Designing Storage Architectures for Digital Preservation: Panel 2 – Tape Usage Future

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Library of Congress
Thomas Youkel
Chief, Enterprise Systems Engineering
The Library of Congress
Our Distinguished Panelists

- Shawn Brume IBM/Enterprise tape
- Peter Faulhaber FujiFilm
- Ed Childers IBM/LTO tape
- Bob Raymond Oracle
Question for the panel

• What is the future market for tape usage?
• How do you see the future specifically for tape technology and why?
Ground Rules for all of us

- 4 minutes per panelist timed
- No discussion about specific hardware or software products is allowed
- We expect 10 minutes for discussion among panel members and moderator after the individual presentations, and then questions from audience
Thoughts and considerations

- Enterprise tape (hard error rate of $10^{19}$) density is increasing faster than LTO (hard error rate of $10^{17}$) – Why? This was not the case before LTO-5
- Hard error rates for tape are greater than hard error rates for disk but have not changed in a number of years – Do these rates need to be increased given the increase in cartridge density?
  - What are the tradeoffs other than space?
- Are tape sales for archival/long-term storage applications increasing or deceasing – What is the long-range direction and why?
LOC Challenges

• Migration to new media takes significant time
  – LOC must migrate, but how often will this be required
    • Small increments in density are difficult to deal with
  – Interface issues are critical
    • Choice of an older interface on new tape drive impacts our decisions
      – E.g. new tape drives should use 16 Gbit FC/10 GbE/6 Gbit SAS

• LOC needs an understand for budget and planning purposes of:
  – Density futures
  – Interface futures
  – Backwards compatibility plans
Panelists – Take It Away

Audience: Please hold questions until after the panelists have spoken