Jamila Mandisa Jones
B.S. Fisk University 2006
Major: Computer Science

Faculty Advisor: Dr. Stephen Egarievwe

Program: Research Alliance in Math & Science

Email: jonesjm@ornl.gov
Home: d_a_diva@yahoo.com

Research Area: High Performance Data Storage and Retrieval

This project will be an evaluation of IBM's new Power5 architecture in relation to the performance of 10Gb (Gigabit), jumbo frame Ethernet. An IBM eServer p5 550 with a 10Gb network adapter will be used to test throughput to the various computational platforms used in the National Center for Computational Sciences (NCCS). Results from the benchmarking will be reviewed in relation to the current and proposed future design of the NCCS storage archive (HPSS – High Performance Storage System) to enhance the system.

Subtasks:
1. Install the OS on an AIX 5.2 server and configure the associated 10Gb network
2. Benchmark performance between existing servers, the supercomputers and the new Power5 system
3. Review the data to determine where bottlenecks are likely to restrict data
4. Tune the AIX system and re-evaluate the data, looking for the best overall performance
5. Design a PowerPoint presentation that documents the current environment and the changes that would be required to greatly enhance the throughput to the storage system

Research Mentor:

Stan White
National Center for Computational Sciences
Oak Ridge National Laboratory
whitesr@ornl.gov
865 241-5630