

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

- [HPE Synergy Software Releases](#)
- [HPE Integrity Superdome X](#)
- [HPE Superdome Flex](#)

## Service Pack for ProLiant 2019.03.0 Release Notes for VMware vSphere 6.5

This is a subset of information from the Service Pack for ProLiant Component Release Notes that only includes information for VMware deliverables. Information for hotfixes for this SPP are available at: [http://h17007.www1.hp.com/us/en/enterprise/servers/products/service\\_pack/spp/index.aspx](http://h17007.www1.hp.com/us/en/enterprise/servers/products/service_pack/spp/index.aspx)

- [Driver - Network](#)
- [Driver - Storage Controller](#)
- [Firmware - Network](#)
- [Firmware - NVDIMM](#)
- [Firmware - Storage Controller](#)
- [Firmware - Storage Fibre Channel](#)
- [Firmware \(Entitlement Required\) - Storage Controller](#)
- [Software - Management](#)
- [Software - Network](#)
- [Software - Storage Fibre Channel](#)
- [Software - System Management](#)

### Driver - Network

[Top](#)

HPE Broadcom NetXtreme-E Drivers for VMware vSphere 6.5  
Version: 2018.09.00 **(Optional)**  
Filename: cp035285.compsig; cp035285.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.hp.com webpages, plus an HPE specific CPOxxxxx.xml file.

HPE recommends the firmware provided in *HPE Broadcom NetXtreme-E Online Firmware Upgrade Utility for VMware*, version 5.5.0 or later, for use with this driver.

#### **Enhancements**

This product now supports Gen10 servers.

#### **Supported Devices and Features**

This product supports the following network adapters:

- HPE Ethernet 10Gb 2-port 535FLR-T Adapter
- HPE Ethernet 10Gb 2-port 535T Adapter
- HPE Ethernet 10/25Gb 2-port 631FLR-SFP28 Adapter
- HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter

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HPE Emulex 10/20 GbE Driver for VMware vSphere 6.5  
Version: 2018.09.00 **(Optional)**  
Filename: cp035290.compsig; cp035290.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.hp.com webpages, plus an HPE specific CPOxxxxx.xml file.

HPE recommends the firmware provided in *HPE Firmware Flash for Emulex Converged Network Adapters for VMware vSphere 6.5*, version 2018.09.01 or later, for use with this driver.

#### **Enhancements**

This product now supports Gen10 servers.

#### **Supported Devices and Features**

This driver supports the following network adapters:

- HP FlexFabric 10Gb 2-port 556FLR-SFP+ Adapter
- HPE FlexFabric 10Gb 2-port 556FLR-T Adapter

- HP Ethernet 10Gb 2-port 557SFP+ Adapter
- HP FlexFabric 20Gb 2-port 650FLB Adapter
- HP FlexFabric 20Gb 2-port 650M Adapter
- HP StoreFabric CN1200E Dual Port Converged Network Adapter
- HPE StoreFabric CN1200E-T Adapter

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HPE Emulex 10/20GbE iSCSI Driver for VMware vSphere 6.5

Version: 2018.09.00 **(Optional)**

Filename: cp035287.compsig; cp035287.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 vibstdepot.hpe.com webpages, plus an HPE specific CPOxxxxx.xml file.

HPE recommends the firmware provided in *HPE Firmware Flash for Emulex Converged Network Adapters for VMware vSphere 6.5*, version 2018.09.01 or later, for use with this driver.

### **Enhancements**

This product now supports Gen10 servers.

### **Supported Devices and Features**

This driver supports the following network adapters:

- HP FlexFabric 10Gb 2-port 556FLR-SFP+ Adapter
- HPE FlexFabric 10Gb 2-port 556FLR-T Adapter
- HP FlexFabric 20Gb 2-port 650FLB Adapter
- HP FlexFabric 20Gb 2-port 650M Adapter
- HP StoreFabric CN1200E Dual Port Converged Network Adapter
- HPE StoreFabric CN1200E-T Adapter

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HPE Intel i40en Driver for VMware vSphere 6.5

Version: 2019.03.11 **(Optional)**

Filename: cp036872.compsig; cp036872.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 vibstdepot.hpe.com webpages, plus an HPE specific CPOxxxxx.xml file.

HPE recommends the firmware provided in *HPE Intel Online Firmware Upgrade Utility for VMware*, version 3.10.16 or later, for use with this driver.

### **Fixes**

This product address an issue with handling Malicious Driver Detection (MDD) events.

This product fixes an issue where SR-IOV cannot be enabled via Web Client when the driver fails to load all PFs.

### **Enhancements**

This product now supports the HPE Synergy 4610C 10/25Gb Ethernet Adapter.

This product now provides support for VLAN Tag Stripping Control for VF drivers.

### **Supported Devices and Features**

This product supports the following network adapters:

- HPE Ethernet 1Gb 2-port 368FLR-MMT Adapter
- HPE Ethernet 1Gb 2-port 368i Adapter
- HPE Ethernet 1Gb 4-port 369i Adapter
- HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter
- HPE Ethernet 10Gb 2-port 562SFP+ Adapter
- HPE Ethernet 10Gb 2-port 568i Adapter
- HPE Ethernet 10Gb 2-port 568FLR-MMSFP+ Adapter
- HPE Ethernet 10Gb 2-port 568FLR-MMT Adapter
- HPE Synergy 4610C 10/25Gb Ethernet Adapter

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HPE Intel igbn Driver for VMware vSphere 6.5  
Version: 2019.03.11 **(Optional)**  
Filename: cp038024.compsig; cp038024.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 vibstest.hpe.com webpages, plus an HPE specific CPOxxxxx.xml file.

HPE recommends the firmware provided in *HPE Intel Online Firmware Upgrade Utility for VMware*, version 3.10.16 or later, for use with this driver.

### **Fixes**

This product addresses a driver status reporting issue which results in 3rd party management tools not detecting the driver being loaded.

This product now correctly loads on the 16th port when 16 igbn device ports are present.

### **Enhancements**

This product adds support for receive/transmit hang detection and recovery procedures.

### **Supported Devices and Features**

These drivers support the following network adapters:

- HP Ethernet 1Gb 2-port 361i Adapter
- HP Ethernet 1Gb 2-port 361T Adapter
- HP Ethernet 1Gb 2-port 363i Adapter
- HP Ethernet 1Gb 4-port 366FLR Adapter
- HP Ethernet 1Gb 4-port 366i Adapter
- HPE Ethernet 1Gb 4-port 366i Communication Board
- HP Ethernet 1Gb 4-port 366T Adapter

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HPE Intel ixgben Driver for VMware vSphere 6.5  
Version: 2019.03.11 **(Optional)**  
Filename: cp037708.compsig; cp037708.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 vibstest.hpe.com webpages, plus an HPE specific CPOxxxxx.xml file.

HPE recommends the firmware provided in *HPE Intel Online Firmware Upgrade Utility for VMware*, version 3.10.16 or later, for use with this driver.

### **Fixes**

This product corrects a problem where excessive logging of an issue "(unsupported) Device 10fb does not support flow control autoneg" crashes the vCenter.

### **Supported Devices and Features**

These drivers support the following network adapters:

- HP Ethernet 10Gb 2-port 560FLB Adapter
- HP Ethernet 10Gb 2-port 560FLR-SFP+ Adapter
- HP Ethernet 10Gb 2-port 560M Adapter
- HP Ethernet 10Gb 2-port 560SFP+ Adapter
- HPE Ethernet 10Gb 2-port 562FLR-T Adapter
- HPE Ethernet 10Gb 2-port 562T Adapter

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HPE QLogic FastLinQ 10/25/50 GbE Multifunction Driver for VMware vSphere 6.5  
Version: 2019.03.11 **(Optional)**  
Filename: cp035085.compsig; cp035085.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 vibstdepot.hp.com webpages, plus an HPE specific CP0xxxxx.xml file.

HPE recommends the firmware provided in *HPE QLogic FastLinQ Online Firmware Upgrade Utility for VMware*, version 4.9.26 or later, for use with this driver.

### **Fixes**

This product addresses an issue where an SR-IOV adapter fails when running on a Windows Virtual Machine.

### **Supported Devices and Features**

This product supports the following network adapters:

- HPE Ethernet 10Gb 2-port 521T Adapter
- HPE Ethernet 10/25Gb 2-port 621SFP28 Adapter
- HPE Ethernet 10/25Gb 2-port 622FLR-SFP28 Converged Network Adapter
- HPE StoreFabric CN1200R-T Converged Network Adapter
- HPE StoreFabric CN1300R Converged Network Adapter
- HPE Synergy 4820C 10/20/25Gb Converged Network Adapter
- HPE Synergy 6810C 25/50Gb Ethernet Adapter

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HPE QLogic NX2 10/20 GbE Multifunction Driver for VMware vSphere 6.5

Version: 2019.03.11 **(Optional)**

Filename: cp036345.compsig; cp036345.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 vibstdepot.hp.com webpages, plus an HPE specific CP0xxxxx.xml file.

HPE recommends the firmware provided in *HPE QLogic NX2 Online Firmware Upgrade Utility for VMware*, version 1.24.16 or later, for use with this driver.

### **Fixes**

This product addresses excessive logging to vmkernel logs.

This product addresses an SR-IOV issue with VMware where a Windows virtual machine reports "This Device Cannot Start (code 10)."

### **Supported Devices and Features**

These drivers support the following network adapters:

- HP Ethernet 10Gb 2-port 530SFP+ Adapter
- HP Ethernet 10Gb 2-port 530T Adapter
- HP Ethernet 10Gb 2-port 533FLR-T Adapter
- HP FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter
- HP FlexFabric 10Gb 2-port 534M Adapter
- HP FlexFabric 10Gb 2-port 536FLB Adapter
- HP FlexFabric 20Gb 2-port 630FLB Adapter
- HP FlexFabric 20Gb 2-port 630M Adapter
- HP StoreFabric CN1100R Dual Port Converged Network Adapter
- HPE StoreFabric CN1100R-T Dual Port Converged Network Adapter
- HPE Synergy 2820C 10Gb Converged Network Adapter
- HPE Synergy 3820C 10/20Gb Converged Network Adapter

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net-mst kernel module driver component for VMware ESXi 6.5 and 6.7

Version: 2018.07.06 **(Recommended)**

Filename: cp036992.compsig; cp036992.zip

### **Important Note!**

This component is intended to be used by HP applications. It is a zip that contains the same driver deliverable available from the HP vibstdepot.hp.com webpage, plus an HP specific CPXXXXX.xml file.

### **Prerequisites**

NA

## **Fixes**

NMST version 4.10.0.302

## **Enhancements**

NMST version 4.10.0.302

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nmlx4\_en driver component for VMware 6.5

Version: 2018.10.30 **(Recommended)**

Filename: cp038008.zip; cp038008\_part1.compsig; cp038008\_part2.compsig; cp038008\_part3.compsig

## **Important Note!**

### **Known Issues:**

- PFC related priority counters are always set to 0, even if the PFC mode is enabled.
- The command "esxcli network sriovnic vf stats" is not supported.
- ConnectX-3 Pro 10G adapter cards incorrectly report support for 40G speed when running the "esxcli network nic get" command.
- When the port is DOWN, the management interface "port type" field indicates one of the port types supported by the device, in the following order: TP, FIBER, DA, NONE. If the port supports several cable types, the first type in the list mentioned above will be printed.
- Management interface port type field reports SFP-to-RJ45 cable as FIBER.
- Management interface auto negotiation field is equivalent to "esxcli network nic get -n vmnicX" field "Pause Autonegotiate".

## **Enhancements**

### **Changes and New Features in smart component version 2018.10.30:**

- Added Gen10 remote online deployment support.

