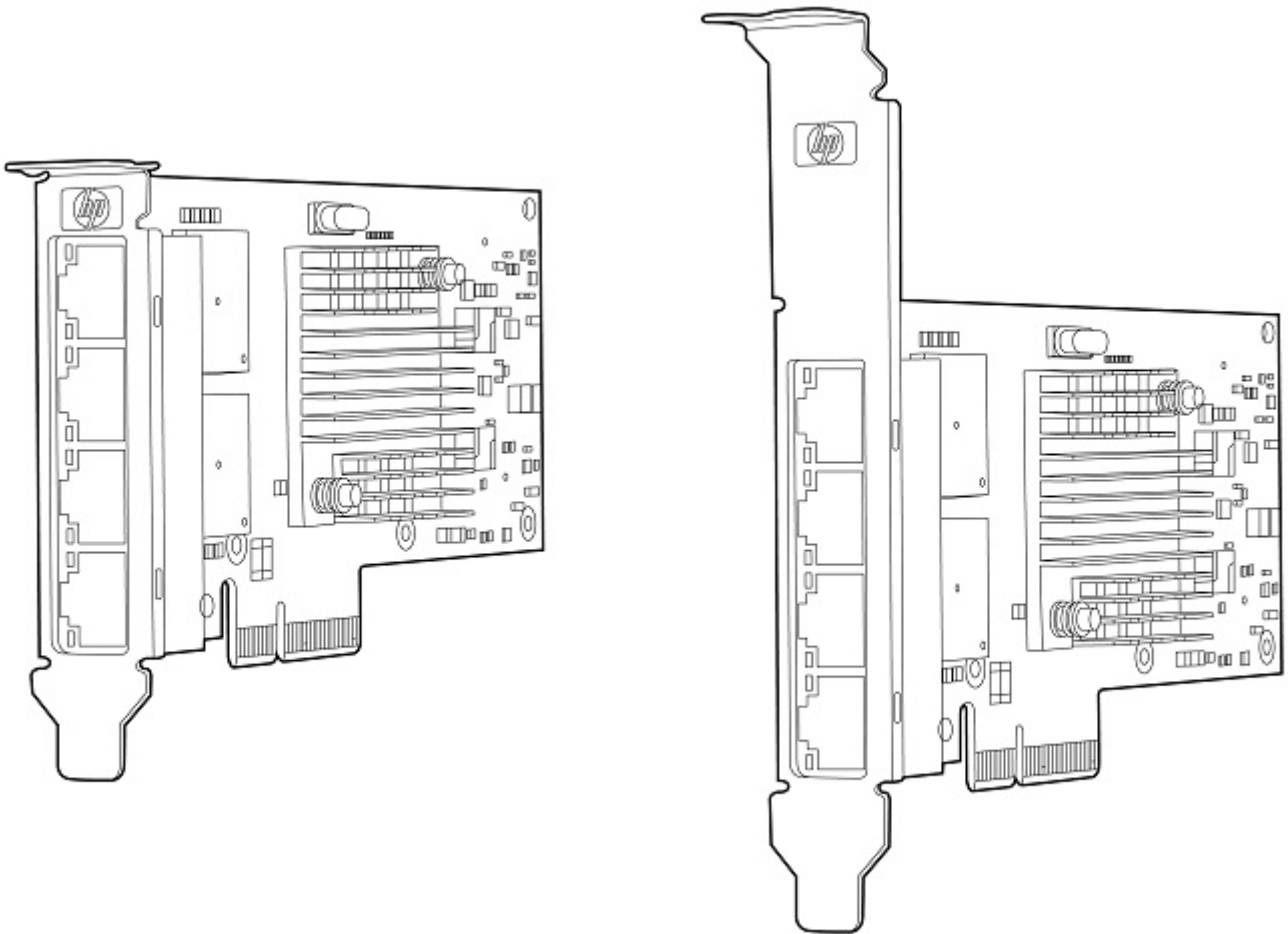# QuickSpecs

Overview

The HP NC365T 4-port Ethernet Server Adapter is a four lane (x4) PCI Express (PCIe) high performing single-chip, low-power quad port adapter that offers the highest port density among all ProLiant Networking Options.

