



## Chelsio T4 vs QLogic iSCSI

### Chelsio T4 Unified Wire Network Adapters

Using Chelsio's 10Gb Ethernet Unified Wire Network Adapters with the T4 ASIC, Chelsio delivers superior iSCSI SAN performance vs QLogic's competing product. In iSCSI initiator SAN benchmark tests, the Chelsio T422-CR Unified Wire Adapter went head to head against the QLogic QLE8242 iSCSI SAN adapter. The results show a dramatic performance boost with Chelsio.

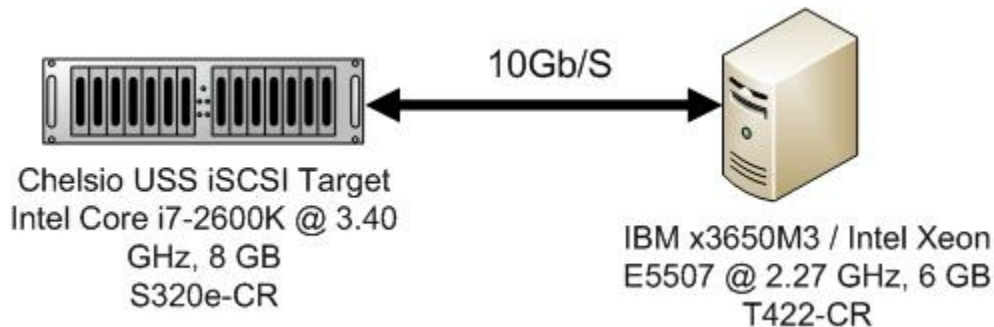
Performance highlights include:

- Chelsio's T4 Adapter has ~4.1X the performance of Qlogic QLE8242 for Read IOPs with 4K IO size
- Chelsio's T4 Adapter has ~4.4X the performance of Qlogic QLE8242 for Write IOPs with 4K IO size

Benchmark	Chelsio T4	Qlogic QLE8242
4K Read IOPs	91K	22K
4K Write IOPs	93K	21K
4K Read Throughput (MB/s)	356	87
4K Write Throughput (MB/s)	366	82

### Setup & Data

#### The Topology



## **Configuration**

### **Target**

Motherboard/CPU: White box / Intel Core i7-2600K @ 3.40 GHz  
Memory: 8 GB of RAM  
10G Interface: Chelsio S320e-CR (test uses only 1 port)  
Target Software: USS v2.0.0 build 122 running a 32 MB RAM disk

### **Chelsio Initiator**

Motherboard/CPU: IBM x3650M3 / Intel Xeon E5507 @ 2.27 GHz  
Memory: 6 GB of RAM  
OS: RHEL 6.1  
Initiator: Open-iSCSI (RHEL 6.1 in-boxed) with Chelsio PDU offload enabled  
Chelsio Card: T422-CR (test uses only 1 port)  
Chelsio Drivers: cxgb4 and cxgb4i drivers from unified driver v1.1.0.10

### **QLogic Initiator**

Motherboard/CPU: IBM x3650M3 / Intel Xeon E5507 @ 2.27 GHz  
Memory: 6 GB of RAM  
OS: RHEL 6.1  
Initiator: QLogic full offload  
QLogic Card: QLE8242 (test uses only 1 port)  
QLogic Driver Version: 5.02.15.01.05.06-c0  
QLogic Firmware Version: 4.9.34  
QLogic ROM Version: 01.08.52  
QLogic iSCSI Version: 0.20

