



NSF Campus Cyberinfrastructure PI and
Cybersecurity Innovation for Cyberinfrastructure PI Workshop
October 3-4, 2017 | Albuquerque, NM

Quad Chart for:

Enhanced Data Delivery at Fort Hays State University



Challenge:

- Antiquated infrastructure
- No Science DMZ
- Faculty need training on using the new DMZ and Data Transfer Node
- Researchers relatively isolated
- Equipment took a long time to install and configure
- Grant generated more demand

Solution(s):

- New core router, border router, fiber to the desktop (or server), Globus server, PerfSONAR
- Created DMZ
- Use staff to train faculty and faculty to train other faculty
- Highlighted NSF researchers at recorded Science Café presentations
- Infrastructure is now ready to use
- Some savings should stretch the funds



Scientific Impact:

- Good progress on safety standards for lasers on human retinas.
- Progress on research on tornados in “tornado alley”
- Progress on weather related mortality rate research
- Student researchers are gaining valuable experience.

Metadata tag:

- *Ready for transition to practice!*
- *Publications pending*
- *Student engagement*

David Schmidt, PhD
Assistant Professor, Informatics



Major Challenges



Top Challenge: Getting IT support/Top Administration Support from People in Authority – so it was like herding cats.

Solution: Drive change “from the bottom”

- Got IT in the same room with researchers and had researchers talk about their needs.
- One researcher needed the 10 gb bandwidth end to end to do dropbox like functionality to Beocat (HPC)
- Another – uploads took up to 6 hours.
- Demonstrated the need for a science DMZ.



Relationship of IT and Research



FORT HAYS STATE
UNIVERSITY

Forward thinking. World ready.

BEFORE

There was very little relationship: purchase and configure equipment (IT)

In fact in some cases there was fiber in the wall nearly ready to use but no communication about the need between IT and the researchers.

AFTER

- After IT was convinced of the need for improved bandwidth, I worked with IT to develop a policy and plan for the Science DMZ.
- IT then built a Globus data transfer node, installed a PerfSONAR node, a core router, and an upgraded border router.
- A fiber buildout to select buildings and select researchers was completed.
- IT now TALKs with researchers – about data needs – and data transfer needs and data storage needs – IT typically thinks the existing connections are just fine (often wrongly).
- The IT staff now helps train researchers and they jointly train other researchers.
- Now the IT staff goes to the Great Plains Network meetings to receive training and hear the FHSU presentations – they have become participants.



Relationships Enabled by the Grant



FHSU is not an Internet2 University
but worked with I2

Giselle Trent from Internet 2 found resources for us.

Rick McMillan & John Hicks – critiqued proposal.

Great Plains Network

Greg Monaco

Great Plains
Network



KanREN



Cort Buffington – PerfSONAR, Globus advice

Other University Contacts (after the award)

University of Kansas, KSU, OU, OSU, U. of Arkansas

U. of Nebraska -- Research Support Staff

Beocat High Performance Computing at KSU