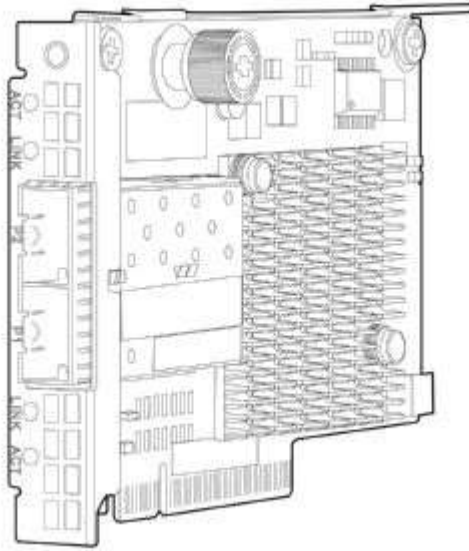


Overview

The HP FlexFabric 10Gb 2-port 554FLR-SFP+ Adapter provides Ethernet functionality; or Ethernet and iSCSI, or Fibre Channel Over Ethernet (FCoE) or FlexFabric connectivity in a FlexibleLOM form factor designed for select HP ProLiant Gen8 rack servers.



Models

HP FlexFabric 10Gb 2-port 554FLR-SFP+ Adapter

629142-B21

Kit Contents

- HP FlexFabric 10Gb 2-port 554FLR-SFP+ Adapter
- Quick install card
- Product warranty statement

Compatibility

Servers

ProLiant DL (rack-optimized):

- HP ProLiant DL160 Gen8
- HP ProLiant DL360p Gen8
- HP ProLiant DL380p Gen8
- HP ProLiant DL385p Gen8
- HP ProLiant DL560 Gen8

ProLiant SL (scalable line):

- HP ProLiant SL210t Gen8
- HP ProLiant SL230s Gen8
- HP ProLiant SL250s Gen8
- HP ProLiant SL270s Gen8

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

Tape Drive

Nearline Tape Products:

- D2D
- VLS
- ESL libraries
- EML libraries
- ESL G3 library
- MSL G3 libraries (2024, 4048, 8096)

Standard Features

Product Features

- Industry-leading throughput and latency performance
- FlexibleLOM Adapter
- Dual 10Gb ports provide up to 40Gb full duplex per adapter
- Hardware acceleration and offloads for stateless TCP/IP, TCP Offload Engine (TOE), Fibre Channel over Ethernet (FCoE) and iSCSI
- Jumbo frames support
- Supports FlexFabric technology where the functionality of a NIC (Ethernet), iSCSI, and Fibre Channel are combined onto a single network adapter reducing the number of adapters and cables and reducing acquisition and operational costs.
NOTE: When configured for FCoE, Multipath IO is not supported in SLES11
- Improved small packet performance.
- Includes 128MB of onboard memory.
- Supports the Preboot eXecution Environment (PXE)
- Supports receive-side scaling (RSS) for the efficient distribution of network receive processing across multiple CPUs in multiprocessor systems.
- Support Wake On LAN
- Supports VMWare NetQueue, Microsoft Virtual Machine Queue (VMQ) for Windows
- Supports SR-IOV
- Flex-10 is not supported

Dual-port 10 Gigabit Ethernet Throughput (theoretical bandwidth)

The 20,000 Mbps full duplex Ethernet transfer rate per port (40 Gbps aggregate full duplex), providing the network performance needed to improve response times and alleviate bottlenecks. 10Gb Ethernet bandwidth is ideal for high performance computing, database clusters.

PCI Express Interface

The HP 554FLR-SFP+ is designed with an eight lane (x8) PCI Express bus based on the PCIe 2.0 standard. The adapter is backward compatible with four lane (x4) PCI Express, automatically auto-sensing between x8 and x4 slots.

Jumbo Frames

Jumbo frames (also known as extended frames) permit a 9,000 byte transmission unit (MTU). The HP 554FLR-SFP+ adapter supports 9KB jumbo frames as a way to achieve higher throughput and better CPU utilization. Jumbo frames are particularly useful for database transfers and tape backups.

Hardware iSCSI or FCoE with Full Offload

The 554FLR-SFP+ is the only network option for HP Gen8 rack servers that supports hardware FCoE or iSCSI with full protocol offload.

