

FEDDATA

High-Performance Computing

High Performance Computing (HPC)

FEDDATA provides complete HPC solutions including technology assessment, acquisition, systems engineering, software engineering, benchmarking and performance engineering.

Our fully-cleared core team of HPC subject matter experts (SMEs) has industry-leading experience including:

- ▶ Benchmarking & Performance Engineering (CPU, GPU, Memory, High Speed Network, Storage, Libraries, etc.)
- ▶ System Integration (HW & SW) & Deployment
- ▶ Software Engineering (SHMEM, MPI, UPC, etc.)
- ▶ Systems Engineering (Power, Space & Cooling)
- ▶ Hardware Engineering (Break/Fix)
- ▶ Artificial Intelligent (AI), Machine Learning (ML), Graph Analytics, etc.
- ▶ On-site Support (System Administration & Configuration Management)
- ▶ Technology Implementation to include Composable Infrastructure Solutioning and Software-Defined Memory Solutions

TECHNOLOGY EXAMPLES

INFINIBAND

ETHERNET

NVIDIA DGX

DELL HPC

XCAT

GPFS

LUSTRE

NFS

VMWARE

SLURM

OEM PARTNERS

DELLTechnologies
FEDERAL TITANIUM PARTNER



Demo Lab Infrastructure Summary

SPACE

- ▶ 1,000 square-foot data center environment
- ▶ 16 oversized Great Lakes ES Series SEAL® Rack Enclosures (44 RU)
- ▶ Access control at building, room and rack level
 - ▷ Two-factor authentication
 - ▷ Fully programmable E-LINE by DIRAK Mechatronic Locks on racks
- ▶ Copper and fiber connectivity between racks
- ▶ 1 Gbps Internet speed
- ▶ Static dissipative epoxy floor



POWER

- ▶ Entire lab covered by 225kVA Schneider Electric Galaxy VM UPS power protection
- ▶ Row 1 (8 racks)
 - ▷ 4.9kW capacity per rack
 - ▷ Two L6-30 receptacles per rack
 - ▷ Two Geist power distribution units (PDUs) per rack
- ▶ Monitored, 30A, 208V, (30) Locking IEC C13, (6) Locking IEC C19, 10 ft. power cord with L6-30P. Input power monitoring with breaker level current monitoring.
- ▶ Row 2 (8 racks)
 - ▷ 17.2kW capacity per rack
 - ▷ Four L21-30 receptacles per rack
 - ▷ Four Geist power distribution units (PDUs) per rack
- ▶ Monitored, 30A, 120/208V WYE, (36) Combination C13/C19, 10 ft. power cord with L21-30P. Input power monitoring with breaker level current monitoring.



COOLING

- ▶ 65.5 tons of chilled water cooling
- ▶ Daikin Applied Outdoor Air-Cooled Chiller with Scroll Compressors
- ▶ Six Data Aire gForce IR chilled water cooling units
- ▶ Data Aire dap4 controllers
- ▶ Hot and cold aisle containment
- ▶ Six-zone leak detection system

