Overview

HPE Gen10 Plus Ethernet Adapters

HPE ProLiant DL, ML and Apollo

Driven by hybrid cloud services, mobile data and streaming video applications, IT professionals are constantly challenged to deliver secure and reliable network bandwidth that cost-effectively scales to demands of the networking traffic. For any given workload, the right mix of performance, efficiency, reliability and security are paramount.

HPE has your data center infrastructure covered with the latest networking adapters, switches, transceivers and cables for a complete end-to-end solution to support your various workload needs.

With Gen10 Plus ProLiant Servers, HPE is offering the industry's most secure server platform. Through its Root of Trust server design down to the Network Interface Card (NIC), these security features are built-in so you can deploy with confidence. HPE Gen10 Plus servers will help prevent, detect and recover from cyberattacks such as denial of service and malware-infected firmware. Protecting applications, data and infrastructure from security breaches through storage and networking security technologies is first priority for HPE Gen10 Plus Servers.

HPE Gen10 Plus Ethernet Adapters

Overview

Models

Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T Adapter for HPE	P51178-B21
Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE	P51181-B21
Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for HPE	P26253-B21
Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE	P10097-B21
Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ Adapter for HPE	P26259-B21
Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE	P26256-B21
Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P26262-B21
Broadcom BCM57414 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10115-B21
Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE	P26264-B21
Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE	P26269-B21
Intel I350-T4 Ethernet 1Gb 4-port BASE-T Adapter for HPE	P21106-B21
Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE	P08449-B21
Intel X710-DA2 Ethernet 10Gb 2-port SFP+ Adapter for HPE	P28787-B21
Intel X710-DA2 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE	P28778-B21
Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P08443-B21
Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10106-B21
Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE	P08458-B21
Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE	P21112-B21
Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter for HPE	P22767-B21
Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE	P41614-B21
Intel E810-2CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE	P41611-B21
Marvell QL41132HLRJ Ethernet 10Gb 2-port BASE-T Adapter for HPE	P08437-B21
Marvell QL41132HQRJ Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE	P10103-B21
Marvell QL41132HLCU Ethernet 10Gb 2-port SFP+ Adapter for HPE	P21933-B21
Marvell QL41132HQCU Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE	P08452-B21
Marvell QL41134HLCU Ethernet 10Gb 4-port SFP+ Adapter for HPE	P10094-B21
Marvell QL41232HLCU Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P22702-B21
Marvell QL41232HQCU Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10118-B21
Mellanox MCX512F-ACHT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P13188-B21
Mellanox MCX562A-ACAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P10112-B21
HPE Ethernet 100Gb 2-port QSFP28 MCX516A-CCHT Adapter	P21927-B21
Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE	P25960-B21
Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 Adapter for HPE	P10180-B21
Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P42044-B21
Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	P42041-B21
Xilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P21109-B21

Notes: Please go to Technical Specifications Section to visit the hyperlinks.

Standard Features

Table 1		
SKU	P51178-B21	P51181-B21
Description	Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T Adapter for HPE	Broadcom BCM5719 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE
Card Type/Profile	Stand up	OCP 3.0
ASIC/Chip	Broadcom BCM5719	Broadcom BCM5719
PCIe Version	PCIe 2.0 x4	PCIe 2.0 x4
Power Requirement	5.78W	4.69W
UEFI PXE Boot	✔	✔
Legacy BIOS PXE Boot	✔	✔
Wake-on-LAN (WOL)	No	✔
Internet Protocol (IP) IPv4, IPv6	✔	✔
Auto Negotiation	1GbE/100Mb/1Mb	1GbE/100Mb/1Mb
iSCSI Remote Boot	UEFI	UEFI
Tunnel Offload	No	No
RDMA[1]	No	No
Receive Side Scaling (RSS)	✔	✔
VMware NetQueue and Microsoft Virtual Machine Queue (VMQ)	No	No
NPAR	No	No
Single Root I/O Virtualization (SR-IOV)	No	No
Data Plane Development Kit (DPDK)	No	No
Root of Trust	Limited root of trust	Limited root of trust
Authenticated Updates	Software	Software
Secure Boot	No	No
Audit Log	No	No
Sanitization	No	No
Notes:		

