



NSF Campus Cyberinfrastructure PI and Cybersecurity Innovation for Cyberinfrastructure PI Workshop

September 23 – 25, 2019 | Minneapolis, MN

Quad Chart for:

Building a Science DMZ for Data-intensive Research and Computation at the University of South Carolina

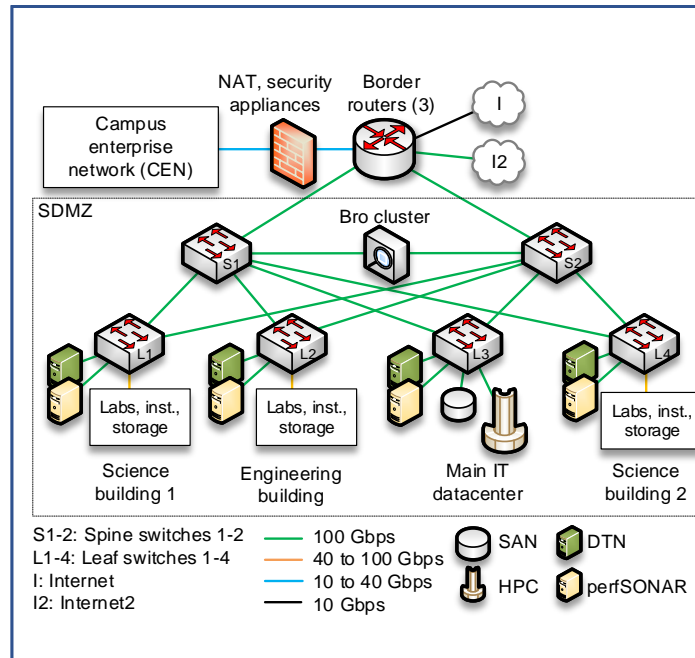
Challenges / drivers:

- Very large experimental physics data movement to national laboratories: JLAB, Brookhaven, Argonne
- High throughput needs to SDSC, TACC (XSEDE), PNNL
- Connecting National Estuarine Research Reserve System (NERRS) database and instruments to Internet2
- Internal and external friction-free high-throughput paths

Solution(s) or Deliverables:

A Science DMZ that will:

- Increase the bandwidth to internal HPCs and labs, national labs, and XSEDE resources from 5 Gbps to 100 Gbps
- High-speed connectivity to international collaborators, e.g., Swiss' Paul Scherrer Institute (PSI), Italy's CUORE, and others
- P4-enabled testbed for undergraduate and graduate applied research

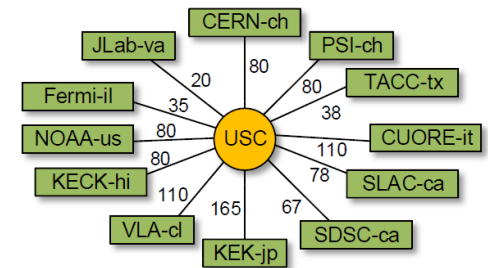


Contact Information

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Scientific / Broader Impact:

The project will permit the exchange of big science data among researchers from USC main campus and the 12 branches and subbranches, national and international institutions working at remote facilities (e.g., SURF, CUORE, PSI), national agencies (e.g., NOAA's NERRS, NIST, EPA, USGS), NSF-funded centers, and several national laboratories



University of South Carolina (USC)
collaborators and corresponding round-trip times in milliseconds