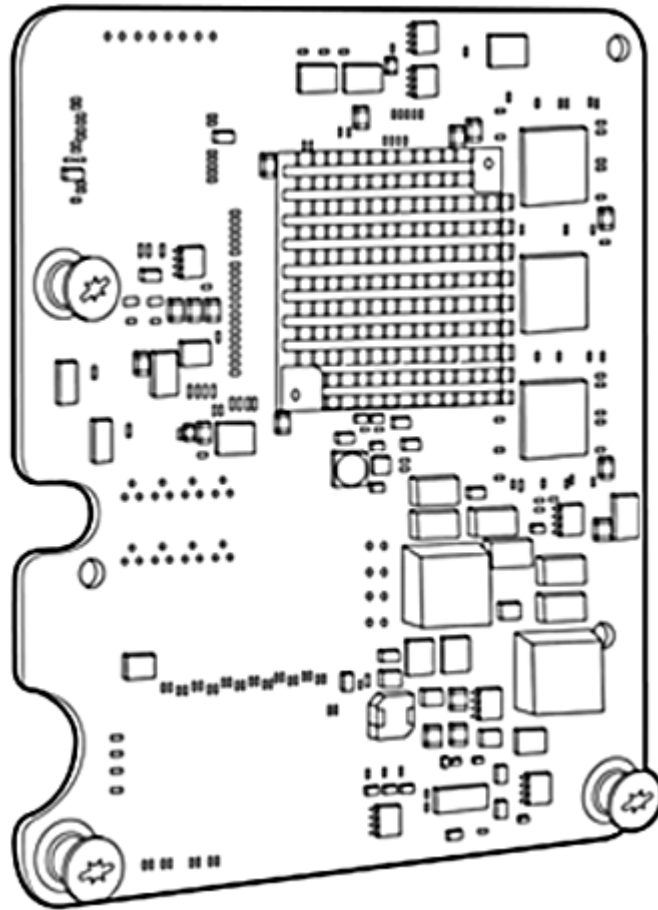


Overview

HP NC522m Dual Port Flex -10 10GbE Multifunction BL-c Adapter

The NC522m is a dual port, IEEE 10GBase-KR 10 Gigabit Ethernet network adapter for HP ProLiant c-Class BladeSystem based on the NetXen 3031 controller. For customers who have come to rely on NetXen performance, the NC522m is supported on the HP Virtual Connect Flex-10 10Gb Ethernet Module for BladeSystem c-Class to enable Flex-10 on most ProLiant blade servers. The NC522 will also support 10Gb connections when paired with the ProCurve 6120XG Blade Switch. The NC522m ships with support for VLAN tagging, QoS, 9K jumbo frames, teaming (bonding), Receive Side Scaling (RSS) and PXE.

The NC522m adapter is supported in ProLiant c-Class server type II (x8 PCI Express) mezzanine slots.



HP NC522m Dual Port Flex -10 10GbE Multifunction BL-c Adapter

Overview

At A Glance

- Dual 10 Gigabit Ethernet ports
- Type II mezzanine card supported in all ProLiant c-class server type II (x8 PCI Express) mezzanine slots
- Supports HP's exclusive Flex-10 technology
- IEEE 802.1p QoS 802.3x flow control, and 802.3ap 10GBase-KR
- 9K Jumbo frames
- Set any bandwidth from 100Mb to 10Gb on up to four "Physical Function " NICs per port

Models

HP NC522m Dual Port Flex -10 10GbE Multifunction BL-c Adapter

467801-B21

NOTE: The NC522m network adapter card is required for each server blade connecting to a 10Gb interconnect in bays 3-8 (HP BladeSystem c7000 Enclosure) or bays 3-4 (HP BladeSystem c3000 Enclosure)

NOTE: The NC522m requires a minimum of 2 GB of server memory.

NOTE: The NC522m supports linking only at 1000Mbps or 10000Mbps when not connected to the HP Virtual Connect Flex-10 Ethernet Module.