### **Changes and New Features in driver version 3.16.11.6 included in this Smart Component:**

- Updated Management Interface APIs.
- Added support for the following features:
  - VXLAN hardware offload. VXLAN hardware offload enables the traditional offloads to be performed on the encapsulated traffic. With ConnectX®-3 Pro, data center operators can decouple the overlay network layer from the physical NIC performance, thus achieving native performance in the new network architecture.
  - Packet Capture Utility: This utility duplicates all traffic, including RDMA, in its raw Ethernet form (before stripping) to a dedicated "sniffing" QP, and then passes it to an ESX drop capture point.
  - Large Send Offload (TCP Segmentation Offload)
  - Wake-On-LAN (only on supported hardware)
  - Receive Side Scaling (RSS) Queues
  - Multiple Tx/Rx rings
  - NetQueue support
  - Fixed Pass-Through
  - MSI-X

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nmlx5\_en driver component for VMware ESXi 6.5

Version: 2018.07.06 **(Recommended)**

Filename: cp036946.zip; cp036946\_part1.compsig; cp036946\_part2.compsig

## **Important Note!**

### **Known Issues in version 4.16.13.5:**

- ECN tunable parameter initialAlphaValue for the Reaction Point protocol cannot be modified.
- ECN statistic counters accumulatorsPeriod and ecnMarkedRoce-Packets display wrong values and cannot be cleared.
- The maximum value of RSS must be lower than the number of CPU cores.
- The hardware can offload only up to 256 Bytes of headers.
- The "esxcli network sriovnic vf stats" command is not supported.
- Traffic cannot be sent between PV and SR-IOV VF connected to different ports on the same HCA.
- Setting the "Allow Guest MTU Change" option in vSphere Client is currently not functional. Although guest MTU changes in SR-IOV are allowed, they do not affect the port's MTU and the guest's MTU remains the same as the PF MTU.
- VST mode in ConnectX-5 SR-IOV is currently not functional.
- Geneve options length support is limited to 56 Bytes. Received packets with options length bigger than 56 Bytes are dropped.
- Interaction with ConnectX-4/ConnectX-4 Lx older firmware versions might result in the following internal firmware errors:
  - Device health compromised

- synd 0x1: firmware internal error
- extSync 0x94ee
- Operations on vmnics in passthrough mode are not supported.
- The 'esxcli mellanox uplink link info -u <vmnic\_name>' command reports the 'Auto negotiation' capability always as 'true'.
- Multicast and IPv6 traffic might be unstable over SR-IOV.
- Reboot is required after any SR-IOV configuration change.
- Firmware VF configuration must be N+1 (while N is the required VF number). For example: If your configuration requires 10 VFs, the firmware must be set to support 16 VFs (ESXi Limitation).
- Wake-on-LAN does not notify when invalid parameters are provided.
- Nested ESXi might not function properly.
- Device RSS fails to hash traffic to sufficient RX rings with Broadcast traffic.
- In stress condition 'Watchdog' may appear leading to link going up and down.
- VMs can get Call Trace upon MTU change during heavy traffic.
- Reloading the driver when the SR-IOV VFs are ON, will result in Purple Screen of Death (PSOD).
- VGT traffic over VXLAN interfaces is currently not supported.
- VMs with SR-IOV cannot be powered on when running low on available vectors.
- Occasionally, untagged traffic can pass between VMs with SR-IOV enabled when portgroup is configured for VLAN trunk range.

## **Fixes**

**The following issues have been fixed in version in 4.16.13.5:**

- Disabled multicast loopback to avoid a scenario that prevented MAC learning in some configurations.

## **Enhancements**

**Changes and New Features in smart component version 2018.07.06:**

- Added Gen10 remote online deployment support.

**New features and changes in version 4.16.13.5:**

- Added support for Explicit Congestion Notification (ECN). ECN is an extension to the Internet Protocol and to the Transmission Control Protocol that allows end-to-end notification of network congestion without dropping packets.

VMware ESXi 6.5 and 6.7 MST Drivers Offline Bundle for Mellanox Adapters

Version: 4.10.0.302 (**Recommended**)

Filename: MLNX-NMST-ESX-6.5.0-4.10.0.302.zip

## **Prerequisites**

NA

## **Enhancements**

VM65/67 nmst 4.10.0.302

## **Driver - Storage Controller**

[Top](#)

HPE Dynamic Smart Array B140i Controller Driver for VMware vSphere 6.5 (Driver Component).

Version: 2018.10.18 (**Recommended**)

Filename: cp037925.zip

## **Important Note!**

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.

## **Fixes**

Fixes an issue where the driver could report excessive errors in the debug log.

HPE Dynamic Smart Array Controller Driver for VMware vSphere 6.5 (Bundle file).

Version: 5.5.0.66-1 (**Recommended**)

Filename: hpdsa-5.5.0.66.zip

## **Fixes**

Fixes an issue where the driver could report excessive errors in the debug log.

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HPE H2xx SAS/SATA Host Bus Adapter (64-bit) Driver for vSphere 6.5  
Version: 15.10.07.00-1 (A) **(Optional)**  
Filename: mpt2sas-15.10.07.00-esxi5.5-4778920.zip

### **Fixes**

#### **Change implemented in version 15.10.07.00-1(A):**

- Updated to support Service Pack for ProLiant version 2017.07.0.  
**Note:** If driver version 15.10.07.00-1 was previously installed, then it is not necessary to upgrade to version 15.10.07.00-1(A).

#### **Issues resolved in version 15.10.07.00-1:**

- Fixes minor installation issue with the driver on VMware vSphere 6.5.

### **Supported Devices and Features**

NOTE: HPE H221 Host Bus Adapter does not support connection to D2600, D2700, and D6000 Disk Enclosures with Gen9 servers.

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HPE H2xx SAS/SATA Host Bus Adapter (64-bit) Driver for vSphere 6.5 (Driver Component).  
Version: 2017.01.20 (A) **(Optional)**  
Filename: cp032277.zip

### **Important Note!**

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.

### **Fixes**

#### **Change implemented in version 2017.01.20(A):**

- Updated to support Service Pack for ProLiant version 2017.07.0.  
**Note:** If component version 2017.01.20 was previously installed, then it is not necessary to upgrade to version 2017.01.20(A).

#### **Issues resolved in version 2017.01.20:**

- Fixes minor installation issue with the driver on VMware vSphere 6.5.

### **Supported Devices and Features**

NOTE: HPE H221 Host Bus Adapter does not support connection to D2600, D2700, and D6000 Disk Enclosures with Gen9 servers.

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HPE ProLiant Gen10 Smart Array Controller Driver for VMware ESXi 6.5 (Bundle file)  
Version: 1.0.3.2035-1 **(Recommended)**  
Filename: VMW-ESX-6.5.0-smartpqi-1.0.3.2035-offline\_bundle-11601947.zip

### **Fixes**

Fixes the following issues

- While in multipath, driver could go offline when the active path is removed.
  - Incorrect SAS address is displayed under multipath information for MSA attached arrays.
  - Disk might become unresponsive after a vSphere Quick Boot.
  - Driver unload could failed after an expander device is removed.
  - PSOD could be observe while performing a hard drive hot remove/re-insert.
  - PSOD might occur after lockup followed by an ESXI shell reboot.
  - Crash dump might not be generated in a NUMA machine.
  - While performing array creation and deletion a PSOD could be observe after two controller lockup.
  - Drivers could go offline during running time when DMA memory is not available
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HPE ProLiant Gen10 Smart Array Controller Driver for VMware vSphere 6.5 (Driver Component).  
Version: 2019.03.12 **(Recommended)**

Filename: cp037194.compsig; cp037194.zip

### **Important Note!**

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 vibstdepot.hp.com webpages, plus an HPE specific CPXXXX.xml file.

### **Fixes**

Fixes the following issues

- While in multipath, driver could go offline when the active path is removed.
- Incorrect SAS address is displayed under multipath information for MSA attached arrays.
- Disk might become unresponsive after a vSphere Quick Boot.
- Driver unload could failed after an expander device is removed.
- PSOD could be observe while performing a hard drive hot remove/re-insert.
- PSOD might occur after lockup followed by an ESXI shell reboot.
- Crash dump might not be generated in a NUMA machine.
- While performing array creation and deletion a PSOD could be observe after two controller lockup.
- Drivers could go offline during running time when DMA memory is not available

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HPE ProLiant Smart Array Controller Driver for VMware vSphere 6.5 (Bundle file)

Version: 2.0.38-1 (**Recommended**)

Filename: VMW-ESX-6.5.0-nhpsa-2.0.38-offline\_bundle-11844311.zip

### **Fixes**

- Addressed an issue with incorrect target parameter in the path properties that prevented OneView from determining if enclosure was mapped correctly.
- Addressed an intermittent issue, which was observed under low memory conditions, where the controller might not be detected by Smart Storage Administrator CLI application.

### **Enhancements**

- Allows dynamic debug messaging level change. This is in addition to the existing method of a module parameter change and system reboot
- Add a module parameter for controlling enclosure presentation.

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HPE ProLiant Smart Array Controller Driver for VMware vSphere 6.5 (Driver Component).

Version: 2019.03.12 (**Recommended**)

Filename: cp038048.compsig; cp038048.zip

### **Important Note!**

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 vibstdepot.hpe.com webpages, plus an HPE specific CPXXXX.xml file.

### **Fixes**

- Addressed an issue with incorrect target parameter in the path properties that prevented OneView from determining if enclosure was mapped correctly.
- Addressed an intermittent issue, which was observed under low memory conditions, where the controller might not be detected by Smart Storage Administrator CLI application.

### **Enhancements**

- Allows dynamic debug messaging level change. This is in addition to the existing method of a module parameter change and system reboot
- Add a module parameter for controlling enclosure presentation.

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HPE Smart Array P824i-p MR controller (64-bit) Driver for vSphere 6.5

Version: 7.706.08.00-1 (**Recommended**)

Filename: VMW-ESX-6.5.0-Isi\_mr3-7.706.08.00-offline\_bundle-8547861.zip

### **Enhancements**



Added ProLiant features support (Megacell status, AHS, Spade, Sanitize & Expander)

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HPE Smart Array P824i-p MR controller (64-bit) Driver for vSphere 6.5 (Driver Component)  
Version: 2018.06.04 **(Recommended)**  
Filename: cp034922.compsig; cp034922.zip

**Important Note!**

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 vibstest.hpe.com webpages, plus an HPE specific CPXXXX.xml file.

**Enhancements**

Added ProLiant features support (Megacell status, AHS, Spade, Sanitize & Expander)

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**Firmware - Network**

[Top](#)

HPE Broadcom NetXtreme-E Online Firmware Upgrade Utility for VMware  
Version: 5.7.10 **(Optional)**  
Filename: CP035581.compsig; CP035581.zip

**Important Note!**

HPE recommends *HPE Broadcom NetXtreme-E Drivers for VMware*, versions 2018.09.00 or later, for use with this firmware.

This software package contains NVM Image version 214.0.203000 with the following firmware versions:

NIC	Bootcode Version	NCSI Version	MBA Version	UEFI Version	CCM Version	RoCE Version
HPE Ethernet 10Gb 2-port 535FLR-T Adapter	214.0.202.0	214.0.203.0	214.0.181.0	214.0.182.0	214.0.166.0	214.0.182.0
HPE Ethernet 10Gb 2-port 535T Adapter						
HPE Ethernet 10/25Gb 2-port 631FLR-SFP28 Adapter						
HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter						

**Prerequisites**

This product requires the appropriate driver for your device and operating system be installed before firmware is updated.

**Fixes**

This product corrects an issue where adapters incorrectly send a NULL padded System Description LLDP (Link Layer Discovery Protocol) TLV.

This product corrects an issue where an incorrect device (Network Controller) name is displayed in the RBSU.

This product corrects an issue where adapters become Firmware corruption during rebooting.

