Overview

HPE Ethernet 10Gb 2-port 570FLR-SFP+ Adapter

The HPE 570FLR-SFP dual-port 10Gb Ethernet SFP+ Onload server adapter is based on Solarflare's second generation 10GbE controller, Solarflare™ SFC9020, 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 HPE 570SFP+ has two SFP+ cages that enable connections with DACs as well as SR fiber optic modules. It 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

HPE Ethernet 10Gb 2-port 570FLR-SFP+ Adapter

Platform Information

Models

HP Ethernet 10Gb 2-port 570FLR-SFP+ Adapter	717491-B21

Kit Contents

Quick install card
Product warranty statement

Compatibility - Supported Servers

HPE ProLiant DL360p Gen8
HPE ProLiant DL380p Gen8
HPE ProLiant DL560 Gen8
NOTE: This is a list of supported servers. Some may be discontinued.

Standard Features

At a Glance Features	Supports Open-Onload® high-performance user-level network stack for Linux Hardware acceleration TCP/IP/UDP stateless intelligent offloads Industry-leading throughput and latency performance Up to 40 Gb/s bi-directional near line rate throughput On board temperature monitor Integrated PHY and MAC Preboot eXecution Environment (PXE) enabled SR-IOV capable in hardware (requires server FW, SW and OS support) PXE, Jumbo Frames, Checksum & Segmentation Offload, IPv6 and RSS Standard server operating system support Standard NC series option kit warranty, support, services Field replaceable and upgradeable
Throughput-Theoretical Bandwidth	This adapter delivers 20 Gb/s bi-directional Ethernet transfer rate per port (40 Gb/s per adapter), providing the network performance needed to improve response times and alleviate bottlenecks.
802.1Q VLANs	IEEE 802.1Q virtual local area network (VLAN) protocol allows each physical port of this adapter 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.
Checksum & Segmentation Offload	Normally the TCP Checksum is computed by the protocol stack. Segmentation Offload is technique for increasing outbound throughput of high-bandwidth network connections by reducing CPU overhead. The technique is also called TCP segmentation offload (TSO) when applied to TCP, or generic segmentation offload (GSO).
Configuration Utilities	This adapter 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.
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.
IPv6	IPv6 uses 128-bit addressing allowing for more devices and users on the internet. IPv4 supported 32-bit addressing.

Standard Features

Jumbo Frames	This adapter supports Jumbo Frames (also known as extended frames), permitting up to a 9,000 byte (KB) transmission unit (MTU) when running Ethernet I/O traffic. This is over five times the size of a standard 1500-byte Ethernet frame. With Jumbo Frames, networks can achieve higher throughput performance and greater CPU utilization. These attributes are particularly useful for database transfer and tape backup operations.
LED Indicators	LED indicators show link integrity and network activity for easy troubleshooting.
Management Support	This adapter ships with agents that can be managed from HPE Systems Insight Manager or other management application that support SNMP.
Message Signaled Interrupt (Extended) (MSI-X)	Message Signaled Interrupt (Extended) provides performance benefits for multi-core servers by load balancing interrupts between CPUs/cores.
Network Adapter Teaming	This adapter support for NIC teaming helps IT administrators increase network fault tolerance and increased network bandwidth, the team of adapters can work together as a single virtual adapter, providing support for several different types of teaming enabling IT administrators to optimize availability, improve performance and help reduce costs.
Optimized for Virtualization	I/O Virtualization support for VMware NetQueue and Microsoft VMQ helps meet the performance demands of consolidated virtual workloads.
PCI Express Interface	This adapter 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.
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.
Receive Side Scaling (RSS)	RSS resolves the single-processor bottleneck by allowing the receive side network load from a network adapter to be shared across multiple processors. RSS enables packet receive-processing to scale with the number of available processors.

Standard Features

Receive Flow Steering (RFS)	Receive Flow Steering (RFS) acceleration improves processing efficiency by steering received packets to the CPU core that is running the application that consumes those packets. Aligning I/O processing to the CPU core running the application improves cache efficiency, CPU utilization, throughput and latency.
Server Integration	This adapter is a validated, tested, and qualified solution that is optimized for HPE ProLiant servers. Hewlett Packard Enterprise validates a wide variety of major operating systems drivers with the full suite of web-based enterprise management utilities including HPE Intelligent Provisioning and HPE 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.
TCP/UDP/IP	For overall improved system response, this adapter supports standard TCP/IP offloading techniques including: TCP/IP, UDP 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.
Warranty	Maximum: The remaining warranty of the HPE product in which it is installed (to a maximum three-year, limited warranty). Minimum: One year limited warranty. **NOTE:** Additional information regarding worldwide limited warranty and technical support is available at: **http://h17007.www1.hpe.com/us/en/enterprise/servers/warranty/index.aspx#.V4e3tPkrJhE**