Kit Contents

1. NC522m mezzanine adapter
2. Quick install card
3. Product warranty statement
4. Drivers, user guide, and utilities via <http://www.hp.com>

Standard Features

Server Support

- HP ProLiant BL260c G5
- HP ProLiant BL280c G6
- HP ProLiant BL460c
- HP ProLiant BL460c G5
- HP ProLiant BL460c G6
- HP ProLiant BL465c
- HP ProLiant BL465 G5
- HP ProLiant BL465 G6
- HP ProLiant BL480c
- HP ProLiant BL490c G6
- HP ProLiant BL495c G5
- HP ProLiant BL495c G6
- HP ProLiant BL680c
- HP ProLiant BL685c
- HP ProLiant BL685 G5
- HP ProLiant BL685 G6

NOTE: Some servers listed above may be discontinued.

Performance

Dual-port 10 Gigabit Ethernet Throughput	The 20,000 Mbps full duplex Ethernet transfer rate per port (40 Gbps aggregate full duplex) delivers outstanding network performance that improves response time and removes bottlenecks required for the next generation data center. Note that each port on the NC522m transmits from the server at 20 Gbps full duplex.
HP Virtual Connect Flex-10	<p>Evolve 10Gb at your own speed! When paired with the HP Virtual Connect Flex-10 10Gb Ethernet Modules, take advantage of the Flex Nics, which are PCI Physical Function devices that are OS independent.</p> <ul style="list-style-type: none">• Server ROM recognizes them as individual NICs• Speeds can be set per NIC from 100Mb to 10Gbs in 100Mb increments• Three fold increase in number of network connections per port.• Up to four physical function NICs per port
Jumbo Frames	The NC522m support for jumbo frames (also known as extended frames) permit an industry standard 9K byte transmission unit (MTU), which is six times the size of standard 1500 byte Ethernet frame. The use of jumbo frames is a way to achieve higher throughput and better CPU utilization. Jumbo frames are particularly useful for database transfers and tape backups.
802.1Q VLANs	IEEE 802.1Q virtual local area network (VLAN) protocol allows each physical port of the NC522m to be separated into multiple virtual NICs for added network segmentation and enhanced security and performance. VLANs increase security by isolating traffic between users. Limiting the broadcast traffic to within the same VLAN domain also improves performance.
802.1p QoS Tagging	IEEE quality of service (QoS) 802.1p tagging allows the adapter to mark or tag frames with a priority level across a QoS-aware network for improved traffic flow.
TOE	TOE supported on Windows Server 2003/2008 TOE for Linux (LSA) not currently supported
RDMA	Not Supported
Accelerated iSCSI	Not Supported

High Availability

Dual port

The two ports on the NC522m transmit to separate enclosure interconnect bays providing redundant signal paths.

Network Adapter Teaming

ProLiant Network Adapter Teaming provides fault tolerance and load balancing across a team of two or more network adapters. The team of adapters works together as a single virtual adapter. Support for several different types of teaming is included. Teaming offers IT professionals an easy, efficient, and cost-effective way to provide network fault tolerance and increased network bandwidth. For more information, refer the ProLiant Network Adapter Teaming Whitepaper available at:

<http://bizsupport.austin.hp.com/bc/docs/support/SupportManual/c01415139/c01415139.pdf>

Compatibility

Supported Interconnect Modules

- HP Virtual Connect Flex-10 Ethernet Module
- HP 1/10Gb Virtual Connect Ethernet Module
- HP 1/10Gb-F Virtual Connect Ethernet Module HP
- HP ProCurve 6120XG Blade Switch
- HP ProCurve 6120G/XG Blade Switch
- 1:10Gb Ethernet BL-c Switch
- Cisco Catalyst 3120G Blade Switch for HP
- Cisco Catalyst 3120X Blade Switch for HP
- Cisco Catalyst 3020 Blade Switch
- HP GbE2c Layer 2/3 Ethernet Blade Switch
- HP 1Gb Ethernet Pass-Thru Module
- HP 10GbE Pass-Thru Module

NOTE: Except for the HP Virtual Connect Flex-10 Ethernet Module, the ProCurve 6120XG and the HP 10GbE Pass-Thru Module, all other supported interconnects are limited to 1Gb per port connection.

Service and Support, HP Care Pack, and Warranty Information

Warranty

HP branded hardware options qualified for BladeSystem c-Class and p-Class servers are covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. The HP branded hardware option diagnostic support and repair is available for one year from date of purchase, or the length of the server they are attached to, whichever is greater. Support for software and initial setup is available for 90 days from date of purchase. Additional support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services or customized service agreements.

Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

Support Services

The HP Care Pack service for ProLiant BL c-Class and p-Class server blades cover the server blade and all HP branded hardware options qualified for the server, purchased at the same time or afterwards, internal to the server. HP Care Pack Services provide total care and support expertise with committed response designed to meet your IT and business needs.

To fully capitalize on the capabilities of your HP BladeSystem servers, a service partner are required who thoroughly understands your server technology and systems environment. HP Services, an industry leader in the provisioning of multi vender support solutions, provides a range of support services designed to meet the varying needs of today's businesses. Whether an SMB or large global corporation, HP has a BladeSystem server support offer to help you rapidly deploy and maximize system uptime.

Recommended Service - Simplify BladeSystem solution implementation, maintenance, and management.

- Support - 3 year 4 hour response 24x7 same business day coverage.
- Deployment Service - Installation and start up for HP BladeSystem Infrastructure.

Enhanced Service - Optimum service level to increase IT performance and availability.

- Support - 1 year HP Proactive BladeSystem Service.
- Deployment Service - Enhanced Network Installation and start up for HP BladeSystem Switches.

Installation & Start-Up service for HP BladeSystem Infrastructure plus HP BladeSystem Enhanced Network Installation and Start-UP as per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excluding HP holidays.

For a complete listing of service offerings and information visit:

<http://www.hp.com/services/bladessystemservices>
<http://www.hp.com/go/proliant/carepack>

Related Options

HP Virtual Connect	HP Virtual Connect Flex-10 10Gb Ethernet Module for BladeSystem c-class	455880-B21
HP ProCurve 6120XG	ProCurve 6120XG 24 port layer 2 10Gb Ethernet switch	516733-B21
HP 10GbE Pass-Thru Module	HP 10Gb 32 port pass thru module (16 uplinks/16 downlinks)	538113-B21

Technical Specifications

General Specifications	Network controller	Netxen Intelligent NIC™ NX3031		
	Data rate	Two ports, each at 20 Gbps full duplex; 40 Gbps aggregate full duplex theoretical bandwidth		
	Bus type	x8 PCI Express 2.0		
	Form factor	Type II mezzanine card supported in HP ProLiant c-class server type II mezzanine slots		
	IEEE Compliance	802.1p QoS, 802.1Q VLAN tagging, 802.3ad link aggregation, 802.3ap 10GBase-KR, and 802.3x flow control		
Power and Environmental Specifications	Operating	Temperature	32° - 131° F (0° - 55° C)	
		Humidity	10% to 90% non-condensing	
	Non-operating	Temperature	-40° to 158° F (-40° to 70° C)	
		Humidity	5% to 95% non-condensing	
	Power requirement	20 Watts maximum		
	Emissions classification	FCC Class A		
	Agency approvals	USA	FCC (CFR 47 part 15) and UL 60950	
		Canada	ICES-003 and CSA60950	
		Japan	VCCI	
		Korea	MIC (RRL), EMC Registration	
Australia		ACA, AS/NZS3548/EN55022:1998, EN55024:1998		
European Union		CE Mark, EN55022:1998 (CISPR 22), EN55024:1998, and IEC60950:1999 (EN60950:2000)		
RoHS Compliance	6 of 6			
Safety	UL Mark (USA and Canada) EN 60590			

Operating System Support Microsoft:

Microsoft Windows Server 2008 (32-and 64-bit)
Microsoft Windows Server 2008 for Itanium-based Systems
Microsoft Windows Server 2003 and R2
Microsoft Windows Server 2003 Web Edition
Microsoft Windows Server 2003 Small Business Server
Microsoft Windows 2003 Standard (32 and x64)
Microsoft Windows 2003 Enterprise (32 and x64)

Linux:

RH4 x86
RH4 AMD64EM64T
RH5 x86
RH5 AMD64EM64T
SLES9 x86
SLES9 AMD64EM64T
SLES 10 x86 and AMD64EM64T

Novel Netware:

NetWare 6.5



Technical Specifications

Netware OES (6.5)
NDIS 2 for DOS unattended install (40K or less in size)

Solaris:
Solaris 10 (32- and 64-bit)

Virtualization:
MS Virtual Server support on Windows 2008
VMWare ESX3.5

HP-UX:
(IA64) handled by BCS for SW, QA and release
NOTE: For more operating system support & certification information, please visit:
<http://h10018.www1.hp.com/wwsolutions/index.html>.

Environment-friendly Products and Approach

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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