Library of Congress
Archive Environments

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Overview

- Four Archive Environment
  - Packard Campus Audio and Visual Archive
    - Production Environment
  - Library of Congress Bit Preservation Program
    - LCBP Platform
    - GPFS LCBP Platform
  - Legacy Archive
PCAVC Architecture V2

- 2GBps maximum throughput
- Commissioned 2007
- Currently Stores:
  - 1.3 PB
  - about 140K files
  - current growth: 95 TB / month
  - about 9K files per month
Packard Campus Production Archive

Architecture Version 2

[Diagram showing network architecture with various components and connections, including POD, Production Data Network, NAVCC Network Core, Archive Data Network, Workflow Server, HSM Cache, Cisco MDS, and SL8500 Tape Library T10000 Tape Dives.]

Library of Congress Remote Site

NAVCC Culpeper
PCA VC Architecture V3 (in test)

• Goal of 6GBps ingest rate
  – Oracle M9000
• Increase HSM Cache Size
  – DDN SFA10000 to replace Sun FLX380
• Change SMB data transfers
  – Signiant Content Distribution Management
• Improve Tape Monitoring
  – Crossroads ReadVerify Appliance
LC Bit Preservation #1

- 4Gbps maximum throughput
- Commissioned 2008
- Currently Stores:
  - 830 TB
  - about 32M files
  - current growth: 45 TB / month
  - more than 1 million files per month
- Advance Tape Monitoring
LCBP Environment Improvements

- Second Archive for risk mitigation
  - 2x tape technology
  - 2x OS
  - 2x HSM
  - second vendor
  - adds 3rd and 4th copy
- Increase network bandwidth to 10GigE
Migration
Migration
Migration
Migration
Near Future Directions

- Moving toward digital submission
- Adding Storage Resource Management
- Reducing the cost of acquisition cost for storage
  - Segmenting Tier 2 storage into 3 sub-tiers
  - $1k or less per TB (10X or less consumer price per TB)
- Heterogeneous Global Namespace
- Geographical Dispersed Archive
- Erasure Archive
Thank You

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