Chromatophore - A Native CephFS Backup and Archive Tool

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Research At LIBR

• Neuroscience-based, clinical and developmental research:
  1. To develop neuroscience-based individually predictive assessments.
  2. To develop novel brain-body based interventions
     • Focus: mood, anxiety, addiction, or eating disorders.
  3. To use experimental systems to quickly test assessments and interventions.
My Unfortunate Inheritance
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- 1PB - Spectra Logic T950e
- Local Disks
- Spectra Logic Black Pearl
- 400TB - Oracle ZFS
- 100TB - EMC Isilon
Ceph Design

• 8x OSD nodes
  – 256 GB RAM
  – 2x Intel S3610 for OS
  – 24x 6TB Enterprise SATA (24 slot chassis)
  – 2x Intel P3700
  – 2x Xeon 2660 V4
    • 28x2.0GHz
  – Mellanox ConnectX-4 (40 Gbps) -> Brocade VDX 6940
Ceph Design (Cont...)

• 2x MDS (active/standby) + 3x MON node
  – 128 GB RAM
  – 2x Intel S3610 for OS
  – 2x Xeon 2643 V4
    • 12x3.4GHz
  – Mellanox ConnectX-4 (40 Gbps) -> Brocade VDX 6940
Chromatophore?

• Uses CephFS’s native libraries
• Parallel (MPI + OpenMP)
• Backups to different kinds of targets
  – Ceph
  – Spectra Logic S3
  – Amazon S3
  – Glacier
  – Tar
  – POSIX filesystems
Where to get it?

• Will be released by the end of this December
  – Excuses...
    • Still writing unit tests
    • Validating DS3 code with Spectra Logic
    • Recently ported from Python to Java

• https://github.com/bdeetz/chromatophore