**Supported Devices and Features**

This product supports the following network adapters:

- HPE Ethernet 10Gb 2-port 535FLR-T Adapter
- HPE Ethernet 10Gb 2-port 535T Adapter
- HPE Ethernet 10/25Gb 2-port 631FLR-SFP28 Adapter
- HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter

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HPE Broadcom NX1 Online Firmware Upgrade Utility for VMware  
Version: 1.24.8 **(Optional)**  
Filename: CP036110.compsig; CP036110.zip

**Important Note!**

HPE recommends *HP Broadcom tg3 Ethernet Drivers for VMware*, versions 2015.10.01, for use with this firmware.

This software package contains combo image v20.14.54 with the following firmware versions:

NIC	Boot Code Version	PXE Version	NCSI Version	UEFI Version	CCM Version
HP Ethernet 1Gb 2-port 330i Adapter (22BD)	2.10	20.14.0	1.5.01	20.14.6	214.0.166.0
HP Ethernet 1Gb 4-port 331i Adapter (22BE) HP Ethernet 1Gb 4-port 331FLR Adapter HP Ethernet 1Gb 4-port 331T Adapter	1.46	20.14.0	1.5.01	20.14.6	214.0.166.0
HP Ethernet 1Gb 2-port 332i Adapter (22E8) HP Ethernet 1Gb 2-port 332T Adapter	1.40	20.14.0	1.5.01	20.14.6	214.0.166.0

### **Prerequisites**

This product requires the appropriate driver for your device and operating system be installed before firmware is updated.

### **Fixes**

This product corrects an issue on SLES15 where the component fails to update adapter firmware with secure boot enabled.  
This product corrects an issue where an incorrect device (Network Controller) name is displayed in the RBSU.

### **Supported Devices and Features**

This product supports the following network adapters:

- HP Ethernet 1Gb 2-port 330i Adapter (22BD)
- HP Ethernet 1Gb 4-port 331i Adapter (22BE)
- HPE Ethernet 1Gb 4-port 331FLR Adapter
- HPE Ethernet 1Gb 4-port 331T Adapter
- HP Ethernet 1Gb 2-port 332i Adapter (22E8)
- HPE Ethernet 1Gb 2-port 332T Adapter

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HPE Firmware Flash for Emulex Converged Network Adapters for VMware vSphere 6.5

Version: 2019.03.01 (**Recommended**)

Filename: CP035746.compsig; CP035746.zip

### **Important Note!**

Release Notes:

[HPE StoreFabric Emulex Adapter Release Notes](#)

Beginning with software release 11.2, Fibre Channel (LightPulse) adapters and Converged Network adapters (OneConnect) have independent software kits.

It is highly recommended that you review the Broadcom Software Kit Migration User Guide for more detailed information regarding this change.

To obtain the guide:

1. Go to <http://www.hpe.com/support/manuals>
2. Using the HPE model number as your guide, enter the adapter model number in the Search products box, and then click >>.

This document provides special instructions and considerations for using the driver kits for FC and CNA adapters.

Special cases include those in which pre-11.2 (original) drivers and applications are replaced by the new 11.2 drivers and applications, and cases in which inbox drivers are replaced by the new 11.2 out-of-box (OOB) drivers.

### **Prerequisites**

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

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

### **Fixes**

Fixed the following:

- Fixed unexpected behavior in Active Health System (AHS) logs show World Wide Node Name (wwnn) & World Wide Port Name (wwpn) in reverse order.
- Microsoft Windows Server 2012 R2 Hyper-V Storage Area Network (SAN) Disconnect.

Link lost with firmware version 11.2.1263.19

- "FW not responding" message seen on card when creating Virtual Function (VF) in loop for HPE StoreFabric CN1200E-T 10GBASE-T Converged Network Adapter [NIC+ iSCSI] in Gen10 server.
- HP FlexFabric 20Gb 2-port 650FLB Adapter - Loss of access to storage after Virtual Connect (VC) login redistribution
- HP StoreFabric CN1200E Dual Port Converged Network Adapter does not complete to boot in Legacy Mode on Gen 9 Server
- Emulex Peripheral Component Interconnect (PCI) slot Network Interface Connector (NIC) reported as device path instead of product name
- Unable to disable shared memory feature in Human Interface Infrastructure (HII) menu
- 650M Adapter has some info in Chinese and Japanese show garbled code under Human Interface Infrastructure (HII) Form

## Enhancements

Updated CNA (XE100 series) firmware

### Firmware

#### Contains:

CNA (XE100 series) firmware 12.0.1216.0

## Supported Devices and Features

This component is supported on following Emulex Converged Network Adapters:

### XE100 Series:

- HP StoreFabric CN1200E Dual Port Converged Network Adapter
- HP FlexFabric 20Gb 2-port 650FLB Adapter
- HP FlexFabric 20Gb 2-port 650M Adapter
- HPE StoreFabric CN1200E-T Adapter

HPE Intel Online Firmware Upgrade Utility for VMware

Version: 3.10.16 **(Optional)**

Filename: CP035127.compsig; CP035127.zip

## Important Note!

HPE recommends at least one of the following drivers, as appropriate for your device, for use with this firmware:

- *HPE Intel igbn Drivers for VMware*, versions 2019.03.11
- *HPE Intel ixgben Drivers for VMware*, versions 2019.03.11
- *HPE Intel i40en Drivers for VMware*, versions 2019.03.11

This software package contains the following firmware versions for the below listed supported network adapters:

NIC	EEPROM/NVM Version	OROM Version	Single NVM Version
HP Ethernet 1Gb 2-port 361i Adapter	80000CD5	1.2028.0	N/A
HP Ethernet 1Gb 2-port 361T Adapter	80000F91	1.2028.0	N/A
HP Ethernet 1Gb 2-port 363i Adapter	80000D00	1.2028.0	N/A
HPE Ethernet 1Gb 4-port 366i Communication Board	80000EBF	1.2028.0	N/A
HP Ethernet 1Gb 4-port 366i Adapter	80000E24	1.2028.0	N/A
HP Ethernet 1Gb 4-port 366FLR Adapter	80000F44	1.2028.0	N/A
HP Ethernet 1Gb 4-port 366T Adapter	80000E81	1.2028.0	N/A
HPE Ethernet 1Gb 2-port 368i Adapter	80001669	1.2028.0	N/A
HPE Ethernet 1Gb 2-port 368FLR-MMT Adapter	80001668	1.2028.0	N/A
HPE Ethernet 1Gb 4-port 369i Adapter	8000166A	1.2028.0	N/A
HP Ethernet 10Gb 2-port 560FLB Adapter	800008F0	1.2028.0	N/A
HP Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	80000838	1.2028.0	N/A
HP Ethernet 10Gb 2-port 560M Adapter	8000083D	1.2028.0	N/A
HPE Ethernet 10Gb 2-port 560SFP+ Adapter	80000835	1.2028.0	N/A
HPE Ethernet 10Gb 2-port 568i Adapter	8000166B	1.2028.0	N/A

HPE Ethernet 10Gb 2-port 568FLR-MMSFP+ Adapter	80001668	1.2028.0	N/A
HPE Ethernet 10Gb 2-port 568FLR-MMT Adapter	80001668	1.2028.0	N/A
HPE Ethernet 10Gb 2-port 563i Adapter	800035C0	1.1375.0	N/A
HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter	80004005	1.2028.0	10.4.3
HPE Ethernet 10Gb 2-port 562FLR-T Adapter	80000D96	1.2028.0	10.4.4
HPE Ethernet 10Gb 2-port 562SFP+ Adapter	80004004	1.2028.0	10.4.3
HPE Ethernet 10Gb 2-port 562T Adapter	80000D95	1.2028.0	10.4.4
HPE Synergy 4610C 10/25Gb Ethernet Adapter	800040F9	1.2028.0	10.4.7

The combo image v1.2028.0 includes: Boot Agent: 1GbE - v1.5.86, 10GbE - v2.4.32, 40GbE - v1.1.02 & UEFI Drivers: 1GbE - v8.6.06, 10GbE - v7.1.06, 40GbE - v3.4.06

The combo image v1.1375.0 includes: Boot Agent: 1GbE - v1.5.72, 10GbE - v2.3.46, 40GbE - v1.0.21 & UEFI Drivers: 1GbE - v6.9.13, 10GbE - v5.0.20, 40GbE - v1.5.14

Single NVM Version is new firmware format which represent an unified version in place of the previously used EEPROM/NVM Version or OROM version.

### **Prerequisites**

This product requires the appropriate driver for your device and operating system be installed before firmware is updated.

### **Fixes**

This product corrects an issue where the name for the HP Ethernet 1Gb 4-port 366FLR Adapter is displayed incorrectly in the network boot options.

This product corrects an issue where the HPE Ethernet 10Gb 2-port 562FLR-T Adapter can be awakened when the NIC WOL setting is disabled.

This product corrects an issue where system hangs when booting from the PXE boot menu.

### **Enhancements**

This product now supports the HPE Synergy 4610C 10/25Gb Ethernet Adapter.

### **Supported Devices and Features**

This package supports the following network adapters:

- o HP Ethernet 1Gb 2-port 361i Adapter
- o HP Ethernet 1Gb 2-port 361T Adapter
- o HP Ethernet 1Gb 2-port 363i Adapter
- o HP Ethernet 1Gb 4-port 366FLR Adapter
- o HP Ethernet 1Gb 4-port 366i Adapter
- o HPE Ethernet 1Gb 4-port 366i Communication Board
- o HP Ethernet 1Gb 4-port 366T Adapter
- o HPE Ethernet 1Gb 2-port 368i Adapter
- o HPE Ethernet 1Gb 2-port 368FLR-MMT Adapter
- o HPE Ethernet 1Gb 4-port 369i Adapter
- o HP Ethernet 10Gb 2-port 560FLB Adapter
- o HP Ethernet 10Gb 2-port 560FLR-SFP+ Adapter
- o HP Ethernet 10Gb 2-port 560SFP+ Adapter
- o HP Ethernet 10Gb 2-port 560M Adapter
- o HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 562SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 563i Adapter
- o HPE Ethernet 10Gb 2-port 568i Adapter
- o HPE Ethernet 10Gb 2-port 562T Adapter
- o HPE Ethernet 10Gb 2-port 562FLR-T Adapter
- o HPE Ethernet 10Gb 2-port 568FLR-MMSFP+ Adapter
- o HPE Ethernet 10Gb 2-port 568FLR-MMT Adapter
- o HPE Synergy 4610C 10/25Gb Ethernet Adapter

**Important Note!**

HPE recommends *HPE QLogic FastLinQ 10/25/50GbE Multifunction Drivers for VMware*, versions 2019.03.11 or later, for use with this firmware.

This software package contains the following firmware versions:

NIC	Boot Code (MFW) Version	UEFI Version	PXE Version	Combo Image Version
HPE Synergy 6810C 25/50Gb Ethernet Adapter	8.37.15.0	4.1.6.12	2.0.18	8.37.34
HPE Synergy 4820C 10/20/25Gb Converged Network Adapter				
HPE Ethernet 10Gb 2-port 521T Adapter	8.37.15.0	4.1.6.12	2.0.18	8.37.29
HPE Ethernet 10/25Gb 2-port 621SFP28 Adapter				
HPE Ethernet 10/25Gb 2-port 622FLR-SFP28 Converged Network Adapter				
HPE StoreFabric CN1200R-T Converged Network Adapter				
HPE StoreFabric CN1300R Converged Network Adapter				

**Prerequisites**

This product requires the appropriate driver for your device and operating system be installed before firmware is updated.

**Fixes**

This product corrects an issue where the WWPN information is missing in an adapter's FCoE configuration menu (under 'System Utilities'->'System Configuration' menu).

This product corrects an issue where server hangs during POST when a network adapter is connected to the HPE Synergy 20Gb Interconnect Link Module.