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

Standard Features

Table 2				
SKU	P26256-B21	P26259-B21	P10097-B21	P26253-B21
Description	Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE	Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ Adapter for HPE	Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE	Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for HPE
Card Type/Profile	OCP 3.0	Stand up	OCP 3.0	Stand up
ASIC/Chip	Broadcom BCM57412	Broadcom BCM57412	Broadcom BCM57416	Broadcom BCM57416
PCIe Version	PCIe 3.0 x8	PCIe 3.0 x16	PCIe 3.0 x8	PCIe 3.0 x8
Power Requirement	Typical: 11.6 W	Typical: 7.9 W Max: 9.1 W	Typical: 14.6 W Max: 16.1 W	Typical: 16.4 W Max: 16.1 W
UEFI PXE Boot	✔	✔	✔	✔
Legacy BIOS PXE Boot	✔	✔	✔	✔
Wake-on-LAN (WOL)	✔			
Internet Protocol (IP) IPv4, IPv6	✔	✔	✔	✔
Auto Negotiation	1Gb, 10Gb	1Gb, 10Gb	1Gb, 10Gb	1Gb, 10Gb
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	RoCEv1, RoCEv2	RoCEv1, 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)	128VF(total per chip)	128VF(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				

Standard Features

Table 3				
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, mismatched link speed (10Gb/25Gb) between ports on a 2-port 25Gb device is not supported. BCM5704 does support mismatched/different (10Gb/25Gb) link speeds on different ports.

Standard Features

Table 4

SKU	P08449-B21	P21106-B21	P28787-B21	P28778-B21
Description	Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE	Intel I350-T4 Ethernet 1Gb 4-port BASE-T Adapter for HPE	Intel X710-DA2 Ethernet 10Gb 2-port SFP+ Adapter for HPE	Intel X710-DA2 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE
Card Type/Profile	OCP 3.0	Stand up	Stand up	OCP 3.0
ASIC/Chip	Intel® Ethernet Controller I350-AM4	Intel® Ethernet Controller I350-AM4	Intel® Ethernet Controller X710-BM2	Intel® Ethernet Controller X710-BM2
PCIe Version	PCIe 2.1 x4	PCIe 2.1 x4	PCIe 3.0 x8	PCIe 3.0 x8
Power Requirement	Typical: 4.6W Max: 5.2W	Typical: 5W Max: 6W	Typical: 3.3 W Max: 3.7 W	Typical: 2.9 W Max: 4.6 W
UEFI PXE Boot	✔	✔	✔	✔
Legacy BIOS PXE Boot	✔	✔	v	v
Wake-on-LAN (WOL)	✔			✔
Internet Protocol (IP) **IPv4, IPv6**	✔	✔	✔	✔
Auto Negotiation	✔	✔	✔	✔
iSCSI Remote Boot	UEFI	UEFI	UEFI	UEFI
Tunnel Offload	VXLAN, NVGRE	VXLAN,NVGRE	VXLAN, GENEVE, NVGRE	VXLAN, GENEVE, NVGRE
RDMA[1]				
Receive Side Scaling (RSS)	✔	✔	✔	✔
VMware NetQueue and Microsoft Virtual Machine Queue (VMQ)	✔	✔	✔	✔
NPAR				
Single Root I/O Virtualization (SR-IOV)	32VF's total	32VF's total	128 VF's total	128 VF's total
Data Plane Development Kit (DPDK)	✔	✔	✔	✔
Root of Trust				
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

Table 5

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

Standard Features

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	✔	✔	✔	✔
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

Standard Features

Table 6				
SKU	P21112-B21	P22767-B21	P41611-B21	P41636-B21
Description	Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE	Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter for HPE	Intel E810-2CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE	Intel E810-XXVDA4T Ethernet 10/25Gb 4-port SFP28 MCLK Adapter for HPE
Card Type/Profile	Stand up	OCP 3.0	Stand up	Stand up
ASIC/Chip	Intel® Ethernet Controller E810-CAM2	Intel® Ethernet Controller E810-CAM2	Intel® Ethernet Controller E810-CAM1	Intel® Ethernet Controller E810-CAM1
PCIe Version	PCIe 4.0 x16	PCIe 4.0 x16	PCIe 4.0 x16 [2]	PCIe 4.0 x16
Power Requirement	Typical: 16.9W Maximum: 19.2W	Typical:15.9W Maximum: 18.9W	Typical: 21.8W Maximum: 29.6W	Typical: 19.3 W Maximum: 24.9 W
UEFI PXE Boot	✔	✔	✔	✔
Legacy BIOS PXE Boot	✔	✔	✔	✔
Wake-on-LAN (WOL)		✔		
Internet Protocol (IP) IPv4, IPv6	✔	✔	✔	✔
Auto Negotiation	✔	✔	✔	✔
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	✔	✔	✔	✔

