CIO Panel on Campus CI Strategy

Panel Member – Dr. Deborah Dent, JSU-CIO

September 26, 2018
Jackson State University (JSU) QUICK FACTS

- Jackson State University is a Historically Black Carnegie Doctoral/Research Intensive public institution of higher education
- Founded as Natchez Seminary in 1877
- Designated the Urban University of the State of Mississippi
- Fall 2018 Enrollment: 7700
- 76% In-state
- 1st Generation Students
- Jackson State is a learning community for highly capable, as well as capable but under prepared students who require a nurturing academic environment.
Jackson State University (JSU)
Challenges & Opportunities

Challenges

- Decreased funding
  • ~loss of $8 million in state appropriations over the past five years
  • Ending of Ayers Settlement used to fund STEM
- Decreased enrollment & talented faculty
- Decentralized research computing - silos
- Limited collaborations
  • Internal
  • External
- Aged Infrastructure
  • 2 -10GB connections to Mississippi Optical Network (MissiON), which provide access to Internet 2.
  • Core equipment purchased in 2010 with EPSCoR C2 grant funds.
- Limited CI Staff

New Opportunities

- Outreach
  Participated in NSF CI EMPOWER innovative under the leadership of Jim Bottum, Principal Investigator and Jill Gemmill, Co-PI
  ❑ Implementation of Campus CI PLAN
  ❑ Internal Collaboration IT/Researchers

- Grant Opportunities
  Awarded 2018 NSF Grant: CC* Networking Infrastructure: Jackson State University (JSU)-Research Network

- Collaborations
  ❑ Participating in the planning of the Minority Serving - Cyberinfrastructure Consortium (MS-CC)
  ❑ Being able to interact/collaborate with new researchers (national and international) in various fields of study
NSF Award #1827098
CC* Networking Infrastructure: Jackson State University (JSU)-Research Network Project Team

**NSF Program:** Campus Cyberinfrastructure (CC*)

**Program Area:** CC*DNI  
**Award Number:** 1827098

**PI:** Dr. Deborah Dent

**Co-PI’s:** Dr. Tor A. Kwembe, Dr. Natarajan Meghanathan, Dr. Hung-Chung Huang

**Project Title:** CC* Networking Infrastructure: Jackson State University (JSU)-Research Network

Dr. Deborah Dent  
CIO  
Jackson State University  
deborah.f.dent@jsums.edu

Dr. Tor A. Kwembe  
Professor and Chair of Math and Statistical Science  
tor.a.Kwembe@jsums.edu

Dr. Natarajan Meghanathan  
Professor Department of Electrical, Computer Engineering and Computer Science  
natarajan.Meghanathan@jsums.edu

Dr. Hung-Chung Huang  
Assistant Professor Department of Biology  
hung-chung.huang@jsums.edu
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CC* Networking Infrastructure:
Jackson State University (JSU)-Research Network
Project Description

**Plan:**

- To expand bandwidth needed for big data and other network intensive collaborative research

- To develop a platform for other HBCUs, colleges and community colleges in state and around the nation to implement similar research data networks

**Deliverables:**

- Proposed:
  - Science DMZ
  - 4 Core nodes with 40/100GB
  - 40 GB uplink to access switches
  - 10 GB to Research labs and workstations

- Dedicated Science Network and Centralized Support

**Scientific Impact:**

- **Interdisciplinary Data Science Program**
- **US ARMY ERDC Big Data Analytics Tools**
- **Predicting Stock Price with a Deep Learning Technique Using Big Data**
- **Complex Network Analysis**
- **Advanced Visualization Instrumentation for Collaborative Exploration of Big Data**
- **Remote Teaching, Collaboration and Data Visualization**
- **Interdisciplinary Center for Nanotoxicity (ICNototox)**
- **Centrally pooled High-Performance/Throughput Computing (HPC/HTC) resources**