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Media Contact:
media@chelsio.com
Chelsio Communications
1-408-962-3600

CHELSIO DEMONSTRATES 5 MILLION IOPS STORAGE PERFORMANCE FOR CLUSTER TO CLOUD SCALE DEPLOYMENT OF MICROSOFT STORAGE SPACES DIRECT

SUNNYVALE, CA – August 9, 2016 – Chelsio Communications, Inc., a leading provider of high performance Ethernet adapters for storage networking, virtualized enterprise datacenters, cloud service installations, and cluster computing environments, today announced that a demonstration of Windows Server 2016 Storage Spaces Direct using the Chelsio T5 40GbE iWARP RDMA adapters conducted in conjunction with Microsoft Corp. showed Chelsio T5 cards enabling 5 million IOPS (input/output instructions per second) performance for a storage solution.

The demonstration utilizes a 16-node Storage Spaces Direct hyper-converged configuration, NVMe SSD technology, and DRAM connected across an iWARP RDMA-enabled fabric. iWARP is the preferred high performance RDMA over Ethernet solution from Cluster to Cloud scale, and allows leveraging existing Ethernet infrastructure without the limitations, complexity and costs of other RDMA protocols. Chelsio iWARP RDMA adapters have been proven to deliver the high throughput and low latency needed to fully leverage high performance Microsoft Storage Spaces Direct.

Windows Server 2016 Storage Spaces Direct enables continuously available storage clusters to use local storage, unlocking new high-performance NVMe SSDs and low-cost SATA SSDs and eliminates the old requirement for shared storage enclosures. The high-performance SMB Direct protocol is used for inter-node communication over the Storage Spaces Direct software storage bus.



“The iWARP standard enables building very efficient, high performance, Microsoft Cloud deployments very quickly,” said Kianoosh Naghshineh, CEO at Chelsio Communications. “iWARP works with any legacy Ethernet switch, thereby enabling incremental Storage Spaces Direct installations without requiring a concurrent forklift upgrade of the switch infrastructure, or the entire datacenter. This ability to work with any non-DCBX switch, allows use of the most cost effective new or existing switch infrastructure with the least amount of support, while enabling an immediate plug and play deployment. In addition, Microsoft’s support of iWARP protocol since Windows Server 2012-R2 release, has allowed for years of testing for a very robust, tested, deployment with iWARP.”

“This technology demonstration highlights how Storage Spaces Direct, combined with advanced flash-based storage connected by Chelsio’s 40GbE iWARP networking solution, helps users build faster, easy-to-scale and reliable storage for their private cloud deployments,” said Erin Chapple, partner director of program management, enterprise cloud group, Microsoft Corp.

In addition to Storage Spaces Direct, iWARP Protocol also powers other aspects of Microsoft Windows installations such as Storage Replica for disaster recovery, SMB Direct for high performance file access, Client RDMA for bringing RDMA benefits to Windows 10 deployments, and Network Direct for Windows HPC deployments.

Additional information regarding the demonstration is available in a Microsoft published [blog post](#) and [twitter message](#), and a Chelsio [Technical Brief](#).

About Chelsio iWARP

Chelsio’s Terminator 5 ASIC offers a high performance, robust third generation implementation of RDMA (Remote Direct Memory Access) over 40G Ethernet – iWARP. T5 delivers end-to-end RDMA latency that is comparable to InfiniBand, using standard Ethernet infrastructure. Chelsio’s iWARP is in production today in GPU applications, in storage



applications as a fabric for clustered storage, for Lustre and other storage applications, for HPC applications, and for remote replication and disaster recovery. It is a high performance, robust, reliable, and mature protocol that enables direct data placement, CPU savings, and RDMA functionality over TCP/IP and legacy Ethernet switches and internet with no performance penalties.

About Chelsio Communications

Chelsio is a recognized leader in high performance (10Gb/25Gb/40Gb/50Gb/100Gb) Ethernet adapters for networking and storage within virtualized enterprise datacenters, public and private hyperscale clouds, and cluster computing environments. With a clear emphasis on performance and delivering the only robust offload solution, as opposed to simple speeds and feeds, Chelsio has set itself apart from the competition. The Chelsio Unified Wire fully offloads all protocol traffic, providing no-compromise performance with high packet processing capacity, sub-microsecond hardware latency and high bandwidth. Visit the company at www.chelsio.com, and follow the company on [Twitter](#) and [Facebook](#).

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