Standard Features

Notes:

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

[2] Bifurcated into two x8 PCIe links; iLO 5 2.55 and ROM 1.40 are needed for bifurcation

Table 7				
SKU	P21933-B21	P10094-B21	P10118-B21	P22702-B
Description	Marvell QL41132HLCU Ethernet 10Gb 2-port SFP+ Adapter for HPE	Marvell QL41134HLCU Ethernet 10Gb 4-port SFP+ Adapter for HPE	Marvell QL41232HQCU Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	Marvell QL41232H Ethernet 1 port SFP2 for HPE
Card Type/Profile	Stand up	Stand up	OCP 3.0	Stand up
ASIC/Chip	Marvell QL41102-A2G	Marvell QL41104-A2G	Marvell QL41202-A2G	Marvell Ql A2G
PCIe Version	PCIe 3.0 x8	PCIe 3.0 x8	PCIe 3.0 x8	PCIe 3.0 x
Power Requirement	Typical: 11.3 W Max: 13.1 W	Typical: 11.5 W Max: 13.6 W	Typical: 11.6 W Max: 13.5 W	Typical: 1 Max: 13.5
UEFI PXE Boot	✔	✔	✔	✔
Legacy BIOS PXE Boot	✔	✔	✔	✔
Wake-on-LAN (WOL)			✔	
Internet Protocol (IP) IPv4, IPv6	✔	✔	✔	✔
Auto Negotiation			10Gb, 25Gb	10Gb, 25G
iSCSI Remote Boot	UEFI	UEFI	UEFI	UEFI
Tunnel Offload	NVGRE, VXLAN, GRE, GENEVE	NVGRE, VXLAN, GRE, GENEVE	NVGRE, VXLAN, GRE, GENEVE	NVGRE, V GRE, GEN
RDMA[1]	RoCEv1, RoCEv2, iWARP	RoCEv1, RoCEv2, iWARP	RoCEv1, RoCEv2, iWARP	RoCEv1, iWARP
Receive Side Scaling (RSS)	✔	✔	✔	✔
VMware NetQueue and Microsoft Virtual Machine Queue (VMQ)	✔	✔	✔	✔
NPAR	✔	✔	✔	✔
Single Root I/O Virtualization (SR-IOV)	192 VF's total	192 VF's total	192 VF's total	192 VF's t
Data Plane Development Kit (DPDK)	✔	✔	✔	✔
Root of Trust	Firmware	Firmware	Firmware	Firmware
Authenticated Updates	✔	✔	✔	✔
Secure Boot	✔	✔	✔	✔
Audit Log	✔	✔	✔	✔
Sanitization	✔	✔	✔	✔

Notes: [1]HPE recommends using Identical network adapters on both ends of the RoCE connection to avoid interopera issue

