Ideal solution for Big Data applications - Apache Hadoop

Chelsio Terminator 5 (T5) 40/10/1GbE Unified Wire Adapters

Executive Summary

This paper presents performance results for Apache Hadoop framework using Chelsio T5 Unified Wire Adapters.

Introduction

Apache Hadoop is a framework that allows for the distributed processing of large data sets across clusters of computers. It has master/slave architecture and a large amount of data is transferred among nodes. 10Gb and 40Gb Ethernet help to avoid network utilization does not become a bottleneck and improve the throughput of Big Data applications.

Chelsio T5 Unified Wire Adapters are ideal for all data, storage and high performance clustering applications including Hadooop.

Test Results

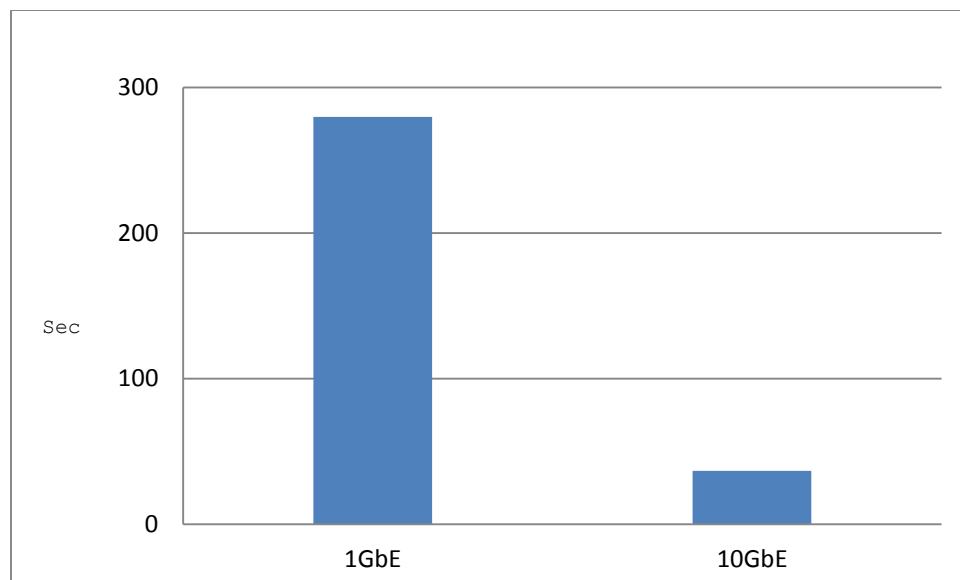The below is the result of 1G network and 10G network

Figure 1 – Performance graph

Test Topology

The following diagram shows the test setup and topology.
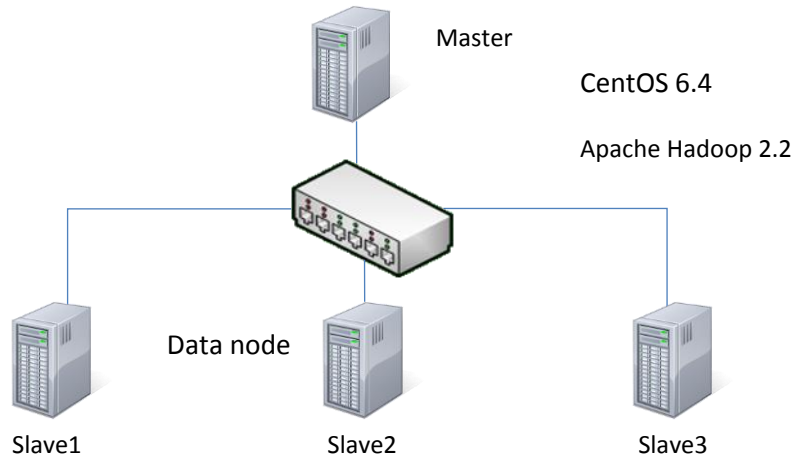

Figure 2 – Master connected to 3 slave machines using a switch

Test Configuration

The following section provides the test configuration details.

Command Used

```
[root@host]# hadoop jar hadoop-*test*.jar TestDFSIO -write -nrFiles 30 -fileSize 1000
```

Conclusion

This paper provided performance results for Apache Hadoop framework using Chelsio T5 Unified Wire Adapters.

Related Links

[10Gb TOE vs NIC Performance](#)
[TCP Offload at 40Gbps](#)
[Packet Rate Performance Report](#)
[High Frequency Trading Report](#)