TCP/IP Stateless Offload

For overall improved system response, the HP 554FLR-SFP+ adapter 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 Coalescing

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.

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.

Standard Features

iSCSI The HP 554FLR-SFP+ adapter supports accelerated iSCSI and iSCSI INT 13 Boot

Network Management

Management Support Like all HP ProLiant server adapters, the HP 554FLR-SFP+ adapter ships with agents that can be managed from HP Systems Insight Manager or other management application that support SNMP.

Server Integration The HP 554FLR-SFP+ adapter is a validated, 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 HP Intelligent Provisioning and HP Systems Insight Manager that simplify network management.

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

Configuration Utilities Each HP 554FLR-SFP+ ships with a suite of operating system-tailored configuration utilities that allow the user to enable initial diagnostics and configure adapter teaming. This includes a patented teaming GUI for Microsoft Windows operating systems. Additionally, support for scripted installations of teams in a Microsoft Windows environment allow for unattended OS installations.

LED Indicators Bracket LED indicators show link integrity and network activity for easy troubleshooting.

Preboot eXecution Environment (PXE) Support for 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 Maximum: The remaining warranty of the HP product in which it is installed (to a maximum three-year, limited warranty).
Minimum: One year limited warranty.
[Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html](http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html)

Service and Support

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.

HP Foundation Care services deliver scalable support-packages for HP industry-standard servers and software. You can choose the type and level of service that is most suitable for your business needs. New to this portfolio is HP Collaborative Support. If you are running business critical environments, HP offers Proactive Care or Critical Advantage. These services help you deliver high levels of application availability through proactive service management and advanced technical response.

Here is the support service recommendation from the Foundation Care and Proactive Care portfolio. For customized support service solution, HP can work with you to tailor a service solution for your unique support requirements using broader services portfolio of Foundation Care and Proactive Care.

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

Recommended Services **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>

OR

3-Year HP 24x7 4 hour Response, HP Collaborative Support

Offers customers a single point of contact for server problem diagnosis, hardware problem resolution, and basic software problem diagnosis, fault isolation, and resolution if available to HP. If the problem is with HP HW, the representative 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. In case, the issue is with HP or supported third-party software product and cannot be resolved by applying known fixes, HP will contact the third-party vendor and create a problem incident on your behalf.

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>

Service and Support

Related HP Care Pack Services to enhance your HP product experience

Related Services

3-Year HP 24x7 4 hour Response, Proactive Care or Critical Advantage

Helps optimize your systems and delivers high levels of application availability through proactive service management and advanced technical response. A skilled Technical Manager will own your query or issue end to end until resolved, delivering a single point of contact for you

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-2140ENW.pdf>

OR

3-Year HP 6-hour Onsite Call-to-Repair, HP Collaborative Support

Offers customers a single point of contact for server problem diagnosis, hardware problem resolution to return the hardware in operating condition within 6 hours of the initial service request to the HP Global Solution Center, and basic software problem diagnosis, fault isolation, and resolution if available to HP. In case, the issue is with HP or supported third-party software product and cannot be resolved by applying known fixes, HP will contact the third-party vendor and create a problem incident on your behalf.

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>

Insight Remote Support

Provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. Learn more

<http://www.hp.com/go/insightremotesupport>

HP Support Center

Personalized online support portal with access to information, tools and experts to support HP business products. Submit support cases online, chat with HP experts, access support resources or collaborate with peers. Learn more <http://www.hp.com/go/hpsc>

HP's Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HP Insight Remote Support and HP Support Center are available at no additional cost with a HP warranty, HP Care Pack or HP contractual support agreement.

**HP' Support Center Mobile App is subject to local availability*

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.

Service and Support

Warranty / Service 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.

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/bladestystem

Related Options

Direct Attach Cable	HP BladeSystem c-Class Small Form-Factor Pluggable .5m 10GbE Copper Cable	487649-B21
	HP BladeSystem c-Class Small Form-Factor Pluggable 1m 10GbE Copper Cable	487652-B21
	HP BladeSystem c-Class Small Form-Factor Pluggable 3m 10GbE Copper Cable	487655-B21
	HP BladeSystem c-Class Small Form-Factor Pluggable 5m 10GbE Copper Cable	537963-B21
	HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
	HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
	HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C

NOTE: Direct Attach Cable (DAC) must be purchased separately for copper environments.

