



## HP-Branded 10GbE Network Adapters December 9, 2011

### Overview

HP recently completed the roll out of OneConnect 10 Gigabit Ethernet (10GbE) adapters for Integrity servers that adds to previously released OneConnect HP-branded adapters for ProLiant servers. This alert provides a comparison with competitive HP-branded 10GbE adapters.

### PCIe Network Adapters for Rack-Mount Servers

	NC552SFP	NC550SFP	NC523SFP	NC522SFP
Supplier	Emulex	Emulex	QLogic	QLogic
Controller	BE3	BE2	cLOM8214	NetXen NX3031
ProLiant	✓	✓	✓	✓
Integrity	✓	✗	✗	✗
TCPI/IP (TOE)	✓	✓	✗	✗
Max Power	11W	18W	19W	24W
Jumbo Frames	9K	9K	9K	9K
ProLiant List Price	\$599	\$759	\$599	\$699

### Key Customer Benefits

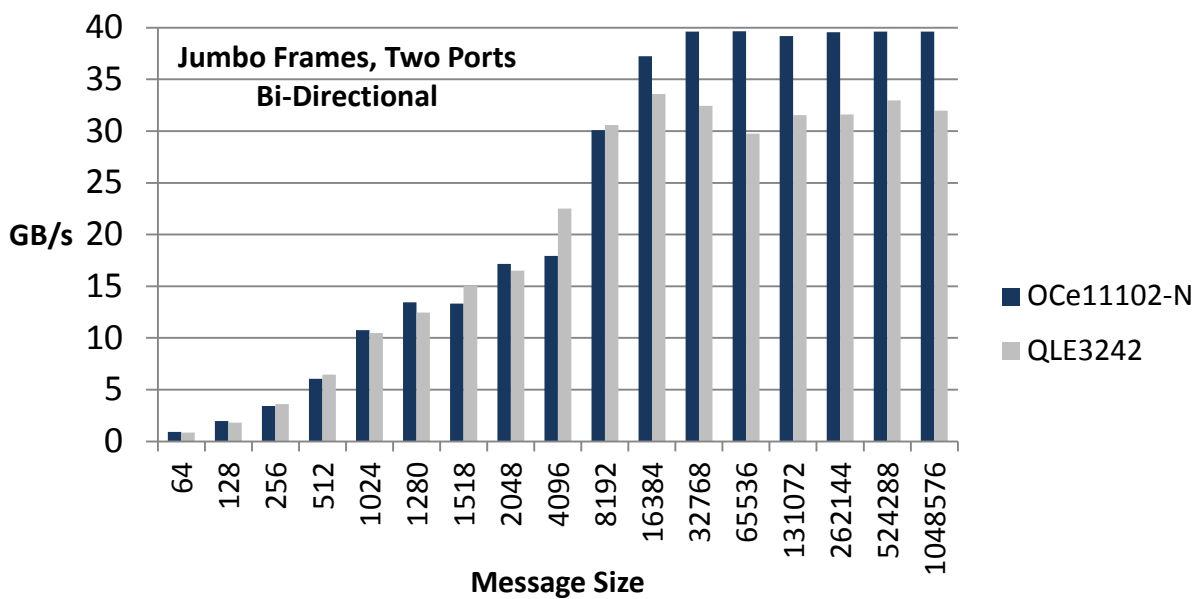
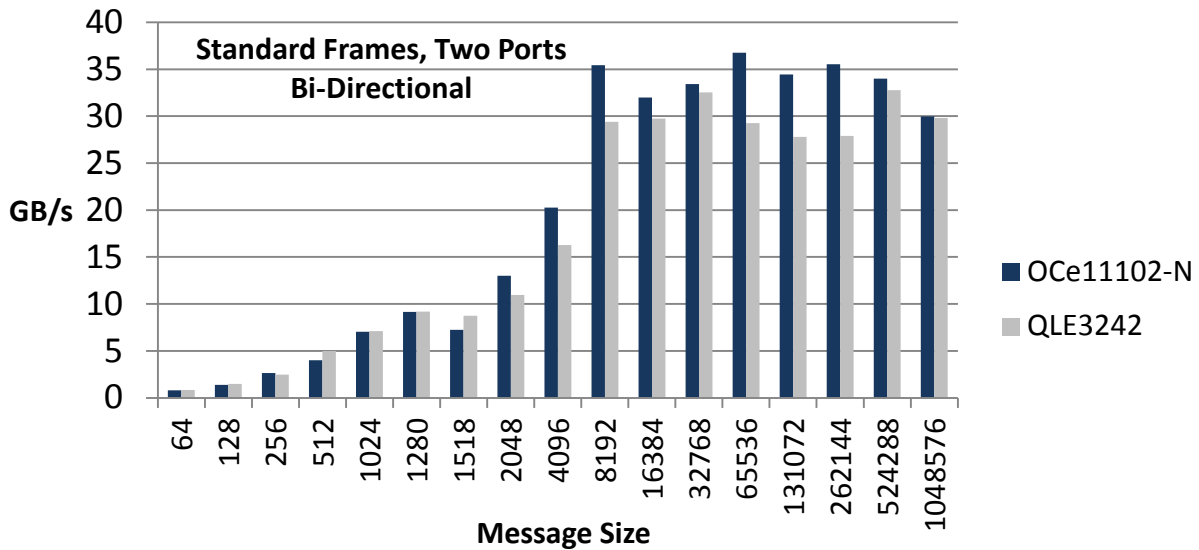
There are two third-generation 10GbE options available from HP - the Emulex NC552SFP and the QLogic NC523SFP. The NC552SFP is equivalent to the OneConnect OCe11102-N adapter and the NC523SFP is equivalent to the QLogic QLE3200 adapter.