Service and Support

Service and Support	**NOTE:** This adapter is covered under HPE Support Services/ Service Contract applied to the HPE ProLiant Server or enclosure. No separate HPE Support Services need to be purchased. Most HPE branded options sourced from HPE that are compatible with your product will be covered under your main product support at the same level of coverage, allowing you to upgrade freely. Additional support is required on select workload accelerators, switches, racks and UPS options 12KVA and over. Coverage of the UPS battery is not included under HPE support services; standard warranty terms and conditions apply.
Warranty and Support Services	Warranty and Support Services will extend to include HPE options configured with your server or storage device. The price of support service is not impacted by configuration details. HPE sourced options that are compatible with your product will be covered under your server support at the same level of coverage allowing you to upgrade freely. Installation for HPE options is available as needed. To keep support costs low for everyone, some high value options will require additional support. Additional support is only required on select high value workload accelerators, fibre switches, InfiniBand and UPS options 12KVA and over. Coverage of the UPS battery is not included under TS support services; standard warranty terms and conditions apply.
Protect your business beyond warranty with HPE Support Services	HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to HPE to help prevent problems and solve issues faster. HPE Support Services enable you to choose the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement to the support you need for your IT and business. Protect your product, beyond warranty.
Parts and Materials	Hewlett Packard Enterprise will provide HPE-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. Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services. The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.
For more information	Visit the Hewlett Packard Enterprise Service and Support **website**.

Related Options

Cables - Direct Attach	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.	
Cables - Fiber Optic	HPE LC to LC Multi-mode OM3 2-Fiber 0.5m 1-Pack Fiber Optic Cable	AJ833A
	HPE LC to LC Multi-mode OM3 2-Fiber 1.0m 1-Pack Fiber Optic Cable	AJ834A
	HPE LC to LC Multi-mode OM3 2-Fiber 5.0m 1-Pack Fiber Optic Cable	AJ836A
	HPE LC to LC Multi-mode OM3 2-Fiber 15.0m 1-Pack Fiber Optic Cable	AJ837A
	HPE LC to LC Multi-mode OM3 2-Fiber 30.0m 1-Pack Fiber Optic Cable	AJ838A
	HPE 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.	
Transceivers	HP BladeSystem c-Class 10Gb Short Range Small Form-Factor Pluggable Option	455883-B21
	HP BladeSystem c-Class 10Gb Long Range Small Form-Factor Pluggable Option	455886-B21
	HP BLc Virtual Connect 1Gb SX Small Form Factor Pluggable Option Kit	453151-B21
	NOTE: Fiber transceivers and cables must be purchased separately for fiber-optic environments.	

Technical Specifications

General Specifications	**Network Processor**	Solarflare (SFC 9020)
	Data Rate	Two ports, each at 20 Gb/s bi-directional; 40 Gb/s aggregate bi-directional theoretical bandwidth.
	Bus type	PCI Express 2.0 at 5 GT/s x8
	Form Factor	Standard and low profile adapter compliant with the PCIe standard
	IEEE Compliance	802.3, 802.3x, 802.3ad, 802.3p, 802.1q, 802.3ae
Power and Environmental Specifications	**Power**	5.9W Typical, 7.5W maximum
	Temperature - Operating	5° to 55° C (41° to 131° F)
	Humidity - Operating	5% to 95% non-condensing
	Emissions Classification	Class B
	Agency Approvals	USA: FCC Part 15 Class B Canada: ICES-003 (B)/NMB-3 (B) Japan: VCCI 2011-04 Class B International: EN55022:2010 + Class B, EN55024:2010; EN61000-3-2:2006, EN61000-3-3:2008 Australia/New Zealand (AS/NZS): AS/NZS CISPR 22: 2009+A1:2010 Class B Korea: KN22 Class B, KN24
	RoHS Compliance	EU RoHS Directive 2011/65/EU
	Safety	UL Mark (USA and Canada) CE Mark EN 605901 2nd edition
Operating System and Virtualization Support	The Operating Systems supported by this adapter are based on the server OS support. Please refer to the OS Support Matrix at **https://www.hpe.com/us/en/servers/server-operating-systems.html**.	
Environment-friendly Products and Approach - End-of-life Management and Recycling	Hewlett Packard Enterprise offers end-of-life **product return, trade-in, and recycling programs**, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner. The EU WEEE Directive (2012/19/EU) 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 Enterprise web site**. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.	

Summary of Changes

Date	Version History	Action	Description of Change
23-Oct-2016	Version 4	Changed	Technical specifications - operating system, Service and Support and Part and Materials sections were updated.
05-Dec-16	Version 3	Changed	Related Options and Technical Specifications section were updated.
		Removed	Obsolete SKUs were deleted: 221691-B21, 221691-B22, 221691-B23, 221692-B21, 221692-B22, 221692-B23, 221692-B26, 221692-B27, 503746-B21, 412648-B21, 435508-B21, 394791-B21, 394793-B21, 538696-B21, 458492-B21, 468332-B21, 593717-B21, 489892-B21, 581201-B21, 614203-B21, 629135-B21, 629138-B21, 629142-B21.
10-Sep-2016	Version 2	Changed	Compatibility, 10 Gigabit Server Adapters, and FlexibleLOM Servers were revised.
10-Jun-2016	Version 1	New	Initial Version.

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