

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

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

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

[VMware OS Support Tool for HPE Synergy](#)

Information on HPE Synergy Software Releases is available at:

[HPE Synergy Software Releases - Overview](#)

Gen 10 Service Pack for ProLiant v2021.10.0 Release Notes for VMware vSphere 6.5

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BIOS (Login Required) - System ROM

ROM Flash Firmware Package - HPE Apollo 2000 Gen10/HPE ProLiant XL170r/XL190r Gen10 (U38) Servers

Version: 2.54_09-03-2021 (**Recommended**)

Filename: U38_2.54_09_03_2021.fwpkg

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Important Note!

Important Notes:

None

Deliverable Name:

HPE Apollo 2000 Gen10/ProLiant XL170r/XL190r Gen10 System ROM - U38

Release Version:

2.54_09-03-2021

Last Recommended or Critical Revision:

2.54_09-03-2021

Previous Revision:

2.52_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

ROM Flash Firmware Package - HPE Apollo 4200 Gen10 Plus/HPE ProLiant XL420 Gen10 Plus (U50) Servers

Version: 1.52_09-22-2021 (**Recommended**)

Filename: U50_1.52_09_22_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE Apollo 4200 Gen10 Plus/ProLiant XL420 Gen10 Plus System ROM - U50

Release Version:

1.52_09-22-2021

Last Recommended or Critical Revision:

1.52_09-22-2021

Previous Revision:

1.50_08-27-2021

Firmware Dependencies:

None

Enhancements/New Features:

Added support for updating NVMe/SATA drive firmware managed by Intel VROC via Firmware Update page in UEFI System Utilities.

Added a new BIOS/Platform Configuration (RBSU) option for PCIe HotPlug Error Control. Use this option to select PCIe (NVMe) Hot-Plug support for the platform. When Hot-Plug Surprise is selected, the platform will attempt to protect the platform from experiencing an error on a surprise removal event. This option should be selected for older Operating Systems that do not support Enhanced Downstream Port Containment (eDPC). When eDPC Firmware Control is selected, the platform firmware and OS will properly negotiate and log all hot-plug events. This option is currently not supported by all Operating Systems. When eDPC OS Control is selected hot-plug events are handled by the Operating System with no involvement by the platform. All logging of events in this mode will be limited to the Operating System only. It is important that this option be set properly based on the Operating System to ensure hot-plug events and surprise removal events are handled properly by the platform. Please consult Operating System documentation for additional details. Note it is always recommended to perform a graceful device removal from the Operating System before performing a hot-plug event.

Problems Fixed:

Addressed an issue where NVMe SSDs May Be Listed As "UEFI Misc Device" in BIOS/Platform Configuration (RBSU) "One-Time Boot Menu" if Intel NVMe VROC is Enabled (Document ID: a00113593en_us).

Addressed an issue where The NVMe Storage Drives Will Not Be Displayed in the Integrated Lights-Out (iLO) Pages if Intel NVMe VROC (CPU/VMD) is Enabled (Document ID: a00113587en_us).

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes**Important Notes:**

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where NVMe SSDs May Be Listed As "UEFI Misc Device" in BIOS/Platform Configuration (RBSU) "One-Time Boot Menu" if Intel NVMe VROC is Enabled (Document ID: a00113593en_us).

Addressed an issue where The NVMe Storage Drives Will Not Be Displayed in the Integrated Lights-Out (iLO) Pages if Intel NVMe VROC (CPU/VMD) is Enabled (Document ID: a00113587en_us).

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Enhancements

Added support for updating NVMe/SATA drive firmware managed by Intel VROC via Firmware Update page in UEFI System Utilities.

Added a new BIOS/Platform Configuration (RBSU) option for PCIe HotPlug Error Control. Use this option to select PCIe (NVMe) Hot-Plug support for the platform. When Hot-Plug Surprise is selected, the platform will attempt to protect the platform from experiencing an error on a surprise removal event. This option should be selected for older Operating Systems that do not support Enhanced Downstream Port Containment (eDPC). When eDPC Firmware Control is selected, the platform firmware and OS will properly negotiate and log all hot-plug events. This option is currently not supported by all Operating Systems. When eDPC OS Control is selected hot-plug events are handled by the Operating System with no involvement by the platform. All logging of events in this mode will be limited to the Operating System only. It is important that this option be set properly based on the Operating System to ensure hot-plug events and surprise removal events are handled properly by the platform. Please consult Operating System documentation for additional details. Note it is always recommended to perform a graceful device removal from the Operating System before performing a hot-plug event.

Important Note!

Important Notes:

None

Deliverable Name:

HPE Apollo 4200 Gen10/ProLiant XL420 Gen10 System ROM - U39

Release Version:

2.54_09-03-2021

Last Recommended or Critical Revision:

2.54_09-03-2021

Previous Revision:

2.52_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Important Note!

Important Notes:

None

Deliverable Name:

HPE Apollo 4510 Gen10/ProLiant XL450 Gen10 System ROM - U40

Release Version:

2.54_09-03-2021

Last Recommended or Critical Revision:

2.54_09-03-2021

Previous Revision:

2.52_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

ROM Flash Firmware Package - HPE Apollo 6500 Gen10/HPE ProLiant XL270d Gen10 (U45) Servers
Version: 2.54_09-03-2021 **(Recommended)**
Filename: U45_2.54_09_03_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant XL270d Gen10 System ROM - U45

Release Version:

2.54_09-03-2021

Last Recommended or Critical Revision:

2.54_09-03-2021

Previous Revision:

2.52_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL110 Gen10 Plus Telco System ROM - U56

Release Version:

1.52_09-22-2021

Last Recommended or Critical Revision:

1.52_09-22-2021

Previous Revision:

1.42_05-26-2021

Firmware Dependencies:

None

Enhancements/New Features:

Added new RBSU option to Omit Boot Device Event in TPM PCR[4] following EDK2. Warning: changing the setting will affect TPM measurements and can impact software functionality which utilizes the TPM PCR registers such as Microsoft BitLocker. PCR[4] is the register that records the process of attempting to boot different hardware paths like from a hard drive or CD, and what boot devices are attempted, and the Initial Program Loader (IPL) code that is loaded and executed from the device. If boot from one device fails, measurements in PCR[4] record the attempt to boot the next device or boot path. If recording which device attempted to boot is omitted with this option (i.e. enable this option), the BIOS records the event type EV_OMIT_BOOT_DEVICE_EVENTS in PCR[4], otherwise the event is not recorded.

Added support for updating NVMe/SATA drive firmware managed by Intel VROC via Firmware Update page in UEFI System Utilities.

Added a new BIOS/Platform Configuration (RBSU) option for PCIe HotPlug Error Control. Use this option to select PCIe (NVMe) Hot-Plug support for the platform. When Hot-Plug Surprise is selected, the platform will attempt to protect the platform from experiencing an error on a surprise removal event. This option should be selected for older Operating Systems that do not support Enhanced Downstream Port Containment (eDPC). When eDPC Firmware Control is selected, the platform firmware and OS will properly negotiate and log all hot-plug events. This option is currently not supported by all Operating Systems. When eDPC OS Control is selected hot-plug events are handled by the Operating System with no involvement by the platform. All logging of events in this mode will be limited to the Operating System only. It is important that this option be set properly based on the Operating System to ensure hot-plug events and surprise removal events are handled properly by the platform. Please consult Operating System documentation for additional details. Note it is always recommended to perform a graceful device removal from the Operating System before performing a hot-plug event.

Problems Fixed:

Addressed an issue where Intel VROC SATA and sSATA Controller shows as Unknown under firmware information page in RBSU.

Addressed an issue where an error "Incorrect firmware file or no supported device" occurs when flashing the firmware of Intel E810 Ethernet Adapters.

Addressed an issue where the server hangs when launching Embedded iPXE when IPv4 certification is enrolled and Network location is set as iPXE Auto-Start-Script.

Addressed an issue where the server hangs at POST when configured with Intel® Xeon® Silver 4314 Processor and Intel® Optane™ Persistent Memory 200 Series installed.

Addressed an issue where the server hangs when running Safe Mode boot without a DIMM installed on DIMM slot1.

Addressed an issue where NVMe SSDs May Be Listed As "UEFI Misc Device" in BIOS/Platform Configuration (RBSU) "One-Time Boot Menu" if Intel NVMe VROC is Enabled (Document ID: a00113593en_us).

Addressed an issue where The NVMe Storage Drives Will Not Be Displayed in the Integrated Lights-Out (iLO) Pages if Intel NVMe VROC (CPU/VMD) is Enabled (Document ID: a00113587en_us).

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Intel VROC SATA and sSATA Controller shows as Unknown under firmware information page in RBSU.

Addressed an issue where an error "Incorrect firmware file or no supported device" occurs when flashing the firmware of Intel E810 Ethernet Adapters.

Addressed an issue where the server hangs when launching Embedded iPXE when IPv4 certification is enrolled and Network location is set as iPXE Auto-Start-Script.

Addressed an issue where the server hangs at POST when configured with Intel® Xeon® Silver 4314 Processor and Intel® Optane™ Persistent Memory 200 Series installed.

Addressed an issue where the server hangs when running Safe Mode boot without a DIMM installed on DIMM slot1.

Addressed an issue where NVMe SSDs May Be Listed As "UEFI Misc Device" in BIOS/Platform Configuration (RBSU) "One-Time Boot Menu" if Intel NVMe VROC is Enabled (Document ID: a00113593en_us).

Addressed an issue where The NVMe Storage Drives Will Not Be Displayed in the Integrated Lights-Out (iLO) Pages if Intel NVMe VROC (CPU/VMD) is Enabled (Document ID: a00113587en_us).

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Enhancements

Added new RBSU option to Omit Boot Device Event in TPM PCR[4] following EDK2. Warning: changing the setting will affect TPM measurements and can impact software functionality which utilizes the TPM PCR registers such as Microsoft BitLocker. PCR[4] is the register that records the process of attempting to boot different hardware paths like from a hard drive or CD, and what boot devices are attempted, and the Initial Program Loader (IPL) code that is loaded and executed from the device. If boot from one device fails, measurements in PCR[4] record the attempt to boot the next device or boot path. If recording which device attempted to boot is omitted with this option (i.e. enable this option), the BIOS records the event type EV_OMIT_BOOT_DEVICE_EVENTS in PCR[4], otherwise the event is not recorded.

Added support for updating NVMe/SATA drive firmware managed by Intel VROC via Firmware Update page in UEFI System Utilities.

Added a new BIOS/Platform Configuration (RBSU) option for PCIe HotPlug Error Control. Use this option to select PCIe (NVMe) Hot-Plug support for the platform. When Hot-Plug Surprise is selected, the platform will attempt to protect the platform from experiencing an error on a surprise removal event. This option should be selected for older Operating Systems that do not support Enhanced Downstream Port Containment (eDPC). When eDPC Firmware Control is selected, the platform firmware and OS will properly negotiate and log all hot-plug events. This option is currently not supported by all Operating Systems. When eDPC OS Control is selected hot-plug events are handled by the Operating System with no involvement by the platform. All logging of events in this mode will be limited to the Operating System only. It is important that this option be set properly based on the Operating System to ensure hot-plug events and surprise removal events are handled properly by the platform. Please consult Operating System documentation for additional details. Note it is always recommended to perform a graceful device removal from the Operating System before performing a hot-plug event.

ROM Flash Firmware Package - HPE ProLiant BL460c Gen10 (I41) Servers

Version: 2.54_09-03-2021 **(Recommended)**

Filename: I41_2.54_09_03_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant BL460c Gen10 System ROM - I41

Release Version:

2.54_09-03-2021

Last Recommended or Critical Revision:

2.54_09-03-2021

Previous Revision:

2.52_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant DL160 Gen10/DL180 Gen10 (U31) Servers
Version: 2.54_09-03-2021 **(Recommended)**
Filename: U31_2.54_09_03_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL160 Gen10/DL180 Gen10 System ROM - U31

Release Version:

2.54_09-03-2021

Last Recommended or Critical Revision:

2.54_09-03-2021

Previous Revision:

2.52_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant DL20 Gen10 (U43) Servers
Version: 2.52_09-16-2021 **(Recommended)**
Filename: U43_2.52_09_16_2021.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2021.1 guidance.

Deliverable Name:

HPE ProLiant DL20 Gen10 System ROM - U43

Release Version:

2.52_09-16-2021

Last Recommended or Critical Revision:

2.52_09-16-2021

Previous Revision:

2.50_07-20-2021

Firmware Dependencies:

None

Enhancements/New Features:

Improved boot time by removing unneeded delay.

None

Problems Fixed:

Addressed an issue where High Precision Event Timer in Windows was not showing up in device manager.

Known Issues:

None

Fixes

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2021.1 guidance.

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where High Precision Event Timer in Windows was not showing up in device manager.

Known Issues:

None

Enhancements

Improved boot time by removing unneeded delay.

ROM Flash Firmware Package - HPE ProLiant DL325 Gen10 (A41) Servers

Version: 2.50_07-08-2021 **(Recommended)**

Filename: A41_2.50_07_08_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL325 Gen10 System ROM - A41

Release Version:

2.50_07-08-2021

Last Recommended or Critical Revision:

2.50_07-08-2021

Previous Revision:

2.46_06-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

Added a new BIOS/Platform Configuration (RBSU) option to Server Security called UEFI Variable Access Firmware Control. This option, when enabled, can be used to block UEFI Variable writes, such as to the UEFI Boot Order, from the Operating System or a third-party utility. HPE recommends leaving this capability disabled unless the user specifically wants to prevent the operating system's normal operation of writing to UEFI Variables, which typically occur during OS install.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Tianocore Edk2 Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2019-14584, CVE-2021-28211 and CVE-2021-28210. These security vulnerabilities are documented in Tianocore Edk2 CVE details site. These issues are not unique to HPE servers.

Addressed an issue with Pensando Distributed Services Platform DSC-25 Enterprise 10/25Gb 2-port SFP28 Card missing in system information page.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Tianocore Edk2 Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2019-14584, CVE-2021-28211 and CVE-2021-28210. These security vulnerabilities are documented in Tianocore Edk2 CVE details site. These issues are not unique to HPE servers.

Addressed an issue with Pensando Distributed Services Platform DSC-25 Enterprise 10/25Gb 2-port SFP28 Card missing in system information page.

Known Issues:

None

Enhancements

Added a new BIOS/Platform Configuration (RBSU) option to Server Security called UEFI Variable Access Firmware Control. This option, when enabled, can be used to block UEFI Variable writes, such as to the UEFI Boot Order, from the Operating System or a third-party utility. HPE recommends leaving this capability disabled unless the user specifically wants to prevent the operating system's normal operation of writing to UEFI Variables, which typically occur during OS install.

ROM Flash Firmware Package - HPE ProLiant DL360 Gen10 (U32) Servers
Version: 2.54_09-03-2021 **(Recommended)**
Filename: U32_2.54_09_03_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL360 Gen10 System ROM - U32

Release Version:

2.54_09-03-2021

Last Recommended or Critical Revision:

2.54_09-03-2021

Previous Revision:

2.52_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant DL380 Gen10 (U30) Servers
Version: 2.54_09-03-2021 **(Recommended)**
Filename: U30_2.54_09_03_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL380 Gen10 System ROM - U30

Release Version:

2.54_09-03-2021

Last Recommended or Critical Revision:

2.54_09-03-2021

Previous Revision:

2.52_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes**Important Notes:**

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant DL385 Gen10 (A40) Servers

Version: 2.50_07-08-2021 **(Recommended)**

Filename: A40_2.50_07_08_2021.fwpkg

Important Note!**Important Notes:**

None

Deliverable Name:

HPE ProLiant DL385 Gen10 System ROM - A40

Release Version:

2.50_07-08-2021

Last Recommended or Critical Revision:

2.50_07-08-2021

Previous Revision:

2.46_06-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

Added a new BIOS/Platform Configuration (RBSU) option to Server Security called UEFI Variable Access Firmware Control. This option, when enabled, can be used to block UEFI Variable writes, such as to the UEFI Boot Order, from the Operating System or a third-party utility. HPE recommends leaving this capability disabled unless the user specifically wants to prevent the operating system's normal operation of writing to UEFI Variables, which typically occur during OS install.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Tianocore Edk2 Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2019-14584, CVE-2021-28211 and CVE-2021-28210. These security vulnerabilities are documented in Tianocore Edk2 CVE details site. These issues are not unique to HPE servers.

Addressed an issue with Pensando Distributed Services Platform DSC-25 Enterprise 10/25Gb 2-port SFP28 Card missing in system information page.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Tianocore Edk2 Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2019-14584, CVE-2021-28211 and CVE-2021-28210. These security vulnerabilities are documented in Tianocore Edk2 CVE details site. These issues are not unique to HPE servers.

Addressed an issue with Pensando Distributed Services Platform DSC-25 Enterprise 10/25Gb 2-port SFP28 Card missing in system information page.

Known Issues:

None

Enhancements

Added a new BIOS/Platform Configuration (RBSU) option to Server Security called UEFI Variable Access Firmware Control. This option, when enabled, can be used to block UEFI Variable writes, such as to the UEFI Boot Order, from the Operating System or a third-party utility. HPE recommends leaving this capability disabled unless the user specifically wants to prevent the operating system's normal operation of writing to UEFI Variables, which typically occur during OS install.

ROM Flash Firmware Package - HPE ProLiant DL560 Gen10/DL580 Gen10 (U34) Servers

Version: 2.54_09-03-2021 **(Recommended)**

Filename: U34_2.54_09_03_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL560 Gen10/DL580 Gen10 System ROM - U34

Release Version:

2.54_09-03-2021

Last Recommended or Critical Revision:

2.54_09-03-2021

Previous Revision:

2.52_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant MicroServer Gen10 Plus (U48) Servers

Version: 2.52_09-16-2021 **(Recommended)**
Filename: U48_2.52_09_16_2021.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2021.1 guidance. None

Deliverable Name:

HPE MicroServer Gen10 Plus System ROM - U48

Release Version:

2.52_09-16-2021

Last Recommended or Critical Revision:

2.52_09-16-2021

Previous Revision:

2.50_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

Improved boot time by removing unneeded delay.

Problems Fixed:

Addressed an issue where High Precision Event Timer in Windows was not showing up in device manager.

Known Issues:

None

Fixes

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2021.1 guidance. None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where High Precision Event Timer in Windows was not showing up in device manager.

Known Issues:

None

Enhancements

Improved boot time by removing unneeded delay.

ROM Flash Firmware Package - HPE ProLiant ML110 Gen10 (U33) Servers
Version: 2.54_09-03-2021 **(Recommended)**
Filename: U33_2.54_09_03_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant ML110 Gen10 System ROM - U33

Release Version:

2.54_09-03-2021

Last Recommended or Critical Revision:

2.54_09-03-2021

Previous Revision:

2.52_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant ML30 Gen10 (U44) Servers
Version: 2.52_09-16-2021 **(Recommended)**
Filename: U44_2.52_09_16_2021.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2021.1 guidance.

Deliverable Name:

HPE ProLiant ML30 Gen10 System ROM - U44

Release Version:

2.52_09-16-2021

Last Recommended or Critical Revision:

2.52_09-16-2021

Previous Revision:

2.50_07-20-2021

Firmware Dependencies:

None

Enhancements/New Features:

Improved boot time by removing unneeded delay.

None

Problems Fixed:

Addressed an issue where High Precision Event Timer in Windows was not showing up in device manager.

Known Issues:

None

Fixes

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2021.1 guidance.

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where High Precision Event Timer in Windows was not showing up in device manager.

Known Issues:

None

Enhancements

Improved boot time by removing unneeded delay.

ROM Flash Firmware Package - HPE ProLiant ML350 Gen10 (U41) Servers
Version: 2.54_09-03-2021 **(Recommended)**
Filename: U41_2.54_09_03_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant ML350 Gen10 System ROM - U41

Release Version:

2.54_09-03-2021

Last Recommended or Critical Revision:

2.54_09-03-2021

Previous Revision:

2.52_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to be enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to be enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant XL230k Gen10 (U37) Server
Version: 2.54_09-03-2021 **(Recommended)**
Filename: U37_2.54_09_03_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant XL230k Gen10 System ROM - U37

Release Version:

2.54_09-03-2021

Last Recommended or Critical Revision:

2.54_09-03-2021

Previous Revision:

2.52_07-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to be enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes**Important Notes:**

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled after updating the System ROM to v2.50 or later. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to be enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Enhancements

See the release document U37_2.54_09_03_2021 in Download Product Binaries page from Product Summary of the firmware product.