### **Benchmark Software**

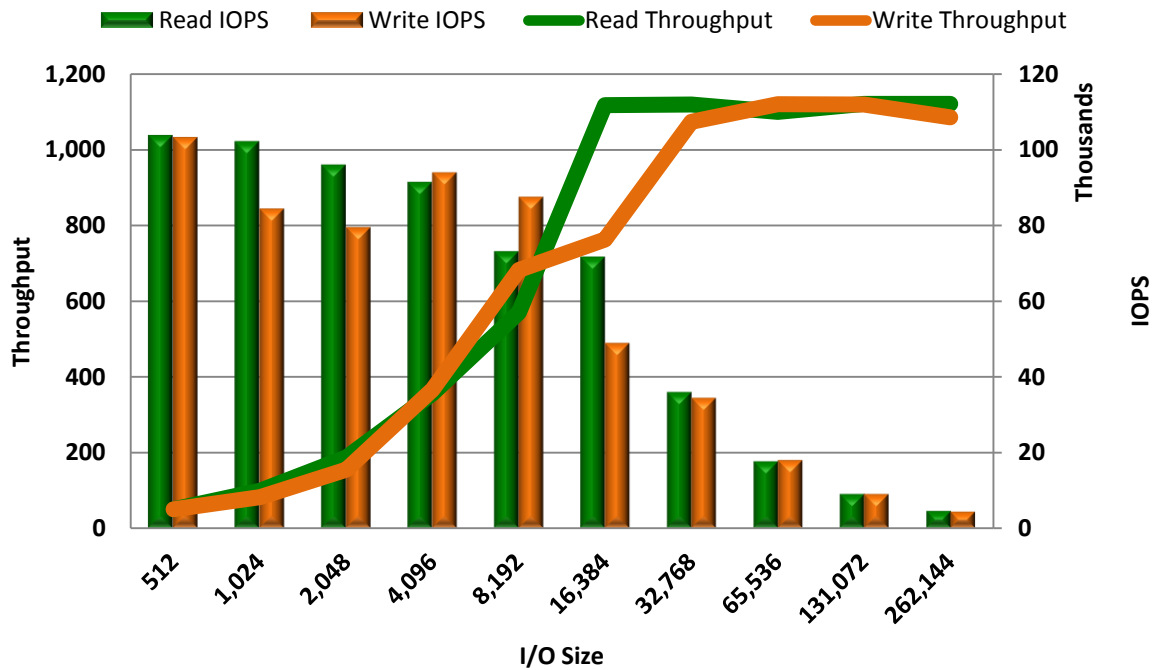
Software: disktest version 1.1.12  
Command line: disktest -T 30 -K 8 -B XYZ -rw -f \$RANDOM -I D -P A /dev/sdN  
                  where XYZ is the I/O size  
                  where rw: r is read; w is write  
                  where N is the device assigned to the iSCSI initiator

The I/O sizes used varied from 512 Bytes to 256 Kbytes with an I/O access pattern of sequential reads and sequential writes.

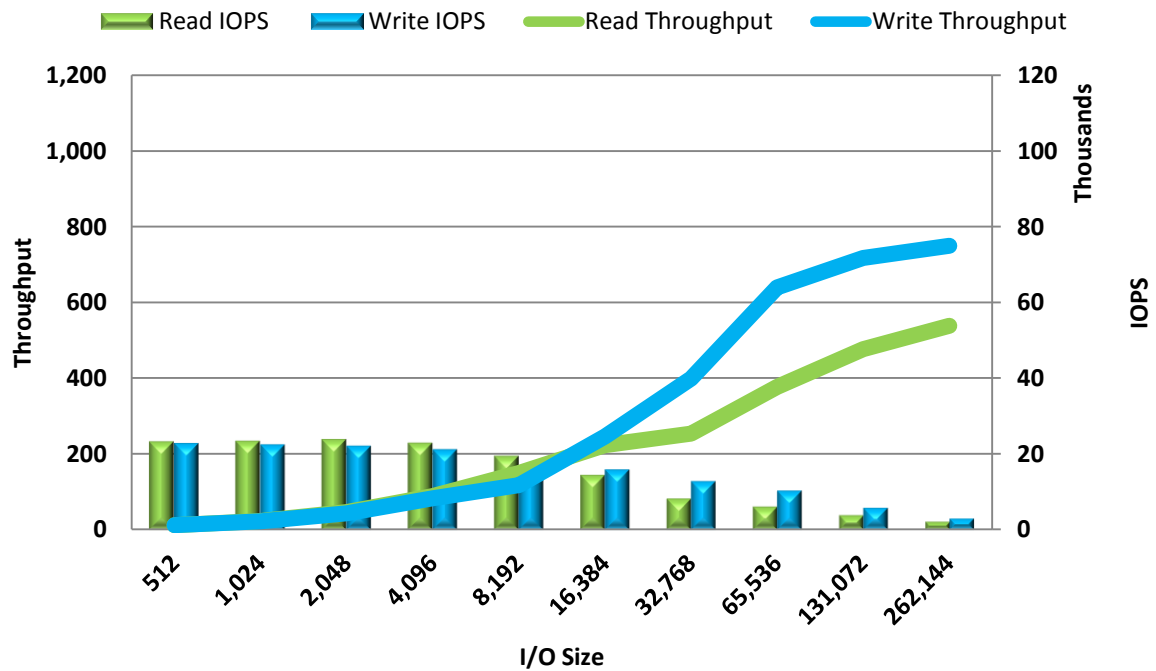
## **Performance**

The graphs on the following page illustrate the benchmarking data obtained across various I/O sizes with both reads and writes.

## iSCSI Initiator Performance – Chelsio T4



## iSCSI Initiator Performance – QLogic QLE8242



## About Chelsio Communications

Chelsio is a leading technology company focused on providing high performance networking and storage solutions for virtualized enterprise data centers, cloud service installations, and cluster computing environments. Now shipping its fourth generation protocol acceleration technology, Chelsio is delivering hardware and software solutions including Unified Wire Ethernet network adapter cards, Unified Storage Server software, high performance storage gateways, unified management software, bypass cards, and other solutions focused on specialized

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