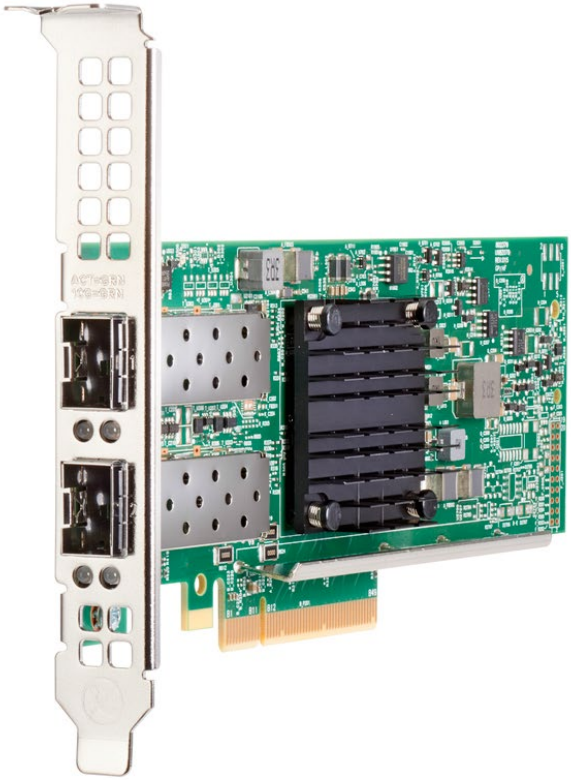
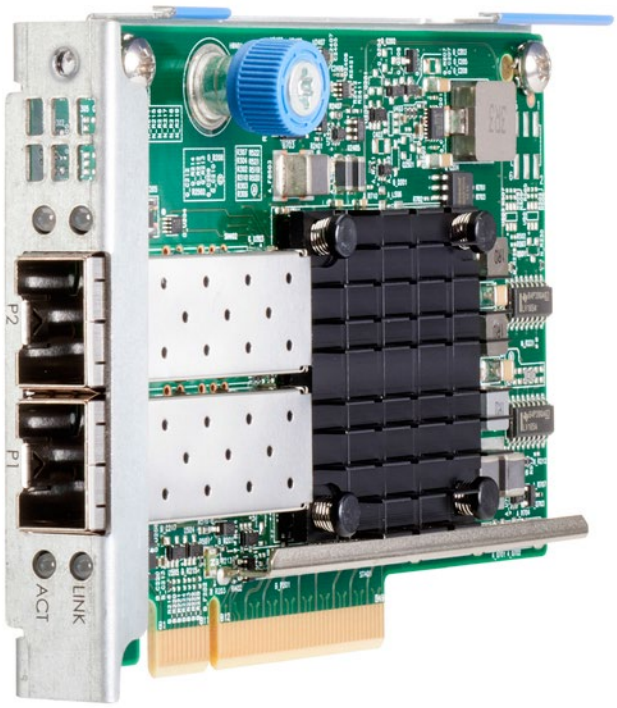
Overview

Compute 10/25Gb Ethernet Adapters for HPE

HPE Compute 10/25Gb Ethernet Adapters for HPE are ideal for high performance computing, server virtualization, security, server consolidation, and other applications requiring highest throughput.





Overview

Models

Generation Support:		Gen10+	Gen11	Gen12
Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P26262-B21	X	X	X
Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10115-B21	X	X	X
Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE	P26264-B21	X	X	X
Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE	P26269-B21	X	X	X
Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P08443-B21	X	X	X
Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10106-B21	X	X	X
Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE	P08458-B21	X	X	X
Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE	P41614-B21		X	X
Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 MCLK Adapter for HPE	P41636-B21		X[1]	
Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 MCLK Non-GNSS Adapter for HPE	P75068-B21		X[1]	
Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P42044-B21	X	X	X
Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P42041-B21	X	X	X
Mellanox MCX512F-ACHT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P13188-B21	X	X[2]	
Mellanox MCX562A-ACAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10112-B21	X	X[2]	
Xilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P21109-B21	X	X	X

Notes: Please go to Service and Support Section to visit the hyperlinks.

