

VMware Deliverable Release Notes

This document does not apply to HPE Superdome servers. For information on HPE Superdome, see the following links:

[HPE Integrity Superdome X](#)
[HPE Superdome Flex](#)

Information on HPE Synergy supported VMware ESXi OS releases, HPE ESXi Custom Images and HPE Synergy Custom SPPs is available at:

[OS Support Tool for HPE Synergy](#)

Information on HPE Synergy Software Releases is available at:

[HPE Synergy Software Releases - Overview](#)

Gen12 SPP 2026.03.00.00 Release Notes for VMware ESXi 9.0

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ROM Flash Firmware Package - HPE ProLiant Compute DL360/DL380/ML350 Gen12/Alletra Storage Server 4210 Servers (U68) Servers
Version: 1.62_02-06-2026 (**Recommended**)
Filename: U68_1.62_02_06_2026.fwpkg; U68_1.62_02_06_2026.json

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with Intel VROC v.9.3 updates.

Details about reported security vulnerabilities and their mitigation can be found at the following link [Security Bulletin Library | HPE Support](#).

To streamline content and avoid duplication across documents, starting the Gen12 platform, the UEFI Workload Based Profiles and Tuning Guide has been deprecated, and the contents of this document are now available as part of the current UEFI System Utilities User Guide for HPE Compute Gen12 servers based on iLO7 (<https://hpe.com/support/UEFIG12-iLO7-UG-en>).

Deliverable Name:

HPE DL360 Gen12/DL380 Gen12/ML350 Gen12 System ROM - U68

Release Version:

1.62_02-06-2026

Last Recommended or Critical Revision:

1.62_02-06-2026

Previous Revision:

1.60_01-09-2026

Firmware Dependencies:

Support for server Asset Tag length up to 63 characters. This requires a compatible iLO 7 v1.20.00 and above to be installed.

Enhancements/New Features:

Enabled Priority Core Turbo (PCT) feature support.

Support for server Asset Tag length up to 63 characters.

Problems Fixed:

Address an issue where the system reports "266 - Non-Volatile Memory Corruption Detected in the IML logs.

Address an issue where the system Asset Tag can be modified even when Asset Tag Protection is set to Locked.

Address an issue where the system logs correctable errors as Uncorrectable Machine Check Exceptions in the IML and AHS.

Address an issue where the system reports incorrect slot information for NVMe devices when the PCIe link cannot train to its maximum supported speed.

Address an issue where the system cannot enter the RBSU menu after Intel VMD/VROC is enabled.

Address an issue where the system reports an "Unsupported DIMM Configuration error when Granite Rapids XCC processors are installed with a 2-DIMM configuration.

Address an issue where certain devices are incorrectly configured with 10-bit TLP tags even though they do not support this feature.

Address an issue where incorrect OCP E610 NIC information is displayed in the RBSU one-time boot menu and PCIe device information (DL380a).

Known Issues:

None

Fixes

Important Notes:

This version of the System ROM contains updates aligned with Intel VROC v.9.3 updates.

Details about reported security vulnerabilities and their mitigation can be found at the following link [Security Bulletin Library | HPE Support](#).

To streamline content and avoid duplication across documents, starting the Gen12 platform, the UEFI Workload Based Profiles and Tuning Guide has been deprecated, and the contents of this document are now available as part of the current UEFI System Utilities User Guide for HPE Compute Gen12 servers based on iLO7 (<https://hpe.com/support/UEFIG12-iLO7-UG-en>).

Firmware Dependencies:

Support for server Asset Tag length up to 63 characters. This requires a compatible iLO 7 v1.20.00 and above to be installed.

Problems Fixed:

Address an issue where the system reports "266 – Non-Volatile Memory Corruption Detected in the IML logs.

Address an issue where the system Asset Tag can be modified even when Asset Tag Protection is set to Locked.

Address an issue where the system logs correctable errors as Uncorrectable Machine Check Exceptions in the IML and AHS.

Address an issue where the system reports incorrect slot information for NVMe devices when the PCIe link cannot train to its maximum supported speed.

Address an issue where the system cannot enter the RBSU menu after Intel VMD/VROC is enabled.

Address an issue where the system reports an "Unsupported DIMM Configuration error when Granite Rapids XCC processors are installed with a 2-DIMM configuration.

Address an issue where certain devices are incorrectly configured with 10-bit TLP tags even though they do not support this feature.

Address an issue where incorrect OCP E610 NIC information is displayed in the RBSU one-time boot menu and PCIe device information (DL380a).

Known Issues:

None

Enhancements

Enabled Priority Core Turbo (PCT) feature support.

Support for server Asset Tag length up to 63 characters.

ROM Flash Firmware Package - HPE ProLiant Compute XD230 (U66) Servers

Version: 1.62_02-06-2026 (**Recommended**)

Filename: U66_1.62_02_06_2026.fwpkg; U66_1.62_02_06_2026.json

Important Note!**Important Notes:**

This version of the System ROM contains updates aligned with Intel VROC v.9.3 updates.

Details about reported security vulnerabilities and their mitigation can be found at the following link [Security Bulletin Library | HPE Support](#).

Deliverable Name:

HPE ProLiant Compute XD230 System ROM - U66

Release Version:

1.62_02-06-2026

Last Recommended or Critical Revision:

1.62_02-06-2026

Previous Revision:

1.60_01-09-2026

Firmware Dependencies:

None

Enhancements/New Features:

Enabled Priority Core Turbo (PCT) feature support,

Problems Fixed:

Address an issue where the system reports "266 – Non-Volatile Memory Corruption Detected in the IML logs.

Address an issue where the system Asset Tag can be modified even when Asset Tag Protection is set to Locked.

Address an issue where the system logs correctable errors as Uncorrectable Machine Check Exceptions in the IML and AHS.

Address an issue where the system reports incorrect slot information for NVMe devices when the PCIe link cannot train to its maximum supported speed.

Address an issue where the system cannot enter the RBSU menu after Intel VMD/VROC is enabled.

Address an issue where the system reports an "Unsupported DIMM Configuration error when Granite Rapids XCC processors are installed with a 2-DIMM configuration.

Address an issue where certain devices are incorrectly configured with 10-bit TLP tags even though they do not support this feature.

Address an issue where incorrect OCP E610 NIC information is displayed in the RBSU one-time boot menu and PCIe device information (DL380a).

Known Issues:

None

Fixes**Important Notes:**

This version of the System ROM contains updates aligned with Intel VROC v.9.3 updates.

Details about reported security vulnerabilities and their mitigation can be found at the following link [Security Bulletin Library | HPE Support](#).

Firmware Dependencies:

None

Problems Fixed:

Address an issue where the system reports "266 – Non-Volatile Memory Corruption Detected in the IML logs.

Address an issue where the system Asset Tag can be modified even when Asset Tag Protection is set to Locked.

Address an issue where the system logs correctable errors as Uncorrectable Machine Check Exceptions in the IML and AHS.

Address an issue where the system reports incorrect slot information for NVMe devices when the PCIe link cannot train to its maximum supported speed.

Address an issue where the system cannot enter the RBSU menu after Intel VMD/VROC is enabled.

Address an issue where the system reports an "Unsupported DIMM Configuration error when Granite Rapids XCC processors are installed with a 2-DIMM configuration.

Address an issue where certain devices are incorrectly configured with 10-bit TLP tags even though they do not support this feature.

Address an issue where incorrect OCP E610 NIC information is displayed in the RBSU one-time boot menu and PCIe device information (DL380a).

Known Issues:

None

Enhancements

Enabled Priority Core Turbo (PCT) feature support,

Driver - Network

HPE Broadcom NetXtreme-E Drivers for VMware vSphere 9.0

Version: 2025.11.00 (**Recommended**)

Filename: cp068543.compsig; cp068543.zip

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Important Note!

- o This component is intended to be used by HPE applications. It is a zip file that contains the same driver deliverable available from the vmware.com and the HPE vibsdepot.hpe.com webpages, plus an HPE specific CP0xxxxx.xml file.
- o HPE recommends the *HPE Broadcom NetXtreme-E Firmware Version, 235.1.160000* or later, for use with this driver.

Fixes

This product fixes issue where the RoCE driver updated the RoCE priority from the Queue Pair and Address Handle context by suppressing that value and not propagating it to the L2 driver.

Enhancements

This product enhances the completion queue design to support two completion queues for each Notification Queue

Supported Devices and Features

This product supports the following network adapters:

- o HPE Ethernet 10Gb 2-port 535FLR-T Adapter
- o HPE Ethernet 10Gb 2-port 535T Adapter
- o HPE Ethernet 10Gb 2-port 537SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 537SFP+ FLR Adapter
- o HPE Ethernet 10/25Gb 2-port 631FLR-SFP28 Adapter
- o HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter
- o HPE Ethernet 10Gb 2-port SFP+ BCM57412 OCP3 Adapter
- o HPE Ethernet 10Gb 2-port SFP+ BCM57412 Adapter
- o HPE Ethernet 10Gb 2-port BaseT BCM57416 OCP3 Adapter
- o HPE Ethernet 10Gb 2-port BaseT BCM57416 Adapter
- o HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 OCP3 Adapter
- o HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter
- o Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE
- o Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE
- o Broadcom BCM57608 Ethernet 100Gb 2-port QSFP112 Adapter for HPE
- o Broadcom BCM57608 Ethernet 100Gb 2-port QSFP112 OCP3 Adapter for HPE

HPE Intel ixgben Driver for VMware vSphere 9.0

Version: 2026.03.00 (**Recommended**)

Filename: cp070244.compsig; cp070244.zip

Important Note!

This component is intended to be used by HPE applications. It is a zip file that contains the same driver deliverable available from the vmware.com and the HPE vibsdepot.hpe.com webpages, plus an HPE specific CP0xxxxx.xml file.

- o HPE recommends the firmware provided in *HPE Intel Online Firmware Upgrade Utility for VMware*, version 3.27.0 or later, for use with this driver.
- o HPE recommends the firmware provided in *Intel Firmware Package For E610-IT4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter*, version 1.22 or later, for use with this driver

Fixes

- o This product fixed warning logs generated during driver unload.
- o This product fixed PF reset reporting to VF.

- o This product fixed auto-advertised speeds for E610 adapters.

Supported Devices and Features

These drivers support the following network adapters:

- o HPE Ethernet 10Gb 2-port 560SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 561T Adapter
- o HPE Ethernet 10Gb 2-port 561FLR-T Adapter
- o HPE Ethernet 10Gb 2-port 562T Adapter
- o HPE Ethernet 10Gb 2-port 562FLR-T Adapter
- o Intel E610-IT4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE

Intel icen Driver for VMware vSphere 9.0
Version: 2026.03.00 (**Recommended**)
Filename: cp068815.compsig; cp068815.zip

Important Note!

- o This component is intended to be used by HPE applications. It is a zip file that contains the same driver deliverable available from the vmware.com and the HPE vib depot.hpe.com webpages, plus an HPE specific CP0xxxx.xml file.
- o HPE recommends the firmware provided in *Intel Firmware Package For E810 Ethernet Adapter*, version 4.91 or later, for use with these drivers.

Fixes

- o This product fixed RDMA configuration cleanup during transitions between Native and ENS modes, as well as state changes.
- o This product removed warning messages during driver unload by improving cleanup of TX scheduler configuration.
- o This product fixed VLAN list cleanup during VF reset, ensuring VLAN properties can be configured correctly by the OS.

Supported Devices and Features

This product supports the following network adapters:

- o Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE
- o Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter for HPE
- o Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE
- o Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE
- o Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE
- o Intel E810-2CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE
- o Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE

Driver - Storage Controller

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HPE MR416i-p, MR216i-p, MR416i-a, MR216i-a Gen10 plus Controllers and MR416i-p, MR416i-o, MR216i-o, MR408i-o, MR216i-p, MR408i-p Gen11 Controllers Driver (64-bit) for vSphere 9.0
Version: 2026.03.01 (**Recommended**)
Filename: cp068885.compsig; cp068885.zip

Important Note!

- o Actual Version is 7.736.02.00

Fixes

- o Fix an issue that storcli show /cx/ex/sx poh (power on hour) command report error on NVMe drives
- o Fix an issue that PSOC update is not allowing when the part number is beyond 65535

Enhancements

- o Return error when enabling encryption with 256 characters for keyid in Drive Security command
- o Display the controller serial number as "NA" when not programmed

HPE MR932i-p Controller Driver (64-bit) for vSphere 9.0
Version: 2026.04.01 (**Recommended**)
Filename: cp069377.compsig; cp069377.zip

Important Note!

- o Actual Version is 8.16.1.0.0.0

Fixes

- o Fix an issue that incomplete LOG DATA event information caused application crashes
- o Fix a rare issue that page fault exception is observed while running heavy IOs along with controller reset
- o Fix an issue that sense data is not observed by application for the IOCTL IOs which are failed with check condition

Enhancements

- o Report firmware package version to upper layer

HPE ProLiant Gen10 Smart Array and Gen10 Plus and Gen11 Smart RAID Controller Driver for VMware vSphere 9.0 (Driver Component).
Version: 2026.01.01 (**Recommended**)

Important Note!

- o Actual ESXi8.0 driver version is 80.4880.0.109
- o Actual ESXi9.0 driver version is 90.4880.0.109
- o HPE Service Pack for ProLiant (SPP) provides a fully qualified recipe for specific firmware and drivers released within the same cycle, making it the primary recommended choice.
- o It is strongly recommended to use controller firmware version 8.00 for SR SAS/SATA controllers and firmware version 03.01.44.040 for SR tri-mode controllers, along with Windows 2022/2025 driver version 1016.30.0.1014, Linux driver version 2.1.38-022, and VMware ESXi driver version 80.4880.0.109/90.4880.0.109, as this combination has been fully qualified.
- o For Windows 2016 driver, please use 1010.84.0.1012 in below link: XXXX
- o For Windows 2019 driver, please use 1016.10.0.1004 in below link: <https://www.hpe.com/global/swpublishing/MTX-29e86213c3ab4e94b0b54906f7>

Fixes

- Fixed an issue that device is inappropriately reported as invalid and is removed during reset.

Firmware - Network

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Broadcom Firmware Package for BCM57412 adapter

Version: 235.1.164.14 (**Recommended**)

Filename: BCM235.1.164.14_BCM957412A4121HC.fwpkg; BCM235.1.164.14_BCM957412A4121HC.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.

