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CHELSIO TO SHOWCASE IWARP RDMA WITH WINDOWS SERVER 2016 STORAGE REPLICA FOR COST-EFFECTIVE BUSINESS CONTINUITY

Industry's First Demonstration of Windows Server 2016 Storage Replica using 25 Gigabit Ethernet (25GbE) RDMA

SUNNYVALE, Calif. – September 27, 2017 – Chelsio Communications, Inc., a leading provider of high performance (1Gb/10Gb/25Gb/40Gb/50Gb/100Gb) Ethernet Unified Wire adapters and ASICs for storage networking, virtualized enterprise datacenters, cloud service installations, and cluster computing environments, today announced the showcasing of its latest T6 iWARP RDMA adapters with the Windows Server 2016 Storage Replica across local and long-haul connections. The results shown at the Microsoft Ignite 2017 conference in Orlando, demonstrate Windows Server 2016 Storage Replica (SR) operating at cost-effective 25Gbps using SMB3.1.1 over Chelsio's T6225-CR RDMA enabled NICs, with consistent performance levels. The demonstration confirms iWARP's ability to sustain SR's unique load pattern, and thanks to its TCP/IP underpinnings, natively operate beyond a cluster environment to extend the RDMA transport over long distance.

High-availability and disaster protection are critical requirements for business continuity, and Windows Server 2016 Storage Replica offers local and remote replication for redundancy in the face of infrastructure failure and catastrophic events. Windows Server 2016 Storage Replica enables block-level replication between clusters or individual servers. SR provides two modes of operation: synchronous replication enables mirroring of data with zero data loss at the file system level, while asynchronous replication allows local completion of I/O operations. Storage Replica over iWARP RDMA combines high performance with the high efficiency provided by the zero copy and CPU bypass operation of the iWARP RDMA transport,

without requiring any metro extension equipment, unlike other RDMA transports. The Microsoft Ignite presentation shows SR operating in synchronous mode over a 50Km fiber loop, connecting two storage servers. Long distance replication is shown to provide near local access performance levels, with negligible impact on I/O rates and near zero additional latency. In addition, the iWARP RDMA transport provides remarkably stable and consistent operation.

"The demonstration of Windows Server 2016 Storage Replica over RDMA in metro scale conditions is a milestone for both SR and iWARP," said Kianoosh Naghshineh, CEO, Chelsio Communications. "The combination of SR capabilities and performance, and iWARP's efficiency, ease of deployment and Cloud reach is hard to beat. This demo confirms iWARP's long distance operation capabilities and cements its position as the correct RDMA transport for storage, with robustness and performance that scale from datacenter-wise clusters to Internet-wide environments."

Ned Pyle, Principal Program Manager, Windows Server and Storage, Microsoft said, "Windows Server 2016 and System Center 2016 offer our most cloud-ready server operating system ever, with exciting new innovations to help transform applications for the cloud, build a software-defined datacenter with cloud efficiencies, and keep IT safer than ever. The complementary solutions and services from our partners are what truly brings the innovation to life for our customers as they transform their IT solutions for the cloud-first world. Chelsio's iWARP technology brings long-haul networking and ease of use to RDMA's already impressive latency and throughput. Microsoft's Storage Replica, Storage Spaces Direct, and SMB engineering teams believe RDMA is the future of the software-defined datacenter fabric, and that iWARP is on the cutting edge of that revolution."

As a long-standing partner of Microsoft, Chelsio invests heavily in joint engineering resources and expertise to test and validate upcoming versions of Microsoft Windows software on Chelsio networking infrastructure. Continuing on this long tradition of cooperative

engineering, Chelsio is committed to delivering broad high-performance iWARP networking adapter support for Windows Server 2016 environments as well as for Windows 10 Enterprise.

About Chelsio iWARP

Chelsio T5 and T6 iWARP adapters enable building very efficient, high performance, Microsoft Cloud deployments very quickly. iWARP works with any legacy Ethernet switch, thereby enabling incremental Windows Server 2016 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.

About Chelsio Communications

Chelsio is a recognized leader in high performance (1Gb/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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