- [1] P41636-B21 and P41636-B21 (with Master Clock feature) are qualified on DL110 Gen11 server platform only
- [2] P13188-B21 and P10112-B21 are qualified on DL360 Gen11 and DL380 Gen11 server platforms only

Kit Contents

PCIe Ethernet Adapter Option Kits include:

- HPE Ethernet Adapter (with Full-Height bracket installed)
- Quick install card
- Product warranty statement
- Low Profile Bracket

OCP Ethernet Adapter Option Kits include:

- HPE Ethernet Adapter
- Quick install card
- Product warranty statement

Overview

Server support

Network Adapters below are supported on select HPE ProLiant DL110/320/325/340/345/360/365/380/385/560/580 & Alletra 2000/4100/4200/6500 Servers

Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE
Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE
Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE
Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE
Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE
Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE
Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE
Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE
Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 MCLK Adapter for HPE
Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 MCLK Non-GNSS Adapter for HPE
Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE
Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE
Mellanox MCX512F-ACHT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE
Mellanox MCX562A-ACAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE
Xilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter for HPE

Please consult Server Platform QuickSpecs for details on supported SKUs and configurations

Standard Features

Table 1				
SKU	P10115-B21	P26262-B21	P26269-B21	P26264-B21
Description	Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE	Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE
Card Type/Profile	OCP 3.0	Stand up	OCP 3.0	Stand up
ASIC/Chip	Broadcom BCM57414	Broadcom BCM57414	Broadcom BCM57504	Broadcom BCM57504
PCIe Version	PCIe 3.0 x8	PCIe 3.0 x8	PCIe 4.0 x16	PCIe 4.0 x16
Power Requirement	Typical: 11.6 W	Typical: 9.1 W Max: 9.9 W	Typical 16.0W Max 16.9W	Typical 15.2W Max 16.7W
UEFI PXE Boot	√	√	√	√
Legacy BIOS PXE Boot	√	√	√	√
Wake-on-LAN (WOL)	√		√	
Internet Protocol (IP) IPv4, IPv6	√	√	√	√
Auto Negotiation	1Gb, 10Gb, 25Gb	1Gb, 10Gb, 25Gb,	10Gb, 25Gb	10Gb, 25Gb
iSCSI Remote Boot	UEFI	UEFI	UEFI	UEFI
Tunnel Offload	VXLAN, NVGRE, GENEVE	VXLAN, NVGRE, GENEVE	VXLAN, NVGRE, GENEVE	VXLAN, NVGRE, GENEVE
RDMA[1]	RoCEv1, RoCEv2	RoCEv1, RoCEv2	RoCEv2	RoCEv2
Receive Side Scaling (RSS)	√	√	√	√
VMware NetQueue and Microsoft Virtual Machine Queue (VMQ)	√	√	√	√
NPAR	8PFs or 16PFs	8PFs or 16PFs	8PFs or 16PFs	8PFs or 16PFs
Single Root I/O Virtualization (SR-IOV)	128VF (total per chip)	128VF (total per chip)	1K VF (total per chip)	1K VF (total per chip)
Data Plane Development Kit (DPDK)	√	√	√	√
Root of Trust	Hardware	Hardware	Hardware	Hardware
Authenticated Updates	√	√	√	√
Secure Boot	√	√	√	√
Audit Log	√	√	√	√
Sanitization	√	√	√	√

Notes:

- [1]HPE recommends using identical network adapters on both ends of the RoCE connection to avoid interoperability issue.
- 50G can be supported as either 2x25G NRZ or 1x50G PAM4 when using QSFP56. 100G can be supported as either 4x25G NRZ or 2x50G PAM4 when using QSFP56.
- For BCM57414, mixing link speeds of (10Gb/25Gb) between ports on a 2-port 25Gb device is not supported. (1G/10G and 1G/25G port speed mixing is supported).
- The 4-port BCM57504 does support mismatched/different (10Gb/25Gb) link speeds on different ports.

