HiPerGator specification sheet

HiPerGator went into production in August 2013 with Dell AMD system consisting of 16,000 cores and 2 PB of high-performance storage. In 2016, HiPerGator was expanded by adding 30,000 Intel cores and an extra 1 PB of storage, bringing the total to 51,000 cores and a 3 PB high-performance file system. In addition there are a number of edge servers integrated with HiPerGator to provide Galaxy portal, database services, large memory systems, and NVIDIA GPU accelerators.

CPU (central processor unit) core and RAM (random access memory) details

HiPerGator 2 has 30,000 cores in Intel E5-2698v3 processors with 4 GB of RAM per core. The total RAM of the HiPerGator 2.0 expansion is 120 TB.

HiPerGator 1 has 16,000 cores in AMD Opteron 6378 processors, also with 4 GB of RAM per core. The total RAM for the HiPerGator 1 system is 32 TB.

Computing speed

The theoretical maximum speed of the original HiPerGator is 157 Teraflops, or 157 trillion floating point operations. The 30,000-core HiPerGator expansion adds another 1,100 Teraflops of speed. This is also equal to 1.1 Petaflops. The fastest computer in the world, Tianhe-2, has a maximum speed of 50 Petaflops.

Storage details

The storage system for HiPerGator is split into two different Lustre file systems, named Orange and Blue. The Orange file system is a slower file system meant for long term storage of files with 3 PB of storage space. The Blue file system is meant for faster processing of in-flight data of currently running jobs on the cluster, and 2 PB in size.

Accelerator details

HiPergator has multiple options for GPU Acceleration. 90 NVIDIA K80 processors are available, as well as 550 NVIDIA GeForce RTX 2080TI processors.

HiPerGator also has a modest number of NVIDIA Quadro RTX 6000 processors with NVLINK.

Further information

Consult the UFIT Research Computing web site for more details:

- HiPerGator https://www.rc.ufl.edu/services/computation/hipergator/
- Accelerators https://devrc.rc.ufl.edu/services/computation/hipergator/accelerators/
- Buying resources https://www.rc.ufl.edu/services/computation/