NDGF Site Report

2016-04-18, HEPiX spring 2016, Zeuthen

norden

NordForsk

neic Nordic e-Infrastructure Collaboration

Overview

- News from central ops

- News from sites
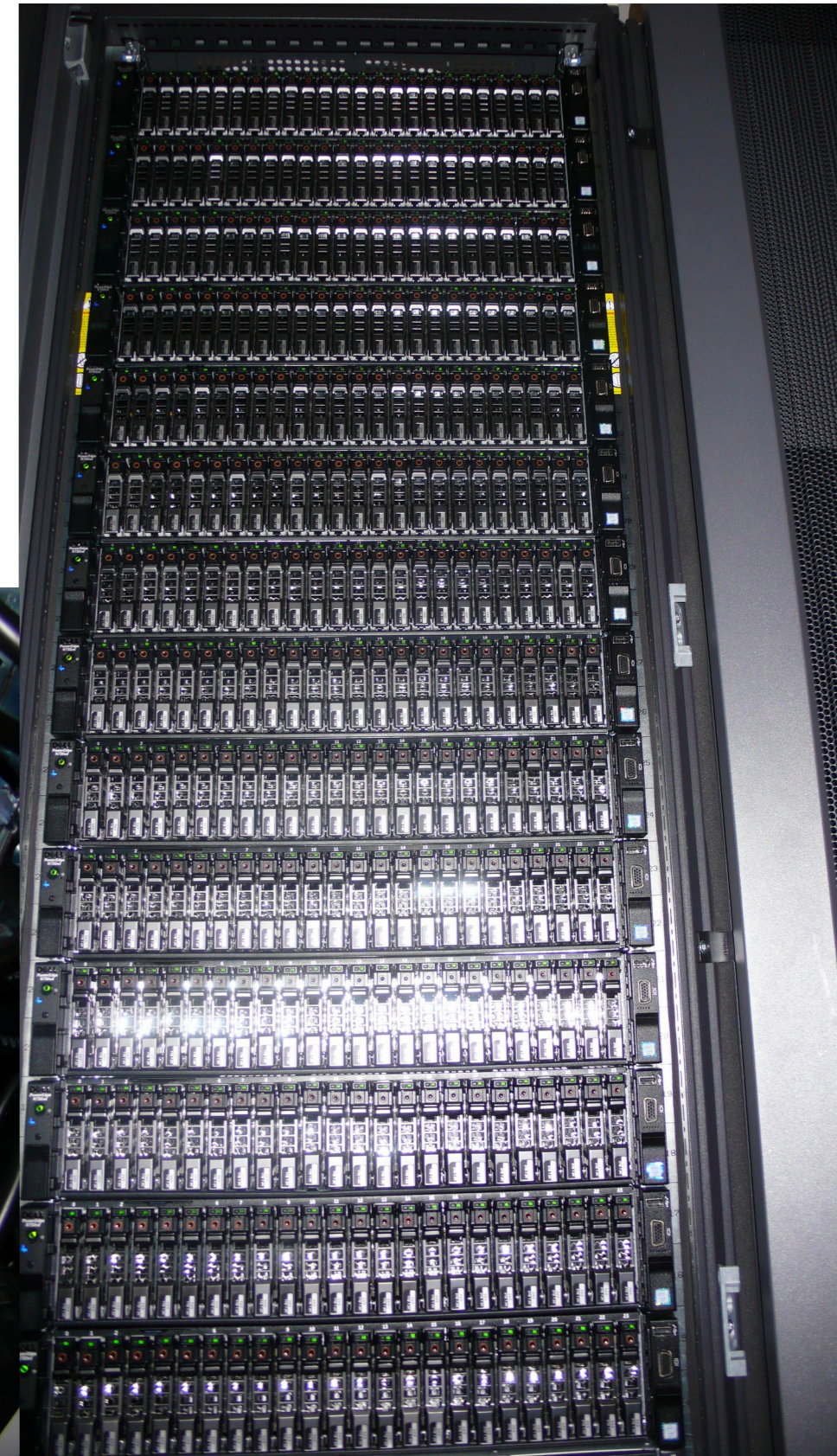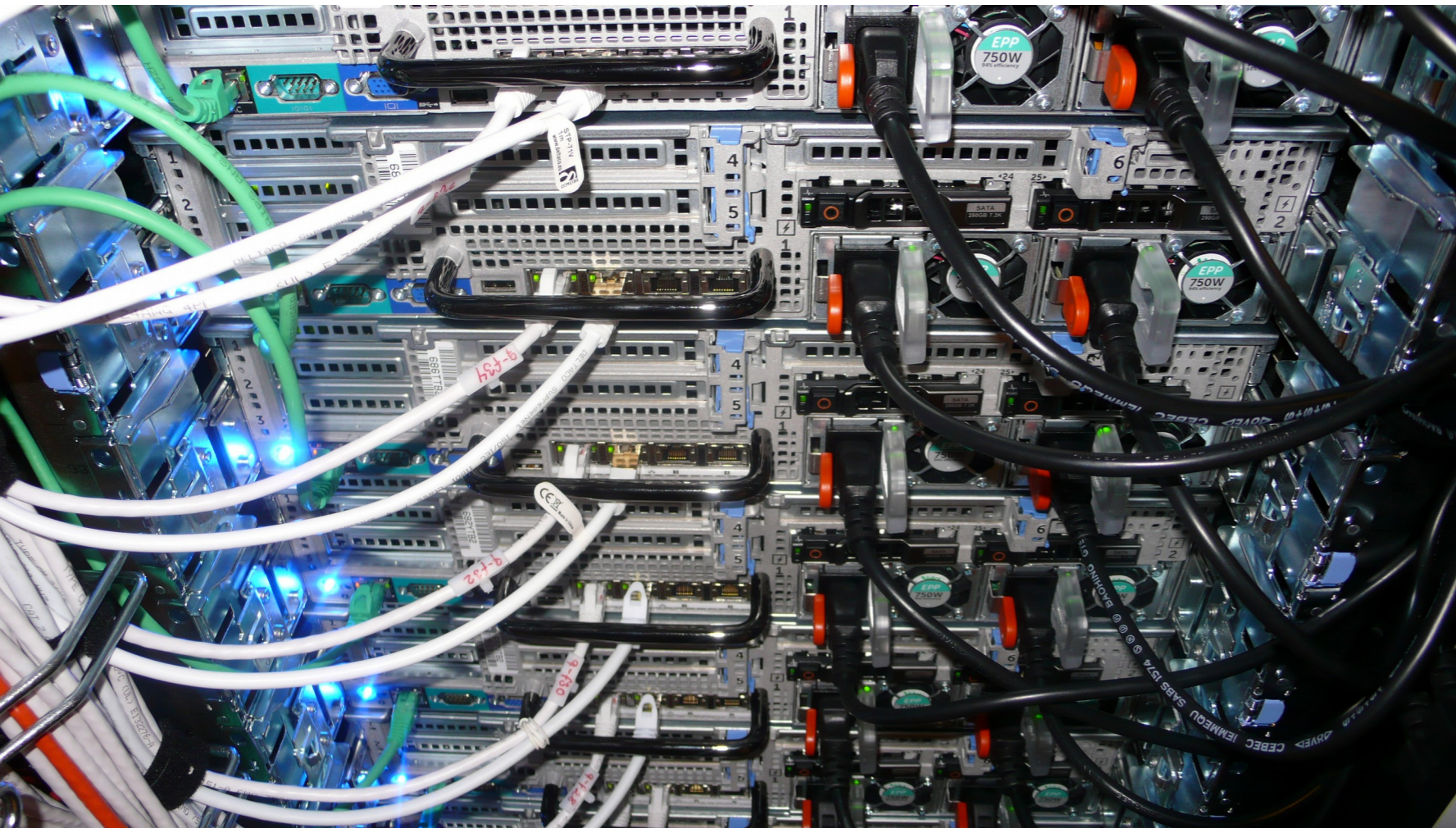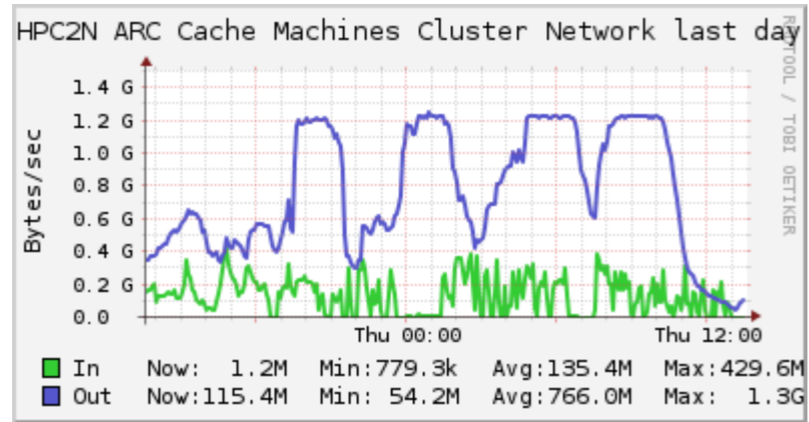
- Anything else

