Grace - the UAMS High Performance / High Transaction Rate Computing System

Our primary system is named Grace, after Rear Admiral Grace Hopper, a pioneer in computer science. Grace is composed of 96 traditional Xeon CPU nodes each with 28 cores and 128 GB of memory (2688 CPU cores), 96 Xeon Phi nodes each with 64 cores, of which 80 have 384 GB of memory and 16 have 192 GB of memory (6144 Phi cores total), 3 Xeon nodes with 24 cores and 128 GB of memory plus 2 NVIDIA GPUs each (72 CPU cores, 6 GPUs with 27,264 total cores), 7 management/login/storage interface nodes and 1.9 PB of high speed storage (DDN GS14KX GridScaler with IBM Spectrum Scale 5). All components are interconnected via 100Gbps Omnipath interconnects and are attached to external storage and the Internet (both commercial and I2) with redundant 10Gbps Ethernet interfaces. Intermediate storage is provided by a 1PB NAS and long term/backup storage is provided by a 4.2 PB object storage system (Dell/EMC ECS appliance).

Grace can be accessed either via its web based Open OnDemand portal at https://portal.hpc.uams.edu via the Pinnacle portal at UA Fayetteville, or via command prompt (cli) by ssh into login.hpc.uams.edu (only from the UAMS network).

All high performance computing resources are made freely available to UAMS researchers. Advanced open source software packages (including packages developed by the UAMS DBMI) to support genomic, metagenomic, proteomic, metabolomics, microbiomic and image analyses are installed on the system. Additional packages can be installed or investigators can run pipelines implemented in Singularity containers.

To request an account on Grace, please first read the Terms and Conditions/Information for Users, and then send an e-mail request to HPCAdmin@uams.edu indicating that you agree to abide by those terms and conditions, would like an account, and a brief description of what you plan to do with that account.