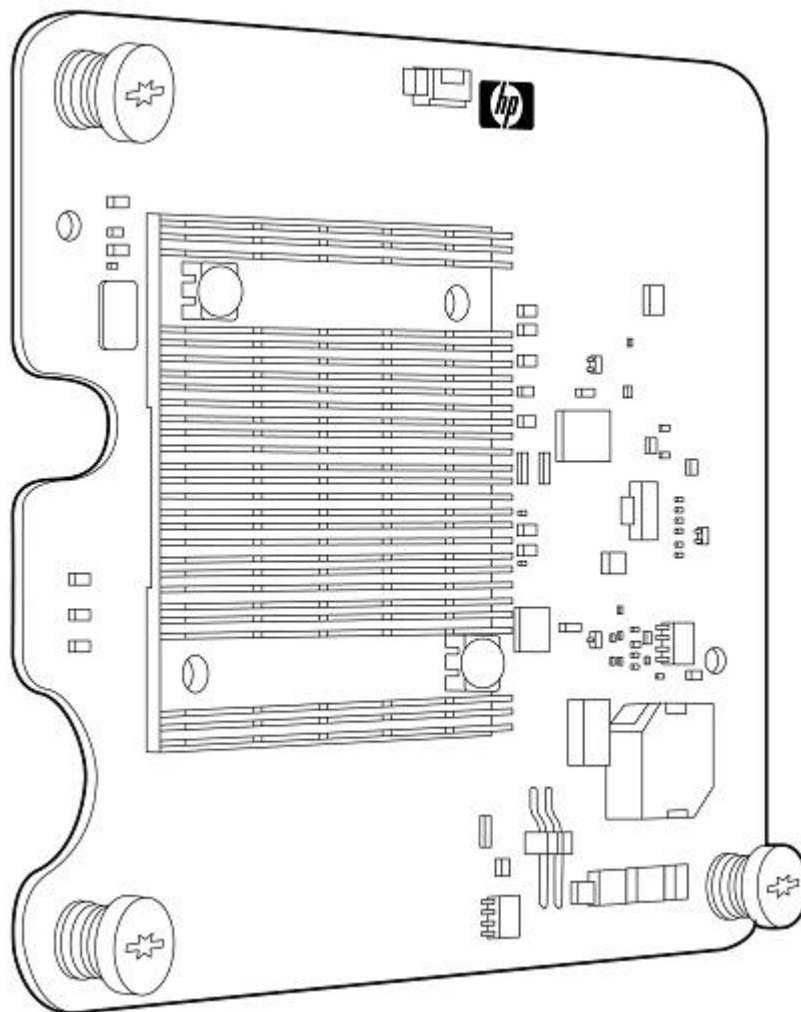


The HP NC542m Dual Port Flex-10 10GbE BLc Adapter is the newest member of the c-Class 10Gb adapter portfolio and the most powerful. Based on the latest version of the Mellanox ConnectX family, the HP NC542m delivers the highest overall throughput and the lowest latency of all the 10GbE adapters. Perfect for mission critical applications such as financial services and virtualized environments, the adapter works with all BladeSystem c-Class G6 servers. When paired with the 6120XG Blade Switch, the combination provides a comprehensive high bandwidth, high performance interface between the server edge and the network.



**HP NC542m Dual Port Flex-10 10GbE BLc Adapter**

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### What's New

- Support for HP ProLiant Generation 7 Server Blades
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## Overview

Retired on 11 Jan 2016

## At A Glance

- Industry-leading throughput and latency performance
- Supported on all G6 c-Class servers, in mezzanine slots 1, 2 or 3 (full height servers) or slots 1 and 2 (half height servers).
- Type I Adapter
- Supports Mellanox LLE Low Latency Ethernet technology
- IEEE 802.1p QoS 802.3x flow control, and 802.3ap 10GBase-KR
- 9K Jumbo frames
- Dual 10Gb ports provide up to 40Gb full duplex per adapter
- Supports HP's exclusive Flex-10 technology that allows you to set any bandwidth from 100Mb to 10Gb on up to four "Physical Function" NICs per port when combined with the 10Gb Flex-10 Virtual Connect module

**NOTE:** Flex-10 support will be added via the VC3.15 release.

## Models

HP NC542m Dual Port Flex-10 10GbE BL-c Adapter

539857-B21

**NOTE:** The NC542m 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 NC542m requires a minimum of 2 GB of server memory.

