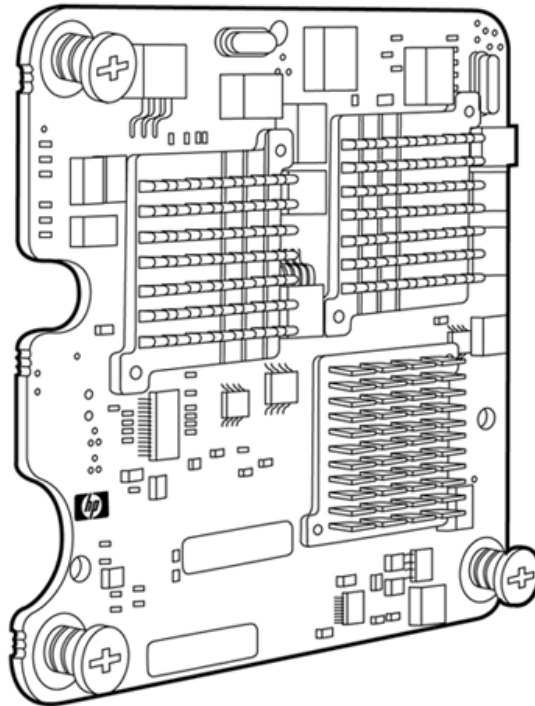


The HP NC325m features four Gigabit Ethernet ports on a single card, saving valuable server I/O slots for other purposes. The four ports provide the highest port density available for ProLiant BladeSystem servers in a single adapter. The NC325m is ideal for virtualization, security, server consolidation, network segmentation, and other ProLiant server applications requiring maximum throughput and port density. The total aggregate throughput of 4 Gbps meets the needs for customers desiring high bandwidth but are not yet ready to move to 10 Gigabit Ethernet. The x4 PCI Express NC325m is supported on ProLiant c-Class servers in all mezzanine slots. However, if the NC325m is installed in mezzanine slot 1 of a half-height server, connectivity will be provided on only 2 of the 4 ports.

Tested and proven to meet demanding BladeSystem standards, the NC325m ships with the advanced server features that ProLiant customers have come to expect, such as support for failover and load balancing, TCP/IP checksum offloading, large send offloading, Wake-on-LAN, PXE, jumbo frames, VLAN tagging, QoS, and more.



**HP NC325m PCI Express Quad Port Gigabit Server Adapter**

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### What's New

- Support for HP ProLiant Generation 7 servers

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### Models

HP NC325m PCI Express Quad Port 1Gb Server Adapter

416585-B21

Overview

Retired on 11 Jan 2016

### Kit Contents

1. HP NC325m PCI Express Quad Port 1Gb Server Adapter
2. Quick install card
3. Product warranty statement
4. Drivers, user guide, and utilities via <http://www.hp.com>

### Compatibility

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#### HP ProLiant Server Support

- HP ProLiant BL685c G7
- HP ProLiant BL685c G6
- HP ProLiant BL685c G5
- HP ProLiant BL680c G7
- HP ProLiant BL680c G5
- HP ProLiant BL620c G7
- HP ProLiant BL495c G6
- HP ProLiant BL495c G5
- HP ProLiant BL490c G7
- HP ProLiant BL490c G6
- HP ProLiant BL465c G7
- HP ProLiant BL465c G6
- HP ProLiant BL465c G5
- HP ProLiant BL460c G7
- HP ProLiant BL460c G6
- HP ProLiant BL460c G5
- HP ProLiant BL460c
- HP ProLiant BL280c G6
- HP ProLiant BL260c G5

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

### Standard Features

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#### Product Features

- Four Gigabit Ethernet ports
- Supported on ProLiant c-Class servers in all mezzanine slots, multiple cards per server
- Designed with server needs in mind:
  - IEEE 802.1p, 802.1Q, 802.3, 802.3ad, and 802.3x
  - ProLiant Teaming including Network Fault Tolerance, Transmit Load Balancing, and Switch-Assisted Load Balancing
  - 9K industry standard jumbo frames
  - TCP/IP checksum offload (TCO) and large send offload (LSO)
  - Interrupt coalescence and dual address cycles (DAC)
  - Wake-on-LAN (WOL)
  - Pre-boot execution environment (PXE)
- IPv6 packet transmit and receive (excluding all offload capabilities); IPv6 aware SNMPv1 agent for Windows

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#### Performance

##### Quad-port Gigabit Ethernet Throughput

Up to 2000 Mbps Ethernet transfer rate full duplex per port (8000 Mbps full duplex, all four ports) delivers outstanding network performance designed to improve response time and remove bottlenecks across the entire network. Four ports on a single adapter are ideal for high density, mezzanine slot constrained blade servers, virtualization and security, applications, server consolidation, and increased network segmentation. The total aggregate throughput of 8 Gbps full duplex also meets the needs for customers desiring high bandwidth but are not yet ready to move to 10 Gigabit Ethernet.

