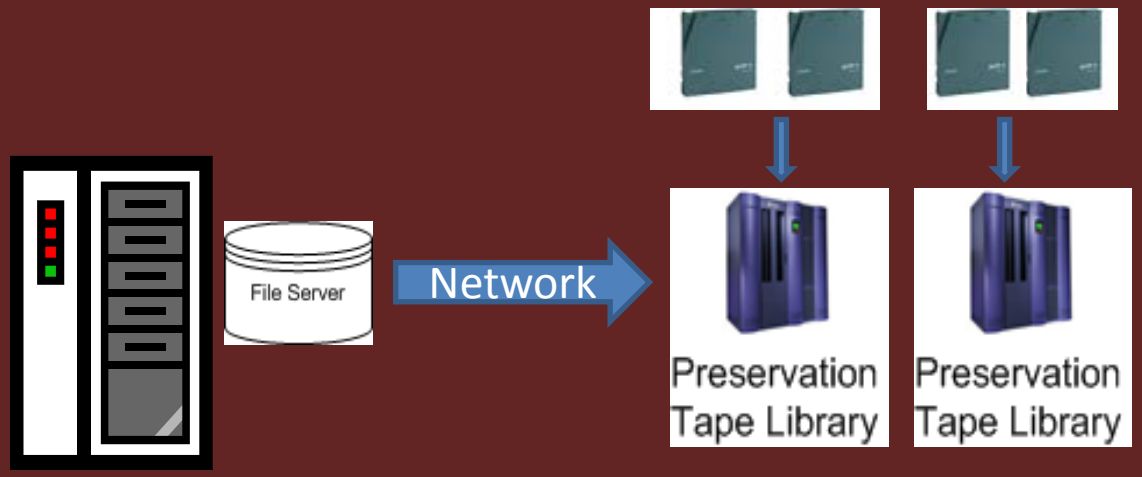
- Patron requests (through CHL catalog)
- Donors' request and return donations
- Department staff requests
- High use collections
- At-risk collections

Asset Processing



Preservation Policy

A minimum of two copies in 2 geographically separated locations



PID Delivery, Export & System Admin

Home | Producers | Submissions | Data Management | Preservation

Home > Intellectual Entity

Intellectual Entity PID	IE289206	**Created on**	13/02/2013 17:31:02	**Created by**	siptool
Updated on	13/02/2013 17:31:06	**Updated by**	siptool	**SIP ID**	12648
Version	1				

- **IE (IE289206)**
  - **Preservation Master Revision 1 (REP289207)**
    - **File (FL289208 ,17Kb)**

Object Summary | Metadata | Services | Versions

View Object

PID	IE289206
SIP ID	12648
Created on	13/02/2013 17:31:02
Created by	siptool
Updated on	13/02/2013 17:31:02
Updated by	siptool
Entity Type	-
Number of Reps	1
Status	ACTIVE

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File Format and Media Migration

File Format Migration Process and Plan

FILE FORMAT ANALYSIS

1. File Format Description: Gather and record information about each file format in or proposed for Rosetta. File format template will contain the fields listed in the Appendix template:
2. Identify the risk factors for file obsolescence for each file format based on the following criteria
    a. Adoption – consumer and industry
    b. Vendor support
    c. Open source vs. proprietary
    d. Standardization (ISO, other)
    e. Availability of potential replacement format
3. Schedule and carry out format obsolescence risk analysis

FILE FORMAT MIGRATION PROCESS

1. Identify formats requiring migration
2. Identify new preservation format based on the sustainability factors review:
    a. Disclosure
    b. Documentation
    c. Adoption
    d. Licensing and patents
    e. Transparency
    f. Self-documentation
    g. External dependencies
    h. Technical protection considerations
    i. Do our producers have the tools, utilities and knowledge to implement and use the new

