



NSF Campus Cyberinfrastructure PI and Cybersecurity Innovation for Cyberinfrastructure PI Workshop

September 24 – 26, 2018 | University of Maryland, College Park, MD

NSF Program: Campus Cyberinfrastructure (CC)

Program Area: CC*DNI **Award Number:** 1541338

PI: Scott F. Midkiff

Co-PIs: Terry L. Herdman, William C. Dougherty, Thomas A. Dingus

Project Title: *A Campus Research Network and Distributed
Science DMZ*



Scott F. Midkiff

VP for IT & CIO
Virginia Tech
midkiff@vt.edu



Terry L. Herdman

Associate VP for
Research Computing
Virginia Tech
terry.herdman@vt.edu



William C. Dougherty

Executive Director, Network
Infrastructure & Services
Virginia Tech
william@vt.edu



Thomas A. Dingus

Director, Virginia Tech
Transportation Institute
Virginia Tech
tdingus@vt.edu



NSF Campus Cyberinfrastructure PI and Cybersecurity Innovation for Cyberinfrastructure PI Workshop

September 24 – 26, 2018 | University of Maryland, College Park, MD

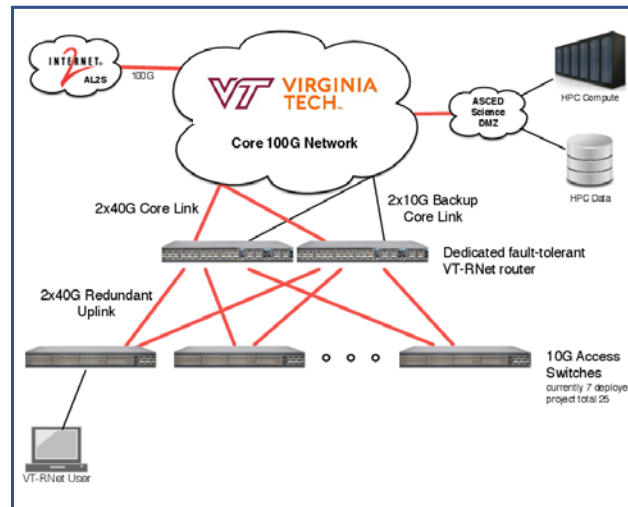
Quad Chart for: *#1541338 A Campus Research Network and Distributed Science DMZ*

Challenge:

- Transform the scope and scale of data access for researchers working in many areas
- Make sustained 10 Gbps connections ubiquitous between local and national computational and data resources
- Eliminate data related barriers for independent curiosity-driven research

Deliverables:

- Proposed:
 - 8 buildings
 - 10 Gbps uplink from access switches
 - General accessibility via “data kiosk”
- Completed:
 - 11 buildings, 24 locations
 - 40 Gbps uplink from access switches
 - Data kiosk seeing utilization
- Nearly completed:
 - Virginia Tech Transportation Institute link (off campus)



Scientific Impact:

- Digital Library Research (Fox): 6 grants, 8 thesis or dissertations, 3 classes, 2 awards, 30 publications
- Biomedical imaging (Cao): 5 grants, 8 publications
- Cognitive Radio Network Testbed, CORNeT (Dietrich): 4 grants, 1 publication
- Molecular Science Software Institute (Crawford): demonstrated 500K quantum chemistry computations queued, computed, stored, and queried using 10G connection
- Visionarium (Polys): 1 publication, 1 M.S. thesis and 1 Ph.D. dissertation
- High-Performance Computational Fluid Dynamics Lab (Tafti): 11 publications (plus 6 more submitted), 5 M.S. thesis and 3 Ph.D. dissertations

Metadata tag:

- <https://www.arc.vt.edu/vt-rnet/>