**NOTE:** The NC542m supports linking at 1000Mbps or 10000Mbps when not connected to a Flex-10 device. The NC542m will only support 1000Mbps when connected to a 1Gb Ethernet interconnect.

## Kit Contents

1. NC542m mezzanine adapter
2. Quick install card
3. Product warranty statement
4. Drivers, user guide, and utilities via: <http://www.hp.com>

## Standard Features

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## Server Support

- HP ProLiant BL280c G6
- HP ProLiant BL2X220c G6
- HP ProLiant BL460c G6
- HP ProLiant BL460c G7
- HP ProLiant BL465c G6
- HP ProLiant BL465c G7
- HP ProLiant BL490c G6
- HP ProLiant BL490c G7
- HP ProLiant BL495c G6
- HP ProLiant BL620c G7
- HP ProLiant BL680c G7
- HP ProLiant BL685c G6
- HP ProLiant BL685c G7

**NOTE:** Some servers listed above may be discontinued.

## Performance

**Dual-port 10 Gigabit Ethernet Throughput**

The NC542m 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. Using the latest Mellanox ConnectX -2 EN controller, this adapter provides industry leading throughput and latency performance.

**Jumbo Frames**

The NC542m support for jumbo frames (also known as extended frames) permit up to a 9K byte transmission unit (MTU), which is over five 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.

**802.1p 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.

**TCP/IP Stateless Offloading**

For overall improved system response, the NC542m supports standard TCP/IP stateless offloading techniques including:

- TCP/IP checksum offload (TCO) moves the TCP and IP checksum offloading from the CPU to the network adapter.

**Interrupt Coalescence**

Large send offload (LSO), also known as TCP segmentation offload (TSO), allows TCP segmentation to be handled by the adapter rather than the CPU. Interrupt coalescing (interrupt moderation) groups multiple packets, thereby reducing the number of interrupts sent to the host. This process optimizes host efficiency, leaving the CPU available for other duties.

**Receive-Side Scaling (RSS)**

Receive-Side Scaling (RSS) resolves the single-processor bottleneck by allowing the receive side network load from a network adapter to be shared across multiple processors.

**TOE**

The NC542m does not support TOE.

**iSCSI**

The NC542m does not support accelerated iSCSI or iSCSI boot.

**RDMA**

The NC542m does not support RDMA.

### Compatibility

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#### 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 6120XG Blade Switch
- HP 1:10Gb Ethernet BL-c Switch
- Cisco Catalyst 3020 Blade Switch
- HP GbE2c Layer 2/3 Ethernet Blade Switch
- HP 1Gb Ethernet Pass-Thru Module
- HP 10GbE Pass-Thru Module
- Cisco Fabric Extender B22HP for HP

**NOTE:** Flex-10 support will be added via the VC3.15 release.

**NOTE:** Some modules listed above may be discontinued.

## Service and Support

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**Service and Support****HP Technology Services**

HP Technology Services offers you consultants and support experts to solve your most complex infrastructure problems. We help keep your business running, boost availability and avoid downtime.

**Protect your business beyond warranty with HP Care Pack Services**

When you buy HP Options, it's also a good time to think about what level of service you may need. HP Care Pack services provide total care and support expertise with committed response choices designed to meet your IT and business need.

**Recommended Services****Recommended HP Care Pack Services for optimal satisfaction with your HP product****3-Year HP 24x7 4 hour Response, Hardware Support Onsite Service**

Provides you with rapid remote support and if required an HP authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE.pdf>

**HP ProLiant Server Hardware Installation**

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf>

**Related Services****Related HP Care Pack Services to enhance your HP product experience****3-Year HP 6 hour Hardware Support Onsite Call-to-Repair Service**

Provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 hours of the initial service request to the HP Global Solution Center.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN.pdf>

**HP Proactive Select Service**

Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN.pdf>

### Service and Support

Retired on 11 Jan 2016

**Insight Remote Support** Delivers secure remote monitoring and support for HP servers and storage, 24x7 at no additional cost. Available as part of HP Warranty, Care Pack and Service Contract offers.

