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

RAID INC., CLEARPOINTE AND CHELSIO UNVEIL NVMe-TUNED HYPER-CONVERGED SOLUTION FOR WINDOWS SERVER 2016 STORAGE SPACES DIRECT

Microsoft Cloud Computing Partners Showcase Microsoft Azure Stack Inspired Offering

ATLANTA, GA – September 27, 2016 – RAID Inc., a high performance computing solutions company, ClearPointe, a Gold level Microsoft datacenter partner, and Chelsio Communications, a leading provider of high performance Ethernet adapters for storage networking, virtualized enterprise datacenters, cloud service installations, and cluster computing environments, today announced that they will demonstrate a hyper-converged infrastructure Microsoft Storage Spaces Direct architecture based on Windows Server 2016, at Microsoft Booth #MS34 and Lenovo Booth #1010 at the Microsoft Ignite Conference in Atlanta, Georgia from September 26 to September 30, 2016.

The new 4-node cluster solution will be presented and managed by RAID Inc. and ClearPointe with the directive to validate the high performance computing capabilities achieved by partnering with storage at scale and Windows Server design experts. It integrates best-of-breed Chelsio 40GbE iWARP RDMA-enabled networking adapters that offload network stack processing from the CPU, to provide a proof point that higher performance networking enables faster data communication.

RAID Inc. Ability™ HCI Series Overview

To take advantage of the rapidly growing demand for hyper-converged platforms and software-defined storage, RAID Inc. is making sizeable investments in architecting and the fine-tuning of Microsoft Storage Spaces Direct (S2D) hyper-converged solutions with the Ability™ HCI Series. By integrating best-of-breed Chelsio 40GbE iWARP RDMA adapters and



NVMe technologies from HGST, RAID Inc. leverages its HPC pedigree to supercharge Lenovo-based S2D deployments, built upon in-house validating and real-world testing.

The Ability™ HCI Series powered by Lenovo on display at Ignite this year demonstrates the S2D200 model with the latest NVMe flash storage technologies and is tuned to excel in running nearly all workload types, including Hyper-V virtualized and enterprise applications, SQL databases, Remote Desktop Services for virtualized desktops, Azure-ready hybrid clouds, and big data analytics, with improved efficiency and scalability. Additionally, Lenovo and RAID Inc. are planning significant actions in solution development as well as aggressive go-to-market initiatives.

RAID Inc. Ability™ HCI Series S2D200 Ignite Demo Highlights:

- Lenovo System x3650 M5
- 2TB Memory
- 224 Cores
- S2D-tuned NVMe Flash Cache Tier
- 20TB Usable Storage Capacity
- Chelsio T5 40GbE iWARP RDMA Networking

Performance Results:

- 1.4 Million IOPS at 70/30 4K Random Read/Write
- Up to 17-22 GBps throughput Random Read/Write
- Up to 80 Power User Compute VMs (4C + 16GB)
- Under \$500 per VM (300 VMs at 1C + 2GB)

“As a founding Microsoft partner for Storage Spaces, RAID Inc. brings its cloud architecture and high performance computing prowess to the software defined data center (SDDC),” comments Trenton R. Baker, VP marketing, RAID Inc. “With the RAID Inc. Ability™ HCI Series powered by Lenovo for Storage Spaces Direct in Windows Server 2016, this hyper-converged appliance leverages the Chelsio 40GbE iWARP RDMA adapters to greatly improve S2D networking and dramatically reduce the IT infrastructure total cost of ownership.”

ClearPointe Management and Remediation for Storage Spaces Direct

ClearPointe provides a single source of management and remediation to ensure optimal performance for the life cycle of the Ability™ HCI Series powered by Lenovo. With technologies changing at exponential rates, decision makers often have to consider timing when deploying technology - deciding on when to implement and when to wait for the next generation of something to arrive. By leveraging these cutting edge technologies, you receive the most value for your investment today and position your organization to transition to Azure Stack as it becomes available. The management and monitoring tools translate directly into a model that scales into Azure Stack, and therefore Azure, to create a harmonious hybrid ecosystem that can scale and work together across on premise and cloud environments, all while being monitored by ClearPointe.

“ClearPointe’s life cycle management gives us the ability to deliver a holistic approach from design through installation and as you scale to match your demand,” adds Daniel Weissenborn, Solution Architect at ClearPointe. “Complex systems will eventually exceed skill even for a company with infinite resources. The simplicity of this solution combined with the performance is what makes it ideal.”

Chelsio T5 iWARP RDMA for Windows Server 2016 Storage Spaces Direct

Chelsio’s Terminator 5 ASIC offers a high performance, robust third generation implementation of RDMA (Remote Direct Memory Access) over 40Gb 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.

Chelsio’s line of Terminator 5 (T5) 10 and 40 Gigabit Ethernet (GbE) iWARP (RDMA/TCP) enabled Unified Wire adapters have [achieved](#) “Certified for Windows Server 2016” hardware certification. The iWARP standard enables building very efficient, high performance, Microsoft Cloud deployments very quickly. iWARP works with any legacy Ethernet switch, thereby enabling incremental Windows Server 2016 installations without requiring a concurrent

forklift upgrade of the switch infrastructure or the entire datacenter. This ability to work with any DCBX or 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.

“The iWARP standard enables building very efficient, high performance, Microsoft Cloud deployments very quickly,” said Kianoosh Naghshineh, CEO at Chelsio Communications. “This new offering validates how Storage Spaces Direct, combined with advanced flash-based storage connected by Chelsio's 40GbE iWARP networking solution, helps build faster, easy-to-scale and reliable storage for their private cloud deployments”.

Additional information regarding the demonstration is available in a Chelsio/ClearPointe [Technical Brief](#).

About RAID Inc.

RAID Inc. was founded in 1994 to deliver end-to-end performance-driven technical computing and storage solutions. The company has earned industry praise for providing platform agnostic technical guidance in high performance computing (HPC), big data, cloud and software-defined datacenters in the most efficient, reliable and cost effective manner. The world's leading research facilities, government, life science, financial, healthcare, energy, and cloud service providers can leverage the RAID Inc. team of engineers' extensive academic, research lab and commercial expertise that make RAID Inc. a trusted industry leader. For more information, visit www.RAIDinc.com, call +1 (800)330-7335 or comment via [@RAIDinc](#).

About ClearPointe

ClearPointe deploys the power of advanced technology to unleash and support human and organizational potential. Our promise to lead the industry in developing technologies that create clarity and are true assets for our clients is evident by our remarkable advancements in cloud based technologies. ClearPointe serves clients in every time zone around the world by delivering a comprehensive suite of solutions all with complete lifecycle management. Today,



ClearPointe is a single point for digital transformations and an authority on private, hybrid and hyper-converged datacenters.

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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