

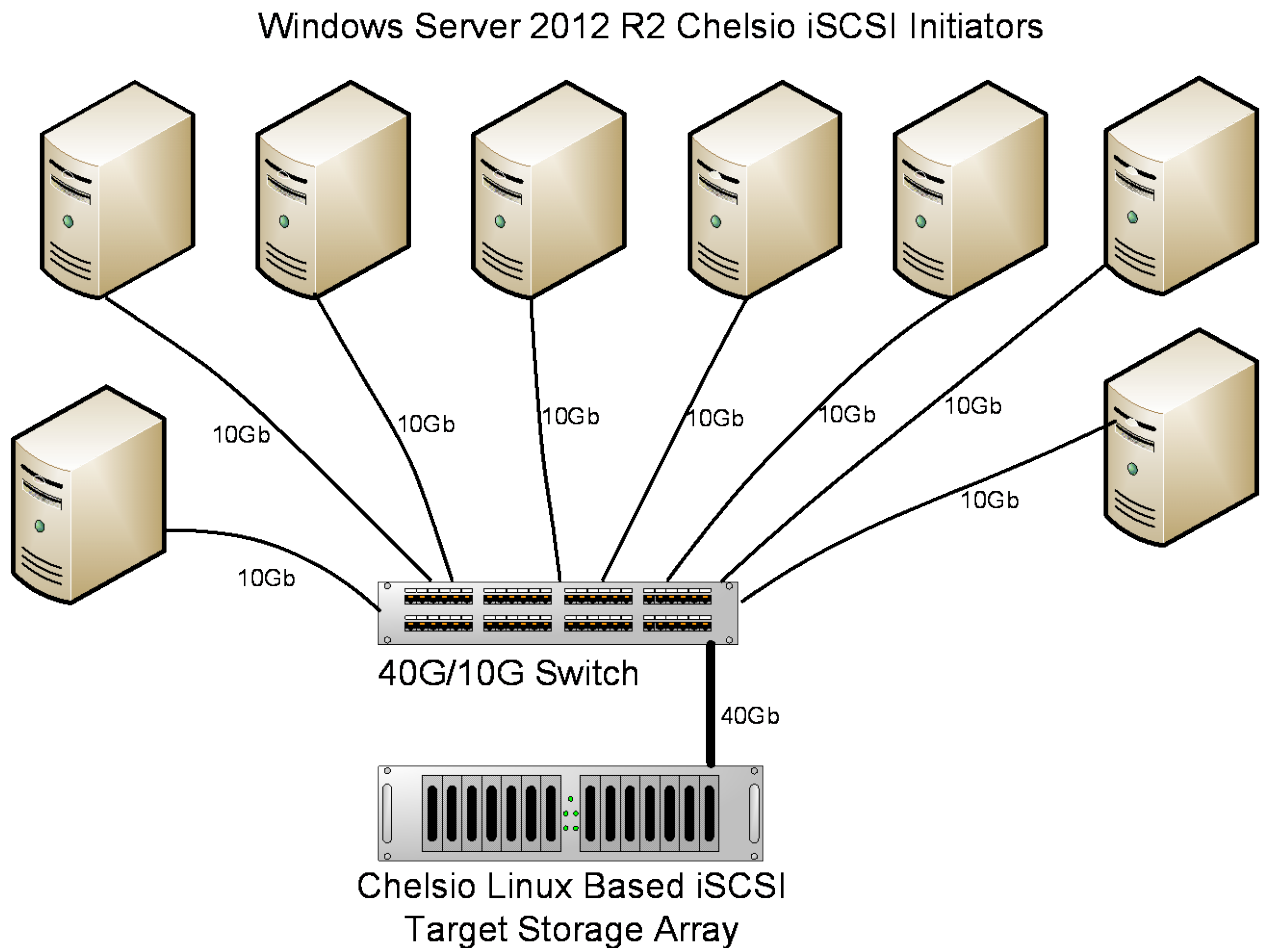


iSCSI over 40Gb Ethernet with Standard 1500 byte Frames

Chelsio T5 Unified Wire Network Adapters

Using Chelsio's Unified Wire Network Adapters with the T5 ASIC, Chelsio continues to deliver superior iSCSI SAN performance unparalleled in industry today. To illustrate the performance, a simultaneous read and write benchmark is highlighted. The Chelsio iSCSI target is demonstrated running over a T580-LP-CR Unified Wire Network adapter at 40Gb/sec on a single port with standard 1500 byte Ethernet frames. Throughput performance is in excess of 8700 Megabytes per second of "goodput" data (data delivered to the application).

