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**CHELSIO AND MICROSOFT COLLABORATE TO SHOWCASE IWARP RDMA OVER 40G METRO  
ETHERNET WITH WINDOWS SERVER STORAGE REPLICA**

**Industry's First Demonstration of Storage Replica using RDMA over Ethernet**

**SUNNYVALE, Calif. – May 5, 2015** – Chelsio Communications, Inc., a leading provider of Ethernet Unified Wire Adapters and ASICs, today announced the showcasing of its iWARP RDMA adapters with the Windows Server Storage Replica across a long haul connection. The results shown at the Microsoft Ignite 2015 conference in Chicago, demonstrate Storage Replica (SR) operating at 40Gbps using SMB3.1.1 over Chelsio's T580-LP-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.

Disaster protection is a critical requirement for business continuity, and remote replication offers geographic redundancy in the face of catastrophic events. Windows Server 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 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 storage industry is going through exciting changes, and experiencing unprecedented leaps in performance and scalability. We are thrilled to see Chelsio products used in all the key areas of innovation. The demonstration of SR over RDMA in metro scale conditions is a milestone for both SR and iWARP," said Wael Noureddine, VP Technology, Chelsio Communications<sup>1</sup>. "The combination of SR capabilities and performance, and iWARP 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 clusters to Internet-wide environments."

"We are happy to collaborate with Chelsio on this demonstration of the upcoming Windows Server Storage Replica feature," said Siddhartha Roy, Principal Group Program Manager, High Availability and Storage, Windows Server, Microsoft. "The demo highlights two key storage capabilities of the Windows Server: high availability with SR, and efficient performance thanks to SMB Direct over RDMA. Using the Chelsio T580-LP-CR iWARP adapter provides an ideal combination of RDMA support and long distance capability to enable these two features."

The T580-LP-CR adapters are based upon Chelsio's proprietary T5 ASIC. Designed for high performance, unified clustering, storage and data networking, the T5 ASIC enables fabric consolidation by simultaneously offloading iSCSI, FCoE, TCP/UDP/IP sockets, and RDMA traffic in hardware at 40Gbps wire speed. With native iWARP RDMA support, it is particularly well suited for high availability storage applications, thanks to iWARP's ability to operate over long distances and heterogeneous networks. These attributes make T5 the preferred solution for all storage networking fabrics: frontend, backend and high availability.

By allowing InfiniBand and FibreChannel applications to run unmodified over standard Ethernet networks, without imposing a DCB tax, T5 enables true convergence and eliminates the need for esoteric adapters, cabling, switches and gateways, with tremendous CAPEX and OPEX savings as a result.



## About Chelsio Communications

Chelsio is a leading technology company focused on solving high performance networking and storage challenges for virtualized enterprise data centers, cloud service installations, and cluster computing environments. With its fifth generation protocol acceleration technology, Chelsio is enabling hardware and software solutions including Unified Wire Ethernet network adapter cards, unified storage software, high performance storage gateways, unified management software, bypass cards, and other solutions focused on specialized applications. Visit the company at [www.chelsio.com](http://www.chelsio.com).

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