For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 235.1.122.0 or later
- o HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.3-235.1.154.0 or later
- o HPE Broadcom NetXtreme-E Drivers for VMware, version 2025.11.00 or later

Fixes

- o This product fixes the issue where the firmware version details failed to update and the card showed as not operational after upgrading BCM5741x adapters
- o This product fixes the issue where failed to detect a 10GBASE-LR SFP+ causing incorrect defaults and a link failure.
- o This product fixes the issue where the adapter is unable to establish link after rebooting when using the "HPE 10GBASE-T SFP+ 30m RJ45 Transceiver" HPE PN 813874-B21 with vendor PN SP7053-HPE.
- o This product fixed the issue where PCIe Negotiated Link Width is displaying as x4 instead of x8.
- o This product fixed the issue where NICs with LR cables and transceivers showing SR mode.

Enhancements

This product enhancement enables a self-shutdown feature to prevent overheating when certain monitoring features are disabled.

It applies only to newer hardware that originally shipped with firmware version 223.1.135.7 or higher and is not enabled on earlier revisions.

Supported Devices and Features

This product supports the following network adapters:

- o HPE Ethernet 10Gb 2-port SFP+ BCM57412 Adapter

Broadcom Firmware Package for BCM57412 OCP3 adapter

Version: 235.1.164.14 (**Recommended**)

Filename: BCM235.1.164.14_BCM957412N4120HC.fwpkg; BCM235.1.164.14_BCM957412N4120HC.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.

For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 235.1.122.0 or later
- o HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.3-235.1.154.0 or later
- o HPE Broadcom NetXtreme-E Drivers for VMware, version 2025.11.00 or later

Fixes

- o This product fixes the issue where the firmware version details failed to update and the card showed as not operational after upgrading BCM5741x adapters
- o This product fixes the issue where failed to detect a 10GBASE-LR SFP+ causing incorrect defaults and a link failure.
- o This product fixes the issue where iLO BMC shared IP on OCP NIC, link flap occurred during OS reboot.
- o This product fixes the issue where the adapter is unable to establish link after rebooting when using the "HPE 10GBASE-T SFP+ 30m RJ45 Transceiver" HPE PN 813874-B21 with vendor PN SP7053-HPE.
- o This product fixed the issue where the System cannot power on and IML log shows Critical Temperature Threshold Exceeded.
- o This product fixed the issue where PCIe Negotiated Link Width is displaying as x4 instead of x8.
- o This product fixed the issue where NICs with LR cables and transceivers showing SR mode.

Enhancements

This product enhancement enables a self-shutdown feature to prevent overheating when certain monitoring features are disabled.

It applies only to newer hardware that originally shipped with firmware version 223.1.135.7 or higher and is not enabled on earlier revisions.

Supported Devices and Features

This product supports the following network adapters:

- o HPE Ethernet 10Gb 2-port SFP+ BCM57412 OCP3 Adapter

Broadcom Firmware Package for BCM57414 adapter

Version: 235.1.164.14 **(Recommended)**

Filename: BCM235.1.164.14_BCM957414A4142HC.fwpkg; BCM235.1.164.14_BCM957414A4142HC.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.

For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 235.1.122.0 or later
- o HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.3-235.1.154.0 or later
- o HPE Broadcom NetXtreme-E Drivers for VMware, version 2025.11.00 or later

Fixes

- o This product fixes the issue where the firmware version details failed to update and the card showed as not operational after upgrading BCM5741x adapters
- o This product fixes the issue where failed to detect a 10GBASE-LR SFP+ causing incorrect defaults and a link failure.
- o This product fixes the issue where the adapter is unable to establish link after rebooting when using the "HPE 10GBASE-T SFP+ 30m RJ45 Transceiver" HPE PN 813874-B21 with vendor PN SP7053-HPE.
- o This product fixed the issue where NICs with LR cables and transceivers showing SR mode.

Enhancements

This product enhancement enables a self-shutdown feature to prevent overheating when certain monitoring features are disabled.

It applies only to newer hardware that originally shipped with firmware version 223.1.135.7 or higher and is not enabled on earlier revisions.

Supported Devices and Features

This product supports the following network adapters:

- o HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter

Broadcom Firmware Package for BCM57414 OCP3 adapter

Version: 235.1.164.14 **(Recommended)**

Filename: BCM235.1.164.14_BCM957414N4140HC.fwpkg; BCM235.1.164.14_BCM957414N4140HC.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.

For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 235.1.122.0 or later
- o HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.3-235.1.154.0 or later
- o HPE Broadcom NetXtreme-E Drivers for VMware, version 2025.11.00 or later

Fixes

- o This product fixes the issue where the firmware version details failed to update and the card showed as not operational after upgrading BCM5741x adapters
- o This product fixes the issue where failed to detect a 10GBASE-LR SFP+ causing incorrect defaults and a link failure.
- o This product fixes the issue where iLO BMC shared IP on OCP NIC, link flap occurred during OS reboot.
- o This product fixes the issue where the adapter is unable to establish link after rebooting when using the "HPE 10GBASE-T SFP+ 30m RJ45 Transceiver" HPE PN 813874-B21 with vendor PN SP7053-HPE.
- o This product fixed the issue where the System cannot power on and IML log shows Critical Temperature Threshold Exceeded.
- o This product fixed the issue where NICs with LR cables and transceivers showing SR mode.

Enhancements

This product enhancement enables a self-shutdown feature to prevent overheating when certain monitoring features are disabled.

It applies only to newer hardware that originally shipped with firmware version 223.1.135.7 or higher and is not enabled on earlier revisions.

Supported Devices and Features

This product supports the following network adapter:

- o HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 OCP3 Adapter

Broadcom Firmware Package for BCM57416 adapter

Version: 235.1.164.14 **(Recommended)**

Filename: BCM235.1.164.14_BCM957416A4162HC.fwpkg; BCM235.1.164.14_BCM957416A4162HC.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.

For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 235.1.122.0 or later
- o HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.3-235.1.154.0 or later
- o HPE Broadcom NetXtreme-E Drivers for VMware, version 2025.11.00 or later

Fixes

- o This product fixes the issue where the firmware version details failed to update and the card showed as not operational after upgrading BCM5741x adapters
- o This product fixes the issue where failed to detect a 10GBASE-LR SFP+ causing incorrect defaults and a link failure.

- o This product fixes the issue where the adapter is unable to establish link after rebooting when using the "HPE 10GBASE-T SFP+ 30m RJ45 Transceiver" HPE PN 813874-B21 with vendor PN SP7053-HPE.
- o This product fixes the issue where the Firmware update failed on 4 MB flash cards.

Enhancements

This product enhancement enables a self-shutdown feature to prevent overheating when certain monitoring features are disabled. It applies only to newer hardware that originally shipped with firmware version 223.1.135.7 or higher and is not enabled on earlier revisions.

Supported Devices and Features

This product supports the following network adapters:

- o HPE Ethernet 10Gb 2-port BaseT BCM57416 Adapter

Broadcom Firmware Package for BCM57416 OCP3 adapter
Version: 235.1.164.14 **(Recommended)**
Filename: BCM235.1.164.14_BCM957416N4160HC.fwpkg; BCM235.1.164.14_BCM957416N4160HC.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.
For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 235.1.122.0 or later
- o HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.3-235.1.154.0 or later
- o HPE Broadcom NetXtreme-E Drivers for VMware, version 2025.11.00 or later

Fixes

- o This product fixes the issue where the firmware version details failed to update and the card showed as not operational after upgrading BCM5741x adapters
- o This product fixes the issue where failed to detect a 10GBASE-LR SFP+ causing incorrect defaults and a link failure.
- o This product fixes the issue where iLO BMC shared IP on OCP NIC, link flap occurred during OS reboot.
- o This product fixes the issue where the adapter is unable to establish link after rebooting when using the "HPE 10GBASE-T SFP+ 30m RJ45 Transceiver" HPE PN 813874-B21 with vendor PN SP7053-HPE.
- o This product fixed the issue where the System cannot power on and IML log shows Critical Temperature Threshold Exceeded.
- o This product fixes the issue where the Firmware update failed on BCM57416 4 MB flash cards .

Enhancements

This product enhancement enables a self-shutdown feature to prevent overheating when certain monitoring features are disabled. It applies only to newer hardware that originally shipped with firmware version 223.1.135.7 or higher and is not enabled on earlier revisions.

Supported Devices and Features

This product supports the following network adapters:

- o HPE Ethernet 10Gb 2-port BaseT BCM57416 OCP3 Adapter

Broadcom Firmware Package for BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter
Version: 235.1.164.14 **(Recommended)**
Filename: BCM235.1.164.14_BCM957504-P425H.fwpkg; BCM235.1.164.14_BCM957504-P425H.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.
For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 235.1.122.0 or later
- o HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.3-235.1.164.0 or later
- o HPE Broadcom NetXtreme-E Drivers for VMware, version 2025.11.00 or later

Fixes

- o This product fixes the issue where, in breakout mode, a cable remove or insert failed to bring the link up because the module did not exit the DPDeactivated (Data Path Deactivated) state in time.
- o This product fixes the issue where the adapter is unable to establish link after rebooting when using the "HPE 10GBASE-T SFP+ 30m RJ45 Transceiver" HPE PN 813874-B21 with vendor PN SP7053-HPE.

Supported Devices and Features

This product supports the following network adapters:

- o Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE

Broadcom Firmware Package for BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter
Version: 235.1.164.14 **(Recommended)**
Filename: BCM235.1.164.14_BCM957504-N425H.fwpkg; BCM235.1.164.14_BCM957504-N425H.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.
For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 235.1.122.0 or later

- o HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.3-235.1.164.0 or later
- o HPE Broadcom NetXtreme-E Drivers for VMware, version 2025.11.00 or later

Fixes

- o This product fixes the issue where, in breakout mode, a cable remove or insert failed to bring the link up because the module did not exit the DPDeactivated (Data Path Deactivated) state in time.
- o This product fixes the issue where the adapter is unable to establish link after rebooting when using the "HPE 10GBASE-T SFP+ 30m RJ45 Transceiver" HPE PN 813874-B21 with vendor PN SP7053-HPE.

Supported Devices and Features

This product supports the following network adapters:

- o Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE

Broadcom Firmware Package for BCM57608 100GbE 2p Adapter

Version: 235.1.164.14 (**Recommended**)

Filename: BCM235.1.164.14_BCM957608-P2100HQF00.fwpkg; BCM235.1.164.14_BCM957608-P2100HQF00.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.

For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 235.1.122.0 or later
- o HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.3-235.1.154.0 or later
- o HPE Broadcom NetXtreme-E Drivers for VMware, version 2025.11.00 or later

Fixes

- o This product fixes the issue where RDE "Location" property is missing under "NetworkAdapter" schema.

Supported Devices and Features

This product supports the following network adapters:

- o Broadcom BCM57608 Ethernet 100Gb 2-port QSFP112 Adapter for HPE

Broadcom Firmware Package for BCM57608 100GbE 2p OCP3 Adapter

Version: 235.1.164.14 (**Recommended**)

Filename: BCM235.1.164.14_BCM957608-N2100HQI00.fwpkg; BCM235.1.164.14_BCM957608-N2100HQI00.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.

For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 235.1.122.0 or later
- o HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.3-235.1.154.0 or later
- o HPE Broadcom NetXtreme-E Drivers for VMware, version 2025.11.00 or later

Fixes

- o This product fixes the issue where OS installation failed with shared nic BCM 957508-N2 100Gb/s OCP.
- o This product fixes the issue where RDE "Location" property is missing under "NetworkAdapter" schema.

Supported Devices and Features

This product supports the following network adapters:

- o Broadcom BCM57608 Ethernet 100Gb 2-port QSFP112 OCP3 Adapter for HPE

Broadcom NX1 Firmware Package for BCM5719 adapter

Version: 20.35.41 (**Recommended**)

Filename: BCM5719A1907HC-4x1G-20.35.41.fwpkg; BCM5719A1907HC-4x1G-20.35.41.json

Important Note!

HPE recommends *HPE Broadcom tg3 Ethernet Drivers*, versions 3.139w or later, for use with this firmware.

Fixes

- o This product fixes the issue where unique serial number in VPD (Vital Product Data) will be altered to a dummy serial number
- o This product fixes the issue where Failing to Obtain iLO shared NIC DHCP IP and MCTP EID Missing during Reboot.
- o This product fixes the issue where PCI Temperature sensor might be missing intermittently causing Increase in Fan Speed

Supported Devices and Features

This product supports the following network adapter:

- o Broadcom BCM5719 Ethernet 1Gb 4-port Base-T Adapter for HPE

Broadcom NX1 Firmware Package for BCM5719 OCP3 adapter
Version: 20.35.41 (**Recommended**)
Filename: BCM5719N1905HC-4x1G-20.35.41.fwpkg; BCM5719N1905HC-4x1G-20.35.41.json

Important Note!

HPE recommends *HPE Broadcom tg3 Ethernet Drivers*, versions 3.139w or later, for use with this firmware.

Fixes

- o This product fixes the issue where unique serial number in VPD (Vital Product Data) will be altered to a dummy serial number
- o This product fixes the issue where Failing to Obtain iLO shared NIC DHCP IP and MCTP EID Missing during Reboot.
- o This product fixes the issue where PCI Temperature sensor might be missing intermittently causing Increase in Fan Speed

Supported Devices and Features

This product supports the following network adapter:

- o Broadcom BCM5719 Ethernet 1Gb 4-port Base-T OCP3 Adapter for HPE

Intel Firmware Package For E610-IT4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter
Version: 1.40 (**Recommended**)
Filename: HPE_E610_IT4_OCP_1p40_8000EC0A.fwpkg; HPE_E610_IT4_OCP_1p40_8000EC0A.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.
For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Intel ixv Driver for Microsoft Windows Server, version 4.2.7.0 or later
- o Intel ixgbe Drivers for Linux, version 6.3.4-1 or later
- o Intel ixgben Driver for VMware, version 2026.03.00 or later

Fixes

- o This product fixed the LED behavior during AC power-on so the indicator correctly reflects the device status before the system boots.
- o This product fixed an issue where IP assignment failed when iLO Sideband was enabled for the front OCP Isorno NIC.

Enhancements

- o This product enhanced compatibility with HPE iLO to ensure the device's physical location is accurately reported.
- o This product enhanced compatibility with HPE iLO for Redfish functionality.

