

Getting to Know the Oklahoma Cyberinfrastructure Initiative (OCII)

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What is OCII and how can it help your Proposed Track-I Theme

- All academic institutions in Oklahoma are eligible to sign up for free use of centrally-owned CI resources at OU and OSU, on par with local users.
- Other kinds of institutions (government, NGO, commercial) are eligible to use, though not necessarily for free.
- Everyone can participate in our CI education initiative (not just in OK).
- Oklahoma Supercomputing Symposium open to all (10th Symposium Oct 11–12 2011).
- Providing Supercomputing in Plain English overview talk statewide.
- Providing “A Day in the Life of an IT Professional” workforce development talks statewide, to 18 institutions so far

Accomplishments

- Other NSF Grants
 - NSF EPSCoR Track 2: Ecoinformatics (ecology) with Kansas: \$6M (\$3M to OK)
 - NSF EPSCoR C2: Networking: (\$1.17M to OK) includes OKs only HBCU, Tribal Colleges
 - NSF MRI: Oklahoma PetaStore (\$793K to OU)
 - NSF MRI: Cowboy (\$909K to OSU)
- OCII provides supercomputer accounts to many external users (outside of OU and OSU): 75+ users at 24 academic, government, industry and nonprofit organizations (and counting) up from 34 users at 15 institutions since Dec 2008.
- OCII is directly responsible for \$20M in NSF grants to OK since our first meeting in 2006 (Track1, Track2, C2, MRI).

Resources

- High Performance
 - OU - Sooner
 - Hardware Refresh pending in early 2012
 - OSU - Pistol Pete
 - Hardware Refresh coming from NSF MRI grant
 - Tulsa - OK Innovation Institute
 - New resource coming online in 2012
- High Throughput
 - Condor Pool at OU
- Archival Storage
 - OU Petastore - media charges apply (great way to satisfy data management plans)
- Virtual Server Environment
 - OU Research IT Virtual Server Pool - fee-based

More about the PetaStore

- Oklahoma PetaStore: multiple PB of tape and multiple PB of disk (1 PB = 1,000,000 GB)
 - NSF MRI grant pays for hardware, software, 3 years maintenance.
 - OU's CIO and VPR pay for space, power, cooling, labor, maintenance after 3 years, and a little bit of plus-up to hardware and software
- Research teams just pay for the media they need: tape cartridges and disk drives – and you pay for it once per 5–6 years, unless the media breaks.
- An agreement between OU's CIO and VPR makes the tape library arbitrarily expandable, up to over 22,000 tape cartridge slots.
- Redundancy options:
 - one copy on disk (unsafe – good if the primary copy is at another institution, e.g., NASA, NIH etc)
 - one copy on tape (unsafe, as above)
 - one copy on disk and one copy on tape
 - two copies on tape (typically one copy is offsite)