The NC365T is PCIe Gen 2.0 compliant adapter that supports TCP checksum and segmentation, Large Send and Receive offload capability, Message Signal Interrupt Extension (MSI-X), IEEE 1588, Receive Side Scaling (RSS), VLAN tagging, 9.5KB jumbo frames and IPv6. The NC365T ships with support for an advanced server virtualization feature called Virtual Machine Data queue (VMDq), which improves I/O performance by reducing I/O overhead in a virtualized environment. Like all ProLiant Networking Options, NC365T can be easily installed in either standard or low profile slots

Models

HP NC365T 4-port Ethernet Server Adapter	593722-B21

Overview

Kit Contents	● HP NC365T 4-port Ethernet Server Adapter
	● Full height and half height brackets; the full height bracket is pre-installed on the card
	● Quick install card inclusive of instructions on changing to the half height bracket (if needed)
	● Product warranty statement

Compatibility

Servers

ProLiant DL (rack-optimized):

- HP ProLiant DL120 G6
- HP ProLiant DL120 G7
- HP ProLiant DL160 G6
- HP ProLiant DL160 Gen8
- HP ProLiant DL165 G7
- HP ProLiant DL170e G6
- HP ProLiant DL170h G6
- HP ProLiant DL180 G6
- HP ProLiant DL320 G6
- HP ProLiant DL320e Gen8
- HP ProLiant DL320e Gen8 v2
- HP ProLiant DL360 G6
- HP ProLiant DL360 G7
- HP ProLiant DL360e Gen8
- HP ProLiant DL360p Gen8
- HP ProLiant DL370 G6
- HP ProLiant DL380 G6
- HP ProLiant DL380 G7
- HP ProLiant DL380e Gen8
- HP ProLiant DL380p Gen8
- HP ProLiant DL385 G6
- HP ProLiant DL385 G7
- HP ProLiant DL385p Gen8
- HP ProLiant DL560 Gen8
- HP ProLiant DL580 G7
- HP ProLiant DL585 G7
- HP ProLiant DL785 G6
- HP ProLiant DL980 G7

ProLiant ML (expansion-optimized):

- HP ProLiant ML10
- HP ProLiant ML110 G7
- HP ProLiant ML310 G5p
- HP ProLiant ML310e Gen8
- HP ProLiant ML310e Gen8 v2
- HP ProLiant ML330 G6
- HP ProLiant ML350 G6
- HP ProLiant ML350e Gen8
- HP ProLiant ML350p Gen8
- HP ProLiant ML370 G6

ProLiant SL (scalable line):

- HP ProLiant SL160s G6
- HP ProLiant SL160z G6
- HP ProLiant SL165s G7

Compatibility

- HP ProLiant SL165z G7
- HP ProLiant SL170s G6
- HP ProLiant SL170z G6
- HP ProLiant SL210t Gen8
- HP ProLiant SL230s Gen8
- HP ProLiant SL250s Gen8
- HP ProLiant SL270s Gen8
- HP ProLiant SL390s G7
- HP ProLiant SL4540 Gen8
- HP ProLiant SL4545 G7

NOTE: Some servers may be discontinued.

Standard Features

Performance

Quad-port Gigabit Ethernet Throughput

With a theoretical throughput of 10 Gbps each direction, the x4 PCI Express bus is more than capable of supporting the NC365T's four gigabit ports. Up to 1000 Mbps Ethernet transfer rate per port (4000 Mbps combined) 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, I/O slot constrained servers, virtualization and security, applications, server consolidation, and increased network segmentation. The total aggregate throughput of 4Gbps also meets the needs for customers desiring high bandwidth but are not yet ready to move to 10 Gigabit Ethernet.
NOTE: Port enumeration on the NC365T is from the bottom up, i.e. the port near the top of the adapter is port #4 and the port closest to the gold finger is port #1.

Jumbo Frames

Jumbo frames (also known as extended frames) permit a 9.5K byte transmission unit (MTU), which is six times the size of standard 1500 byte Ethernet frame. The NC365T 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 NC365T 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 NC365T 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.

Virtual Machine Device Queues (VMDq)

VMDq helps to improve network I/O throughput by offloading the sorting burden from the VMM (Virtual Machine Manager) to the network controller. It helps meet the demands of consolidated virtual workloads by helping the Server meet demands of multiple Virtual Machines.

Message Signal Interrupt Extension (MSI-X)

MSI/MSI-X support provides performance optimization benefits for multi-core environments by load balancing of interrupt handling between different CPUs/cores

IEEE 1588

This protocol helps time-stamping and synchronization of time sensitive applications.

