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Storage directions

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Industry Notes

- Processors are advancing “faster” than Storage
  - This isnt bad
  - There's enough Storage for now
  - Cheap, ubiquitous processing allows capabilities that meet today's requirements and reduce the need for perfect hardware
- Features are converging in the OS, file systems and software
  - ZFS 128 bit open source filesystem (really big)
  - End-to-end checksumming, allows data corruption detection. Bitrot happens....but its not silent
  - Compression, and scrubbing as a background process.

    Deduplication is available. Processors are needed to “rehydrate”. And bit rot happens ...
  - All these features are available as a filesystem or....built into inexpensive storage servers
- Tape drives: larger capacities (technology moves on)
  - Checksum passing and keys`

Large Data Issues

- Context matters. Readability and “value” vary with time and culture
  - If we dont HAVE to keep everything what data is deleted?
  - Its important to follow the rules and delete data or make it unavailable everywhere as required
- Understanding and describing very large dispersed datasets is a complex problem.
  - Processing capabilities are being pushed into storage to help manage and present data
  - A short path is to centralize near the processors that manage, analyze and process the data (Exa*)
  - Longer term; what is today a filesystem needs to morph
    - Extensible metadata / query capability,
    - More referential capabilities in the “storage”