QLogic Scores More OEM Wins with Tier-1 Vendors

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QLogic announced on August 11th, 2009 another design win for its advanced *Network Plus Architecture-based* Converged Network Adapters (CNAs) for Fibre Channel over Ethernet (FCoE). NetApp, a major vendor of external controller-based storage systems, will employ QLogic's single-chip CNA exclusively on its NetApp storage arrays to provide native FCoE connectivity. Furthermore, NetApp has chosen QLogic's 81xx series of PCI-Express cards as its primary CNA for FCoE server connectivity.

This announcement comes on the heels of design wins with IBM in May of the same year. QLogic is supplying three of its single-chip FCoE solutions for IBM's server lineup: a standard-format CNA for System x, a mezzanine CNA for BladeCenter, and a 10Gbps Converged Enhanced Ethernet (CEE) Pass-Thru Module for BladeCenter.

The Technology

FCoE

Fibre Channel over Ethernet combines two standard technologies: the Fibre Channel (FC) protocol, which is used for enterprise-grade storage connectivity, and Ethernet, which is an all-purpose network technology most commonly encountered in Local Area Networks (LANs). By encapsulating the Fibre Channel frames in Ethernet frames, just a single 10Gbps Converged Enhanced Ethernet (CEE) network infrastructure can serve all connectivity requirements. The advantages of such a converged network are multifold: The infrastructure is simplified, with a potentially less-complex topology requiring fewer switches and cabling. Furthermore, homogeneous network components can yield cost savings in terms of hardware as well as human capital since maintenance requires less specific know-how. Finally, existing Fibre Channel assets can be re-used (potentially requiring bridges) when integrated within a converged FCoE environment.

Another technology, iSCSI, similarly tries to leverage existing network technology (TCP/IP) for storage connectivity. It is popular with smaller deployments and those having less stringent service level requirements. iSCSI is more flexible than FCoE in terms of devices and topologies, but this flexibility comes at a cost: Being situated lower down the network protocol stack, FCoE generally has lower overhead, and thus, yields higher performance.

Being a relatively young technology, the market for FCoE products is expected to exhibit growth in the triple-digit percentage range over the next few years.

CNA

A Converged Network Adapter provides the ports to a converged network by consolidating the role of Network Interface Card (NIC), Host Bus Adapter (HBA), Host

Channel Adapter (HCA), and (optionally) TCP Offload Engine (TOE) into one device. Again, having only one device type usually yields cost savings in procurement (if not immediately, then eventually, when economies of scale come into effect) and maintenance. Energy consumption and cooling requirements are also lower with CNAs since fewer devices need to be installed to perform the same work. Finally, since a single CNA card takes up less physical space, it may be more easily employed where space is restricted (*e.g.*, blade servers), opening up new possibilities and configuration flexibility.

Hardware

QLogic's current lineup of CNAs is available as standard PCI-Express cards, in mezzanine form factor, and as an OEM solution that vendors can integrate into their products. What is special about this series of CNAs is that they employ a single integrated chip – an industry-first – based on QLogic's advanced Network Plus Architecture. This Application-Specific Integrated Circuit (ASIC) has several advantages compared to previous or competing discrete (multi-chip) designs: It is smaller, requires significantly less energy and cooling, and its reduced pin count allows for less expensive board manufacturing. Furthermore, it includes an FCoE offload engine that contributes to its outstanding performance, particularly with virtualization. For more details, see Reference [1].

The Players

QLogic

QLogic is a leading supplier of high-performance networking solutions for FCoE, Ethernet, FC, iSCSI, and InfiniBand. Its portfolio includes devices such as network adapters and switches, as well as technology supplied to various tier-1 OEM vendors.
According to QLogic, it is the leading provider of FC technology, with a market share by revenue of over 50%. In the area of FCoE, QLogic is a technology and market share leader with its Network Plus Architecture of single-chip CNAs.

NetApp

NetApp is a provider of external controller-based storage solutions. Its market share positions NetApp in the top-5 of the overall market, but its particular strengths are in the area of IP-based Network-Attached Storage (NAS), iSCSI-based storage systems attached to an Ethernet Storage Area Network (SAN), and FC SANs

As outlined in the announcement, NetApp will be integrating QLogic's single-chip solution to provide native FCoE support for virtually its entire lineup of storage systems, including the FAS2050, FAS3040, FAS3070, FAS3100, and FAS6000 series of storage subsystems, as well as for the V3100 and V6000 series of virtual controllers[1].
Furthermore, QLogic's 81xx series CNAs will be NetApp's primary choice for providing server FCoE connectivity.

[1] Note, IBM OEMs NetApp storage products as the N series.

The Bottom Line

What does this all mean? First of all, this announcement emphasizes the gain in importance of FCoE connectivity options. There clearly seems to be a demand in the market place for the most advanced FCoE technology. Vendors, and NetApp in particular, realizing this opportunity are increasingly trying to answer this demand and seize a piece of the emerging market.

More specifically, the endorsement of QLogic as the primary FCoE technology provider by two top-tier vendors underlines its status as *the* technology leader. By selecting QLogic's single-chip CNA exclusively throughout its entire storage product line-up, NetApp basically confirms that there is currently no product able to compete with QLogic's combination of high performance and low space, energy, and cooling requirements.

In addition to IBM's server offerings, end users can now find a comprehensive product line of storage solutions (from IBM or NetApp) with native FCoE support that benefit from higher performance, lower cost, and new flexibility. It has never been this easy to upgrade to an FCoE converged network.

References

1. **Krischer, Josh.** *QLogic Continues to Innovate in Connectivity and Network Infrastructures.* 2009. http://joshkrischer.com/files/QLogic_CNA.pdf.