VMware Deliverable Release Notes

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

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

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

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

Information on HPE Synergy Software Releases is available at:

[HPE Synergy Software Releases - Overview](#)

SPP 2021.04.0 Release Notes for VMware vSphere 6.5

BIOS (Login Required) - System ROM
ROM Flash Firmware Package - HPE Apollo 2000 Gen10/HPE ProLiant XL170r/XL190r Gen10 (U38) Servers
Version: 2.42_01-23-2021 **(Recommended)**
Filename: U38_2.42_01_23_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

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

Release Version:

2.42_01-23-2021

Last Recommended or Critical Revision:

2.42_01-23-2021

Previous Revision:

2.40_10-26-2020

Firmware Dependencies:

None

Enhancements/New Features:

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC+1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

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Known Issues:

None

Enhancements

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC+1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

ROM Flash Firmware Package - HPE Apollo 4200 Gen10/HPE ProLiant XL420 Gen10 (U39) Servers
Version: 2.42_01-23-2021 **(Recommended)**
Filename: U39_2.42_01_23_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

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

Release Version:

2.42_01-23-2021

Last Recommended or Critical Revision:

2.42_01-23-2021

Previous Revision:

2.40_10-26-2020

Firmware Dependencies:

None

Enhancements/New Features:

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

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Known Issues:

None

<u>**Fixes**</u>

Important Notes:

None

Firmware Dependencies:

None

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Known Issues:

None

<u>**Enhancements**</u>

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

ROM Flash Firmware Package - HPE Apollo 4510 Gen10/HPE ProLiant XL450 Gen10 (U40) Servers
Version: 2.42_01-23-2021 **(Recommended)**
Filename: U40_2.42_01_23_2021.fwpkg

<u>**Important Note!**</u>

Important Notes:

None

Deliverable Name:

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

Release Version:

2.42_01-23-2021

Last Recommended or Critical Revision:

2.42_01-23-2021

Previous Revision:

2.40_10-26-2020

Firmware Dependencies:

None

Enhancements/New Features:

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

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Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

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Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Enhancements

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

ROM Flash Firmware Package - HPE Apollo 6500 Gen10/HPE ProLiant XL270d Gen10 (U45) Servers
Version: 2.42_01-23-2021 **(Recommended)**
Filename: U45_2.42_01_23_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE Apollo 6500 Gen10/HPE ProLiant XL270d Gen10 System ROM - U45

Release Version:

2.42_01-23-2021

Last Recommended or Critical Revision:

2.42_01-23-2021

Previous Revision:

2.40_10-26-2020

Firmware Dependencies:

None

Enhancements/New Features:

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC+1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd

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Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

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Known Issues:

None

Enhancements

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC+1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

ROM Flash Firmware Package - HPE ProLiant BL460c Gen10 (I41) Servers
Version: 2.42_01-23-2021 **(Recommended)**
Filename: I41_2.42_01_23_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant BL460c Gen10 System ROM - I41

Release Version:

2.42_01-23-2021

Last Recommended or Critical Revision:

2.42_01-23-2021

Previous Revision:

2.40_10-26-2020

Firmware Dependencies:

None

Enhancements/New Features:

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC+1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Problems Fixed:

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Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

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Known Issues:

None

Enhancements

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC+1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

ROM Flash Firmware Package - HPE ProLiant DL160 Gen10/DL180 Gen10 (U31) Servers
Version: 2.42_01-23-2021 **(Recommended)**
Filename: U31_2.42_01_23_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL160 Gen10/DL180 Gen10 System ROM - U31

Release Version:

2.42_01-23-2021

Last Recommended or Critical Revision:

2.42_01-23-2021

Previous Revision:

2.40_10-26-2020

Firmware Dependencies:

None

Enhancements/New Features:

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Problems Fixed:

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Known Issues:

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Fixes

Important Notes:

None

Firmware Dependencies:

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Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Enhancements

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

ROM Flash Firmware Package - HPE ProLiant DL20 Gen10 (U43) Servers
Version: 2.20_10-27-2020 **(Recommended)**
Filename: U43_2.20_10_27_2020.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2020.2 guidance.

Deliverable Name:

HPE ProLiant DL20 Gen10 System ROM - U43

Release Version:

2.20_10-27-2020

Last Recommended or Critical Revision:

2.20_10-27-2020

Previous Revision:

2.18_06-24-2020

Firmware Dependencies:

None

Enhancements/New Features:

Added a new BIOS/Platform Configuration (RBSU) option to Memory Options called Refresh Watermarks. When selecting the Low Watermark setting, the memory controller will help reduce susceptibility to a DDR4 RowHammer attack. It is expected that a memory performance impact will be seen when enabling the Low Watermark setting. The default operation of the system has not changed and customers wanting to provide additional RowHammer protection should enable this setting.

Added support to BIOS/Platform Configuration (RBSU) to allow importing and exporting Secure Boot signature lists as a signed binary file. This is useful to import the Microsoft revocation list binary file into the Secure Boot DBX as found on the UEFI forum at https://uefi.org/revocationlistfile.

Updated the System ROM support for One Button Secure Erase functionality with the latest HPE option devices.

Updated the RESTful API HPE BIOS Attribute Registry resources to match the latest BIOS/Platform Configuration options.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides mitigations for security vulnerabilities documented as CVE-2020-8696, CVE-2020-8694 and CVE-2020-8695. These security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00381 and INTEL-SA-00389. The Intel microcode patches included in this release are version 0x000000DE (CPUIDs 906ED, 906EC, 906EB and 906EA). These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel Reference Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2020-0593. These security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00358. These issues are not unique to HPE servers.

Addressed an issue where the "Minimum Processor Idle Power Package C-State" RBSU option was missing.

Known Issues:

None

Fixes

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2020.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides mitigations for security vulnerabilities documented as CVE-2020-8696, CVE-2020-8694 and CVE-2020-8695. These security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00381 and INTEL-SA-00389. The Intel microcode patches included in this release are version 0x000000DE (CPUIDs 906ED, 906EC, 906EB and 906EA). These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel Reference Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2020-0593. These security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00358. These issues are not unique to HPE servers.

Addressed an issue where the "Minimum Processor Idle Power Package C-State" RBSU option was missing.

Known Issues:

None

Enhancements

Added a new BIOS/Platform Configuration (RBSU) option to Memory Options called Refresh Watermarks. When selecting the Low Watermark setting, the memory controller will help reduce susceptibility to a DDR4 RowHammer attack. It is expected that a memory performance impact will be seen when enabling the Low Watermark setting. The default operation of the system has not changed and customers wanting to provide additional RowHammer protection should enable this setting.

Added support to BIOS/Platform Configuration (RBSU) to allow importing and exporting Secure Boot signature lists as a signed binary file. This is useful to import the Microsoft revocation list binary file into the Secure Boot DBX as found on the UEFI forum at https://uefi.org/revocationlistfile.

Updated the System ROM support for One Button Secure Erase functionality with the latest HPE option devices.

Updated the RESTful API HPE BIOS Attribute Registry resources to match the latest BIOS/Platform Configuration options.

ROM Flash Firmware Package - HPE ProLiant DL325 Gen10 (A41) Servers
Version: 2.44_11-13-2020 **(Recommended)**
Filename: A41_2.44_11_13_2020.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL325 Gen10 System ROM - A41

Release Version:

2.44_11-13-2020

Last Recommended or Critical Revision:

2.44_11-13-2020

Previous Revision:

2.42_07-17-2020

Firmware Dependencies:

None

Enhancements/New Features:

Added a new BIOS/Platform Configuration (RBSU) for dual bifurcation (quadfurcation) of PCIe Adapters to the Advanced PCIe Configuration Options. This option will allow a x16 PCIe device to be bifurcated into four x4 devices. This option would only be used for PCIe Adapters that support his level of bifurcation.

Added support to increase the maximum amount of system memory to 8TB.

Problems Fixed:

Addressed a rare issue where the system may fail to boot after a warm reset.

Addressed an issue where the Advanced Options for Secure Boot failed to export all keys.

Addressed an issue where One-Button Secure Erase was not completed when SmartRAID SW RAID support is enabled.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed a rare issue where the system may fail to boot after a warm reset.

Addressed an issue where the Advanced Options for Secure Boot failed to export all keys.

Addressed an issue where One-Button Secure Erase was not completed when SmartRAID SW RAID support is enabled.

Known Issues:

None

Enhancements

Added a new BIOS/Platform Configuration (RBSU) for dual bifurcation (quadfurcation) of PCIe Adapters to the Advanced PCIe Configuration Options. This option will allow a x16 PCIe device to be bifurcated into four x4 devices. This option would only be used for PCIe Adapters that support his level of bifurcation.

Added support to increase the maximum amount of system memory to 8TB.

ROM Flash Firmware Package - HPE ProLiant DL360 Gen10 (U32) Servers
Version: 2.42_01-23-2021 **(Recommended)**
Filename: U32_2.42_01_23_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL360 Gen10 System ROM - U32

Release Version:

2.42_01-23-2021

Last Recommended or Critical Revision:

2.42_01-23-2021

Previous Revision:

2.40_10-26-2020

Firmware Dependencies:

None

Enhancements/New Features:

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Enhancements

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

ROM Flash Firmware Package - HPE ProLiant DL380 Gen10 (U30) Servers
Version: 2.42_01-23-2021 **(Recommended)**
Filename: U30_2.42_01_23_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL380 Gen10 System ROM - U30

Release Version:

2.42_01-23-2021

Last Recommended or Critical Revision:

2.42_01-23-2021

Previous Revision:

2.40_10-26-2020

Firmware Dependencies:

None

Enhancements/New Features:

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50567). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50567). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Enhancements

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

ROM Flash Firmware Package - HPE ProLiant DL385 Gen10 (A40) Servers
Version: 2.44_10-29-2020 **(Recommended)**
Filename: A40_2.44_10_29_2020.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL385 Gen10 System ROM - A40

Release Version:

2.44_10-29-2020

Last Recommended or Critical Revision:

2.44_10-29-2020

Previous Revision:

2.42_07-17-2020

Firmware Dependencies:

None

Enhancements/New Features:

Added a new BIOS/Platform Configuration (RBSU) for dual bifurcation (quadfurcation) of PCIe Adapters to the Advanced PCIe Configuration Options. This option will allow a x16 PCIe device to be bifurcated into four x4 devices. This option would only be used for PCIe Adapters that support his level of bifurcation.

Added support to increase the maximum amount of system memory to 8TB.

Problems Fixed:

Addressed a rare issue where the system may fail to boot after a warm reset.

Addressed an issue where the Advanced Options for Secure Boot failed to export all keys.

Addressed an issue where One-Button Secure Erase was not completed when SmartRAID SW RAID support is enabled.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue where the system may hang during boot up after a warm reset from the OS.

Addressed an issue where the Advanced Options for Secure Boot failed to export all keys.

Addressed an issue where One-Button Secure Erase was not completed when SmartRAID SW RAID support is enabled.

Known Issues:

None

Enhancements

Added a new BIOS/Platform Configuration (RBSU) for dual bifurcation (quadfurcation) of PCIe Adapters to the Advanced PCIe Configuration Options. This option will allow a x16 PCIe device to be bifurcated into four x4 devices. This option would only be used for PCIe Adapters that support his level of bifurcation.