This product corrects an issue where the initiator does not stay logged into the target in an FCoE connection.

This product corrects an issue where the link status continues to show as UP on the switch side even after a network adapter is disabled in the OS.

**Supported Devices and Features**

This product supports the following network adapters:

- HPE Ethernet 10Gb 2-port 521T Adapter
- HPE Ethernet 10/25Gb 2-port 621SFP28 Adapter
- HPE Ethernet 10/25Gb 2-port 622FLR-SFP28 Converged Network Adapter
- HPE StoreFabric CN1200R-T Converged Network Adapter
- HPE StoreFabric CN1300R Converged Network Adapter
- HPE Synergy 4820C 10/20/25Gb Converged Network Adapter
- HPE Synergy 6810C 25/50Gb Ethernet Adapter

HPE QLogic NX2 Online Firmware Upgrade Utility for VMware

Version: 1.24.16 **(Optional)**

Filename: CP035912.compsig; CP035912.zip

**Important Note!**

HPE recommends *HPE QLogic NX2 10/20GbE Multifunction Drivers for VMware*, versions 2019.03.11 or later, for use with this firmware.

This software package contains combo image v7.17.71 with the following firmware versions:

NIC	Boot Code Version	PXE Version	UEFI Version	iSCSI Version	FCoE Version	CCM Version	L2 Version
HP Ethernet 10Gb 2-port 530SFP+ Adapter HP Ethernet 10Gb 2-port 530T Adapter	7.15.56	7.14.13	8.3.3	n/a	n/a	7.14.4	7.12.25
HP Ethernet 10Gb 2-port 533FLR-T Adapter HP FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter HP FlexFabric 10Gb 2-port 534M Adapter							

HP FlexFabric 10Gb 2-port 536FLB Adapter							
HPE FlexFabric 10Gb 4-port 536FLR-T Adapter							
HP FlexFabric 20Gb 2-port 630FLB Adapter							
HP FlexFabric 20Gb 2-port 630M Adapter	7.15.56	7.14.13	8.3.3	7.14.0	7.14.3	7.14.4	7.12.25
HP StoreFabric CN1100R Dual Port Converged Network Adapter							
HPE StoreFabric CN1100R-T Converged Network Adapter							
HPE Synergy 3820C 10/20Gb Converged Network Adapter							
HPE Synergy 2820C 10Gb Converged Network Adapter							

## Prerequisites

This product requires the appropriate driver for your device and operating system be installed before firmware is updated.

## Fixes

This product corrects an issue where a server does not boot via a network adapter in Legacy BIOS Mode.

This product corrects an issue where a server, across repeated reboots, is unable to boot into iSCSI LUN.

This product corrects an issue where a firmware update performed in UEFI fails when multiple adapters are connected to the system.

This product addresses an issue where a temporary link down issue occurs.

This product addresses an issue with firmware version 7.17.19 where, after a firmware update, the IPL order is reset.

## Supported Devices and Features

This product supports the following network adapters:

- HP Ethernet 10Gb 2-port 530SFP+ Adapter
- HP Ethernet 10Gb 2-port 530T Adapter
- HP Ethernet 10Gb 2-port 533FLR-T Adapter
- HP FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter
- HP FlexFabric 10Gb 2-port 534M Adapter
- HP FlexFabric 10Gb 2-port 536FLB Adapter
- HPE FlexFabric 10Gb 4-port 536FLR-T Adapter
- HP FlexFabric 20Gb 2-port 630FLB Adapter
- HP FlexFabric 20Gb 2-port 630M Adapter
- HP StoreFabric CN1100R Dual Port Converged Network Adapter
- HPE StoreFabric CN1100R-T Converged Network Adapter
- HPE Synergy 3820C 10/20Gb Converged Network Adapter
- HPE Synergy 2820C 10Gb Converged Network Adapter

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Online Firmware Upgrade Utility (ESXi 6.5) for HPE Mellanox Ethernet only adapters

Version: 1.0.4 (A) **(Recommended)**

Filename: CP038792.compsig; CP038792.zip

## Important Note!

### **Known Issues for FW version 2.42.5044 :**

- When using the QSFP module RTX320-581, and performing a driver restart for the firmware upgrade/downgrade to take effect, the link does not come up.
- Enabling/disabling cq\_timestamp using mlxconfig is not supported.
- In a card with 2 separate LEDs scheme (a Phy LED and a logic LED) only the Phy LED will lit. Meaning, the orange LES will not be active while the ETH link is in an idle mode.
- In SR-IOV setup, using mlxconfig when the PF is passed through to a VM requires a reboot of the Hypervisor.
- Downgrade to previous GA requires server reboot. Downgrading from v2.30.8000 or later to an earlier version than 2.30.8000 requires server reboot. Reboot the server.
- On ConnectX-3 Ethernet adapter cards, there is a mismatch between the GUID value returned by firmware management tools and that returned by fabric/driver utilities that read the GUID via device firmware (e.g., using ibstat). Mlxburn/flint return 0xffff as GUID while the utilities return a value derived from the MAC address. For all driver/firmware/software purposes, the latter value should be used.
- SBR should be asserted for a minimum of 50 milliseconds for the ConnectX®-3 adapters
- On Pilot1 SL230, PCIe link occasionally does not come up at Gen3 speed
- RH6.3 Inbox driver causes kernel panic when SR-IOV is enabled on VPI cards due to driver compatibility issue.
- In advanced steering mode, side band management connectivity may be lost when having more than 8 QP per mcg.
- When SR-IOV is disabled in the system BIOS, a PCI issue is noticed in Ubuntu v12.04.3 with Linux kernel v3.8 which affects NICs of several manufacturers including Mellanox's, preventing them from operating.
- MFT tools might leave the flash semaphore locked if the tool operation is forced stopped. The locked semaphore prevents the

firmware from accessing the flash and causes firmware hang.

- Cable Info MAD reports a wrong cable info when using the MC2210411-SR4 module
- Gen2 failure at temperature sweep up to 10C/min (for MT27518A1-FDIR-BV only).
- PCIe Gen2 link unstable at temperature sweep of 10C/min for MT27518A1-FDIR-BV
- Bloom filter is currently not supported.
- Firmware downgrade message When downgrading from firmware v2.11.0000 and using MFT 3.0.0-3
- RM#DMFS should not be enabled when working with InfiniBand on MLNX\_OFED-2.0.3
- RM#VPD read-only fields are writable.
- Increasing SymbolErrorCounter When working in VPI mode with port1 FDR and port2 40G, error counters misbehave and increase rapidly
- Setting the device to 128Byte CQ/EQ stride will cause misbehavior of sideband management resulting in communication loss.
- CQ and EQ cannot be configured to different stride sizes.
- ConnectX-3 Pro VF device ID is presented the same as ConnectX-3 VF device ID due to driver limitations.
- RSOD while running PXE (legacy) on G9 servers. This occurs only when PXE boot fails and BIOS boots from HDD. Currently it is pending BIOS fix.
- Changing port protocol from ETH to IB on port with NCSI/IPMI enabled while the port is connected to ETH switch is not supported.
- RDP over IPv6 is currently not functional.
- Sniffer QP cannot be removed from the regular rule after adding the QP with insertion scheme equals to "push to that rule"
- Since only a single Boot Entry Vector (BEV) per PCI Physical Function is supported, disabling the first port causes the second port to disappear as well.
- The NIC does not notify the driver of a link-down incident when a cable is unplugged from a NIC port with 56GbE port link.
- 56GbE link is not raised when using 100GbE optic cables.
- When working with MLNX\_OFED v3.3-1.0.0.0, server reboot could get stuck due to a kernel panic in mlx-4\_en\_get\_drvinfo() that is called from asynchronous event handler.
- 832298: When running ibdump, loopback traffic is mirroring into the kernel driver.
- AHS reports wrong MTU size
- RM#846523: MAC address that are set from the OS using ifconfig are not reflected in the OCBB buffer

#### Known Issues for FW version 12.23.8036, 14.23.8036 and 16.23.8036 :

- The maximum "read" size of MTRC\_STDB is limited to 272 Bytes.
- FTE with both forward (FWD) and encapsulation (ENCAP) actions is not supported in the SX NIC Flow Table.
- Encapsulation / Decapsulation support in steering has the following limitations:
  - Encapsulation / Decapsulation can be open on the FDB only if all VFs are non active
  - Encapsulation / Decapsulation supports single mode only: FDB / NIC. Opening tables of both types is not supported
  - Encapsulation / Decapsulation per device support:

		NIC	FDB
ConnectX-4	encap	NO	YES non MH
	decap	NO	NO
ConnectX-4 Lx	encap	NO	YES non MH
	decap	NO	YES
ConnectX-5	encap	YES	YES
	decap	YES	YES

#### Prerequisites

HPE Synergy 6410C 25/50Gb Ethernet Adapter (868779-B21) must first be upgraded to prerequisite firmware version 12.21.2808 before updating to 12.22.0148 or 12.22.0194. 12.22.0194 is the first secure firmware for HPE Synergy 6410C 25/50Gb Ethernet Adapter (868779-B21). Once this device is upgraded to firmware 12.22.0194, downgrade is not allowed.

#### Fixes

##### Fixes submitted in version 2.42.5044 :

- Fixed an issue that prevented the firmware from detecting a link\_down event thus preventing the IB bond interface from going to a failover mode

##### Fixes submitted in version 12.23.8036 :

- Fixed a Phase-Locked Loop(PLL) tuning issue by improving the tx\_clk\_phase lock mechanism.
- The Link Layer Discovery Protocol(LLDP): Removed management MAC 0 address once a new address is received
- Set the Port ID to be the MAC of the port

##### Fixes submitted in version 14.23.8052:

- The HPE Ethernet 25Gb 2-port 640FLR-SFP28 Adapter was not linking in AUX power mode.

##### Fixes submitted in version 16.23.8036 :

- Fixed an Active Health System(AHS) packet over PCIe interface issue

## Enhancements

Firmware for the following devices are updated to 2.42.5044 :

- 779799-B21 (HP Ethernet 10G 2-port 546FLR-SFP+ Adapter)
- 779793-B21 (HP Ethernet 10G 2-port 546SFP+ Adapter)

Firmware for the following device is updated to 12.23.8036 :

- 868779-B21 (HPE Synergy 6410C 25/50Gb Ethernet Adapter)

Firmware for the following devices are updated to 14.23.8052 :

- 817749-B21 (HPE Ethernet 25Gb 2-port 640FLR-SFP28 Adapter)

Firmware for the following devices are updated to 14.23.8036 :

- 817753-B21 (HPE Ethernet 25Gb 2-port 640SFP28 Adapter)

Firmware for the following device is updated to 16.23.8036 :

- 874253-B21 (HPE Ethernet 100Gb 1-port 842QSFP28 Adapter)

New features and changes in version 12.23.8036 , 14.23.8036 and 16.23.8036 :

- Implemented DCi specification v.0.80. The specification defines the NIC behavior in case of restore factory default while the NIC does not support AUX power.
- Added support for Abstract Syntax Notation One(ASN1) defaults v3.0 and NIC Discovery Configuration v.0.81
- Added support for Management Component Transport Protocol (MCTP) over PCI.
- Added support for Event Description Addendum 2.6.4.