ROM Flash Universal Firmware Package - HPE ProLiant DL325/DL325 v2/DL345 Gen10 Plus (A43) Servers

Version: 2.50_08-09-2021 (**Recommended**)

Filename: A43_2.50_08_09_2021.fwpkg

Important Note!**Important Notes:**

None

Deliverable Name:

HPE ProLiant DL325/DL325 v2/DL345 Gen10 Plus System ROM - A43

Release Version:

2.50_08-09-2021

Last Recommended or Critical Revision:

2.50_08-09-2021

Previous Revision:

2.44_06-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

Added support for Microsoft Windows Server 2022. Windows Server 2022 adds a new security feature called Secured-core. Secured-core is only supported on AMD Gen 3 EPYC processors. Secured-core servers use a combination of hardware features, firmware enablement and Windows Server operating system capabilities to provide protection against malware and rootkit security exploits.

Added a new BIOS/Platform Configuration (RBSU) option for Microsoft Secured-core Support. Enabling this setting makes the following policy changes and configures the corresponding options: AMD I/O Virtualization Technology enabled, TPM visible, DMA remapping enabled, AMD DRTM enabled, and Secure Boot enabled. Disabling any of these features while Secured-core is enabled can prevent Secured-core from working properly.

Added a new BIOS/Platform Configuration (RBSU) option to Server Availability called IPMI Watchdog Timer. When enabled, the system will start an IPMI based watchdog timer during boot which can be used to protect against a boot hang or other unexpected system boot issue. It is the responsibility of the user to disable the IPMI watchdog timer once the operating system has booted. Failure to disable the timer can result in an unexpected server reset or shutdown.

Added new RBSU option to Omit Boot Device Event in TPM PCR[4] following EDK2. Warning: changing the setting will affect TPM measurements and can impact software functionality which utilizes the TPM PCR registers such as Microsoft BitLocker. PCR[4] is the register that records the process of attempting to boot different hardware paths like from a hard drive or CD, and what boot devices are attempted, and the Initial Program Loader (IPL) code that is loaded and executed from the device. If boot from one device fails, measurements in PCR[4] record the attempt to boot the next device or boot path. If recording which device attempted to boot is omitted with this option (i.e. enable this option), the BIOS records the event type EV_OMIT_BOOT_DEVICE_EVENTS in PCR[4], otherwise the event is not recorded.

Added an enhancement to existing processor current monitoring in order to avoid potential overcurrent shutdowns.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Tianocore Edk2 Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2019-14584, CVE-2021-28211 and CVE-2021-28210. These security vulnerabilities are documented in Tianocore Edk2 CVE details site. These issues are not unique to HPE servers.

Addressed an issue with Pensando Distributed Services Platform DSC-25 Enterprise 10/25Gb 2-port SFP28 Card missing in pre-boot System Utilities System Information Page.

Addressed an issue with hot-adding drives after removing them from Bay 1 when using the HPE SR100i Software RAID solution for systems and the UBM4 2SFF backplane. In this situation the HDD cannot be detected after re-insertion.

Addressed an issue with hot adding NVMe drives with VMware ESXi when a drive bay is empty at boot up. Drive may fail to be added.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Tianocore Edk2 Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2019-14584, CVE-2021-28211 and CVE-2021-28210. These security vulnerabilities are documented in Tianocore Edk2 CVE details site. These issues are not unique to HPE servers.

Addressed an issue with Pensando Distributed Services Platform DSC-25 Enterprise 10/25Gb 2-port SFP28 Card missing in pre-boot System Utilities System Information Page.

Addressed an issue with hot-adding drives after removing them from Bay 1 when using the HPE SR100i Software RAID solution for systems and the UBM4 2SFF backplane. In this situation the HDD cannot be detected after re-insertion.

Addressed an issue with hot adding NVMe drives with VMware ESXi when a drive bay is empty at boot up. Drive may fail to be added.

Known Issues:

None

Enhancements

Added support for Microsoft Windows Server 2022. Windows Server 2022 adds a new security feature called Secured-core. Secured-core is only supported on AMD Gen 3 EPYC processors. Secured-core servers use a combination of hardware features, firmware enablement and Windows Server operating system capabilities to provide protection against malware and rootkit security exploits.

Added a new BIOS/Platform Configuration (RBSU) option for Microsoft Secured-core Support. Enabling this setting makes the following policy changes and configures the corresponding options: AMD I/O Virtualization Technology enabled, TPM visible, DMA remapping enabled, AMD DRTM enabled, and Secure Boot enabled. Disabling any of these features while Secured-core is enabled can prevent Secured-core from working properly.

Added a new BIOS/Platform Configuration (RBSU) option to Server Availability called IPMI Watchdog Timer. When enabled, the system will start an IPMI based watchdog timer during boot which can be used to protect against a boot hang or other unexpected system boot issue. It is the responsibility of the user to disable the IPMI watchdog timer once the operating system has booted. Failure to disable the timer can result in an unexpected server reset or shutdown.

Added new RBSU option to Omit Boot Device Event in TPM PCR[4] following EDK2. Warning: changing the setting will affect TPM measurements and can impact software functionality which utilizes the TPM PCR registers such as Microsoft BitLocker. PCR[4] is the register that records the process of attempting to boot different hardware paths like from a hard drive or CD, and what boot devices are attempted, and the Initial Program Loader (IPL) code that is loaded and executed from the device. If boot from one device fails, measurements in PCR[4] record the attempt to boot the next device or boot path. If recording which device attempted to boot is omitted with this option (i.e. enable this option), the BIOS records the event type EV_OMIT_BOOT_DEVICE_EVENTS in PCR[4], otherwise the event is not recorded.

Added an enhancement to existing processor current monitoring in order to avoid potential overcurrent shutdowns.

ROM Flash Universal Firmware Package - HPE ProLiant DL360/DL380 Gen10 Plus (U46) Servers
Version: 1.52_09-22-2021 (**Recommended**)
Filename: U46_1.52_09_22_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL360/DL380 Gen10 Plus System ROM - U46

Release Version:

1.52_09-22-2021

Last Recommended or Critical Revision:

1.52_09-22-2021

Previous Revision:

1.50_08-27-2021

Firmware Dependencies:

None

Enhancements/New Features:

Added support for updating NVMe/SATA drive firmware managed by Intel VROC via Firmware Update page in UEFI System Utilities.

Added a new BIOS/Platform Configuration (RBSU) option for PCIe HotPlug Error Control. Use this option to select PCIe (NVMe) Hot-Plug support for the platform. When Hot-Plug Surprise is selected, the platform will attempt to protect the platform from experiencing an error on a surprise removal event. This option should be selected for older Operating Systems that do not support Enhanced Downstream Port Containment (eDPC). When eDPC Firmware Control is selected, the platform firmware and OS will properly negotiate and log all hot-plug events. This option is currently not supported by all Operating Systems. When eDPC OS Control is selected hot-plug

events are handled by the Operating System with no involvement by the platform. All logging of events in this mode will be limited to the Operating System only. It is important that this option be set properly based on the Operating System to ensure hot-plug events and surprise removal events are handled properly by the platform. Please consult Operating System documentation for additional details. Note it is always recommended to perform a graceful device removal from the Operating System before performing a hot-plug event.

Problems Fixed:

Addressed an issue where NVMe SSDs May Be Listed As "UEFI Misc Device" in BIOS/Platform Configuration (RBSU) "One-Time Boot Menu" if Intel NVMe VROC is Enabled (Document ID: a00113593en_us).

Addressed an issue where The NVMe Storage Drives Will Not Be Displayed in the Integrated Lights-Out (iLO) Pages if Intel NVMe VROC (CPU/VMD) is Enabled (Document ID: a00113587en_us).

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where NVMe SSDs May Be Listed As "UEFI Misc Device" in BIOS/Platform Configuration (RBSU) "One-Time Boot Menu" if Intel NVMe VROC is Enabled (Document ID: a00113593en_us).

Addressed an issue where The NVMe Storage Drives Will Not Be Displayed in the Integrated Lights-Out (iLO) Pages if Intel NVMe VROC (CPU/VMD) is Enabled (Document ID: a00113587en_us).

Addressed an issue where Uncorrectable Memory Errors may be reported and logged to the Integrated Management Log (IML) with certain DIMMs installed and the RBSU "Extended Memory Test" option enabled. The "Extended Memory Test" option is disabled by default and this issue would only impact customers who had specifically configured this option to enabled. The reported Uncorrected Memory Errors were due to an issue with the impacted System ROM revisions and do NOT indicate an issue with the DIMMs themselves.

Known Issues:

None

Enhancements

Added support for updating NVMe/SATA drive firmware managed by Intel VROC via Firmware Update page in UEFI System Utilities.

Added a new BIOS/Platform Configuration (RBSU) option for PCIe HotPlug Error Control. Use this option to select PCIe (NVMe) Hot-Plug support for the platform. When Hot-Plug Surprise is selected, the platform will attempt to protect the platform from experiencing an error on a surprise removal event. This option should be selected for older Operating Systems that do not support Enhanced Downstream Port Containment (eDPC). When eDPC Firmware Control is selected, the platform firmware and OS will properly negotiate and log all hot-plug events. This option is currently not supported by all Operating Systems. When eDPC OS Control is selected hot-plug events are handled by the Operating System with no involvement by the platform. All logging of events in this mode will be limited to the Operating System only. It is important that this option be set properly based on the Operating System to ensure hot-plug events and surprise removal events are handled properly by the platform. Please consult Operating System documentation for additional details. Note it is always recommended to perform a graceful device removal from the Operating System before performing a hot-plug event.

ROM Flash Universal Firmware Package - HPE ProLiant DL365/DL385/DL385 v2 Gen10 Plus (A42) Servers

Version: 2.50_08-09-2021 **(Recommended)**

Filename: A42_2.50_08_09_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL365/DL385/DL385 v2 Gen10 Plus System ROM - A42

Release Version:

2.50_08-09-2021

Last Recommended or Critical Revision:

2.50_08-09-2021

Previous Revision:

2.44_06-08-2021

Firmware Dependencies:

None

Enhancements/New Features:

Added support for Microsoft Windows Server 2022. Windows Server 2022 adds a new security feature called Secured-core. Secured-core is only supported on AMD Gen 3 EPYC processors. Secured-core servers use a combination of hardware features, firmware enablement and Windows Server operating system capabilities to provide protection against malware and rootkit security exploits.

Added a new BIOS/Platform Configuration (RBSU) option for Microsoft Secured-core Support. Enabling this setting makes the following policy changes and configures the corresponding options: AMD I/O Virtualization Technology enabled, TPM visible, DMA remapping enabled, AMD DRTM enabled, and Secure Boot enabled. Disabling any of these features while Secured-core is enabled can prevent Secured-core from working properly.

Added a new BIOS/Platform Configuration (RBSU) option to Server Availability called IPMI Watchdog Timer. When enabled, the system will start an IPMI based watchdog timer during boot which can be used to protect against a boot hang or other unexpected system boot issue. It is the responsibility of the user to disable the IPMI watchdog timer once the operating system has booted. Failure to disable the timer can result in an unexpected server reset or shutdown.

Added new RBSU option to Omit Boot Device Event in TPM PCR[4] following EDK2. Warning: changing the setting will affect TPM measurements and can impact software functionality which utilizes the TPM PCR registers such as Microsoft BitLocker. PCR[4] is the register that records the process of attempting to boot different hardware paths like from a hard drive or CD, and what boot devices are attempted, and the Initial Program Loader (IPL) code that is loaded and executed from the device. If boot from one device fails, measurements in PCR[4] record the attempt to boot the next device or boot path. If recording which device attempted to boot is omitted with this option (i.e. enable this option), the BIOS records the event type EV_OMIT_BOOT_DEVICE_EVENTS in PCR[4], otherwise the event is not recorded.

Added an enhancement to existing processor current monitoring in order to avoid potential overcurrent shutdowns.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Tianocore Edk2 Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2019-14584, CVE-2021-28211 and CVE-2021-28210. These security vulnerabilities are documented in Tianocore Edk2 CVE details site. These issues are not unique to HPE servers.

Addressed an issue with Pensando Distributed Services Platform DSC-25 Enterprise 10/25Gb 2-port SFP28 Card missing in pre-boot System Utilities System Information Page.

Addressed an issue with hot-adding drives after removing them from Bay 1 when using the HPE SR100i Software RAID solution for systems and the UBM4 2SFF backplane. In this situation the HDD cannot be detected after re-insertion.

Addressed an issue with hot adding NVMe drives with VMware ESXi when a drive bay is empty at boot up. Drive may fail to be added.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Tianocore Edk2 Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2019-14584, CVE-2021-28211 and CVE-2021-28210. These security vulnerabilities are documented in Tianocore Edk2 CVE details site. These issues are not unique to HPE servers.

Addressed an issue with Pensando Distributed Services Platform DSC-25 Enterprise 10/25Gb 2-port SFP28 Card missing in pre-boot System Utilities System Information Page.

Addressed an issue with hot-adding drives after removing them from Bay 1 when using the HPE SR100i Software RAID solution for systems and the UBM4 2SFF backplane. In this situation the HDD cannot be detected after re-insertion.

Addressed an issue with hot adding NVMe drives with VMware ESXi when a drive bay is empty at boot up. Drive may fail to be added.

Known Issues:

None

Enhancements

Added support for Microsoft Windows Server 2022. Windows Server 2022 adds a new security feature called Secured-core. Secured-core is only supported on AMD Gen 3 EPYC processors. Secured-core servers use a combination of hardware features, firmware enablement and Windows Server operating system capabilities to provide protection against malware and rootkit security exploits.

Added a new BIOS/Platform Configuration (RBSU) option for Microsoft Secured-core Support. Enabling this setting makes the following policy changes and configures the corresponding options: AMD I/O Virtualization Technology enabled, TPM visible, DMA remapping enabled, AMD DRTM enabled, and Secure Boot enabled. Disabling any of these features while Secured-core is enabled can prevent Secured-core from working properly.

Added a new BIOS/Platform Configuration (RBSU) option to Server Availability called IPMI Watchdog Timer. When enabled, the system will start an IPMI based watchdog timer during boot which can be used to protect against a boot hang or other unexpected system boot issue. It is the responsibility of the user to disable the IPMI watchdog timer once the operating system has booted. Failure to disable the timer can result in an unexpected server reset or shutdown.

Added new RBSU option to Omit Boot Device Event in TPM PCR[4] following EDK2. Warning: changing the setting will affect TPM measurements and can impact software functionality which utilizes the TPM PCR registers such as Microsoft BitLocker. PCR[4] is the register that records the process of attempting to boot different hardware paths like from a hard drive or CD, and what boot devices are attempted, and the Initial Program Loader (IPL) code that is loaded and executed from the device. If boot from one device fails, measurements in PCR[4] record the attempt to boot the next device or boot path. If recording which device attempted to boot is omitted with this option (i.e. enable this option), the BIOS records the event type EV_OMIT_BOOT_DEVICE_EVENTS in PCR[4], otherwise the event is not recorded.

Added an enhancement to existing processor current monitoring in order to avoid potential overcurrent shutdowns.

Driver - Network

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

Version: 2020.03.09 **(Optional)**

Filename: cp042919.compsig; cp042919.zip

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Important Note!

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

HPE recommends the firmware provided in *HPE Firmware Flash for Emulex Converged Network Adapters for VMware vSphere 6.5*, version 2019.12.01 or later, for use with this driver.

Fixes

This product corrects a vmnic flapping issue which impacts network connectivity.

Supported Devices and Features

This driver supports the following network adapters:

- HPE FlexFabric 20Gb 2-port 650FLB Adapter
- HPE FlexFabric 20Gb 2-port 650M Adapter

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

Version: 2019.12.20 **(Optional)**

Filename: cp039936.compsig; cp039936.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 2019.03.01 or later, for use with this driver.

Enhancements

Initial release.

Supported Devices and Features

This driver supports the following network adapters:

- HPE FlexFabric 20Gb 2-port 650FLB Adapter
- HPE FlexFabric 20Gb 2-port 650M Adapter

HPE Blade Intel ixgben Driver for VMware vSphere 6.5

Version: 2021.04.19 **(Optional)**

Filename: cp045171.compsig; cp045171.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 Blade Intel Online Firmware Upgrade Utility for VMware*, version 1.2.3 or later, for use with this driver.

Fixes

This product addresses VF issues when calculating, reset PF interface, link state propagation and VLAN trunk scenarios.

Enhancements

This product now supports VMware vSphere 6.5 U3.

Supported Devices and Features

These drivers support the following network adapters:

- HPE Ethernet 10Gb 2-port 560FLB Adapter
- HPE Ethernet 10Gb 2-port 560M Adapter

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

Version: 2021.09.01 **(Optional)**

Filename: cp047831.compsig; cp047831.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 CPOxxxxx.xml file.

HPE recommends the firmware provided in *HPE Blade QLogic NX2 Online Firmware Upgrade Utility for VMware*, version 1.5.2 or later, for use with this driver.

Fixes

This product addresses a PSOD seen during device state changes without IDLE state.

This product addresses a PSOD seen during scheduling fabric login.

This product addresses a PSOD issue to enhance immediately flush in work queue and unload/quiesce mechanisms.

Enhancements

This product enhances PLOGI for the HPE XP7 Storage Array.

Supported Devices and Features

These drivers support the following network adapters:

- HPE FlexFabric 10Gb 2-port 534M Adapter
- HPE FlexFabric 10Gb 2-port 536FLB Adapter
- HPE FlexFabric 20Gb 2-port 630FLB Adapter
- HPE FlexFabric 20Gb 2-port 630M Adapter

HPE Broadcom NetXtreme-E Drivers for VMware vSphere 6.5

Version: 2021.04.05 **(Optional)**

Filename: cp045073.compsig; cp045073.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 *HPE Broadcom NetXtreme-E Firmware Version, 218.0.166000* or later, for use with this driver.

Fixes

This product corrects an issue which Purple Screen Of Death (PSOD) while running Virtual SAN (vSAN) over Remote Direct Memory Access (RDMA) traffic due to invalid Completion Queue Element (CQEs)

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 10Gb 2-port 537SFP+ Adapter
- HPE Ethernet 10Gb 2-port 537SFP+ FLR Adapter
- HPE Ethernet 10/25Gb 2-port 631FLR-SFP28 Adapter
- HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter

HPE Emulex 10/20 GbE Driver for VMware vSphere 6.5

Version: 2020.09.14 **(Optional)**

Filename: cp044545.compsig; cp044545.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 2019.03.01 or later, for use with this driver.

Enhancements

This product now supports the following network adapters:

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

Supported Devices and Features

This driver supports the following network adapters:

- HPE FlexFabric 10Gb 2-port 556FLR-T Adapter
- HPE FlexFabric 10Gb 2-port 556FLR-SFP+ Adapter
- HPE CN1200E Dual Port Converged Network Adapter
- HPE CN1200E-T Adapter

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

Version: 2020.09.14 **(Optional)**

Filename: cp044543.compsig; cp044543.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 2019.03.01 or later, for use with this driver.

Enhancements

This product now supports the following network adapters:

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

Supported Devices and Features

This driver supports the following network adapters:

- HPE FlexFabric 10Gb 2-port 556FLR-T Adapter

- o HPE FlexFabric 10Gb 2-port 556FLR-SFP+ Adapter
- o HPE CN1200E Dual Port Converged Network Adapter
- o HPE CN1200E-T Adapter

HPE Intel i40en Driver for VMware vSphere 6.5

Version: 2020.09.14 (B) **(Recommended)**

Filename: cp049456.compsig; cp049456.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 3.13.0 or later, for use with this driver.

Enhancements

This product supports HPE ProLiant DL385 Gen10 Plus Server

Supported Devices and Features

This product supports the following network adapters:

- o HPE Ethernet 1Gb 2-port 368FLR-MMT Adapter
- o HPE Ethernet 1Gb 2-port 368i Adapter
- o HPE Ethernet 1Gb 4-port 369i Adapter
- o HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 562SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 568i Adapter
- o HPE Ethernet 10Gb 2-port 568FLR-MMSFP+ Adapter
- o HPE Ethernet 10Gb 2-port 568FLR-MMT Adapter

HPE Intel igbn Driver for VMware vSphere 6.5

Version: 2021.09.04 **(Recommended)**

Filename: cp049060.compsig; cp049060.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 3.15.0 or later, for use with this driver.