ROM Flash Firmware Package - HPE ProLiant DL560 Gen10/DL580 Gen10 (U34) Servers
Version: 2.42_01-23-2021 **(Recommended)**
Filename: U34_2.42_01_23_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant DL560 Gen10/DL580 Gen10 System ROM - U34

Release Version:

2.42_01-23-2021

Last Recommended or Critical Revision:

2.42_01-23-2021

Previous Revision:

2.40_10-26-2020

Firmware Dependencies:

None

Enhancements/New Features:

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Enhancements

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

ROM Flash Firmware Package - HPE ProLiant MicroServer Gen10 Plus (U48) Servers
Version: 2.20_10-27-2020 **(Recommended)**
Filename: U48_2.20_10_27_2020.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant MicroServer Gen10 Plus System ROM - U48

Release Version:

2.20_10-27-2020

Last Recommended or Critical Revision:

2.20_10-27-2020

Previous Revision:

2.18_06-24-2020

Firmware Dependencies:

None

Enhancements/New Features:

Added a new BIOS/Platform Configuration (RBSU) option to Memory Options called Refresh Watermarks. When selecting the Low Watermark setting, the memory controller will help reduce susceptibility to a DDR4 RowHammer attack. It is expected that a memory performance impact will be seen when enabling the Low Watermark setting. The default operation of the system has not changed and customers wanting to provide additional RowHammer protection should enable this setting.

Added support to BIOS/Platform Configuration (RBSU) to allow importing and exporting Secure Boot signature lists as a signed binary file. This is useful to import the Microsoft revocation list binary file into the Secure Boot DBX as found on the UEFI forum at https://uefi.org/revocationlistfile.

Updated the System ROM support for One Button Secure Erase functionality with the latest HPE option devices.

Updated the RESTful API HPE BIOS Attribute Registry resources to match the latest BIOS/Platform Configuration options.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides mitigations for security vulnerabilities documented as CVE-2020-8696, CVE-2020-8694 and CVE-2020-8695. These security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00381 and INTEL-SA-00389. The Intel microcode patches included in this release are version 0x000000DE (CPUIDs 906ED, 906EC, 906EB and 906EA). These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel Reference Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2020-0593. These security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00358. These issues are not unique to HPE servers.

Known Issues:

None

Fixes

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2020.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides mitigations for security vulnerabilities documented as CVE-2020-8696, CVE-2020-8694 and CVE-2020-8695. These security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00381 and INTEL-SA-00389. The Intel microcode patches included in this release are version 0x000000DE (CPUIDs 906ED, 906EC, 906EB and 906EA). These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel Reference Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2020-0593. These security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00358. These issues are not unique to HPE servers.

Known Issues:

None

Enhancements

Added a new BIOS/Platform Configuration (RBSU) option to Memory Options called Refresh Watermarks. When selecting the Low Watermark setting, the memory controller will help reduce susceptibility to a DDR4 RowHammer attack. It is expected that a memory performance impact will be seen when enabling the Low Watermark setting. The default operation of the system has not changed and customers wanting to provide additional RowHammer protection should enable this setting.

Added support to BIOS/Platform Configuration (RBSU) to allow importing and exporting Secure Boot signature lists as a signed binary file. This is useful to import the Microsoft revocation list binary file into the Secure Boot DBX as found on the UEFI forum at https://uefi.org/revocationlistfile.

Updated the System ROM support for One Button Secure Erase functionality with the latest HPE option devices.

Updated the RESTful API HPE BIOS Attribute Registry resources to match the latest BIOS/Platform Configuration options.

ROM Flash Firmware Package - HPE ProLiant ML110 Gen10 (U33) Servers
Version: 2.42_01-23-2021 **(Recommended)**
Filename: U33_2.42_01_23_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant ML110 Gen10 System ROM - U33

Release Version:

2.42_01-23-2021

Last Recommended or Critical Revision:

2.42_01-23-2021

Previous Revision:

2.40_10-26-2020

Firmware Dependencies:

None

Enhancements/New Features:

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Enhancements

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

ROM Flash Firmware Package - HPE ProLiant ML30 Gen10 (U44) Servers
Version: 2.20_10-27-2020 **(Recommended)**
Filename: U44_2.20_10_27_2020.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2020.2 guidance.

Deliverable Name:

HPE ProLiant ML30 Gen10 System ROM - U44

Release Version:

2.20_10-27-2020

Last Recommended or Critical Revision:

2.20_10-27-2020

Previous Revision:

2.18_06-24-2020

Firmware Dependencies:

None

Enhancements/New Features:

Added a new BIOS/Platform Configuration (RBSU) option to Memory Options called Refresh Watermarks. When selecting the Low Watermark setting, the memory controller will help reduce susceptibility to a DDR4 RowHammer attack. It is expected that a memory performance impact will be seen when enabling the Low Watermark setting. The default operation of the system has not changed and customers wanting to provide additional RowHammer protection should enable this setting.

Added support to BIOS/Platform Configuration (RBSU) to allow importing and exporting Secure Boot signature lists as a signed binary file. This is useful to import the Microsoft revocation list binary file into the Secure Boot DBX as found on the UEFI forum at https://uefi.org/revocationlistfile.

Updated the System ROM support for One Button Secure Erase functionality with the latest HPE option devices.

Updated the RESTful API HPE BIOS Attribute Registry resources to match the latest BIOS/Platform Configuration options.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides mitigations for security vulnerabilities documented as CVE-2020-8696, CVE-2020-8694 and CVE-2020-8695. These security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00381 and INTEL-SA-00389. The Intel microcode patches included in this release are version 0x000000DE (CPUIDs 906ED, 906EC, 906EB and 906EA). These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel Reference Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2020-0593. These security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00358. These issues are not unique to HPE servers.

Addressed an issue where the "Minimum Processor Idle Power Package C-State" RBSU option was missing.

Known Issues:

None

Fixes

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2020.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides mitigations for security vulnerabilities documented as CVE-2020-8696, CVE-2020-8694 and CVE-2020-8695. These security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00381 and INTEL-SA-00389. The Intel microcode patches included in this release are version 0x000000DE (CPUIDs 906ED, 906EC, 906EB and 906EA). These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel Reference Code which provides mitigations for BIOS advisories and security vulnerabilities documented as CVE-2020-0593. These security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00358. These issues are not unique to HPE servers.

Addressed an issue where the "Minimum Processor Idle Power Package C-State" RBSU option was missing.

Known Issues:

None

Enhancements

Added a new BIOS/Platform Configuration (RBSU) option to Memory Options called Refresh Watermarks. When selecting the Low Watermark setting, the memory controller will help reduce susceptibility to a DDR4 RowHammer attack. It is expected that a memory performance impact will be seen when enabling the Low Watermark setting. The default operation of the system has not changed and customers wanting to provide additional RowHammer protection should enable this setting.

Added support to BIOS/Platform Configuration (RBSU) to allow importing and exporting Secure Boot signature lists as a signed binary file. This is useful to import the Microsoft revocation list binary file into the Secure Boot DBX as found on the UEFI forum at https://uefi.org/revocationlistfile.

Updated the System ROM support for One Button Secure Erase functionality with the latest HPE option devices.

Updated the RESTful API HPE BIOS Attribute Registry resources to match the latest BIOS/Platform Configuration options.

ROM Flash Firmware Package - HPE ProLiant ML350 Gen10 (U41) Servers
Version: 2.42_01-23-2021 **(Recommended)**
Filename: U41_2.42_01_23_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant ML350 Gen10 System ROM - U41

Release Version:

2.42_01-23-2021

Last Recommended or Critical Revision:

2.42_01-23-2021

Previous Revision:

2.40_10-26-2020

Firmware Dependencies:

None

Enhancements/New Features:

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Enhancements

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC 1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

ROM Flash Firmware Package - HPE ProLiant XL230k Gen10 (U37) Server
Version: 2.42_01-23-2021 **(Recommended)**
Filename: U37_2.42_01_23_2021.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant XL230k Gen10 System ROM - U37

Release Version:

2.42_01-23-2021

Last Recommended or Critical Revision:

2.42_01-23-2021

Previous Revision:

2.40_10-26-2020

Firmware Dependencies:

None

Enhancements/New Features:

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC+1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception under heavy stress with short loops of instructions. This may result in a machine check exception in Bank 3 with MSCOD = 0080 and MCACOD = 0400h, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). This issue only impacts 2nd generation Intel Xeon Scalable Performance processors. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of the Intel microcode which provides a fix for a potential machine check exception when high levels of posted interrupt traffic occurs on PCIe. This may result in a machine check exception in Bank 9, 10 or 11 with MSCOD = 000Ch, as logged in the Integrated Management Log (IML). The Intel microcode patches included in this release are versions 0x02006A09 (CPUID 50654), 0x04003005 (CPUID 50656) and 0x05003005 (CPUID 50657). As part of this change, a new BIOS/Platform Configuration (RBSU) option in Advanced Performance Options has been added to allow a customer to disable this mitigation. This issue is not unique to HPE servers.

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Addressed an issue where the Extended Memory Test is not run when configured in BIOS/Platform Configuration (RBSU) to Enabled. Note that this option is Disabled by default. This issue was introduced in the v2.40 revision of the System ROM.

Addressed an issue where the server system fans may run higher than anticipated when a server is configured with AHCI SATA drives.

Addressed an issue where a bad LRDIMM memory device could be mapped out but was not properly reported in the Integrated Memory Log (IML). This issue only impacted systems configured with LRDIMMs.

Known Issues:

None

Enhancements

Updated the support for Fast Fault Tolerant Memory Mode (ADDDC) to improve system uptime.

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC+1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

ROM Flash Universal Firmware Package - HPE ProLiant DL325/DL325 v2/DL345 Gen10 Plus (A43) Servers
Version: 2.40_02-23-2021 **(Optional)**
Filename: A43_2.40_02_23_2021.fwpkg

<u>Important Note!</u>

Important Notes:

None

Deliverable Name:

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

Release Version:

2.40_02-23-2021

Last Recommended or Critical Revision:

1.38_10-30-2020

Previous Revision:

1.38_10-30-2020

Firmware Dependencies:

None

Enhancements/New Features:

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC+1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Added a new BIOS/Platform Configuration (RBSU) for Platform RAS Policy to control the Platform Resiliency and Serviceability (RAS) policy. This option controls whether platform firmware or the operating system has control of corrected error handling and reporting.

Added driver and option to enable SmartRAID SW RAID support for direct attached SATA and NVMe drives.

Problems Fixed:

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the fan runs at a higher than expected speed after upgrading the firmware of HPE Smart Array E208i or E408i to version 3.0.

Known Issues:

None

<u>Fixes</u>

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the fan runs at a higher than expected speed after upgrading the firmware of HPE Smart Array E208i or E408i to version 3.0.

Known Issues:

None

<u>Enhancements</u>

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC+1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Added a new BIOS/Platform Configuration (RBSU) for Platform RAS Policy to control the Platform Resiliency and Serviceability (RAS) policy. This option controls whether platform firmware or the operating system has control of corrected error handling and reporting.

Added driver and option to enable SmartRAID SW RAID support for direct attached SATA and NVMe drives.

ROM Flash Universal Firmware Package - HPE ProLiant DL365/DL385/DL385 v2 Gen10 Plus (A42) Servers
Version: 2.40_02-23-2021 **(Optional)**
Filename: A42_2.40_02_23_2021.fwpkg

<u>Important Note!</u>

Important Notes:

None

Deliverable Name:

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

Release Version:

2.40_02-23-2021

Last Recommended or Critical Revision:

1.38_10-30-2020

Previous Revision:

1.38_10-30-2020

Firmware Dependencies:

None

Enhancements/New Features:

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC+1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Added a new BIOS/Platform Configuration (RBSU) for Platform RAS Policy to control the Platform Resiliency and Serviceability (RAS) policy. This option controls whether platform firmware or the operating system has control of corrected error handling and reporting.