Key competitive advantages for the NC552SFP:

- **Better Throughput**

As shown below, the NC552SFP (OCe11102-N) has 7% better throughput with standard frames and 9% better throughput with jumbo frames than the NC523SFP (QLE3242).





Test configuration:

Servers: HP DL370 G6, Dual-core Intel X5500 2.67 GHz, 12Gb RAM

Operating System: Windows Server 2008 R2

Test Suite: Ixia IXchariot

OCe11102-N: Driver v2.103.389, Firmware - vT3397

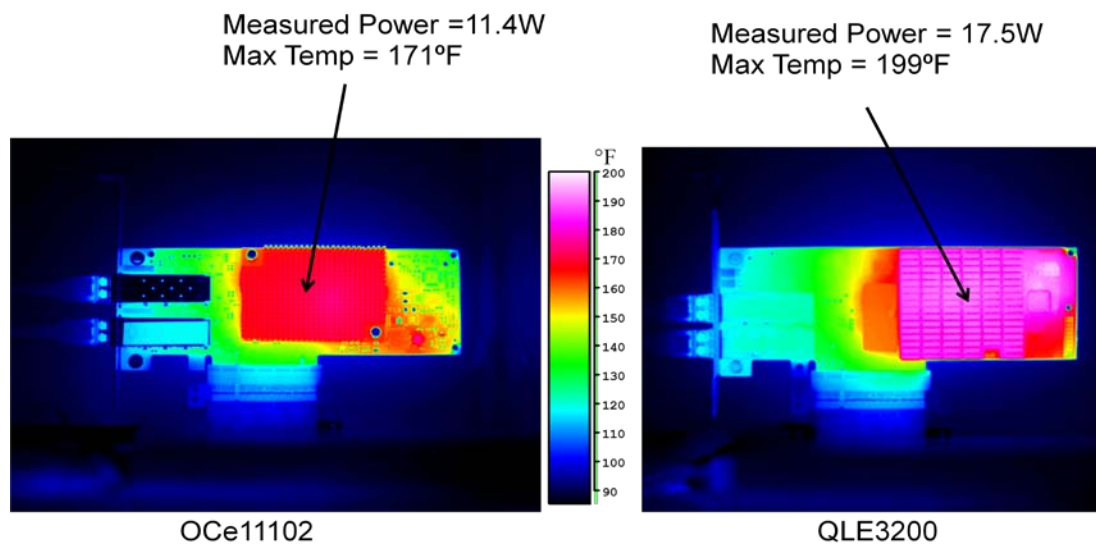
QLE3242: Driver - v1.00.0005, Firmware - 1.04.37

- **42% Lower Power Usage**

Based on power usage reported in HP QuickSpecs, the Emulex NC552SFP uses 42% less power than the QLogic NC523SFP.

