NSF Program (either CC or CICI): CC*

Program Area: CI Engineer

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       Dr. Timothy Kaiser

Award Number: 1541287

CIE: Matthew Ketterling

Project Title: CC*DNI Engineer: Enabling Research Support Services

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September 25-26, 2018 | Univ of Maryland, College Park, MD
2018 NSF Campus Cyberinfrastructure and Cybersecurity Innovation for Cyberinfrastructure PI Workshop
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Quad Chart for: CC*DNI Engineer: Enabling Research Support Services

Approach:
- Establish CIE role
- Integrated engagement w/ researchers
- Increased utilization of existing CI
- Actively managing research data
- Treating data as an institutional asset
- Utilization of Institutional Repository
- Increase awareness of researchers

Solution(s) or Deliverables:
- Building relationships across the university
- Creation of robust service catalog for research community
- Storage options for researchers
- Establishment of DMP process
- Increased utilization of existing campus cyberinfrastructure

Scientific Impact or Broader Impact:
- Strengthening of institutional cyber-infrastructure
- Empower researchers to better collaborate with scientific communities
- CIE collaboration in the developing profession
- Treatment of research data / results as institutional asset

Metadata tags:
- Cyberinfrastructure Engineer
- Local / Regional collaboration for CI
- Student mentorship programs
- CI training programs
- Data Management Plan Compliance
Project Status

• Year 2 of 2 funding for Cyberinfrastructure Engineer
• Not a purely technical CIE, a CIE-Liaison-Facilitator
• Actively engaged and integrated in the Mines research community
• Demonstrable, documentable, testimonial positive outcomes

• CIE funding currently ends February, 2019
• Institutional commitment to CIE / CI is strong
• CIE / Liaison has name / effort recognition with institutional leadership
• Planned: *Center for Cyberinfrastructure & Advanced Research Computing*
Science Drivers @ Mines

• Broad range of research efforts
  Materials science
  Quantum physics
  Subterranean communications
  High-performance / research computing applications
  Geophysics
  Remote sensing
  Subsurface modeling

• Multi-domain fundamental needs
  • Education on research-specific collaboration tools and IT services
  • Mass storage solutions
  • Data sharing/transfer solutions
  • Visualization
  • Research DMZ
  • Data lifecycle management
Challenges

• Researcher awareness & understanding of resource(s)

• Resources to support goals / proposed projects
  • Funding for CI infrastructure
  • Personnel resources to implement needed infrastructure (network, HPC, sys admins…)

• Logistical issues / models / mechanisms to support multi-source funding

• Acceptance of a new solution space / role for IT
Successes I

- CIE engagement with nearly 200 faculty across all academic departments
- Authored NSF CC* proposal supporting 18 research initiatives
- New solutions and support offerings driven by researcher needs
- Workshops, presentations
- Active engagement in emerging research projects:
  - USGS collaborations
  - Edgar Experimental Mine
  - Visualization lab
Successes II

• Respected resource for researchers
• Key partner with administrative units
• Participation / representation in regional / national community
• Additional FTE commitment to CI technical support
• Research Technologies Advisory Committee
• “Center for Cyberinfrastructure…”
• Notable culture shift
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