Monitoring medias and tape drives @ CC-IN2P3
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- CC-IN2P3 libraries
- Issues we want to avoid
- Choosing a commercial solution
- Monitoring tapes and drives
- Status after 4 months of use
- Future

CC-IN2P3 Libraries

- 3 x SL8500 (10 000 slots each)
  - 90 FC tape drives (LTO4, T10K-A&B, 9840)
  - Around 25 000 tapes
  - 4th SL is coming with at least 40 drives

- Activity
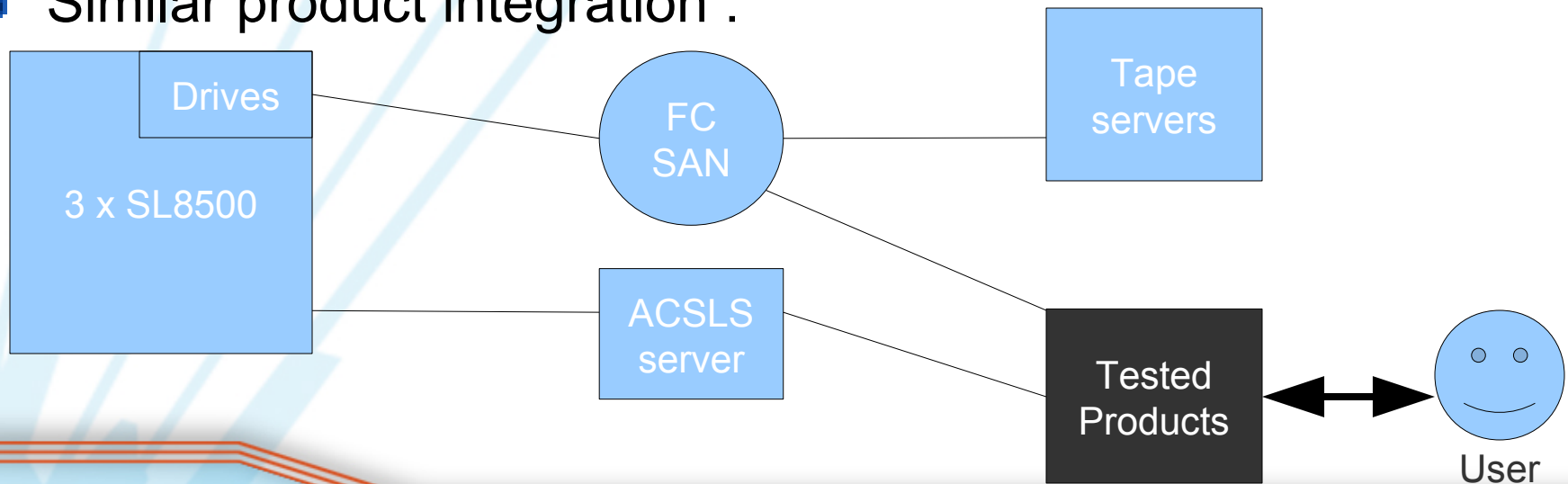 - Mostly reading access
  - Around 2000 mounts per day

- Hardware failures
- Permanent I/O errors
  - Faulty components
  - Early aged components
- Poor performances
  - Bad network infrastructure/configuration
  - Bad media state (invalid MIR)

- All these problems are *time consuming* !

- Goal → Improve our tape storage reliability

- 2 products tested (1 month each)
  - RVA from Crossroads (October 2008)
  - StorSentry from Hi-Stor (February 2009)

- Similar product integration :

- Criteria
  - Retrieve log senses
  - Raise alarms
  - Raise recommendations (intelligent product)
  - Store all data in an accessible data base
  - Non disruptive behaviour
  - Reliable
  - Usable as soon as installed (no thresholds to set)
  - Support for future hardware and new features

- StorSentry from Hi-Stor has been chosen
- Before StorSentry :
  - From clients :
    - HPSS : too verbose and too sensitive
    - TSM : we know an I/O error occurred
  - Not accurate enough :
    - Who's faulty ? Check out each component's history ...
  - Time consuming (almost wasting)
- Now it's much easier and reliable

Daily usage : at morning

Daily usage : drive view

Daily usage : tape view

Daily usage : drives gantt view

Daily usage : issue tracker

- Mail notifications
  - On new recommendation
  - Daily report
- Pool management for tapes
  - Threshold adjustment for
    - Corrected Errors Rate (CER)
    - Maximum number of mounts
- ...

- Preventive actions taken and approved by SUN
  - Drives replacement :
    - Too many CER reading
    - Too many cleaning asked
    - Corruption of tape's MIR
  - Tapes replacement :
    - End of life reached
    - Corrupted MIR
- Less time wasting on testing processes
- We ignore some recommendations
- We are globally satisfied with StorSentry

StorSentry status

- StorSentry status:
  - Excellent point is recommendations
  - GUI has to be improved or replaced
    - Hi-Stor is working on a lighter web GUI
  - Good support
- We hope to move forward on our expectations as soon as possible

- Use StorSentry data base to :
  - Supply data into our web dashboard
  - Trigger automatic actions
    - Repack HPSS tapes
    - Analyse tapes
    - Lock suspicious drives/tapes in HPSS
    - Update our issue tracker
  - Get valuable statistics
  - … and as much as we can do ...

Related links

- Crossroad's RVA :
  - http://www.crossroads.com/Products/RVA.asp
- Hi-Stor's StorSentry :
  - http://www.hi-stor.com/site/index.php?pge=62

Thank you.

Any questions ?