

Benchmarking - Manual

In this assignment, I have performed benchmarking on different parts of a computer system – CPU, Disk, Memory and Network. Also I ran the different benchmarking tools available and analysed the performance.

As required, I have done this entire assignment on t2-micro instance of AWS Cloud.

CPU:

CPUBench1.java

For CPU, I have measured the processor speed for integer and floating point operations in terms of Giga - 10^9 IOPS (Integer Operations per second) and Giga - 10^9 FLOPS (Floating point operations per second).

Also I have measured the processor speed at varying levels of concurrency by using multiple threads.

CPUBench2.java

For second experiment I ran my experiment for 10 minutes and trace the no. of operations processor performs in every one second with concurrency of four threads.

For additional credit, I have also ran the Linpack benchmark tool for CPU and reported its performance achieved.

DISK

DiskBench.java

For Disk, I have measured the disk speed by performing random and sequential read write operations on the disk.

Also I have measured the disk speed at varying levels of concurrency by using multiple threads and varying block sizes to perform read write operations.

I have calculated the throughput in MB/s (Megabytes per second) and latency in ms (milliseconds).

For additional credit, I have also ran the IOZone benchmark tool for Disk and reported its performance achieved.

NETWORK

NetworkServer.java/NetworkClient.java

For Network, I have measured the round trip time between client and server to send different size of files.

As required, I have created equal no. of threads for 1:1 mapping.

I have calculated the throughput in MB/s (Megabytes per second) and latency in ms (milliseconds).

For additional credit, I have also ran the IPerf benchmark tool for Network and reported its performance achieved.

Enclosed: “readme.txt” which contains steps to run the code.