## Supported Devices and Features

HPE Part Number	Mellanox Ethernet Only Adapters	PSID
779793-B21	HP Ethernet 10Gb 2-port 546SFP+ Adapter	HP_1200111023
779799-B21	HP Ethernet 10Gb 2-port 546FLR-SFP+ Adapter	HP_2240110004
817749-B21	HPE Ethernet 25Gb 2-port 640FLR-SFP28 Adapter	HP_2690110034
817753-B21	HPE Ethernet 25Gb 2-port 640SFP28 Adapter	HP_2420110034
868779-B21	HPE Synergy 6410C 25/50Gb Ethernet Adapter	HPE0000000006
874253-B21	HPE Ethernet 100Gb 1-port 842QSFP28 Adapter	HPE0000000014

Online Firmware Upgrade Utility (ESXi 6.5) for HPE Mellanox VPI (Ethernet and Infiniband mode) ConnectX4 and ConnectX5 devices on VMware ESXi 6.5

Version: 1.0.4 (Recommended)

Filename: CP036746.compsig; CP036746.zip

## Important Note!

Known Issues in firmware 12.24.1000 and 16.24.1000:

- vport\_tc and para\_vport\_tc are not supported in this version.
- Executing the update\_lid command while the IB port sniffer utility is active can stop the utility.
- Initializing a function while the IB port sniffer utility is active can stop the utility.
- While using e-switch vport sVLAN stripping, the RX steering values on the sVLAN might not be accurate.
- FTE with both forward (FWD) and encapsulation (ENCAP) actions is not supported in the SX NIC Flow Table.
- Encapsulation / Decapsulation support in steering has the following limitations:
  - Encapsulation / Decapsulation can be open on the FDB only if all VFs are non active.
  - Encapsulation / Decapsulation supports single mode only: FDB / NIC. Opening tables of both types is not supported.
  - Encapsulation / Decapsulation per device support:

	NIC	FDB
ConnectX-4	encap NO	YES non MH
	decap NO	NO
ConnectX-4 Lx	encap NO	YES non MH
	decap NO	YES
ConnectX-5	encap YES	YES
	decap YES	YES

Known Issues in firmware 16.24.1000:

- In the case of multi-destinations transmission where the last destination is set to encapsulation & wire, the packet for the last destination will not be send.
- When modifying the TTL in the NIC RX, the CQE checksum is not recalculated automatically. The limitation is indicated by the ttl\_checksum\_correction bit. If the ttl\_checksum\_correction=0, the capability is not functioning properly.
- When getting an inline scatter CQE on IB striding RQ, the stride index in the CQE will be zero.



- RoCE DC is not supported in LAG mode.

## **Fixes**

### **Fixes in version 12.24.1000 and 16.24.1000:**

- mlxconfig tool reported all possible expansion ROM images, instead of presenting only the existing images.
- Modifying VMQoS rate limiter parameters during traffic caused transmission failure.
- Aligned the default tuning type in PHY TEST MODE to the device protocol.
- When a device is operating in Safe Mode state, and the user issues the mlxfwreset command, the device might fail to come-up correctly after the reset.  
Note: Do not run mlxfwreset when operating in a Safe Mode state.
- Fixed an issue related to PCIe "Surprise link down" event reporting capability.
- Fixed an issue that resulted in the link partner experiencing false active linkup when plugging in a base-T cable to a closed port.

### **Fixes in version 12.24.1000:**

- Fixed an issue that caused the max\_qp\_retry\_freq\_exceeded counter (including a CQE with error syndrome 0x97, and the QP moving to error state) to be activated only after exceeding the NIC Vport context max\_qp\_retry\_limit, and not when reaching it.

### **Fixes in version 16.24.1000:**

- PCIe bifurcation issue.
- Deadlock in RX related to the "send-invalidate" flow, resulted in RX getting stuck.
- Rare errors in RX that resulted in double completion.

## **Enhancements**

### **Firmware for the following devices are updated to 12.24.1000:**

825110-B21 (HPE InfiniBand EDR/Ethernet 100Gb 1-port 840QSFP28 Adapter)  
825111-B21 (HPE InfiniBand EDR/Ethernet 100Gb 2-port 840QSFP28 Adapter)

### **Firmware for the following devices are updated to 16.24.1000:**

879482-B21 (HPE InfiniBand FDR/Ethernet 40/50Gb 2-port 547FLR-QSFP Adapter)  
872726-B21 (HPE InfiniBand EDR/Ethernet 100Gb 2-port 841QSFP28 Adapter)

### **Changes and New features in firmware version 12.24.1000 and 16.24.1000:**

- Added support for the following:
  - An additional layer (Layer 3) of packet processing at the hypervisor level that enables adding and removing protocol headers (e.g., the MAC address is removed during encapsulation, and added during decapsulation) for the encapsulated traffic.
  - Transmission histogram counter set as part of the Ethernet extended group counters.
  - TX steering rule on flow\_table\_metadata in WQE Ethernet segment.
  - Added L3 encapsulation/decapsulation support in the reformat context allocation.
    - L3 encapsulation removes L2 headers and adds generic L3 tunnel encapsulation.
    - L3 decapsulation removes the generic L3 tunnel decapsulation and L2 header.
  - Flow steering header modification (header rewrite) for IPv4 TTL header for loopback traffic (VF-VF/VF-PF).  
Note: TTL modification for traffic from the network is currently not supported.
  - Requester QP packet based on E2E credits mode. The new flow control supports HCA-to-switch RDMA traffic packet-based End-2-End.
  - IPoIB non-default Partition Keys (PKeys). Now the PKey values can be modified in the PKey table without the need of recreating the IPoIB (underlay) QPs.
  - [Beta] SR-IOV in Multi-Host/Socket-Direct.
  - QUERY\_DRIVER\_VERSION command. This command allows the PF driver to query its VFs driver version which was set by the SET\_DRIVER\_VERSION command.
  - New diagnostic counters to evaluate the number of ICMC hits and misses for particular resources.
- Enabled the hardware to generate an event upon counter incrementation, in order to reduce an overhead from the software from reading rarely updated counters such as error counters.
- Enabled NOIDNIC connectivity to the network through the e-switch and not directly to the physical port.
- Enabled setting the QP and the Mkey values by the software upon these resources creation.
- Enabled advanced PCIe atomic operations. The HCA will perform PCIe atomic operations as a requestor towards the host memory when receiving compatible atomic messages from the network, and according to the configuration of NV\_SW\_OFFLOAD\_CONFIG pci\_atomic\_mode field and the PCI AtomicOp Requester Enable bit in the Device Control 2 register.
- Enabled TTL modification in the Rx NIC steering. When modifying the TTL in the Rx NIC, the CQE checksum will not recalculated automatically.  
Note: TTL modification in the FDB for traffic from the network is currently not supported.
- Enabled a single TIR destination from the FDB.
- Changed the WRED default mode to OFF for Multi-Host adapter cards.
- [Developers only] Moved the fast teardown HCA cap bit to offset 0x1c.4:1.
- Enabled Virtual Functions to read QPDP/QPDP/QPTS.

- Multi PCI RDMA IB: This capability enables the user to expose two PCI/IB devices per network port.
- Reduced firmware's memory consumption to increase the supported number of VFs per PF to up to 100.
- Shutting Down RDMA QPs with Excessive Retransmissions is a mechanism used to detect excessive retransmissions for an RC connection, and to close the connection in response to it. If the number of retransmissions due to a Local Ack Timeout, NAK-Sequence Error, or Implied NAK, during a specified period, exceeds the specified threshold, the QP will be handled as if the IB spec defined Retry Count was exceeded.

#### New features in firmware version 12.24.1000:

- Enabled e-switch steering rule in the NIC without matching it with the Directional MACs (DMAC) protocol. Now the rule is only according to the MC/UC bit.
- The IB Sniffer utility provides the user the ability to capture the e-switch traffic directly to a hypervisor queue.
- Increased the number of VFs that can work with full VMQoS (8 TC) per PFs as follow:
  - in dual port devices to: 0-21, 33-45 VFs (22-32 VFs has single TC)
  - in single port devices to: 0-64 VFs

#### New features in firmware version 16.24.1000:

- Enabled QoS ETS for systems with 64 VFs to better allocate bandwidth in the NIC.
- Enabled TTL modification for received packets.
- Mirrors the traffic from/to one VF to a dedicate admin VF for monitoring and traffic analysis. Note that in this process packets are duplicated and different packet modifications apply to different duplications.
- Enabled TTL modification in the Rx NIC steering. When modifying the TTL in the Rx NIC, the CQE checksum will not recalculated automatically.  
Note: TTL modification in the FDB for traffic from the network is currently not supported.
- Added support for Dynamically Connected Transport (DC) in RoCE in ConnectX-5 adapter cards.
- Enabled Rx mini-CQE compressed format for striding RQ.
- Enabled TX steering rule on the application meta-data from the WQE. This functionality implements meta-data Reg A steering and meta-data Reg A and Reg B rewriting.
- Added MPLS over UDP and MPLS over GRE protocols for tunneling offload/steering match criteria.

### Supported Devices and Features

HPE Part Number	Device Name	PSID
825110-B21	HPE InfiniBand EDR/Ethernet 100Gb 1-port 840QSFP28 Adapter	HP_2180110032
825111-B21	HPE InfiniBand EDR/Ethernet 100Gb 2-port 840QSFP28 Adapter	HP_2190110032
872726-B21	HPE InfiniBand EDR/Ethernet 100Gb 2-port 841QSFP28 Adapter	HPE0000000009
879482-B21	HPE InfiniBand FDR/Ethernet 40/50Gb 2-port 547FLR-QSFP Adapter	HPE0000000022

Online Firmware Upgrade Utility (ESXi 6.5) for HPE Mellanox VPI (Ethernet and Infiniband mode) devices on VMware ESXi 6.5  
Version: 1.0.2 (**Recommended**)  
Filename: CP036870.compsig; CP036870.zip

### Important Note!

#### Known Issues in firmware 2.42.5000, 2.42.5044:

- When using the QSFP module RTX320-581, and performing a driver restart for the firmware upgrade/downgrade to take effect, the link does not come up **Workaround:** Reboot the server.
- Enabling/disabling cq\_timestamp using mlxconfig is not supported.
- In a card with 2 separate LEDs scheme (a Phy LED and a logic LED) only the Phy LED will lit. Meaning, the orange LES will not be active while the ETH link is in an idle mode
- Downgrading from v2.30.8000 or later to an earlier version than 2.30.8000 requires server reboot.  
**Workaround:** Reboot the server.
- On ConnectX-3 Ethernet adapter cards, there is a mismatch between the GUID value returned by firmware management cards tools and that returned by fabric/driver utilities that read the GUID via device firmware (e.g., using ibstat). Mlxburn/flint return 0xffff as GUID while the utilities return a value derived from the MAC address. For all driver/firmware/software purposes, the latter value should be used.  
**Workaround:** Use the GUID value returned by the fabric/driver utilities (not 0xffff).
- SBR should be asserted for a minimum of 50 milliseconds for the ConnectX®-3 adapters.
- On Pilot1 SL230, PCIe link occasionally does not come up at Gen3 speed.
- RH6.3 Inbox driver causes kernel panic when SR-IOV is enabled on VPI cards due to driver compatibility issue.
- In advanced steering mode, side band management connectivity may be lost when having more than 8 QP per mcg.
- When SR-IOV is disabled in the system BIOS, a PCI issue is noticed in Ubuntu v12.04.3 with Linux kernel v3.8 which affects NICs of several manufacturers including Mellanox's, preventing them from operating.  
**Workaround:** Enable SR-IOV in the BIOS.
- MFT tools might leave the flash semaphore locked if the tool operation is forced stopped. The locked semaphore prevents the firmware from accessing the flash and causes firmware hang.  
**Workaround:** Clear the semaphore using MFT command: flint -clear\_semaphore
- Cable Info MAD reports a wrong cable info when using the MC2210411-SR4 module.
- Gen2 failure at temperature sweep up to 10C/min (for MT27518A1-FDIR-BV only).

PCIe Gen2 link unstable at temperature sweep of 10C/min for MT27518A1-FDIR-BV.