Supported Devices and Features

This product supports the following network adapters:

- o Intel E610-IT4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE

Intel Firmware Package For E810-2CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter
Version: 4.91 (**Recommended**)
Filename: HPE_E810_2CQDA2_O_SEC_4p91_PLDMoMCTP_800214AE.fwpkg; HPE_E810_2CQDA2_O_SEC_4p91_PLDMoMCTP_800214AE.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.
For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Intel icea Driver for Microsoft Windows Server, version 1.18.71.0 or later
- o Intel ice Drivers for Linux, version 2.4.5-1 or later
- o Intel icen Driver for VMware, version 2026.03.00 or later

This FW version does not support Port.Reset RDE metrics. This product will be enhance to improve the functions in the future release

Fixes

- o This product fixed an issue where the Shared NIC IP was not assigned for OCP Slot B network adapters on Gen12 ProLiant servers.

Supported Devices and Features

This product supports the following network adapters:

- o Intel E810-2CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE

Intel Firmware Package For E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter
Version: 4.91 (**Recommended**)
Filename: HPE_E810_CQDA2_4p91_PLDMoMCTP_800214AF.fwpkg; HPE_E810_CQDA2_4p91_PLDMoMCTP_800214AF.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.
For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Intel ica Driver for Microsoft Windows Server, version 1.18.71.0 or later
- o Intel ice Drivers for Linux, version 2.4.5-1 or later
- o Intel icen Driver for VMware, version 2026.03.00 or later

This FW version does not support Port.Reset RDE metrics. This product will be enhance to improve the functions in the future release

Fixes

- o This product fixed an issue where the Shared NIC IP was not assigned for OCP Slot B network adapters on Gen12 ProLiant servers.

Supported Devices and Features

This product supports the following network adapters:

- o Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter for HPE

Intel Firmware Package For E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter

Version: 4.91 (**Recommended**)

Filename: HPE_E810_CQDA2_OCP_4p91_NCSIwPLDMoMCTP_800214AD.fwpkg; HPE_E810_CQDA2_OCP_4p91_NCSIwPLDMoMCTP_800214AD.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.
For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Intel ica Driver for Microsoft Windows Server, version 1.18.71.0 or later
- o Intel ice Drivers for Linux, version 2.4.5-1 or later
- o Intel icen Driver for VMware, version 2026.03.00 or later

This FW version does not support Port.Reset RDE metrics. This product will be enhance to improve the functions in the future release

Fixes

- o This product fixed an issue where the Shared NIC IP was not assigned for OCP Slot B network adapters on Gen12 ProLiant servers.

Supported Devices and Features

This product supports the following network adapters:

- o Intel E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter for HPE

Intel Firmware Package For E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter

Version: 4.91 (**Recommended**)

Filename: HPE_E810_XXVDA2_SD_4p91_PLDMoMCTP_800214AB.fwpkg; HPE_E810_XXVDA2_SD_4p91_PLDMoMCTP_800214AB.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.
For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Intel ica Driver for Microsoft Windows Server, version 1.18.71.0 or later
- o Intel ice Drivers for Linux, version 2.4.5-1 or later
- o Intel icen Driver for VMware, version 2026.03.00 or later

This FW version does not support Port.Reset RDE metrics. This product will be enhance to improve the functions in the future release

Fixes

- o This product fixed an issue where the Shared NIC IP was not assigned for OCP Slot B network adapters on Gen12 ProLiant servers.

Supported Devices and Features

This product supports the following network adapters:

- o Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE

Intel Firmware Package For E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter

Version: 4.91 (**Recommended**)

Filename: HPE_E810_XXVDA2_SD_OCP_4p91_NCSIwPLDMoMCTP_800214B2.fwpkg; HPE_E810_XXVDA2_SD_OCP_4p91_NCSIwPLDMoMCTP_800214B2.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.
For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Intel ica Driver for Microsoft Windows Server, version 1.18.71.0 or later

- o Intel ice Drivers for Linux, version 2.4.5-1 or later
- o Intel icen Driver for VMware, version 2026.03.00 or later

This FW version does not support Port.Reset RDE metrics. This product will be enhance to improve the functions in the future release

Fixes

- o This product fixed an issue where the Shared NIC IP was not assigned for OCP Slot B network adapters on Gen12 ProLiant servers.

Supported Devices and Features

This product supports the following network adapters:

- o Intel E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE

Intel Firmware Package For E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter

Version: 4.91 (**Recommended**)

Filename: HPE_E810_XXVDA4_FH_4p91_PLDMoMCTP_800214B3.fwpkg; HPE_E810_XXVDA4_FH_4p91_PLDMoMCTP_800214B3.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.

For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Intel icea Driver for Microsoft Windows Server, version 1.18.71.0 or later
- o Intel ice Drivers for Linux, version 2.4.5-1 or later
- o Intel icen Driver for VMware, version 2026.03.00 or later

This FW version does not support Port.Reset RDE metrics. This product will be enhance to improve the functions in the future release

Fixes

- o This product fixed an issue where the Shared NIC IP was not assigned for OCP Slot B network adapters on Gen12 ProLiant servers.

Supported Devices and Features

This product supports the following network adapters:

- o Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE

Intel Firmware Package For E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter

Version: 4.91 (**Recommended**)

Filename: HPE_E810_XXV4_OCP_4p91_NCSIwPLDMoMCTP_800214AC.fwpkg; HPE_E810_XXV4_OCP_4p91_NCSIwPLDMoMCTP_800214AC.json

Important Note!

For Firmware installation, there is no OS and drivers dependency.

For Firmware compatibility during production, HPE recommends the drivers for use with the firmware Package product as below,

- o Intel icea Driver for Microsoft Windows Server, version 1.18.71.0 or later
- o Intel ice Drivers for Linux, version 2.4.5-1 or later
- o Intel icen Driver for VMware, version 2026.03.00 or later

This FW version does not support Port.Reset RDE metrics. This product will be enhance to improve the functions in the future release

Fixes

- o This product fixed an issue where the Shared NIC IP was not assigned for OCP Slot B network adapters on Gen12 ProLiant servers.

Supported Devices and Features

This product supports the following network adapters:

- o Intel E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE

Mellanox Firmware Package(FWPKG) for HPE NVIDIA Ethernet 100Gb 2-port NVMe-oF Offload Adapter for HPE

Version: 22.45.1020 (**Recommended**)

Filename: 22_45_1020-R8M41-63001_Ax_header.pldm.fwpkg

Prerequisites

FWPKG will work only if the firmware version flashed on the adapter is 22.27.1016 or later and iLO5 firmware version must be 2.30 or higher.

Enhancements

Upgraded to version 22.45.1020

Supported Devices and Features

HPE Part Number	Mellanox Ethernet Only Adapters	PSID
P46603-B21	NVIDIA Ethernet 100Gb 2-port NVMe-oF Offload Adapter for HPE	HPE0000000062

Mellanox Firmware Package(FWPKG) for NVIDIA Ethernet 10/25Gb 2-port SFP28 NVMe-oF Crypto Adapter for HPE
Version: 26.45.1020 (**Recommended**)
Filename: 26_45_1020-S2A69-63001_Ax_header.pldm.fwpkg

Prerequisites

FWPKG will work only if the firmware version flashed on the adapter is 22.27.1016 or later and iLO5 firmware version must be 2.30 or higher.

Enhancements

Upgraded to version 26.45.1020

Supported Devices and Features

HPE SKU Part Number	Mellanox Ethernet Only Adapters	PSID
S2A69A	NVIDIA Ethernet 10/25Gb 2-port SFP28 NVMe-oF Crypto Adapter for HPE	HPE0000000077

NVIDIA Firmware Package (FWPKG) - Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE
Version: 26.46.3048 (**Recommended**)
Filename: 26_46_3048-MCX631102AS-ADA_Ax.pldm.fwpkg; 26_46_3048-MCX631102AS-ADA_Ax.pldm.json

Important Note!

Disclaimer: Certain software including drivers and documents may be available from NVIDIA. If you select a URL that directs you to <http://www.nvidia.com/>, you are then leaving HPE.com. Please follow the instructions on <http://www.nvidia.com/> to download NVIDIA software or documentation. When downloading the NVIDIA software or documentation, you may be subject to NVIDIA terms and conditions, including licensing terms, if any, provided on its website or otherwise. HPE is not responsible for your use of any software or documents that you download from <http://www.nvidia.com/>, except that HPE may provide a limited warranty for NVIDIA software in accordance with the terms and conditions of your purchase of the HPE product or solution.

A list of known issues with this release is available at: <https://docs.nvidia.com/networking/display/connectx6xfirmwarev26463048/known+issues>

Prerequisites

FWPKG will work only if the firmware version flashed on the adapter is 20.27.1016 or later and iLO5 firmware version must be 2.30 or higher.

Fixes

The following issues have been fixed in version 26.46.3048:

- o Configuring a small MTU led to fragmentation of packets critical for the PXE boot process. As a result, the PXE boot filters mistakenly discarded these packets, causing the PXE boot to fail.

Enhancements

New features and changes included in version 26.46.3048:

- o Added support for RSS with crypto offload enabling the NIC to parallelize packet processing across CPU cores while performing encryption/decryption in hardware. Additionally, introduced a new `l4_type_ext` parameter with values: 0 (None), 1 (TCP), 2 (UDP), 3 (ICMP).
- o Added an extra validation for the `payload_len` field in incoming NC-SI messages. Previously, invalid packets might have been accepted; now, such packets are silently dropped.
- o This release contains important reliability improvements and security hardening enhancements. HPE recommends upgrading your devices firmware to this release to improve the devices' firmware security and reliability.

Supported Devices and Features

HPE Part Number	NVIDIA Ethernet Only Adapters	PSID
P42044-B21	Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	MT_0000000575

NVIDIA Firmware Package (FWPKG) - Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE
Version: 26.46.3048 (**Recommended**)
Filename: 26_46_3048-MCX631432AS-ADA_Ax.pldm.fwpkg; 26_46_3048-MCX631432AS-ADA_Ax.pldm.json

Important Note!

Disclaimer: Certain software including drivers and documents may be available from NVIDIA. If you select a URL that directs you to <http://www.nvidia.com/>, you are then leaving HPE.com. Please follow the instructions on <http://www.nvidia.com/> to download NVIDIA software or documentation. When downloading the NVIDIA software or documentation, you may be subject to NVIDIA terms and conditions, including licensing terms, if any, provided on its website or otherwise. HPE is not responsible for your use of any software or documents that you download from <http://www.nvidia.com/>, except that HPE may provide a limited warranty for NVIDIA software in accordance with the terms and conditions of your purchase of the HPE product or solution.

A list of known issues with this release is available at: <https://docs.nvidia.com/networking/display/connectx6lxfirmwarev26463048/known+issues>

Prerequisites

FWPKG will work only if the firmware version flashed on the adapter is 20.27.1016 or later and iLO5 firmware version must be 2.30 or higher.

Fixes

The following issues have been fixed in version 26.46.3048:

- Configuring a small MTU led to fragmentation of packets critical for the PXE boot process. As a result, the PXE boot filters mistakenly discarded these packets, causing the PXE boot to fail.

Enhancements

New features and changes included in version 26.46.3048:

- Added support for RSS with crypto offload enabling the NIC to parallelize packet processing across CPU cores while performing encryption/decryption in hardware. Additionally, introduced a new `l4_type_ext` parameter with values: 0 (None), 1 (TCP), 2 (UDP), 3 (ICMP).
- Added an extra validation for the `payload_len` field in incoming NC-SI messages. Previously, invalid packets might have been accepted; now, such packets are silently dropped.
- This release contains important reliability improvements and security hardening enhancements. HPE recommends upgrading your devices firmware to this release to improve the devices' firmware security and reliability.

Supported Devices and Features

HPE Part Number	NVIDIA Ethernet Only Adapters	PSID
P42041-B21	Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	MT_0000000551

NVIDIA Firmware Package (FWPKG) for HPE InfiniBand NDR/Ethernet 400Gb 1-port OSFP PCIe5 x16 MCX75310AAS-NEAT Adapter : HPE part numbers P45641-B23 and P45641-H23
Version: 28.47.1026 (**Recommended**)
Filename: 28_47_1026-MCX75310AAS-NEAT_HPE2_Ax.pldm.fwpkg; 28_47_1026-MCX75310AAS-NEAT_HPE2_Ax.pldm.json

Important Note!

For PLDM enabled VPI (Virtual Protocol Interconnect) adapters supporting both InfiniBand mode and Ethernet modes, every firmware version is made available in two different formats at HPE.com:

1. HPE signed PLDM Firmware Package (.FWPKG filename extension) updatable via iLO.
2. Firmware binary (.bin filename extension) updatable via `mstflint` utility from the Operating System.

Choose the appropriate firmware file format based on your preference and what suits your environment.

Disclaimer: Certain software including drivers and documents may be available from NVIDIA. If you select a URL that directs you to <http://www.nvidia.com/>, you are then leaving HPE.com. Please follow the instructions on <http://www.nvidia.com/> to download NVIDIA software or documentation. When downloading the NVIDIA software or documentation, you may be subject to NVIDIA terms and conditions, including licensing terms, if any, provided on its website or otherwise. HPE is not responsible for your use of any software or documents that you download from <http://www.nvidia.com/>, except that HPE may provide a limited warranty for NVIDIA software in accordance with the terms and conditions of your purchase of the HPE product or solution.

A list of known issues with this release is available at: <https://docs.nvidia.com/networking/display/connectx7firmwarev28471026/known-issues>

Fixes

The following issues have been fixed in version 28.47.1026:

- The ZTR_RTTCC algorithm parameters AI and HAI did not support a sufficient range.
- Coalescing regular SX events with SX RTT events under ZTR_RTTCC would keep improper event fields, which would impact congestion control behavior.
- Issue in the ZTR_RTTCC algorithm where probe-abortion handling would behave improperly under high-stress network conditions, affecting proper congestion control and stable traffic performance.
- An assertion failure that would occur with the E-Switch uplink in specific configurations where the e-switch was disabled and Path Migration was active or GVMI's were using SRQ loopback in SQs. The issue occurred because the firmware attempted to perform cleanup operations when the uplink configuration lacked sufficient capacity. Now, when the E-Switch is disabled and no actions are available in the uplink STE, the firmware connects to the uplink STE instead of copying it.
- MCTP SMBus configuration issue which affected proper initialization and reliable communication between firmware components using the SMBus transport.
- During failover or restart, the SM sending a PortInfo MAD to the HCA firmware triggered reinitialization of port buffers, momentarily halting ingress traffic and causing packet drops. The firmware now avoids reconfiguring port buffers when the new configuration matches the current one.
- Under the ZTR_RTTCC algorithm, a flow that reached its minimum rate due to heavy congestion would not recover its rate once the congestion cleared.
- Destroying or modifying a DPA partition from a non-owner VHCA was incorrectly allowed, such actions are now properly disallowed.
- PTP was not supported when the port speed was configured to 1G.

