Onestop Migration between HSM-Systems

Peter Weinrich
pweinrich@t-online.de

Migration between HSM Systems

- Usually parallel operation of both systems
- Data is read on demand from old system, used and/or written into new system
- Problems:
  - Multiple tapemounts
  - Time consuming positioning
  - Not cost effective, if all data has to be migrated

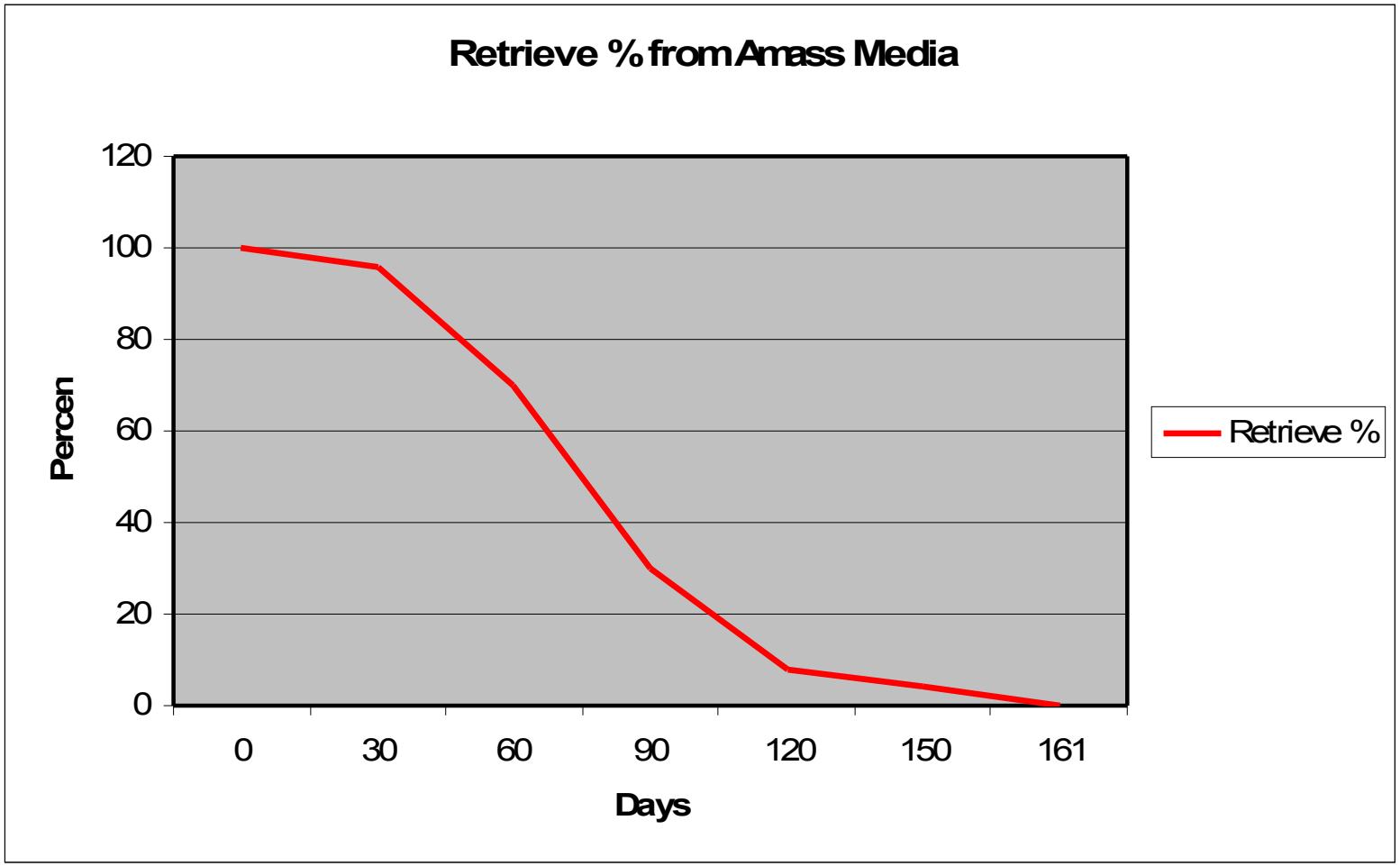
Migration to Sun SAM/QFS

- Unique API available
  - Build metadata inodes without the data
  - Callout for retrieve (stage)
- Onestop migration
  - Use migration API
  - Read the foreign tapes directly
  - Framework for migration of any HSM
  - 4 implemented so far: UniTree, Veritas StorageMigrator, DMF (Unicos and Irix), Amass/DataMgr

Typical Migration to Sun SAM/QFS

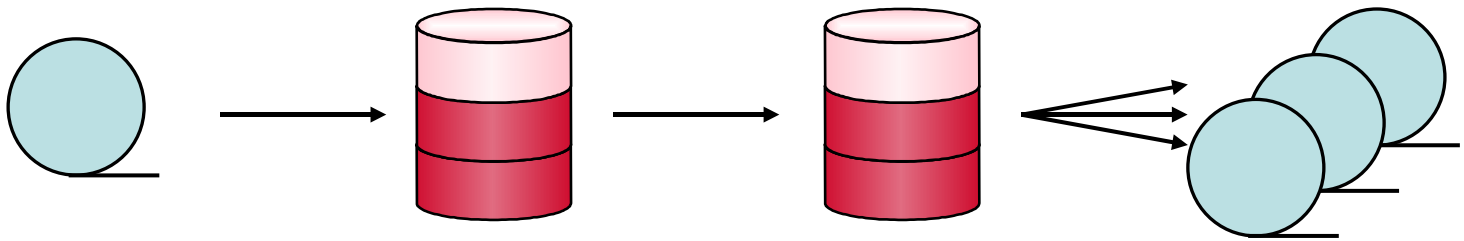
- Migrate metadata (few hours)
- After that the users work with the new system (SAM/QFS)
- Old system not necessary anymore
- Two migration methods:
  - Fast bulk migration for whole tapes (preferred)
  - Random retrieve for files,which are instantly required

Typical Access Behaviour



Speed Considerations

- Bulk migration
  - Generally running at device speed
  - Continuous parallel operation
  - Unpack faster than read
  - E.g. 9940B can migrate ~ 3.2 TB per day
  - Of course filesystem and peripherals have to provide enough performance /capacity



Experience in a big project

- Meteorologic site in Germany
  - Metadata for 10 M files ~ 8 hours to capture and build the SAM/QFS filesystem
  - 850+TB Amass data including some copies
  - 711 TB net volume to migrate
  - 161 days used (could only use 50-70% of daytime available) to process ~ 11,000 tapes
  - Old system never used, checking with checksums, which had been taken before
  - Max 10 TB per day (see restriction above)
  - Out of the total volume (711TB) only one 256k block of one file was not readable

Summary

- Fastest possible migration thru direct access to the foreign tapes
- No parallel operation required, therefore very costeffective
- Onestop Migration:
  - Build the filesystem
  - Off you go …

Questions ?