Fiber Optic Modules	HP BladeSystem c-Class 10Gb Short Range Small Form-Factor Pluggable Option	455883-B21
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NOTE: Fiber transceivers and cables must be purchased separately for fiber-optic environments.

Fiber Optic Cables	HP 2M LC-SC Cable Kit (2Gb to 1Gb)	221691-B21
	5M LC-SC Cable Kit (2Gb to 1Gb)	221691-B22
	HP 15M LC-SC Cable Kit (2Gb to 1Gb)	221691-B23
	HP 2m LC-LC FC Cable Kit	221692-B21
	5m LC-LC FC Cable Kit	221692-B22
	HP 15m LC-LC FC Cable Kit	221692-B23
	HP 30m LC-LC FC Cable Kit	221692-B26
	HP 50m LC-LC FC Cable Kit	221692-B27
	HP LC to LC Multi-mode OM3 2-Fiber 0.5m 1-Pack Fiber Optic Cable	AJ833A
	HP LC to LC Multi-mode OM3 2-Fiber 1.0m 1-Pack Fiber Optic Cable	AJ834A
	HP LC to LC Multi-mode OM3 2-Fiber 5.0m 1-Pack Fiber Optic Cable	AJ836A
	HP LC to LC Multi-mode OM3 2-Fiber 15.0m 1-Pack Fiber Optic Cable	AJ837A
	HP LC to LC Multi-mode OM3 2-Fiber 30.0m 1-Pack Fiber Optic Cable	AJ838A
	HP LC to LC Multi-mode OM3 2-Fiber 50.0m 1-Pack Fiber Optic Cable	AJ839A

NOTE: Fiber transceivers and cables must be purchased separately for fiber-optic environments.

NOTE: For additional information on 10Gb cable specifications go to:
http://www.hewlett-packard.com/rnd/pdfs/10gig_cabling_technical_brief.pdf

Additional Supported Cables (Plug into HPN5900)	HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
	HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
	HP X240 10G SFP+ to SFP+ 7m Direct Attach Copper Cable	JC784C
	HP X240 QSFP+ 4x10G SFP+ 1m DAC Cable	JG329A

Additional Supported Cables (Plug into HPN6600)	HP X242 10G SFP+ to SFP+ 1m Direct Attach Copper Cable	J9281B
	HP X242 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	J9283B
	HP X242 SFP+ 15m DAC Cable	J9287B

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 NC365T 4-port Ethernet Server Adapter	593722-B21
	HP NC373T PCI-E Multifunction Gigabit Server Adapter	394791-B21
	HP NC373F PCI-E Multifunction 1000SX Gigabit Svr Adapter	394793-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

NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs

Technical Specifications

General Specifications	Network Processor	Emulex BE3
	Data Rate	Two ports, each at 20 Gbps full duplex; 40 Gbps aggregate full duplex theoretical bandwidth
	Onboard Memory	128MB
	Bus Type	PCI Express 2.0 x8
	Form Factor	FlexibleLOM
	IEEE Compliance	802.3ae, 802.3ap, 802.1q, 802.1qau, 802.3x, 802.1p, 802.3ad/LACP

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 158° F (-40° to 70° C)
		Humidity	5% to 95%
	Power	10 Watts typical, 11Watts maximum	
	Emissions	FCC Class A, VCCI Class A, BSMI Class A, CISPR 22 Class A, ACA Class A, EN5502 Class A, EN55024-1, ICES-003 Class A, MIC Class A	
	Safety	UL, Canada UL, EN 60950	
	Other	PCIe 2.0	
		RoHS compliance 6 of 6	
		IPv4, IPv6	
CE			
ACPI 1.1a			
		Microsoft WHQL (Windows Hardware Quality Labs)	
		Server Design Guide version 3.0 (SDG 3.0)	

Operating System Support	Microsoft Windows Server 2008, Server 2008R2, and HPC Server 2008, 32 and 64-bit
	Microsoft Windows Server Hyper-V
	Red Hat Enterprise Linux 5.x and 6.0
	SLES 10 and 11
	VMware 4.0 and 4.1
	VMware ESX/ESXi 4.1 and ESXi 5.0
	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

Technical Specifications

**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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