- Bloom filter is currently not supported.
- When downgrading from firmware v2.11.0000 and using MFT 3.0.0-3, the following message is displayed due to the mlxconfig tool:  
*You are trying to override configurable FW by non-configurable FW.  
If you continue, old FW configurations will be cleared, do you want to continue ? (y/n) [n] : y  
You are trying to restore default configuration,  
do you want to continue ?  
(y/n) [n] : y*
- DMFS should not be enabled when working with InfiniBand on MLNX\_OFED-2.0.3.  
**Workaround:** Upgrade to MLNX\_OFED-2.1-x.x.x. or later.
- VPD read-only fields are writable.  
**Workaround:** Do not write to read- only fields if you wish to preserve them.
- When working in VPI mode with port1 FDR and port2 40G, error counters misbehave and increase rapidly.
- Setting the device to 128Byte CQ/EQ stride will cause misbehavior of sideband management resulting in communication loss.
- CQ and EQ cannot be configured to different stride sizes.
- ConnectX-3 Pro VF device ID is presented the same as ConnectX-3 VF device ID due to driver limitations.  
**Workaround:** Use the physical function device ID to identify the device.
- Changing port protocol from ETH to IB on port with NCSI/IPMI enabled while the port is connected to ETH switch is not supported.  
**Workaround:**
  - Unplug the cable from the switch
  - Restart driver
  - Change the protocol via the appropriate tools.
- RDP over IPv6 is currently not functional.  
**Workaround:** Set the default RoCE mode in the software to RoCE v2 (also when not using RoCE).
- Sniffer QP cannot be removed from the regular rule after adding the QP with insertion scheme equals to "push to that rule".
- Since only a single Boot Entry Vector (BEV) per PCI Physical Function is supported, disabling the first port causes the second port to disappear as well.
- The NIC does not notify the driver of a link-down incident when a cable is unplugged from a NIC port with 56GbE port link.
- 56GbE link is not raised when using 100GbE optic cables.
- When working with MLNX\_OFED v3.3-1.0.0.0, server reboot could get stuck due to a kernel panic in mlx4\_en\_get\_drvinfo() that is called from asynchronous event handler.
- When running ibdump, loopback traffic is mirroring into the kernel driver.
- Enabling/disabling cq\_timestamp using mlxconfig is not supported.
- In a card with 2 separate LEDs scheme (a Phy LED and a logic LED) only the Phy LED will lit. Meaning, the orange LED will not be active while the ETH link is in an idle mode.
- In SR-IOV (Single Root I/O Virtualization) setup, using mlxconfig when the PF (Physical Function) is passed through to a VM (Virtual Machine) requires a reboot of the Hypervisor.
- Adapter card MCX349A-XCCN may experience longer linkup times of a few seconds with specific switches.
- Adapter card MCX349A-XCCN does not respond to ethtool "identify" command (ethtool -p/--identify).
- MAC address that are set from the OS using ifconfig are not reflected in the OCBB buffer.

## Fixes

### **Fixes in version 2.42.5000:**

- PortRcvPkts counter was prevented from being cleared after resetting it.
- The system Timed Out on the configuration cycle of the Virtual Functions (VFs) when more than 10 Virtual Functions performed FLR and the completion Time Out value was configured to a range of less than 16 msec.
- The server hangs and results in NMI when running "mlxftop -d mt4103\_pci\_cr0" while restarting the driver in parallel (from a different thread). In this case, the downstream bridge over the device reported completion timeout error.
- In flow\_steering, BMC could not receive a ping over IPV6 after running bmc\_reboot.
- While closing the HCA, the RX packet caused bad access to resources that did not exist, and consequently caused the QPCGW or the irisc to get stuck.
- The master SMLID and the LID was either 0 or 0xFFFF when the port was neither active nor armed.
- ibdump could not capture all MADs packets.
- link did not go up after reboot.
- Fixed a rare issue that cause the PCIe configuration cycle that arrived during the time of sw\_reset to generate 2 completions.
- Network Controller Sideband Interface (NC-SI) did not work when adding the disable\_static\_steering\_ini field in the ini file, due to memory allocation issue for this field in the scratchpad.

### **Fixes in version 2.42.5044:**

- Fixed an issue that prevented the firmware from detecting a link\_down event thus preventing the IB bond interface from going to a failover mode

## Enhancements

### **Firmware for the following devices are updated to 2.42.5000:**

764282-B21  
764286-B21

**Firmware for the following devices are updated to 2.42.5044:**

764283-B21  
764284-B21  
764285-B21

**New features in firmware version 2.42.5000:**

- o Added support for the following features.
  - new TLV: CX3\_GLOBAL\_CONF to enable/disable timestamp on incoming packets through mlxconfig configuration.
  - User MAC configuration.
  - Automatically collecting mstdump before driver reset.
  - A mechanism to detect DEAD\_IRISC (plastic) from TPT (iron) and raise an assert.
  - A new field is added to "set port" command which notifies the firmware what is the user\_mtu size.
- o Improved the debug ability for command timeout cases

**Supported Devices and Features**

**Supported Devices:**

HP Part Number	Device Name	PSID
764282-B21	HP InfiniBand QDR/Ethernet 10Gb 2-port 544+M Adapter	HP_1350110023
764283-B21	HP InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+M Adapter	HP_1360110017
764284-B21	HP InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter	HP_1370110017
764285-B21	HP InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter	HP_1380110017
764286-B21	HP InfiniBand QDR/Ethernet 10Gb 2-port 544+FLR-QSFP Adapter	HP_1390110023

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**Firmware - NVDIMM**

Firmware Package - 16GB NVDIMM-N DDR4-2666  
Version: 1.04 (A) **(Recommended)**  
Filename: nvdimm-16gb\_1.04.fwpkg

[Top](#)

**Fixes**

Initial release.

**Enhancements**

Initial release.

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**Firmware - Storage Controller**

Online ROM Flash Component for ESXi (x86) - HPE Smart Array P824i-p MR Gen10  
Version: 24.23.0-0042 **(Optional)**  
Filename: CP036878.compsig; CP036878.zip

[Top](#)

## **Enhancements**

- Added support for the Apollo 4510 system

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Online ROM Flash Component for VMware ESXi – HPE 12Gb/s SAS Expander Firmware for HPE Smart Array Controllers and HPE HBA Controllers

Version: 4.21 **(Optional)**

Filename: CP037229.compsig; CP037229.zip

## **Important Note!**

- Power cycle / cold reboot is required if firmware is upgraded from version 1.31 or earlier.

## **Fixes**

The following issues are resolved in version 4.21:

- Expander may reset during heavy SSACLI polling
- SATA drives may take longer to spin up, not be initially detected, and then hot add later. This can prevent system boot or affect the logical drive status.

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Online ROM Flash Component for VMware ESXi - HPE Apollo 2000 Gen10 Backplane Expander Firmware

Version: 1.00 (C) **(Optional)**

Filename: CP037611.compsig; CP037611.zip

## **Important Note!**

Customers who already installed firmware version 1.00 do not need to update to 1.00 (C).

## **Enhancements**

- Added support for VMware vSphere 6.7 OS

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Online ROM Flash Component for VMware ESXi – HPE Apollo 2000 System - SAS Expander

Version: 1.51 **(Recommended)**

Filename: CP038045.compsig; CP038045.zip

## **Fixes**

- Expander may reset during heavy SSACLI polling
- SATA drives may take longer to spin up, not be initially detected, and then hot add later. This can prevent system boot or affect the logical drive status.

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Online ROM Flash Component for VMware ESXi – HPE Apollo 4200 Backplane Expander Firmware

Version: 1.78 (A) **(Optional)**

Filename: CP038813.compsig; CP038813.zip

## **Important Note!**

- Power cycle / cold reboot is required if firmware is upgraded from version 1.03 or earlier.

## **Enhancements**

- Added HPE Smart Array P824i-p controller support

---

Online ROM Flash Component for VMware ESXi - HPE Apollo 45xx Gen10 Backplane Expander Firmware

Version: 1.56 (D) **(Recommended)**

Filename: CP038103.compsig; CP038103.zip

## **Enhancements**

- Added HPE Smart Array P824i-p controller support

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Online ROM Flash Component for VMware ESXi – HPE Apollo 45xx Gen9 Backplane Expander Firmware

Version: 2.50 **(Optional)**  
Filename: CP038042.compsig; CP038042.zip

### **Important Note!**

- Please un-plug and re-plug the power cord to the server for firmware upgrade from version 1.03 or earlier to take effect.

### **Fixes**

- Expander may reset during heavy SSACLI polling
- SATA drives may take longer to spin up, not be initially detected, and then hot add later. This can prevent system boot or affect the logical drive status.

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Online ROM Flash component for VMware ESXi - HPE Dual 8GB microSD USB  
Version: 1.3.2.215 (B) **(Recommended)**  
Filename: CP037940.compsig; CP037940.zip

### **Fixes**

- To show corresponding HPE Dual 8GB Micron SD part number in Agentless Management Service version 11.2.0 or later.

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Online ROM Flash Component for VMware ESXi - HPE Express Bay Enablement Switch Card  
Version: 1.78 (B) **(Optional)**  
Filename: CP035193.zip

### **Important Note!**

Customers who already have firmware version 1.78 installed do not need to update to 1.78(B).

- Power cycle / cold reboot is required after installation for updates to take effect.

### **Prerequisites**

- The HP ProLiant iLO firmware version must be v2.20 or later. If the HP ProLiant iLO firmware is older than v2.20 you will receive the following error message:

*Check dependency failed.*

*Current version: iLOx x.xx*

*Minimum version required: iLO4 2.20*

*The software will not be installed on this system because the required hardware is not present in the system or the software/firmware doesn't apply to this system*

### **Enhancements**

- Added VMware vSphere 6.7 OS support

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Online ROM Flash Component for VMware ESXi - HPE SAS Expander Firmware for HPE D2500sb Storage Blade  
Version: 2.00 (C) **(Optional)**  
Filename: CP037690.compsig; CP037690.zip

### **Important Note!**

Customers who already installed firmware version 2.00 do not need to update to 2.00 (C).

- When using ESXi6.0 you must be at upgrade 3 or newer. The required SmartPQI driver is not present in earlier versions of the OS

### **Prerequisites**

When using ESXi6.0 you must be at upgrade 3 or newer. The required SmartPQI driver is not present in earlier versions of the OS

### **Enhancements**

- Added support for VMware vSphere 6.7 OS
-

Online ROM Flash Component for VMware ESXi - HPE Smart Array P408i-p, P408e-p, P408i-a, P408i-c, E208i-p, E208e-p, E208i-c, E208i-a, P408i-sb, P408e-m, P204i-c, P204i-b, P816i-a and P416ie-m SR Gen10

Version: 1.98 **(Recommended)**

Filename: CP037173.compsig; CP037173.zip

### **Fixes**

Fixes the following issues:

- Controller could stop responding with a 0x1A91 message during active path failure
- Controller could stop responding during I/O processing and Smart Cache flush process
- When predictive spare rebuild is triggered on Smart Cache, the rebuilding process could failed to start.
- Data could become corrupted when a SATA drive overruns a data transfer
- Controller memory corruption could occur when the response to an Identify Device command (IDD) is received from a drive
- Communication between the host system and a RAID5/6 volume could potentially failed after an I/O timeout on one of the drives in the array.
- System could stop responding with a 0x1E30 message when discovering an ATA locked drive
- Controller could stop responding during a drive sanitize operation

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Online ROM Flash Component for VMware ESXi - Smart Array and Smart HBA H240ar, H240nr, H240, H241, H244br, P240nr, P244br, P246br, P440ar, P440, P441, P542D, P741m, P840, P840ar, and P841

Version: 6.88 **(Recommended)**

Filename: CP038306.compsig; CP038306.zip

### **Fixes**

Fixes the following Issues

- SATA drive could stop responding while on HBA mode when non-NCQ commands are executed
- Controller could stop responding when upgrading due to the DDR Cache Module exceeding its limitations
- SSD Cache module could become disable while upgrading FW
- Data from the HPE Smart Drive Backplane could potentially become corrupted if a non-HPE carrier is present