Standard Features

Table 8			
SKU	P08452-B21	P08437-B21	P10103-B21
Description	Marvell QL41132HQCU Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE	Marvell QL41132HLRJ Ethernet 10Gb 2-port BASE-T Adapter for HPE	Marvell QL41132HQRJ Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE
Card Type/Profile	OCP 3.0	Stand up	OCP 3.0
ASIC/Chip	Marvell QL41102-A2G	Marvell QL41102-A2G	Marvell QL41102-A2G
PCIe Version	PCIe 3.0 x8	PCIe 3.0 x8	PCIe 3.0 x8
Power Requirement	Typical: 11.6 W Max: 13.5 W	Typical: 21 W Max: 23 W	Typical: 20.1 W Max: 25 W
UEFI PXE Boot	✔	✔	✔
Legacy BIOS PXE Boot	✔	✔	✔
Wake-on-LAN (WOL)	✔		✔
Internet Protocol (IP) IPv4, IPv6	✔	✔	✔
Auto Negotiation		1Gb, 10Gb	1Gb, 10Gb
iSCSI Remote Boot	UEFI	UEFI	UEFI
Tunnel Offload	NVGRE, VXLAN, GRE, GENEVE	NVGRE, VXLAN, GRE, GENEVE	NVGRE, VXLAN, GRE, GENEVE
RDMA[1]	RoCEv1, RoCEv2, iWARP	RoCEv1, RoCEv2, iWARP	RoCEv1, RoCEv2, iWARP
Receive Side Scaling (RSS)	✔	✔	✔
VMware NetQueue and Microsoft Virtual Machine Queue (VMQ)	✔	✔	✔
NPAR	v	✔	✔
Single Root I/O Virtualization (SR-IOV)	192 VF's total	192 VF's total	192 VF's total
Data Plane Development Kit (DPDK)	✔	✔	✔
Root of Trust	Firmware	Firmware	Firmware
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

Standard Features

Table 9

SKU	P10180-B21	P25960-B21	P13188-B21	P10112-B21
Description	Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 Adapter for HPE	Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 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
Card Type/Profile	Stand up	Stand up	Stand up	OCP 3.0
ASIC/Chip	Mellanox MCX623105AS-VDAT	Mellanox MCX623106AS-CDAT	Mellanox MCX512F-ACHT	Mellanox MCX562A-ACAI
PCIe Version	PCIe 4x16	PCIe 4x16	PCIe 3.0 x16	PCIe 3.0 x16
Power Requirement	Typical: 13W Max: 18.4W	Typical: 13W Max: 18.4W	Typical: 8W Max: 10W	Typical: 6.3W Max: 8.9W
UEFI PXE Boot	✔	✔	✔	✔
Legacy BIOS PXE Boot	✔	✔	✔	✔
Wake-on-LAN (WOL)				✔
Internet Protocol (IP) IPv4, IPv6	✔	✔	✔	✔
Auto Negotiation	1/10/25/40/50/100/200 Gb[2]	1/10/25/40/50/100 Gb	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	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 total, variable per port	512 total, variable per port	512 VF's total	512 VF's total
Data Plane Development Kit (DPDK)	✔	✔	✔	✔
Root of Trust	Hardware	Hardware	Firmware	Firmware
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

Standard Features

Table 10			
SKU	P21927-B21	P42044-B21	P42041-B21
Description	HPE Ethernet 100Gb 2-port QSFP28 MCX516A-CCHT Adapter	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	OCP 3.0
ASIC/Chip	Mellanox MCX516A -CCHT	Mellanox MCX631102AS-ADAT	Mellanox MCX631432AS-ADAI
PCIe Version	PCIe 3.0 x16	PCIe 4x8	PCIe 4x8
Power Requirement	Typical: 6.3W Max: 8.9W	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	1Gb,10Gb,25Gb, 40Gb,50Gb,100Gb	1/10/25Gb	1/10/25Gb
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 total, variable per port	512 total, variable per port
Data Plane Development Kit (DPDK)	✔	✔	✔
Root of Trust	Firmware	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

Standard Features

Table 11	
Xilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	P21109-B21
Description	Xilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter for HPE
Card Type/Profile	Stand up
ASIC/Chip	Solarflare X2522-25G-PLUS
PCIe Version	PCIe 3.0 x8
Power Requirement	Typical: 14W Max: 17.5W
UEFI PXE Boot	✔
Legacy BIOS PXE Boot	✔
Wake-on-LAN (WOL)	
Internet Protocol (IP) **IPv4, IPv6**	✔
Auto Negotiation	10Gb, 25Gb
iSCSI Remote Boot	UEFI
Tunnel Offload	VXLAN, NVGRE, GENEVE
RDMA[1]	RoCEv1, RoCEv2
Receive Side Scaling (RSS)	✔
VMware NetQueue and Microsoft Virtual Machine Queue (VMQ)	✔
NPAR	
Single Root I/O Virtualization (SR-IOV)	240 VF's total
Data Plane Development Kit (DPDK)	✔
Root of Trust	Firmware
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	

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.

