Site Report HPC2N

NDGF AHM ~~Autumn Fall~~ Winter 2023

2023-11-14

WLCG Cluster

- Kebnekaise-ce moved to Broadwell nodes (from Skylake) in June
    - Combination of April pledge requiring more compute, and compute cluster needed the newer Infiniband adapters, WLCG doesn't
    - Slightly slower nodes but a lot more, from 40 to 92 (2688 cores total)
- But there is also a new cluster ...

WLCG Cluster

- New cluster ordered, should be delivered in December
  - 31 nodes, 256 cores/nodes ⇒ 7936 cores in total
    - 1 node delivered! (and both the ethernet and management switches)
  - 768 GB/node, 3.2TB disk/node
  - 25 Gb network with 100 Gb to ARC cache, 10/25/100 Gb to internet
  - Estimated HEPScore: 264 kHS23
  - Name=g-ce01.hpc2n.umu.se (cluster name is Aigert but should be non-visible outside HPC2N)
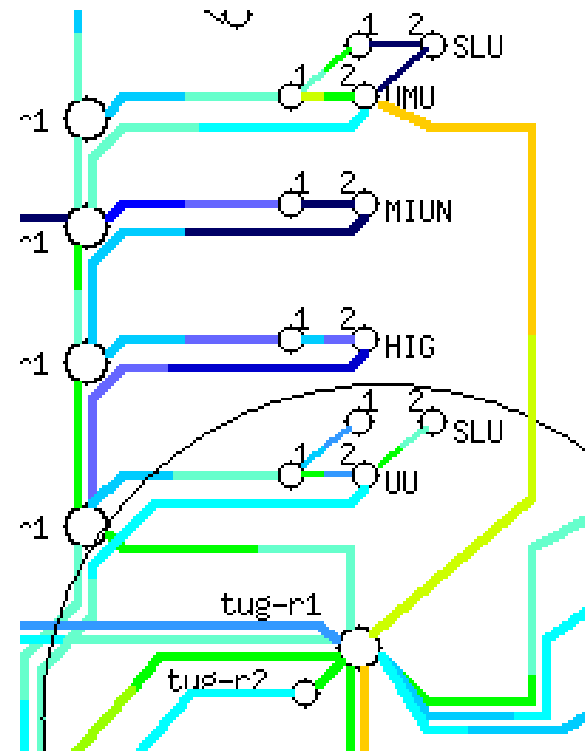
Tape/backup

- Library unchanged
  - IBM TS4500 library (2550 slot capacity)
  - 6x TS1155 tape drives
- New TSM server in production
  - RHEL 8, that's the newest IBM supports on the server
  - Dell R750, ~42T NVMe, 260T spinning disk, 4x32G FC, 2x100GigE
- TSM server software updated to 8.1.20
  - No issues so far...

Tape/backup (2)

- Ordered upgrade with 12 TS1170 drives and 500 fitting tapes
  - But ... the tapes we got was JD that fits our old tape drives and not JF that fits the new drives.
  - Error in the config made, and acknowledged, by the distributor. Not discovered by anyone in the process since the description in the pricing document we got was very terse.
  - Discussions ongoing, the distributor doesn't seem to want to take any responsibility and IBM is being very unhelpful.

LHC OPN

- New dedicated 100G link from HPC2N to Stockholm now in service.
- Separate wavelength

Feed from central IT UPS discontinued

- The HPC2N UPS takes the role of providing redundant power to the infrastructure datacenter.
    - It now has diesel generator feed etc.
- Had hoped for the old UPS feed to be converted to real redundancy from other source but ended up being from the same in-house source as or UPS.
- Emergency cooling will be cold water, downtime 16th due to this.
- Everything delayed due to central IT datacenter rebuild delays.

Miscellaneous

- Central IT has left our machine room
- Slooow transfers from HPC2N TSM server to NSC TSM server
  - Network issues related to central IT moving their datacenter around multiple times.
  - Rumoured that they're doing a campaign cleaning fiber connections around campus…
- Lustre has been stable
- Even troublesome ARC cache machine has been stable

Downtime 16th

- Final stage in getting emergency cooling in place for our infrastructure data center.
  - New/changed control systems for cooling/fans/etc to handle deciding when to shift to emergency (cold water) cooling and the associated valves etc.
  - Since we have no cooling during the outage we need to shut down everything except the most important/basic stuff. If we overheat the hard power cutoff will do its work…
- Coordinated with final steps in removing temporaries for central IT being housed in our cluster data center.

From management

- HPC2N, one of Sweden's leading national supercomputing centers, is looking to hire more people
- System engineer
  - We are looking for a dedicated systems engineer that wants to work with cutting edge technology and who can help us in making HPC and AI available to a broader community of researchers.
  - More information and apply at: https://www.umu.se/en/work-with-us/open-positions/system-engineer-100_663738/
- System administrator IT
  - One of our colleagues is on leave so we are now looking for a substitute. We seek a dedicated systems engineer that wants to work with cutting edge technology, help us with our cloud environment, and make HPC and AI available to a broader community of researchers.
  - More information and apply at: https://www.umu.se/en/work-with-us/open-positions/system-administrator-it_663748/
- Deadline: 24 November
- https://www.hpc2n.umu.se/jobs