

Franklin & Marshall College Quick Facts

- Founded in 1787 by Benjamin Franklin, of course!
- Located in Lancaster, PA
- Residential liberal arts college, with no graduate programs
- 2400 full-time undergraduate students
- 9:1 student to faculty ratio
- Consistently ranked among the top 50 liberal arts colleges by US News



Science drivers: Why we needed the DMZ

Because...reasons?

- Faculty Research - requires data
- Faculty Collaboration - We want access now!
- Xsede/Cloud usage faculty/student increasing
- Researchers send/receive big data...from distant locations
- Faculty continuing to apply for grants to get more stuff - confocal microscope, storage, more hpc

Why else we felt poised to apply in 2015

- Network core and edge recently upgraded. Core moved from 1Gb to 40Gb.
- The beginning of centralizing systems and services: Large centralized HPC cluster and storage in the future
- Got connected to R&E network in PA, KINBER (F&M got connected 2/2014)

CI Strategy at F&M more generally...

- 'Business' aka 'operations' drives the agenda--like it or not
- Capital renewal and expansion--demand!
- Strategic opportunities--at times difficult to explain/build momentum around things that people want to relegate to 'utility'

....connecting the dots with faculty researchers....

2015 NSF CC* award received:

Building a state-of-the-art research network at Franklin & Marshall

Stated goals:

- Greatly expand and strengthen capacity for faculty to collaborate with internal and external partners
- Expand capacity for multi-site collaborations involving research computing
- Better prepare F&M students, especially those who pursue careers in data-intensive fields, for postgraduate work and study
- Within the small college context, understand the security challenges a Science DMZ will bring; thoughtfully plan to address these and share findings to encourage other similarly sized institutions

Approach:

- YEAR 1: Planning year working closely with leadership institution, KINBER and site visits, hosted an OIN workshop in Lancaster, PA
- YEAR 2: Build year....but some delays...
- YEAR 3: Build complete...tuning continues. Promotion/outreach ramps up

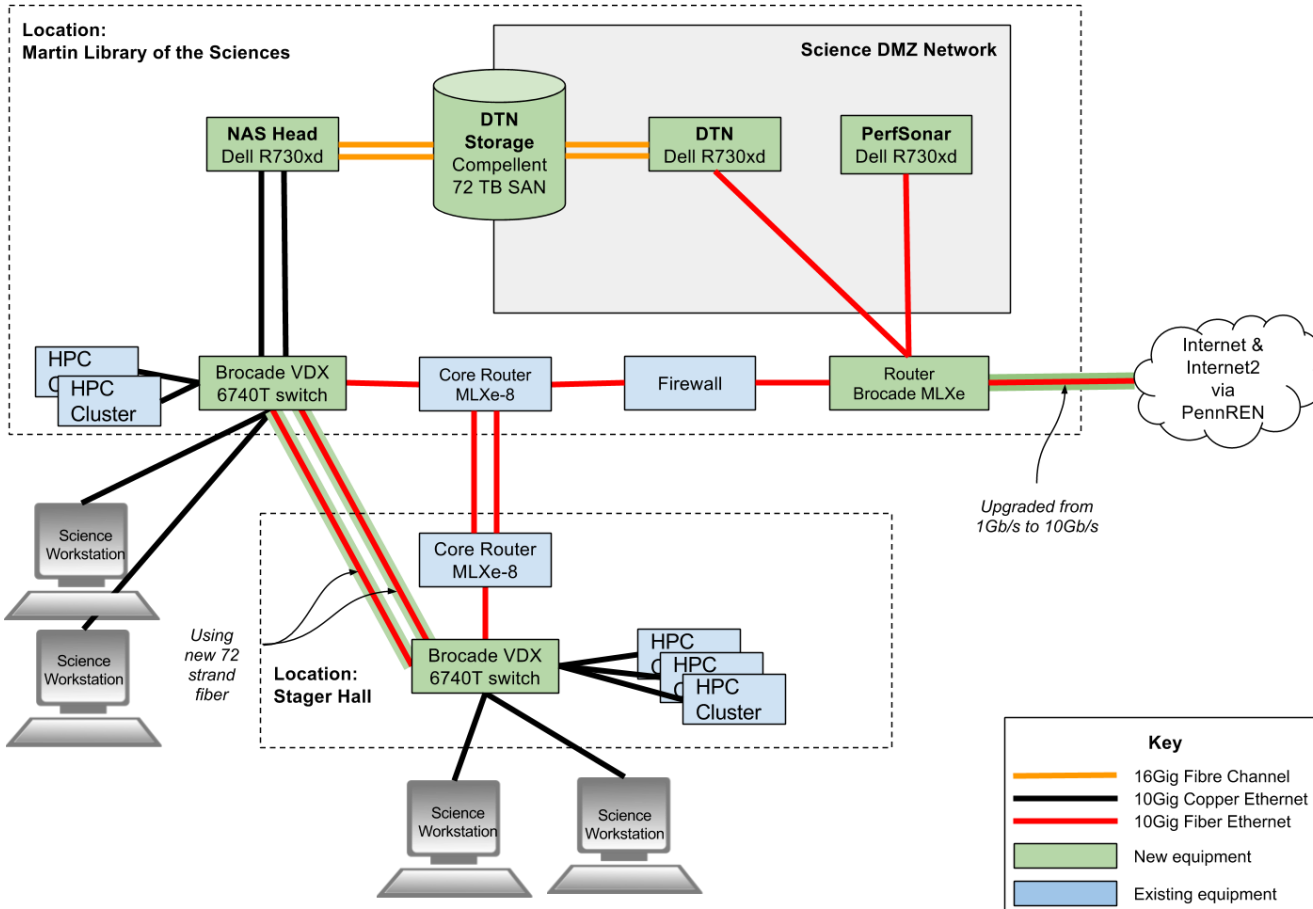
Proposed Strategy:

- Build Science DMZ and DTN
- Deploy one or more perfSONAR nodes
- Join Globus
- Upgrade existing Splunk monitoring license
- Get connected to Internet2 and join as full member
- Upgrade fiber paths on campus to 10Ge
- Upgrade campus circuit with KINBER to 10Ge
- Collect sFlow data (inMon)

Step 1.....architect our design....

F&M Science DMZ Actual Build drawing

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As we look ahead, what feels challenging....

- Training faculty to work with Globus and the DTN, and generally promoting the new approach
- We were and remain a small team...college operations and teaching/student learning support often slow our progress
- Tuning efforts required to optimize our new infrastructure
- Gathering pertinent benchmarking data to demonstrate impact on science drivers

Current Bandwidth

