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Chelsio T6 100GbE Unified Wire Adapters Demonstrate Lowest UDP, TCP, and RDMA Over Ethernet Latency

SUNNYVALE, CA – October 28, 2016 – Chelsio Communications, Inc., a leading provider of high performance (10Gb/25Gb/40Gb/50Gb/100Gb) Ethernet adapters for storage networking, virtualized enterprise datacenters, cloud service installations, and cluster computing environments, today released preliminary results on low latency testing of its latest-generation Terminator 6 (T6) adapters. Chelsio Unified Wire adapters fully offload all protocol traffic, providing no-compromise performance for the range of leading operating systems, including Windows Server 2016, VMware ESXi 6.0, and RedHat Enterprise Linux 7.

Chelsio T6 100GbE adapters demonstrate a user mode UDP latency of 1.6µsec and user mode TCP latency of 1.5µsec using its WireDirect software suite, both numbers representing industry record performance. Chelsio WireDirect provides direct network access to user-space, is binary compatible with existing TCP and UDP socket applications, and is also available in full source code form. User mode UDP showed 4.25 million messages/second with excellent jitter profile and no dropped packets. User mode TCP similarly demonstrated 2.8 million messages/second with nearly zero packet jitter, thanks to the use of T6's offload engine. These preliminary results which show a relatively flat latency profile across the range of I/O sizes are expected to improve as testing progresses.

Chelsio T6 100GbE adapters also offer the industry's lowest RDMA over Ethernet (iWARP) latency at 1.2µsec user-space to user-space, with true kernel bypass, zero copy, and processing fully offloaded to the server adapter resulting in very low CPU utilization. Furthermore, T6 RDMA demonstrates an unprecedented 5.9 million messages/second with excellent jitter



characteristics. Chelsio's solution is integrated within the standard Open Fabrics Enterprise Distribution (OFED) and supports the full RDMA verbs interface. By using TCP/IP as a transport, iWARP RDMA benefits from unlimited scaling, routing capability, reliability, and interoperability. It is the simplest RDMA over Ethernet to deploy and does not impose requirements for DCB support.

"T6's forward software compatibility will enable the users to leverage all software investment, as they enjoy today's superior performance," said Kianoosh Naghshineh, CEO at Chelsio Communications. "Combined with Chelsio's recent demonstration of 100Gb iSCSI and NVMe over Fabrics, T6 provides an ideal all-in-one solution, enabling server and storage OEMs to converge on a single vendor and realize the economies of scale for all verticals, using the same hardware solution."

Additional information regarding the demonstration is available in a Chelsio [Technical Brief](#). A video of the demonstration is available [here](#).

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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