Standard Features

Table 2				
SKU	P08443-B21	P10106-B21	P08458-B21	P41614-B21
Description	Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE	Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE
Card Type/Profile	Stand up	OCP 3.0	Stand up	OCP 3.0
ASIC/Chip	Intel® E810-XXVAM2	Intel® E810-XXVAM2	Intel® Ethernet Controller E810-CAM1	Intel® Ethernet Controller E810-CAM1
PCIe Version	PCIe 4.0 x8	PCIe 4.0 x8	PCIe 4.0 x16	PCIe 4.0 x16
Power Requirement	Typical: 8.9 W Maximum: 9.7 W	Typical: 8.9 W Maximum: 10.1 W	Typical: 14.2 W Maximum: 16.7W	Typical: 14.6W Maximum: 18.2W
UEFI PXE Boot	√	√	√	√
Legacy BIOS PXE Boot	√	√	√	√
Wake-on-LAN (WOL)		√		√
Internet Protocol (IP) IPv4, IPv6	√	√	√	√
Auto Negotiation[2]	√	√	√	√
iSCSI Remote Boot	iSCSI boot supported (UEFI), iSCSI acceleration only supported with TCP acceleration	iSCSI boot supported (UEFI), iSCSI acceleration only supported with TCP acceleration	iSCSI boot supported (UEFI), iSCSI acceleration only supported with TCP acceleration	iSCSI boot supported (UEFI), iSCSI acceleration only supported with TCP acceleration
Tunnel Offload	VXLAN, GENEVE, and NVGRE	VXLAN, GENEVE, and NVGRE	VXLAN, GENEVE, and NVGRE	VXLAN, GENEVE, and NVGRE
RDMA[1]	(iWARP & RoCEv2)	(iWARP & RoCEv2)	(iWARP & RoCEv2)	iWARP & RoCEv2
Receive Side Scaling (RSS)	√	√	√	√
VMware NetQueue and Microsoft Virtual Machine Queue (VMQ)	√	√	√	√
NPAR				
Single Root I/O Virtualization (SR-IOV)	256VFs/port, 2k Total	256VFs/port, 2k Total	256VFs/port, 2k Total	256VFs/port, 2k Total
Data Plane Development Kit (DPDK)	√	√	√	√
Root of Trust	Hardware	Hardware	Hardware	Hardware
Authenticated Updates	√	√	√	√
Secure Boot	√	√	√	√
Audit Log				
Sanitization	√	√	√	√

Notes:

– [1]HPE recommends using identical network adapters on both ends of the RoCE connection to avoid interoperability issue.

– [2] Intel Ethernet Adapters support mixing different port speeds on different ports of the same card.

Standard Features

Table 3				
SKU	P41636-B21	P75068-B21	P42044-B21	P42041-B21
Description	Intel E810-XXVDA4T Ethernet 10/25Gb 4-port SFP28 MCLK Adapter for HPE	Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 MCLK Non-GNSS Adapter for HPE	Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE
Card Type/Profile	Stand up	Stand up	Stand up	OCP 3.0
ASIC/Chip	Intel® Ethernet Controller E810-CAM1	Intel® Ethernet Controller E810-CAM1	Mellanox MCX631102AS-ADAT	Mellanox MCX631432AS-ADAI
PCIe Version	PCIe 4.0 x16	PCIe 4.0 x16	PCIe 4x8	PCIe 4x8
Power Requirement	Typical: 19.3 W Maximum: 24.9 W	Typical: 19.3 W Maximum: 24.9 W	Typical: 13W Max: 18.4W	Typical: 13W Max: 18.4W
UEFI PXE Boot	√	√	√	√
Legacy BIOS PXE Boot	√	√	√	√
Wake-on-LAN (WOL)				√
Internet Protocol (IP) IPv4, IPv6	√	√	√	√
Auto Negotiation[2]	√	√	1/10/25Gb	1/10/25Gb
iSCSI Remote Boot	iSCSI boot supported (UEFI), iSCSI acceleration only supported with TCP acceleration	iSCSI boot supported (UEFI), iSCSI acceleration only supported with TCP acceleration	UEFI	UEFI
Tunnel Offload	VXLAN, GENEVE, and NVGRE	VXLAN, GENEVE, and NVGRE	VXLAN, NVGRE, GENEVE	VXLAN, NVGRE, GENEVE
RDMA[1]	(iWARP & RoCEv2)	(iWARP & RoCEv2)	RoCEv1, RoCEv2	RoCEv1, RoCEv2
Receive Side Scaling (RSS)	√	√	√	√
VMware NetQueue and Microsoft Virtual Machine Queue (VMQ)	√	√	√	√
NPAR				
Single Root I/O Virtualization (SR-IOV)	256VFs/port, 2k Total	256VFs/port, 2k Total	256VFs/port, 2k Total	256VFs/port, 2k Total
Data Plane Development Kit (DPDK)	√	√	√	√
Root of Trust	Hardware	Hardware	Hardware	Hardware
Authenticated Updates	√	√	√	√
Secure Boot	√	√	√	√
Audit Log			√	√
Sanitization	√	√	√	√
SPDM Support				

