

NARA's High Capacity Magnetic Media Study

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IASSIST Annual Conference

June 14, 2002

Function Overview

- Accessions permanent electronic records
- Preserves electronic records
- Provides access to electronic records

Current Media Standards

- Transfer Media
 - 9-track open reel tapes
 - 3480 cartridges
 - CD-ROMS
 - FTP & DLT *New!*

Archival Media

- Archival Media

- 9-Track Tapes to 1992

- 3480 class cartridges from 1992 to present

Archival Media

- Previous Studies

- NARA technology assessment report, June 1988

- Media Stability Studies: Final Report, July 1994, NML

Archival Media Study

- Why?

- Obsolescence

- Larger file sizes

- Demand

- Benefits to the
archives community

Archival Media Study

- Objective - To determine the stability and life expectancies of denser magnetic, in particular, IBM 3590, Digital Linear Tape (DLT), and Super DLT.
- Goal - Compare tapes, evaluate, and select most suitable dense storage media.

Archival Media Study

- Time period and funding
 - \$287K
 - October 2001 through June 2002
 - Final report end of July 2002

Archival Media Study

- Tests

- Aging

- Binder hydrolysis

- Resistivity

- Friction

- Error study

- Degradation

Tests

- Aging Study - subject tapes to 40C/50%RH, 50C/75%RH.
 - Object: To determine changes in the recording media resulting from environmental exposure
 - Results: DLT exhibited least magnetic property changes

Tests

- Binder Hydrolysis and Lubricant Study
 - Object: To determine binder hydrolysis and lubrication content changes
 - Results: Hydrolysis minimal for all samples and little change

Tests

- Physical Property Study
 - Object: To determine the physical and electrical changes
 - Results: SDLT changed least

Tests

- Error Study
 - Object: To determine the error profile changes (UBER and STE)
 - Results: DLT IV showed few errors

Tests

- Degradation Study
 - Object: To determine analog recording capability changes
 - Results: SDLT most stable

Business Issues

- Pricing, Availability, and Value
 - 3590 drive expensive
 - DLT IV and SDLT hold more data
 - 3590 tapes least expensive
 - DLT IV and SDLT better buy
 - DLT IV readily available

Business Issues

- Availability and Access
 - Products are mature and readily available
 - SDLT first of new generation of drives
 - 3590 last of old generation

Business Issues

- Pending items and other issues
 - Life expectancy models
 - Final recommendation
 - Evaluation of single tapes
 - Procedural changes
 - What happens if 3480 support goes away?

Communications

- Questions/comments?

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THANK YOU!