Enhancements

New features and changes included in version 28.47.1026:

- Added Scaling Factor "read" field. To obtain correct values in `mlxlink`, MFT version 4.33.0 or later is required.
- Added a recovery mechanism for I²C failures. In case of an I²C communication failure, the system now automatically attempts to recover and reinitialize the I/O expander to maintain continuous operation.
- Added support for multiple lossless buffer configurations in PFC. The firmware now automatically calculates buffer sizes and maps priorities to their respective buffers.
- Access control was added to ensure that only the VHCA instance that created a DPA partition is permitted to modify or delete it.
- DPA TIMER functionality has been exposed through the MTCTR access register, allowing direct access by applications.
- A new DPA Manifest mechanism was introduced to define and manage application permissions.
- Enabled seamless metadata propagation across layers, allowing flow steering rules and packet processing logic to share contextual information such as flow identifiers, source context, or policy tags. It improves coordination between NIC and E-Switch pipelines, enabling more flexible traffic handling and advanced offload capabilities.

- o Added support for parallel suspend operations across multiple VFs.
- o Added the ability to enable or disable ECN in the upstream by allowing the MODIFY_CONG_STATUS and QUERY_CONG_STATUS commands in mlx5_fwctl.
- o Firmware now allows the ADP-RETX timeout profile to be configured even when there are open QPs.
- o Added support for using the real-time clock to fill the request and response timestamps in hardware-generated RTT packets. To enable this feature, set REAL_TIME_CLOCK_ENABLE in mlxconfig and configure ROCE_CC_RTT_TIMESTAMP_FORMAT to 0x02 (REAL_TIME).
- o The SPDM (Security Protocol and Data Model) measurements reporting mechanism has been updated to comply with version 1.2.0 of the SPDM specification. For further information refer to <https://docs.nvidia.com/networking/display/dpunicattestation/connectx-7+measurements>
- o Added support for warm boot when UPT VMs are active, allowing the system to reboot without requiring a full shutdown of running VMs.

Supported Devices and Features

HPE Part Number	NVIDIA VPI Adapter	PSID
P45641-B23	HPE InfiniBand NDR/Ethernet 400Gb 1-port OSFP PCIe5 x16 MCX75310AAS-NEAT Adapter (P45641-B23 and P45641-H23)	MT_0000001120

NVIDIA Firmware Package (FWPKG) for HPE InfiniBand NDR200/Ethernet 200Gb 1-port OSFP PCIe5 x16 MCX75310AAS-HEAT Adapter : HPE part numbers P45642-B22 and P45642-H22

Version: 28.47.1026 (Recommended)

Filename: 28_47_1026-MCX75310AAS-HEAT_HPE2_Ax.pldm.fwpkg; 28_47_1026-MCX75310AAS-HEAT_HPE2_Ax.pldm.json

Important Note!

For PLDM enabled VPI (Virtual Protocol Interconnect) adapters supporting both InfiniBand mode and Ethernet modes, every firmware version is made available in two different formats at HPE.com:

1. HPE signed PLDM Firmware Package (.FWPKG filename extension) updatable via iLO.
2. Firmware binary (.bin filename extension) updatable via mstflint utility from the Operating System.

Choose the appropriate firmware file format based on your preference and what suits your environment.

Disclaimer: Certain software including drivers and documents may be available from NVIDIA. If you select a URL that directs you to <http://www.nvidia.com/>, you are then leaving HPE.com. Please follow the instructions on <http://www.nvidia.com/> to download NVIDIA software or documentation. When downloading the NVIDIA software or documentation, you may be subject to NVIDIA terms and conditions, including licensing terms, if any, provided on its website or otherwise. HPE is not responsible for your use of any software or documents that you download from <http://www.nvidia.com/>, except that HPE may provide a limited warranty for NVIDIA software in accordance with the terms and conditions of your purchase of the HPE product or solution.

A list of known issues with this release is available at: <https://docs.nvidia.com/networking/display/connectx7firmwarev28471026/known-issues>

Prerequisites

FWPKG will work only if the iLO5 firmware version is 2.30 or higher.

Fixes

The following issues have been fixed in version 28.47.1026:

- o The ZTR_RTTCC algorithm parameters AI and HAI did not support a sufficient range.
- o Coalescing regular SX events with SX RTT events under ZTR_RTTCC would keep improper event fields, which would impact congestion control behavior.
- o Issue in the ZTR_RTTCC algorithm where probe-abortion handling would behave improperly under high-stress network conditions, affecting proper congestion control and stable traffic performance.
- o An assertion failure that would occur with the E-Switch uplink in specific configurations where the e-switch was disabled and Path Migration was active or GVMIs were using SRQ loopback in SQs. The issue occurred because the firmware attempted to perform cleanup operations when the uplink configuration lacked sufficient capacity. Now, when the E-Switch is disabled and no actions are available in the uplink STE, the firmware connects to the uplink STE instead of copying it.
- o MCTP SMBus configuration issue which affected proper initialization and reliable communication between firmware components using the SMBus transport.
- o During failover or restart, the SM sending a PortInfo MAD to the HCA firmware triggered reinitialization of port buffers, momentarily halting ingress traffic and causing packet drops. The firmware now avoids reconfiguring port buffers when the new configuration matches the current one.
- o Under the ZTR_RTTCC algorithm, a flow that reached its minimum rate due to heavy congestion would not recover its rate once the congestion cleared.
- o Destroying or modifying a DPA partition from a non-owner VHCA was incorrectly allowed, such actions are now properly disallowed.
- o PTP was not supported when the port speed was configured to 1G.

Enhancements

New features and changes included in version 28.47.1026:

- o Added Scaling Factor "read" field. To obtain correct values in mlxlink, MFT version 4.33.0 or later is required.
- o Added a recovery mechanism for I2C failures. In case of an I2C communication failure, the system now automatically attempts to recover and reinitialize the I/O expander to maintain continuous operation.
- o Added support for multiple lossless buffer configurations in PFC. The firmware now automatically calculates buffer sizes and maps priorities to their respective buffers.
- o Access control was added to ensure that only the VHCA instance that created a DPA partition is permitted to modify or delete it.
- o DPA TIMER functionality has been exposed through the MTCTR access register, allowing direct access by applications.
- o A new DPA Manifest mechanism was introduced to define and manage application permissions.
- o Enabled seamless metadata propagation across layers, allowing flow steering rules and packet processing logic to share contextual information such as flow identifiers, source context, or policy tags. It improves coordination between NIC and E-Switch pipelines, enabling more flexible traffic handling and advanced offload capabilities.
- o Added support for parallel suspend operations across multiple VFs.
- o Added the ability to enable or disable ECN in the upstream by allowing the MODIFY_CONG_STATUS and QUERY_CONG_STATUS commands in mlx5_fwctl.
- o Firmware now allows the ADP-RETX timeout profile to be configured even when there are open QPs.
- o Added support for using the real-time clock to fill the request and response timestamps in hardware-generated RTT packets. To enable this feature, set REAL_TIME_CLOCK_ENABLE in mlxconfig and configure ROCE_CC_RTT_TIMESTAMP_FORMAT to 0x02 (REAL_TIME).
- o The SPDM (Security Protocol and Data Model) measurements reporting mechanism has been updated to comply with version 1.2.0 of the SPDM specification. For further information refer to <https://docs.nvidia.com/networking/display/dpunicattestation/connectx-7+measurements>
- o Added support for warm boot when UPT VMs are active, allowing the system to reboot without requiring a full shutdown of running VMs.

Supported Devices and Features

HPE Part Number	NVIDIA VPI Adapter	PSID
P45642-B22	HPE InfiniBand NDR200/Ethernet 200Gb 1-port OSFP PCIe5 x16 MCX75310AAS-HEAT Adapter (P45642-B22 and P45642-H22)	MT_000001119

NVIDIA Firmware Package (FWPKG) for HPE InfiniBand NDR200/Ethernet 200Gb 1-port OSFP PCIe5 x16 MCX75310AAS-HEAT Generic Adapter : HPE part number P45642-H23
Version: 28.47.1026 **(Recommended)**
Filename: 28_47_1026-MCX75310AAS-HEA_Ax.pldm.fwpkg; 28_47_1026-MCX75310AAS-HEA_Ax.pldm.json

Important Note!

For PLDM enabled VPI (Virtual Protocol Interconnect) adapters supporting both InfiniBand mode and Ethernet modes, every firmware version is made available in two different formats at HPE.com:

1. HPE signed PLDM Firmware Package (.FWPKG filename extension) updatable via iLO.
2. Firmware binary (.bin filename extension) updatable via mstflint utility from the Operating System.

Choose the appropriate firmware file format based on your preference and what suits your environment.

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A list of known issues with this release is available at: <https://docs.nvidia.com/networking/display/connectx7firmwarev28471026/known-issues>

Prerequisites

FWPKG will work only if the iLO5 firmware version is 2.30 or higher.

Fixes

Initial version.

Enhancements

Initial version.

Supported Devices and Features

HPE Part Number	NVIDIA VPI Adapter	PSID
P45642-H23	HPE InfiniBand NDR200/Ethernet 200Gb 1-port OSFP PCIe5 x16 MCX75310AAS-HEAT Generic Adapter (P45642-H23)	MT_0000000844

NVIDIA Firmware Package (FWPKG) for HPE InfiniBand NDR200/Ethernet 200GbE 2-port QSFP112 PCIe5 x16 MCX755106AC-HEAT Adapter : HPE part numbers P65333-B21 and P65333-H21
Version: 28.47.1026 **(Recommended)**
Filename: 28_47_1026-MCX755106AC-HEAT_HPE_Ax.pldm.fwpkg; 28_47_1026-MCX755106AC-HEAT_HPE_Ax.pldm.json

Important Note!

For PLDM enabled VPI (Virtual Protocol Interconnect) adapters supporting both InfiniBand mode and Ethernet modes, every firmware version is made available in two different formats at HPE.com:

1. HPE signed PLDM Firmware Package (.FWPKG filename extension) updatable via iLO.
2. Firmware binary (.bin filename extension) updatable via mstflint utility from the Operating System.

Choose the appropriate firmware file format based on your preference and what suits your environment.

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A list of known issues with this release is available at: <https://docs.nvidia.com/networking/display/connectx7firmwarev28471026/known-issues>

Fixes

The following issues have been fixed in version 28.47.1026:

- o The ZTR_RTTCC algorithm parameters AI and HAI did not support a sufficient range.
- o Coalescing regular SX events with SX RTT events under ZTR_RTTCC would keep improper event fields, which would impact congestion control behavior.
- o Issue in the ZTR_RTTCC algorithm where probe-abortion handling would behave improperly under high-stress network conditions, affecting proper congestion control and stable traffic performance.
- o An assertion failure that would occur with the E-Switch uplink in specific configurations where the e-switch was disabled and Path Migration was active or GVMIs were using SRQ loopback in SQs. The issue occurred because the firmware attempted to perform cleanup operations when the uplink configuration lacked sufficient capacity. Now, when the E-Switch is disabled and no actions are available in the uplink STE, the firmware connects to the uplink STE instead of copying it.
- o MCTP SMBus configuration issue which affected proper initialization and reliable communication between firmware components using the SMBus transport.
- o During failover or restart, the SM sending a PortInfo MAD to the HCA firmware triggered reinitialization of port buffers, momentarily halting ingress traffic and causing packet drops. The firmware now avoids reconfiguring port buffers when the new configuration matches the current one.
- o Under the ZTR_RTTCC algorithm, a flow that reached its minimum rate due to heavy congestion would not recover its rate once the congestion cleared.
- o Destroying or modifying a DPA partition from a non-owner VHCA was incorrectly allowed, such actions are now properly disallowed.

- o PTP was not supported when the port speed was configured to 1G.

Enhancements

New features and changes included in version 28.47.1026:

- o Added Scaling Factor "read" field. To obtain correct values in mlxlink, MFT version 4.33.0 or later is required.
- o Added a recovery mechanism for I2C failures. In case of an I2C communication failure, the system now automatically attempts to recover and reinitialize the I/O expander to maintain continuous operation.
- o Added support for multiple lossless buffer configurations in PFC. The firmware now automatically calculates buffer sizes and maps priorities to their respective buffers.
- o Access control was added to ensure that only the VHCA instance that created a DPA partition is permitted to modify or delete it.
- o DPA TIMER functionality has been exposed through the MTCTR access register, allowing direct access by applications.
- o A new DPA Manifest mechanism was introduced to define and manage application permissions.
- o Enabled seamless metadata propagation across layers, allowing flow steering rules and packet processing logic to share contextual information such as flow identifiers, source context, or policy tags. It improves coordination between NIC and E-Switch pipelines, enabling more flexible traffic handling and advanced offload capabilities.
- o Added support for parallel suspend operations across multiple VFs.
- o Added the ability to enable or disable ECN in the upstream by allowing the MODIFY_CONG_STATUS and QUERY_CONG_STATUS commands in mlx5_fwctl.
- o Firmware now allows the ADP-RETX timeout profile to be configured even when there are open QPs.
- o Added support for using the real-time clock to fill the request and response timestamps in hardware-generated RTT packets. To enable this feature, set REAL_TIME_CLOCK_ENABLE in mlxconfig and configure ROCE_CC_RTT_TIMESTAMP_FORMAT to 0x02 (REAL_TIME).
- o The SPDM (Security Protocol and Data Model) measurements reporting mechanism has been updated to comply with version 1.2.0 of the SPDM specification. For further information refer to <https://docs.nvidia.com/networking/display/dpunicattestation/connectx-7+measurements>
- o Added support for warm boot when UPT VMs are active, allowing the system to reboot without requiring a full shutdown of running VMs.