Added driver and option to enable SmartRAID SW RAID support for direct attached SATA and NVMe drives.

Problems Fixed:

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the fan runs at a higher than expected speed after upgrading the firmware of HPE Smart Array E208i or E408i to version 3.0.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

Addressed an extremely rare issue where the Real Time Clock may become corrupted on a server boot. This was typically seen as an unexpected change to the RTC Year field but could impact other parts of the Date and Time. This issue is not unique to HPE servers.

Addressed an issue where the fan runs at a higher than expected speed after upgrading the firmware of HPE Smart Array E208i or E408i to version 3.0.

Known Issues:

None

Enhancements

Added support to the BIOS/Platform Configuration (RBSU) Time Zones to add Dublin/London (UTC+1). This support also requires the latest version of iLO Firmware, version 2.40 or later.

Added a new BIOS/Platform Configuration (RBSU) for Platform RAS Policy to control the Platform Resiliency and Serviceability (RAS) policy. This option controls whether platform firmware or the operating system has control of corrected error handling and reporting.

Added driver and option to enable SmartRAID SW RAID support for direct attached SATA and NVMe drives.

Driver - Network
HPE Blade Emulex 10/20GbE Driver for VMware vSphere 6.5
Version: 2020.03.09 **(Optional)**
Filename: cp042919.compsig; cp042919.zip

Important Note!

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

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 vibsdepot.hpe.com webpages, plus an HPE specific CP0xxxxx.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: 2019.12.20 **(Optional)**
Filename: cp039952.compsig; cp039952.zip

Important Note!

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

HPE recommends the firmware provided in *HPE Blade Intel Online Firmware Upgrade Utility for VMware*, version 1.0.7 or later, for use with this driver.

Fixes

This product corrects a recursion termination condition so that recursion correctly ends in the case of PCIe link down.

This product addresses an issue where the ixgben driver has high CPU overhead when an SFP+ module is absent.

Enhancements

Initial release.

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: 2021.04.19 **(Optional)**
Filename: cp045168.compsig; cp045168.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 CP0xxxxx.xml file.

HPE recommends the firmware provided in *HPE Blade QLogic NX2 Online Firmware Upgrade Utility for VMware*, version 1.2.2 or later, for use with this driver.

Enhancements

This product now supports VMware vSphere 6.5 U3.

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 vibsdepot.hpe.com webpages, plus an HPE specific CP0xxxxx.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 vibsdepot.hpe.com webpages, plus an HPE specific CP0xxxxx.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 vibsdepot.hpe.com webpages, plus an HPE specific CP0xxxxx.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 Intel i40en Driver for VMware vSphere 6.5
Version: 2020.09.14 **(Optional)**
Filename: cp042675.compsig; cp042675.zip

Important Note!

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

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.

Fixes

This product corrects an issue which PCI device information passing to intnetcli Command-Line Interface (Intel® ESXCLI Plug-In Managing tool).

Supported Devices and Features

This product supports the following network adapters:

- HPE Ethernet 1Gb 2-port 368FLR-MMT Adapter

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

HPE Intel igbn Driver for VMware vSphere 6.5
Version: 2021.04.05 **(Optional)**
Filename: cp042677.compsig; cp042677.zip

Important Note!

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

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 an issue which handling duplex value passed of ESXi command.

Supported Devices and Features

These drivers support the following network adapters:

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

HPE Intel ixgben Driver for VMware vSphere 6.5
Version: 2020.09.14 **(Optional)**
Filename: cp042679.compsig; cp042679.zip

Important Note!

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

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.

Fixes

This product corrects an issue which notification from Link Partner when executed Link Flow Control settings.

Supported Devices and Features

These drivers support the following network adapters:

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

HPE QLogic FastLinQ 10/25/50 GbE Multifunction Driver for VMware vSphere 6.5
Version: 2021.04.05 **(Optional)**
Filename: cp046222.compsig; cp046222.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 CP0xxxxx.xml file.

HPE recommends the firmware provided in *HPE QLogic FastLinQ Online Firmware Upgrade Utility for VMware*, version 4.13.0 or later, for use with this driver.

Fixes

This product corrects an issue runs out of MSI-X interrupt vectors caused what Purple Screen of Death (PSOD)

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: 2021.04.05 **(Optional)**
Filename: cp046404.compsig; cp046404.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 CP0xxxxx.xml file.

HPE recommends the firmware provided in *HPE QLogic NX2 Online Firmware Upgrade Utility for VMware*, version 1.28.0 or later, for use with this driver.

Fixes

This product corrects an incorrect MTU value displayed by the ESXCLI tool.

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

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net-mst kernel module driver component for VMware ESXi 6.5 and 6.7
Version: 2020.11.11 **(Recommended)**
Filename: cp046337.compsig; cp046337.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.
- Managment interface port type field reports SFP-to-RJ45 cable as FIBER.
- Management interface auto negotiation field is equivalent to "esxcli network nic get -n vmnicX" field "Pause Autonegotiate".

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&mtag=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

nmlx5_en Driver Component for VMware 6.5
Version: 2020.11.11 **(Recommended)**
Filename: cp046263.compsig; cp046263.zip

Important Note!

Known Issues in version 4.16.70.1:

- The maximum number of established active RDMA connections (QPs) is currently 5000.
- Setting ETS value to 0 may cause WQE timeout.
- ECN tunable parameter initialAlphaValue for the Reaction Point protocol cannot be modified.
- ECN statistic counters accumulatorsPeriod and ecnMarkedRoce-Packets display wrong values and cannot be cleared.
- The hardware can offload only up to 256 Bytes of headers.
- The "esxcli network sriovnic vf stats" command is not supported.
- Traffic cannot be sent between PV and SR-IOV VF connected to different ports on the same HCA.
- Setting the "Allow Guest MTU Change" option in vSphere Client is currently not functional. Although guest MTU changes in SR-IOV are allowed, they do not affect the port's MTU and the guest's MTU remains the same as the PF MTU.
- Geneve options length support is limited to 56 Bytes. Received packets with options length bigger than 56 Bytes are dropped.
- Interaction with ConnectX-4/ConnectX-4 Lx older firmware versions might result in the following internal firmware errors:
  - Device health compromised
  - synd 0x1: firmware internal error
  - extSync 0x94ee
- The 'esxcli mellanox uplink link info -u <vmnic_name>' command reports the 'Auto negotiation' capability always as 'true'.
- Wake-on-LAN does not notify when invalid parameters are provided.
- Nested ESXi might not function properly.
- Device RSS fails to hash traffic to sufficient RX rings with Broadcast traffic.
- In stress condition 'Watchdog' may appear leading to link going up and down.
- VGT traffic over VXLAN interfaces is currently not supported.
- SMP MADs (ibnetdiscover, sminfo, iblinkinfo, smpdump, ibqueryerr, ibdiagnet and smpquery) are not supported on the VFs.
- 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 4.16.70.1:

- 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 2020.11.11:

- 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 4.16.70.1:

- 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.
- Support for trusting Differentiated Services Code Point (DSCP) and setting default value for RoCE traffic.
- A new counter that enables the user to query per Virtual Function counters.
- RX out-of-buffer counter to indicate any lack of software receive buffers.
- Module parameter to enforce specific RoCE version.

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
868779-B21	HPE Synergy 6410C 25/50Gb Ethernet Adapter	HPE0000000006
P11338-B21	HPE Ethernet 10Gb 2-port 548SFP+ Adapter	HP_1200111023
817749-B21	HPE Ethernet 25Gb 2-port 640FLR-SFP28 Adapter	HP_2690110034
817753-B21	HPE Ethernet 25Gb 2-port 640SFP28 Adapter	HP_2420110034
P24837-B21	HPE Ethernet 10/25Gb 2-port 642SFP28 Adapter	HPE0000000054
874253-B21	HPE Ethernet 100Gb 1-port 842QSFP28 Adapter	HPE0000000014
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
P10180-B21	HPE Ethernet 200Gb 1-Port QSFP56 MCX623105AS-VDAT Adapter	MT_0000000435

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
HPE Dynamic Smart Array B140i Controller Driver for VMware vSphere 6.5 (Driver Component).
Version: 2019.05.01 **(Recommended)**
Filename: cp039786.compsig; cp039786.zip

Important Note!

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

Fixes

Fixes an issue where the driver will not upgrade due to the AHCI driver taking priority.

This issue is only encounter when upgrading to version 2018.09.31 (5.5.0.66-1). All other versions are not affected.

HPE Dynamic Smart Array Controller Driver for VMware vSphere 6.5 (Bundle file).
Version: 5.5.0.68-1 **(Recommended)**
Filename: hpdsa-5.5.0.68.zip

Fixes

Fixes an issue where the driver will not upgrade due to the AHCI driver taking priority.

This issue is only encounter when upgrading to version 2018.09.31 (5.5.0.66-1). All other versions are not affected.

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

Fixes

Change implemented in version 15.10.07.00-1(A):

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

Issues resolved in version 15.10.07.00-1:

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

Supported Devices and Features

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

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

Important Note!

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

Fixes

Change implemented in version 2017.01.20(A):

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

Issues resolved in version 2017.01.20:

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

Supported Devices and Features

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

HPE ProLiant Smart Array Controller Driver for VMware vSphere 6.5 (Bundle file)
Version: 0072.0.149 **(Recommended)**
Filename: VMW-ESX-6.5.0-nhpsa-65.0072.0.149-offline_bundle-17204132.zip

Fixes

This release provides the following fixes:

- Fix failed TUR cmds hung in queue
- Fix internal cmd reservation broken
- Update for new version number scheme
- Fix verbose error messages on common innocuous errors

- Failed logical volumes not being properly handled via offline state.
- Scsi sense and status returns are incorrect for some error conditions.
- Incorrect 'unavailable' status seen during hot-plug recovery.
- Displayed target ID is incorrect in some driver log messages.

HPE ProLiant Smart Array Controller Driver for VMware vSphere 6.5 (Driver Component).
Version: 2021.01.01 **(Recommended)**
Filename: cp042874.compsig; cp042874.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

This release provides the following fixes:

- Fix failed TUR cmds hung in queue
- Fix internal cmd reservation broken
- Update for new version number scheme
- Fix verbose error messages on common innocuous errors

- Failed logical volumes not being properly handled via offline state.
- Scsi sense and status returns are incorrect for some error conditions.
- Incorrect 'unavailable' status seen during hot-plug recovery.
- Displayed target ID is incorrect in some driver log messages.

HPE Smart Array P824i-p MR controller (64-bit) Driver for vSphere 6.5
Version: 7.706.09.00 **(Recommended)**
Filename: Release_Notes_lsi-mr3-7.706.09.00-1OEM_6.5.txt; VMW-ESX-6.5.0-lsi_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
Broadcom Firmware Package for BCM5741x adapters
Version: 218.0.166.0 **(Recommended)**
Filename: bcm218.0.166.0.pup.fwpkg

Fixes

- This product addresses a modification on help string of Family Firmware Version.
- This product addresses an issue about failing to detect firmware version while updating that under operation system.
- This product addresses an issue about connection lost under pre-OS environment after restart the system from OS.

Enhancements

- Initial version
- This product brings the support of Data Center Interconnect on supported devices.

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: 2021.02.01 **(Recommended)**
Filename: CP042236.compsig; CP042236.zip

Important Note!