##### Jumbo Frames

The NC325m 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 NC325m supports jumbo frames as a way to achieve higher throughput and better CPU utilization. Jumbo frames are particularly useful for database transfers and tape backups.

##### 802.1Q VLANs with 802.1p QoS Tagging

IEEE 802.1Q virtual local area network (VLAN) protocol allows each physical port of the NC325m 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. 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 NC325m supports standard TCP/IP offloading techniques including:

- TCP/IP checksum offload (TCO) moves the TCP and IP checksum offloading from the CPU to the network adapter.
- Large send offload (LSO) or TCP segmentation offload (TSO) allows the TCP segmentation to be handled by the adapter rather than the CPU.

##### Interrupt Coalescence

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.

##### Dual Address Cycles

Dual address cycles (DAC) provide the ability to address memory above 4 GB and improve system performance by preventing the server operating system from performing a buffer copy from below 4 GB to above 4 GB.

### Standard Features

Retired on 11 Jan 2016

#### High Availability

##### Quad port

The four ports on the NC325m are transmitted to up to four separate enclosure interconnect bays providing redundant signal paths.

##### Redundant adapters

With multiple quad port adapters supported per server connected to up to two redundant pairs of interconnect modules per enclosure, a very wide variety of high availability I/O configurations are possible.

##### 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 to the ProLiant Network Adapter Teaming Whitepaper available at home page at:

<ftp://ftp.compaq.com/pub/products/servers/networking/TeamingWP.pdf>

#### 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>.

#### Service and Support

#### **HP Care Pack Services: Packaged server and storage services for increased uptime, productivity and ROI**

When you buy HP server and storage products and solutions, it's also a good time to think about what levels of support you may need. Our portfolio of service options reduce deployment and management worries while helping you get the most out of your server and storage investments. We take a holistic approach to your environment, bridging servers, blades, storage, software and network infrastructures with our packaged HP Care Pack Services for servers and storage.

#### **Protect your business beyond warranty**

When it comes to robustness and reliability, standard computing equipment warranties have matured along with technology. Good news that can also create problems stemming from depending on standard warranties designed to only protect against product defects and some downtime causes. Using a standard approach to warranty uplifts, such as HP Care Pack Services, helps reduce downtime risks and provides operational consistency for mission-critical and standard business computing.

#### **HP Care Pack Services: Upgrading or extending standard server and storage warranties cost effectively**

HP recommends Proactive Care for your BladeSystem servers, enclosures and components to prevent problems with proactive advice and assistance, resolve issues and rapidly recover by connecting to HP's enhanced call experience and advanced technical expertise. In addition with HP Proactive Select, you can acquire the specific proactive constancy and technical services. HP Proactive Select menu offers a broad set of service options that you can mix and match depending on your specific requirements. Proactive service options include offers for server, storage, network, SAN device, software, environment and education services.

HP server and storage lifecycle support services offers a full spectrum of customer care—from technology support to complex migrations to complete managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP Education Services offer flexible, comprehensive training on to help your IT staff get the most out of your server and storage investments. HP Financial solutions extend innovative financing and cost-effective asset management programs—from purchase to equipment retirement.

Learn more: [www.hp.com/services/servers](http://www.hp.com/services/servers) and [www.hp.com/services/storage](http://www.hp.com/services/storage)

**NOTE:** Care Pack Services availability may vary by product and country.

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

- Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.
- Customers purchasing from a commercial reseller can find HP Care Pack Services at <http://www.hp.com/go/lookuptool>

### Recommended HP Care Pack Services for optimal satisfaction with your HP product

#### Recommended Services **Hardware Options Support**

HP Care Packs provide support for all HP-branded hardware options qualified for inclusion in your server or storage solution. Any additional HP-qualified options installed within the server are covered at the same service level and for the same period as the server and no additional cost.

- Help improve or maintain system uptime
- Convenient onsite support
- Committed response time

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

#### **3-Year HP Hardware Support Onsite Service, 4-hour response, 24x7**

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.

This service provides a trained HP service specialist to perform an installation that meets HP quality standards, for:

- Help improve or maintain system uptime
- Convenient onsite support
- Committed response time

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

#### **HP Installation and Startup of HP ProLiant Servers**

Provides for the installation of your new HP ProLiant server and operating system to assist you in bringing your new HP ProLiant server and operating system into operation in a timely and professional manner.

