

Emulex Unveils First in New Class of UCNAs

Targets rapidly expanding market for 10Gb NICs

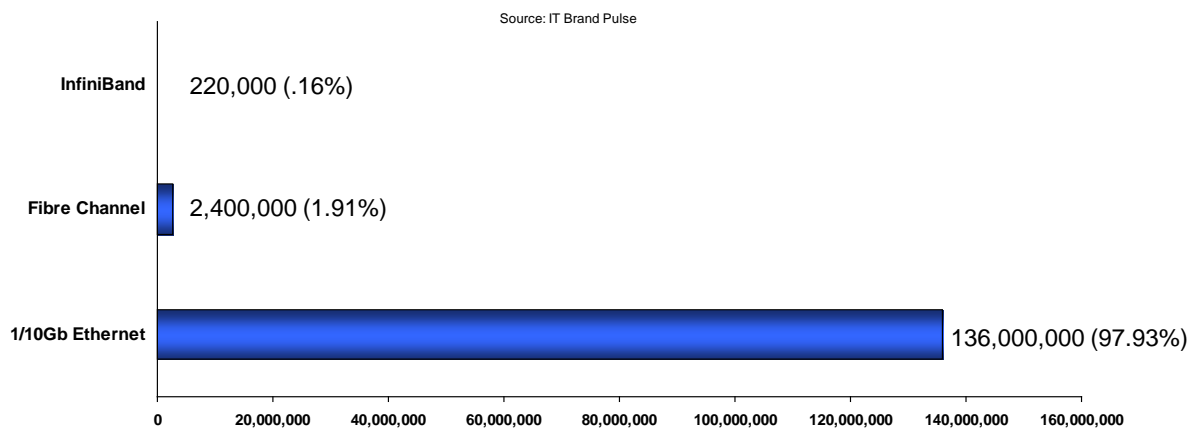
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On October 27th, 2009, Emulex announced that its OneConnect™ Universal Converged Network Adapters and OneCommand™ Manager are now generally available through the commercial distribution channel. Emulex also announced that it has entered into a technology agreement with IBM to deliver 10Gb/s Ethernet Network Interface Cards (NICs) and 16Gb/s Fibre Channel Host Bus Adapters (HBAs) for the entire IBM Power Systems product line.

The announcements represent important milestones for the data center network adapter market where approximately 98% of server ports are Ethernet NICs or LOM and the remaining 2% are Fibre Channel HBAs or InfiniBand Host Channel Adapters (HCAs).

Chart 1 – 2009 Data Center Class Network Adapter & LOM Ports



IBM and Emulex are providing CNAs with rich NIC functionality to entice the massive base of 1Gb NIC and LOM customers to migrate to their new Universal Converged Network Adapter platform.

For the huge base of servers that need Ethernet connectivity, OneConnect universal CNAs are the first in a new class of 10Gb Data Center Ethernet (DCE) adapters with OEM validation of NIC functionality rich enough for the data center. This means data center managers for the first time have a platform for the vast majority of their server ports upon which they can build-out additional converged networking capabilities in the future.

Current adapters from NIC manufacturers Broadcom and Intel support traditional LAN/WAN and iSCSI storage networking with “lossy” 10Gb Ethernet, but do not support unified networking based on DCE and FCoE. Current adapters from Fibre Channel HBA manufacturer QLogic are built on DCE but are validated by OEMs only for FCoE storage networking.

For storage administrators and architects, Emulex and IBM publicly confirmed to their customers there will be a race to deliver storage solutions based on 16Gb Fibre Channel – and they intend to win.

The State of Converged Network Adapters

IT Brand Pulse defines Unified Data Center Networking as the convergence of the following networks onto a foundation of Data Center Ethernet (DCE).

- Ethernet networks for data communications and storage
- Fibre Channel networks for storage
- InfiniBand networks for high performance computing clusters

Despite all the hype about convergence, data center network unification is a 5-10 year process that has just begun. To really unify a network, data center managers would need 10Gb DCE vendors to provide adapters that immediately displace the combined capabilities of current best-in-class Ethernet, Fibre Channel and InfiniBand products.

Demonstrating the process is just beginning, new 10Gb converged network adapters from QLogic have been positioned by OEMs only for FCoE storage networking, 10Gb adapters from InfiniBand vendor Mellanox are today capable of low-latency HPC networking, and conspicuously absent are DCE-based converged network adapters from Ethernet NIC giants Broadcom and Intel.

It appears that QLogic and Mellanox strategies are to carve a niche in their familiar storage and HPC network adapter market segments, then build-out NIC functionality and market share from their traditional base of technical expertise and customer loyalty. These strategies are low-risk in terms of maintaining leadership in their traditional markets, but high-risk in terms of breaking out of a small niche in the huge new market.