Release Notes:

HPE Emulex Adapter Release Notes

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

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

To obtain the guide:

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

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

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

Fixed the following:

- Fixed a behavior with internal engineering data displays

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	12.0.1336.0	12.0.1269.0	12.0.1171.0
HPE FlexFabric 20Gb 2-port 650M Adapter	20Gb	12.0.1277.0	12.0.1336.0	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/

Fixes

Fixed the following:

- Fixed a behavior with internal engineering data displays

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	12.0.1336.0	12.0.1269.0	12.0.1171.0
HPE FlexFabric 20Gb 2-port 650M Adapter	20Gb	12.0.1277.0	12.0.1336.0	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:

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

HPE Blade QLogic NX2 Online Firmware Upgrade Utility for VMware
Version: 1.2.2 **(Optional)**
Filename: CP045077.compsig; CP045077.zip

Important Note!

HPE recommends the *HPE Blade QLogic NX2 10/20 GbE Multifunction Driver for VMware*, version 2021.04.19 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 powering on the system with any I/O virtualization functionality (NPAR, SR-IOV, etc) enabled results in an Uncorrectable Machine Check Exception (UMCE).
This product addresses an issue where the WOL option is displayed on the Human Interface Infrastructure (HII) menu for 534M and 630M mezzanine devices, even though WOL is not supported on those devices.

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 product supports 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 Firmware Package for BCM5741x adapters
Version: 218.0.166000 **(Recommended)**
Filename: bcm218.0.166000.Optimized.pup.fwpkg

Fixes

- This product addresses a modification on help string of Family Firmware Version.
- This product addresses an enhancement on LLDP functional option naming under RBSU and the interactivity of DCB protocol option.
- This product addresses an issue about lack of MAC address while querying via RedFish.
- This product addresses an issue about failing to recognize the adapter firmware version under Microsoft Windows(R).
- This product addresses an issue for receiving PCIe errors while installing SUSE Linux Enterprise Server.
- This product addresses an issue for packets missing when UDP multicast application is started/stopped.
- This product addresses an issue for HPE Ethernet 10/25Gb 2-port 631FLR-SFP28 Adapter not linking up during POST.

Enhancements

Initial version

Supported Devices and Features

This product supports the following network adapters:

- HPE Ethernet 10Gb 2-port 537SFP+ Adapter
- HPE Ethernet 10Gb 2-port 537SFP+ FLR Adapter
- HPE Ethernet 10Gb 2-port 535T Adapter
- HPE Ethernet 10Gb 2-port 535FLR-T Adapter
- HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter
- 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: 2021.02.01 **(Recommended)**
Filename: CP042526.compsig; CP042526.zip

Important Note!

Release Notes:

HPE Emulex Adapter Release Notes

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

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

To obtain the guide:

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

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

Fixed the following:-

- Fixed a behavior with internal engineering data display

This Firmware package contains following firmware versions:

Adapter	Speed	Universal Boot Image	Firmware	UEFI	Boot BIOS
HPE FlexFabric 10Gb 2-port 556FLR-T Adapter	10Gb	12.0.1277.0	12.0.1336.0	12.0.1269.0	12.0.1171.0
HPE FlexFabric 10Gb 2-port 556FLR-SFP+ Adapter	10Gb	12.0.1277.0	12.0.1336.0	12.0.1269.0	12.0.1171.0
HPE CN1200E Dual Port Converged Network Adapter	20Gb	12.0.1277.0	12.0.1336.0	12.0.1269.0	12.0.1171.0
HPE CN1200E-T Dual Port Adapter	20Gb	12.0.1277.0	12.0.1336.0	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/

Fixes

Fixed the following:-

- Fixed a behavior with internal engineering data display

Enhancements

Updated CNA (XE100 series) firmware

This Firmware package contains following firmware versions:

Adapter	Speed	Universal Boot Image	Firmware	UEFI	Boot BIOS
HPE FlexFabric 10Gb 2-port 556FLR-T Adapter	10Gb	12.0.1277.0	12.0.1336.0	12.0.1269.0	12.0.1171.0
HPE FlexFabric 10Gb 2-port 556FLR-SFP+ Adapter	10Gb	12.0.1277.0	12.0.1336.0	12.0.1269.0	12.0.1171.0
HPE CN1200E Dual Port Converged Network Adapter	20Gb	12.0.1277.0	12.0.1336.0	12.0.1269.0	12.0.1171.0
HPE CN1200E-T Dual Port Adapter	20Gb	12.0.1277.0	12.0.1336.0	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 FlexFabric 10Gb 2-port 556FLR-SFP+ Adapter
- HPE FlexFabric 10Gb 2-port 556FLR-T Adapter

HPE Intel Online Firmware Upgrade Utility for VMware
Version: 3.14.5 **(Optional)**
Filename: CP045036.compsig; CP045036.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	80000F91	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	80001060	1.2836.0	N/A
HPE Ethernet 1Gb 4-port 366T Adapter	8000105F	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.

Fixes

This product addresses an issue where Systems Insight Display (SID) modul is green when there's no Network connection.

Supported Devices and Features

This package supports the following network adapters:

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

HPE QLogic FastLinQ Online Firmware Upgrade Utility for VMware
Version: 4.13.50 **(Optional)**
Filename: CP046982.compsig; CP046982.zip

Important Note!

HPE recommends *HPE QLogic FastLinQ 10/25/50GbE Multifunction Drivers for VMware*, versions 2021.04.05 or later, for use with this firmware.

This software package contains combo image version v8.55.12 includes:

- Boot Code (MFW): 8.55.21.0
- UEFI: 4.1.11.2
- PXE: 2.0.19

The users will only see the combo image versions in the interactive mode firmware update or while using HPSUM/SPP to update the firmware on the supported adapters.

Prerequisites

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

Enhancements

This product contains support PLDM firmware upgrade base improvements.

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 Online Firmware Upgrade Utility for VMware
Version: 1.28.6 **(Optional)**
Filename: CP044814.compsig; CP044814.zip

Important Note!

HPE recommends HPE QLogic NX2 10/20GbE Multifunction Drivers for VMware, versions 2021.04.05 or later, for use with this firmware.

This software package contains combo image v7.18.80 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	8.8.2	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	8.8.2	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.

Fixes

This product addresses an issue that platform would be randomly waked up by WOL packet.

Supported Devices and Features

This product supports the following network adapters:

- HPE Ethernet 10Gb 2-port 530SFP+ Adapter
- HPE Ethernet 10Gb 2-port 530T Adapter
- 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

Intel Firmware Package For E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter
Version: 2.24 **(Recommended)**
Filename: HPE_E810_CQDA2_2p24_PLDMoMCTP_800059DB.fwpkg

Enhancements

Initial version

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: 2.24 **(Recommended)**
Filename: HPE_E810_CQDA2_OCP_2p24_NCSIwPLDMoMCTP_800059D4.fwpkg

Enhancements

Initial version

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: 2.24 **(Recommended)**
Filename: HPE_E810_XXVDA2_SD_2p24_PLDMoMCTP_800059DF.fwpkg

Enhancements

Initial version

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: 2.24 **(Recommended)**
Filename: HPE_E810_XXVDA2_SD_OCP_2p24_NCSIwPLDMoMCTP_800059DE.fwpkg

Enhancements

Initial version

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 2-port SFP28 Adapter
Version: 2.24 **(Recommended)**
Filename: HPE_E810_XXVDA4_FH_2p24_PLDMoMCTP_800059D9.fwpkg

Enhancements

Initial version

Supported Devices and Features

This product supports the following network adapters:

- Intel E810-XXVDA4 Ethernet 10/25Gb 2-port SFP28 Adapter for HPE

Intel Online Firmware Upgrade Utility for VMware
Version: 3.15.8 **(Optional)**
Filename: CP044896.compsig; CP044896.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	80009837	1.2829.0	8.10
HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter	800093DD	1.2829.0	8.10
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 v1.2829.0 includes: Boot Agent: I40E - v1.1.18& UEFI Drivers: 40GbE - v4.4.12.

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 vSphere 7.0 U1.

Supported Devices and Features

This package supports the following network adapters:

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

Marvell FastLinQ Online Firmware Upgrade Utility for VMware
Version: 4.13.9 **(Optional)**
Filename: CP044970.compsig; CP044970.zip

Important Note!

This software package contains combo image v8.55.12. This combo image includes:

- PXE: 2.0.19
- Boot Code (MFW): 8.55.22.0
- UEFI: 6.1.8.2

Prerequisites

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

Fixes

- This product contains support PLDM firmware upgrade base improvements.
- This product addresses an overheat issue on the network adapters as below,

> HPE Ethernet 10Gb 2-port BaseT QL41132HLRJ Adapter
> HPE Ethernet 10Gb 2-port BaseT QL41132HQRJ OCP3 Adapter

Enhancements

This product now supported NPAR enabling option.

Supported Devices and Features

This product supports the following network adapters:

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

Mellanox Firmware Package(FWPKG) for HPE Ethernet 100Gb 1-port QSFP28 MCX515A-CCAT PCIe3 x16 Adapter
Version: 16.29.1016 **(Recommended)**
Filename: 16_29_1016-MCX515A-CCA_HPE_Ax.pldm.fwpkg

Important Note!

Known Issues with firmware version 16.29.1016:

- Multi-APP QoS is not supported when LAG is configured.
- When Emulated PCIe Switch is enabled, and more than 8 PFs are enabled, the OS boot process might halt.
- When Emulated PCIe Switch is enabled, and the OS does resource reallocation, the OS boot process might halt.
- 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.
- Using the Eye-Opening tool might cause degradation in the link speed or link down events.
- 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.
- 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

The following issues have been fixed in version 16.29.1016:

- Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
- An issue that prevented VXLAN packets with svlan/cvlan tag from being matched.
- The eth_wqe_too_small counter to count ODP (On-Demand Paging) page used to fail.
- An issue related to raising 100GbE link on ConnectX-6 VPI 100Gb/s adapter cards.
- When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
- Low performance occurred after enabling the RoCE Accelerator capability.
- On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR.

Enhancements

New Feature and Changes in Version 16.29.1016:

- Ethernet wqe_too_small Mode**:** New counter per vPort that counts the number of packets that reached the Ethernet RQ but cannot fit into the WQE due to their large size. Additionally, we added the option to control if such packet will cause "CQE with Error" or "CQE_MOCK".
- UCX can now enable AR by exposing Out-Of-Ordering bitmask per SL with "ooo_per_sl" field in the HCA_VPORT context. It can be also queried by running the QUERY_HCA_VPORT_CONTEXT command.
- PCIe Rx modifications to prevent the adapter cards from disappearing from the system.
- Hardware steering dump output used for debugging and troubleshooting.

Added support for the following features:

- HW support for Flow Metering to utilize Advanced Steering Operation (ASO). HW Flow Meter allows higher scale, more accuracy, and better performance compare to the FW Flow Metering.
- Trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- Steering DP hash flow groups.
- ignore_flow_level is now enabled by the TRUST LEVEL access registry.
- The cq_overrun counter: The counter represents the number of times CQs enter an error state due to overflow that occur when the device tries to post a CQE into a full CQ buffer.
- Enabled the capability to allow Virtual Functions to send Pause Frames packets. (Beta)
- Enabled 10/25GbE auto-sensing with 3rd party when using 10/25GbE optical cables.

- 2 new Mini CQE formats:
  - Responder Mini CQE With Flow Tag Layout.
  - Responder Mini CQE With l3_l4_info Layout.