Notes:

– [1]HPE recommends using identical network adapters on both ends of the RoCE connection to avoid interoperability issue

– [2] Intel and Mellanox Ethernet Adapters support mixing different port speeds on different ports of the same card

Standard Features

Table 4			
SKU	P13188-B21	P10112-B21	P21109-B21
Description	Mellanox MCX512FACHT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	Mellanox MCX562AACAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	Xilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter for HPE
Card Type/Profile	Stand up	OCP 3.0	Stand up
ASIC/Chip	Mellanox MCX512FACHT	Mellanox MCX562AACAI	Solarflare X2522-25G-PLUS
PCIe Version	PCIe 3.0 x16	PCIe 3.0 x16	PCIe 3.0 x8
Power Requirement	Typical: 8W Max: 10W	Typical: 6.3W Max: 8.9W	Typical: 14W Max: 17.5W
UEFI PXE Boot	√	√	√
Legacy BIOS PXE Boot	√	√	√
Wake-on-LAN (WOL)		√	
Internet Protocol (IP) IPv4, IPv6	√	√	√
Auto Negotiation[2]	10Gb, 25Gb	10Gb, 25Gb	10Gb, 25Gb
iSCSI Remote Boot	UEFI	UEFI	UEFI
Tunnel Offload	VXLAN, NVGRE, GENEVE	VXLAN, NVGRE, GENEVE	VXLAN, NVGRE, GENEVE
RDMA[1]	RoCEv1, RoCEv2	RoCEv1, RoCEv2	RoCEv1, RoCEv2
Receive Side Scaling (RSS)	√	√	√
VMware NetQueue and Microsoft Virtual Machine Queue (VMQ)	√	√	√
NPAR			
Single Root I/O Virtualization (SR-IOV)	512 VF's total	512 VF's total	240 VF's total
Data Plane Development Kit (DPDK)	√	√	√
Root of Trust	Firmware	Firmware	Firmware
Authenticated Updates	√	√	√
Secure Boot	√	√	√
Audit Log	√	√	√
Sanitization	√	√	√
SPDM Support			
OS Support	Xilinx has reduced OS support compared to HPE ProLiant servers. Please check Xilinx website for latest OS support: **https://www.xilinx.com/support/download/nic-software-and-drivers.html**		
Platform Support	Supported on Gen10+, and DL360 and DL380 only on Gen11	Supported on DL360, DL380 only in Gen11 and Gen12	
Notes: [1]HPE recommends using identical network adapters on both ends of the RoCE connection to avoid interoperability issue			

Standard Features

Audit Logs
Audit Logs are a forensics capability that provides traceability into authenticated firmware updates by capturing changes in standard system logs.

Authenticated Updates
Authenticated Updates brings cryptographic keys onto the NIC (for HW Authentication) to protect user and configuration data from unauthorized access and verify digitally signed firmware.

Auto-negotiation
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.

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
The 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.

Device-level Firewall
Device-level Firewall blocks any unmanaged access to memory or storage. This ensures that on-device firmware and configuration data can only be accessed by authorized agents.