- **Lower Operating Temperature**

As shown in thermal images below, the Emulex NC552SFP operates at a significantly lower temperature than the QLogic NC523SFP, which results in greater reliability and less thermal impact on other components in the server.



- **TOE Support**

Emulex OneConnect adapters support TCP Offload Engine (TOE), which enables better system performance with Windows Server 2003 and 2008 (TCP Chimney Offload).

- **Proven Track Record**

HP has qualified two generations of Emulex OneConnect adapters based on BladeEngine technology. With QLogic, the first-generation NC522SFP was developed by NetXen before it was acquired by QLogic. The second-generation NC523SFP uses a totally different architecture that is not field-proven.

- **Exclusive Rack and Blade Support**



Emulex is the only HP supplier with 10GbE adapters that are qualified for blade and rack-mount servers, including ProLiant and Integrity servers. This enables data centers to use common drivers, NIC teaming drivers and management application (OneCommand Manager) for all their HP servers.

### Mezzanine Network Adapters for Blade Servers

	NC553m	NC552m	NC532m	NC542m
Supplier	Emulex	Emulex	Broadcom	Mellanox
Controller	BE3	BE3	57711	ConnectX-2
ProLiant	✓	✓	✓	✓
Integrity	✓	✓	✗	✗
FlexFabric Support	✓	✗	✗	✗
Flex-10 Support	✓	✓	✓	✓
TCP/IP (TOE)	✓	✓	✓	✗
iSCSI Offload	✓	✗	✓	✗
iSCSI Boot	✓	✗	✗	✗
Jumbo Frames	9K	9K	4K	9K
Max Power	14W	14W	15W	10W
ProLiant List Price	\$899	\$699	\$699	\$799

Note: iSCSI offload and iSCSI boot with NC533m adapters is for ProLiant servers only.

### **Key Customer Benefits:**

#### **vs. Broadcom NC532m**



- With the NC552m and NC553m, Emulex is the only supplier that has been qualified with its newest 10GbE platform. The Broadcom NC532m uses an older, previous-generation controller.
- Emulex NC552m and NC553m adapters support 8K jumbo frames. The Broadcom NC532m is limited to 4K jumbo frames. Larger jumbo frames provide better performance for iSCSI and high-bandwidth applications like streaming video.

#### **vs. Mellanox NC542m**

- Emulex NC552m and NC553m adapters support TOE, which enables better system performance with Windows Server 2003 and 2008 (TCP Chimney Offload). The Mellanox NC542m does not support TOE.
- The Mellanox NC542m is primarily positioned as a low-latency solution for clustering and high-performance computing (HPC). HP does not publish latency numbers, so there's no specific comparison with OneConnect NC552m or NC532m adapters. OneConnect latency meets the requirements for most customers without paying a low latency premium.

#### **Summary**

Emulex has partnered with HP to provide a broad portfolio of 10GbE network adapters that aligns with the HP Converged Infrastructure strategy. Customers can use Emulex adapters for blade and rack-mount servers from both ProLiant and Integrity product lines with the most current BE3 controller technology. This includes OneConnect LOM adapters for HP BladeCenter G7 servers.

With a consistent 10GbE platform, customer can simplify data center management with common drivers, NIC teaming drivers and the OneCommand Manager application that supports Emulex 10GbE network adapters and Fibre Channel HBAs. This consistency results in less infrastructure and management time which reduces CapEx/OpEx and aligns with the HP Converged Infrastructure strategy.

Data centers deploying Fibre Channel over Ethernet (FCoE) with ProLiant or Integrity rack-mount servers can also use the Emulex CN1100E Converged Network Adapter (CNA) that leverages the BE3 controller. The CN1100E is supported with OneCommand Manager and uses the same drivers as the other Emulex 10GbE network adapters and Fibre Channel HBAs.