Standard Features

Versatility

10/100/1000T Twisted Pair Networks

In addition to Gigabit Ethernet, the NC365T adapter supports both 10Mbps and 100Mbps providing compatibility with Ethernet and Fast Ethernet twisted pair networks.

Full and Half Height Brackets

The NC365T is a low-profile card supporting both full height and half height PCI Express slots. A full height bracket is pre-installed on the card with the half height bracket in the box. The quick install card includes instructions on how to change brackets if needed.

x4/x8/x16 PCI Express Compatibility

The x4 PCI Express interface on the NC365T is compatible with x4, x8, and x16 PCI slots. If installed in a x8 or x16 slot, the adapter will operate at the x4 speed.

High Availability

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.

The teaming options offer 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:
http://bizsupport.austin.hp.com/bc/docs/support/SupportManual/c01415139/c01415139.pdf

Network Management

Auto-negotiation

The NC365T automatically senses the speed of the device to which it is attached. It also automatically configures for half or full duplex, depending on the duplex mode of the switch, hub, or router connected to the adapter.

Management Support

Like all HP server adapters, the NC365T ships with drivers and agents that can be managed from HP Systems Insight Manager, as well as using any other management application that supports SNMP. HP Systems Insight Manager can recognize the NC365T individually or in teams, and can collect and report SNMP statistics on the adapter events.

Server Integration

The NC365T is a completely integrated, tested, and qualified solution that is optimized for HP ProLiant servers. HP validates a wide variety of major operating systems drivers with the full suite of web-based enterprise management utilities including SmartStart and HP Systems Insight Manager that simplify network management. Integrated Management Log (IML) support is provided by the NC365T for critical event logging on HP servers.

This approach provides a more robust and reliable networking solution than offerings from other venders and provides users with a single point of contact for both their servers and their network adapters.

LED Indicators

Per port bracket LED indicators show link integrity, network activity, and network speed for easy troubleshooting.

Standard Features

PXE   Support for pre-boot execution environment (PXE) enables automatic deployment of computing resources remotely from anywhere. It allows a new or existing server to boot over the network and download software, including the operating system, from a management/ deployment server at another location on the network. Additionally, PXE enables decentralized software distribution and remote troubleshooting and repairs.

Warranty

Warranty   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

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 Care Pack Services offer a standard reactive hardware and software support services suite sold separately, or combined with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of integrated proactive and reactive services, such as Proactive 24 Service and Critical Service. 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 and 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

Service and Support

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

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

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

Service and Support

Optional HP Care Pack Services that will enhance your HP product experience

Optional Services

3-Year HP Hardware Support Onsite Call-to-Repair (CTR) Service, 6- or 24-hour

As an alternative to our recommended support level, for customers who need committed call-to-repair for server hardware.

Provides your 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 or 24 hours of the initial service request to the HP Global Solution Center.

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

3-Year HP Support Plus 24

As an alternative to our recommended support level, for customers who need access to responsive 24x7 hardware and software support plus software updates on HP and selected third party products:

For a higher return on your server and storage technology, our 3-year combined reactive support service delivers integrated onsite hardware/software support services available 24x7x365, including access to HP technical resources, 4-hour response onsite hardware support and software updates.

http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EEE

HP Proactive Select Service

Customer needs on demand access to consulting, technical proactive services and education courses

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

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

Service and 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.

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.

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.

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 or www.hp.com/services/bladesystem or http://www.hp.com/services/storage

Related Options

Gigabit Server Adapters	HP NC112T PCI Express Gigabit Server Adapter	503746-B21
	HP NC360T PCI-E Dual Port Gigabit Server Adapter	412648-B21
	HP NC364T PCI-E Quad Port Gigabit Server Adapter	435508-B21
	HP NC373F PCI-E Multifunction 1000SX Gigabit Svr Adapter	394793-B21
	HP NC373T PCI-E Multifunction Gigabit Server Adapter	394791-B21
	HP NC375T PCI Express Quad Port Gigabit Server Adapter	538696-B21
	HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21
	HP Ethernet 1Gb 4-port 331T Adapter	647594-B21
	HP Ethernet 1Gb 2-port 332T Adapter	615732-B21
	HP Ethernet 1Gb 2-port 361T Adapter	652497-B21