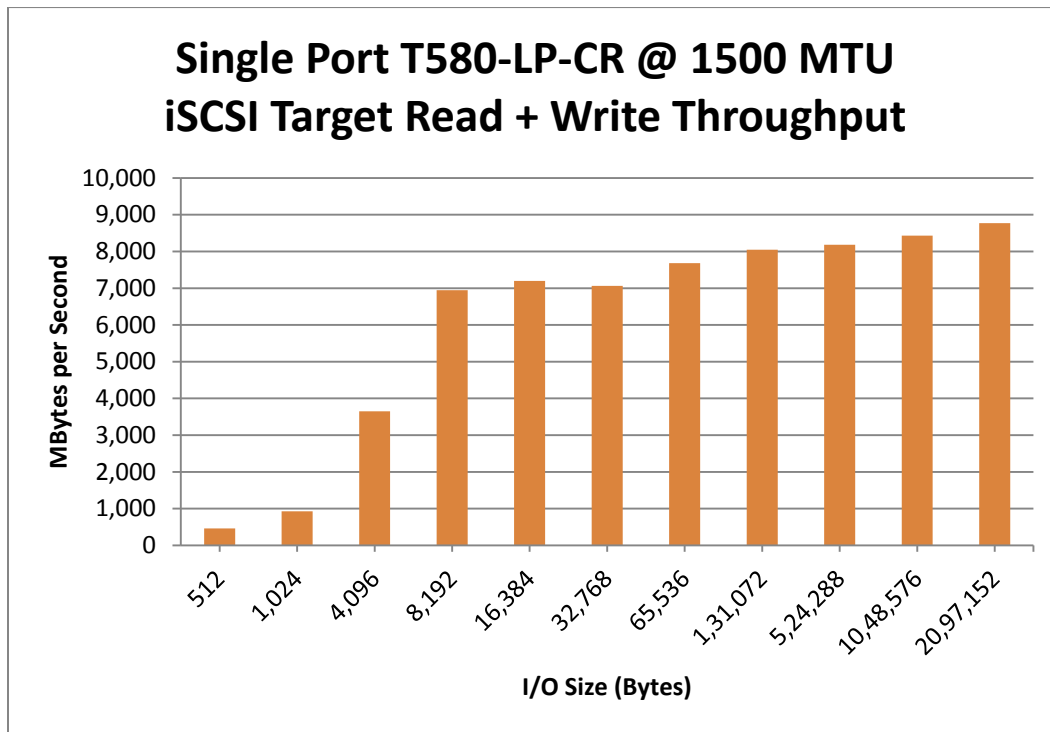
The Topology



Network configuration: The network configuration consists of three components; the 40Gb/10Gb switch, the iSCSI target storage array with one 40Gb port, and eight iSCSI initiator peer machines running at 10Gb. End to end standard 1500 byte MTU Ethernet frames are used throughout.

- The storage array runs Chelsio’s iSCSI target on RHEL6.4 Linux taking advantage of the T5 ASICs TCP/IP and iSCSI offload technology at 40Gb. The array has two Intel E5-2643 processors running at 3.3 GHz with 64 Gig of RAM.
- The initiator machines run on Windows Server 2012 R2, with each server running with two Intel E5-2687W processors at 3.1 GHz using a single port of a Chelsio T420-CR adapter. They all run Chelsio’s Windows iSCSI offload initiator driver.
- The switch is an IBM RackSwitch G8264. It aggregates the 10Gb connections from the initiator machines to the two 40Gb connections on the iSCSI target storage array.

Storage topology and configuration: The storage array contains 32 iSCSI ramdisk null-rw targets. Each of the eight initiators connects to 4 targets with 4 initiators dedicated to reads and 4 for writes. The I/O sizes used varied from 512 Bytes to 2 Mbytes with an I/O access pattern of sequential reads and sequential writes. IOMeter version 2006.07.27 was configured to have 16 workers per initiator giving it 4 workers per disk.



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 fifth 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 applications.

Corporate Headquarters
370 San Aleso Ave
Sunnyvale, CA 94085
www.chelsio.com
T: 408.962.3600