HiPerGator specification sheet

Evolution and summary

- HiPerGator went into production in August 2013 with 16,000 AMD cores.
- In 2016, HiPerGator was expanded by adding 30,000 Intel cores and an extra 1 PB, bringing the total to 51,000 cores and a 3 PB high-performance file system.
- In 2018, a cost-effective 3 PB storage system, called "orange," was installed for capacity storage.
- In 2019, 560 Nvidia RTX 2080ti and 48 RTX-6000 GPUs were added.
- In 2020, the 2 PB Lustre storage system was upgraded to a 4 PB performance file system, called "blue".
- In 2021, HiPerGator was expanded with 40,000 AMD EPYC cores (30,000 2nd gen and 10,000 3rd gen) and the oldest 16,000 cores were retired. HiPerGator was further expanded with a 140-node NVIDIA DGX A100 540GB SuperPOD with 18,000 AMD EPYC 2nd gen cores, 1,120 A100 GPUs, and 2.5 PB all-flash high-performance storage system. That component is called "HiPerGator AI." The "orange" and "blue" storage systems were expanded in size to 16 PB and 7.2 PB respectively in the summer of 2022.
- In 2025, 30,000 Intel CPU cores and the 2080ti GPUs were retired. They were replaced with 19,000 CPU cores in AMD EPYC 9655P 96-core CPU processors in nodes with 786 GB RAM. The GPUs were replaced with 600 NVIDIA L4 GPUs with 24 GB RAM. The 140 DGX A100 nodes, and associated switches, were replaced with 63 DGX B200 nodes, each with 8 Blackwell B200 GPUs with 180 GB RAM in nodes with two Intel Xeon Platinum 8570 56-core processors and 2 TB RAM. The InfiniBand fabric was upgraded to NDR 400. The blue storage system was replaced with 11 PB all-flash storage from DDN. There are several edge servers integrated into HiPerGator to provide Galaxy portal, web services, and database services.

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

There are 60,000 CPU cores total with 8 GB of RAM per core.

Computing speed

The Intel and AMD cores of HiPerGator provide a total of about 2 Petaflops computing speed as measured by the HPL benchmark. The HiPerGator AI system has an HPL rating of over 17 Petaflops and a theoretical AI performance peak of 700 Petaflops.

Storage details

There are three storage systems, called orange (16 PB), blue (11 PB), and red (2.5 PB), with orange more for long term preservation, blue and red for active computing. The file system is Lustre.

Accelerator details

HiPerGator has 600 L4 GPUs (graphical processor units) with 24 GB RAM, 32 L40 GPUs with 48 GB RAM and 504 Blackwell B200 GPUs with 180 GB RAM, all made by NVIDIA.

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/