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CHELSIO ANNOUNCES SUPPORT FOR NVIDIA TESLA ACCELERATED COMPUTING PLATFORM

40GbE iWARP Taps NVIDIA GPUDirect RDMA Technology to Deliver 4X Improvement in Latency and Throughput

SUNNYVALE, CA – June 15, 2015 – Chelsio Communications, Inc., a leading provider of Ethernet adapters for virtualized enterprise data centers, cloud service installations, and cluster computing environments, today announced that its T5 iWARP RDMA over Ethernet adapters now fully support NVIDIA® GPUDirect[™] RDMA technology. Production-level T5 iWARP driver software for NVIDIA Tesla® GPU accelerators is available immediately.

NVIDIA GPUDirect RDMA is a key component of the NVIDIA Tesla Accelerated Computing Platform, the leading platform for accelerating data analytics, deep learning and scientific computing. GPUDirect RDMA eliminates CPU bandwidth and latency bottlenecks using direct data transfers between GPUs and other PCIe devices, bypassing the host processor and memory. With its full support for NVIDIA GPUDirect and NVIDIA GPU Tesla accelerators, Chelsio is delivering a highperformance Ethernet connectivity solution to address customers' most demanding data analytics and scientific applications.

"We are pleased to support the leading accelerated computing platform with iWARP, and help NVIDIA bring new levels of computational performance to data analytics and HPC customers," said Wael Noureddine, vice president of technology, Chelsio. "Our iWARP RDMA solution is recognized as an easy to use, industry-leading connectivity fabric for RDMA using standard Ethernet. We look forward to increased adoption of Ethernet in high performance applications."

Recently published benchmarks illustrate the benefits of NVIDIA GPUDirect RDMA using Chelsio's T5 adapters running at 40Gbps. The benchmarks show a 4X latency reduction across the message size range and a 5X bandwidth improvement for large messages with Chelsio T5 40GbE iWARP,



compared to standard 40G server NICs. The results demonstrate the superior throughput of Chelsio's 40G iWARP RDMA compared to alternative RDMA over Ethernet protocols (<u>see</u> <u>benchmark report</u>).

"With the addition of 40Gb Ethernet and other advanced technologies to the Tesla Accelerated Computing Platform, NVIDIA continually provides an expanded range of flexible, ultra-high performance computing solutions for HPC and enterprise customers," said Duncan Poole, director of Platform Alliances at NVIDIA. "Enabling direct data transfers between Chelsio devices and NVIDIA GPUs, iWARP with GPUDirect RDMA improves performance by maximizing bandwidth while minimizing latency."

About Chelsio iWARP

Chelsio's Terminator 5 ASIC offers a high performance, robust third-generation implementation of RDMA (Remote Direct Memory Access) over 40Gb Ethernet, the Internet Wide Area RDMA Protocol – iWARP. T5 delivers end-to-end RDMA latency that is comparable to InfiniBand, using standard Ethernet infrastructure.

With iWARP RDMA, network access to the GPU is achieved with both high performance and high efficiency. Since the host CPU and memory are completely bypassed, communication overhead and bottlenecks are eliminated, resulting in minimal impact on host resources, and translating to significantly higher overall cluster performance.

About Chelsio Communications

Chelsio is a recognized leader in high performance (10G/40G/100G) Ethernet adapters for networking and storage within virtualized enterprise data centers, public and private hyperscale clouds, and cluster computing environments. Chelsio's innovative, fifth generation protocol acceleration technology (T5) powers its high performance 10G/40G Ethernet adapters with a clear roadmap for 25G/100G Ethernet solutions in 2016. 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 <u>www.chelsio.com</u>.