Supported Devices and Features

HPE Part Number	NVIDIA VPI Adapter	PSID
P65333-B21	HPE InfiniBand NDR200/Ethernet 200GbE 2-port QSFP112 PCIe5 x16 MCX755106AC-HEAT Adapter (P65333-B21 and P65333-H21)	MT_0000001108

NVIDIA Firmware Package (FWPKG) for HPE InfiniBand XDR/Ethernet 2x400GbE 1-port OSFP PCIe6 x16 HHLH CX8 Crypto Adapter : HPE part number P79114-H21

Version: 40.47.1026 (**Recommended**)

Filename: 40_47_1026-900-9X81E-00EX-ST0_Ax.pldm.fwpkg; 40_47_1026-900-9X81E-00EX-ST0_Ax.pldm.json

Important Note!

For PLDM enabled VPI (Virtual Protocol Interconnect) adapters supporting both InfiniBand mode and Ethernet modes, every firmware version is made available in two different formats at HPE.com:

1. HPE signed PLDM Firmware Package (.FWPKG filename extension) updatable via iLO.
2. Firmware binary (.bin filename extension) updatable via mstflint utility from the Operating System.

Choose the appropriate firmware file format based on your preference and what suits your environment.

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A list of known issues with this release is available at: <https://docs.nvidia.com/networking/display/connectx8firmwarev40471026/known-issues>

Fixes

The following issues have been fixed in version 40.47.1026:

- o The ZTR_RTTCC algorithm parameters AI and HAI did not support a sufficient range.
- o Coalescing regular SX events with SX RTT events under ZTR_RTTCC would keep improper event fields, which would impact congestion control behavior.
- o Issue in the ZTR_RTTCC algorithm where probe-abortion handling would behave improperly under high-stress network conditions, affecting proper congestion control and stable traffic performance.
- o An assertion failure that would occur with the E-Switch uplink in specific configurations where the e-switch was disabled and Path Migration was active or GVMI's were using SRQ loopback in SQs. The issue occurred because the firmware attempted to perform cleanup operations when the uplink configuration lacked sufficient capacity. Now, when the E-Switch is disabled and no actions are available in the uplink STE, the firmware connects to the uplink STE instead of copying it.
- o The ConnectX-8 downstream port failed to send a NACK when rejecting an L1 entry request from the upstream port.
- o Invoking the resourcedump tool with segment type DPA_PROCESS_LST returned invalid data when the parameter n1 == 1 and no processes existed on the current vhma_id. The fix adds a proper check, and the resourcedump tool now reports the correct error in this scenario.
- o During failover or restart, the SM sending a PortInfo MAD to the HCA firmware triggered reinitialization of port buffers, momentarily halting ingress traffic and causing packet drops. The firmware now avoids reconfiguring port buffers when the new configuration matches the current one.
- o MFRL operations would fail due to a timeout.
- o Under the ZTR_RTTCC algorithm, a flow that reached its minimum rate due to heavy congestion would not recover its rate once the congestion cleared.
- o A missing interrupt from the module IO (Expander) would prevent the module from being raised.
- o Reading debug registers would cause link BER (Bit Error Rate) degradation over time.
- o Ports connected via 4 or 8 lanes and configured for 200G_2x (using only 2 lanes) would fail to link when using a mix of new firmware (with "Non Tx-Squelch" support) and older firmware versions.

Note: Please make sure on both sides, switch (local device) and Switch/NIC (peer device) you:

- o Deploy the new firmware release versions as a matched bundle on both Switch and NIC devices.
- o Configure the port to use 2 lanes (instead of 4 or 8 lanes) while keeping the 200G_2x speed setting.
- o Issue in Arch diagnostic data counters where the pci_link_outbound_data_bytes counter was incorrectly returning only zero values.
- o Multiple long-running process registers would cause aborted access and timeouts, the internal state is now properly handled.
- o Enabling the CCMAD custom header on one PCC probe slot caused other slots to malfunction when multiple slots were configured.

Note: If using firmware versions older than the 40.47.10xx GA release, disable the CCMAD custom header when multiple probe slots are enabled.

- o A CQE error with vendor_syndrome RDE_MAL_WQE (0xd6) could cause traffic disruption on the affected QP.

Enhancements

New features and changes included in version 40.47.1026:

- o Added Scaling Factor "read" field. To obtain correct values in mlxlink, MFT version 4.33.0 or later is required.
- o Lane Margin is a signal integrity diagnostic feature that measures the electrical "eye margin" of high-speed serial lanes, the physical data paths that carry bits over interfaces like PCIe, SerDes, or Ethernet links.
- o Added a new NVLOG TLV type to support PCIe logger functionality. This enhancement enables logging and debugging of PCIe-related events through the NVLOG infrastructure, improving traceability and issue analysis.
- o This enhancement enables seamless metadata propagation across layers, allowing flow steering rules and packet processing logic to share contextual information such as flow identifiers, source context, or policy tags. It improves coordination between NIC and E-Switch pipelines, enabling more flexible traffic handling and advanced offload capabilities.
- o Access control was added to ensure that only the VHCA instance that created a DPA partition is permitted to modify or delete it.
- o A new DPA Manifest mechanism was introduced to define and manage application permissions.
- o DPA TIMER functionality has been exposed through the MTCTR access register, allowing direct access by applications.
- o Added support for parallel suspend operations across multiple VFs.
- o Added support for using the real-time clock to fill the request and response timestamps in hardware-generated RTT packets. To enable this feature, set REAL_TIME_CLOCK_ENABLE in mlxconfig and configure ROCE_CC_RTT_TIMESTAMP_FORMAT to 0x02 (REAL_TIME).
- o Enables customers to specify the corresponding GNS values that will be forwarded to the DOCA PCC NP feature. When multiple slots are configured with IFA2, the GNS settings in pcc_config and pcc_np_config must be identical across all slots using IFA2.
- o When a GGA QP encounters a memory access (address translation) issue in one VM or Function, it no longer enters an error state. Instead, the QP now recovers from the error, sends an error CQE to the software, and continues serving other VMs and Functions. Unlike RDMA QPs, the error CQE may redundantly reference a valid mkey, therefore, the software should reconstruct all mkeys that received error CQE notifications.
- o Added the ability to enable or disable ECN in the upstream by allowing the MODIFY_CONG_STATUS and QUERY_CONG_STATUS commands in mlx5_fwctl.
- o Enabled 50G per-lane link speed and improved LED behavior for clearer network status indication. Traffic LED now blinks when traffic is active and reflects accurate link status.
- o Added a new API to write PSP Master Key. This API allows writing a new PSP Master Key, which will be used to generate new SPI/key pairs. The previous key remains valid for decryption until the key rotation process is completed.
- o Firmware now allows the ADP-RETX timeout profile to be configured even when there are open QPs.
- o PCI logs are now reported via the existing NC-SI OEM command Get Log Info (Command = 0x0, Parameter = 0x2F).
- o Added support for Adaptive Hotplug System (AHS) alongside the existing NHP solution, enhancing hotplug flexibility and system adaptability.
- o The ASO object pointer size has been increased from 24 bits to 32 bits, eliminating the previous limitation of ~16 million ASO objects per GVMI and enabling significantly greater scalability for future expansions.
- o Added an NV configuration option to allow disabling XDR. Note: Disabling SDR or enabling configurations not supported by the INI file remains unsupported.
- o Added support for MVCAP (Multi-Version Capability) functionality enabling improved compatibility and version management across multiple components.

Supported Devices and Features

HPE Part Number	NVIDIA VPI Adapter	PSID
P79114-H21	HPE InfiniBand XDR/Ethernet 2x400GbE 1-port OSFP PCIe6 x16 HHHL CX8 Crypto Adapter (P79114-H21)	MT_0000001167

NVIDIA Firmware Package (FWPKG) for HPE InfiniBand XDR400/Ethernet 400GbE 2-port QSFP112 PCIe6 x16 HHHL CX8 Crypto Adapter : HPE part number P79115-H21
Version: 40.47.1026 (**Recommended**)
Filename: 40_47_1026-900-9X81Q-00CN-ST0_Ax.pldm.fwpkg; 40_47_1026-900-9X81Q-00CN-ST0_Ax.pldm.json

Important Note!

For PLDM enabled VPI (Virtual Protocol Interconnect) adapters supporting both InfiniBand mode and Ethernet modes, every firmware version is made available in two different formats at HPE.com:

1. HPE signed PLDM Firmware Package (.FWPKG filename extension) updatable via iLO.
2. Firmware binary (.bin filename extension) updatable via mstflint utility from the Operating System.

Choose the appropriate firmware file format based on your preference and what suits your environment.

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A list of known issues with this release is available at: <https://docs.nvidia.com/networking/display/connectx8firmwarev40471026/known-issues>

Fixes

The following issues have been fixed in version 40.47.1026:

- o The ZTR_RTTCC algorithm parameters AI and HAI did not support a sufficient range.
- o Coalescing regular SX events with SX RTT events under ZTR_RTTCC would keep improper event fields, which would impact congestion control behavior.
- o Issue in the ZTR_RTTCC algorithm where probe-abortion handling would behave improperly under high-stress network conditions, affecting proper congestion control and stable traffic performance.
- o An assertion failure that would occur with the E-Switch uplink in specific configurations where the e-switch was disabled and Path Migration was active or GVMI's were using SRQ loopback in SQs. The issue occurred because the firmware attempted to perform cleanup operations when the uplink configuration lacked sufficient capacity. Now, when the E-Switch is disabled and no actions are available in the uplink STE, the firmware connects to the uplink STE instead of copying it.
- o The ConnectX-8 downstream port failed to send a NACK when rejecting an L1 entry request from the upstream port.
- o Invoking the resourcedump tool with segment type DPA_PROCESS_LST returned invalid data when the parameter n1 == 1 and no processes existed on the current vhma_id. The fix adds a proper check, and the resourcedump tool now reports the correct error in this scenario.
- o During failover or restart, the SM sending a PortInfo MAD to the HCA firmware triggered reinitialization of port buffers, momentarily halting ingress traffic and causing packet drops. The firmware now avoids reconfiguring port buffers when the new configuration matches the current one.
- o MFRL operations would fail due to a timeout.
- o Under the ZTR_RTTCC algorithm, a flow that reached its minimum rate due to heavy congestion would not recover its rate once the congestion cleared.
- o A missing interrupt from the module IO (Expander) would prevent the module from being raised.
- o Reading debug registers would cause link BER (Bit Error Rate) degradation over time.
- o Ports connected via 4 or 8 lanes and configured for 200G_2x (using only 2 lanes) would fail to link when using a mix of new firmware (with "Non Tx-Squelch" support) and older firmware versions.

Note: Please make sure on both sides, switch (local device) and Switch/NIC (peer device) you:

- o Deploy the new firmware release versions as a matched bundle on both Switch and NIC devices.
- o Configure the port to use 2 lanes (instead of 4 or 8 lanes) while keeping the 200G_2x speed setting.

- o Issue in Arch diagnostic data counters where the `pcie_link_outbound_data_bytes` counter was incorrectly returning only zero values.
- o Multiple long-running process registers would cause aborted access and timeouts, the internal state is now properly handled.
- o Enabling the CCMAD custom header on one PCC probe slot caused other slots to malfunction when multiple slots were configured.

Note: If using firmware versions older than the 40.47.10xx GA release, disable the CCMAD custom header when multiple probe slots are enabled.

- o A CQE error with vendor_syndrome `RDE_MAL_WQE (0xd6)` could cause traffic disruption on the affected QP.

Enhancements

New features and changes included in version 40.47.1026:

- o Added Scaling Factor "read" field. To obtain correct values in `mlxlink`, MFT version 4.33.0 or later is required.
- o Lane Margin is a signal integrity diagnostic feature that measures the electrical "eye margin" of high-speed serial lanes, the physical data paths that carry bits over interfaces like PCIe, SerDes, or Ethernet links.
- o Added a new NVLOG TLV type to support PCIe logger functionality. This enhancement enables logging and debugging of PCIe-related events through the NVLOG infrastructure, improving traceability and issue analysis.
- o This enhancement enables seamless metadata propagation across layers, allowing flow steering rules and packet processing logic to share contextual information such as flow identifiers, source context, or policy tags. It improves coordination between NIC and E-Switch pipelines, enabling more flexible traffic handling and advanced offload capabilities.
- o Access control was added to ensure that only the VHCA instance that created a DPA partition is permitted to modify or delete it.
- o A new DPA Manifest mechanism was introduced to define and manage application permissions.
- o DPA TIMER functionality has been exposed through the MTCTR access register, allowing direct access by applications.
- o Added support for parallel suspend operations across multiple VFs.
- o Added support for using the real-time clock to fill the request and response timestamps in hardware-generated RTT packets. To enable this feature, set `REAL_TIME_CLOCK_ENABLE` in `mlxconfig` and configure `ROCE_CC_RTT_TIMESTAMP_FORMAT` to `0x02 (REAL_TIME)`.
- o Enables customers to specify the corresponding GNS values that will be forwarded to the DOCA PCC NP feature. When multiple slots are configured with IFA2, the GNS settings in `pcc_config` and `pcc_np_config` must be identical across all slots using IFA2.
- o When a GGA QP encounters a memory access (address translation) issue in one VM or Function, it no longer enters an error state. Instead, the QP now recovers from the error, sends an error CQE to the software, and continues serving other VMs and Functions. Unlike RDMA QPs, the error CQE may redundantly reference a valid mkey, therefore, the software should reconstruct all mkeys that received error CQE notifications.
- o Added the ability to enable or disable ECN in the upstream by allowing the `MODIFY_CONG_STATUS` and `QUERY_CONG_STATUS` commands in `mlx5_fwctl`.
- o Enabled 50G per-lane link speed and improved LED behavior for clearer network status indication. Traffic LED now blinks when traffic is active and reflects accurate link status.
- o Added a new API to write PSP Master Key. This API allows writing a new PSP Master Key, which will be used to generate new SPI/key pairs. The previous key remains valid for decryption until the key rotation process is completed.
- o Firmware now allows the ADP-RETX timeout profile to be configured even when there are open QPs.
- o PCI logs are now reported via the existing NC-SI OEM command Get Log Info (Command = `0x0`, Parameter = `0x2F`).
- o Added support for Adaptive Hotplug System (AHS) alongside the existing NHP solution, enhancing hotplug flexibility and system adaptability.
- o The ASO object pointer size has been increased from 24 bits to 32 bits, eliminating the previous limitation of ~16 million ASO objects per GVMI and enabling significantly greater scalability for future expansions.
- o Added an NV configuration option to allow disabling XDR. Note: Disabling SDR or enabling configurations not supported by the INI file remains unsupported.
- o Added support for MVCAP (Multi-Version Capability) functionality enabling improved compatibility and version management across multiple components.