In contrast, it appears the Emulex strategy is to be first-to-market with OEMs in the soon-to-be massive DCE-based NIC market, then build-out FCoE storage networking capabilities in a way that customers can deploy via field upgrades. This aggressive strategy gives Emulex the highest probability of disrupting the status quo of the rapidly growing 10Gb segment of the NIC market. So far, so good. Adapter card and LOM design wins at IBM indicate that Emulex is executing on their strategy and well on their way to establishing a foothold in what in the future will be their core market.

Chart 2 – CNA Market Coverage Index Summary

OEM Validated Capability	Market Coverage Weight	Weighted Possible Total	QLogic CNA		Emulex CNA	
			Unweighted Score	Weighted Score	Unweighted Score	Weighted Score
NIC	97.53%	9.753	0	0	10	97.53
FC HBA (FCoE)	1.73%	0.173	10	1.73	0	0
iSCSI HBA (iSCSI)	0.57%	0.057	10	0.57	10	0.57
IB HCA (RDMA)	0.17%	0.017	0	0	0	0
Market Coverage	100%			2.30%		98.10%

With OEM validated NIC capabilities, over 98% of the unified network adapter market is accessible to Emulex according to the summary view of the IT Brand Pulse CNA Market Coverage Index.

Insight

IT Brand Pulse research suggests three of the top I/O needs for data center managers are:

1. The need for more than two ports per server (6-8 are recommended for virtualization).
2. The need for more than 1Gb of bandwidth (but there is not a need for 10Gb per port today).
3. The need to prepare for network convergence.

With server virtualization sweeping the data center, server admins want more I/O bandwidth for their dense compute nodes, less adapters, and the ability to provision network resources to individual virtual machines. The result is a requirement for virtual NICs running on powerful 10Gb physical NICs.

IBM and Emulex were first to respond to the requirement with The Virtual Fabric Solution (VFS) for IBM BladeCenter. With VFS, data center managers can provision 20Gb of Ethernet bandwidth and up to 8Gb of Fibre channel bandwidth on a per-virtual-machine basis when they combine the Emulex Virtual Fabric Adapter for Ethernet and an Emulex LightPulse® 8Gb/s Fibre Channel CIOv Expansion Card – a unique pay-as-you-go solution for consolidating I/O in VMware environments.

The pay-as-you-go aspect is critically important at this point of CNA market development. Server administrators typically need just a slice of full CNA functionality for each server or virtual server and vendors will be adding important new features to CNAs in the months and years ahead. With a modular pay-as-you-go scheme, OEMs and their customer can deploy new features when they need them and/or when they become available. You can buy a UCNA from Emulex in several different flavors: a NIC only with hardware offload, NIC + iSCSI hardware offload, NIC + FCoE hardware offload or NIC + iSCSI + FCoE hardware offload.

Conclusions

- The unified network adapter market volume will be dominated by CNAs used in NIC and LOM applications.
- Priority #1 for data center network adapter manufacturers to succeed long term is to get a foothold in the 10Gb DCE NIC / LOM market.
- Solid execution on their first-to-market-with-OEMs strategy for DCE based NICs is positioning Emulex to compete successfully against Intel and Broadcom in the 10Gb NIC market.
- Collaboration with IBM demonstrates that OEMs are buying into the basic-NIC-first, pay-as-you-go-for-additional-converged-networking-capabilities product strategy.
- The IBM Virtual Fabric Solution is an answer to a pervasive customer problem that today IBM can only provide with Virtual Fabric Adapters from Emulex.

Related Links:

Emulex Announces Collaboration with IBM:

<http://finance.yahoo.com/news/Emulex-Announces-bw-4158933514.html?x=0&v=1>

Emulex Announces General Availability of its OneConnect Universal Converged Network Adapters

<http://finance.yahoo.com/news/Emulex-Announces-General-bw-3730261201.html?x=0&v=1>

Virtual Fabric for IBM BladeCenter

<http://www-03.ibm.com/systems/bladecenter/hardware/openfabric/virtualfabric.html>

Redbook: Emulex Virtual Fabric Adapter (CFFh) for IBM BladeCenter

<http://www.redbooks.ibm.com/abstracts/tips0748.html>

About the Author:

Frank Berry is founder and senior analyst for IT Brand Pulse. As former vice president of product marketing for the host bus adapter group and vice president of corporate marketing for QLogic, Mr. Berry has over 9 years experience in the development and marketing of host bus adapters. Prior to that Mr. Berry was vice president of worldwide marketing for the automated tape library (ATL) division of Quantum.

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