This service provides a trained HP service specialist to perform an installation that meets HP quality standards, for:

- Delivery of the service at a mutually scheduled time convenient to your organization
- Availability of an HP service specialist to answer basic questions during the onsite delivery of this service
- Custom installation as detailed in "Delivery specifications" or in a Statement of Work (SOW)
- Verification prior to installation that all service prerequisites are met

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-7572ENN.pdf>

### Service and Support

Retired on 11 Jan 2016

#### eSupport

HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

#### Support Portal

The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

#### Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: <http://www.hp.com/support>

HP Insight Remote Support software delivers secure remote support for your HP Servers and Storage, 24 X 7, so you can spend less time solving problems and more time focused on your business. You can have your systems remotely monitored for hardware failure using secure technology that's been proven at thousands of companies around the world. In many cases, you can avoid problems before they occur.

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#### Customer Technical Training

In today's cost-conscious business environment, IT professionals, developers, consultants and users face an interesting challenge: how to keep up with the latest technologies and expand important skills while delivering profitable results on current projects. To help address this challenge, HP offers innovative training solutions that help keep you up-to-date on virtualization, server, storage, Insight Control, Citrix, Microsoft® and open source/Linux-related topics-while spending less time away from business-critical activities.

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#### HP Services Awards

HP Technology Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction.

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#### Additional Services Information

To learn more on HP ProLiant servers, HP BladeSystem servers and HP storage products, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: [www.hp.com/services/proliant](http://www.hp.com/services/proliant) or [www.hp.com/services/bladesystem](http://www.hp.com/services/bladesystem) or <http://www.hp.com/services/storage>



Related Options

Retired on 11 Jan 2016

### c-Class BladeSystem Interconnect Modules

**NOTE:** This is a list of supported options. Some may be discontinued.

HP Virtual Connect Flex-10 10Gb Ethernet Module for the c-Class BladeSystem	455880-B21
HP 1:10 Gb Ethernet BL-c Switch	438031-B21
HP 1/10Gb-F Virtual Connect Ethernet Module for c-Class BladeSystem	447047-B21
Cisco Catalyst Blade Switch 3120G for HP	451438-B21
Cisco Catalyst Blade Switch 3120X for HP	451439-B21
Cisco Catalyst 3020 Blade Switch	410916-B21
HP GbE2c Layer2/3 Ethernet Blade Switch for c-Class BladeSystem	438030-B21
Ethernet Pass-Through Module for HP BladeSystem	406740-B21
HP 6120XG Blade Switch	516733-B21
HP 6120G/XG Blade Switch	498358-B21

### Technical Specifications

Retired on 11 Jan 2016

<b>General Specifications</b>	<b>Network processor</b>	Two Broadcom 5715S	
	<b>Data rate</b>	Four ports, each at 2000 Mbps full duplex (theoretical maximum) <b>NOTE:</b> The NC325m adapter transmits from the server at only 2 Gbps full duplex per port.	
	<b>Bus type</b>	x4 PCI Express 1.0	
	<b>Form factor</b>	Type I mezzanine card compatible with all ProLiant and Integrity c-Class servers listed in the Supported Servers section of this QuickSpecs, all mezzanine slots. Multiple cards per server. <b>NOTE:</b> If the NC325m is installed in mezzanine slot 1 of a half-height server (excluding the BL260c G5), connectivity will be provided on only 2 of the 4 ports.	
	<b>IEEE Compliance</b>	802.1p, 802.1Q, 802.3, 802.3ad, and 802.3x	
<b>Power and Environmental Specifications</b>	<b>Operating</b>	<b>Temperature</b>	50° - 95° F (10° - 35° C)
		<b>Humidity</b>	10% to 90% non-condensing
	<b>Non-operating</b>	<b>Temperature</b>	-40° to 158° F (-40° to 70° C)
		<b>Humidity</b>	5% to 95% non-condensing
	<b>Power requirement</b>	15 Watts maximum	
	<b>Emissions classification</b>	FCC Class A	
	<b>Agency approvals</b>	<b>USA</b>	FCC (CFR 47 part 15) and UL 60950
		<b>Canada</b>	ICES-003 and CSA60950
		<b>Japan</b>	VCCI
		<b>Korea</b>	MIC (RRL), EMC Registration
<b>Australia</b>		ACA, AS/NZS3548/EN55022:1998, EN55024:1998	
<b>European Union</b>		EN55022:1998 (CISPR 22), EN55024:1998, and IEC60950:1999 (EN60950:2000)	
<b>RoHS Compliance</b>	5 of 6		
<b>Safety</b>		UL Mark (USA and Canada)	
		CE Mark	
		EN 60590	
<b>Operating System Support</b>	<ul style="list-style-type: none"><li>● Microsoft Windows 2003 and 2008 (32-bit and 64-bit)</li><li>● Red Hat Enterprise Linux</li><li>● SUSE Linux Enterprise Server</li><li>● Novell NetWare 6.5</li><li>● Novell Open Enterprise Server x86</li></ul>		

**NOTE:** For more operating system support & certification information, please visit: <http://h10018.www1.hp.com/wwsolutions/index.html>.

### Technical Specifications

Retired on 11 Jan 2016

#### 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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