Enhancements

This product enhances the reliability of TX/RX ring hang detection and recovery procedures.

Supported Devices and Features

These drivers support the following network adapters:

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

HPE Intel ixgben Driver for VMware vSphere 6.5

Version: 2021.04.05 **(Optional)**

Filename: cp045249.compsig; cp045249.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 3.14.0 or later, for use with this driver.

Fixes

This product corrects the maximum supported number of virtual functions.

Supported Devices and Features

These drivers support the following network adapters:

- o HPE Ethernet 10Gb 2-port 560SFP+ Adapter
 - o HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter
 - o HPE Ethernet 10Gb 2-port 561T Adapter
 - o HPE Ethernet 10Gb 2-port 561FLR-T Adapter
 - o HPE Ethernet 10Gb 2-port 562T Adapter
 - o HPE Ethernet 10Gb 2-port 562FLR-T Adapter
-

HPE QLogic FastLinQ 10/25/50 GbE Multifunction Driver for VMware vSphere 6.5
Version: 2021.09.04 (**Recommended**)
Filename: cp049003.compsig; cp049003.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 CPOxxxx.xml file.

HPE recommends the firmware provided in *HPE QLogic FastLinQ Firmware Package for Arrowhead adapters*, version 8.55.27 or later, for use with these drivers.

Enhancements

This product enhances that collection of Firmware debug data in different scenarios.

Supported Devices and Features

This product supports the following network adapters:

- HPE Ethernet 10Gb 2-port 521T Adapter
- HPE Ethernet 10Gb 2-port 524SFP+ 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 QLogic NX2 10/20 GbE Multifunction Driver for VMware vSphere 6.5
Version: 2021.09.04 (**Recommended**)
Filename: cp047871.compsig; cp047871.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 CPOxxxx.xml file.

HPE recommends the firmware provided in *HPE QLogic NX2 Online Firmware Upgrade Utility for VMware*, version 1.29.0 or later, for use with this driver.

Enhancements

This products enhances the mechanism that collation of data log.

Supported Devices and Features

These drivers support the following network adapters:

- HPE Ethernet 10Gb 2-port 530T Adapter
- HPE Ethernet 10Gb 2-port 530SFP+ Adapter
- HPE FlexFabric 10Gb 2-port 533FLR-T Adapter
- HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter
- HPE FlexFabric 10Gb 4-port 536FLR-T Adapter
- HPE StoreFabric CN1100R Dual Port Converged Network Adapter
- HPE StoreFabric CN1100R 10GBASE-T Dual Port Converged Network Adapter

net-mst kernel module driver component for VMware ESXi 6.5 and 6.7
Version: 2020.11.11 (A) (**Recommended**)
Filename: cp048358.compsig; cp048358.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 HPE vibsdepot.hpe.com webpage, plus an HPE specific CPXXXX.xml file.

Prerequisites

NA

Enhancements

NMST version 4.12.0.105:

This version adds support for the following adapters:

- HPE Ethernet 10Gb 2-port SFP+ MCX4121A-XCHT Adapter (Part Number: P21930-B21)
- HPE Ethernet 10Gb 2-port SFP+ MCX4621A-ACAB OCP3 Adapter (Part Number: P11341-B21)
- HPE Ethernet 10/25Gb 2-port SFP28 MCX512F-ACHT Adapter (Part Number: P13188-B21)
- HPE Ethernet 10/25Gb 2-port SFP28 MCX562A-ACAI OCP3 Adapter (Part Number: P10112-B21)
- HPE Ethernet 100Gb 2-port QSFP28 MCX516A-CCHT Adapter (Part Number: P21927-B21)
- HPE InfiniBand HDR/Ethernet 200Gb 1-port 940QSFP56 x16 Adapter (Part Number: P06154-B21)
- HPE InfiniBand HDR100/Ethernet 100Gb 1-port 940QSFP56 x16 Adapter (Part Number: P06250-B21)
- HPE InfiniBand HDR100/Ethernet 100Gb 2-port 940QSFP56 x16 Adapter (Part Number: P06251-B21)
- HPE InfiniBand HDR/Ethernet 200Gb 1-port MCX653105A-HDAT QSFP56 x16 Adapter (Part Number: P23664-B21)
- HPE InfiniBand HDR100/Ethernet 100Gb 1-port MCX653105A-ECAT QSFP56 x16 Adapter (Part Number: P23665-B21)
- HPE InfiniBand HDR100/Ethernet 100Gb 2-port MCX653106A-ECAT QSFP56 x16 Adapter (Part Number: P23666-B21)
- HPE Ethernet 100Gb 2-Port QSFP56 MCX623106AS-CDAT Adapter (Part Number: P25960-B21)

Supported Devices and Features

| HPE Part Number | Device Name | PSID |
|-----------------|--|---------------|
| 764282-B21 | HPE InfiniBand QDR/Ethernet 10Gb 2-port 544+M Adapter | HP_1350110023 |
| 764283-B21 | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+M Adapter | HP_1360110017 |
| 764284-B21 | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter | HP_1370110017 |
| P24837-B21 | HPE Ethernet 10/25Gb 2-port 642SFP28 Adapter | HPE0000000054 |
| P11338-B21 | HPE Ethernet 10Gb 2-port 548SFP+ Adapter | HP_1200111023 |
| 764285-B21 | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter | HP_1380110017 |
| 764286-B21 | HPE InfiniBand QDR/Ethernet 10Gb 2-port 544+FLR-QSFP Adapter | HP_1390110023 |
| 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 |
| 868779-B21 | HPE Synergy 6410C 25/50Gb Ethernet Adapter | HPE0000000006 |
| 779793-B21 | HPE Ethernet 10Gb 2-port 546SFP+ Adapter | HP_1200111023 |
| 779799-B21 | HPE 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 |
| P21927-B21 | HPE Ethernet 100Gb 2-port QSFP28 MCX516A-CCHT Adapter | MT_0000000417 |
| P10112-B21 | HPE Ethernet 10/25Gb 2-port SFP28 MCX562A-ACAI OCP3 Adapter | MT_0000000241 |
| P13188-B21 | HPE Ethernet 10/25Gb 2-port SFP28 MCX512F-ACHT Adapter | MT_0000000416 |
| P11341-B21 | HPE Ethernet 10Gb 2-port SFP+ MCX4621A-ACAB OCP3 Adapter | MT_0000000238 |
| P21930-B21 | HPE Ethernet 10Gb 2-port SFP+ MCX4121A-XCHT Adapter | MT_0000000414 |
| 874253-B21 | HPE Ethernet 100Gb 1-port 842QSFP28 Adapter | HPE0000000014 |
| P25960-B21 | HPE Ethernet 100Gb 2-Port QSFP56 MCX623106AS-CDAT Adapter | MT_0000000437 |
| P06154-B21 | HPE InfiniBand HDR/Ethernet 200Gb 1-port 940QSFP56 x16 Adapter | HPE0000000034 |
| P06250-B21 | HPE InfiniBand HDR100/Ethernet 100Gb 1-port 940QSFP56 x16 Adapter | HPE0000000035 |
| P06251-B21 | HPE InfiniBand HDR100/Ethernet 100Gb 2-port 940QSFP56 x16 Adapter | HPE0000000036 |
| P23664-B21 | HPE InfiniBand HDR/Ethernet 200Gb 1-port MCX653105A-HDAT QSFP56 x16 Adapter | MT_0000000451 |
| P23665-B21 | HPE InfiniBand HDR100/Ethernet 100Gb 1-port MCX653105A-ECAT QSFP56 x16 Adapter | MT_0000000452 |
| P23666-B21 | HPE InfiniBand HDR100/Ethernet 100Gb 2-port MCX653106A-ECAT QSFP56 x16 Adapter | MT_0000000453 |
| P10180-B21 | Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 Adapter for HPE | MT_0000000435 |
| P31246-B21 | HPE Ethernet 100Gb 1-port QSFP28 PCIe3 x16 MCX515A-CCAT Adapter | MT_0000000591 |
| P31323-B21 | HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 OCP3 MCX653435A-HDAI Adapter | MT_0000000592 |
| P31348-B21 | HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 OCP3 MCX653436A-HDAI Adapter | MT_0000000593 |
| P31324-B21 | HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 MCX653106A-HDAT Adapter | MT_0000000594 |

nmlx4_en Driver Component for VMware 6.5
 Version: 2020.11.11 (Recommended)
 Filename: cp046261.compsig; cp046261.zip

Important Note!

Known Issues:

- 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.
- When the port is UP, the management interface port type field (nmlx_en_MgmtIFPortType) indicates which one of all possible supported types is currently connected.
- 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 vnicX" field "Pause Autonegotiate".

For further information on the release notes for ESXi 6.5 Driver Version 3.16.11.10 follow the below link:
https://www.mellanox.com/page/products_dyn?product_family=29&tag=vmware_driver

Enhancements

Changes and New Features in version 3.16.70.2:

- Resolved an issue that caused the network adapter traffic to stop.
- Fixed an internal multicast loopback issue that broke LACP(Link Aggregation Control Protocol) bonding protocol.

Supported Devices and Features

| HPE Part Number | Device Name | PSID |
|-----------------|---|---------------|
| 764282-B21 | HPE InfiniBand QDR/Ethernet 10Gb 2-port 544+M Adapter | HP_1350110023 |
| 764283-B21 | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+M Adapter | HP_1360110017 |
| 764284-B21 | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter | HP_1370110017 |
| 764285-B21 | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter | HP_1380110017 |
| 764286-B21 | HPE InfiniBand QDR/Ethernet 10Gb 2-port 544+FLR-QSFP Adapter | HP_1390110023 |
| 779793-B21 | HPE Ethernet 10Gb 2-port 546SFP+ Adapter | HP_1200111023 |
| 779799-B21 | HPE Ethernet 10Gb 2-port 546FLR-SFP+ Adapter | HP_2240110004 |

Important Note

Known Issues in version 4.16.71.1:

- o The maximum number of established active RDMA connections (OPs) is currently 5000.
- o Setting ETS value to 0 may cause WQE timeout.
- o ECN tunable parameter initialAlphaValue for the Reaction Point protocol cannot be modified.
- o ECN statistic counters accumulatorsPeriod and ecnMarkedRoce-Packets display wrong values and cannot be cleared.
- o The hardware can offload only up to 256 Bytes of headers.
- o The "esxcli network sriovnic vf stats" command is not supported.
- o Traffic cannot be sent between PV and SR-IOV VF connected to different ports on the same HCA.
- o 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.
- o Geneve options length support is limited to 56 Bytes. Received packets with options length bigger than 56 Bytes are dropped.
- o 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
- o The 'esxcli mellanox uplink link info -u <vmnic_name>' command reports the 'Auto negotiation' capability always as 'true'.
- o Wake-on-LAN does not notify when invalid parameters are provided.
- o Nested ESXi might not function properly.
- o Device RSS fails to hash traffic to sufficient RX rings with Broadcast traffic.
- o In stress condition 'Watchdog' may appear leading to link going up and down.
- o VGT traffic over VXLAN interfaces is currently not supported.
- o SMP MADs (ibnetdiscover, sminfo, iblinkinfo, smpdump, ibqueryerr, ibdiagnet and smpquery) are not supported on the VFs.
- o Although the max_vfs module parameter range is "0-128", due to firmware limitations, the following are the supported VFs per single port:
 - ConnectX-4: up to 127
 - ConnectX-5: up to 63

Fixes

The following issues have been fixed in version in 4.16.71.1:

- o The "esxcli network sriovnic vf stats" command was not supported. When running this command on a vmknic, a failure message was displayed.

Enhancements

Changes and New Features in smart component version 2021.04.15:

- o Added support for the following adapters:
 - HPE Ethernet 200Gb 1-Port QSFP56 MCX623105AS-VDAT Adapter (HPE Part Number: P10180-B21)

New features and changes in version 4.16.71.1:

- o An event will be sent to notify the administrator if the power required by the network adapter is higher than that available on the PCIe slot.
- o Support for trusting Differentiated Services Code Point (DSCP) and setting default value for RoCE traffic.
- o A new counter that enables the user to query per Virtual Function counters.
- o RX out-of-buffer counter to indicate any lack of software receive buffers.
- o Module parameter to enforce specific RoCE version.

Supported Devices and Features

| HPE Part Number | Device Name | PSID |
|-----------------|---|---------------|
| 764282-B21 | HPE InfiniBand QDR/Ethernet 10Gb 2-port 544+M Adapter | HP_1350110023 |
| 764283-B21 | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+M Adapter | HP_1360110017 |
| 764284-B21 | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter | HP_1370110017 |
| P24837-B21 | HPE Ethernet 10/25Gb 2-port 642SFP28 Adapter | HPE0000000054 |
| P11338-B21 | HPE Ethernet 10Gb 2-port 548SFP+ Adapter | HP_1200111023 |
| 764285-B21 | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter | HP_1380110017 |
| 764286-B21 | HPE InfiniBand QDR/Ethernet 10Gb 2-port 544+FLR-QSFP Adapter | HP_1390110023 |
| 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 |
| 868779-B21 | HPE Synergy 6410C 25/50Gb Ethernet Adapter | HPE0000000006 |
| 779793-B21 | HPE Ethernet 10Gb 2-port 546SFP+ Adapter | HP_1200111023 |
| 779799-B21 | HPE 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 |
| P21927-B21 | HPE Ethernet 100Gb 2-port QSFP28 MCX516A-CCHT Adapter | MT_0000000417 |
| P10112-B21 | HPE Ethernet 10/25Gb 2-port SFP28 MCX562A-ACAI OCP3 Adapter | MT_0000000241 |
| P13188-B21 | HPE Ethernet 10/25Gb 2-port SFP28 MCX512F-ACHT Adapter | MT_0000000416 |
| P11341-B21 | HPE Ethernet 10Gb 2-port SFP+ MCX4621A-ACAB OCP3 Adapter | MT_0000000238 |
| P21930-B21 | HPE Ethernet 10Gb 2-port SFP+ MCX4121A-XCHT Adapter | MT_0000000414 |
| 874253-B21 | HPE Ethernet 100Gb 1-port 842QSFP28 Adapter | HPE0000000014 |
| P25960-B21 | HPE Ethernet 100Gb 2-Port QSFP56 MCX623106AS-CDAT Adapter | MT_0000000437 |

| | | |
|------------|--|---------------|
| P06154-B21 | HPE InfiniBand HDR/Ethernet 200Gb 1-port 940QSFP56 x16 Adapter | HPE0000000034 |
| P06250-B21 | HPE InfiniBand HDR100/Ethernet 100Gb 1-port 940QSFP56 x16 Adapter | HPE0000000035 |
| P06251-B21 | HPE InfiniBand HDR100/Ethernet 100Gb 2-port 940QSFP56 x16 Adapter | HPE0000000036 |
| P23664-B21 | HPE InfiniBand HDR/Ethernet 200Gb 1-port MCX653105A-HDAT QSFP56 x16 Adapter | MT_0000000451 |
| P23665-B21 | HPE InfiniBand HDR100/Ethernet 100Gb 1-port MCX653105A-ECAT QSFP56 x16 Adapter | MT_0000000452 |
| P23666-B21 | HPE InfiniBand HDR100/Ethernet 100Gb 2-port MCX653106A-ECAT QSFP56 x16 Adapter | MT_0000000453 |
| P10180-B21 | Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 Adapter for HPE | MT_0000000435 |
| P31246-B21 | HPE Ethernet 100Gb 1-port QSFP28 PCIe3 x16 MCX515A-CCAT Adapter | MT_0000000591 |
| P31323-B21 | HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 OCP3 MCX653435A-HDAI Adapter | MT_0000000592 |
| P31348-B21 | HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 OCP3 MCX653436A-HDAI Adapter | MT_0000000593 |
| P31324-B21 | HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 MCX653106A-HDAT Adapter | MT_0000000594 |

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

Version: 4.12.0.105 **(Recommended)**

Filename: MLNX-NMST-ESX-6.5.0-4.12.0.105.zip

Prerequisites

NA

Enhancements

VM65/67 nmst 4.12.0.105

Driver - Storage Controller

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HPE ProLiant Gen10 Smart Array Controller Driver for VMware ESXi 6.5 (Bundle file)

Version: 65.4150.0.119 **(Recommended)**

Filename: VMW-ESX-6.5.0-smartpqj-65.4150.0.119-offline_bundle-18379836.zip

Fixes

- o A PSOD issue when system is running MBT Tool
- o Fixed an issue where OS boot may fail during logical volume rebuild.
- o Fixed an issue where logical disks are not exposed to OS.
- o Fixed an issue with log spew during device resets.
- o A PSOD issue with Task Management Function handler
- o Fixed an issue where vSAN logs were showing higher latency for physical disks.
- o Fixed an issue to avoid failing IOs for devices which are offline.

HPE ProLiant Gen10 Smart Array Controller Driver for VMware vSphere 6.5 (Driver Component)

Version: 2021.09.01 **(Recommended)**

Filename: cp047414.compsig; cp047414.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, plus an HPE specific CPXXXX.xml file.

Fixes

- o A PSOD issue when system is running MBT Tool
- o Fixed an issue where OS boot may fail during logical volume rebuild.
- o Fixed an issue where logical disks are not exposed to OS.
- o Fixed an issue with log spew during device resets.
- o A PSOD issue with Task Management Function handler
- o Fixed an issue where vSAN logs were showing higher latency for physical disks.
- o Fixed an issue to avoid failing IOs for devices which are offline.
- o Fixed an issue where error messages were printed for ignorable errors.

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

Version: 7.706.09.00 **(Recommended)**

Filename: Release_Notes_Isi-mr3-7.706.09.00-10EM_6.5.txt; VMW-ESX-6.5.0-Isi_mr3-7.706.09.00-12102431.zip

Fixes

Addressed a vSAN Fault Tolerance test failure seen in JBOD mode.

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

Version: 2019.12.13 **(Recommended)**

Filename: cp042803.compsig; cp042803.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

Addressed a vSAN Fault Tolerance test failure seen in JBOD mode.

Firmware - Network

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Broadcom Firmware Package for BCM5741x adapters

Version: 218.0.166.0 (B) **(Recommended)**

Filename: bcm218.0.166.0.pup.fwpkg

Important Note!

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

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

- Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 218.0.32.0 or later
- HPE Broadcom NetXtreme-E Drivers for VMware, version 2021.04.05 or later
- HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.2-218.0.67.0 or later

Enhancements

This product supports the following new server:

- HPE ProLiant DL20 Gen10 Plus Server
- HPE ProLiant ML30 Gen10 Plus Server

Supported Devices and Features

This product supports the following network adapters:

- HPE Ethernet 10Gb 2-port SFP+ BCM57412 Adapter
- HPE Ethernet 10Gb 2-port SFP+ BCM57412 OCP3 Adapter
- HPE Ethernet 10Gb 2-port BaseT BCM57416 Adapter
- HPE Ethernet 10Gb 2-port BaseT BCM57416 OCP3 Adapter
- HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter
- HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 OCP3 Adapter

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

Version: 2021.10.01 **(Recommended)**

Filename: CP046753.compsig: CP046753.zip

Important Note!

This Firmware package contains following firmware versions:

| Adapter | Speed | Universal Boot Image | Firmware | UEFI | Boot Bios |
|---|-------|----------------------|-------------|-------------|-------------|
| HPE FlexFabric 20Gb 2-port 650FLB Adapter | 20Gb | 12.0.1277.0 | 12.0.1345.0 | 12.0.1269.0 | 12.0.1171.0 |
| HPE FlexFabric 20Gb 2-port 650M Adapter | 20Gb | 12.0.1277.0 | 12.0.1345.0 | 12.0.1269.0 | 12.0.1171.0 |

Prerequisites

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

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

Enhancements

Updated CNA (XE100 series) firmware

This Firmware package contains following firmware versions:

| Adapter | Speed | Universal Boot Image | Firmware | UEFI | Boot Bios |
|---|-------|----------------------|-------------|-------------|-------------|
| HPE FlexFabric 20Gb 2-port 650FLB Adapter | 20Gb | 12.0.1277.0 | 12.0.1345.0 | 12.0.1269.0 | 12.0.1171.0 |
| HPE FlexFabric 20Gb 2-port 650M Adapter | 20Gb | 12.0.1277.0 | 12.0.1345.0 | 12.0.1269.0 | 12.0.1171.0 |

Supported Devices and Features

This component is supported on following Emulex Converged Network Adapters:

XE100 Series:

- HPE FlexFabric 20Gb 2-port 650FLB Adapter
- HPE FlexFabric 20Gb 2-port 650M Adapter

HPE Blade Intel Online Firmware Upgrade Utility for VMware

Version: 1.2.3 **(Optional)**

Filename: CP045076.compsig: CP045076.zip

Important Note!

