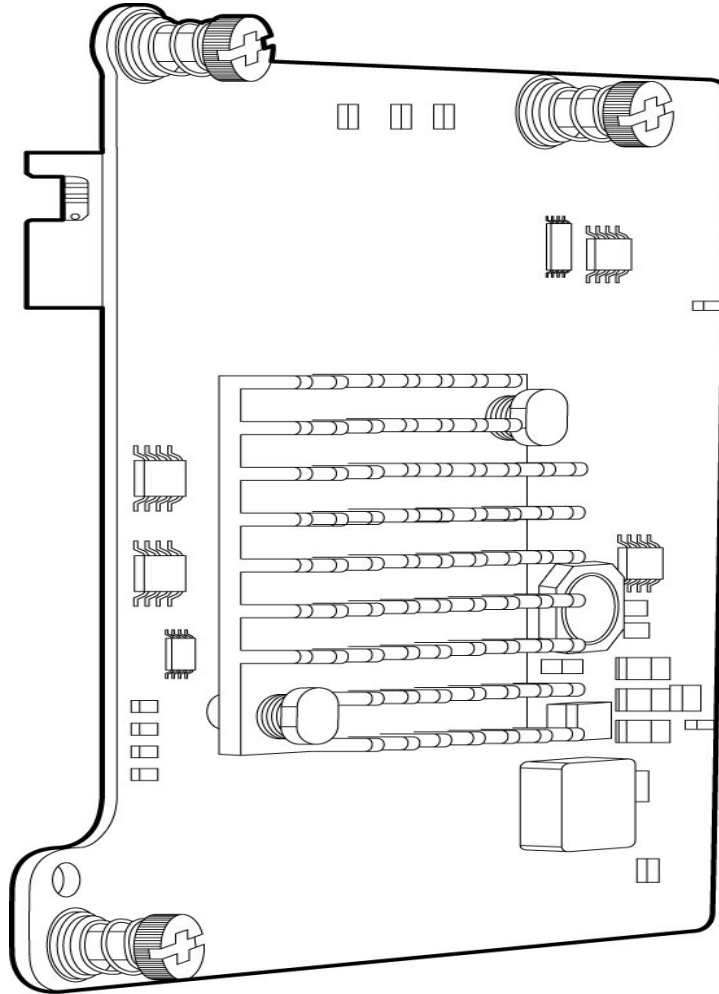


Overview

The HP 570FLR-SFP dual-port 10Gb Ethernet SFP+ Onload server adapter is based on Solarflare's next generation 10GbE controller, Solarflare™ SFC9120, and delivers unmatched message rates with low latency and jitter over standard Ethernet along with the lowest CPU utilization and power consumption, enabling the industry's best performance and scalability for financial services and other enterprise data centers. The HP 570M supports high performance networking features such as VLAN tagging, low latency interrupts, TCP and UDP checksum offloading, MSI-X, NIC teaming (bonding), Receive Side Scaling (RSS), jumbo frames, and PXE boot.



HP Ethernet 10Gb 2-port 570M Adapter

Models

HP Ethernet 10Gb 2-port 570M Adapter

718935-B21

NOTE: The HP 570M on each server blade connects to a 10Gb interconnect in bays 3-8 (HP BladeSystem c7000 Enclosure) or bays 2-4 (HP BladeSystem c3000 Enclosure).

NOTE: The HP 570M adapter requires a minimum of 2 GB of server memory.

Overview

Kit contents

- HP Ethernet 10Gb 2-port 570M Adapter
- Quick install card
- Product warranty statement
- Drivers, user guide, and utilities via: <http://www.hp.com>

Compatibility

HP ProLiant Server Support

HP ProLiant BL460c Gen8

Supported Interconnect Modules

- HP 6120XG Blade Switch
- HP 6120G/XG Blade Switch
- HP 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
- Cisco Fabric Extender B22HP for HP
- HP GbE2c Layer 2/3 Ethernet Blade Switch
- HP 1GbE Pass Thru Module
- 10GbE Ethernet Pass-Thru Module
- HP 6125G Ethernet Blade Switch
- HP 6125G/XG Ethernet Blade Switch

NOTE: Except for the HP 6120XG and the Cisco B22 Fabric Extender, all other supported interconnects are limited to 1Gb per port connection.

Standard Features

Product Features

- Supports Open-Onload® high-performance user-level network stack for Linux
- Industry-leading throughput and latency performance
- Up to 40Gb/s bi-directional near line rate throughput
- Hardware acceleration TCP/IP/UDP stateless intelligent offloads
- SR-IOV capable in hardware (requires server FW, SW and OS support)
- PXE, Jumbo Frames, Checksum & Segmentation Offload, IPv6 and RSS
- On board temperature monitor
- Standard server operating system support
- Standard NC series option kit warranty, support, services
- Field replaceable and upgradeable
- Preboot eXecution Environment (PXE) enabled
- Integrated PHY and MAC

Dual-port 10 Gigabit Ethernet Throughput (theoretical bandwidth)

The 20 Gbps full duplex Ethernet transfer rate per port (40 Gbps aggregate full duplex) delivers outstanding network performance that improves response time and removes bottlenecks.

Jumbo Frames

The HP 570M adapter supports jumbo frames (also known as extended frames) with a maximum transmission unit (MTU) of up to 9.5K bytes when running Ethernet and/or, which is over five times the size of standard 1500-byte Ethernet frame. Jumbo frames can help achieve higher throughput and better CPU utilization. Jumbo frames are particularly useful for database transfers.