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**Parts and materials** HP will provide HP-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements. Supplies and consumable parts will not be provided as part of this service; standard warranty terms and conditions apply. Parts and components that have exceeded their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual or the technical product data sheet will not be provided, repaired or replaced as part of this service.

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**Coverage** For ProLiant servers and storage systems, this service covers HP-branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as external monitors up to 22" and tower UPS products; these items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been exceeded. Coverage of the UPS battery is not included; standard warranty terms and conditions apply.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HP due to malfunction. It does not apply to any exchange of Disk or SSD/Flash Drives that have not failed. SSD/Flash Drives that are specified by HP as consumable parts and/or that have exceeded maximum supported lifetime and/or the maximum usage limit as set forth in the manufacturer's operating manual or the technical data sheet are not eligible for the defective media retention service feature option.

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**For more information** To learn more on services for HP ESSN Options, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: <http://www.hp.com/services/proliant> or [www.hp.com/services/bladesystem](http://www.hp.com/services/bladesystem)

## Related Options

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<b>Additional c-Class BladeSystem Adapters</b>	HP NC325m PCI Express Quad Port Gigabit Server Adapter	416585-B21
	HP NC360m Dual Port 1GbE BL-c Adapter	445978-B21
	HP NC364m Quad Port 1GbE BL-c Adapter	447883-B21
	HP NC532m Dual Port 10GbE Multifunction BL-c Adapter	467799-B21
<b>HP 10Gb interconnects</b>	HP Virtual Connect Flex-10 10Gb Ethernet Module for c-Class BladeSystem	455880-B21
	HP 6120XG Blade Switch	516733-B21
	HP 10GbE Ethernet Pass-Thru Module for c-Class BladeSystem	538113-B21
	HP Cisco B22HP Fabric Extender for BladeSystem c-Class	641146-B21
	HP Cisco B22HP Fabric Extender with 16 FET for BladeSystem c-Class	657787-B21

## Technical Specifications

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<b>General Specifications</b>	<b>Network processor</b>	Mellanox ConnectX - 2EN Controller		
	<b>Data rate</b>	Two ports, each at 20 Gbps full duplex; 40 Gbps aggregate full duplex theoretical bandwidth.		
	<b>Bus type</b>	PCI Express v2.0 (Gen 2) x8		
	<b>Form factor</b>	The NC542m is a Type I card and is supported in any mezzanine slot on all Gen 6 servers.		
	<b>IEEE Compliance</b>	802.1p, 802.1q, 802.3u, 802.3ad, 802.3ae, 802.3ap (10GBase-KX4), 802.3x and 802.3z		
<b>Power and Environmental Specifications</b>	<b>Operating</b>	<b>Temperature</b>	0°C to 55°C / 32°F to 131°F	
		<b>Humidity</b>	10% to 90% non-condensing	
	<b>Power requirement</b>	10W maximum		
	<b>Emissions classification</b>	FCC Class A		
	<b>Agency approvals</b>	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	EN55022:1998 (CISPR 22), EN55024:1998, and IEC60950:1999 (EN60950:2000)	
<b>RoHS Compliance</b>	6 of 6			
<b>Safety</b>	UL Mark (USA and Canada)			
	CE Mark			
	EN 60590			
<b>Operating System Support</b>	<b>Microsoft:</b>			
		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)		
	<b>Linux:</b>			
		RH4 x86		
		RH4 AMD64EM64T		
		RH5 x86		
		RH5 AMD64EM64T		
		SLES9 x86		
		SLES9 AMD64EM64T		
		SLES 10 x86 and AMD64EM64T		
	<b>Novel Netware:</b>			
	NetWare 6.5			
	Netware OES (6.5)			



## Technical Specifications

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

**Virtualization:**

MS Virtual Server support on Windows 2008

VMware ESX 4.0

VMware ESX 3.5 (1Q2010)

**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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