HPE recommends the *HPE Blade Intel ixgben Driver for VMware*, version 2020.12.09 or later, for use with this firmware.

Prerequisites

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

Enhancements

This product now supports VMware vSphere 7.0 U1.
This product now supports VMware vSphere 6.7 U3.
This product now supports VMware vSphere 6.5 U3.

Supported Devices and Features

This package supports the following network adapters:

- o HPE Ethernet 10Gb 2-port 560FLB Adapter
- o HPE Ethernet 10Gb 2-port 560M Adapter

HPE Blade QLogic NX2 Online Firmware Upgrade Utility for VMware
Version: 1.5.2 **(Optional)**
Filename: CP047647.compsig; CP047647.zip

Important Note!

HPE recommends *HPE Blade QLogic NX2 10/20 GbE Multifunction Driver for VMware*, version 2021.09.01 or later, for use with this firmware.

Prerequisites

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

Fixes

This product addresses an issue where the Maximum Transmission Unit (MTU) value of iSCSI function port is displayed as 0 bytes in AHS log.

Enhancements

This product now supports VMware ESXi 7.0 U3.

Supported Devices and Features

This product supports the following network adapters:

- o HPE FlexFabric 10Gb 2-port 534M Adapter
- o HPE FlexFabric 10Gb 2-port 536FLB Adapter
- o HPE FlexFabric 20Gb 2-port 630FLB Adapter
- o HPE FlexFabric 20Gb 2-port 630M Adapter

HPE Broadcom NetXtreme-E Firmware Package for BCM5741x adapters
Version: 218.0.166000 (B) **(Recommended)**
Filename: bcm218.0.166000.Optimized.pup.fwpkg

Fixes

This product addresses an issue about battery POST error caused by unnecessary protocol on Supported Devices of this product.

Supported Devices and Features

This product supports the following network adapters:

- o HPE Ethernet 10Gb 2-port 537SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 537SFP+ FLR Adapter
- o HPE Ethernet 10Gb 2-port 535T Adapter
- o HPE Ethernet 10Gb 2-port 535FLR-T Adapter
- o HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter
- o HPE Ethernet 10/25Gb 2-port 631FLR-SFP28 Adapter

HPE Broadcom NX1 Online Firmware Upgrade Utility for VMware
Version: 1.28.6 **(Optional)**
Filename: CP045013.compsig; CP045013.zip

Important Note!

This software package contains combo image v20.18.31 with the following firmware versions:

| NIC | Boot Code Version | PXE Version | NCSI Version | UEFI Version | CCM Version |
|---|-------------------|-------------|--------------|--------------|-------------|
| HPE Ethernet 1Gb 2-port 330i Adapter (22BD) | 2.10 | 21.6.0 | 1.5.27 | 21.6.12 | 218.0.10.0 |
| HPE Ethernet 1Gb 4-port 331i Adapter (22BE) HPE Ethernet 1Gb 4-port 331FLR Adapter HPE Ethernet 1Gb 4-port 331T Adapter | 1.46 | 21.6.0 | 1.5.27 | 21.6.12 | 218.0.10.0 |
| HPE Ethernet 1Gb 2-port 332i Adapter (22E8) HPE Ethernet 1Gb 2-port 332T Adapter | 1.40 | 21.6.0 | 1.5.27 | 21.6.12 | 218.0.10.0 |

Prerequisites

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

Fixes

- This product addresses an issue about lack of information under AHS log.
- This product addresses an RSOD issue which appeared intermittently during POST after having a warm reboot.
- This product addresses a modification on help string of Family Firmware Version.

Supported Devices and Features

This product supports the following network adapters:

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

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

Version: 2021.10.01 (**Recommended**)

Filename: CP046764.compsig; CP046764.zip

Important Note!

This Firmware package contains following firmware version:

| Adapter | Speed | Universal Boot Image | Firmware | UEFI | Boot BIOS |
|---|-------|----------------------|-------------|-------------|-------------|
| HPE CN1200E Dual Port Converged Network Adapter | 20Gb | 12.0.1277.0 | 12.0.1345.0 | 12.0.1269.0 | 12.0.1171.0 |
| HPE CN1200E-T Dual Port Adapter | 20Gb | 12.0.1277.0 | 12.0.1345.0 | 12.0.1269.0 | 12.0.1171.0 |

Prerequisites

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

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

Enhancements

This Firmware package contains following firmware version:

| Adapter | Speed | Universal Boot Image | Firmware | UEFI | Boot BIOS |
|---|-------|----------------------|-------------|-------------|-------------|
| HPE CN1200E Dual Port Converged Network Adapter | 20Gb | 12.0.1277.0 | 12.0.1345.0 | 12.0.1269.0 | 12.0.1171.0 |
| HPE CN1200E-T Dual Port Adapter | 20Gb | 12.0.1277.0 | 12.0.1345.0 | 12.0.1269.0 | 12.0.1171.0 |

Supported Devices and Features

This component is supported on following Emulex Converged Network Adapters:

XE100 Series:

- HPE CN1200E Dual Port Converged Network Adapter
- HPE CN1200E-T Dual Port Converged Network Adapter

HPE Intel Online Firmware Upgrade Utility for VMware

Version: 3.15.5 (**Recommended**)

Filename: CP047025.compsig; CP047025.zip

Important Note!

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

| NIC | EEPROM/NVM Version | OROM Version | Single NVM Version |
|--|--------------------|--------------|--------------------|
| HPE Ethernet 1Gb 2-port 361i Adapter | 8000106F | 1.2836.0 | N/A |
| HPE Ethernet 1Gb 2-port 361T Adapter | 80001147 | 1.2836.0 | N/A |
| HPE Ethernet 1Gb 2-port 363i Adapter | 80000D00 | 1.2836.0 | N/A |
| HPE Ethernet 1Gb 4-port 366i Communication Board | 80000EBF | 1.2836.0 | N/A |
| HPE Ethernet 1Gb 4-port 366i Adapter | 8000105E | 1.2836.0 | N/A |
| HPE Ethernet 1Gb 4-port 366FLR Adapter | 80001148 | 1.2836.0 | N/A |
| HPE Ethernet 1Gb 4-port 366T Adapter | 80001146 | 1.2836.0 | N/A |
| HPE Ethernet 1Gb 2-port 368i Adapter | 800027FA | 1.2836.0 | N/A |

| | | | |
|--|----------|----------|---------|
| HPE Ethernet 1Gb 2-port 368FLR-MMT Adapter | 800027F8 | 1.2836.0 | N/A |
| HPE Ethernet 1Gb 4-port 369i Adapter | 800027FB | 1.2836.0 | N/A |
| HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter | 80000838 | 1.2836.0 | N/A |
| HPE Ethernet 10Gb 2-port 560SFP+ Adapter | 80000835 | 1.2836.0 | N/A |
| HPE Ethernet 10Gb 2-port 561T Adapter | 80000636 | 1.2836.0 | N/A |
| HPE Ethernet 10Gb 2-port 561FLR-T Adapter | 800005B6 | 1.2836.0 | N/A |
| HPE Ethernet 10Gb 2-port 568i Adapter | 800027FC | 1.2836.0 | N/A |
| HPE Ethernet 10Gb 2-port 568FLR-MMSFP+ Adapter | 800027F8 | 1.2836.0 | N/A |
| HPE Ethernet 10Gb 2-port 568FLR-MMT Adapter | 800027F8 | 1.2836.0 | N/A |
| HPE Ethernet 10Gb 2-port 563i Adapter | 800035C0 | 1.1375.0 | N/A |
| HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter | 80009655 | 1.2836.0 | 10.54.7 |
| HPE Ethernet 10Gb 2-port 562FLR-T Adapter | 8000137D | 1.2836.0 | 10.54.4 |
| HPE Ethernet 10Gb 2-port 562SFP+ Adapter | 800095AA | 1.2836.0 | 10.54.7 |
| HPE Ethernet 10Gb 2-port 562T Adapter | 8000137C | 1.2836.0 | 10.54.4 |

The combo image v1.2836.0 includes: Boot Agent: 1GbE - v1.5.88, 10GbE - v2.4.44, 40GbE - v1.1.18 & UEFI Drivers: 1GbE - v9.4.06, 10GbE - v7.8.13, 40GbE - v4.4.12

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.

Enhancements

This product now supports VMware ESXi 7.0 u3

Supported Devices and Features

This package supports the following network adapters:

- o HPE Ethernet 1Gb 2-port 361i Adapter
- o HPE Ethernet 1Gb 2-port 361T Adapter
- o HPE Ethernet 1Gb 2-port 363i Adapter
- o HPE Ethernet 1Gb 2-port 368FLR-MMT Adapter
- o HPE Ethernet 1Gb 2-port 368i Adapter
- o HPE Ethernet 1Gb 4-port 366FLR Adapter
- o HPE Ethernet 1Gb 4-port 366i Adapter
- o HPE Ethernet 1Gb 4-port 366i Communication Board
- o HPE Ethernet 1Gb 4-port 366T Adapter
- o HPE Ethernet 1Gb 4-port 369i Adapter
- o HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 560SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 561FLR-T Adapter
- o HPE Ethernet 10Gb 2-port 561T Adapter
- o HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 562FLR-T Adapter
- o HPE Ethernet 10Gb 2-port 562SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 562T Adapter
- o HPE Ethernet 10Gb 2-port 568FLR-MMSFP+ Adapter
- o HPE Ethernet 10Gb 2-port 568FLR-MMT Adapter
- o HPE Ethernet 10Gb 2-port 568i Adapter

HPE QLogic FastLinQ Firmware Package for Arrowhead adapters

Version: 8.55.27 (**Recommended**)

Filename: ql_hp_ah_mbi_8.55.27_pldm.fwpgk

Important Note!

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

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

- o HPE QLogic FastLinQ 10/25/50 GbE Drivers for Linux, version 8.55.14.0-2 or later
- o HPE QLogic FastLinQ 10/25/50 GbE Drivers for Microsoft Windows Server x64 Editions, version 8.58.16.0 or later
- o HPE QLogic FastLinQ 10/25/50 GbE Multifunction Drivers for VMware, version 2021.09.04 or later

Fixes

This product addresses an issue where the modification on string format of firmware update payload.

Enhancements

Initial version

Supported Devices and Features

This product supports the following network adapters:

- o HPE Ethernet 10Gb 2-port 521T Adapter

- o HPE Ethernet 10Gb 2-port 524SFP+ Adapter
- o HPE Ethernet 10/25Gb 2-port 621SFP28 Adapter
- o HPE Ethernet 10/25Gb 2-port 622FLR-SFP28 Adapter
- o HPE StoreFabric CN1200R-T Converged Network Adapter
- o HPE StoreFabric CN1300R Converged Network Adapter

HPE QLogic NX2 Online Firmware Upgrade Utility for VMware
 Version: 1.29.3 (**Recommended**)
 Filename: CP046935.compsig; CP046935.zip

Important Note!

HPE recommends HPE QLogic NX2 10/20GbE Multifunction Drivers for VMware, versions 2021.09.04 or later, for use with this firmware.

This software package contains combo image v7.18.82 with the following firmware versions:

| NIC | Boot Code Version | PXE Version | UEFI Version | iSCSI Version | FCoE Version | CCM Version | L2 Version |
|--|-------------------|-------------|--------------|---------------|--------------|-------------|------------|
| HPE Ethernet 10Gb 2-port 530SFP+ Adapter HPE Ethernet 10Gb 2-port 530T Adapter | 7.16.03 | 7.14.13 | 8.9.0 | n/a | n/a | 7.14.4 | 7.12.25 |
| HPE Ethernet 10Gb 2-port 533FLR-T Adapter HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter HPE FlexFabric 10Gb 4-port 536FLR-T Adapter HPE StoreFabric CN1100R Dual Port Converged Network Adapter HPE StoreFabric CN1100R-T Converged Network Adapter | 7.16.03 | 7.14.13 | 8.9.0 | 7.14.0 | 7.14.3 | 7.14.4 | 7.12.25 |

Prerequisites

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

Enhancements

- o This products enhances the mechanism that memory usage when more than one adapters
- o This product now supports VMware ESXi 7.0 u3

Supported Devices and Features

This product supports the following network adapters:

- o HPE Ethernet 10Gb 2-port 530SFP+ Adapter
- o HPE Ethernet 10Gb 2-port 530T Adapter
- o HPE Ethernet 10Gb 2-port 533FLR-T Adapter
- o HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter
- o HPE FlexFabric 10Gb 4-port 536FLR-T Adapter
- o HPE StoreFabric CN1100R Dual Port Converged Network Adapter
- o HPE StoreFabric CN1100R-T Converged Network Adapter

Intel Firmware Package For E810-2CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter
 Version: 3.00 (**Recommended**)
 Filename: HPE_E810_2CQDA2_O_SEC_3p00_PLDMoMCTP_80008271.fwpkg

Important Note!

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

- o Intel icea Driver for Microsoft Windows Server, version 1.9.65.0 or later
- o Intel ice Drivers for Linux, version 1.6.4-1 or later
- o Intel icea Driver for VMware, version 2021.09.04 or later

Fixes

This product addresses an issue where Firmware version isn't correct in AHS log when upgading Firmware.

Supported Devices and Features

This product supports the following network adapters:

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

Intel Firmware Package For E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter
 Version: 3.00 (**Recommended**)
 Filename: HPE_E810_CQDA2_3p00_PLDMoMCTP_80008256.fwpkg

Important Note!

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

- o Intel icea Driver for Microsoft Windows Server, version 1.9.65.0 or later
- o Intel ice Drivers for SUSE Linux, version 1.6.4-1 or later
- o Intel icea Driver for VMware, version 2021.09.04 or later

Fixes

This product addresses an issue where Firmware version isn't correct in AHS log when upgrading Firmware.

Supported Devices and Features

This product supports the following network adapters:

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

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

Version: 3.00 (**Recommended**)

Filename: HPE_E810_CQDA2_OCP_3p00_NCSlwPLDMoMCTP_80008234.fwpkg

Important Note!

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

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

- Intel icea Driver for Microsoft Windows Server, version 1.9.65.0 or later
- Intel ice Drivers for Linux, version 1.6.4-1 or later
- Intel icea Driver for VMware, version 2021.09.04 or later

Fixes

This product addresses an issue where Firmware version isn't correct in AHS log when upgrading Firmware.

Supported Devices and Features

This product supports the following network adapters:

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

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

Version: 3.00 (**Recommended**)

Filename: HPE_E810_XXVDA2_SD_3p00_PLDMoMCTP_80008250.fwpkg

Important Note!

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

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

- Intel icea Driver for Microsoft Windows Server, version 1.9.65.0 or later
- Intel ice Drivers for Linux, version 1.6.4-1 or later
- Intel icea Driver for VMware, version 2021.09.04 or later

Fixes

This product addresses an issue where Firmware version isn't correct in AHS log when upgrading Firmware.

Supported Devices and Features

This product supports the following network adapters:

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

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

Version: 3.00 (**Recommended**)

Filename: HPE_E810_XXVDA2_SD_OCP_3p00_NCSlwPLDMoMCTP_80008265.fwpkg

Important Note!

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

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

- Intel icea Driver for Microsoft Windows Server, version 1.9.65.0 or later
- Intel ice Drivers for Linux, version 1.6.4-1 or later
- Intel icea Driver for VMware, version 2021.09.04 or later

Fixes

This product addresses an issue where Firmware version isn't correct in AHS log when upgrading Firmware.

Supported Devices and Features

This product supports the following network adapters:

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

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

Version: 3.00 (**Recommended**)

Filename: HPE_E810_XXVDA4_FH_3p00_PLDMoMCTP_80008278.fwpkg

Important Note!

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

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

- o Intel icea Driver for Microsoft Windows Server, version 1.9.65.0 or later
- o Intel ice Drivers for Linux, version 1.6.4-1 or later
- o Intel icea Driver for VMware, version 2021.09.04 or later

Fixes

This product addresses an issue where Firmware version isn't correct in AHS log when upgrading Firmware.

Supported Devices and Features

This product supports the following network adapters:

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

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

Version: 3.00 (**Recommended**)

Filename: HPE_E810_XXV4_OCP_3p00_NCSlwPLDMoMCTP_80008280.fwpkg

Important Note!

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

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

- o Intel icea Driver for Microsoft Windows Server, version 1.9.65.0 or later
- o Intel ice Drivers for Linux, version 1.6.4-1 or later
- o Intel icea Driver for VMware, version 2021.09.04 or later

Fixes

This product addresses an issue where Firmware version isn't correct in AHS log when upgrading Firmware.

Supported Devices and Features

This product supports the following network adapters:

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

Intel Online Firmware Upgrade Utility for VMware

Version: 3.16.5 (**Recommended**)

Filename: CP047006.compsig; CP047006.zip

Important Note!

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

| NIC | EEPROM/NVM Version | OROM Version | NVM Version |
|---|---------------------------|---------------------|--------------------|
| HPE Ethernet 10Gb 2-port SFP+ OCP3 X710-DA2 Adapter | 8000A4FF | 1.2829.0 | 8.30 |
| HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter | 8000A3DE | 1.2829.0 | 8.30 |
| Intel I350-T4 Ethernet 1Gb 4-port BASE-T Adapter | 80001099 | 1.2839.0 | N/A |
| Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter | 80001097 | 1.2839.0 | N/A |
| Intel(R) I350 Gigabit Network Connection (2-port) | 8000108E | 1.2839.0 | N/A |
| Intel(R) I350 Gigabit Network Connection (4-port) | 8000108F | 1.2839.0 | N/A |

The combo image v1.2839.0 includes: Boot Agent: 1GbE - v1.5.88 & UEFI Drivers: 1GbE - v9.4.06.

Prerequisites

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

Enhancements

This product now supports VMware ESXi 7.0 u3

Supported Devices and Features

This package supports the following network adapters:

- o Intel(R) I350 Gigabit Network Connection (2-port)

- Intel(R) I350 Gigabit Network Connection (4-port)
- o HPE Ethernet 1Gb 4-port BaseT I350-T4 Adapter
- o HPE Ethernet 1Gb 4-port BaseT I350-T4 OCP3 Adapter
- o HPE Ethernet 10Gb 2-port SFP+ X710-DA2 OCP3 Adapter
- o HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter

Marvell FastLinQ Firmware Package for Arrowhead adapters
 Version: 8.55.14 (**Recommended**)
 Filename: ql_ah_mbi_open_8.55.14_pldm.fwpgk

Important Note!

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

- o Marvell FastLinQ 10/25/50 GbE Drivers for Microsoft Windows Server x64 Editions, version 8.58.16.0 or later
- o HPE QLogic FastLinQ 10/25/50 GbE Drivers for Linux, version 8.55.14.0-2 or later
- o HPE QLogic FastLinQ 10/25/50 GbE Multifunction Drivers for VMware, version 2021.09.04 or later

Fixes

This product contains support PLDM firmware upgrade base improvements.

Enhancements

Initial version

Supported Devices and Features

This product supports the following network adapters:

- o HPE Ethernet 10/25Gb 2-port SFP28 QL41232HLCU Adapter
- o HPE Ethernet 10/25Gb 2-port SFP28 QL41232HQCU OCP3 Adapter
- o HPE Ethernet 10Gb 2-port BaseT QL41132HLRJ Adapter
- o HPE Ethernet 10Gb 2-port BaseT QL41132HQRJ OCP3 Adapter
- o HPE Ethernet 10Gb 2-port SFP+ QL41132HLCU Adapter
- o HPE Ethernet 10Gb 2-port SFP+ QL41132HQCU OCP3 Adapter
- o HPE Ethernet 10Gb 4-port SFP+ QL41134HLCU Adapter

Mellanox Firmware Package(FWPKG) for HPE Ethernet 10/25Gb 2-port SFP28 MCX512F-ACHT Adapter
 Version: 16.31.1200 (**Recommended**)
 Filename: 16_31_1200-MCX512F-ACH_Ax_Bx.pldm.fwpgk

Important Note!