MSI and MSI-X

Message Signaled Interrupt (Extended) provides performance benefits for multi-core servers by load balancing interrupts between CPUs/cores

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.

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.

802.1Q VLANs

The HP 570M adapter supports the IEEE 802.1Q virtual local area network (VLAN) protocol that allows each physical port to be assigned to a VLAN 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.

TCP/IP Stateless Offloading

For overall improved system response, the HP 560M adapter 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.
- Large send offload (LSO), also known as TCP segmentation offload (TSO), allows TCP segmentation to be handled by the adapter rather than the CPU.

Standard Features

Optimized for Virtualization

Intel Virtualization Technology for Connectivity (VT-c) with VMDq and SR-IOV provides I/O Virtualization support for VMware NetQueue, Microsoft VMQ to help meet the performance demands of consolidated virtual workloads.

Compliant with Single-Root I/O Virtualization (SR-IOV), accommodating multiple Virtual Machines (VMs) to share single PCIe resources. The device is capable of SR-IOV, and requires Software and OS support.

IEEE 1588 & 802.1AS

Support hardware-enabled IEEE 1588, a standard that defines PTP (Precision Time Protocol), a high-precision time protocol for clock synchronization used in measurement and control systems.

PXE Boot Support

Supports the Preboot eXecution Environment (PXE) allows the server to boot over the network and download software residing in the network.

Network Adapter Teaming

The HP 560M adapter support for NIC teaming helps IT administrators increase network fault tolerance and improve workload balance. These capabilities optimize availability, improve performance and help reduce costs.

Management Support

The HP 570M adapter can be administered from HP Systems Insight Manager (SIM). The adapters can be managed individually or in teams, providing SNMP based statistics for reporting purposes. The 560M adapter can also be managed by other applications with SNMP support.

HP Sea of Sensors 3D

Support for HP's Sea of Sensors which is a collection of 32 sensors that automatically track thermal activity - heat - across the server. When temperatures get too high, sensors can kick on fans and make other adjustments to reduce energy usage. What makes it better is the upgrade from all six fans kicking on at one time to a new system where only one kicks on - the one in proximity of the area that started heating up - thus reducing the amount of energy used for cooling.

HP Active Health System

Supports HP Active Health System monitors and records changes in the server hardware and configuration enabling customers to have accurate information that will assist in diagnosing problems and delivering rapid resolution when server failures occur.

RDMA

The HP 570M does not support RDMA

iSCSI

The HP 570M does not support iSCSI

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

Standard Features

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

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 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>

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 Services

Related HP Care Pack Services to enhance your HP product experience

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

c-Class BladeSystem Adapters

FlexibleLOM Adapters

| | |
|--|------------|
| HP FlexFabric 10Gb 2-port 554FLB Adapter | 647586-B21 |
| HP Flex-10 10Gb 2-port 530FLB Adapter | 656590-B21 |
| HP Ethernet 10Gb 2-port 560FLB Adapter | 655639-B21 |
| HP Ethernet 1Gb 2-port 361FLB Adapter | 652500-B21 |

Mezzanine Adapters

| | |
|-------------------------------------|------------|
| HP Flex-10 10Gb 2-port 530M Adapter | 631884-B21 |
| HP Flex-10 10Gb 2-port 552M Adapter | 674764-B21 |
| HP FlexFabric 10Gb 2P 554M Adapter | 647590-B21 |
| HP Ethernet 1Gb 4-port 366M Adapter | 615729-B21 |

c-Class BladeSystem Interconnect Options

| | |
|--|------------|
| HP 6120XG Blade Switch | 516733-B21 |
| HP 6120G/XG Blade Switch | 498358-B21 |
| HP 1:10Gb Ethernet BL-c Switch | 438031-B21 |
| Cisco Catalyst 3120G Blade Switch for HP | 451438-B21 |
| Cisco Catalyst 3120X Blade Switch for HP | 451439-B21 |
| Cisco Catalyst 3020 Blade Switch | 410916-B21 |
| Cisco Fabric Extender B22HP for HP | 641146-B21 |
| HP GbE2c Layer 2/3 Ethernet Blade Switch | 410917-B21 |
| HP 1GbE Pass Thru Module | 406740-B21 |
| 10GbE Ethernet Pass-Thru Module | 406740-B21 |
| HP 6125G Ethernet Blade Switch | 658247-B21 |
| HP 6125G/XG Ethernet Blade Switch | 658250-B21 |

Technical Specifications

| | | | | |
|---|--|--|---|--|
| General Specifications | Network processor | Solarflare (SFC 9120) | | |
| | Data rate | Two ports, each at 20 Gbps full duplex; 40 Gbps aggregate full duplex theoretical bandwidth. | | |
| | Bus type | PCI Express v2.0 (Gen 2) x8 | | |
| | Form factor | Type A Mezzanine Card | | |
| | IEEE Compliance | 802.3, , 802.3x, 802.3ad, 802.3p/802.1q, 802.3ae | | |
| Power and Environmental Specifications | Operating Temperature | Humidity | 5°C to 55°C / 41°F to 131°F | |
| | | | 10% to 90% non-condensing | |
| | Power requirement | 7.5W 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 | 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 | Red Hat Enterprise Linux 5. 8, 5.9, 6.2 and 6.3 SLES 10 SP4 and 11SP2 | | | |

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>

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|---|---|--|
| 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.

Technical Specifications

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