Supported Devices and Features

HPE Part Number	NVIDIA VPI Adapter	PSID
P79115-H21	HPE InfiniBand XDR400/Ethernet 400GbE 2-port QSFP112 PCIe6 x16 HHHL CX8 Crypto Adapter (P79115-H21)	MT_0000001222

NVIDIA Firmware Package (FWPKG) for Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE

Version: 22.46.3048 (**Recommended**)

Filename: 22_46_3048-MCX623106AS-CDA_Ax.pldm.fwpkg; 22_46_3048-MCX623106AS-CDA_Ax.pldm.json

Important Note!

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A list of known issues with this release is available at: <https://docs.nvidia.com/networking/display/connectx6dxfirmwarev22463048/known+issues>

Prerequisites

FWPKG will work only if the firmware version flashed on the adapter is 22.27.1016 or later and iLO5 firmware version must be 2.30 or higher.

Fixes

The following issues have been fixed in version 22.46.3048:

- o Configuring a small MTU led to fragmentation of packets critical for the PXE boot process. As a result, the PXE boot filters mistakenly discarded these packets, causing the PXE boot to fail.

Enhancements

New features and changes included in version 22.46.3048:

- o Added support for RSS with crypto offload enabling the NIC to parallelize packet processing across CPU cores while performing encryption/decryption in hardware. Additionally, introduced a new `l4_type_ext` parameter with values: 0 (None), 1 (TCP), 2 (UDP), 3 (ICMP).
- o Added an extra validation for the `payload_len` field in incoming NC-SI messages. Previously, invalid packets might have been accepted; now, such packets are silently dropped.
- o This release contains important reliability improvements and security hardening enhancements. HPE recommends upgrading your devices firmware to this release to improve the devices' firmware security and reliability.

Supported Devices and Features

HPE Part Number	NVIDIA Ethernet Only Adapters	PSID
P25960-B21	Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE	MT_0000000437

Firmware - Storage Controller

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Firmware Package - HPE Smart Array P408i-p, P408e-p, P408i-a, P408i-c, E208i-p, E208e-p, E208i-c, E208i-a, P204i-c, P416ie-m and P816i-a SR Gen10 and SR308i-o,SR308i-p Gen11 controllers

Version: 8.00 (**Recommended**)

Filename: HPE_SR_Gen10_8.00_A.fwpkg

Important Note!

- o HPE Service Pack for ProLiant (SPP) provides a fully qualified recipe for specific firmware and drivers released within the same cycle, making it the primary recommended choice.
- o It is strongly recommended to use controller firmware version 8.00 for SR SAS/SATA controllers and firmware version 03.01.44.040 for SR tri-mode controllers, along with Windows 2022/2025 driver version 1016.30.0.1014, Linux driver version 2.1.38-022, and VMware ESXi driver version 80.4880.0.109/90.4880.0.109, as this combination has been fully qualified.
- o **For Windows 2016 driver, please use 1010.84.0.1012 in below link:**
<https://www.hpe.com/global/swpublishing/MTX-c523e081ab344bc4b4bc9d5686>
- o **For Windows 2019 driver, please use 1016.10.0.1004 in below link:**
<https://www.hpe.com/global/swpublishing/MTX-29e86213c3ab4e94b0b54906f7>

Fixes

- Fixed an issue that prevented drive rebuilds from restarting after unexpected power loss when media exchange was accepted in auto-replace spare configurations.
- Fixed an issue that caused auto-replace spare activation during the LOOSE_CABLE state, which could swap data drives prematurely and lead to volume failure and potential data integrity issues.
- Fixed an issue where IOPS could drop on large-capacity HDDs during Consistency Check under 4K random write workloads in RAID 1 configurations.
- Fixed an issue no-battery write cache (NBWC) can be enabled by the user in the event of a battery failure, unless the cache module itself is experiencing an error.
- Fixed an issue where ATA passthrough IDENTIFY DEVICE (0xEC) commands issued from BMC could time out due to incorrect transfer length handling.
- Fixed an issue where SSD array creation with non-deterministic drive ordering could incorrectly disable Acceralted IO on some drives, leading to performance degradation.
- Fixed an issue where the fault LED did not illuminate for a hot-removed data drive during RAID rebuild with auto replace spare enabled.
- Fixed an issue where the system could become unresponsive with lockup code as 0x1E00 when multiple out-of-band management requests were sent concurrently for the same session.
- Fixed an issue where failed or missing drives were not correctly indicated when listing drives in the HII disk utilities menu.
- Fixed an issue where PLDM Type 6 volume creation could fail on certain controllers that do not support volume caching or the IOPerfModeEnabled feature. Volume creation and update requests that explicitly disable these features (for example, setting cache policies to Off or IOPerfModeEnabled to false) are now handled correctly and will no longer be rejected.
- Fixed an issue where RDE READ could incorrectly report a split mirror backup volume as Enabled instead of StandbyOffline when the original primary volume was created via RDE CREATE. Volume usage identification was corrected to ensure accurate status reporting.
- Fixed an issue where DriveMetrics.PowerOnHours could be incorrectly reported as zero for SSDs on certain platforms. Power-on hours reporting was updated by drive type, NVMe drives reporting with DriveMetrics.NVMeSMART.PowerOnHours, SAS and SATA HDDs reporting a null value.

Enhancements

- Logical drive information menu: Enhanced to display the association between failed data drives and active spares upon drive failure.
- "Added support for the standardized Operation property in PLDM Operations arrays, providing schema-defined operation enums as below:
 - Drive Resource — Rebuild/Sanitize/Encrypt
 - Volume Resource — Initialize/Rebuild/Encrypt/ChangeRAIDLAYOUT/ChangeStripSize/Resize.

The legacy OperationName property remains available and is now marked as deprecated."
- Added support for StorageController status conditions ResetRecommended and ResetRequired. When configuration changes require a system reboot to take effect, the controller reports the status through both Status.Conditions and Redfish event messages.
- Enhanced RDE error messaging to provide clearer error descriptions for Volume DELETE and SED-enabled CREATE operations, returning detailed messages directly in the response payload instead of generic ExtendedInfo references.

Firmware Package - HPE Gen12 Boot Controller NS204i-u, HPE Gen11 Boot Controller NS204i-u, NS204i-d and HPE Gen10 Plus Boot Controller NS204i-p, NS204i-d, NS204i-t, NS204i-r

Version: 1.2.14.1026 (**Recommended**)

Filename: HPE_NS204i_1.2.14.1026_A.fwpkg; HPE_NS204i_1.2.14.1026_A.json

Important Note!

1.2.14.1018 is the minimum firmware requirement for AMD Turin DL365/385 and Intel Gen12 platforms. Downgrading NS204i firmware to version lower than 1018 will lead to MCTP failure.

- o <https://www.hpe.com/global/swpublishing/MTX-c75706b8a59d4d8aabc4e4cc30>

For Gen10 plus server users, the NS204i firmware has to be 1.2.14.1018 or later in order to enable PLDM firmware update functionality for the controller. Please find the smart component versions of 1.2.14.1018 in below link:

- o Windows: <https://www.hpe.com/global/swpublishing/MTX-84a4e0bb354f48eaaad65cf9451>
- o Linux: <https://www.hpe.com/global/swpublishing/MTX-b6448d485ca64fd7a5d0d5f75e>

- o VMware: <https://www.hpe.com/global/swpublishing/MTX-ad49b1acb0d4455c86460c727a>

Prerequisites

- o iLO 6 version 1.10 or later is required for Gen11 and Gen12 servers.
- o iLO 5 version 2.81 or later is required for Gen10/Gen10 Plus servers

Fixes

To mitigate the symptom - After an HPE NS204i device firmware update to version 1.2.14.1022 or later, the Drive Messages may appear for HPE Gen11 or Gen12 Server Systems with NVMe SSDs Attached to HPE NS204i Devices.

Firmware Package - HPE MR216i-o Gen11 Tri Mode Controller

Version: 52.36.3-6584 (**Recommended**)

Filename: HPE_MR216i-o_Gen11_52.36.3-6584_A.fwpkg; HPE_MR216i-o_Gen11_52.36.3-6584_A.json

Important Note!

- o This firmware version to be used on HPE MR216i-o Gen11 Controller.
- o The minimum iLO versions required to support 52.36.3-6584 are iLO 7 1.20, iLO 6 1.74, and iLO 5 3.18.

Prerequisites

iLO6 version should be at least 1.53 is required for **chassis&Fabric support**.

Fixes

- o Fix an issue that Backup Exec doesn't work with LTO drives in Linux systems
- o Fix a rare issue that controller VM fails to bootup after a host reboot on Linux hypervisor
- o Fix an issue that poor performance is observed during small-range writes
- o Fix an issue that storcli show /cx/ex/sx poh (power on hour) command report error on NVMe drives
- o Fix a rare issue that PL fault 0x4318 is observed during the IPMI power-cycle test
- o Fix a rare issue that cache restore failure observed after firmware update followed by a server UMCE (unrecoverable machine check error)
- o Fix an issue that firmware may assert when NVMe drives take long time for Task Management
- o Fix a rare issue that PL fault 0x6054 observed during patrol read in progress
- o Fix a rare issue that firmware may assert during firmware update with IOs and task managements on JBOD drives.
- o Fix an issue that foreign drive is shown in HotspareType@Redfish.AllowableValues
- o Fix an issue that SATA LFF drives list the "DriveFormFactor" as "2_5" under the Storage tab and in Redfish
- o Fix an issue that Server health shows Warning when a degraded volume is present
- o Fix a rare issue that GET operation on Redfish Drive URI occasionally return 404 Not Found
- o Fix an issue that rebuild does not start on an SED drive when inserted in the missing slot of a R1 drive
- o Fix an issue that NVMe drive undergoing sanitize is not detected after server reboot
- o Fix a rare issue that Redfish Chassis properties are not properly displayed for UBM10 backplane
- o Fix an issue that PCIConfiglink page events may come continuously in snapdump log
- o Fix a rare issue that firmware may assert when user starts crypto erase and removed the drive
- o Fix an issue that the sanitize percentage does not progress when monitoring drive's sanitize state
- o Fix a rare issue that PLDM Fault 0x5: Command abort failed observed when doing backplane firmware update
- o Fix a rare firmware crash that may occur during concurrent Virtual Machine clone operations and JBOD creation
- o Fix an issue that firmware may assert if drive goes through shield recovery and is subsequently removed
- o Fix a rare issue that firmware may assert while running IO's and Task Management

Enhancements

- o Add additional escape sequences for special characters when encoding BEJString to comply with the DMTF specification. iLO 7 1.20, iLO6 1.74 and iLO5 3.18 are required to support this change.
- o DMTF PLDM Redfish Device Enablement enhancements
 - Add support for Redfish Conditions (GET)
 - Each resource contains a conditions table that lists the appropriate MessageId and MessageSeverity. Redfish messages impact the Redfish resource Status object. Any outstanding message will appear in the Redfish Status[Conditions] array. The highest Status[Conditions][Severity] sets the overall Status[Health] of the resource. When the Status[Conditions] array is empty the Status[Health] shall be OK.
 - Port Conditions do not display any condition other than OK
 - In scenarios where ControllerPreviousError condition happens, the same is listed under StorageController.Status. Usually after iLO acknowledges ControllerPreviousError event, FW clears the condition from the StorageController.Status.Conditions[] list.
 - Redfish Metrics GET Support for DriveMetrics, EnvironmentMetrics and VolumeMetrics
 - DriveMetrics: BadBlockCount, ReadIOPiBytes, WriteIOPiBytes, PowerOnHours, NVMeSMART (MVMesSMART attributes are supported for NVMe drive only)
 - EnvironmentMetrics for Drive Resource: TemperatureCelsius.Reading
 - VolumeMetrics: ConsistencyCheckCount, ConsistencyCheckErrorCount, RebuildErrorCount

- Each counter can hold a value up to 65535. Once the counter reaches the maximum value the value is not reset.
 - Metrics are cleared when user performs Controller NVRAM clear or Redfish ResetToDefaults.ResetAll.
- Add support for Redfish Parallel Resource PDR. The feature reduce iLO resource required to support controller related Metrics.
- Add support for UBM11 backplane
- Enhanced the UBM backplane firmware update process to eliminate the risk of firmware corruption when transferred data becomes corrupted
- Refine the message on HII prereview configuration for the foreign import
- Removed the Sanitize Secure Erase option from MRSA for SED drives, as SEDs support only Cryptographic Erase
- Return error when enabling encryption with 256 characters in the "EncryptionKeyIdentifier" property through Redfish

Firmware Package - HPE MR216i-p Gen11 Tri Mode Controller

Version: 52.36.3-6584 (**Recommended**)

Filename: HPE_MR216i-p_Gen11_52.36.3-6584_A.fwpkg; HPE_MR216i-p_Gen11_52.36.3-6584_A.json

Important Note!

- This firmware version to be used on HPE MR216i-p Gen11 Controller.
- The minimum iLO versions required to support 52.36.3-6584 are iLO 7 1.20, iLO 6 1.74, and iLO 5 3.18.

Prerequisites

iLO6 version should be at least 1.53 is required for **chassis&Fabric support**.

