SDCC/SCDF Preparation for Run 25

April 1, 2025

Upgrade of CPU Resources

- sPHENIX CPU resources will increased by 136%.
  - Was ~872K HS23, will be ~2,067K HS23 *
  - 6 new racks online now (356K HS23),
  - 14 new racks (1,237 HS23) being installed now - expected on line in 1 to 2 weeks.
- STAR CPU resources unchanged from Run 24
- Most Farm servers upgraded to Alma9 from SL-7
  - Experiments can run natively on Alma9 or in SL-7 via containers
  - CRS, connecting STAR reconstruction to HPSS being updated for ALMA9
  - Migration from AFS (not supported on Alma9) to NFSv4 for STAR
- sPHENIX being moved to a dedicated, standalone HTCondor pool
  - Believed to be the largest HTCondor pool on record

HEPScore-23 (HS23) HENP community accepted benchmark standard for CPUs

Upgrade HPSS Tape Service

- HPSS capacity/performance upgrades
  - 9 movers+9 disk arrays for sPHENIX, up from 4 movers+3 disk arrays
    - Upgrades in progress, but system is operational
  - Upgraded movers for STAR
    - Timing of upgrades TBD
  - Two new tape libraries in operation for sPHENIX (total of four libraries)
    - 36 additional LTO-9 tape drives, adding to the 64 already in place
    - 6K out of 10K tape cartridges initialized for sPHENIX
    - 17PB empty tapes available for STAR, additional 24 PB on order.
  - Expect to be ready for a “Mock Data Challenge” by the end of the week

Upgrade of Other Services

- sPHENIX Lustre disk storage ~80PB now
  - System fully operational, no interruptions to operations or changes for the rest of Run 25
  - Additional ~10PB ETA 4/7 - online 1 to 2 weeks later
- sPHENIX database servers moved from RHEVM virtualization cluster to OpenShift VM/containerization cluster
  - Backend storage upgraded to accommodate needs for run 24.