Standard Features

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.

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

IPv6
IPv6 uses 128-bit addressing allowing for more devices and users on the internet. IPv4 supported 32-bit addressing.

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.

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.

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.

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.

Standard Features

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.

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.

VMware NetQueue and Microsoft Virtual Machine Queue (VMQ)

Standard Features

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.

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.

Notes: 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**

Server support
Networking Adapters below are supported on select HPE Proliant DL110/325/345/360/365/380/385 & Apollo2000/4200/6500 Gen10 Plus Servers

- Broadcom BCM5719 Ethernet 1Gb 4-port Base-T Adapter for HPE
- Broadcom BCM5719 Ethernet 1Gb 4-port Base-T OCP3 Adapter for HPE
- Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for HPE
- Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE
- Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ Adapter for HPE
- Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE
- 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 I350-T4 Ethernet 1Gb 4-port BASE-T Adapter for HPE
- Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE
- Intel X710-DA2 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE
- Intel X710-DA2 Ethernet 10Gb 2-port SFP+ 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 (Only DL110 Gen10 Plus)
- Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE
- Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter for HPE
- Intel E810-2CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE (Only DL110 Gen10 Plus)
- Marvell QL41132HLRJ Ethernet 10Gb 2-port BASE-T Adapter for HPE

Standard Features

- Marvell QL41132HQRJ Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE
- Marvell QL41132HLCU Ethernet 10Gb 2-port SFP+ Adapter for HPE
- Marvell QL41132HQCU Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE
- Marvell QL41134HLCU Ethernet 10Gb 4-port SFP+ Adapter for HPE
- Marvell QL41232HLCU Ethernet 10/25Gb 2-port SFP28 Adapter for HPE
- Marvell QL41232HQCU 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
- HPE Ethernet 100Gb 2-port QSFP28 MCX516A-CCHT Adapter(Only DL325/385/Apollo 2000 Gen10 Plus)
- Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE
- Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 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 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE
- Xilinx X2522-25G-PLUS Ethernet 10/25Gb 2-port SFP28 Adapter for HPE

Service and Support

HPE Pointnext - Service and Support

Get the most from your HPE Products. Get the expertise you need at every step of your IT journey with **HPE Pointnext Services**. We help you lower your risks and overall costs using automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally. HPE Pointnext **Advisory Services**, focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our **Operational Services** can be leveraged to speed up time-to-production, boost performance and accelerate your business. HPE Pointnext specializes in flawless and on-time implementation, on-budget execution, and creative configurations that get the most out of software and hardware alike.

Consume IT on your terms

HPE GreenLake 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 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

Managed services to run your IT operations

HPE GreenLake Management Services provides 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.

Recommended Services

HPE Pointnext Tech Care.

HPE Pointnext Tech Care is the new operational service experience for HPE products. Tech Care 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 Pointnext Tech Care has been reimagined from the ground up to support a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Pointnext Tech Care 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

HPE Pointnext Complete Care

HPE Pointnext Complete Care is a modular, edge-to-cloud IT environment service that provides a holistic approach to optimizing your entire IT environment and achieving agreed upon IT outcomes and business goals through a personalized and customer-centric experience. All delivered by an assigned team of HPE Pointnext Services experts. HPE Pointnext Complete Care provides:

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

Service and Support

- Digitally enabled and AI driven customer experience
https://www.hpe.com/services/completecare

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.
Notes: 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

Notes: This adapter is covered under HPE Operational Support Services/ Service Contract applied to the HPE ProLiant Server or enclosure. No separate HPE Operational 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 Operational 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 Operational Support Services

HPE Pointnext Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to HPE to help prevent problems and solve issues faster. HPE Operational 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 QuickSpecs, 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.

Service and Support

For more information
Visit the Hewlett Packard Enterprise Operational Support Services **website**.