DMA Coalescing
Supports DMA Coalescing, the incoming data packets and interrupts associated with these DMA calls are intelligently batched to keep the system devices in lower power states.

DPDK
DPDK with benefit for packet processing acceleration and use in NFV deployments.

HPE Sea of Sensors3D
Support for the HPE 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 initiate fans and make other adjustments to reduce energy usage. A significant improvement lies in the ability to apply fan speed increases only to the portion of the system that is rising in temperature, rather than all six fans in unison, which reduces the amount of energy used for cooling.

HW Root of Trust
Root of Trust enables a chain of trust for Authenticating updates to firmware via signature validation. This blocks installation of rogue or corrupted firmware and ensures that the executing firmware is trusted.

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

iWARP RDMA
Delivers RDMA on top of the pervasive TCP/IP protocol. iWARP RDMA runs over standard network and transport layers and works with all Ethernet network infrastructure. TCP provides flow control and congestion management and does not require a lossless Ethernet network. iWARP is a highly routable and scalable RDMA implementation.

Jumbo Frames
Jumbo Frames (also known as extended frames), permitting up to a 9,600 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.

Load Balancing
Transmit Load Balancing (TLB) and Switch-assisted Load Balancing (SLB) are two advanced features that customers can use to build a bigger pipe for improved networking bandwidth. These port-bonding techniques enable users to install up to four dual-port HPE 361T adapters (total of 8 ports) in a HPE ProLiant server and aggregate their throughput up to a theoretical maximum of 16 Gigabits per second full-duplex transmissions.

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

Network Adapter Teaming
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.

Network Fault Tolerance (NFT)
Network Fault Tolerance, sometimes called "failover" or "NIC Redundancy," allows for the installation of multiple server adapters so that the active device can be backed up by a redundant adapter to improve availability. The Hewlett Packard Enterprise teaming utility also allows users to specify that when a failed adapter is fixed and replaced, the original adapter resumes its function as the primary network connection.

Network Partitioning (NPAR)
Network Partitioning (NPAR) allowing administrators to configure a 10 Gb port as four separate partitions or physical functions. Each PCI function is associated with a different virtual NIC. To the OS and the network, each physical function appears as a separate NIC port.

Optimized for Virtualization
I/O Virtualization support for VMware NetQueue and Microsoft VMQ helps meet the performance demands of consolidated virtual workloads.

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.

Precision Time Protocol (IEEE 1588 PTP)
Synchronization of system clocks throughout a network, achieving clock accuracy in the sub-microsecond range, making it suitable for measurement and control systems.

Standard Features

RDMA

Remote Direct memory Access (RDMA) is an accelerated I/O delivery mechanism that allows data to be transferred directly from the user memory of the source server to the user memory of the destination server bypassing the operating system (OS) kernel. Because the RDMA data transfer is performed by the DMA engine on the adapter's network processor, the CPU is not used for the data movement, freeing it to perform other tasks such as hosting more virtual workloads (increased VM density). RDMA protocols include RoCEv1, RoCEv2 and iWARP. All of these protocols reduce overall latency to deliver accelerated performance for applications such as Microsoft Hyper-V Live Migration, Microsoft SQL and Microsoft SharePoint with SMB Direct.

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.

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.

Sanitization

Sanitization (Secure User Data Erase) renders User and configuration data on the NIC irretrievable so that NICs can be safely repurposed or disposed.

Secure Boot

Secure Boot safeguards the system and ensures no rogue drivers are being executed on start-up.

Server Integration

The 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.

Single-Root I/O Virtualization

Single-Root I/O Virtualization (SR-IOV) provides a mechanism to bypass the host system hypervisor in virtual environments providing near metal performance and server efficiency. SR-IOV provides mechanism to create multiple Virtual Functions (VFs) to share single PCIe resources. The device is capable of SR-IOV, and requires Server BIOS support, controller firmware, and OS support.

TCP/UDP/IP

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.