Known Issues with firmware version 16.31.1200:

- o Changing the default host chaining buffer size or WQE size (HOST_CHAINING_DESCRIPTOR, HOST_CHAINING_TOTAL_BUFFER_SIZE) using NVconfig might result in driver initialization failure.
- o Changing the TX tap setting using the SLTP PRM register function, is currently not functional.
- o Multi-APP QoS is not supported when LAG is configured.
- o When Emulated PCIe Switch is enabled, and more than 8 PFs are enabled, the OS boot process might halt.
- o When Emulated PCIe Switch is enabled, and the OS does resource reallocation, the OS boot process might halt.
- o Unable to complete migration when virtio device is in high traffic load (20/20 MPPS) as although vDPA hardware offload solution can support higher speed than the software solution, it needs to enable QEMU auto-converge to complete migration.
- o Using the Eye-Opening tool might cause degradation in the link speed or link down events.
- o Sub 1sec firmware update (fast reset flow) is not supported when updating from previous releases to the current one. Doing so may cause network disconnection events.
- o On systems with high PCIe latency (2us or above), lower bandwidth may be experienced.

Prerequisites

FWPKG will work only if the firmware version flashed on the adapter is 16.27.1016 or later and iLO5 firmware version must be 2.30 or higher.

Fixes

No fixes included in version 16.31.1200:

Enhancements

New Features and Changes included in Version 16.31.1200:

- o Added a new NVconfig per Port for a specific Finisar module. This new NVconfig sets the port to work in AN mode and sets the module to No Data Management Engine (DME). This change does not affect the speed logic, only the forward error correction (FEC) logic (FEC override).

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|--|---------------|
| P13188-B21 | HPE Ethernet 10/25Gb 2-port SFP28 MCX512F-ACHT Adapter | MT_0000000416 |

Mellanox Firmware Package (FWPKG) for HPE Ethernet 10/25Gb 2-port SFP28 MCX562A-ACAI OCP3 Adapter
Version: 16.31.1200 (**Recommended**)
Filename: 16_31_1200-MCX562A-ACA_Ax_Bx.pldm.fwpkg

Important Note!

Known Issues with firmware version 16.31.1200:

- o Changing the default host chaining buffer size or WQE size (HOST_CHAINING_DESCRIPTOR, HOST_CHAINING_TOTAL_BUFFER_SIZE) using NVconfig might result in driver initialization failure.
- o Changing the TX tap setting using the SLTP PRM register function, is currently not functional.
- o Multi-APP QoS is not supported when LAG is configured.
- o When Emulated PCIe Switch is enabled, and more than 8 PFs are enabled, the OS boot process might halt.
- o When Emulated PCIe Switch is enabled, and the OS does resource reallocation, the OS boot process might halt.
- o Unable to complete migration when virtio device is in high traffic load (20/20 MPPS) as although vDPA hardware offload solution can support higher speed than the software solution, it needs to enable QEMU auto-converge to complete migration.
- o Using the Eye-Opening tool might cause degradation in the link speed or link down events.
- o Sub 1sec firmware update (fast reset flow) is not supported when updating from previous releases to the current one. Doing so may cause network disconnection events.
- o On systems with high PCIe latency (2us or above), lower bandwidth may be experienced.

Prerequisites

FWPKG will work only if the firmware version flashed on the adapter is 16.27.1016 or later and iLO5 firmware version must be 2.30 or higher.

Fixes

No fixes included in version 16.31.1200:

Enhancements

New Features and Changes included in Version 16.31.1200:

- o Added a new NVconfig per Port for a specific Finisar module. This new NVconfig sets the port to work in AN mode and sets the module to No Data Management Engine (DME). This change does not affect the speed logic, only the forward error correction (FEC) logic (FEC override).

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|---|---------------|
| P10112-B21 | HPE Ethernet 10/25Gb 2-port SFP28 MCX562A-ACAI OCP3 Adapter | MT_0000000241 |

Mellanox Firmware Package (FWPKG) for HPE Ethernet 100Gb 1-port QSFP28 MCX515A-CCAT PCIe3 x16 Adapter
Version: 16.31.1014 (**Recommended**)
Filename: 16_31_1014-MCX515A-CCA_HPE_Ax.pldm.fwpkg

Prerequisites

FWPKG will work only if the firmware version flashed on the adapter is 16.27.1016 or later and iLO5 firmware version must be 2.30 or higher.

Fixes

The following issues have been fixed in version 16.31.1014:

- o TX PRBS was not changed even after reconfiguring it, all PRBS mode were enabled in test mode.
- o An assert that was caused when trying to open 1024 functions on the device and the maximum number of functions was 1023.
- o Occasional performance issues related to RC QPs using E2E-credits (not connected to SRQ and doing send/receive traffic) when the ROCE_ACCL tx_window was enabled.
- o A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- o A rare issue that caused RX pipe to hang.
- o The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.
- o CRT_DCR with index larger than 1 << 21 occasionally collided with the CRT_SW_RESERVED address.
- o An issue that caused the TX queue to get into an unresponsive state when the VF rate limiter was set.
- o Additional Fixes included in version 16.31.1014:
 - o Disabled the CNP counter "rp_cnp_ignored " (triggered by OOS (out-of-sequence)) when all ports are IB.
 - o Fixed the TMP421 sensor temperature reporting.
 - o Fixed the rate select mechanism in QSFP modules.
 - o Fixed classification issues for "Passive" cables to be more robust.
 - o Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.

Enhancements

New features and changes included in version 16.31.1014:

- o NIC scheduling feature support has been disabled for non-privileged functions.
- o Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- o support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- o Increased the maximum number of MSIX per VF to 127.
- o Asymmetrical MSIX Configuration: This feature allows the device to be configured with a different number of MSIX vectors per physical PCI functions. To use this feature, please follow these steps:
 - o Clear NUM_PF_MSIX_VALID to disable global symmetrical MSIX configuration.
 - o Set PF_NUM_PF_MSIX_VALID to enable asymmetrical per Physical Function MSIX configuration.
 - o Configure PF_NUM_PF_MSIX per physical PCI function.
- o RDMA partitioning and RDMA counters in IB mode.

- Added a new bit ("data_in_order") to query the QP and allow a process/library to detect when the AR is enabled.
- A new flex parser to support GENEVE hardware offload and ICMP.
- When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.
- Enabled UID 0 to create resources with UMEM (User Memory).
- Receiving and sending native IB packets from/to the software (including all headers) via raw IBL2 QPs.
- RX RDMA NIC flow table on an IB port. Now the software can steer native IB packets to raw IB receive queues according to the DLID and the DQPN.

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|---|------------|
| P31246-B21 | HPE Ethernet 100Gb 1-port QSFP28 PCIe3 x16 MCX515A-CCAT Adapter | MT_0000000 |

Mellanox Firmware Package(FWPKG) for HPE Ethernet 100Gb 2-Port QSFP56 MCX623106AS-CDAT Adapter
 Version: 22.31.1014 (**Recommended**)
 Filename: 22_31_1014-MCX623106AS-CDA_Ax.pldm.fwpgk

Prerequisites

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

Fixes

The following issues have been fixed in version 22.31.1014:

- A fatal assert (0x8274) occurred due to invalid inputs sent to the query_vport_state command.
- Occasionally, toggling one of the NIC's port might result in link down of the 2nd port.
- Incorrect indication of the function dependency in the SR-IOV capability in PCIe configuration space.
- A rare issue that caused the destroy DCT command to not work properly when there were packet drops on connect packets in the network .
- The rate select mechanism in QSFP modules is fixed.
- A fatal error issue eventually causing the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- The resource number was overwritten with a 32 bit number and erased the high bits during de-allocation.
- Initialized the rate table in the static configuration so it would be configured at the link-not-up scenarios.
- CRT_DCR with index larger than 1 << 21 occasionally collided with the CRT_SW_RESERVED address.
- The TX queue got into an unresponsive state when the VF rate limiter was set.
- "ICM-cache-large-scale" steering mode was not supported with NoDNIC boot.
- Classification issues with "Passive" cables.

Enhancements

New features and changes included in version 22.31.1014:

- Set the cap to 0 for high index functions to avoid too many parallel Virtual Function(VF) NODNIC functions.
- Implemented a new Network Communications Services Interface(NC-SI) command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- Phy counters are cleared x seconds after link is up. This feature can be configured and enabled via the ini fields using the NVconfig.
- Extended the Dynamic Flex Parser capabilities in order to support Real-time Transport Protocol(RTP) packets parsing.
- Updated the NC-SI speed reporting output to support 200GbE speed. Now when running the NC-SI command, the output presents 200GbE speed as well.
- Increased the maximum number of MSIX per VF to 127.
- NVME traffic can run now on another vHCA than the emulation manager vHCA.
- Allows the device to be configured with more than 256 MSIX vectors per physical PCI function.
- Enabled measuring PCIe eye dynamic grading over PCIe Gen3 speed.
- Enabled hardware real time clock for virtualized environment.
- Added support for the following:
 - Matching field ipv4_ihl in create_flow_group and set_flow_table_entry commands.
 - Enabling/Disabling NIC and RDMA (port/partition) via the UEFI HII system settings.
 - A single Packet Filter(PF) per NUMA for Socket-Direct without a host management.
 - Full tunnel header matcher to VXLAN header (including VXLAN alert bit).
 - A new bit ("data_in_order") to query the Queue Pair(QP) and allow a process/library to detect when the Adaptive Routing(AR) is enabled.
 - A new flex parser to support GENEVE hardware offload and ICMP.

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|---|---------------|
| P25960-B21 | HPE Ethernet 100Gb 2-Port QSFP56 MCX623106AS-CDAT Adapter | MT_0000000437 |

Mellanox Firmware Package(FWPKG) for HPE Ethernet 200Gb 1-port QSFP56 MCX623105AS-VDAT Adapter
 Version: 22.31.1014 (**Recommended**)
 Filename: 22_31_1014-MCX623105AS-VDA_Ax.pldm.fwpgk

Prerequisites

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

Fixes

The following issues have been fixed in version 22.31.1014:

- o A fatal assert (0x8274) occurred due to invalid inputs sent to the query_vport_state command.
- o Occasionally, toggling one of the NIC's port might result in link down of the 2nd port.
- o Incorrect indication of the function dependency in the SR-IOV capability in PCIe configuration space.
- o A rare issue that caused the destroy DCT command to not work properly when there were packet drops on connect packets in the network .
- o The rate select mechanism in QSFP modules is fixed.
- o A fatal error issue eventually causing the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- o The resource number was overwritten with a 32 bit number and erased the high bits during de-allocation.
- o Initialized the rate table in the static configuration so it would be configured at the link-not-up scenarios.
- o CRT_DCR with index larger than 1 < 21 occasionally collided with the CRT_SW_RESERVED address.
- o The TX queue got into an unresponsive state when the VF rate limiter was set.
- o "ICM-cache-large-scale" steering mode was not supported with NoDNIC boot.
- o Classification issues with "Passive" cables.

Enhancements

New features and changes included in version 22.31.1014:

- o Set the cap to 0 for high index functions to avoid too many parallel Virtual Function(VF) NODNIC functions.
- o Implemented a new Network Communications Services Interface(NC-SI) command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- o Phy counters are cleared x seconds after link is up. This feature can be configured and enabled via the ini fields using the NVconfig.
- o Extended the Dynamic Flex Parser capabilities in order to support Real-time Transport Protocol(RTP) packets parsing.
- o Updated the NC-SI speed reporting output to support 200GbE speed. Now when running the NC-SI command, the output presents 200GbE speed as well.
- o Increased the maximum number of MSIX per VF to 127.
- o NVME traffic can run now on another vHCA than the emulation manager vHCA.
- o Allows the device to be configured with more than 256 MSIX vectors per physical PCI function.
- o Enabled measuring PCIe eye dynamic grading over PCIe Gen3 speed.
- o Enabled hardware real time clock for virtualized environment.
- o Added support for the following:
 - o Matching field ipv4_ihl in create_flow_group and set_flow_table_entry commands.
 - o Enabling/Disabling NIC and RDMA (port/partition) via the UEFI HII system settings.
 - o A single Packet Filter(PF) per NUMA for Socket-Direct without a host management.
 - o Full tunnel header matcher to VXLAN header (including VXLAN alert bit).
 - o A new bit ("data_in_order") to query the Queue Pair(QP) and allow a process/library to detect when the Adaptive Routing(AR) is enabled.
 - o A new flex parser to support GENEVE hardware offload and ICMP.

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|---|---------------|
| P10180-B21 | HPE Ethernet 200Gb 1-port QSFP56 MCX623105AS-VDAT Adapter | MT_0000000435 |

Mellanox Firmware Package(FWPKG) for HPE InfiniBand HDR/Ethernet 200Gb 1-port MCX653105A-HDAT QSFP56 x16 Adapter
 Version: 20.31.1014 (**Recommended**)
 Filename: 20_31_1014-MCX653105A-HDA_HPE_Ax.pldm.fwpkg

Prerequisites

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

Fixes

The following issues have been fixed in version 20.31.1014:

- o Occasional performance issues related to RC QPs using E2E-credits (not connected to SRQ and doing send/receive traffic) when the ROCE_ACCL tx_window was enabled.
- o A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- o A rare issue that caused RX pipe to unresponsive state.
- o The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.
- o CRT_DCR with index larger than 1 < 21 occasionally collided with the CRT_SW_RESERVED address.
- o An issue that caused the TX queue to get into an unresponsive state when the VF rate limiter was set.
- o In InfiniBand non-virtualization system, due to a corrupted steering root, traffic fails after a warm reboot.
- o Additional Fixes included in version 20.31.1014:
 - o Disabled the CNP counter "rp_cnp_ignored " (triggered by OOS (out-of-sequence)) when all ports are IB.
 - o Fixed the TMP421 sensor temperature reporting.
 - o Fixed the rate select mechanism in QSFP modules.
 - o Fixed classification issues for "Passive" cables to be more robust.
 - o Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.
 - o Improved PortXmitWait IB counter accuracy.

Enhancements

New features and changes included in version 20.31.1014:

- o NIC scheduling feature support has been disabled for non-privileged functions.
- o Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- o Updated the NC-SI speed reporting output to support 200GbE speed. Now when running the NC-SI command, the output presents 200GbE speed as well.
- o support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- o Increased the maximum number of MSIX per VF to 127.
- o Asymmetrical MSIX Configuration: This feature allows the device to be configured with a different number of MSIX vectors per physical PCI functions.To use this

feature, please follow these steps:

- o Clear NUM_PF_MSIX_VALID to disable global symmetrical MSIX configuration.
- o Set PF_NUM_PF_MSIX_VALID to enable asymmetrical per Physical Function MSIX configuration.
- o Configure PF_NUM_PF_MSIX per physical PCI function.
- o RDMA partitioning and RDMA counters in IB mode.
- o Added a new bit ("data_in_order") to query the QP and allow a process/library to detect when the AR is enabled.
- o A new flex parser to support GENEVE hardware offload and ICMP.
- o When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.
- o Enabled UID 0 to create resources with UMEM (User Memory).
- o Receiving and sending native IB packets from/to the software (including all headers) via raw IBL2 QPs.
- o RX RDMA NIC flow table on an IB port. Now the software can steer native IB packets to raw IB receive queues according to the DLID and the DQPN.

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|---|---------------|
| P23664-B21 | HPE InfiniBand HDR/Ethernet 200Gb 1-port MCX653105A-HDAT QSFP56 x16 Adapter | MT_0000000451 |

Mellanox Firmware Package (FWPKG) for HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 MCX653435A-HDAI OCP3 PCIe4 x16 Adapter

Version: 20.31.1014 (**Recommended**)

Filename: 20_31_1014-MCX653435A-HDA_HPE_Ax.pldm.fwpkg

Prerequisites

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

Fixes

The following issues have been fixed in version 20.31.1014:

- o Occasional performance issues related to RC QPs using E2E-credits (not connected to SRO and doing send/receive traffic) when the ROCE_ACCL tx_window was enabled.
- o A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- o A rare issue that caused RX pipe to unresponsive state.
- o The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.
- o CRT_DCR with index larger than 1 < 21 occasionally collided with the CRT_SW_RESERVED address.
- o An issue that caused the TX queue to get into an unresponsive state when the VF rate limiter was set.
- o In InfiniBand non-virtualization system, due to a corrupted steering root, traffic fails after a warm reboot.
- o Additional Fixes included in version 20.31.1014:
- o Disabled the CNP counter "rp_cnp_ignored" (triggered by OOS (out-of-sequence)) when all ports are IB.
- o Fixed the TMP421 sensor temperature reporting.
- o Fixed the rate select mechanism in QSFP modules.
- o Fixed classification issues for "Passive" cables to be more robust.
- o Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.
- o Improved PortXmitWait IB counter accuracy.

Enhancements

New features and changes included in version 20.31.1014:

- o NIC scheduling feature support has been disabled for non-privileged functions.
- o Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- o Updated the NC-SI speed reporting output to support 200GbE speed. Now when running the NC-SI command, the output presents 200GbE speed as well.
- o support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- o Increased the maximum number of MSIX per VF to 127.
- o Asymmetrical MSIX Configuration: This feature allows the device to be configured with a different number of MSIX vectors per physical PCI functions. To use this feature, please follow these steps:
 - o Clear NUM_PF_MSIX_VALID to disable global symmetrical MSIX configuration.
 - o Set PF_NUM_PF_MSIX_VALID to enable asymmetrical per Physical Function MSIX configuration.
 - o Configure PF_NUM_PF_MSIX per physical PCI function.
- o RDMA partitioning and RDMA counters in IB mode.
- o Added a new bit ("data_in_order") to query the QP and allow a process/library to detect when the AR is enabled.
- o A new flex parser to support GENEVE hardware offload and ICMP.
- o When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.
- o Enabled UID 0 to create resources with UMEM (User Memory).
- o Receiving and sending native IB packets from/to the software (including all headers) via raw IBL2 QPs.
- o RX RDMA NIC flow table on an IB port. Now the software can steer native IB packets to raw IB receive queues according to the DLID and the DQPN.

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|--|---------------|
| P31323-B21 | HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 OCP3 MCX653435A-HDAI Adapter | MT_0000000592 |

Mellanox Firmware Package (FWPKG) for HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 MCX653106A-HDAT PCIe4 x16 Adapter

Version: 20.31.1014 (**Recommended**)

Important Note!

ConnectX-6 VPI supports having one port as InfiniBand and the other port as Ethernet according to the following matrix of combinations.

| Port #2 - InfiniBand | | | | |
|----------------------|------------|---------------|---------------|-----------|
| Port #1 – Ethernet | HDR/HDR100 | EDR | FDR | QDR |
| 50GbE | supported | not supported | not supported | supported |
| 100GbE/25GbE | supported | not supported | not supported | supported |
| 40GbE/10GbE | supported | not supported | not supported | supported |
| 1GbE | supported | not supported | not supported | supported |

| Port #2 - Ethernet | | | | |
|----------------------|---------------|---------------|---------------|---------------|
| Port #1 - InfiniBand | 50GbE | 100GbE/25GbE | 40GbE/10GbE | 1GbE |
| HDR / HDR100 | supported | supported | not supported | supported |
| EDR | supported | supported | not supported | supported |
| FDR | not supported | not supported | not supported | not supported |
| QDR/SDR | supported | supported | not supported | supported |

Prerequisites

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

Fixes

The following issues have been fixed in version 20.31.1014:

- Occasional performance issues related to RC QPs using E2E-credits (not connected to SRQ and doing send/receive traffic) when the ROCE_ACCL tx_window was enabled.
- A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- A rare issue that caused RX pipe to unresponsive state.
- The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.
- CRT_DCR with index larger than 1 << 21 occasionally collided with the CRT_SW_RESERVED address.
- An issue that caused the TX queue to get into an unresponsive state when the VF rate limiter was set.
- In InfiniBand non-virtualization system, due to a corrupted steering root, traffic fails after a warm reboot.
- Additional Fixes included in version 20.31.1014:
- Disabled the CNP counter "rp_cnp_ignored " (triggered by OOS (out-of-sequence)) when all ports are IB.
- Fixed the TMP421 sensor temperature reporting.
- Fixed the rate select mechanism in QSFP modules.
- Fixed classification issues for "Passive" cables to be more robust.
- Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.
- Improved PortXmitWait IB counter accuracy.

