

Seminar

Department of Computer Science

Dr. Chester Langin

Information Technology Manager, SIU-Carbondale

Introduction of SIU BigDog Cluster

Date: Wednesday, October 5, 2016
Time: 2:00 – 3:00 p.m.
Location: EGRA309C, CS Conference Room

Abstract

This presentation is training for SIU's new BigDog high performance computing cluster (HPCC), which operates at a theoretical 34.7 Tflops. BigDog is an XSEDE compatible basic cluster, meaning that BigDog is compatible with other university supercomputers such as Stampede at the University of Texas and Comet at the San Diego Supercomputing Center. BigDog is administered with Rocks cluster administration software and the operating system is CentOS. Users access BigDog with ssh in text mode. Jobs must be submitted with the SGE scheduler.

The BigDog cluster consists of 40 Cisco C-Series servers with Intel 10-core Haswell chips totaling 800 CPUs. Each of the 40 nodes has at least 64GB of memory plus 1TB of storage. A head node acts as a file server with 48TB of usable storage. A login node provides access to the cluster. Node 22 contains the CUDA toolkit with two NVIDIA Tesla K40m GPUs with a total of 5,760 CUDA cores. Nodes 24 and 25 each contain 768GB of memory.

Access to BigDog is being provided free to university researchers, including faculty and students with faculty sponsors. BigDog can be used by undergraduates for research projects, although BigDog cannot be used for general classroom instruction.

All BigDog users must have introductory training on basic concepts related to logging on and using BigDog. This presentation will count as this introductory training for those who attend.