

RACF/SDCC

Brief Overview

SDCC

- Newest component of the facility
- Core service is HPC computing
- HPC Clusters
 - Institutional Cluster w/GPUs and EDR IB network
 - Knights Landing w/ Omni-Path network fabric
 - LQCD x86 Cluster w/ EDR IB network (expected)
- High Performance GPFS storage for IC cluster

RACF (RHIC/ATLAS CF)

- Core of the combined RACF/SDCC facility
- Majority of services/capabilities are currently available on this “side” of the facility
- Specializes in “embarrassingly parallel” compute and “Big Data”
- RHIC - “traditional” batch compute model (computing in local data center) but with big data
- ATLAS - “Grid” based compute model (computing in local + remote data centers)

Core Components

- 1GbE/10GbE bare metal/container based compute farm
- OpenStack based PaaS/IaaS resources
- 10's of petabytes of disk storage
- High capacity tape storage system (HPSS)
- High bandwidth WAN (2x100Gbps) connectivity
- High bandwidth internal network fabric
- Data transfer and data management services

Services

- AFS/NFS/GPFS POSIX file service
- dCache/Xrootd/Ceph/BNL Box non POSIX storage
- Globus/GridFTP/Xrootd high speed data transfers
- HPSS Mass Storage services
- Interactive Login services (Ssh/NX)

Science Core Network

- Internal high performance network
- Key enabler for services