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 BCM5719 Ethernet 1Gb 4-port Base-T Adapter for HPE**
- **Broadcom BCM5719 Ethernet 1Gb 4-port Base-T OCP3 Adapter for HPE**
- **Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for HPE**
- **Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for HPE**
- **Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE**
- **Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ Adapter for HPE**
- **Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE**
- **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 I350-T4 Ethernet 1Gb 4-port BASE-T Adapter for HPE**
- **Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE**
- **Intel X710-DA2 Ethernet 10Gb 2-port SFP+ Adapter for HPE**
- **Intel X710-DA2 Ethernet 10Gb 2-port SFP+ 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-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE**
- **Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter for HPE**
- **Intel E810-2CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE**
- **Marvell QL41132HLRJ Ethernet 10Gb 2-port BASE-T Adapter for HPE**
- **Marvell QL41132HQRJ Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE**
- **Marvell QL41132HLCU Ethernet 10Gb 2-port SFP+ Adapter for HPE**
- **Marvell QL41132HQCU Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE**
- **Marvell QL41134HLCU Ethernet 10Gb 4-port SFP+ Adapter for HPE**
- **Marvell QL41232HLCU Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**
- **Marvell QL41232HQCU 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**
- **HPE Ethernet 100Gb 2-port QSFP28 MCX516A-CCHT Adapter**
- **Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE**
- **Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 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 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**
- **Xilinx 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 BCM5719 Ethernet 1Gb 4-port Base-T Adapter for HPE**
- **Broadcom BCM5719 Ethernet 1Gb 4-port Base-T OCP3 Adapter for HPE**
- **Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T Adapter for HPE**
- **Broadcom BCM57416 Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE**
- **Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ Adapter for HPE**
- **Broadcom BCM57412 Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE**
- **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 I350-T4 Ethernet 1Gb 4-port BASE-T Adapter for HPE**
- **Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE**
- **Intel X710-DA2 Ethernet 10Gb 2-port SFP+ Adapter for HPE**
- **Intel X710-DA2 Ethernet 10Gb 2-port SFP+ 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-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE**
- **Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter for HPE**
- **Intel E810-2CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE**
- **Marvell QL41132HLRJ Ethernet 10Gb 2-port BASE-T Adapter for HPE**
- **Marvell QL41132HQRJ Ethernet 10Gb 2-port BASE-T OCP3 Adapter for HPE**
- **Marvell QL41132HLCU Ethernet 10Gb 2-port SFP+ Adapter for HPE**
- **Marvell QL41132HQCU Ethernet 10Gb 2-port SFP+ OCP3 Adapter for HPE**
- **Marvell QL41134HLCU Ethernet 10Gb 4-port SFP+ Adapter for HPE**
- **Marvell QL41232HLCU Ethernet 10/25Gb 2-port SFP28 Adapter for HPE**
- **Marvell QL41232HQCU 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**
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- **Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 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 Ethernet 10/25Gb 2-port SFP28 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 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 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
14-Nov-2022	Version 19	Changed	Updated drivers and support download links
03-Oct-2022	Version 18	Changed	Models were updated
06-Sep-2022	Version 17	Changed	Added P26269-B21, P26264-B21, P41636-B21, and updated links
06-Jun-2022	Version 16	Changed	Added P51178-B21, P51181-B21
02-May-2022	Version 15	Changed	SKUs were removed and updated
04-Apr-2022	Version 14	Changed	Models were updated
07-Feb-2021	Version 13	Changed	Added P42041 and P42044 CX6-LX 10/25Gb 2-port
01-Nov-2021	Version 12	Changed	Standard Features, Service and Support Sections were updated
04-Oct-2021	Version 11	Changed	Standard Features Section was updated
02-Aug-2021	Version 10	Changed	Models Section and SKUs were updated
07-Jun-2021	Version 9	Changed	Added NPAR and Legacy BIOS PXE Boot features to selected NICs
17-May-2021	Version 8	Changed	Overview Section and Models were updated
06-Apr-2021	Version 7	Changed	Models and Standard Features Sections were updated
05-Oct-2020	Version 6	Changed	Overview and Standard Features Sections were updated
01-Jun-2020	Version 5	Changed	Standard Features Section was updated, added feature definition
20-Apr-2020	Version 4	Changed	Standard Features Section was updated
06-Apr-2020	Version 3	Changed	Added tables for feature, add X2522-25G
16-Dec-2019	Version 2	Changed	Overview and Technical Specifications sections were updated
02-Dec-2019	Version 1	New	New QuickSpecs

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