Tunnel Offload

Minimize the impact of overlay networking on host performance with tunnel offload support for VXLAN, NVGRE and GENEVE. By offloading packet processing to adapters, customers can use overlay networking to increase VM migration flexibility and virtualized overlay networks with minimal impact to performance. HPE Tunnel Offloading increases I/O throughput, reduces CPU utilization, and lowers power consumption. Tunnel Offload supports VMware's VXLAN, Microsoft's NVGRE solutions and Generic Network Virtualization Encapsulation (GENEVE) solutions.

Standard Features

VMware NetQueue and Microsoft Virtual Machine Queue (VMQ)

VMware NetQueue is technology that significantly improves performance of 10 Gigabit Ethernet network adapters in virtualized environments. Windows Hyper-V VMQ (VMQ) is a feature available on servers running Windows Server 2008 R2 with VMQ-enabled Ethernet adapters. VMQ uses hardware packet filtering to deliver packet data from an external virtual machine network directly to virtual machines, which reduces the overhead of routing packets and copying them from the management operating system to the virtual machine.

Wake-on-LAN

Wake-on-LAN (WoL) support through the PCI Express bus. A system that supports Wake-on-LAN can remain available to the systems administrator during its normal downtime. Once the machine is awakened, the systems administrator can remotely control, audit, debug, or manage the machine.

Service and Support

HPE Services

No matter where you are in your digital transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.

https://www.hpe.com/services

Consulting Services

No matter where you are in your journey to hybrid cloud, experts can help you map out your next steps. From determining what workloads should live where, to handling governance and compliance, to managing costs, our experts can help you optimize your operations.

https://www.hpe.com/services/consulting

HPE Managed Services

HPE runs your IT operations, providing services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation.

HPE Managed Services | HPE

Operational services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources. Meet service-level targets and business objectives with features designed to drive better business outcomes.

https://www.hpe.com/services/operational

HPE Complete Care Service

HPE Complete Care Service is a modular, edge-to-cloud IT environment service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals through a personalized experience. All delivered by an assigned team of HPE Services experts. HPE Complete Care Service provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

https://www.hpe.com/services/completecare

HPE Tech Care Service

HPE Tech Care Service is the operational support service experience for HPE products. The service goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Tech Care Service delivers a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Tech Care Service is available in three response levels. Basic, which provides 9x5 business hour availability and a 2-hour response time. Essential which provides a 15-minute response time 24x7 for most enterprise level customers, and Critical which includes a 6-hour repair commitment where available and outage management response for severity 1 incidents.

https://www.hpe.com/services/techcare

Service and Support

HPE Lifecycle Services

HPE Lifecycle Services provide a variety of options to help maintain your HPE systems and solutions at all stages of the product lifecycle. A few popular examples include:

- Lifecycle Install and Startup Services: Various levels for physical installation and power on, remote access setup, installation and startup, and enhanced installation services with the operating system.
- HPE Firmware Update Analysis Service: Recommendations for firmware revision levels for selected HPE products, taking into account the relevant revision dependencies within your IT environment.
- HPE Firmware Update Implementation Service: Implementation of firmware updates for selected HPE server, storage, and solution products, taking into account the relevant revision dependencies within your IT environment.
- Implementation assistance services: Highly trained technical service specialists to assist you with a variety of activities, ranging from design, implementation, and platform deployment to consolidation, migration, project management, and onsite technical forums.
- HPE Service Credits: Access to prepaid services for flexibility to choose from a variety of specialized service activities, including assessments, performance maintenance reviews, firmware management, professional services, and operational best practices.

Notes: To review the list of Lifecycle Services available for your product go to:
https://www.hpe.com/services/lifecycle

For a list of the most frequently purchased services using service credits, see the **HPE Service Credits Menu**

Other Related Services from HPE Services:

HPE Education Services

Training and certification designed for IT and business professionals across all industries. Broad catalogue of course offerings to expand skills and proficiencies in topics ranging from cloud and cybersecurity to AI and DevOps. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.
https://www.hpe.com/services/training

Defective Media Retention

An option available with HPE Complete Care Service and HPE Tech Care Service and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and services options.