Enhancements

New features and changes included in version 20.31.1014:

- NIC scheduling feature support has been disabled for non-privileged functions.
- Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- Updated the NC-SI speed reporting output to support 200GbE speed. Now when running the NC-SI command, the output presents 200GbE speed as well.
- support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- Increased the maximum number of MSIX per VF to 127.
- Asymmetrical MSIX Configuration: This feature allows the device to be configured with a different number of MSIX vectors per physical PCI functions.To use this feature, please follow these steps:
 - Clear NUM_PF_MSIX_VALID to disable global symmetrical MSIX configuration.
 - Set PF_NUM_PF_MSIX_VALID to enable asymmetrical per Physical Function MSIX configuration.
 - Configure PF_NUM_PF_MSIX per physical PCI function.
- RDMA partitioning and RDMA counters in IB mode.
- Added a new bit ("data_in_order") to query the QP and allow a process/library to detect when the AR is enabled.
- A new flex parser to support GENEVE hardware offload and ICMP.
- When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.
- Enabled UID 0 to create resources with UMEM (User Memory).
- Receiving and sending native IB packets from/to the software (including all headers) via raw IBL2 QPs.
- RX RDMA NIC flow table on an IB port. Now the software can steer native IB packets to raw IB receive queues according to the DLID and the DQPN.

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|---|---------------|
| P31324-B21 | HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 MCX653106A-HDAT Adapter | MT_0000000594 |

Important Note!

ConnectX-6 VPI supports having one port as InfiniBand and the other port as Ethernet according to the following matrix of combinations.

| Port #2 - InfiniBand | | | | |
|----------------------|------------|---------------|---------------|-----------|
| Port #1 – Ethernet | HDR/HDR100 | EDR | FDR | QDR |
| 50GbE | supported | not supported | not supported | supported |
| 100GbE/25GbE | supported | not supported | not supported | supported |
| 40GbE/10GbE | supported | not supported | not supported | supported |
| 1GbE | supported | not supported | not supported | supported |

| Port #2 - Ethernet | | | | |
|----------------------|---------------|---------------|---------------|---------------|
| Port #1 - InfiniBand | 50GbE | 100GbE/25GbE | 40GbE/10GbE | 1GbE |
| HDR / HDR100 | supported | supported | not supported | supported |
| EDR | supported | supported | not supported | supported |
| FDR | not supported | not supported | not supported | not supported |
| QDR/SDR | supported | supported | not supported | supported |

Prerequisites

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

Fixes

The following issues have been fixed in version 20.31.1014:

- Occasional performance issues related to RC QPs using E2E-credits (not connected to SRQ and doing send/receive traffic) when the ROCE_ACCL tx_window was enabled.
- A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- A rare issue that caused RX pipe to unresponsive state.
- The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.
- CRT_DCR with index larger than 1 << 21 occasionally collided with the CRT_SW_RESERVED address.
- An issue that caused the TX queue to get into an unresponsive state when the VF rate limiter was set.
- In InfiniBand non-virtualization system, due to a corrupted steering root, traffic fails after a warm reboot.
- Additional Fixes included in version 20.31.1014:
- Disabled the CNP counter "rp_cnp_ignored" (triggered by OOS (out-of-sequence)) when all ports are IB.
- Fixed the TMP421 sensor temperature reporting.
- Fixed the rate select mechanism in QSFP modules.
- Fixed classification issues for "Passive" cables to be more robust.
- Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.
- Improved PortXmitWait IB counter accuracy.

Enhancements

New features and changes included in version 20.31.1014:

- NIC scheduling feature support has been disabled for non-privileged functions.
- Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- Updated the NC-SI speed reporting output to support 200GbE speed. Now when running the NC-SI command, the output presents 200GbE speed as well.
- support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- Increased the maximum number of MSIX per VF to 127.
- Asymmetrical MSIX Configuration: This feature allows the device to be configured with a different number of MSIX vectors per physical PCI functions. To use this feature, please follow these steps:
 - Clear NUM_PF_MSIX_VALID to disable global symmetrical MSIX configuration.
 - Set PF_NUM_PF_MSIX_VALID to enable asymmetrical per Physical Function MSIX configuration.
 - Configure PF_NUM_PF_MSIX per physical PCI function.
- RDMA partitioning and RDMA counters in IB mode.
- Added a new bit ("data_in_order") to query the QP and allow a process/library to detect when the AR is enabled.
- A new flex parser to support GENEVE hardware offload and ICMP.
- When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.
- Enabled UID 0 to create resources with UMEM (User Memory).
- Receiving and sending native IB packets from/to the software (including all headers) via raw IBL2 QPs.
- RX RDMA NIC flow table on an IB port. Now the software can steer native IB packets to raw IB receive queues according to the DLID and the DQPN.

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|--|---------------|
| P31348-B21 | HPE InfiniBand HDR/Ethernet 200Gb 2-port PCIe4 x16 OCP3 QSFP56 MCX653436A-HDAI Adapter | MT_0000000593 |

Mellanox Firmware Package (FWPKG) for HPE InfiniBand HDR100/Ethernet 100Gb 1-port MCX653105A-ECAT QSFP56 x16 Adapter

Version: 20.31.1014 (**Recommended**)

Filename: 20_31_1014-MCX653105A-ECA_HPE_Ax.pldm.fwpkg

Prerequisites

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

Fixes

The following issues have been fixed in version 20.31.1014:

- o Occasional performance issues related to RC QPs using E2E-credits (not connected to SRQ and doing send/receive traffic) when the ROCE_ACCL tx_window was enabled.
- o A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- o A rare issue that caused RX pipe to unresponsive state.
- o The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.
- o CRT_DCR with index larger than 1 < 21 occasionally collided with the CRT_SW_RESERVED address.
- o An issue that caused the TX queue to get into an unresponsive state when the VF rate limiter was set.
- o In InfiniBand non-virtualization system, due to a corrupted steering root, traffic fails after a warm reboot.
- o Additional Fixes included in version 20.31.1014:
- o Disabled the CNP counter "rp_cnp_ignored " (triggered by OOS (out-of-sequence)) when all ports are IB.
- o Fixed the TMP421 sensor temperature reporting.
- o Fixed the rate select mechanism in QSFP modules.
- o Fixed classification issues for "Passive" cables to be more robust.
- o Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.
- o Improved PortXmitWait IB counter accuracy.

Enhancements

New features and changes included in version 20.31.1014:

- o NIC scheduling feature support has been disabled for non-privileged functions.
- o Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- o Updated the NC-SI speed reporting output to support 200GbE speed. Now when running the NC-SI command, the output presents 200GbE speed as well.
- o support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- o Increased the maximum number of MSIX per VF to 127.
- o Asymmetrical MSIX Configuration: This feature allows the device to be configured with a different number of MSIX vectors per physical PCI functions.To use this feature, please follow these steps:
 - o Clear NUM_PF_MSIX_VALID to disable global symmetrical MSIX configuration.
 - o Set PF_NUM_PF_MSIX_VALID to enable asymmetrical per Physical Function MSIX configuration.
 - o Configure PF_NUM_PF_MSIX per physical PCI function.
- o RDMA partitioning and RDMA counters in IB mode.
- o Added a new bit ("data_in_order") to query the QP and allow a process/library to detect when the AR is enabled.
- o A new flex parser to support GENEVE hardware offload and ICMP.
- o When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.
- o Enabled UID 0 to create resources with UMEM (User Memory).
- o Receiving and sending native IB packets from/to the software (including all headers) via raw IBL2 QPs.
- o RX RDMA NIC flow table on an IB port. Now the software can steer native IB packets to raw IB receive queues according to the DLID and the DQPN.

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|--|---------------|
| P23665-B21 | HPE InfiniBand HDR100/Ethernet 100Gb 1-port MCX653105A-ECAT QSFP56 x16 Adapter | MT_0000000452 |

Mellanox Firmware Package (FWPKG) for HPE InfiniBand HDR100/Ethernet 100Gb 2-port MCX653106A-ECAT QSFP56 x16 Adapter
 Version: 20.31.1014 **(Recommended)**
 Filename: 20_31_1014-MCX653106A-ECA_HPE_Ax.pldm.fwpkg

Important Note!

ConnectX-6 VPI supports having one port as InfiniBand and the other port as Ethernet according to the following matrix of combinations.

| Port #2 - InfiniBand | | | | |
|----------------------|------------|---------------|---------------|-----------|
| Port #1 – Ethernet | HDR/HDR100 | EDR | FDR | QDR |
| 50GbE | supported | not supported | not supported | supported |
| 100GbE/25GbE | supported | not supported | not supported | supported |
| 40GbE/10GbE | supported | not supported | not supported | supported |
| 1GbE | supported | not supported | not supported | supported |

| Port #2 - Ethernet | | | | |
|----------------------|---------------|---------------|---------------|---------------|
| Port #1 - InfiniBand | 50GbE | 100GbE/25GbE | 40GbE/10GbE | 1GbE |
| HDR / HDR100 | supported | supported | not supported | supported |
| EDR | supported | supported | not supported | supported |
| FDR | not supported | not supported | not supported | not supported |
| QDR/SDR | supported | supported | not supported | supported |

Prerequisites

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

Fixes

The following issues have been fixed in version 20.31.1014:

- o Occasional performance issues related to RC QPs using E2E-credits (not connected to SRQ and doing send/receive traffic) when the ROCE_ACCL tx_window was enabled.
- o A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- o A rare issue that caused RX pipe to unresponsive state.
- o The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.
- o CRT_DCR with index larger than 1 << 21 occasionally collided with the CRT_SW_RESERVED address.
- o An issue that caused the TX queue to get into an unresponsive state when the VF rate limiter was set.
- o In InfiniBand non-virtualization system, due to a corrupted steering root, traffic fails after a warm reboot.
- o Additional Fixes included in version 20.31.1014:
 - o Disabled the CNP counter "rp_cnp_ignored " (triggered by OOS (out-of-sequence)) when all ports are IB.
 - o Fixed the TMP421 sensor temperature reporting.
 - o Fixed the rate select mechanism in QSFP modules.
 - o Fixed classification issues for "Passive" cables to be more robust.
 - o Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.
 - o Improved PortXmitWait IB counter accuracy.

Enhancements

New features and changes included in version 20.31.1014:

- o NIC scheduling feature support has been disabled for non-privileged functions.
- o Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- o Updated the NC-SI speed reporting output to support 200GbE speed. Now when running the NC-SI command, the output presents 200GbE speed as well.
- o support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- o Increased the maximum number of MSIX per VF to 127.
- o Asymmetrical MSIX Configuration: This feature allows the device to be configured with a different number of MSIX vectors per physical PCI functions. To use this feature, please follow these steps:
 - o Clear NUM_PF_MSIX_VALID to disable global symmetrical MSIX configuration.
 - o Set PF_NUM_PF_MSIX_VALID to enable asymmetrical per Physical Function MSIX configuration.
 - o Configure PF_NUM_PF_MSIX per physical PCI function.
- o RDMA partitioning and RDMA counters in IB mode.
- o Added a new bit ("data_in_order") to query the QP and allow a process/library to detect when the AR is enabled.
- o A new flex parser to support GENEVE hardware offload and ICMP.
- o When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.
- o Enabled UID 0 to create resources with UMEM (User Memory).
- o Receiving and sending native IB packets from/to the software (including all headers) via raw IBL2 QPs.
- o RX RDMA NIC flow table on an IB port. Now the software can steer native IB packets to raw IB receive queues according to the DLID and the DQPN.

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|--|---------------|
| P23666-B21 | HPE InfiniBand HDR100/Ethernet 100Gb 2-port MCX653106A-ECAT QSFP56 x16 Adapter | MT_0000000453 |

Online Firmware Upgrade Utility (ESXi 6.5) for HPE Ethernet 10Gb 2-port 548SFP+ Adapter

Version: 1.0.5 (**Recommended**)

Filename: CP046587.compsig; CP046587.zip

Prerequisites

Use iLO5 firmware version 2.30 or higher with ConnectX4 firmware version 14.28.1002. Thermal sensor reporting on the adapter will not be functional with older versions of iLO5 firmware.

Fixes

Following issues have been fixed in version 14.31.1014:

- o TX PRBS was not changed even after reconfiguring it, all PRBS mode were enabled in test mode.
- o A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- o The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.

Additional Fixes included in version 14.31.1014:

- o Fixed the rate select mechanism in QSFP modules.
- o Fixed classification issues for "Passive" cables to be more robust.
- o Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.

Enhancements

Firmware for the following device is updated to 14.31.1014:

- o P11338-B21 (HPE Ethernet 10Gb 2-port 548SFP+ Adapter)

New features and changes included in version 14.31.1014:

- o Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- o support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- o Increased the maximum number of MSIX per VF to 127.
- o Added a new bit ("data_in_order") to query the QP and allow a process/library to detect when the AR is enabled.
- o A new flex parser to support GENEVE hardware offload and ICMP.
- o When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for

the FLR function.

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|--|---------------|
| P11338-B21 | HPE Ethernet 10Gb 2-port 548SFP+ Adapter | HPE0000000038 |

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

Version: 1.0.10 (**Recommended**)

Filename: CP046583.compsig; CP046583.zip

Important Note!

The Firmware Upgrade Utility has been split into 2 packages for Mellanox Ethernet Only NIC adapters, one supporting Synergy platforms and the other supporting ProLiant and Apollo platforms. This package supports Mellanox Ethernet Only NIC adapters on ProLiant and Apollo servers.

Prerequisites

Use iLO5 firmware version 2.30 or higher with ConnectX4/ConnectX5 firmware version 14.28.1002/16.28.1002 respectively. Thermal sensor reporting on the adapter will not be functional with older versions of iLO5 firmware.

Fixes

Fixes included in firmware version 2.42.5044 :

- An issue that prevented the firmware from detecting a link_down event thus preventing the IB bond interface from going to a failover mode.

The following issues have been fixed in version 14.31.1200:

- TX PRBS was not changed even after reconfiguring it, all PRBS mode were enabled in test mode.
- A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.

Additional Fixes included in version 14.31.1200:

- Fixed the rate select mechanism in QSFP modules.
- Fixed classification issues for "Passive" cables to be more robust.
- Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.

The following issues have been fixed in version 16.31.1014:

- TX PRBS was not changed even after reconfiguring it, all PRBS mode were enabled in test mode.
- An assert that was caused when trying to open 1024 functions on the device and the maximum number of functions was 1023.
- Occasional performance issues related to RC QPs using E2E-credits (not connected to SRQ and doing send/receive traffic) when the ROCE_ACCL tx_window was enabled.
- A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- A rare issue that caused RX pipe to hang.
- The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.
- CRT_DCR with index larger than 1 << 21 occasionally collided with the CRT_SW_RESERVED address.
- An issue that caused the TX queue to get into an unresponsive state when the VF rate limiter was set.

Additional Fixes included in version 16.31.1014:

- Disabled the CNP counter "rp_cnp_ignored " (triggered by OOS (out-of-sequence)) when all ports are IB.
- Fixed the TMP421 sensor temperature reporting.
- Fixed the rate select mechanism in QSFP modules.
- Fixed classification issues for "Passive" cables to be more robust.
- Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.

Enhancements

Firmware for the following devices are updated to 2.42.5044 :

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

Firmware for the following devices are updated to 14.31.1200:

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

Firmware for the following devices are updated to 14.31.1200:

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

Firmware for the following device is updated to 16.31.1014:

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

New features and changes in version 14.31.1200:

- NVconfig per Port for a Specific Finisar Module: Added a new NVconfig per Port for a specific Finisar module. This new NVconfig sets the port to work in AN mode and sets the module to No DME. This change does not affect the speed logic, only the FEC logic (FEC override).
Note: If the port does not go up, switch to Force mode.

New features and changes in version 16.31.1014:

- o NIC scheduling feature support has been disabled for non-privileged functions.
- o Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- o Added support for Enabling/Disabling NIC and RDMA (port/partition) via the UEFI HII system settings.
Note: Values set in this option only take effect when is Ethernet mode.
- o Increased the maximum number of MSIX per VF to 127.
- o Asymmetrical MSIX Configuration: This feature allows the device to be configured with a different number of MSIX vectors per physical PCI functions.
To use this feature, please follow these steps:
 - Clear NUM_PF_MSIX_VALID to disable global symmetrical MSIX configuration.
 - Set PF_NUM_PF_MSIX_VALID to enable asymmetrical per Physical Function MSIX configuration.
 - Configure PF_NUM_PF_MSIX per physical PCI function.
- o Support for RDMA partitioning and RDMA counters in IB mode.
- o A new bit ("data_in_order") was added to query the QP and allow a process/library to detect when the AR is enabled.
- o A new flex parser to support GENEVE hardware offload and ICMP.
- o When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.
Pages are returned by the driver to the kernel without issuing the MANAGE_PAGES commands to the firmware.
- o Enabled UID 0 to create resources with UMEM (User Memory).
- o Receiving and sending native IB packets from/to the software (including all headers) via raw IBL2 QPs.
- o RX RDMA NIC flow table on an IB port. Now the software can steer native IB packets to raw IB receive queues according to the DLID and the DQPN.

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|---|----------------|
| 779793-B21 | HPE Ethernet 10Gb 2-port 546SFP+ Adapter | HP_12001110023 |
| 779799-B21 | HPE 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 |
| 874253-B21 | HPE Ethernet 100Gb 1-port 842QSFP28 Adapter | HPE000000014 |

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: 1.0.9 **(Recommended)**
Filename: CP047547.compsig; CP047547.zip

Fixes

Following issues have been fixed in firmware version 12.28.2006:

- o An issue that caused the DCR to be destroyed before the retry option managed to work when the retry timeout is too big. In this case the DCR' time-to-live was increased, and the maximum retry timeout was decreased.
- o Increased PHY power consumption limit to 1.5w.
- o An issue that caused PortCounters.PortRcvErr / PPCNT.infiniband_counters.PortRcvErr not to report port icrc errors.

The following issues have been fixed in version 16.31.1200:

- o TX PRBS was not changed even after reconfiguring it, all PRBS mode were enabled in test mode.
- o An assert that was caused when trying to open 1024 functions on the device and the maximum number of functions was 1023.
- o Occasional performance issues related to RC QPs using E2E-credits (not connected to SRQ and doing send/receive traffic) when the ROCE_ACCL tx_window was enabled.
- o A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- o A rare issue that caused RX pipe to hang.
- o The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.
- o CRT_DCR with index larger than 1 << 21 occasionally collided with the CRT_SW_RESERVED address.
- o An issue that caused the TX queue to get into an unresponsive state when the VF rate limiter was set.

Additional Fixes included in version 16.31.1200:

- o Disabled the CNP counter "rp_cnp_ignored " (triggered by OOS (out-of-sequence)) when all ports are IB.
- o Fixed the TMP421 sensor temperature reporting.
- o Fixed the rate select mechanism in QSFP modules.
- o Fixed classification issues for "Passive" cables to be more robust.
- o Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.

Enhancements

Firmware for the following devices are updated to 12.28.2006:

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

New Feature and Changes in Version 12.28.2006:

- o Increased the maximum XRQ number to 512.

Firmware for the following devices are updated to 16.31.1200:

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

New features and changes included in version 16.31.1200:

- o NIC scheduling feature support has been disabled for non-privileged functions.
- o Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.

- o support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- o Increased the maximum number of MSIX per VF to 127.
- o Asymmetrical MSIX Configuration: This feature allows the device to be configured with a different number of MSIX vectors per physical PCI functions. To use this feature, please follow these steps:
 - Clear NUM_PF_MSIX_VALID to disable global symmetrical MSIX configuration.
 - Set PF_NUM_PF_MSIX_VALID to enable asymmetrical per Physical Function MSIX configuration.
 - Configure PF_NUM_PF_MSIX per physical PCI function.
- o RDMA partitioning and RDMA counters in IB mode.
- o Added a new bit ("data_in_order") to query the QP and allow a process/library to detect when the AR is enabled.
- o A new flex parser to support GENEVE hardware offload and ICMP.
- o When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.
- o Enabled UID 0 to create resources with UMEM (User Memory).
- o Receiving and sending native IB packets from/to the software (including all headers) via raw IBL2 QPs.
- o RX RDMA NIC flow table on an IB port. Now the software can steer native IB packets to raw IB receive queues according to the DLID and the DQPN.
- o Added a new NVconfig per Port for a specific Finisar module. This new NVconfig sets the port to work in AN mode and sets the module to No DME. This change does not affect the speed logic, only the FEC logic (FEC override). **Note:** If the port does not go up, switch to Force mode.

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) ConnectX6 devices on VMware ESXi 6.5
 Version: 1.0.2 **(Recommended)**
 Filename: CP047568.compsig; CP047568.zip

Important Note!