Fixes

- Fix an issue that Backup Exec doesn't work with LTO drives in Linux systems
- Fix a rare issue that controller VM fails to bootup after a host reboot on Linux hypervisor
- Fix an issue that poor performance is observed during small-range writes
- Fix an issue that storcli show /cx/ex/sx poh (power on hour) command report error on NVMe drives
- Fix a rare issue that PL fault 0x4318 is observed during the IPMI power-cycle test
- Fix a rare issue that cache restore failure observed after firmware update followed by a server UMCE (unrecoverable machine check error)
- Fix an issue that firmware may assert when NVME drives take long time for Task Management
- Fix a rare issue that PL fault 0x6054 observed during patrol read in progress
- Fix a rare issue that firmware may assert during firmware update with IOs and task managements on JBOD drives.
- Fix an issue that foreign drive is shown in HotspareType@Redfish.AllowableValues
- Fix an issue that SATA LFF drives list the "DriveFormFactor" as "2_5" under the Storage tab and in Redfish
- Fix an issue that Server health shows Warning when a degraded volume is present
- Fix a rare issue that GET operation on Redfish Drive URI occasionally return 404 Not Found
- Fix an issue that rebuild does not start on an SED drive when inserted in the missing slot of a R1 drive
- Fix an issue that NVME drive undergoing sanitize is not detected after server reboot
- Fix a rare issue that Redfish Chassis properties are not properly displayed for UBM10 backplane
- Fix an issue that PCIconfiglink page events may come continuously in snapdump log
- Fix a rare issue that firmware may assert when user starts crypto erase and removed the drive
- Fix an issue that the sanitize percentage does not progress when monitoring drive's sanitize state
- Fix a rare issue that PLDM Fault 0x5: Command abort failed observed when doing backplane firmware update
- Fix a rare firmware crash that may occur during concurrent Virtual Machine clone operations and JBOD creation
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- Fix a rare issue that firmware may assert while running IO's and Task Management

Enhancements

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 - Redfish Metrics GET Support for DriveMetrics, EnvironmentMetrics and VolumeMetrics
 - DriveMetrics: BadBlockCount, ReadIOKiBytes, WriteIOKiBytes, PowerOnHours, NVMeSMART (MVMESMART attributes are supported for NVMe drive only)

- EnvironmentMetrics for Drive Resource: TemperatureCelsius.Reading
 - VolumeMetrics: ConsistencyCheckCount, ConsistencyCheckErrorCount, RebuildErrorCount
 - Each counter can hold a value up to 65535. Once the counter reaches the maximum value the value is not reset.
 - Metrics are cleared when user performs Controller NVRAM clear or Redfish ResetToDefaults.ResetAll.
- Add support for Redfish Parallel Resource PDR. The feature reduce iLO resource required to support controller related Metrics.
 - Add support for UBM11 backplane
 - Enhanced the UBM backplane firmware update process to eliminate the risk of firmware corruption when transferred data becomes corrupted
 - Refine the message on HII prereview configuration for the foreign import
 - Removed the Sanitize Secure Erase option from MRSA for SED drives, as SEDs support only Cryptographic Erase
 - Return error when enabling encryption with 256 characters in the "EncryptionKeyIdentifier" property through Redfish

Firmware Package - HPE MR408i-o Gen11 Tri Mode Controller

Version: 52.36.3-6584 (**Recommended**)

Filename: HPE_MR408i-o_Gen11_52.36.3-6584_A.fwpkg; HPE_MR408i-o_Gen11_52.36.3-6584_A.json

Important Note!

- This firmware version to be used on HPE MR408i-o Gen11 Controller.
- The minimum iLO versions required to support 52.36.3-6584 are iLO 7 1.20, iLO 6 1.74, and iLO 5 3.18.

Prerequisites

iLO6 version should be at least 1.53 is required for **chassis&Fabric support**.

Fixes

- Fix an issue that Backup Exec doesn't work with LTO drives in Linux systems
- Fix a rare issue that controller VM fails to bootup after a host reboot on Linux hypervisor
- Fix an issue that poor performance is observed during small-range writes
- Fix an issue that storcli show /cx/ex/sx poh (power on hour) command report error on NVMe drives
- Fix a rare issue that PL fault 0x4318 is observed during the IPMI power-cycle test
- Fix a rare issue that cache restore failure observed after firmware update followed by a server UMCE (unrecoverable machine check error)
- Fix an issue that firmware may assert when NVMe drives take long time for Task Management
- Fix a rare issue that PL fault 0x6054 observed during patrol read in progress
- Fix a rare issue that firmware may assert during firmware update with IOs and task managements on JBOD drives.
- Fix an issue that foreign drive is shown in HotspareType@Redfish.AllowableValues
- Fix an issue that SATA LFF drives list the "DriveFormFactor" as "2_5" under the Storage tab and in Redfish
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- Fix a rare issue that GET operation on Redfish Drive URI occasionally return 404 Not Found
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- Fix an issue that the sanitize percentage does not progress when monitoring drive's sanitize state
- Fix a rare issue that PLDM Fault 0x5: Command abort failed observed when doing backplane firmware update
- Fix a rare firmware crash that may occur during concurrent Virtual Machine clone operations and JBOD creation
- Fix an issue that firmware may assert if drive goes through shield recovery and is subsequently removed
- Fix a rare issue that firmware may assert while running IO's and Task Management

Enhancements

- Add additional escape sequences for special characters when encoding BEJString to comply with the DMTF specification. iLO 7 1.20, iLO6 1.74 and iLO5 3.18 are required to support this change.
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 - DriveMetrics: BadBlockCount, ReadIOKiBytes, WriteIOKiBytes, PowerOnHours, NVMeSMART (MVMesSMART attributes are supported

- for NVMe drive only)
 - EnvironmentMetrics for Drive Resource: TemperatureCelsius.Reading
 - VolumeMetrics: ConsistencyCheckCount, ConsistencyCheckErrorCount, RebuildErrorCount
 - Each counter can hold a value up to 65535. Once the counter reaches the maximum value the value is not reset.
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- Refine the message on HII prereview configuration for the foreign import
- Removed the Sanitize Secure Erase option from MRSA for SED drives, as SEDs support only Cryptographic Erase
- Return error when enabling encryption with 256 characters in the "EncryptionKeyIdentifier" property through Redfish

Firmware Package - HPE MR408i-p Gen11 Tri Mode Controller
 Version: 52.36.3-6584 (**Recommended**)
 Filename: HPE_MR408i-p_Gen11_52.36.3-6584_A.fwpkg; HPE_MR408i-p_Gen11_52.36.3-6584_A.json

Important Note!

- This firmware version to be used on HPE MR408i-p Gen11 Controller.
- The minimum iLO versions required to support 52.36.3-6584 are iLO 7 1.20, iLO 6 1.74, and iLO 5 3.18.

Prerequisites

iLO6 version should be at least 1.53 is required for **chassis&Fabric support**.

Fixes

- Fix an issue that Backup Exec doesn't work with LTO drives in Linux systems
- Fix a rare issue that controller VM fails to bootup after a host reboot on Linux hypervisor
- Fix an issue that poor performance is observed during small-range writes
- Fix an issue that storcli show /cx/ex/sx poh (power on hour) command report error on NVMe drives
- Fix a rare issue that PL fault 0x4318 is observed during the IPMI power-cycle test
- Fix a rare issue that cache restore failure observed after firmware update followed by a server UMCE (unrecoverable machine check error)
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- Fix an issue that foreign drive is shown in HotspareType@Redfish.AllowableValues
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- Fix a rare issue that firmware may assert while running IO's and Task Management

Enhancements

- Add additional escape sequences for special characters when encoding BEJString to comply with the DMTF specification. iLO 7 1.20, iLO6 1.74 and iLO5 3.18 are required to support this change.
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 - Redfish Metrics GET Support for DriveMetrics, EnvironmentMetrics and VolumeMetrics

- DriveMetrics: BadBlockCount, ReadIOKiBytes, WriteIOKiBytes, PowerOnHours, NVMeSMART (MVMESMART attributes are supported for NVMe drive only)
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- VolumeMetrics: ConsistencyCheckCount, ConsistencyCheckErrorCount, RebuildErrorCount
- Each counter can hold a value up to 65535. Once the counter reaches the maximum value the value is not reset.
- Metrics are cleared when user performs Controller NVRAM clear or Redfish ResetToDefaults.ResetAll.
- Add support for Redfish Parallel Resource PDR. The feature reduce iLO resource required to support controller related Metrics.
- Add support for UBM11 backplane
- Enhanced the UBM backplane firmware update process to eliminate the risk of firmware corruption when transferred data becomes corrupted
- Refine the message on HII prereview configuration for the foreign import
- Removed the Sanitize Secure Erase option from MRSA for SED drives, as SEDs support only Cryptographic Erase
- Return error when enabling encryption with 256 characters in the "EncryptionKeyIdentifier" property through Redfish

Firmware Package - HPE MR416i-o Gen11 Tri Mode Controller

Version: 52.36.3-6584 (**Recommended**)

Filename: HPE_MR416i-o_Gen11_52.36.3-6584_A.fwpkg; HPE_MR416i-o_Gen11_52.36.3-6584_A.json

Important Note!

- This firmware version to be used on HPE MR416i-o Gen11 Controller.
- The minimum iLO versions required to support 52.36.3-6584 are iLO 7 1.20, iLO 6 1.74, and iLO 5 3.18.

Prerequisites

iLO6 version should be at least 1.53 is required for **chassis&Fabric support**.

Fixes

- Fix an issue that Backup Exec doesn't work with LTO drives in Linux systems
- Fix a rare issue that controller VM fails to bootup after a host reboot on Linux hypervisor
- Fix an issue that poor performance is observed during small-range writes
- Fix an issue that storcli show /cx/ex/sx poh (power on hour) command report error on NVMe drives
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- Fix an issue that PCIconfiglink page events may come continuously in snapdump log
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- Fix an issue that the sanitize percentage does not progress when monitoring drive's sanitize state
- Fix a rare issue that PLDM Fault 0x5: Command abort failed observed when doing backplane firmware update
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- Fix a rare issue that firmware may assert while running IO's and Task Management

Enhancements

- Add additional escape sequences for special characters when encoding BEJString to comply with the DMTF specification. iLO 7 1.20, iLO6 1.74 and iLO5 3.18 are required to support this change.
- DMTF PLDM Redfish Device Enablement enhancements
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 - Each resource contains a conditions table that lists the appropriate MessageId and MessageSeverity. Redfish messages impact the Redfish resource Status object. Any outstanding message will appear in the Redfish Status[Conditions] array. The highest Status[Conditions][Severity] sets the overall Status[Health] of the resource. When the Status[Conditions] array is empty the Status[Health] shall be OK.
 - Port Conditions do not display any condition other than OK
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ControllerPreviousError event, FW clears the condition from the StorageController.Status.Conditions[] list.

- Redfish Metrics GET Support for DriveMetrics, EnvironmentMetrics and VolumeMetrics
 - DriveMetrics: BadBlockCount, ReadIOPiBytes, WriteIOPiBytes, PowerOnHours, NVMeSMART (NVMeSMART attributes are supported for NVMe drive only)
 - EnvironmentMetrics for Drive Resource: TemperatureCelsius.Reading
 - VolumeMetrics: ConsistencyCheckCount, ConsistencyCheckErrorCount, RebuildErrorCount
 - Each counter can hold a value up to 65535. Once the counter reaches the maximum value the value is not reset.
 - Metrics are cleared when user performs Controller NVRAM clear or Redfish ResetToDefaults.ResetAll.
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- Add support for UBM11 backplane
- Enhanced the UBM backplane firmware update process to eliminate the risk of firmware corruption when transferred data becomes corrupted
- Refine the message on HII prereview configuration for the foreign import
- Removed the Sanitize Secure Erase option from MRSA for SED drives, as SEDs support only Cryptographic Erase
- Return error when enabling encryption with 256 characters in the "EncryptionKeyIdentifier" property through Redfish

Firmware Package - HPE MR416i-p Gen11 Tri Mode Controller

Version: 52.36.3-6584 (**Recommended**)

Filename: HPE_MR416i-p_Gen11_52.36.3-6584_A.fwpkg; HPE_MR416i-p_Gen11_52.36.3-6584_A.json

Important Note!

- This firmware version to be used on HPE MR416i-p Gen11 Controller.
- The minimum iLO versions required to support 52.36.3-6584 are iLO 7 1.20, iLO 6 1.74, and iLO 5 3.18.

Prerequisites

iLO6 version should be at least 1.53 is required for **chassis&Fabric support**.

Fixes

- Fix an issue that Backup Exec doesn't work with LTO drives in Linux systems
- Fix a rare issue that controller VM fails to bootup after a host reboot on Linux hypervisor
- Fix an issue that poor performance is observed during small-range writes
- Fix an issue that storcli show /cx/ex/sx poh (power on hour) command report error on NVMe drives
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- Fix a rare issue that firmware may assert while running IO's and Task Management

Enhancements

- Add additional escape sequences for special characters when encoding BEJString to comply with the DMTF specification. iLO 7 1.20, iLO6 1.74 and iLO5 3.18 are required to support this change.
- DMTF PLDM Redfish Device Enablement enhancements
 - Add support for Redfish Conditions (GET)
 - Each resource contains a conditions table that lists the appropriate MessageId and MessageSeverity. Redfish messages impact the Redfish resource Status object. Any outstanding message will appear in the Redfish Status[Conditions] array. The highest Status[Conditions][Severity] sets the overall Status[Health] of the resource. When the Status[Conditions] array is empty the Status[Health] shall be OK.
 - Port Conditions do not display any condition other than OK

- In scenarios where ControllerPreviousError condition happens, the same is listed under StorageController.Status. Usually after iLO acknowledges ControllerPreviousError event, FW clears the condition from the StorageController.Status.Conditions[] list.
 - Redfish Metrics GET Support for DriveMetrics, EnvironmentMetrics and VolumeMetrics
 - DriveMetrics: BadBlockCount, ReadIOPKiBytes, WriteIOPKiBytes, PowerOnHours, NVMeSMART (MVMESMART attributes are supported for NVMe drive only)
 - EnvironmentMetrics for Drive Resource: TemperatureCelsius.Reading
 - VolumeMetrics: ConsistencyCheckCount, ConsistencyCheckErrorCount, RebuildErrorCount
 - Each counter can hold a value up to 65535. Once the counter reaches the maximum value the value is not reset.
 - Metrics are cleared when user performs Controller NVRAM clear or Redfish ResetToDefaults.ResetAll.
- Add support for Redfish Parallel Resource PDR. The feature reduce iLO resource required to support controller related Metrics.
- Add support for UBM11 backplane
- Enhanced the UBM backplane firmware update process to eliminate the risk of firmware corruption when transferred data becomes corrupted
- Refine the message on HII prereview configuration for the foreign import
- Removed the Sanitize Secure Erase option from MRSA for SED drives, as SEDs support only Cryptographic Erase
- Return error when enabling encryption with 256 characters in the "EncryptionKeyIdentifier" property through Redfish

Firmware Package - HPE MR932i-p Controller

Version: 8.16.1.0-01003-00004 (**Recommended**)

Filename: HPE_MR932i-p_8.16.1.0-01003-00004_A.fwpkg; HPE_MR932i-p_8.16.1.0-01003-00004_A.json

Important Note!

- **This firmware version to be used on HPE MR932i-p Controller.**
- **MR932i-p FW flash rule from RC/GCA versions to PA/Alpha/Beta versions. [https://morph.ams.hpecorp.net/app/Editor-Summary.aspx?278352\\$1#](https://morph.ams.hpecorp.net/app/Editor-Summary.aspx?278352$1#)**

Prerequisites

- iLO6 version should be at least 1.53 is required for **chassis&Fabric support**.
- iLO7 version should be at least 1.16 Pass05.

