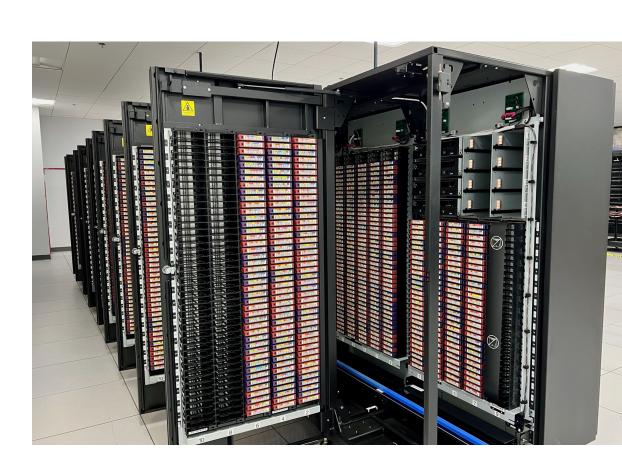
SciOps + ENP Meeting February 2024



Thursday, February 8, 2024









Recent Operational Issue Summary

- We have had a few incidents where a user submitted jobs with very small memory requests and then rapidly allocated memory beyond the request. Normally this is caught by the CGROUP OOM killer, but due to a limitation in the CentOS 7.9 kernel, system memory was exhausted.
 - The jobs were limited, the user was contacted, and the problem has been remedied
 - The fix for the root problem is a newer kernel, which we get with Alma9.
- We had a handful of unscheduled tape library outages
 - -One in January because of dropped tapes that blocked the robot path
 - An outage was avoided because one robot was able to work while the gripper on the first was replaced.
 - this morning due to a broken drive belt and failed part on both accessors [Ongoing]
- There have been several cooling irregularities
 - an air handler misconfiguration led to overcooling in the data center. We are awaiting a fix from FM&L
 - The rental chillers have tripped off simultaneously causing overheating. FM&L has a PO out for the repair of the permanent system.

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Hardware Updates

Lustre System

- Networking, Power, and initial software specs complete
- A hardware limitation with the Metadata server high availability was discovered, and a replacement disk shelf has been ordered to address the issue. We should know a delivery time soon.
- Meanwhile we are able to proceed with testing and configuration of all other components.
- Target Delivery is May, but this may slip depending on parts availability.

NVMe Storage

- We are evaluating Weka as a flash-based complement to Lustre and successor to /work.
- We anticipate a decision on its viability by the end of March.

Ifarm Nodes

- Two new ifarm nodes are in the early stages of procurement
- Target is increased memory and local high-speed (NVMe) storage.
- Farm18, farm19 will be retired as lifecycle replacement.



Software Updates: Alma9

- We are going to step up the switch of Nodes to Alma9
- Ifarm9 is available for testing
- Farm16 nodes are being upgraded now.
- Pace of conversion from CentOS 7 to Alma9 will step up
 - Please let us know of any issues via ServiceNow



Reminder: Slurm Production partition feature changes for Alma9

CentOS 7 Only Jobs

- No current change is required (see deprecation notice*).
- If no constraints is specified, we will default you to centos 79 during this transition.

Alma9 Only Jobs

- Use constraint to specify EL9 nodes (ex. --constraint=el9).
- Deprecated features will not be allowed (see deprecation notice*).
- After transition, no change required.
- OS agnostic jobs (example: container-based workflows)
 - During the transition, to use all farm nodes set --constraint=centos79 | el9
 - After the transition, centos79 **MUST** be removed (see deprecation notice*).
- *Deprecation Notice As nodes transition to Alma9, we will deprecate the following features:
 - general (same as not specifying any constraints)
 - -centos79
 - amd, xeon (unused)
 - gpu, TitanRTX, T4, A100 (not used on production partition and handled by gres as needed)
 - Attempting to use deprecated features on Alma9 nodes will result in a job submission error.

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Networking Updates

- ESNet/JLab Upgrade to 2 x100Gbit
 - -Both circuits up.
 - Doing full bandwidth acceptance testing now
- The Infiniband Core has been updated to HDR (200Gbit)
- A long-standing bottleneck in the Ethernet Network for the Farm16 nodes has been remedied.

Work in progress: Updates

- GitLab (code.jlab.org)
 - Ready for friendly user testing Feb 2023.
 - Accessible with federated identities from on and off site
 - Integrated CI/CD will deploy as phase 2 (Soon)
- XRootD Storage for GlueX
 - Target is streaming processing of data on OSG
 - Bringing this back to the front auditing and upgrading data transfer nodes.
- Tape Library Outage Completed. We now have two accessors (robots)
- Slurm Upgrade to Slurm v22 completed
- Podman support for containers on ifarm and farm in Alma9 (nearly complete)