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: 22.29.1016 **(Recommended)**
Filename: 22_29_1016-MCX623106AS-CDA_Ax.pldm.fwpkg

Important Note!

Known Issues with firmware version 22.29.1016:

- Multi-APP QoS is not supported when LAG is configured.
- When Emulated PCIe Switch is enabled, and more than 8 PFs are enabled, the OS boot process might halt.
- When Emulated PCIe Switch is enabled, and the OS does resource reallocation, the OS boot process might halt.
- 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.
- Using the Eye-Opening tool might cause degradation in the link speed or link down events.
- 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.
- 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 22.27.1016 or later and iLO5 firmware version must be 2.30 or higher.

Fixes

The following issues have been fixed in version 22.29.1016:

- Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
- An issue that prevented VXLAN packets with svlan/cvlan tag from being matched.
- The eth_wqe_too_small counter to count ODP (On-Demand Paging) page used to fail.
- An issue related to raising 100GbE link on ConnectX-6 VPI 100Gb/s adapter cards.
- When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
- Low performance occurred after enabling the RoCE Accelerator capability.
- On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR
- "iperf3" and "iperf3 -l 512" issue fixed from having traffic for virtio hardware offload solution .

Enhancements

New Features and Changes in Version 22.29.1016:

- Improved NRZ link performance (RX algorithm).
- Improved NRZ link-up time (25G\50G\100G speeds).
- UCX can now enable AR by exposing Out-Of-Ordering bitmask per SL with "ooo_per_sl" field in the HCA_VPORT context. It can be also queried by running the QUERY_HCA_VPORT_CONTEXT command.
- Optimized vDPA performance for PPS in scalability of up to 127 devices per port.
- When using a Multi-Host device, the firmware can now discover who is the external SmartNIC host (the Embedded CPU PF (ECPF)) with the highest index that is responsible for performing offload activities to the adapter card
- Hardware steering dump output used for debugging and troubleshooting.

Added support for the following features:

- Eye-Opening: supported only when using NRZ signal. (Beta)
- Option to allow applications to build their own QoS tree over the NIC hierarchy by connecting QPs to responder/requestor Queue Groups.
- "InfiniBand" properties set to the Network Device Function Redfish object.
- Direct Packet Placement (DPP): DPP is a receive side transport service in which the Ethernet packets are scattered to the memory according to a packet sequence number (PSN) carried by the packet, and not by their arrival order. To enable DPP offload, the software should create a special RQ by using the CREATE_RQ command and set DPP relevant attributes.
- Trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- Error statistics and reporting for vDPA.
- IPv6 TSO offload.

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: 22.29.1016 **(Recommended)**
Filename: 22_29_1016-MCX623105AS-VDA_Ax.pldm.fwpkg

Important Note!

Known Issues with firmware version 22.29.1016:

- Multi-APP QoS is not supported when LAG is configured.
- When Emulated PCIe Switch is enabled, and more than 8 PFs are enabled, the OS boot process might halt.
- When Emulated PCIe Switch is enabled, and the OS does resource reallocation, the OS boot process might halt.
- 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.
- Using the Eye-Opening tool might cause degradation in the link speed or link down events.
- 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.
- 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 22.27.1016 or later and iLO5 firmware version must be 2.30 or higher.

Fixes

The following issues have been fixed in version 22.29.1016:

- Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
- An issue that prevented VXLAN packets with svlan/cvlan tag from being matched.
- The eth_wqe_too_small counter to count ODP (On-Demand Paging) page used to fail.
- An issue related to raising 100GbE link on ConnectX-6 VPI 100Gb/s adapter cards.
- When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
- Low performance occurred after enabling the RoCE Accelerator capability.
- On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR
- "iperf3" and "iperf3 -l 512" issue fixed from having traffic for virtio hardware offload solution .

Enhancements

New Features and Changes in Version 22.29.1016:

- Improved NRZ link performance (RX algorithm).
- Improved NRZ link-up time (25G\50G\100G speeds).
- UCX can now enable AR by exposing Out-Of-Ordering bitmask per SL with "ooo_per_sl" field in the HCA_VPORT context. It can be also queried by running the QUERY_HCA_VPORT_CONTEXT command.
- Optimized vDPA performance for PPS in scalability of up to 127 devices per port.
- When using a Multi-Host device, the firmware can now discover who is the external SmartNIC host (the Embedded CPU PF (ECPF)) with the highest index that is responsible for performing offload activities to the adapter card
- Hardware steering dump output used for debugging and troubleshooting.

Added support for the following features:

- Eye-Opening: supported only when using NRZ signal. (Beta)
- Option to allow applications to build their own QoS tree over the NIC hierarchy by connecting QPs to responder/requestor Queue Groups.
- "InfiniBand" properties set to the Network Device Function Redfish object.
- Direct Packet Placement (DPP): DPP is a receive side transport service in which the Ethernet packets are scattered to the memory according to a packet sequence number (PSN) carried by the packet, and not by their arrival order. To enable DPP offload, the software should create a special RQ by using the CREATE_RQ command and set DPP relevant attributes.
- Trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- Error statistics and reporting for vDPA.
- IPv6 TSO offload.

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: 20.29.1016 **(Recommended)**
Filename: 20_29_1016-MCX653105A-HDA_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 20.29.1016:

1. Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
2. An issue that prevented VXLAN packets with svlan/cvlan tag from being matched.
3. The eth_wqe_too_small counter to count ODP (On-Demand Paging) page used to fail.
4. An issue related to raising 100GbE link on ConnectX-6 VPI 100Gb/s adapter cards.
5. When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
6. Low performance occurred after enabling the RoCE Accelerator capability.
7. On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR.

Enhancements

New Features and Changes in Version 20.29.1016:

Added support for following features:

- LinkX module burning via MFT toolset. The new capability enables direct firmware burning from the internal flash storage to reduce the bandwidth and accelerate the burning process, including burning several modules at a time.
- An option to allow applications to build their own QoS tree over the NIC hierarchy by connecting QPs to responder/requestor Queue Groups.
- Improved NRZ link performance (RX algorithm).
- Improved NRZ link-up time (25G\50G\100G speeds).
- Enabled the options to control different Tx sets for the same attribute when connecting a Mellanox-Mellanox vs Mellanox to 3rd party HCA.
- "InfiniBand" properties set to the Network Device Function Redfish object.
- Direct Packet Placement (DPP): DPP is a receive side transport service in which the Ethernet packets are scattered to the memory according to a packet sequence number (PSN) carried by the packet, and not by their arrival order.
- To enable DPP offload, the software should create a special RQ by using the CREATE_RQ command, and set DPP relevant attributes.
- Added trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- UCX can now enable AR by exposing Out-Of-Ordering bitmask per SL with "ooo_per_sl" field in the HCA_VPORT context. It can be also queried by running the QUERY_HCA_VPORT_CONTEXT command.
- Enhanced IB Congestion Control to support lower minimum rate. Now it uses destination-lid to classify flows to handle larger scale, and achieve better results in GPCNeT benchmark.
- Hardware steering dump output used for debugging and troubleshooting.

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: 20.29.1016 **(Recommended)**
Filename: 20_29_1016-MCX653435A-HDA_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 20.29.1016:

1. Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
2. An issue that prevented VXLAN packets with svlan/cvlan tag from being matched.
3. The eth_wqe_too_small counter to count ODP (On-Demand Paging) page used to fail.
4. An issue related to raising 100GbE link on ConnectX-6 VPI 100Gb/s adapter cards.
5. When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
6. Low performance occurred after enabling the RoCE Accelerator capability.
7. On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR.

Enhancements

New Features and Changes in Version 20.29.1016:

Added support for following features:

- LinkX module burning via MFT toolset. The new capability enables direct firmware burning from the internal flash storage to reduce the bandwidth and accelerate the burning process, including burning several modules at a time.
- An option to allow applications to build their own QoS tree over the NIC hierarchy by connecting QPs to responder/requestor Queue Groups.
- Improved NRZ link performance (RX algorithm).
- Improved NRZ link-up time (25G\50G\100G speeds).
- Enabled the options to control different Tx sets for the same attribute when connecting a Mellanox-Mellanox vs Mellanox to 3rd party HCA.
- "InfiniBand" properties set to the Network Device Function Redfish object.
- Direct Packet Placement (DPP): DPP is a receive side transport service in which the Ethernet packets are scattered to the memory according to a packet sequence number (PSN) carried by the packet, and not by their arrival order.
- To enable DPP offload, the software should create a special RQ by using the CREATE_RQ command, and set DPP relevant attributes.
- Added trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- UCX can now enable AR by exposing Out-Of-Ordering bitmask per SL with "ooo_per_sl" field in the HCA_VPORT context. It can be also queried by running the QUERY_HCA_VPORT_CONTEXT command.
- Enhanced IB Congestion Control to support lower minimum rate. Now it uses destination-lid to classify flows to handle larger scale, and achieve better results in GPCNeT benchmark.
- Hardware steering dump output used for debugging and troubleshooting.

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: 20.29.1016 **(Recommended)**
Filename: 20_29_1016-MCX653106A-HDA_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 20.29.1016:

1. Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
2. An issue that prevented VXLAN packets with svlan/cvlan tag from being matched.
3. The eth_wqe_too_small counter to count ODP (On-Demand Paging) page used to fail.
4. An issue related to raising 100GbE link on ConnectX-6 VPI 100Gb/s adapter cards.
5. When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
6. Low performance occurred after enabling the RoCE Accelerator capability.
7. On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR.

Enhancements

New Features and Changes in Version 20.29.1016:

Added support for following features:

- LinkX module burning via MFT toolset. The new capability enables direct firmware burning from the internal flash storage to reduce the bandwidth and accelerate the burning process, including burning several modules at a time.
- An option to allow applications to build their own QoS tree over the NIC hierarchy by connecting QPs to responder/requestor Queue Groups.
- Improved NRZ link performance (RX algorithm).
- Improved NRZ link-up time (25G\50G\100G speeds).
- Enabled the options to control different Tx sets for the same attribute when connecting a Mellanox-Mellanox vs Mellanox to 3rd party HCA.
- "InfiniBand" properties set to the Network Device Function Redfish object.
- Direct Packet Placement (DPP): DPP is a receive side transport service in which the Ethernet packets are scattered to the memory according to a packet sequence number (PSN) carried by the packet, and not by their arrival order.
- To enable DPP offload, the software should create a special RQ by using the CREATE_RQ command, and set DPP relevant attributes.
- Added trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- UCX can now enable AR by exposing Out-Of-Ordering bitmask per SL with "ooo_per_sl" field in the HCA_VPORT context. It can be also queried by running the QUERY_HCA_VPORT_CONTEXT command.
- Enhanced IB Congestion Control to support lower minimum rate. Now it uses destination-lid to classify flows to handle larger scale, and achieve better results in GPCNeT benchmark.
- Hardware steering dump output used for debugging and troubleshooting.

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

Mellanox Firmware Package(FWPKG) for HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 MCX653436A-HDAI OCP3 PCIe4 x16 Adapter
Version: 20.29.1016 **(Recommended)**
Filename: 20_29_1016-MCX653436A-HDA_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 20.29.1016:

1. Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
2. An issue that prevented VXLAN packets with svlan/cvlan tag from being matched.
3. The eth_wqe_too_small counter to count ODP (On-Demand Paging) page used to fail.
4. An issue related to raising 100GbE link on ConnectX-6 VPI 100Gb/s adapter cards.
5. When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
6. Low performance occurred after enabling the RoCE Accelerator capability.
7. On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR.