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Online ROM Flash Component for VMware ESXi - Smart Array P220i, P222, P420i, P420, P421, P721m, and P822

Version: 8.32 (B) **(Recommended)**

Filename: CP035522.compsig; CP035522.zip

### **Enhancements**

- Improved integration with Smart Update Manager

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Online ROM Flash Component for VMware ESXi - Smart Array P230i, P430, P431, P731m, P830i, and P830

Version: 4.54 (B) **(Recommended)**

Filename: CP036098.compsig; CP036098.zip

### **Fixes**

- DDR cache could be randomly disabled after several boots
  - A hot-inserted replacement drive might show as a predictive failure if the original drive was identified as a predictive failure.
  - Controller cache module might be marked as permanently disabled if the Smart Storage Battery is removed or failed while the system is online, even if SSA was previously used to enable write caching without a backup power source.
  - Controller can become unresponsive due to a SmartCache pending flush operation when a read-ahead and a read-fill are performed in sequent.
  - System might stop responding if a parity error is found during surface scan of a RAID6 volume. (POST Lockup 0x13)
  - System fans might go to 100% if connected drives were spun down
  - Issue where a controller crash dump may not be collected after a controller failure
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## Firmware - Storage Fibre Channel

[Top](#)

HPE Firmware Flash for Emulex Fibre Channel Host Bus Adapters for VMware vSphere 6.5

Version: 2019.03.01 (**Recommended**)

Filename: CP035751.compsig; CP035751.zip

### **Important Note!**

Release Notes:

[HPE StoreFabric Emulex Adapter Release Notes](#)

Beginning with software release 11.2, Fibre Channel (LightPulse) adapters and Converged Network adapters (OneConnect) have independent software kits.

It is highly recommended that you review the Broadcom Software Kit Migration User Guide for more detailed information regarding this change.

To obtain the guide:

1. Go to <http://www.hpe.com/support/manuals>
2. Using the HPE model number as your guide, enter the adapter model number in the Search products box, and then click >>.

This document provides special instructions and considerations for using the driver kits for FC and CNA adapters.

Special cases include those in which pre-11.2 (original) drivers and applications are replaced by the new 11.2 drivers and applications, and cases in which inbox drivers are replaced by the new 11.2 out-of-box (OOB) drivers.

### **Prerequisites**

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

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

### **Enhancements**

We have separate components to update fibre channel and converged network adapters. This is a fibre channel update component.

#### **16 Gb Standup, 16 Gb Mezzanine, and 32 Gb Standup**

Added support to the following:

- Added duration support for the Link Cable Beacon command. This avoids situations in which the blinking of an Host Bus Adapter (HBA) Light Emitting Diode (LED) might be initiated, but no command is sent to stop the blinking.
- HPE Synergy 5330C 32Gb Fibre Channel Host Bus Adapter

Updated 16/32 Gb HBA/Mezz universal boot

Updated 16Gb HBA/Mezz universal boot

Updated 8Gb HBA/Mezz universal boot

#### **Contains:**

16/32 Gb HBA/Mezz universal boot 12.0.346.9

16 Gb HBA/Mezz universal boot 12.0.346.9

8 Gb standup/mezz firmware 2.10X6

8 Gb standup/mezz universal boot image 12.00a10 (12.0.325.0 BIOS, 12.0.348.0 UEFI)

### **Supported Devices and Features**

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



## 8Gb FC:

- HP 81E 8Gb Single Port PCIe Fibre Channel Host Bus Adapter
- HP 82E 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter
- HP LPe1205A 8Gb Fibre Channel Host Bus Adapter for BladeSystem c-Class
- HP StoreFabric 84E 4-Port Fibre Channel Host Bus Adapter

## LPe16000 (16Gb) FC:

- HP SN1000E 16Gb Dual Port Fibre Channel Host Bus Adapter
- HP SN1000E 16Gb Single Port Fibre Channel Host Bus Adapter
- HP SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter
- HP SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter
- HPE StoreFabric SN1100E 4P 16Gb Fibre Channel Host Bus Adapter
- HP Fibre Channel 16Gb LPe1605 Mezz
- HPE Synergy 3530C 16Gb Fibre Channel Host Bus Adapter

## LPe31000/32000 (16Gb/32Gb) FC:

- HPE StoreFabric SN1200E 16Gb 2P FC HBA
- HPE StoreFabric SN1200E 16Gb 1P FC HBA
- HPE StoreFabric SN1600E 32Gb 2p FC HBA
- HPE StoreFabric SN1600E 32Gb 1p FC HBA
- HPE Synergy 5330C 32Gb Fibre Channel Host Bus Adapter

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HPE Firmware Flash for QLogic Fibre Channel Host Bus Adapters for VMware vSphere 6.5  
Version: 2019.03.01 (**Recommended**)  
Filename: CP035771.compsig; CP035771.zip

### **Important Note!**

[HPE StoreFabric QLogic Adapter Release Notes](#)

### **Prerequisites**

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

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

The HPE supplied Qlogic driver must be installed prior to this firmware component being identified by SUM for deployment. The OOB driver is available on the Service Pack for ProLiant (SPP) which is available at <http://www.hpe.com/servers/spp/download/>

### **Fixes**

Fixed the following

#### **8Gb Standup & 8Gb Mezzanine**

Firmware:

- Fix regression where the firmware returned Time Out error code under heavy load.

UEFI

- Driver progress messages are no longer displayed on SuperDome servers.
- Corrected Driver Health string format on Gen10 servers

#### **16Gb Standup & 16Gb Mezzanine**

Firmware:

- Fix unexpected behavior related to Diagnostic Port and Link Diagnostics operations (loopback, echo etc)

UEFI:

- Driver progress messages are no longer displayed on SuperDome servers.
- Corrected Driver Health string format on Gen10 servers.

#### **16Gb/32Gb Standup**

Firmware:

- Fix unexpected behavior related to Diagnostic Port and Link Diagnostics operations (loopback, echo etc)

UEFI:

- Corrected Driver Health string format on Gen10 servers.
- Driver progress messages are no longer displayed on SuperDome servers.
- Fixed QUIC (QUIC Protocol)
- Removed 8G Speed and Loop Only Options from 5830C Adapter

## **Enhancements**

Added support for the following:

### **16Gb/32Gb Standup**

Firmware:

- Add support for FC NVMe (Non-volatile memory express) ready
- Support Link cable Beacon (LCB)

BIOS:

- Added support for 5830C Secure flash

UEFI:

- Added support for 5830C Secure flash

Updated the Firmware/BIOS/UEFI packages for 8 Gb, 16 Gb and 32 Gb products.

- 8 Gb HBA/Mezz
  - Package 3.79.02
  - Firmware 8.08.01
  - UEFI 6.66
  - BIOS 3.56
- 16 Gb HBA/Mezz
  - Package 6.01.79
  - Firmware 8.08.203
  - UEFI 6.65
  - BIOS 3.43
- 16/32 Gb
  - Package 1.71.03
  - Firmware 8.08.204
  - UEFI 6.51
  - BIOS 3.64

## **Supported Devices and Features**

This firmware supports the following HPE adapters:

### **8Gb FC:**

- HP 81Q PCIe Fibre Channel Host Bus Adapter
- HP 82Q 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter
- HPE StoreFabric 84Q 4P 8Gb Fibre Channel HBA
- HP QMH2572 8Gb Fibre Channel Host Bus Adapter for c-Class BladeSystem

### **16Gb FC:**

- HP QMH2672 16Gb Fibre Channel Host Bus Adapter for c-Class BladeSystem
- HP StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter
- HP StoreFabric SN1000Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter
- HP StoreFabric SN1100Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter
- HP StoreFabric SN1100Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter
- HPE Synergy 3830C 16G Fibre Channel Host Bus Adapter

### **32Gb FC:**

- HPE StoreFabric SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter
- HPE StoreFabric SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter
- HPE Synergy 5830C 32Gb Fibre Channel Host Bus Adapter

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## **Firmware (Entitlement Required) - Storage Controller**

HPE D3600/D3700/D3610/D3710 12Gb SAS Disk Enclosure ROM Flash Component for VMware (ESXi)

Version: 4.12 (**Recommended**)

Filename: CP036702.compsig; CP036702.md5; CP036702.zip

[Top](#)

## **Important Note!**

**IMPORTANT:** Firmware updates must be performed during a system maintenance window, with all I/O to the system halted. In single domain configuration, if user hosts an OS in D3000(or any storage box) and flash the SEPs, it will hang/crash everytime as SmartComponent will reset the SEPs after flash/codeload.

**WARNING!** Do not power cycle or restart during the firmware update as this can result in loss of capabilities for this unit. It typically takes several minutes for the firmware to load.

**NOTE:** All firmware flash progress messages are logged to /var/cpq/D3000.log and flash summary is logged to /var/cpq/Component.log.

### **Prerequisites**

**IMPORTANT:** Firmware updates must be performed during a system maintenance window, with all I/O to the system halted.

**WARNING!** Do not power cycle or restart during the firmware update as this can result in loss of capabilities for this unit. It typically takes several minutes for the firmware to load.

**NOTE:** All firmware flash progress messages are logged to /var/cpq/D3000.log and flash summary is logged to /var/cpq/Component.log.

### **Fixes**

**The following fix is incorporated in this version:**

- The Enabled-ClusterS2D command now completes successfully when executed on a SATA drive within a D3610 disk enclosure.

Please refer to the [Release Notes](#) for the complete listing of fixes, enhancements, known issues and work-arounds corresponding to this firmware.

### **Enhancements**

**The following enhancement has been added in this version:**

- Added support of VMware vsphere 6.7

### **Supported Devices and Features**

The D3600 / D3700 / D3610 / D3710 Enclosure can be attached to any of the following HPE Storage Controllers and Host Bus Adapters :

- HP Smart Array P841 Controller
- HP Smart Array P441 Controller
- HP Smart HBA H241
- HP Smart Array P741m Controller
- HPE Smart Array P408e-p Controller
- HPE Smart Array E208e-p Controller
- HPE Smart Array P408e-m Controller
- HPE Smart Array P416ie-m Controller

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HPE D6020 12Gb SAS Disk Enclosure ROM Flash Component for VMware (ESXi)

Version: 2.74 (B) **(Recommended)**

Filename: CP037967.compsig; CP037967.md5; CP037967.zip

### **Important Note!**

**IMPORTANT:** Firmware updates must be performed during a system maintenance window, with all I/O to the system halted. In single domain configuration, if user hosts an OS in D6020(or any storage box) and flash the SEPs, it will hang/crash everytime as SmartComponent will reset the SEPs after flash/codeload.

**WARNING!** Do not power cycle or restart during the firmware update as this can result in loss of capabilities for this unit. It typically takes several minutes for the firmware to load.

**NOTE:** All firmware flash progress messages are logged to /var/cpq/D6020.log and flash summary is logged to /var/cpq/Component.log.

### **Prerequisites**

**IMPORTANT:** Firmware updates must be performed during a system maintenance window, with all I/O to the system halted.

**WARNING!** Do not power cycle or restart during the firmware update as this can result in loss of capabilities for this unit. It typically takes several minutes for the firmware to load.

NOTE: All firmware flash progress messages are logged to /var/cpq/D6020.log and flash summary is logged to /var/cpq/Component.log.

## **Fixes**

**The following fixes were incorporated in this version:**

- When an I/O module is removed or reset, the correct temperature sensor report is now generated.
- When there is no drive in a bay, the drive bay LED will now not turn on.

Please refer to the [Release Notes](#) for the complete listing of fixes, enhancements, known issues and work-arounds corresponding to this firmware.