ConnectX-6 VPI supports having one port as InfiniBand and the other port as Ethernet according to the following matrix of combinations.

| Port #2 - InfiniBand | | | | |
|----------------------|------------|---------------|---------------|-----------|
| Port #1 – Ethernet | HDR/HDR100 | EDR | FDR | QDR |
| 50GbE | supported | not supported | not supported | supported |
| 100GbE/25GbE | supported | not supported | not supported | supported |
| 40GbE/10GbE | supported | not supported | not supported | supported |
| 1GbE | supported | not supported | not supported | supported |

| Port #2 - Ethernet | | | | |
|----------------------|---------------|---------------|---------------|---------------|
| Port #1 - InfiniBand | 50GbE | 100GbE/25GbE | 40GbE/10GbE | 1GbE |
| HDR / HDR100 | supported | supported | not supported | supported |
| EDR | supported | supported | not supported | supported |
| FDR | not supported | not supported | not supported | not supported |
| QDR/SDR | supported | supported | not supported | supported |

Prerequisites

Use iLO5 firmware version 2.30 or higher with ConnectX6 firmware version 20.27.6008. Thermal sensor reporting on the adapter will not be functional with older versions of iLO5 firmware.

Fixes

The following issues have been fixed in version 20.31.1014:

- o Occasional performance issues related to RC QPs using E2E-credits (not connected to SRQ and doing send/receive traffic) when the ROCE_ACCL tx_window was enabled.
- o A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- o A rare issue that caused RX pipe to unresponsive state.
- o The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.
- o CRT_DCR with index larger than 1 << 21 occasionally collided with the CRT_SW_RESERVED address.
- o An issue that caused the TX queue to get into an unresponsive state when the VF rate limiter was set.
- o In InfiniBand non-virtualization system, due to a corrupted steering root, traffic fails after a warm reboot.

Additional Fixes included in version 20.31.1014:

- o Disabled the CNP counter "rp_cnp_ignored " (triggered by OOS (out-of-sequence)) when all ports are IB.
- o Fixed the TMP421 sensor temperature reporting.
- o Fixed the rate select mechanism in QSFP modules.
- o Fixed classification issues for "Passive" cables to be more robust.
- o Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.
- o Improved PortXmitWait IB counter accuracy.

Enhancements

Firmware for the following devices are updated to 20.31.1014:

HPE InfiniBand HDR/Ethernet 200Gb 1-port 940QSFP56 x16 Adapter - P06154-B21
HPE InfiniBand HDR100/Ethernet 100Gb 1-port 940QSFP56 x16 Adapter - P06250-B21
HPE InfiniBand HDR100/Ethernet 100Gb 2-port 940QSFP56 x16 Adapter - P06251-B21

New features and changes included in version 20.31.1014:

- o NIC scheduling feature support has been disabled for non-privileged functions.
- o Implemented a new NC-SI command `get_debug_info` to get `mstdump` via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- o Updated the NC-SI speed reporting output to support 200GbE speed. Now when running the NC-SI command, the output presents 200GbE speed as well.
- o support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- o Increased the maximum number of MSIX per VF to 127.
- o Asymmetrical MSIX Configuration: This feature allows the device to be configured with a different number of MSIX vectors per physical PCI functions. To use this feature, please follow these steps:
 - Clear `NUM_PF_MSIX_VALID` to disable global symmetrical MSIX configuration.
 - Set `PF_NUM_PF_MSIX_VALID` to enable asymmetrical per Physical Function MSIX configuration.
 - Configure `PF_NUM_PF_MSIX` per physical PCI function.
- o RDMA partitioning and RDMA counters in IB mode.
- o Added a new bit ("`data_in_order`") to query the QP and allow a process/library to detect when the AR is enabled.
- o A new flex parser to support GENEVE hardware offload and ICMP.
- o When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.
- o Enabled UID 0 to create resources with UMEM (User Memory).
- o Receiving and sending native IB packets from/to the software (including all headers) via raw IBL2 QPs.
- o RX RDMA NIC flow table on an IB port. Now the software can steer native IB packets to raw IB receive queues according to the DLID and the DQPN.

Supported Devices and Features

| HPE Part Number | Device Name | PSID |
|-----------------|---|---------------|
| P06154-B21 | HPE InfiniBand HDR/Ethernet 200Gb 1-port 940QSFP56 x16 Adapter | HPE0000000034 |
| P06250-B21 | HPE InfiniBand HDR100/Ethernet 100Gb 1-port 940QSFP56 x16 Adapter | HPE0000000035 |
| P06251-B21 | HPE InfiniBand HDR100/Ethernet 100Gb 2-port 940QSFP56 x16 Adapter | HPE0000000036 |

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

Version: 1.0.7 **(Recommended)**

Filename: CP045902.compsig; CP045902.zip

Important Note!

Known Issues in firmware 2.42.5000, 2.42.5056, 2.42.5700:

- o When using the Quad Small Form-factor Pluggable (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.
- o Enabling/disabling `cq_timestamp` using `mlxconfig` is not supported.
- o 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.
- o In SR-IOV setup, using `mlxconfig` when the Packet Filter (PF) is passed through to a VM requires a reboot of the Hypervisor.
- o Downgrading from v2.30.8000 or later to an earlier version than 2.30.8000 requires server reboot.
Workaround: Reboot the server.
- o 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.
Workaround: Please use the GUID value returned by the fabric/driver utilities (not `0xffff`).
- o SBR should be asserted for a minimum of 50 milliseconds for the ConnectX-3 adapters.
- o On Pilot1 SL230, PCIe link occasionally does not come up at Gen3 speed.
- o RHEL6.3 Inbox driver causes kernel panic when SRIOV is enabled on VPI cards due to driver compatibility issue.
Workaround: Set the "`do_ sense=false`" parameter in the `[IB_TAB]` i.
- o In advanced steering mode, side band management connectivity may be lost when having more than 8 QP per mcg.
- o 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.
- o Mellanox Firmware Tools (MFT) 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'`
- o Cable Info MAD reports a wrong cable info when using the MC2210411-SR4 module.
- o Gen2 failure at temperature sweep up to 10C/min (for MT27518A1-FDIR-BV only)..
- o PCIe Gen2 link unstable at temperature sweep of 10C/min for MT27518A1-FDIR-BV.
- o Bloom filter is currently not supported.
- o 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.
- o DMFS should not be enabled when working with InfiniBand on `MLNX_OFED-2.0.3`
- o 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.
- o Virtual Product Data (VPD) read-only fields are writable.
Workaround: Do not write to read-only fields if you wish to preserve them.
- o When working in Virtual Path Identifier (VPI) mode with port1 FDR and port2 40G, error counters misbehave and increase rapidly.
- o Setting the device to 128Byte CQ/EQ stride will cause misbehavior of sideband management resulting in communication loss.
- o CQ and EQ cannot be configured to different stride sizes.
- o 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: 1. Unplug the cable from the switch 2. Restart driver 3. Change the protocol via the appropriate tools.
- o Adapter card MCX349A-XCCN may experience longer linkup times of a few seconds with specific switches.
- o Adapter card MCX349A-XCCN does not respond to `ethtool "identify"` command (`ethtool -p/--identify`).
- o Remote Desktop Protocol (RDP) over IPv6 is currently not functional.
Workaround: Set the default RoCE mode in the software to RoCE v2 (also when not using RoCE)
- o Sniffer QP cannot be removed from the regular rule after adding the QP with insertion scheme equals to "push to that rule".
- o 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.
- MAC address that are set from the OS using `ifconfig` are not reflected in the OCBB buffer.
- The adapter card cannot raise a 10G link vs. a 40GE capable switch port in C7000 enclosure. It can raise a 1G Link and only if the switch port allows it.
- MTUSB communication via I2C header on primary I2C bus is supported only in live-fish mode.

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 2.42.5056:

- Fixed an issue that resulted in reading from invalid I/O address on handover from UEFI boot to OS boot, when a port was configured as InfiniBand on a VPI adapter device.

Enhancements

Firmware for the following devices are updated to 2.42.5000:

764282-B21
764286-B21

Firmware for the following devices are updated to 2.42.5056:

764283-B21
764284-B21

Firmware for the following device is updated to 2.42.5700:

764285-B21

New features in firmware version 2.42.5000:

- 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.
- Improved the debug ability for command timeout cases.

New features and changes in firmware version 2.42.5700.

- Modified the `mlx_cmd_get_mlx_link_status` command return value to return "Link Type = Ethernet" in Ethernet adapter cards.

Supported Devices and Features

Supported Devices:

| HPE Part Number | Device Name | PSID |
|-----------------|---|----------------|
| 764282-B21 | HPE InfiniBand QDR/Ethernet 10Gb 2-port 544+M Adapter | HPE_1350110023 |
| 764283-B21 | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+M Adapter | HPE_1360110017 |
| 764284-B21 | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter | HPE_1370110017 |
| 764285-B21 | HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+FLR-QSFP Adapter | HPE_1380110017 |
| 764286-B21 | HPE InfiniBand QDR/Ethernet 10Gb 2-port 544+FLR-QSFP Adapter | HPE_1390110023 |

Online Firmware Upgrade Utility (ESXi 6.5) for Mellanox Open Ethernet cards

Version: 1.0.5 **(Recommended)**

Filename: CP046594.compsig; CP046594.zip

Important Note!

On Adapter Firmware rewrite scenario, SUM will always discover the Mellanox Open adapter firmware smart component as applicable and select it for deployment If the server iLO5 firmware version is older than 2.30.

Prerequisites

Use iLO5 firmware version 2.30 or higher with ConnectX4/ConnectX5 firmware version 14.27.4000/16.27.2008 respectively. Thermal sensor reporting on the adapter will not be functional with older versions of iLO5 firmware.

Fixes

The following issues have been fixed in version 14.31.1014:

- TX PRBS was not changed even after reconfiguring it, all PRBS mode were enabled in test mode.
- A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.

Additional Fixes included in version 14.31.1014:

- Fixed the rate select mechanism in QSFP modules.
- Fixed classification issues for "Passive" cables to be more robust.
- Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.

The following issues have been fixed in version 14.31.1200:

- TX PRBS was not changed even after reconfiguring it, all PRBS mode were enabled in test mode.
- A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.

Additional Fixes included in version 14.31.1200:

- Fixed the rate select mechanism in QSFP modules.
- Fixed classification issues for "Passive" cables to be more robust.
- Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.

The following issues have been fixed in version 16.31.1014:

- TX PRBS was not changed even after reconfiguring it, all PRBS mode were enabled in test mode.
- An assert that was caused when trying to open 1024 functions on the device and the maximum number of functions was 1023.
- Occasional performance issues related to RC QPs using E2E-credits (not connected to SRQ and doing send/receive traffic) when the ROCE_ACCL tx_window was enabled.
- A fatal error occurred and eventually resulted in the HCA to get into an unresponsive state when a packet was larger than a strided receive WQE that was being scattered.
- A rare issue that caused RX pipe to hang.
- The resource number size (a 64 bit number) was overwritten with a 32 bit number and erased the high bits when de-allocating the resource number.
- CRT_DCR with index larger than 1 < 21 occasionally collided with the CRT_SW_RESERVED address.
- An issue that caused the TX queue to get into an unresponsive state when the VF rate limiter was set.

Additional Fixes included in version 16.31.1014:

- Disabled the CNP counter "rp_cnp_ignored " (triggered by OOS (out-of-sequence)) when all ports are IB.
- Fixed the TMP421 sensor temperature reporting.
- Fixed the rate select mechanism in QSFP modules.
- Fixed classification issues for "Passive" cables to be more robust.
- Initialized the rate table in the static configuration so it will be configured at the link-not-up scenarios.

Enhancements

Firmware for the following devices is updated to 14.31.1014:

P21930-B21 (HPE Ethernet 10Gb 2-port SFP+ MCX4121A-XCAT Adapter)

Firmware for the following devices is updated to 14.31.1200:

P11341-B21 (HPE Ethernet 10Gb 2-port SFP+ MCX4621A-ACAB OCP3 Adapter)

Firmware for the following devices is updated to 16.31.1014:

P21927-B21 (HPE Ethernet 100Gb 2-Port QSFP28 MCX516A-CCHT Adapter)

New features and changes included in version 14.31.1014:

- Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- Increased the maximum number of MSIX per VF to 127.
- Added a new bit ("data_in_order") to query the QP and allow a process/library to detect when the AR is enabled.
- A new flex parser to support GENEVE hardware offload and ICMP.
- When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.

New features and changes included in version 14.31.1200:

- Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- Increased the maximum number of MSIX per VF to 127.
- Added a new bit ("data_in_order") to query the QP and allow a process/library to detect when the AR is enabled.
- A new flex parser to support GENEVE hardware offload and ICMP.
- When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.
- Added a new NVconfig per Port for a specific Finisar module. This new NVconfig sets the port to work in AN mode and sets the module to No DME. This change does not affect the speed logic, only the FEC logic (FEC override). Note: If the port does not go up, switch to Force mode.

New features and changes included in version 16.31.1014:

- NIC scheduling feature support has been disabled for non-privileged functions.
- Implemented a new NC-SI command get_debug_info to get mstdump via the NC-SI protocol to debug a device if the PCI link fails for any given reason.
- support for Enabling/Disabling NIC and RDMA (port/partition) was included via the UEFI HII system settings.
- Increased the maximum number of MSIX per VF to 127.
- Asymmetrical MSIX Configuration: This feature allows the device to be configured with a different number of MSIX vectors per physical PCI functions. To use this feature, please follow these steps:
 - Clear NUM_PF_MSIX_VALID to disable global symmetrical MSIX configuration.
 - Set PF_NUM_PF_MSIX_VALID to enable asymmetrical per Physical Function MSIX configuration.

- o Configure PF_NUM_PF_MSIX per physical PCI function.
- o RDMA partitioning and RDMA counters in IB mode.
- o Added a new bit ("data_in_order") to query the QP and allow a process/library to detect when the AR is enabled.
- o A new flex parser to support GENEVE hardware offload and ICMP.
- o When the non-page-supplier-FLR function is initiated, the firmware triggers a page event to the page supplier to indicate that all pages should be returned for the FLR function.
- o Enabled UID 0 to create resources with UMEM (User Memory).
- o Receiving and sending native IB packets from/to the software (including all headers) via raw IBL2 QPs.
- o RX RDMA NIC flow table on an IB port. Now the software can steer native IB packets to raw IB receive queues according to the DLID and the DQPN.

Supported Devices and Features

| HPE Part Number | Mellanox Ethernet Only Adapters | PSID |
|-----------------|---|---------------|
| P21930-B21 | HPE Ethernet 10Gb 2-port SFP+ MCX4121A-XCHT Adapter | MT_0000000414 |
| P11341-B21 | HPE Ethernet 10Gb/25Gb 2-port SFP28 MCX4621A-ACAB OCP3 Adapter (P11341-B21) | MT_0000000238 |
| P21927-B21 | HPE Ethernet 100Gb 2-port QSFP28 MCX516A-CCHT Adapter | MT_0000000417 |

Firmware - NVDIMM

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Firmware Package - 16GB NVDIMM-N DDR4-2666

Version: 1.04 (C) **(Recommended)**

Filename: nvdimm-16gb_1.04.fwpgk

Enhancements

- o Add Microsoft Windows Server 2022 support.
- o Add VMWare vSphere 6.5 U3 support.

Supported Devices and Features

This package supports the following Memory Device:

- o HPE 16GB NVDIMM Single Rank x4 DDR4-2666 Module Kit

Firmware package for HPE Persistent Memory featuring Intel Optane DC Persistent Memory on HPE Gen10 Plus Servers

Version: 02.02.00.1553 (B) **(Recommended)**

Filename: dcpmm_02.02.00.1553.fwpgk

Important Note!

This software package contains Intel Optane DC Persistent Memory Firmware version 2.2.0.1553

Fixes

This product corrects an issue that three different capacities of Intel Optane DC Persistent Memory are identifiable with three individual device GUID.

Supported Devices and Features

This package supports the following Memory Devices:

- o HPE 512GB 3200 Persistent Memory Kit featuring Intel Optane DC Persistent Memory
- o HPE 256GB 3200 Persistent Memory Kit featuring Intel Optane DC Persistent Memory
- o HPE 128GB 3200 Persistent Memory Kit featuring Intel Optane DC Persistent Memory

Firmware package for HPE Persistent Memory featuring Intel Optane DC Persistent Memory on HPE Gen10 Servers

Version: 01.02.00.5446 **(Recommended)**

Filename: dcpmm_01.02.00.5446.fwpgk

Important Note!

This software package contains Intel Optane DC Persistent Memory Firmware version 1.2.0.5446

Enhancements

- o Add VMWare ESXi 6.5 U3 support
- o Add Microsoft Windows Server 2022 support

Supported Devices and Features

This package supports the following Memory Devices:

- o HPE 512GB 2666 Persistent Memory Kit featuring Intel Optane DC Persistent Memory
- o HPE 256GB 2666 Persistent Memory Kit featuring Intel Optane DC Persistent Memory
- o HPE 128GB 2666 Persistent Memory Kit featuring Intel Optane DC Persistent Memory

Online Flash Component for Linux - 16GB NVDIMM-N DDR4-2666

Version: 1.04 (C) **(Optional)**

Filename: RPMS/x86_64/firmware-nvdimm-16gb-1.04-3.1.x86_64.compsig; RPMS/x86_64/firmware-nvdimm-16gb-1.04-3.1.x86_64.rpm

Enhancements

- Add RHEL8.4 support.
- Add SLES15 SP3 support.
- Add VMWare ESXi 7.0 U3 support.
- Add VMWare vSphere 6.5 U3 support.

Supported Devices and Features

This package supports the following Memory Device:

- HPE 16GB NVDIMM Single Rank x4 DDR4-2666 Module Kit

Firmware - Storage Controller

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

Version: 5.04 (C) **(Recommended)**

Filename: CP046572.compsig; CP046572.md5; CP046572.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 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 fixes were incorporated in this version:

- The Enabled-ClusterS2D command now completes successfully when executed on a SATA drive within a D3610 disk enclosure for a NonStop solution.
- The smart carrier, which is the drive case for SAS drives, now authenticates in the D3610/D3710 drive enclosure.
- Added new 7-segment error codes E0 and E1 to report issues with Fan modules A and B, respectively. These new codes only apply to the D3610/D3710 and only display when running firmware 5.04.
- If the storage enclosure processor within the I/O module fails, a hard reset (power down and then power up) is executed to ensure the processor comes back online.

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

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 :

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

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

Version: 2.74 (J) **(Recommended)**

Filename: CP046573.compsig; CP046573.md5; CP046573.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:

- Temperature sensors logic inside gSEP model and SES database
- When an IOM is pulled the surviving IOM reports false critical temperatures

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

Supported Devices and Features

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

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

HPE D8000 12Gb SAS Disk Enclosure ROM Flash Component for VMware (ESXi)

Version: 0118 (**Recommended**)

Filename: CP049184.md5; CP049184.zip; CP049184_part1.compsig; CP049184_part2.compsig

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 D8000(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/D8000.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/D8000.log and flash summary is logged to /var/cpq/Component.log.

Fixes

The following fixes were incorporated in this version:

- User was not able to collect ddump logs.
- Logical Fault LED remains ON even after clearing the fault using "reboot soft"
- Vendor ID showed as "DEFAULT" for D8000 expander in SSA CLI enclosure detail

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

Supported Devices and Features

The D8000 Enclosure can be attached to any of the following HPE Storage Controllers and Host Bus Adapters :

- HPE Smart Array P408e-p Controller
- HPE Smart Array E208e-p Controller

HPE SR932i-p and SR416i-a Gen10 Plus Controllers

Version: 03.01.04.072 (**Recommended**)

Filename: HPE_SRXXX_Gen10P_3.01.04.072.fwpkg

Fixes

- A potential controller lockup issue during a workload to a device configured in a RAID volume which is in process of failing.
- A potential controller lockup issue when a SATA drive is being failed with IO outstanding and the drive fails to respond to Identify Device after reset.
- Drive Unique ID are the same value for all unconfigured NVMe drives.
- Displaying truncated Model and FW version for Samsung NVMe drives.
- Background surface scan may not start if all the IOs to a volume use the SSD SmartPath.
- The reported link rate for NVMe drives is incorrectly reported when the desired port width is not the same as the actual port width linked up.
- SSD Smartpath is not re-enabled after a volume transformation has completed.
- The FAULT LED on an HPE UBM carrier is not lit if the drive fails during initial discovery.
- Reduced performance when the host is submitting large sequential IO streams at high queue depth.
- WRITE and READ fails on a RAID6 volume where it could have completed successfully on certain error recovery scenarios.
- Asynchronous host notify events may not be captured if the host has not consumed a previous event with similar details.
- A potential miscompare when a RAID-1 SmartPath write request encounters an error or when SmartPath is spuriously disabled with IO outstanding to a volume comprised of SATA devices.
- The drive resource Health/State shows as Critical/Absent when the drive in the array is hot removed.
- Failed HBA drives are not shown in HII.
- An error was observed while selecting the edit SmartCache logical drive option when the SmartCache logical drive was in degraded mode.
- Migrate Logical drive is displaying an error message for RAID 1(Triple) when trying to migrate strip size for the logical drive.
- A RSOD issue when the server is booted in legacy mode with UEFI driver debug enabled.
- Correct redfish storage properties(Drive.DurableNameFormat ,Drive.Operations and Port.PortProtocol).