File Format and Media Migration

Appendix – File Format Description Template/Sample

Identification and description

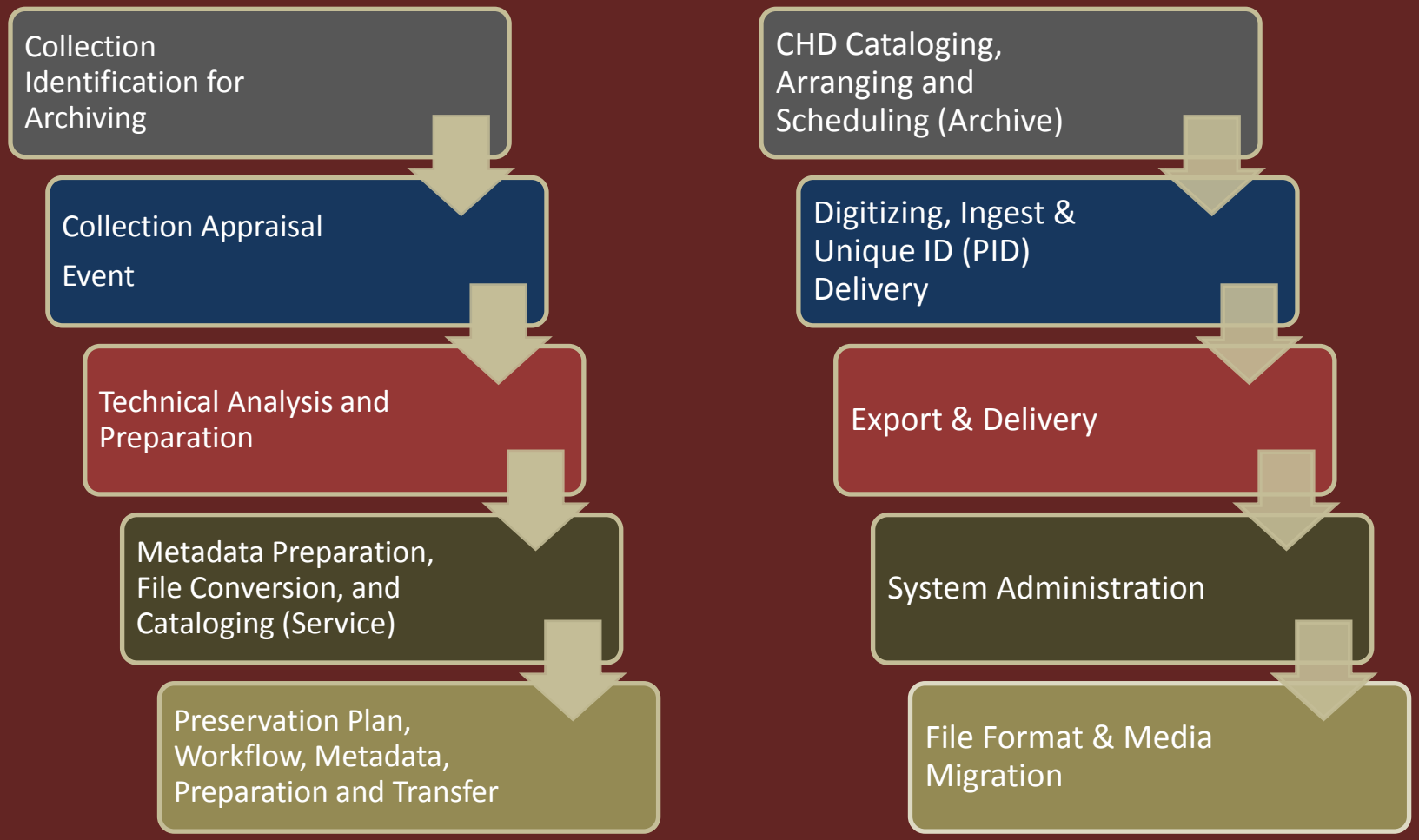
Full name	TIFF (Tagged Image File Format), Revision 6.0
Description	A tag-based file format for storing and interchanging raster images. TIFF serves as a wrapper for different bitstream encodings for bit-mapped (raster) images. The different encodings may represent different compression schemes and different schemes for color representation (photometric interpretation). See also Notes. The most recent version of TIFF is 6.0, published in 1992. Since TIFF images conforming to earlier versions are valid TIFF 6.0 files,
Production phase	Most often an initial-state or middle-state format; may serve as final-state format.
Relationship to other formats	
Has earlier version	TIFF, Revision 5.0, not separately described
Has subtype	TIFF_UNC, TIFF, Uncompressed Bitmap
Has subtype	TIFF_G4, TIFF Bitmap with Group 4 Compression

Local use

LC experience or existing holdings	TIFF 5.0 and 6.0 have been used by the American Memory project as the master format for most digital reproductions from paper and photographic media such as negatives. For the first several years of the project, most images of typographic pages (no illustrations) were formatted as TIFF_G4; in more recent years, such originals have been captured as grayscale images, generally formatted as as TIFF_UNC uncompressed bitmaps. Pictorial items from printed matter, original photographs, and other graphic arts are generally reproduced as TIFF_UNC. For TIFF images from paper originals,

http://www.digitalpreservation.gov/formats/

Digital Preservation Processes



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