Enhancements

New Features and Changes in Version 20.29.1016:

Added support for following features:

- LinkX module burning via MFT toolset. The new capability enables direct firmware burning from the internal flash storage to reduce the bandwidth and accelerate the burning process, including burning several modules at a time.
- An option to allow applications to build their own QoS tree over the NIC hierarchy by connecting QPs to responder/requestor Queue Groups.
- Improved NRZ link performance (RX algorithm).
- Improved NRZ link-up time (25G\50G\100G speeds).
- Enabled the options to control different Tx sets for the same attribute when connecting a Mellanox-Mellanox vs Mellanox to 3rd party HCA.
- "InfiniBand" properties set to the Network Device Function Redfish object.
- Direct Packet Placement (DPP): DPP is a receive side transport service in which the Ethernet packets are scattered to the memory according to a packet sequence number (PSN) carried by the packet, and not by their arrival order.

- To enable DPP offload, the software should create a special RQ by using the CREATE_RQ command, and set DPP relevant attributes.
- Added trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- UCX can now enable AR by exposing Out-Of-Ordering bitmask per SL with "ooo_per_sl" field in the HCA_VPORT context. It can be also queried by running the QUERY_HCA_VPORT_CONTEXT command.
- Enhanced IB Congestion Control to support lower minimum rate. Now it uses destination-lid to classify flows to handle larger scale, and achieve better results in GPCNeT benchmark.
- Hardware steering dump output used for debugging and troubleshooting.

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: 20.29.1016 **(Recommended)**
Filename: 20_29_1016-MCX653105A-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 20.29.1016:

1. Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
2. An issue that prevented VXLAN packets with svlan/cvlan tag from being matched.
3. The eth_wqe_too_small counter to count ODP (On-Demand Paging) page used to fail.
4. An issue related to raising 100GbE link on ConnectX-6 VPI 100Gb/s adapter cards.
5. When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
6. Low performance occurred after enabling the RoCE Accelerator capability.
7. On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR.

Enhancements

New Features and Changes in Version 20.29.1016:

Added support for following features:

- LinkX module burning via MFT toolset. The new capability enables direct firmware burning from the internal flash storage to reduce the bandwidth and accelerate the burning process, including burning several modules at a time.
- An option to allow applications to build their own QoS tree over the NIC hierarchy by connecting QPs to responder/requestor Queue Groups.
- Improved NRZ link performance (RX algorithm).
- Improved NRZ link-up time (25G\50G\100G speeds).
- Enabled the options to control different Tx sets for the same attribute when connecting a Mellanox-Mellanox vs Mellanox to 3rd party HCA.
- "InfiniBand" properties set to the Network Device Function Redfish object.
- Direct Packet Placement (DPP): DPP is a receive side transport service in which the Ethernet packets are scattered to the memory according to a packet sequence number (PSN) carried by the packet, and not by their arrival order.
- To enable DPP offload, the software should create a special RQ by using the CREATE_RQ command, and set DPP relevant attributes.
- Added trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- UCX can now enable AR by exposing Out-Of-Ordering bitmask per SL with "ooo_per_sl" field in the HCA_VPORT context. It can be also queried by running the QUERY_HCA_VPORT_CONTEXT command.
- Enhanced IB Congestion Control to support lower minimum rate. Now it uses destination-lid to classify flows to handle larger scale, and achieve better results in GPCNeT benchmark.
- Hardware steering dump output used for debugging and troubleshooting.

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: 20.29.1016 **(Recommended)**
Filename: 20_29_1016-MCX653106A-ECA_HPE_Ax.pldm.fwpkg

<u>**Important Note!**</u>

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

<u>**Prerequisites**</u>

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.

<u>**Fixes**</u>

The following issues have been fixed in version 20.29.1016:

1. Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
2. An issue that prevented VXLAN packets with svlan/cvlan tag from being matched.
3. The eth_wqe_too_small counter to count ODP (On-Demand Paging) page used to fail.
4. An issue related to raising 100GbE link on ConnectX-6 VPI 100Gb/s adapter cards.
5. When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
6. Low performance occurred after enabling the RoCE Accelerator capability.
7. On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR.

<u>**Enhancements**</u>

New Features and Changes in Version 20.29.1016:

Added support for following features:

- LinkX module burning via MFT toolset. The new capability enables direct firmware burning from the internal flash storage to reduce the bandwidth and accelerate the burning process, including burning several modules at a time.
- An option to allow applications to build their own QoS tree over the NIC hierarchy by connecting QPs to responder/requestor Queue Groups.
- Improved NRZ link performance (RX algorithm).
- Improved NRZ link-up time (25G\50G\100G speeds).
- Enabled the options to control different Tx sets for the same attribute when connecting a Mellanox-Mellanox vs Mellanox to 3rd party HCA.
- "InfiniBand" properties set to the Network Device Function Redfish object.
- Direct Packet Placement (DPP): DPP is a receive side transport service in which the Ethernet packets are scattered to the memory according to a packet sequence number (PSN) carried by the packet, and not by their arrival order.
- To enable DPP offload, the software should create a special RQ by using the CREATE_RQ command, and set DPP relevant attributes.
- Added trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- UCX can now enable AR by exposing Out-Of-Ordering bitmask per SL with "ooo_per_sl" field in the HCA_VPORT context. It can be also queried by running the QUERY_HCA_VPORT_CONTEXT command.
- Enhanced IB Congestion Control to support lower minimum rate. Now it uses destination-lid to classify flows to handle larger scale, and achieve better results in GPCNeT benchmark.
- Hardware steering dump output used for debugging and troubleshooting.

<u>**Supported Devices and Features**</u>

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: 1.0.4 **(Recommended)**
Filename: CP045197.compsig; CP045197.zip

<u>**Important Note!**</u>

No known issues were included in firmware version 14.29.1016:

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 14.29.1016:

- An issue that caused the sent packet to hang while the device entered FLR mode.
- Enabled Bar configuration bytewise by applying the write_en bitmask.
- A rare case where the the device froze while running the sw reset flow under heavy stress and with many open resources.
- Low PXE performance while using the VSC to trigger the send_ring_doorbells.
- An error that prevented the completions (CQ) from being completed due to a race condition in the firmware transport error handlers, and the error stressors, where the error stressors would hang the firmware transport error handler flow.
- An issue that caused the fragmented IP packets to drop was fixed.

Enhancements

Firmware for the following device is updated to 14.29.1016:

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

Following New features and Changes are included in version 14.29.1016:

- Added mlxconfig support for power reduction: PCI CAP AUTO_POWER_SAVE_LINK_DOWN
  - PCI CAP
  - AUTO_POWER_SAVE_LINK_DOWN
- Added the following segments, as appeared in the PRM, to the Resource Dump:
  - PRM_QUERY_QP
  - PRM_QUERY_CQ
  - PRM_QUERY_MKEY
  - QUERY_VNIC_ENV

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: 1.0.9 **(Recommended)**
Filename: CP045192.compsig; CP045192.zip

Important Note!

The Firmware Upgrade Utility has been split into 2 packages for Mellanox Ethernet Only NIC adpaters, 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.

Known Issues for FW version 2.42.5044 :

- When using the QSFP module RTXM320-581, and performing a driver restart for the firmware upgrade/downgrade to take effect, the link does not come up.
- Enabling/disabling cq_timestamp using mlxconfig is not supported.
- In a card with 2 separate LEDs scheme (a Phy LED and a logic LED) only the Phy LED will lit. Meaning, the orange LES will not be active while the ETH link is in an idle mode.
- In SR-IOV setup, using mlxconfig when the PF is passed through to a VM requires a reboot of the Hypervisor.
- Downgrade to previous GA requires server reboot.Downgrading from v2.30.8000 or later to an earlier version than 2.30.8000 requires server reboot. Reboot the server.
- On ConnectX-3 Ethernet adapter cards, there is a mismatch between the GUID value returned by firmware management tools and that returned by fabric/driver utilities that read the GUID via device firmware (e.g., using ibstat). Mlxburn/flint return 0xffff as GUID while the utilities return a value derived from the MAC address. For all driver/firmware/software purposes, the lattervalue should be used.
- SBR should be asserted for a minimum of 50 milliseconds for the ConnectX®-3 adapters
- On Pilot1 SL230, PCIe link occasionally does not come up at Gen3 speed
- RH6.3 Inbox driver causes kernel panic when SR-IOV is enabled on VPI cards due to driver compatibility issue.
- In advanced steering mode, side band management connectivity may be lost when having more than 8 QP per mcg.
- When SR-IOV is disabled in the system BIOS, a PCI issue is noticed in Ubuntu v12.04.3 with Linux kernel v3.8 which affects NICs of several manufacturers including Mellanox's, preventing them from operating.
- MFT tools might leave the flash semaphore locked if the tool operation is forced stopped. The locked semaphore prevents the firmware from accessing the flash and causes firmware hang.
- Cable Info MAD reports a wrong cable info when usingthe MC2210411-SR4 module
- Gen2 failure at temperature sweep up to 10C/min (for MT27518A1-FDIR-BV only).
- PCIe Gen2 link unstable at temperature sweep of 10C/min for MT27518A1-FDIR-BV
- Bloom filter is currently not supported.
- Firmware downgrade message When downgrading from firmware v2.11.0000 and using MFT 3.0.0-3
- RM#DMFS should not be enabled when working with InfiniBand on MLNX_OFED-2.0.3
- RM#VPD read-only fields are writable.
- Increasing SymbolErrorCounter When working in VPI mode with port1 FDR and port2 40G, error counters misbehave and increase rapidly
- Setting the device to 128Byte CQ/EQ stride will cause misbehavior of sideband management resulting in communication loss.
- CQ and EQ cannot be configured to different stride sizes.
- ConnectX-3 Pro VF device ID is presented the same as ConnectX-3 VF device ID due to driver limitations.
- RSOD while running PXE (legacy) on G9 servers. This occurs only when PXE boot fails and BIOS boots from HDD. Currently it is pending BIOS fix.
- Changing port protocol from ETH to IB on port with NCSI/IPMI enabled while the port is connected to ETH switch is not supported.
- RDP over IPv6 is currently not functional.
- Sniffer QP cannot be removed from the regular rule after adding the QP with insertion scheme equals to "push to that rule"
- Since only a single Boot Entry Vector (BEV) per PCI Physical Function is supported, disabling the first port causes the second port to disappear as well.
- The NIC does not notify the driver of a link-down incident when a cable is unplugged from a NIC port with 56GbE port link.
- 56GbE link is not raised when using 100GbE optic cables.

When working with MLNX_OFED v3.3-1.0.0.0, server reboot could get stuck due to a kernel panic in mlx-4_en_get_drvinfo() that is called from asynchronous event handler.

