

Duke Office of Information Technology

CPU Speed Issues

Since the CSEM cluster continues to grow and expand, some of the machines in the system are older (slower) than others. We have machines ranging from 2.8GHz to 3.6GHz. If you are running parallel jobs, then you may want to pay attention to the speeds of the CPUs you are running on. Even well-written parallel programs may have performance problems when run on heterogeneous machines. In particular, many parallel programs assume an even splitting of the work onto each machine in the group. But if some machines are faster than others, then they will have to wait while the slower machines finish their work.

SGE can be used to select machine groups that are all at a given MHz rating (2800 to 3600, e.g. 2.8 to 3.6 GHz). You must use the '-l mhz=3200' option in your SGE scripts to select that all machines run at 3200MHz == 3.2GHz. Use 'qhost -l mhz=3200' to see a list of machines that are at that speed-rating.

Duke Office of Information Technology - www.oit.duke.edu - (919) 684-2200 - help@oit.duke.edu