Homework 1: Report

Dante Buhl

April 7, 2024

1. Log into Hummingbird and Lux

2. Description of a Top500 Machine.

   I chose Expanse for the machine to do my report on. I use expanse several times a week so it made sense to become a little more familiar with it. Here are the details.

   - Name: Expanse
   - Location: San Diego Supercomputing Center
   - Number of Nodes, processors per node, total num of processors: 732, 128, 93,696
   - Clock Speed of Chips: 2.25 GHz
   - Flops/processor, total flops: 4608 GFlops, 431.76 PFlops
   - Memory per processor, total memory: 2 GB, 187 TB
   - Architecture Type: SIMD, (this really depends on what you are running on it)
   - Interconnect Type: Mellanox HDR Infiniband

- Use: Scientific Research, MY RESEARCH, Fluid Dynamics :)
- Anything Special: Its located in California, used to be in the top 200 of machines but its growing a little outdated (EVEN THOUGH IT WAS MADE IN DURING THE PANDEMIC! Its only been 4 years and its been superceeded many times).

3. Describe something you do in parallel.

   My routine when I get home is often very similar and it involves me doing things in parallel. Usually the first thing I do is put my backpack down and then turn on my computer. While my computer takes a minute or two to boot up, I press the button on my desk to move it into the standing position, and while the computer boots and my desk lifts up, I take my lunch tupperware to the sink in the kitchen. When I get back the computer is booted and in the position I like. Then I'll put in my password and while the computer brings me to my desktop, I'll put on my headset. Then I open 3 applications all at once. First my terminal, to update any software. Then while its updating, I open Chrome and navigate to my email. Then while my email loads, I go onto Discord and see if I have any new messages. Then I go back to my terminal check if its done, proceed to check my email, and then find something to do.