## **Enhancements**

**The following enhancement has been added in this version:**

- Added support of VMware vSphere 6.7

## **Supported Devices and Features**

The D6020 Enclosure can be attached to any of the following HPE Storage Controllers and Host Bus Adapters :

- HP Smart Array P841 Controller
- HP Smart Array P441 Controller
- HP Smart HBA H241
- HP Smart Array P741m Controller
- HPE Smart Array P408e-p Controller
- HPE Smart Array E208e-p Controller
- HPE Smart Array P408e-m Controller
- HPE Smart Array P416ie-m Controller

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## **Software - Management**

[Top](#)

HPE Management Bundle Smart Component for ESXi 6.5

Version: 2019.03.01 **(Recommended)**

Filename: cp037186.compsig; cp037186.zip

## **Fixes**

### **WBEM Providers**

- Fixed false Solid State Disk Wear alert reported by the SmartArray WBEM provider

### **Agentless Management Service**

- Fixed reporting of HPE QLogic NX2 driver components in the cpqHoSwVer MIB to resolve blank Installed driver versions displayed in SUM

## **Enhancements**

### **Agentless Management Service**

- Added support for cpqiscsi MIB
- Implement configurable CPU and Memory Usage periodic logging to the iLO AHS (Active Health System) Log

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## **Software - Network**

[Top](#)

HPE Intel esx-provider for VMware

Version: 2018.09.00 **(Optional)**

Filename: cp035296.compsig; cp035296.zip

## **Enhancements**

This product now supports Gen10 servers.

## **Supported Devices and Features**

These drivers support the following network adapters:

- HP Ethernet 1Gb 2-port 361i Adapter
- HP Ethernet 1Gb 2-port 361T Adapter
- HP Ethernet 1Gb 4-port 366FLR Adapter
- HP Ethernet 1Gb 4-port 366M Adapter
- HP Ethernet 1Gb 4-port 366T Adapter
- HP Ethernet 10Gb 2-port 560FLB Adapter
- HP Ethernet 10Gb 2-port 560FLR-SFP+ Adapter
- HP Ethernet 10Gb 2-port 560M Adapter
- HP Ethernet 10Gb 2-port 560SFP+ Adapter
- HP Ethernet 10Gb 2-port 561FLR-T Adapter
- HP Ethernet 10Gb 2-port 561T Adapter
- HP Ethernet 10Gb 2-port 562FLR-SFP+ Adapter
- HP Ethernet 10Gb 2-port 562SFP+ Adapter

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## Software - Storage Fibre Channel

[Top](#)

Emulex Fibre Channel driver component for VMware vSphere 6.5

Version: 2019.03.01 **(Recommended)**

Filename: cp035758.compsig; cp035758.zip

### **Important Note!**

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 vibstdepot.hpe.com webpages, plus an HPE specific CPXXXX.xml file.

Beginning with software release 11.2, Fibre Channel (LightPulse) adapters and Converged Network adapters (OneConnect) have independent software kits.

It is highly recommended that you review the Broadcom Software Kit Migration User Guide for more detailed information regarding this change.

To obtain the guide:

1. Go to <http://www.hpe.com/support/manuals>
2. Using the HPE model number as your guide, enter the adapter model number in the Search products box, and then click >>.

This document provides special instructions and considerations for using the driver kits for FC and CNA adapters.

Special cases include those in which pre-11.2 (original) drivers and applications are replaced by the new 11.2 drivers and applications, and cases in which inbox drivers are replaced by the new 11.2 out-of-box (OOB) drivers.

### **Prerequisites**

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

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

Beginning with software release 11.2, Fibre Channel (LightPulse) adapters and Converged Network adapters (OneConnect) have independent software kits.

It is highly recommended that you review the Broadcom Software Kit Migration User Guide for more detailed information regarding this change.

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This document provides special instructions and considerations for using the driver kits for FC and CNA adapters.

Special cases include those in which pre-11.2 (original) drivers and applications are replaced by the new 11.2 drivers and applications, and cases in which inbox drivers are replaced by the new 11.2 out-of-box (OOB) drivers.

### **Enhancements**

Updated to Driver version 12.0.257.5

Added support to following:

- Added duration support for the Link Cable Beacon command. This avoids situations in which the blinking of an Host Bus Adapter(HBA) Light Emitting Diode(LED) might be initiated, but no command is sent to stop the blinking.

### **Supported Devices and Features**

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

## 8Gb FC:

- HP 81E 8Gb Single Port PCIe Fibre Channel Host Bus Adapter
- HP 82E 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter
- HP LPe1205A 8Gb Fibre Channel Host Bus Adapter for BladeSystem c-Class
- HP StoreFabric 84E 4-Port Fibre Channel Host Bus Adapter

## LPe16000 (16Gb) FC:

- HP SN1000E 16Gb Dual Port Fibre Channel Host Bus Adapter
- HP SN1000E 16Gb Single Port Fibre Channel Host Bus Adapter
- HP SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter
- HP SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter
- HPE StoreFabric SN1100E 4P 16Gb Fibre Channel Host Bus Adapter
- HP Fibre Channel 16Gb LPe1605 Mezz
- HPE Synergy 3530C 16Gb Fibre Channel Host Bus Adapter

## LPe31000/32000 (16Gb/32Gb) FC:

- HPE StoreFabric SN1200E 16Gb 2P FC HBA
- HPE StoreFabric SN1200E 16Gb 1P FC HBA
- HPE StoreFabric SN1600E 32Gb 2p FC HBA
- HPE StoreFabric SN1600E 32Gb 1p FC HBA
- HPE Synergy 5330C 32Gb Fibre Channel Host Bus Adapter

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Emulex(BRCM) Fibre Channel over Ethernet driver for VMware vSphere 6.5

Version: 2019.03.01 **(Recommended)**

Filename: cp035742.compsig; cp035742.zip

### **Important Note!**

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.

Beginning with software release 11.2, Fibre Channel (LightPulse) adapters and Converged Network adapters (OneConnect) have independent software kits.

It is highly recommended that you review the Broadcom Software Kit Migration User Guide for more detailed information regarding this change.

To obtain the guide:

1. Go to <http://www.hpe.com/support/manuals>
2. Using the HPE model number as your guide, enter the adapter model number in the Search products box, and then click >>.

This document provides special instructions and considerations for using the driver kits for FC and CNA adapters.

Special cases include those in which pre-11.2 (original) drivers and applications are replaced by the new 11.2 drivers and applications, and cases in which inbox drivers are replaced by the new 11.2 out-of-box (OOB) drivers.

### **Prerequisites**

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

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

Beginning with software release 11.2, Fibre Channel (LightPulse) adapters and Converged Network adapters (OneConnect) have independent software kits.

It is highly recommended that you review the Broadcom Software Kit Migration User Guide for more detailed information regarding this change.

To obtain the guide:

1. Go to <http://www.hpe.com/support/manuals>
2. Using the HPE model number as your guide, enter the adapter model number in the Search products box, and then click >>.

This document provides special instructions and considerations for using the driver kits for FC and CNA adapters.

Special cases include those in which pre-11.2 (original) drivers and applications are replaced by the new 11.2 drivers and applications, and cases in which inbox drivers are replaced by the new 11.2 out-of-box (OOB) drivers.

### **Fixes**

Fixed the following:

- Added workaround to reduce the race probability in Input Output Device Management (IODM).
- Fixed Purple Screen of Death (PSOD) Triggered by assert that when destroying a Slab and there was still one object not released.

## **Enhancements**

Updated to Driver version 12.0.1211.0

## **Supported Devices and Features**

This component is supported on following Emulex Converged Network Adapters:

### **XE100 Series:**

- HP StoreFabric CN1200E Dual Port Converged Network Adapter
- HP FlexFabric 20Gb 2-port 650FLB Adapter
- HP FlexFabric 20Gb 2-port 650M Adapter
- HPE StoreFabric CN1200E-T Adapter

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QLogic Fibre Channel driver component for VMware vSphere 6.5

Version: 2019.03.01 **(Recommended)**

Filename: cp035768.compsig; cp035768.zip

## **Important Note!**

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.

## **Prerequisites**

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

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

## **Fixes**

Fixed the following:

- Sync up information registered to switch for FDMI across all drivers.
- Continue with the logins in the scan loop despite seeing a login failure
- Send the GFO command in a separate thread then the fabric discovery.
- Eliminate the code to block I/O during small read operations of the flash.
- Ensure the target ID assigned to the WWPN on the physical port is the same on the NPIV port

## **Enhancements**

Driver version 2.1.81.0

## **Supported Devices and Features**

This driver supports the following HPE adapters:

### **8Gb FC:**

- HP 81Q PCIe Fibre Channel Host Bus Adapter
- HP 82Q 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter
- HPE StoreFabric 84Q 4P 8Gb Fibre Channel HBA
- HP QMH2572 8Gb Fibre Channel Host Bus Adapter for c-Class BladeSystem

### **16Gb FC:**

- HP QMH2672 16Gb Fibre Channel Host Bus Adapter for c-Class BladeSystem
- HP StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter
- HP StoreFabric SN1000Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter
- HP StoreFabric SN1100Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter
- HP StoreFabric SN1100Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter
- HPE Synergy 3830C 16G Fibre Channel Host Bus Adapter

### **32Gb FC:**

- HPE StoreFabric SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter
- HPE StoreFabric SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter

- HPE Synergy 5830C 32Gb Fibre Channel Host Bus Adapter
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## Software - System Management

[Top](#)

HPE MegaRAID Storage Administrator StorCLI for VMware

Version: 1.25.12 **(Optional)**

Filename: vmware-esx-storcli-1.25.12.vib; VMWARE\_MN\_NDS\_Readme.txt

### Enhancements

- Added support for the Apollo 4510 system
- 

HPE MegaRAID Storage Administrator StorCLI for VMware

Version: 1.25.12 **(Recommended)**

Filename: storcli-esxi6.5-bundle-1.25.12.zip

### Enhancements

Initial release

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HPE Offline Bundle for ESXi 6.5

Version: 3.4.0 **(Recommended)**

Filename: esxi6.5uX-mgmt-bundle-3.4.0-14.zip

### Fixes

#### WBEM Providers

- Fixed false Solid State Disk Wear alert reported by the SmartArray WBEM provider

#### Agentless Management Service

- Fixed reporting of HPE QLogic NX2 driver components in the cpqHoSwVer MIB to resolve blank Installed driver versions displayed in SUM

### Enhancements

#### Agentless Management Service

- Added support for cpqiscsi MIB
- Implement configurable CPU and Memory Usage periodic logging to the iLO AHS (Active Health System) Log

### Supported Devices and Features

VMware vSphere version support:

- VMware vSphere 6.5 U1
  - VMware vSphere 6.5 U2
- 

HPE Smart Storage Administrator (HPE SSA) CLI for VMware 6.5

Version: 3.40.3.0 **(Optional)**

Filename: ssacli-3.40.3.0-6.5.0.vib

### Enhancements

- Supports Online Firmware Activation reporting
- 

HPE Utilities Offline Bundle for ESXi 6.5

Version: 3.4.0 **(Recommended)**

Filename: esxi6.5-util-bundle-3.4.0-12.zip

### Important Note!

Refer to the HPE VMware Utilities Guide for VMware vSphere 6.5 for April 2019 which is located at [www.hpe.com/info/vmware/proliant-docs](http://www.hpe.com/info/vmware/proliant-docs).



## **Enhancements**

Updated the Smart Storage Administrator CLI (SSACLI)

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Integrated Smart Update Tools for VMware ESXi 6.5  
Version: 2.4.0.0 (**Recommended**)  
Filename: sut-esxi6.5-offline-bundle-2.4.0.0-36.zip

## **Important Note!**

Integrated Smart Update Tools for ESXi provides support for firmware and driver updates via iLO Repository

## **Fixes**

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

## **Enhancements**

Updated from 2.3.6

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