CHPC Student Cluster Competition 2022

HPC Challenge

Your team will need to compile and run the HPCC benchmark suite. This code includes several micro-benchmarks which test various performance aspects of the cluster. The suite includes HPL, DGEMM and FFT which test floating point performance. STREAM and RandomAccess are included to access memory performance. PTRANS and 'Communication bandwidth and latency' are used to assess network performance.

You need to run version 1.5.0, which is available for you to copy from your competition folder.

If you can produce a higher individual HPL score outside of HPCC (through use of alternate software or hardware), you may include this result to supplement your HPCC submission for judging.

For guidance, use online resources to determine the theoretical FLOPS performance of your hardware (Rpeak), and from that a realistic achievable score (Rmax).

* Copy an HPL template Makefile from hpl/setup to hpl and make appropriate changes to MPI and BLAS sections,
* Compile HPCC,
* Edit the hpccinf.txt file and configure the HPL parameters for your cluster.
* Run the benchmark using MPI.
* To easily interpret the benchmark results, you can use the script provided:

$ ./format.pl -w -f hpccoutf.txt

You are required to submit the (1) hpccinf.txt file used for the run, the (2) hpcc binary as well as the (3) hpccoutf.txt results file for judging.