10 Gigabit Server Adapters	**NOTE:** A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.	
	HP NC522SFP Dual Port 10GbE Gigabit Server Adapter	468332-B21
	HP NC523SFP 10Gb 2-port Server Adapter	593717-B21
	HP NC524SFP Dual Port 10GbE Module	489892-B21
	NOTE: NC524SFP is available only on DL370 G6, ML370 G6, DL580 G7, DL585 G7, and DL980 G7.	
	HP NC550SFP Dual Port 10GbE Server Adapter	581201-B21
	HP NC552SFP 10Gb 2-port Ethernet Server Adapter	614203-B21
	HP Ethernet 10Gb 2-port 530SFP Adapter	652503-B21
	HP Ethernet 10Gb 2-port 530T Adapter	656596-B21
	HP Ethernet 10Gb 2-port 560SFP+ Adapter	665249-B21
	HP Ethernet 10Gb 2-port 561T Adapter	716591-B21
	HP Ethernet 10Gb 2-port 570SFP+ Adapter	718904-B21

FlexibleLOM Adapters	**NOTE:** A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.	
	Ethernet Adapters	
	HP Ethernet 1Gb 4-port 331FLR Adapter	629135-B21
	HP Ethernet 1Gb 4-port 366FLR Adapter	665240-B21
	HP Ethernet 10Gb 2-port 530FLR-SFP+ Adapter	647581-B21
	HP Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	665243-B21
	HP Ethernet 10Gb 2-port 561FLR-T Adapter	700699-B21
	HP Ethernet 10Gb 2-port 570FLR-SFP+ Adapter	717491-B21
	FlexFabric Adapters	
	HP FlexFabric 10Gb 2-port 526FLR SFP+ Adapter	629138-B21
	HP FlexFabric 10Gb 2-port 533FLR-T Adapter	700759-B21
	HP FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter	700751-B21
	HP FlexFabric 10Gb 2-port 554FLR-SFP+ Adapter	629142-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs	

Technical Specifications

General Specifications	Communications Processor	Intel 82580	
	Data rate	10/100/1000 Mbps, Half- and full-duplex	
	Data path	Four lane (x4) PCI Express compatible with x1, x4, x8, and x16 PCI Express slots	
	On-board memory	224 KB	
	Bus type	PCI Express v2.0	
	Interrupt levels	Automatically configured	
	Connector	Four RJ-45	
	Cable distance	Up to 328 ft (100 m)	
	Wiring	Category 5 (CAT-5) or better twisted-pair cabling	
	Form factor	Low profile card with both full height (pre-installed) and half height brackets included in kit	
	Dimensions	13.46 cm x 6.86 cm [5.3 in x 2.7 in (L x W)] (without bracket)	
IEEE Compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab, IEEE802.3x, IEEE802.3ad, IEEE802.1p, IEEE802.1q, IEEE802.3z, IEEE1588		
Power and Environmental Specifications	Operating	Temperature	32° to 131° F (0° to 55° C)
		Humidity	10% to 90% non-condensing
	Non-operating	Temperature	-40° to 185° F (-40° to 85° C)
		Humidity	5% to 95% non-condensing
	Power requirement	5.0w @ 3.3v max	
	Emissions classification	Class B	
	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	EN55022:1998 (CISPR 22), EN55024:1998, and IEC60950:1999 (EN60950:2000)
	RoHS Compliance	6 of 6	
	Safety	UL Mark (USA and Canada)	
		CE Mark	
		EN 60590	
Operating System Support	● Microsoft Windows Server 2008 (32/64), Enterprise, SBS, Web, Embedded, and R2		
	● Microsoft Windows Server 2003 and R2 SP2		
	● Microsoft Windows Server 2003 Web Edition		
	● Microsoft certified miniport and teaming drivers		
	● Microsoft Windows 2003 Standard (32 and x64)		
	● Microsoft Windows 2003 Enterprise (32 and x64)		
	● Red Hat Enterprise Linux 5, 6		
	● SLES10, 11		
	● VMWare ESX 4.0 U1		

Technical Specifications

- Citrix
- HyperV (Windows 2008 32 and 64)
- Solaris 10

NOTE: For more Linux OS support & certification information, please visit our the ProLiant & BladeSystem Server Linux matrix: http://h18004.www1.hp.com/products/servers/linux/hplinuxcert.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.