Enhancements

- Added SSD Wear Gauge values for NVMe devices.

- Added the ability to better detect redundant firmware image corruption of several non-executable image components.
- Added support for StorageDevice RDE Alerts.
- Added support for Drive Last Failure reason status in the HII disk information menu.
- Improved performance of large sequential writes.

Supported Devices and Features

Supported Devices - SmartRAID SR932i-p and SR416i-a

Online ROM Flash Component for ESXi (x86) - HPE Smart Array P824i-p MR Gen10
Version: 24.23.0-0043 (B) **(Recommended)**
Filename: CP044443.compsig; CP044443.zip

Enhancements

Added support for VMware ESXi 7.0

Online ROM Flash Component for VMware ESXi - HPE 12Gb/s SAS Expander Firmware for HPE Smart Array Controllers and HPE HBA Controllers
Version: 5.10 **(Recommended)**
Filename: CP049281.compsig; CP049281.zip

Important Note!

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

Fixes

- Valid flag is always set to true initially so that CRC check can be performed on initstring partition and test if it is really valid.
 - Move Smart Carrier Authentication to later in the boot process and move the Exception Dumper task to earlier in the process in order to support Winbond alternative Flash
-

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
-

Online ROM Flash Component for VMware ESXi - HPE Apollo 2000 Gen10 Plus Backplane Expander FW
Version: 1.27 **(Recommended)**
Filename: CP046386.compsig; CP046386.zip

Enhancements

Initial Release

Online ROM Flash Component for VMware ESXi - HPE Apollo 4200 Backplane Expander Firmware
Version: 1.79 (C) **(Recommended)**
Filename: CP047952.zip; CP047952_part1.compsig; CP047952_part2.compsig

Important Note!

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

Enhancements

Update Note with publish requirement

Online ROM Flash Component for VMware ESXi - HPE Apollo 4200 Gen10 Plus Backplane Expander Firmware
Version: 0.39 (B) **(Recommended)**
Filename: CP049505.compsig; CP049505.zip

Prerequisites

- Before upgrading to 0.39(B), please flash to the transition version 0.39 first by standalone update approach to activate the new PID naming.
- 0.39(B) is the minimum version for Gen10plus 4200 expander FW.
- **0.39 transition version link:** <https://www.hpe.com/global/swpublishing/MTX-baec686eb389427aa933bbf9f0>

Fixes

- Modify Product ID to "A4200 Gen10P LFF" and "A4200 Gen10P SFF" to distinguish the different generation expander backplane.
-

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

- o Added HPE Smart Array P824i-p controller support

Online ROM Flash Component for VMware ESXi - HPE SAS Expander Firmware for HPE D2500sb Storage Blade

Version: 2.02 (A) **(Recommended)**

Filename: CP044325.compsig; CP044325.zip

Important Note!

- o 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 ESXi 7.0 support.

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 P416i-e-m SR Gen10

Version: 4.11 **(Recommended)**

Filename: CP047425.compsig; CP047425.zip

Fixes

- o Fixed an issue where SSD SmartPath is not enabled on logical drives created on the same array in certain scenarios.
- o Fixed a problem where WRITE and READ fails with URE on a RAID6 volume where it could have completed successfully in certain error recovery scenarios.
- o Fixed a problem where events were not getting logged in certain scenarios.
- o Fixed an issue where a Windows memory dump process was taking longer than 30 minutes.
- o Fixed a problem in Gen10 server where FAULT LED was not turning on for the drives failing during device discovery.
- o Fixed a problem where the critical event "Controller memory ECC error limit exceeded" was reported in the AHS IML log after upgrading to 3.53 B0 firmware build.
- o Fixed a problem where the host WRITE I/O failed on the SmartCache logical drive with UREs present on the primary logical drive.
- o Fixed an issue where the controller may be non-responsive after drive failure with SSD SmartPath enabled under a high queue depth workload.
- o Fixed a performance issue when the host is submitting large sequential IO streams at high queue depth.
- o Fixed an issue where OS filesystem is not available after making configuration changes in HII.
- o Fixed an issue where error was observed while selecting edit SmartCache Logical drive option when SmartCache logical drive is in Degraded mode.
- o Fixed an issue where the serial output buffer could return an incorrect data size if the entire log has been filled and wrapped around.
- o Fixed an issue where firmware version is listed as null string in the firmware information page

Firmware - Storage Fibre Channel

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

Version: 2021.10.01 **(Recommended)**

Filename: CP046801.compsig; CP046801.zip

Important Note!

This Firmware package contains following firmware versions:

| Adapter | Speed | Universal Boot Image | Firmware | UEFI | Boot Bios |
|---|-------|----------------------|-------------|-------------|------------|
| HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter | 16Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |
| HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter | 16Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |
| HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter | 32Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |
| HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter | 32Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |
| HPE SN1610E 32Gb Single Port Fibre Channel Host Bus Adapter | 32Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |
| HPE SN1610E 32Gb Dual Port Fibre Channel Host Bus Adapter | 32Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |

Prerequisites

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

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

Enhancements

This Firmware package contains following firmware versions:

| Adapter | Speed | Universal Boot Image | Firmware | UEFI | Boot Bios |
|---|-------|----------------------|-------------|-------------|------------|
| HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter | 16Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |
| HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter | 16Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |
| HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter | 32Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |
| HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter | 32Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |
| HPE SN1610E 32Gb Single Port Fibre Channel Host Bus Adapter | 32Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |
| HPE SN1610E 32Gb Dual Port Fibre Channel Host Bus Adapter | 32Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |

Supported Devices and Features

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

16Gb FC Adapter:

- HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter

32Gb FC Adapter:

- HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter
- HPE SN1610E 32Gb Dual port Fibre Channel Host Bus Adapter
- HPE SN1610E 32Gb Single port Fibre Channel Host Bus Adapter

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

Version: 2021.10.01 (**Recommended**)

Filename: CP046785.compsig; CP046785.zip

Important Note!

This Firmware package contains following firmware versions:

| Adapter | Speed | Universal Boot Image | Firmware | UEFI | Boot Bios |
|---|-------|----------------------|-------------|-------------|------------|
| HPE 16Gb LPe1605 Fibre Channel Host Bus Adapter for BladeSystem c-Class | 16Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |

Prerequisites

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

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

Enhancements

This Firmware package contains following firmware versions:

| Adapter | Speed | Universal Boot Image | Firmware | UEFI | Boot Bios |
|---|-------|----------------------|-------------|-------------|------------|
| HPE 16Gb LPe1605 Fibre Channel Host Bus Adapter for BladeSystem c-Class | 16Gb | 12.8.528.12 | 12.8.528.12 | 12.8.528.10 | 12.8.502.0 |

Supported Devices and Features

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

16Gb FC Adapter:

- HPE 16Gb LPe1605 Fibre Channel Host Bus Adapter for BladeSystem c-Class

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

Version: 2021.10.01 (**Recommended**)

Filename: CP046820.compsig; CP046820.zip

Important Note!

This Firmware package contains following firmware versions:

| Adapter | Speed | MBI | Firmware | UEFI | Boot Bios |
|--|-------|----------|----------|------|-----------|
| HPE SN1100Q 16GB Dual Port PCIe Fibre Channel Host Bus Adapter | 16Gb | 1.75.07 | 9.06.02 | 7.04 | 3.64 |
| HPE SN1100Q 16GB Single Port PCIe Fibre Channel Host Bus Adapter | 16Gb | 1.75.07 | 9.06.02 | 7.04 | 3.64 |
| HPE SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter | 32Gb | 1.75.07 | 9.06.02 | 7.04 | 3.64 |
| HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter | 32Gb | 1.75.07 | 9.06.02 | 7.04 | 3.64 |
| HPE SN1610Q 32Gb Dual Port Fibre Channel Host Bus Adapter | 32Gb | 02.05.03 | 09.06.02 | 7.11 | 0.0 |
| HPE SN1610Q 32Gb Single Port Fibre Channel Host Bus Adapter | 32Gb | 02.05.03 | 09.06.02 | 7.11 | 0.0 |

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/>

Enhancements

This Firmware package contains following firmware versions:

| Adapter | Speed | MBI | Firmware | UEFI | Boot Bios |
|--|-------|----------|----------|------|-----------|
| HPE SN1100Q 16GB Dual Port PCIe Fibre Channel Host Bus Adapter | 16Gb | 1.75.07 | 9.06.02 | 7.04 | 3.64 |
| HPE SN1100Q 16GB Single Port PCIe Fibre Channel Host Bus Adapter | 16Gb | 1.75.07 | 9.06.02 | 7.04 | 3.64 |
| HPE SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter | 32Gb | 1.75.07 | 9.06.02 | 7.04 | 3.64 |
| HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter | 32Gb | 1.75.07 | 9.06.02 | 7.04 | 3.64 |
| HPE SN1610Q 32Gb Dual Port Fibre Channel Host Bus Adapter | 32Gb | 02.05.03 | 09.06.02 | 7.11 | 0.0 |

| | | | | | |
|---|------|----------|----------|------|-----|
| HPE SN1610Q 32Gb Single Port Fibre Channel Host Bus Adapter | 32Gb | 02.05.03 | 09.06.02 | 7.11 | 0.0 |
|---|------|----------|----------|------|-----|

Supported Devices and Features

This firmware supports the following HPE adapters:

16Gb Fibre Channel Host Bus Adapter:

- o HPE SN1100Q 16GB Dual Port PCIe Fibre Channel Host Bus Adapter
- o HPE SN1100Q 16GB Single Port PCIe Fibre Channel Host Bus Adapter

32Gb Fibre Channel Host Bus Adapter:

- o HPE SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter
- o HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter
- o HPE SN1610Q 32Gb Dual Port Fibre Channel Host Bus Adapter
- o HPE SN1610Q 32Gb Single Port Fibre Channel Host Bus Adapter

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

Version: 2021.10.01 (**Recommended**)

Filename: CP046776.compsig; CP046776.zip

Important Note!

Release Notes:

[HPE QLogic Adapter Release Notes](#)

This Firmware package contains following firmware versions:

| Adapter | Speed | MBI | Firmware | UEFI | Boot Bios |
|---|-------|---------|----------|------|-----------|
| HPE QMH2672 16Gb Fibre Channel Host Bus Adapter for c-Class BladeSystem | 16Gb | 6.04.04 | 8.08.232 | 7.04 | 3.43 |

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/>

Enhancements

Updated the Firmware/BIOS/UEFI packages for 16 Gb products.

| Adapter | Speed | MBI | Firmware | UEFI | Boot Bios |
|---|-------|---------|----------|------|-----------|
| HPE QMH2672 16Gb Fibre Channel Host Bus Adapter for c-Class BladeSystem | 16Gb | 6.04.04 | 8.08.232 | 7.04 | 3.43 |

Supported Devices and Features

This version of the enablement kit supports the following devices:

16Gb Fibre Channel Host Bus Adapter:

- o HPE QMH2672 16Gb Fibre Channel Host Bus Adapter for c-Class BladeSystem

Software - Management

HPE Management Bundle Smart Component for ESXi 6.5 for Gen10 and Gen10 Plus Servers

Version: 2021.10.01 (**Recommended**)

Filename: cp047523.compsig; cp047523.zip

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Fixes

Agentless Management Service

- o Fix excessive poll failure logging on iLO reset
- o Applied fixes to net-snmp open source code for CVE-2018-18065, CVE-2018-18066, CVE-2015-5621

iLO Driver

- o Fixed driver unload function to allow controller to function properly on reload.

Enhancements

Agentless Management Service

- o Added support for new cpqIdeAtaDiskCapacityHighBytes and cpqIdeAtaDiskCapacityLowBytes MIB OIDs
- o Added support for hrSystemUptime MIB OID
- o Added support for cpqIdeAtaDiskSSDWearStatusChange trap
- o Added support for Pensando NIC devices

Software - Storage Controller

HPE MegaRAID Storage Administrator StorCLI for VMware6.5

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Version: 2021.04.00 (**Recommended**)
Filename: cp045835.compsig; cp045835.zip

Enhancements

- Added support for the Apollo 4510 system

Software - Storage Fibre Channel

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HPE QLogic Fibre Channel driver component for VMware vSphere 6.5
Version: 2021.10.01 (**Recommended**)
Filename: cp046817.compsig; cp046817.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:

- Fixed an unwanted behavior where Get Port Speed Capabilities (GPSC) failures were leading to intelligent interleaved direct memory access (IIDMA) for target being set to 1GB/s. This is described in [Advisory: HPE Host Bus Adapters - HPE Platforms Running VMware ESXi 6.5 / 6.7 / 7.0 and Configured With Certain HPE Host Bus Adapters May Experience Severe Performance Degradation When Connected to Brocade FOS v8.0.1 \(or Prior\)](#)
- Addressed unwanted behavior with Fabric Port Identification Number (FPIN) based congestion throttling leading to poor performance.
- Fixed an unwanted behavior where stale connection IDs could be used with Fibre Channel- Non Volatile Memory Express (FC-NVMe) traffic.
- Fixed an unwanted behavior with response queue handling to avoid the problem referenced by <https://kb.vmware.com/s/article/81721>

Enhancements

Added the following:

- Made improvements to the Fabric Port Identification Number (FPIN) and Universal Storage Area Network (SAN) Congestion Mitigation(USCM) Congestion Management algorithm
- Implemented the vmkmgmt Application programming Interface (API) to report Non-Volatile Memory Express (NVMe) target info and send Non-Volatile Memory Express (NVMe) pass through commands

Driver version 2.1.101.0

Supported Devices and Features

This driver supports the following HPE adapters:

16Gb Fibre Channel Host Bus Adapter:

- HPE SN1100Q 16GB Dual Port PCIe Fibre Channel Host Bus Adapter
- HPE SN1100Q 16GB Single Port PCIe Fibre Channel Host Bus Adapter

32Gb Fibre Channel Host Bus Adapter:

- HPE SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter
- HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1610Q 32Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1610Q 32Gb Single Port Fibre Channel Host Bus Adapter

HPE QLogic Mezzanine Fibre Channel driver component for VMware vSphere 6.5
Version: 2021.10.01 (**Recommended**)
Filename: cp046773.compsig; cp046773.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:

- Fixed an unwanted behavior where Get Port Speed Capabilities (GPSC) failures were leading to intelligent interleaved direct memory access (IIDMA) for target being set to 1GB/s. This is described in [Advisory: HPE Host Bus Adapters - HPE Platforms Running VMware ESXi 6.5 / 6.7 / 7.0 and Configured With Certain HPE Host Bus Adapters May Experience Severe Performance Degradation When Connected to Brocade FOS v8.0.1 \(or Prior\)](#)
- Addressed unwanted behavior with Fabric Port Identification Number (FPIN) based congestion throttling leading to poor performance.
- Fixed an unwanted behavior where stale connection IDs could be used with Fibre Channel- Non Volatile Memory Express (FC-NVMe) traffic.
- Fixed an unwanted behavior with response queue handling to avoid the problem referenced by <https://kb.vmware.com/s/article/81721>

Enhancements

Added the following:

- Made improvements to the Fabric Port Identification Number (FPIN) and Universal Storage Area Network (SAN) Congestion Mitigation(USCM) Congestion Management algorithm
- Implemented the vmkmgmt Application programming Interface (API) to report Non-Volatile Memory Express (NVMe) target info and send Non-Volatile Memory Express (NVMe) pass through commands

Driver version 2.1.101.0

Supported Devices and Features

This version of the enablement kit supports the following devices:

16Gb Fibre Channel Host Bus Adapter:

- HPE QMH2672 16Gb Fibre Channel Host Bus Adapter for c-Class BladeSystem

HPE Storage Emulex Fibre Channel driver component for VMware vSphere 6.5

Version: 2021.10.01 **(Recommended)**

Filename: cp046811.compsig; cp046811.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/>

Enhancements

Updated to Driver version 12.8.317.0

Supported Devices and Features

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

16Gb FC Adapter:

- HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1200E 16Gb 1Single Port Fibre Channel Host Bus Adapter

32Gb FC Adapter:

- HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter
- HPE SN1610E 32Gb Dual port Fibre Channel Host Bus Adapter
- HPE SN1610E 32Gb Single port Fibre Channel Host Bus Adapter

HPE Storage Emulex Mezzanine Fibre Channel driver component for VMware vSphere 6.5

Version: 2021.10.01 **(Recommended)**

Filename: cp046792.compsig; cp046792.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/>

Enhancements

Updated to Driver version 12.8.317.0

Supported Devices and Features

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

16Gb FC Adapter:

- HPE 16Gb LPe1605 Fibre Channel Host Bus Adapter for BladeSystem c-Class

Software - System Management

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Agentless Management Service Offline Bundle for VMware ESXi 6.5 for Gen10 and Gen10 Plus Servers

Version: gen10.11.8.0 (**Recommended**)

Filename: ams-esxi6.5-bundle-gen10.11.8.0.15-1.zip

Fixes

Agentless Management Service

- Fix excessive poll failure logging on iLO reset
- Applied fixes to net-snmp open source code for CVE-2018-18065, CVE-2018-18066, CVE-2015-5621

iLO Driver

- Fixed driver unload function to allow controller to function properly on reload.

Enhancements

Agentless Management Service

- Added support for new cpqIdeAtaDiskCapacityHighBytes and cpqIdeAtaDiskCapacityLowBytes MIB OIDs
- Added support for hrSystemUptime MIB OID
- Added support for cpqIdeAtaDiskSSDWearStatusChange trap
- Added support for Pensando NIC devices

Supported Devices and Features

VMware ESXi version support:

- VMware ESXi 6.5 U2
- VMware ESXi 6.5 U3

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: 1.25.16 (**Recommended**)

Filename: storcli-esxi6.5-bundle-1.25.16.zip

Enhancements

Initial release

HPE Utilities Offline Bundle for ESXi 6.5

Version: 10.8.0 (**Recommended**)

Filename: HPE-Utility-Component_10.8.0.650-26.zip

Important Note!

Refer to the HPE VMware Utilities Guide for VMware vSphere 6.5 which is located at www.hpe.com/info/vmware/proliant-docs.

Fixes

hpeesacli

- Fixed an issue where the "Turn off" LED operation momentarily turns on all Identify LED.
- Fixed an issue where an NVME drive was failed after flashing drive firmware.
- Fixed an issue where an operation failure message was observed while deleting a volume with status "Not Available".
- Fixed an issue that SSAScripting reported incorrect size for some drives greater than 1TB. This did not affect SSACLI.

Enhancements

hpeesacli

- Added initial passive SED support.
- Added new "unchanged" Drive Write Cache (DWC) policy to the applications.
- Added support for discovering and reporting failed drives that are not part of a RAID volume.

Integrated Smart Update Tools for VMware ESXi 6.5

Version: 2.9.0.0 (**Recommended**)

Filename: sut-esxi6.5-offline-bundle-2.9.0.0-19.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

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

Smart Storage Administrator (SSA) CLI for VMware 6.5
Version: 5.20.8.0 **(Recommended)**
Filename: MIS_bootbank_ssaccli-5.20.8.0-6.5.0.4240417.oem.vib

Fixes

- Fixed an issue where the "Turn off" LED operation momentarily turns on all Identify LED.
- Fixed an issue where an NVME drive was failed after flashing drive firmware.
- Fixed an issue where an operation failure message was observed while deleting a volume with status "Not Available".
- Fixed an issue that SSAScripting reported incorrect size for some drives greater than 1TB. This did not affect SSACLI.

Enhancements

- Added initial passive SED support.
 - Added new "unchanged" Drive Write Cache (DWC) policy to the applications.
 - Added support for discovering and reporting failed drives that are not part of a RAID volume.
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