News from central ops

- Consolidated a bunch of old pools for a new Ganeti cluster
  - 4 x 12 G RAM -> 1 x 48G RAM (need to scavenge some more RAM)
  - + a 10GBase-T card for internal replication network
  - 6 nodes in total

- Is in use for all kinds of services that doesn't need 24/7
  - Room to grow and easy to deploy things here, for now we run:
    - IPv6 WG dCache
    - build server
    - CVMFS proxy
    - Elasticsearch
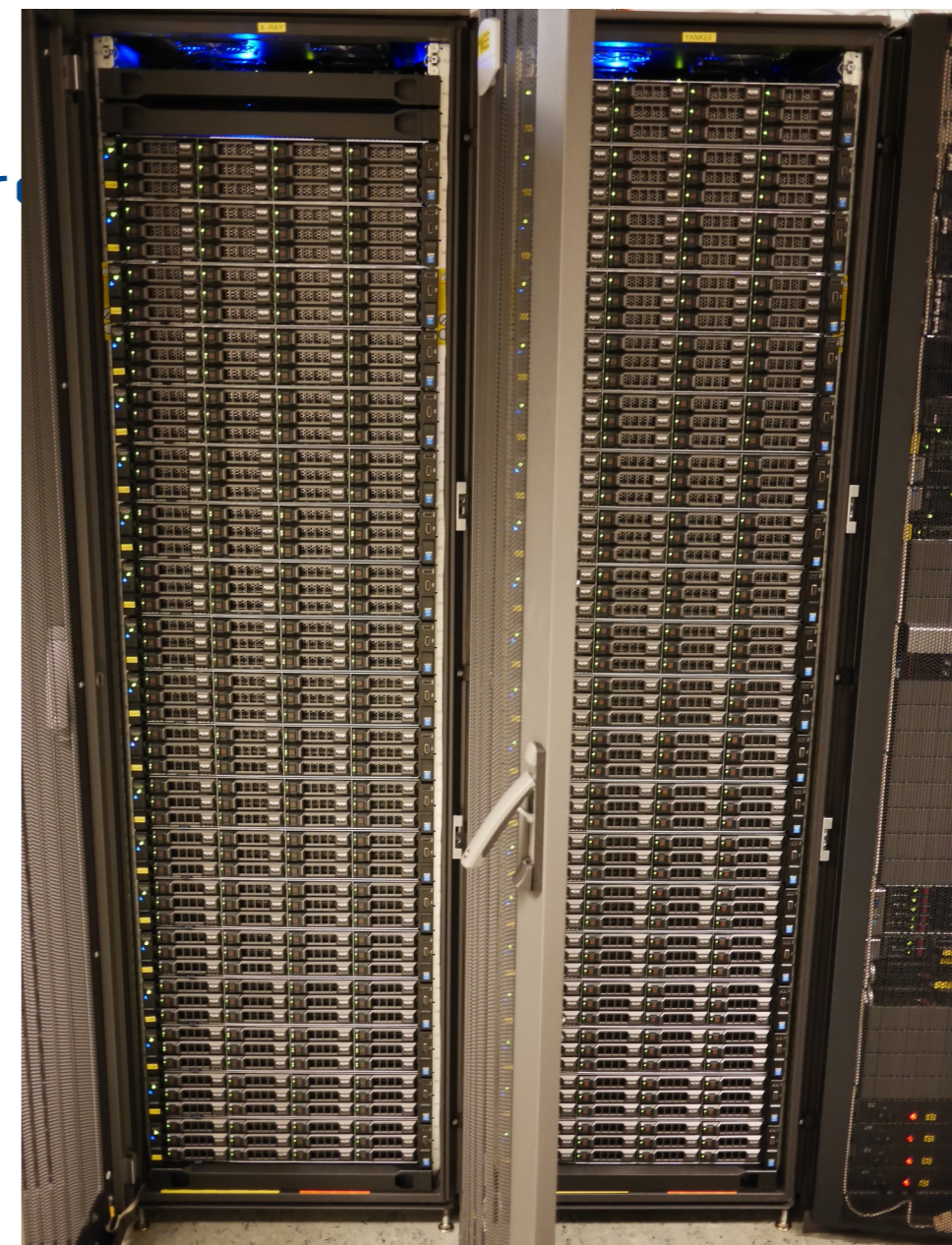   - etc

News from HPC2N

- New ARC cache
  - Funding needed to be spent, and not aligned with large compute purchases => cache which is useful now and will be for next cluster
  - Requirements roughly: Lots of IOPS and >200TB
  - Ended up with lots and lots of 2.5" 1-2TB 7k drives
  - Each server with 10Gbit/s networking
  - But connection to old compute cluster only 10Gbit/s total

News from HPC2N

New dCache pools at HPC2N

NordForsk

- Dell PowerEdge 730xd, 2U

- 48G RAM

- 16 x 8T, 3.5" 7k rpm sata, Raid6
  - One ~100TiB pool per node

- 10GBaseT uplink

- Top of the rack switch
  - Dell (Force10) S4820T
  - 48x10 + 4x40Gbit/s

- Surprisingly good performance
  - Most loads can saturate 10Gbit/s
  - Alice pool with 2.6M files somewhat slow to start

- Warm exhaust (default 65°C)

Other new stuff at HPC2N

- Air Flow Control Modules and fiber-only cable tray

Other new stuff at HPC2N

- Old cluster out, new power installed for new cluster (TBA)

Anything else

- Efficient Nordic Dcache Interface to TSM (ENDIT) news

  – New upcoming version with scalability improvements

  – Native dCache HSM plugin (instead of script)

  – Can handle >300k outstanding requests

  – >100Hz restores on a single pool (small files on disk in TSM)

  – This benchmarked on modest hardware (12G ram, GigE)

Questions?