- 832298: When running ibdump, loopback traffic is mirroring into the kernel driver.
- AHS reports wrong MTU size
- RM#846523: MAC address that are set from the OS using ifconfig are not reflected in the OCBB buffer

Known Issues for FW version 14.29.1016 and 16.29.1016:

- 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.
  Workaround: Use full reset flow for firmware upgrade/downgrade.
- On systems with high PCIe latency (2us or above), lower bandwidth may be experienced.
  Workaround: If such issue is observed:
  - Enable ZTT to overcome the high latency. Run: mlxconfig -d set ZERO_TOUCH_TUNING_ENABLE=1
  - Reset or power cycle the firmware for change to take effect
- The following are the Steering Dump limitations:
  - Supported only on ConnectX-5 adapter cards
  - Requires passing the version (FW/Stelib/MFT) and device type to stelib
  - Re-format is not supported
  - Advanced multi-port feature is not supported -LAG/ROCE_AFFILIATION/MPFS_LB/ESW_LB (only traffic vhca <-> wire)
    - Packet types supported:
    - Layer 2 Eth
    - Layer 3 IPv4/Ipv6/Grh
    - Layer 4 TCP/UDP/Bth/GreV0/GreV1
    - Tunneling VXLAN/Geneve/GREv0/Mpls
  - FlexParser protocols are not supported (e.g AliVxlan/VxlanGpe etc..).
  - Compiles only on x86
- Congestion Control may not work properly if the card supports two ports and each PF for each port is not raised at the same time.

Known Issues for FW version 14.29.1016:

- Low performance might be experienced when upgrading from previous firmware version to 14.29.1000 when using "Fast FW Reset".

Known Issues for FW version 16.29.1016:

- When PER_PF_NUM_SF=1 (per PF configurations are used for SFs), if the number of SFs configured for a PF is 0 (PF_TOTAL_SF=0), than the firmware wrongly opens BAR2 with size 128KB.
- Multi-APP QoS is not supported when LAG is configured.
- When configuring adapter card's Level Scheduling, a QoS tree leaf (QUEUE_GROUP) configured with default rate_limit and default bw_share, may not obey the QoS restrictions imposed by any of the leaf's ancestors.
  Workaround: To prevent such a case, configure at least one of the following QoS attributes of a leaf: max_average_bw or bw_share.
- Occasionally, Tag Matching RNDV and NVME emulation wasn't behaving as expected.

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

ixes submitted in 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.

Following issues have been fixed in firmware version 14.29.1016:

- Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
- An issue that caused packets to drop due to header size issues and/or failing checks. The issue was caused due to a Linux issue that caused VFs to set the wrong header size value in wqe_inline_header_mode input.
- When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs were configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
- On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR.
- An issue that caused the device to go to dead IRISC as one of the firmware semaphores could not be released when a speed change or port state change was triggered.

Following issues have been fixed in firmware version 16.29.1016:

- Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
- An issue that prevented VXLAN packets with svlan/ cvlan tag from being matched.
- The eth_wqe_too_small counter to count ODP page used to fail.
- When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
- An issue that resulted in low performance after enabling the RoCE Accelerator capability.
- On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR.
- The chassis manager calculation for Multi-Host and Socket-Direct adapter cards to allow running NC-SI commands by the chassis manager BMC. Now the chassis manager is count as BMC with index 0, regardless of how many BMC there are.
- An issue that caused the device to go to dead IRISC as one of the firmware semaphores could not be released when a speed change or port state change was triggered.

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 14.29.1016:

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

Firmware for the following devices are updated to 14.29.1016:
817753-B21 (HPE Ethernet 25Gb 2-port 640SFP28 Adapter)

Firmware for the following device is updated to 16.29.1016:

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

New features and changes in version 14.29.1016:

Added support for the following features:

- A new counter per vPort that counts the number of packets that reached the Ethernet RQ but cannot fit into the WQE due to their large size. Additionally, we added the option to control if such packet will cause "CQE with Error" or "CQE_MOCK".
- cq_overrun counter: This counter represents the number of times CQs enter an error state due to overflow that occur when the device tries to post a CQE into a full CQ buffer.
- Enabled the capability to allow Virtual Functions to send Pause Frames packets.
- Enabled 10/25GbE auto-sensing with 3rd party when using 10/25GbE optical cables.
- Hardware steering dump output used for debugging and troubleshooting.

New features and changes in version 16.29.1016:

Added support for following features:

- An option to allow applications to build their own QoS tree over the NIC hierarchy by connecting QPs to responder/requestor Queue Groups.
- "InfiniBand" properties set to the Network Device Function Redfish object.
- HW support for Flow Metering to utilize Advanced Steering Operation (ASO). HW Flow Meter allows higher scale, more accuracy, and better performance compare to the FW Flow Metering.
- Trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- 2 new Mini CQE formats: Responder Mini CQE With Flow Tag Layout Responder Mini CQE With l3_l4_info Layout
- UCX can now enable AR by exposing Out-Of-Ordering bitmask per SL with "ooo_per_sl" field in the HCA_VPORT context. It can be also queried by running the QUERY_HCA_VPORT_CONTEXT command.
- Steering DP hash flow groups.
- A new counter per vPort that counts the number of packets that reached the Ethernet RQ but cannot fit into the WQE due to their large size. Additionally, we added the option to control if such packet will cause "CQE with Error" or "CQE_MOCK".
- PCIe Rx modifications to prevent the adapter cards from disappearing from the system.
- ignore_flow_level is now enabled by the TRUST LEVEL access registry.
- cq_overrun counter. The counter represents the number of times CQs enter an error state due to overflow that occur when the device tries to post a CQE into a full CQ buffer.
- [Beta] Enabled the capability to allow Virtual Functions to send Pause Frames packets.
- Enabled 10/25GbE auto-sensing with 3rd party when using 10/25GbE optical cables.
- Hardware steering dump output used for debugging and troubleshooting.

Supported Devices and Features

HPE Part Number	Mellanox Ethernet Only Adapters	PSID
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
874253-B21	HPE Ethernet 100Gb 1-port 842QSFP28 Adapter	HPE0000000014

Online Firmware Upgrade Utility (ESXi 6.5) for HPE Mellanox VPI (Ethernet and Infiniband mode) ConnectX4 and ConnectX5 devices on VMware ESXi 6.5
Version: 1.0.8 **(Recommended)**
Filename: CP045145.compsig; CP045145.zip

Important Note!

Known Issues with firmware version 12.28.1002:

- When MKEY_BY_NAME is enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.

Known Issues with firmware version 16.29.1016:

- Multi-APP QoS is not supported when LAG is configured.
- 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.
  Workaround: Use full reset flow for firmware upgrade/downgrade.
- On systems with high PCIe latency (2us or above), lower bandwidth may be experienced.
  Workaround: If such issue is observed:
    - Enable ZTT to overcome the high latency. Run: mlxconfig -d set ZERO_TOUCH_TUNING_ENABLE=1
    - Reset or power cycle the firmware for change to take effect
- When PER_PF_NUM_SF=1 (per PF configurations are used for SFs), if the number of SFs configured for a PF is 0 (PF_TOTAL_SF=0), than the firmware wrongly opens BAR2 with size 128KB.
- The following are the Steering Dump limitations:
    - Supported only on ConnectX-5 adapter cards
    - Requires passing the version (FW/Stelib/MFT) and device type to stelib
    - Re-format is not supported
    - Advanced multi-port feature is not supported -LAG/ROCE_AFFILIATION/MPFS_LB/ESW_LB (only traffic vhca <-> wire)
        - Packet types supported:
        - Layer 2 Eth
        - Layer 3 IPv4/Ipv6/Grh
        - Layer 4 TCP/UDP/Bth/GreV0/GreV1
        - Tunneling VXLAN/Geneve/GREv0/Mpls
    - FlexParser protocols are not supported (e.g AliVxlan/VxlanGpe etc..).
    - Compiles only on x86
- When configuring adapter card's Level Scheduling, a QoS tree leaf (QUEUE_GROUP) configured with default rate_limit and default bw_share, may not obey the QoS restrictions imposed by any of the leaf's ancestors.
  Workaround: To prevent such a case, configure at least one of the following QoS attributes of a leaf: max_average_bw or bw_share.
- Occasionally, Tag Matching RNDV and NVME emulation wasn't behaving as expected.
- Congestion Control may not work properly if the card supports two ports and each PF for each port is not raised at the same time.

Fixes

Following issues have been fixed in firmware version 16.29.1016:

- An issue that prevented VXLAN packets with svlan/ cvlan tag from being matched.
- An issue that caused the eth_wqe_too_small counter to count ODP (On-Demand Paging) page faults.
- When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
- An issue that resulted in low performance after enabling the RoCE Accelerator capability. Note: The fix is available when all ports are set as Ethernet.
- On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR.
- The chassis manager calculation for Multi-Host and Socket-Direct adapter cards to allow running NC-SI commands by the chassis manager BMC. Now the chassis manager is count as BMC with index 0, regardless of how many BMC there are.
- An issue that caused the device to go to down IRISC as one of the firmware semaphores could not be released when a speed change or port state change was triggered.

Following issues have been fixed in firmware version 12.28.1002:

- 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.
- Increased PHY power consumption limit to 1.5w.
- An issue that caused PortCounters.PortRcvErr / PPCNT.infiniband_counters.PortRcvErr not to report port icrc errors.

Enhancements

Firmware for the following devices are updated to 12.28.1002:

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 12.28.1002:

- Increased the maximum XRQ number to 512.

Firmware for the following devices are updated to 16.29.1016:

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 Feature and Changes in Version 16.29.1016:

Added support for the following features:

- Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
- An option to allow applications to build their own QoS tree over the NIC hierarchy by connecting QPs to responder/requestor Queue Groups.
- "InfiniBand" properties set to the Network Device Function Redfish object.
- HW support for Flow Metering to utilize Advanced Steering Operation (ASO). HW Flow Meter allows higher scale, more accuracy, and better performance compared to the FW Flow Metering.
- Trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- 2 new Mini CQE formats: Responder Mini CQE With Flow Tag Layout Responder Mini CQE With l3_l4_info Layout
- UCX can now enable AR by exposing Out-Of-Ordering bitmask per SL with "ooo_per_sl" field in the HCA_VPORT context. It can be also queried by running the QUERY_HCA_VPORT_CONTEXT command.
- Steering DP hash flow groups.
- A new counter per vPort that counts the number of packets that reached the Ethernet RQ but cannot fit into the WQE due to their large size. Additionally, we added the option to control if such packet will cause "CQE with Error" or "CQE_MOCK".
- PCIe Rx modifications to prevent the adapter cards from disappearing from the system.
- ignore_flow_level is now enabled by the TRUST LEVEL access registry.
- cq_overrun counter. The counter represents the number of times CQs enter an error state due to overflow that occur when the device tries to post a CQE into a full CQ buffer.
- [Beta] Enabled the capability to allow Virtual Functions to send Pause Frames packets.
- Enabled 10/25GbE auto-sensing with 3rd party when using 10/25GbE optical cables.
- Hardware steering dump output used for debugging and troubleshooting.

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: 1.0.1 **(Recommended)**
Filename: CP044869.compsig; CP044869.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 20.29.1016:

- Changed the default value of DCQCN's (Data center- Quantized Congestion Notification) NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
- An issue that prevented VXLAN packets with svlan/cvlan tag from being matched.
- The eth_wqe_too_small counter to count ODP (On-Demand Paging) page used to fail.
- An issue related to raising 100GbE link on ConnectX-6 VPI 100Gb/s adapter cards.
- When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) will take longer than when MKEY_BY_NAME is disabled.
- Low performance occurred after enabling the RoCE Accelerator capability.
- On rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR.

