# 37 Companies Build Unified 10 Gig Data Center Fabric in UNH Interop Lab Inaugural '10 Gig Tech Summit'

*Ethernet community rallies to prove market-readiness of 10 Gig technology*

**DURHAM, Oct. 9, 2007 –** Nearly 40 companies from across the 10 Gig Ethernet community collaborated to build the largest multi-vendor 10 Gigabit Ethernet unified data and storage fabric ever deployed during a weeklong open industry test event conducted by the University of New Hampshire InterOperability Laboratory (UNH-IOL).

The "10 Gigabit Ethernet Technology Summit," held Sept. 24-28, 2007, verified standards conformance and interoperability between 10 Gigabit Ethernet switches, cables, 10GBASE-T data ports and iSCSI storage devices, the primary components of a "unified fabric" using high-performance Ethernet for data and storage in critical high-end networks. Many are watching the development of 10 Gig as a unifying alternative to the current practice of wiring such networks with a mix of Ethernet as well as closed and proprietary technologies.

"We succeeded in creating a neutral environment for proving-out the readiness of 10 Gigabit Ethernet technology for deployment in high-end networks and data centers," said Bob Noseworthy, technical director of the UNH-IOL. "We saw companies from multiple areas of the community stepping up in the spirit of cooperation to show support for interoperability and to advance the cause of the industry. The consensus in the room was that technically, 10 gig is ready for deployment in the data center today."

The 10 Gig Tech Summit test plans encompassed a mix of typically deployed and emerging 10 Gigabit Ethernet technologies, including LRM, SFP+ and XFP optical interconnects, CX4 copper, backplane Ethernet ports, iSCSI targets and initiators, iWARP and RDMA services, 10 GBASE-T devices and 10 Gigabit Ethernet switching. Answering the standard's most stringent requirements, 10GBASE-T devices were shown to interoperate between four connectors at 100-meter lengths. The 10 Gigabit fabric successfully incorporated iSCSI targets and initiators running open source and commonly used commercial software and successfully passed emulated IP voice and video data between servers and switches.

Of the 40 registered companies, the following 37 participated in the Summit: ADC, Agilent Technologies, Anue Systems, Broadcom Corp, Computer Associates (CA), Chelsio Communications, Dell Inc., Extreme Networks, Foundry Networks, Force10 Networks, Fujitsu Computer Products of America, Fulcrum Microsystems, Gigamon Systems, Hewlett Packard Corp, Intel Corp, Mellanox Technologies, Inc., Methode Electronics, Inc., Molex, Napatech, NetEffect Inc, Neterion Technologies, Network Critical, NetXen Inc, Nortel, Panduit Corp, Phyworks, ServerEngines, Shenick, Solarflare Communications, Solarwinds, Spirent Communications, Teak Technologies, Tehuti Networks, Teranetics, Tyco Electronics, Woven Systems and Xilinx.

**Interoperability testing for the 10 Gig Data Center**

Testing performed on the unified 10 Gigabit Ethernet fabric included the following:

Storage and advanced protocols: iWARP (RDMA over Ethernet) interoperability and stress testing, iSCSI IPv4 Interoperability (multi-target, multi-initiator, multi-vendor), iSCSI interoperability with multi-initiator to single initiator, establishing multi-vendor iSCSI raid arrays, etc. and iSCSI file system stressing.

Bridging: IPv4 OSPF interoperability and re-convergence testing.

Switching: LACP (Link Aggregation Control Protocol) interoperability testing, RSTP (Rapid Spanning Tree) interoperability testing, MSTP, (Multiple Spanning Tree) interoperability testing, and multi-vendor fabric end-to-end latency investigations.

10Gigabit Ethernet link testing: 10GBASE-T link testing across worst case and non-worst case channels, 10GBASE-LRM link testing across legacy FDDI grade fiber, 10G signaling interoperability across Molex and Tyco backplanes.

Application traffic generation & network monitoring: emulating application traffic to observe the impact of L2 and L3 re-convergence on the applications, stressing the network fabric, network monitoring of the fabric and end-stations, and 10Gigabit Ethernet network capturing.

The lab pooled equipment and infrastructure from five different internal test groups to accommodate the technology's range, combining test equipment, products and engineering knowledge from its 10 Gigabit, Gigabit, Fast Ethernet, Bridge Functions, iWARP and iSCSI groups. The lab provides year-round collaborative testing of products for multi-vendor interoperability and conformance to standards in these and 14 other technologies. More information about the UNH-IOL and the 10 Gig Tech Summit program may be found online here:
http://www.iol.unh.edu/services/testing/10gec/grouptest/techsummit07/

**About the UNH-IOL**

Founded in 1988, the UNH-IOL is one of networking's premier third-party proving grounds for developing technologies. Approximately 200 companies use the lab's 32,000+ sq. foot facility to extend their development and quality assurance efforts by testing and fine-tuning technologies, protocols and products for multi-vendor interoperability and conformance to standards. For more information, visit http://www.iol.unh.edu.

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**MEDIACONTACT:**

Chris Volpe
UNH-IOL Communications Coordinator
+1 603-862-4349
volpe@iol.unh.edu