Parts and Materials

HPE 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.

How to Purchase Services

Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find services at **https://ssc.hpe.com/portal/site/ssc/**

Service and Support

AI Powered and Digitally Enabled Support Experience

Achieve faster time to resolution with access to product-specific resources and expertise through a digital and data driven customer experience

Sign into the HPE Support Center experience, featuring streamlined self-serve case creation and management capabilities with inline knowledge recommendations. You will also find personalized task alerts and powerful troubleshooting support through an intelligent virtual agent with seamless transition when needed to a live support agent.

https://support.hpe.com/hpesc/public/home/signin

Consume IT On Your Terms

HPE GreenLake edge-to-cloud platform brings the cloud experience directly to your apps and data wherever they are—the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake edge-to-cloud platform accelerates digital transformation in a distributed, edge-to-cloud world.

- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

To learn more about HPE Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at "Contact HPE"

https://www.hpe.com/us/en/contact-hpe.html

For more information

http://www.hpe.com/services

Technical Specifications

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**

Drivers and Software Download (Please use hyperlinks below)

- **Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**
- **Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE**
- **Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE**
- **Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE**

- **Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**
- **Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE**
- **Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE**
- **Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE**
- **Intel E810-XXVDA4T Ethernet 10/25Gb 4-port SFP28 MCLK Adapter for HPE**
- **Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 MCLK Non-GNSS Adapter for HPE**

- **Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**
- **Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE**
- **Mellanox MCX512F-ACHT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**
- **Mellanox MCX562A-ACAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPEXilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**

Technical Specifications

To access Vendor Technical Specifications, please visit the following hyperlinks:

- **Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**
- **Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE**
- **Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE**
- **Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE**

- **Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**
- **Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE**
- **Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE**
- **Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE**
- **Intel E810-XXVDA4T Ethernet 10/25Gb 4-port SFP28 MCLK Adapter for HPE**
- **Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 MCLK Non-GNSS Adapter for HPE**

- **Mellanox MCX512F-ACHT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**
- **Mellanox MCX562A-ACAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE**
- **Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**
- **Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE**

- **Xilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**

Technical Specifications

Transceiver and Cable Options

Please refer to Compute Transceiver and Cable Compatibility Matrix: **https://psnow.ext.hpe.com/doc/a00002507enw**

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 anufacturers 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
02-Jun-2025	Version 17	Changed	Update platform support scope on P13188-B21 and P10112-B21
03-Mar-2025	Version 16	Changed	QuickSpecs name was updated & SKUs were added by Speed
04-Dec-2023	Version 15	Changed	Service and Support Section was updated
18-Apr-2022	Version 14	Changed	Removed SKUs P13188-B21 no longer on Gen10
01-Nov-2021	Version 13	Changed	SKUs were added and Overview section was updated.
02-Aug-2021	Version 12	Changed	SKUs were added and Overview section was updated.
07-Jun-2021	Version 11	Changed	Add SKUs P13188-B21
15-Mar-2021	Version 10	Changed	Update RSS on CX4, removed EOL Gen9 Platforms
17-Aug-2020	Version 9	Changed	SKUs Descriptions were updated
01-Jun-2020	Version 8	Changed	Update power on 621SFP28, 622FLR
10-Jun-2019	Version 7	Changed	Add Network Adapter Teaming for 640 NICs
06-May-2019	Version 6	Changed	Update table format, glossary and technical specifications
04-Feb-2019	Version 5	Changed	Removed 6500 Gen10 support on 640SFP28
05-Nov-2018	Version 4	Changed	Technical Specifications Section was updated
15-Oct-2018	Version 3	Changed	Recommended Extended labels were removed
01-Oct-2018	Version 2	Changed	Platform Information & Standard Features sections were updated
13-Aug-2018	Version 1	New	New QuickSpecs

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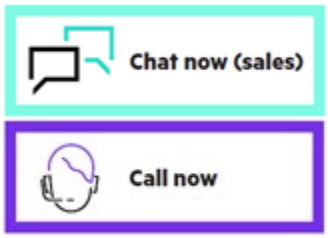

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