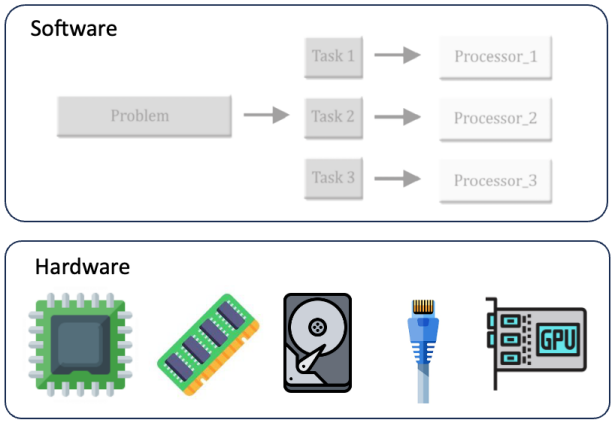
Kennesaw State University

Parallel and Distributed Computing

Project – Get to know your machine

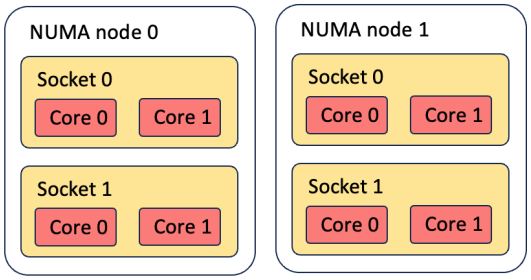


Please write a report of hardware specification for your Linux VM (at local or KSU cloud). The hardware information should include:

1. CPU clock rate
2. Number of CPU cores
3. Number of Sockets
4. Number of NUMA nodes
5. CPU model name
6. CPU topology [1] (please draw a figure in your report)
7. L1, L2, L3 cache size
8. Memory size
9. Current free memory
10. Disk size
11. Current utilization of the hard disk
12. Network IP address
13. Current Operating System name and version (open question)
14. Current OS kernel version (open question)
15. Machine hostname (open question)

1: Topology here means how many NUMA nodes the CPU has; on each NUMA node, how many sockets it has; on each socket, how many cores it has. For instance, if the processor has 2 NUMA nodes, and

each NUMA node has 2 Sockets, and each Socket has two CPU cores, then its processor topology is as the following figure illustrates:



In your report, please also select the benchmarks to measure hardware specification for your VM. You can use any benchmarks you can find on the internet. The hardware information should include:

16. CPU compressing or decompressing speed (using 7-Zip, you can compare it with Apple A12Z chip: https://www.7-cpu.com/)
17. Memory bandwidth or speed
18. Disk read speed
19. Disk write speed
20. Network latency to the Google server (www.google.com or 8.8.8.8)
21. Network throughput

Submission

Submit your assignment pdf file named **"Firstname_Lastname_Hardware.pdf"** through D2L using the appropriate link. Please submit the ***a report describe the details of your machine and the benchmarks and commands you are using***.