Fixes

- Fix a00157381en_us Advisory: HPE MR932i-p Storage Controller - Incorrect Controller Port Number To Box Number Mapping in iLO GUI
- Fix a00157199en_us Advisory: HPE MR932i-p Storage Controller - The "StorageDevice.1.2.BatteryOK" Event Is Not Consistently Generated When the Energy Pack Is Reconnected to an HPE MR932i-p Storage Controller
- Fix a00157775en_us Advisory: HPE MR932i-p Storage Controller - Cache-Offload Event Is Not Reported in the Integrated Management Log (IML) Via Redfish
- Fix an issue that backplane firmware update fails if more than 16 slots are connected to the MR932i-p controller.
- Fix an issue that Redfish POST ResetToDefaults.PreserveVolumes operation fails with Unsupported Operation.
- Fix an issue that "Controller status changes to failed" event is generated when doing firmware update. Please note the event may still happen when downgrading firmware to 8.15.1.0-01003-00001 since the fix is not available in the old version
- Fix an issue that DriveOffline and DriveOfflineCleared events are logged when auto rebuild start on the re-inserted drive
- Fix an issue that Energy Pack temperature sensor thresholds are reported incorrectly
- Fix an issue that SCSI Device ModeSense failures with format corruption warnings on ESXI9.0 OS after boot
- Fix an issue that firmware may not identify the drive properly to puncture when more than one rebuild/copyback tasks running.
- Fix a rare issue that controller is stuck at DDR SPD i2c read during reboot test
- Fix a rare issue that controller may hang in cache offload module after factory repurpose command issued followed by a power cycle
- Fix an issue that arbitrary firmware image size value used in platform measurement when reading data
- Fix a rare issue that drives might be marked as failed with phy toggling after creating volume.
- Fix a rare issue that Energy Pack communication fail does not reflect, and causes cache offload failed
- Fix a rare issue that firmware hang caused by the NAND flash hardware entering a bad state after a program failure while doing factory repurpose
- Fix an issue that changing LKM to EKM encryption mode using Redfish fails
- Fix an issue that controller status shows "Need Attention" in RBSU menu when drives are connected to controller
- Fix an issue that auto assignment is not applied on the auto-configured JBOD in a fresh boot.
- Remove "Encrypted@Redfish.AllowableValues" to match Boolean type behavior
- Fix an issue that controller firmware fault might be observed when partial-capacity volumes are assigned to different physical functions and moved to Offline.
- Fix a rare case that controller may fault when the foreign drive's primary DDF record is invalid
- Fix a potential controller fault triggered by frequent drive medium errors during Online Capacity Expansion
- Fix a rare issue that particular NVMe drive model state changes to Unusable with drive hotplug
- Fix a rare issue that SED may fail to reprovision if the drive is removed during import and controller reset
- Fix a potential controller fault triggered by IO counter mismatches during overlapping FLR (Function Level Reset) and task management operations
- Fix a rare issue that firmware fault may occur if a drive takes too long (over 70s) to fix errors, especially during task management
- Fix a potential issue that alternative boot chain recovery fails to trigger if secure boot authentication has failed

Enhancements

- DMTF PLDM Redfish Device Enablement enhancements
 - Redfish Volume Transformation Support
 - POST #Volume.ChangeRAIDLAYOUT: RAID Layout Change. Change in the RAID Layout is achieved by providing the target RAIDType and the list of the drives in the input JSON body.
 - POST #Volume.ChangeRAIDLAYOUT: Resize. ChangeRAIDLAYOUT can be used to resize the volume by adding new Unconfigured Good drives without changing the RAIDType. In such cases RAIDType must not be provided in the input JSON body but the full drive list must be provided accordingly.
 - PATCH Volume[CapacityBytes]: This operation is used for resizing the volume when there is unused size available in the volume. There is no scope for adding any new drives here
 - POST #Volume.CheckConsistency: This operation starts Consistency Check operation on the volume. No input is expected for this operation.
 - Redfish Metrics GET Support
 - StorageControllerMetrics: UncorrectableECCErrorCount, CorrectableECCErrorCount, UncorrectableParityErrorCount, StateChangeCount

- PortMetrics: SAS.InvalidDwordCount, SAS.LossOfDwordSynchronizationCount, SAS.RunningDisparityErrorCount, PCIeErrors.CorrectableErrorCount, PCIeErrors.FatalErrorCount, PCIeErrors.NonFatalErrorCount
 - Each counter can hold a value up to 65535. Once the counter reaches the maximum value the value is not reset.
 - Metrics are cleared when user performs Controller NVRAM clear or Redfish ResetToDefaults.ResetAll.
- Add support for UBM11 backplane
 - Refine the message on HII prereview configuration for the foreign import
 - Standardize PSoC printing versioning info as 2 digit major/2 digit minor for Hardware and Firmware

Firmware - Storage Fibre Channel

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HPE Firmware Flash for Emulex 32Gb and 64Gb Fibre Channel Host Bus Adapters

Version: 14.4.731.12 (**Recommended**)

Filename: PP14.4.731.12_header.pldm.fwpkg

Important Note!

This component is supported only on Gen12 ProLiant and Gen11 AMD servers.

Release notes:

[Broadcom Release notes](#)

This Firmware package contains following firmware versions:

Adapter	Speed	Universal Boot Image	Firmware	UEFI	Boot Bios
HPE SN1620E 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	14.4.731.12	14.4.731.12	14.4.716.0	14.4.718.0
HPE SN1720E 64Gb Dual Port Fibre Channel Host Bus Adapter	64Gb	14.4.731.12	14.4.731.12	14.4.716.0	14.4.718.0

Added Following Enhancements:

[RedFish]:HPE specific SFP Data - Predicted days for non working stage

[Redfish]: API to read SFP Data

Fixed the following:

SPDM - Get Certificate response returns out of bound values

Fixes

Fixed the following:

SPDM - Get Certificate response returns out of bound values

Enhancements

This Firmware package contains following firmware versions:

Adapter	Speed	Universal Boot Image	Firmware	UEFI	Boot Bios
HPE SN1620E 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	14.4.731.12	14.4.731.12	14.4.716.0	14.4.718.0
HPE SN1720E 64Gb Dual Port Fibre Channel Host Bus Adapter	64Gb	14.4.731.12	14.4.731.12	14.4.716.0	14.4.718.0

Added Following Enhancements:

[RedFish]:HPE specific SFP Data - Predicted days for non working stage

[Redfish]: API to read SFP Data

Supported Devices and Features

This component is supported on following Emulex Fibre Channel Host Bus adapters:

32Gb FC Adapter:

- HPE SN1620E 32Gb Dual port Fibre Channel Host Bus Adapter

64Gb FC Adapter:

- HPE SN1720E 64Gb Dual port Fibre Channel Host Bus Adapter

HPE Firmware Flash for QLogic 32Gb and 64Gb Fibre Channel Host Bus Adapters

Version: 02.11.11 (**Recommended**)

Filename: mh021111.upd_header.pldm.fwpkg

Important Note!

Release Notes:

[HPE QLogic Adapters Release Notes](#)

This Firmware package contains following firmware versions:

Adapter	Speed	MBI	Firmware	UEFI
HPE SN1610Q 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	02.11.11	09.15.15	7.39
HPE SN1610Q 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	02.11.11	09.15.15	7.39
HPE SN1700Q 64Gb Dual Port Fibre Channel Host Bus Adapter	64Gb	02.11.11	09.15.15	7.39

HPE SN1700Q 64Gb Single Port Fibre Channel Host Bus Adapter	64Gb	02.11.11	09.15.15	7.39
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Fixed the following :

SFP Parameters value decimal part is truncated

Fixes

Fixed the following :

SFP Parameters value decimal part is truncated

Enhancements

This Firmware package contains following firmware versions:

Adapter	Speed	MBI	Firmware	UEFI
HPE SN1610Q 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	02.11.11	09.15.15	7.39
HPE SN1610Q 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	02.11.11	09.15.15	7.39
HPE SN1700Q 64Gb Dual Port Fibre Channel Host Bus Adapter	64Gb	02.11.11	09.15.15	7.39
HPE SN1700Q 64Gb Single Port Fibre Channel Host Bus Adapter	64Gb	02.11.11	09.15.15	7.39

Supported Devices and Features

This component is supported on following HPE QLogic Fibre Channel Host Bus adapters:

32Gb Fibre Channel Host Bus Adapter:

- o HPE SN1610Q 32Gb Single Port Fibre Channel Host Bus Adapter
- o HPE SN1610Q 32Gb Dual Port Fibre Channel Host Bus Adapter

64Gb Fibre Channel Host Bus Adapter:

- o HPE SN1700Q 64Gb Dual Port Fibre Channel Host Bus Adapter
- o HPE SN1700Q 64Gb Single Port Fibre Channel Host Bus Adapter

Software - Management

Smart Storage Administrator (SSA) CLI Smart Component for ESXi 9.0 for Gen10/Gen10 Plus/Gen11 Controllers

Version: 2026.03.01 **(Recommended)**

Filename: cp069349.compsig; cp069349.zip

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Important Note!

- o Actual ESXi9.0 ssacli version is 6.60.11.0
- o **Due to VMware upgrade constraints, the SSA CLI package version (6.60.11) differs from the internal version (6.60.9). This is expected behavior.**

Enhancements

- Modified the SSACLI component version format to meet the new requirement from VMware ESXi for 9.1
- Added spare type decoding in Array Diagnostic Utility (ADU) reports to indicate whether a logical drive uses dedicated or auto-replace spares
- Modified the default strip size for NVMe drives based on the Maximum Data Transfer Size (MDTS), and tools will set the default strip size to the minimum supported MDTS value when creating or migrating a logical drive

Software - Storage Controller

HPE MegaRAID Storage Administrator StorCLI for VMware9.0 (For Gen10P and Gen11 Controllers)

Version: 2026.03.01 **(Recommended)**

Filename: cp068890.compsig; cp068890.zip

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Important Note!

- o Actual ESXi Version is 0007.3604.0000.0000

Fixes

- o Fix an issue that storcli show /cx/ex/sx poh (power on hour) command report error on NVMe drives
- o Fix an issue that PSOC update is not allowing when the part number is beyond 65535

Enhancements

- o Return error when enabling encryption with 256 characters for keyid in Drive Security command
- o Display the controller serial number as "NA" when not programmed

HPE MegaRAID Storage Administrator StorCLI for VMware9.0 (for MR932i-p Controller)

Version: 2026.04.01 **(Recommended)**

Filename: cp069381.compsig; cp069381.zip

Important Note!

- o **Actual ESXi Version is 008.00aa.0000.00bb, even though the file name indicates 008.00aa.03bb-10EM.900.0.xxxxxxxx.**

Fixes

- o Fix an issue that RIAD 60 volume with preserved cache is reporting incorrect volume size in show preservedcache command
- o Fix an issue that volume info is showing "SCSI Status: failure" when background operations on the volume are going
- o Fix an issue that storcli2 fails to set firstdeviceid to default value 65535
- o Fix an issue that add map command returns incorrect error message
- o Fix an issue that improper output while setting Consistency Check execfrequency for weeks/days
- o Fix a rare issue that storcli2 may crash on querying the controller
- o Fix an issue that multiple error messages may show when show POH (Power On Hours) on drives
- o Fix an issue that volume is shown as virtual drive in show aso command
- o Fix an issue that default strip size listed as 65KB instead of 64KB
- o Fix an issue that incorrect message is shown while setting invalid FirstdeviceID
- o Fix an issue that one event is missing when the requested number of events is less than the current available events count

Enhancements

- o Update property "Security QR Enabled" as per latest MPI changes to "Security QR Secured" in show securebootinfo command
- o Migrate to Openssl 3.5.1
- o Updated CLI to display the PQC Algorithm details
- o Implement the Enhanced string in CLI preruleview configuration for the non-importable foreign reason
- o Add Online Capacity Expansion limitation: No Foreign Config Import Allowed Until Completion
- o Provide method for removal of a volume from the exclusion list from patrol read
- o Add the NVMe drive smart info with the property "Self-test status" if operation is ongoing
- o Displaying missing Controller properties in storcli2. Added below CLI commands:
 - o /cx show dmhi
 - o /cx show ssddefaults
 - o /cx show nvmedefaults

Software - Storage Fibre Channel

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HPE QLogic Fibre Channel driver component for VMware vSphere 9.0
Version: 2026.03.01 **(Recommended)**
Filename: cp068092.compsig; cp068092.zip

Important Note!

This component is supported only on Gen12 ProLiant servers.

Release Notes:

[HPE QLogic Adapters Release Notes](#)

This component is intended to be used by HPE applications. It is a zip that contains the same driver deliverable available from the vmware.com and the HPE vibsdepot.hpe.com webpages, plus an HPE specific CPXXXX.xml file.
This driver is only supported on VMware ESXi 9.0.

Prerequisites

Please consult SPOCK for a list of supported configurations available at the following link:

<http://www.hpe.com/storage/spock/>

Enhancements

Driver version 5.5.85.0

This driver is only supported on VMware ESXi 9.0

Supported Devices and Features

This component is supported on following Qlogic Fibre Channel Host Bus adapters:

32Gb Fibre Channel Host Bus Adapter:

- o HPE SN1610Q 32Gb Dual Port Fibre Channel Host Bus Adapter
- o HPE SN1610Q 32Gb Single Port Fibre Channel Host Bus Adapter

64Gb Fibre Channel Host Bus Adapter:

- o HPE SN1700Q 64Gb Dual Port Fibre Channel Host Bus Adapter
- o HPE SN1700Q 64Gb Single Port Fibre Channel Host Bus Adapter

Software - System Management

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HPE Agentless Management Bundle for ESXi for Gen11 and Gen12 Servers
Version: 802.12.5.0 **(Recommended)**
Filename: amsdvComponent_802.12.5.0.13-1.zip

Fixes

See the [AMS Release Notes](#) for information about the issues resolved in this release.

Enhancements

See the [AMS Release Notes](#) for information about the issues resolved in this release.

Prerequisites

For HPE servers with iLO 7:

Ensure that the iLO Virtual NIC(VNIC) feature is enabled. Please refer to the HPE iLO User Guide for VNIC configuration procedure

Fixes

See the [AMS Release Notes](#) for information about the issues resolved in this release.

Enhancements

See the [AMS Release Notes](#) for information about the issues resolved in this release.

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