Enhancements

Firmware for the following devices are updated to 20.29.1016:

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 in Version 20.29.1016:

Added support for following features:

- LinkX module burning via MFT toolset. The new capability enables direct firmware burning from the internal flash storage to reduce the bandwidth and accelerate the burning process, including burning several modules at a time.
- An option to allow applications to build their own QoS tree over the NIC hierarchy by connecting QPs to responder/requestor Queue Groups.
- Improved NRZ link performance (RX algorithm).
- Improved NRZ link-up time (25G\50G\100G speeds).
- Enabled the options to control different Tx sets for the same attribute when connecting a Mellanox-Mellanox vs Mellanox to 3rd party HCA.
- "InfiniBand" properties set to the Network Device Function Redfish object.
- Direct Packet Placement (DPP): DPP is a receive side transport service in which the Ethernet packets are scattered to the memory according to a packet sequence number (PSN) carried by the packet, and not by their arrival order.
- To enable DPP offload, the software should create a special RQ by using the CREATE_RQ command, and set DPP relevant attributes.
- Added trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- UCX can now enable AR by exposing Out-Of-Ordering bitmask per SL with "ooo_per_sl" field in the HCA_VPORT context. It can be also queried by running the QUERY_HCA_VPORT_CONTEXT command.
- Enhanced IB Congestion Control to support lower minimum rate. Now it uses destination-lid to classify flows to handle larger scale, and achieve better results in GPCNeT benchmark.
- Hardware steering dump output used for debugging and troubleshooting.

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:

- When using the Quad Small Form-factor Pluggable (QSFP) module RTXM320-581, and performing a driver restart for the firmware upgrade/downgrade to take effect, the link does not come up.
  Workaround: Reboot the server.
- Enabling/disabling cq_timestamp using mlxconfig is not supported.
- In a card with 2 separate LEDs scheme (a Phy LED and a logic LED) only the Phy LED will lit. Meaning, the orange LED will not be active while the ETH link is in an idle mode.
- In SR-IOV setup, using mlxconfig when the Packet Filter (PF) is passed through to a VM requires a reboot of the Hypervisor.
- Downgrading from v2.30.8000 or later to an earlier version than 2.30.8000 requires server reboot.
  Workaround: Reboot the server.
- On ConnectX-3 Ethernet adapter cards, there is a mismatch between the GUID value returned by firmware management 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).
- SBR should be asserted for a minimum of 50 milliseconds for the ConnectX-3 adapters.
- On Pilot1 SL230, PCIe link occasionally does not come up at Gen3 speed.
- 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.
- In advanced steering mode, side band management connectivity may be lost when having more than 8 QP per mcg.

- When SR-IOV is disabled in the system BIOS, a PCI issue is noticed in Ubuntu v12.04.3 with Linux kernel v3.8 which affects NICs of several manufacturers including Mellanox's, preventing them from operating.
  Workaround: Enable SR-IOV in the BIOS.
- 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'
- Cable Info MAD reports a wrong cable info when using the MC2210411-SR4 module.
- Gen2 failure at temperature sweep up to 10C/min (for MT27518A1-FDIR-BV only)..
- PCIe Gen2 link unstable at temperature sweep of 10C/min for MT27518A1-FDIR-BV.
- Bloom filter is currently not supported.
- When downgrading from firmware v2.11.0000 and using MFT 3.0.0-3, the following message is displayed due to the mlxconfig tool: You are trying to override configurable FW by non-configurable FW. If you continue, old FW configurations will be cleared, do you want to continue? (y/n) [n] : y You are trying to restore default configuration, do you want to continue ? (y/n) [n] : y.
- DMFS should not be enabled when working with InfiniBand on MLNX_OFED-2.0.3
- 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.
- Virtual Product Data (VPD) read-only fields are writable.
  Workaround: Do not write to read-only fields if you wish to preserve them.
- When working in Virtual Path Identifier (VPI) mode with port1 FDR and port2 40G, error counters misbehave and increase rapidly.
- Setting the device to 128Byte CQ/EQ stride will cause misbehavior of sideband management resulting in communication loss.
- CQ and EQ cannot be configured to different stride sizes.
- 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.
- Adapter card MCX349A-XCCN may experience longer linkup times of a few seconds with specific switches.
- Adapter card MCX349A-XCCN does not respond to ethtool "identify" command (ethtool -p/--identify).
- 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)
- Sniffer QP cannot be removed from the regular rule after adding the QP with insertion scheme equals to "push to that rule".
- Since only a single Boot Entry Vector (BEV) per PCI Physical Function is supported, disabling the first port causes the second port to disappear as well.
- The NIC does not notify the driver of a link-down incident when a cable is unplugged from a NIC port with 56GbE port link.
- 56GbE link is not raised when using 100GbE optic cables.
- When working with MLNX_OFED v3.3-1.0.0.0, server reboot could get stuck due to a kernel panic in mlx4_en_get_drvinfo() that is called from asynchronous event handler.
- When running ibdump, loopback traffic is mirroring into the kernel driver.
- 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 "mlxfwtop –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: 1.0.4 **(Recommended)**
Filename: CP045140.zip; CP045140_part1.compsig; CP045140_part2.compsig

Important Note!

Known Issues in firmware 14.29.1016:

- 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.
  Workaround: Use full reset flow for firmware upgrade/downgrade.
- On systems with high PCIe latency (2us or above), lower bandwidth may be experienced.
  Workaround: If such issue is observed:
- Enable ZTT to overcome the high latency. Run: mlxconfig -d <mst device> set ZERO_TOUCH_TUNING_ENABLE=1
- Reset or power cycle the firmware for change to take effect
- Low performance might be experienced when upgrading from previous firmware version to 14.29.1000 when using "Fast FW Reset".
- The following are the Steering Dump limitations:
    - Supported only on ConnectX-5 adapter cards.
    - Requires passing the version (FW/Stelib/MFT) and device type to stelib.
    - Re-format is not supported
    - Advanced multi-port feature is not supported – LAG/ROCE_AFFILIATION/MPFS_LB/ ESW_LB (only traffic vhca <-> wire).
        - Packet types supported:
        - Layer 2 Eth
        - Layer 3 IPv4/Ipv6/Grh
        - Layer 4 TCP/UDP/Bth/GreV0/GreV1
        - Tunneling VXLAN/Geneve/GREv0/Mpls FlexParser protocols are not supported (e.g AliVxlan/VxlanGpe etc..).
    -
    - FlexParser protocols are not supported (e.g AliVxlan/VxlanGpe etc..).
    - Compiles only on x86
- Congestion Control may not work properly if the card supports two ports and each PF for each port is not raised at the same time.

Known Issues with firmware version 16.29.1016:

- Multi-APP QoS is not supported when LAG is configured.
- When PER_PF_NUM_SF=1 (per PF configurations are used for SFs), if the number of SFs configured for a PF is 0 (PF_TOTAL_SF=0), than the firmware wrongly opens BAR2 with size 128KB.
  Workaround: N/A
- When configuring adapter card's Level Scheduling, a QoS tree leaf (QUEUE_GROUP) configured with default rate_limit and default bw_share, may not obey the QoS restrictions imposed by any of the leaf's ancestors.
  Workaround: To prevent such a case, configure at least one of the following QoS attributes of a leaf: max_average_bw or bw_share.
- Occasionally, Tag Matching RNDV and NVME emulation was not behaving as expected.
  Workaround: N/A

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.

Fixes

Following issues have been fixed in firmware version 14.29.1016 and 16.29.1016:

- Changed the default value of DCQCN's NP parameter min_time_between_cnps to 4 on all devices to support larger scalability of cluster.
- An issue that caused packets to drop due to header size issues and/or failing checks. This issue was caused due to a Linux issue that caused VFs to set the wrong header size value in wqe_inline_header_mode input.
- When MKEY_BY_NAME was enabled by NVCONFIG and a large number of VFs are configured, VM restart (VF/PF FLR) might take longer than when MKEY_BY_NAME was disabled.
- In rare cases, a fatal error related to errors from the PCI transport layer might be reported during FLR.
- An issue that caused the device to go to dead IRISC as one of the firmware semaphores could not be released when a speed change or port state change was triggered.

Following issues have been fixed in firmware version 16.29.1016:

- An issue that caused the eth_wqe_too_small counter to count ODP page faults.
- A low performance was observed after enabling the RoCE Accelerator capability.

Enhancements

Firmware for the following devices is updated to 14.29.1016:

P21930-B21 (HPE Ethernet 10Gb 2-port SFP+ MCX4121A-XCAT Adapter)
P11341-B21 (HPE Ethernet 10Gb 2-port SFP+ MCX4621A-ACAB OCP3 Adapter)

Firmware for the following devices is updated to 16.29.1016:

P13188-B21 (HPE Ethernet 10/25Gb 2-port SFP28 MCX512F-ACAT Adapter)
P21927-B21 (HPE Ethernet 100Gb 2-Port QSFP28 MCX516A-CCHT Adapter)
P10112-B21 (HPE Ethernet 10/25Gb 2-port SFP28 MCX562A-ACAI OCP3 Adapter)

This release contains important reliability improvements and security hardening enhancements. Upgrade the firmware of the device to this release to improve the devices' firmware security and reliability.

New Feature and Changes in Version 14.29.1016 and 16.29.1016:

- Ethernet wqe_too_small Mode: A per vPort that counts the number of packets that reached the Ethernet RQ but cannot fit into the WQE due to their large size. Additionally, we added the option to control if such packet will cause "CQE with Error" or "CQE_MOCK".
- Hardware steering dump output used for debugging and troubleshooting.

  Added support for the following features:

- cq_overrun counter: The counter represents the number of times CQs enter an error state due to overflow that occur when the device tries to post a CQE into a full CQ buffer.
- Enabled the capability to allow Virtual Functions to send Pause Frames packets. (Beta)
- Enabled 10/25GbE auto-sensing with 3rd party when using 10/25GbE optical cables.

New Feature and Changes in Version 16.29.1016:

- Hardware steering dump output used for debugging and troubleshooting.

  Added support for the following features:

- HW support for Flow Metering to utilize Advanced Steering Operation (ASO). HW Flow Meter allows higher scale, more accuracy, and better performance compare to the FW Flow Metering.
- Trust level for VFs. Once the VF is trusted, it will get a set of trusted capabilities.
- 2 new Mini CQE formats:
- Responder Mini CQE With Flow Tag Layout.
- Responder Mini CQE With l3_l4_info Layout.
- Steering DP hash flow groups.
- ignore_flow_level is now enabled by the TRUST LEVEL access registry.

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 2-port SFP+ MCX4621A-ACAB OCP3 Adapter	MT_0000000238
P13188-B21	HPE Ethernet 10/25Gb 2-port SFP28 MCX512F-ACHT Adapter	MT_0000000416
P10112-B21	HPE Ethernet 10/25Gb 2-port SFP28 MCX562A-ACAI OCP3 Adapter	MT_0000000241
P21927-B21	HPE Ethernet 100Gb 2-port QSFP28 MCX516A-CCHT Adapter	MT_0000000417

Firmware - NVDIMM Top
Firmware Package - 16GB NVDIMM-N DDR4-2666
Version: 1.04 (A) **(Recommended)**
Filename: nvdimm-16gb_1.04.fwpkg

Fixes

Initial relaese.

Enhancements

Initial release.

Firmware - Storage Controller Top
HPE D3600/D3700/D3610/D3710 12Gb SAS Disk Enclosure ROM Flash Component for VMware (ESXi)
Version: 5.04 (B) **(Recommended)**
Filename: CP045788.compsig; CP045788.md5; CP045788.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 (I) **(Recommended)**
Filename: CP045969.compsig; CP045969.md5; CP045969.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: 0111 **(Recommended)**
Filename: CP046455.md5; CP046455.zip; CP046455_part1.compsig; CP046455_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:

- Incorrect programming of the PHY ERROR COUNTERS parameter caused the amber LED to be lit, resulting in a false warning. The counter condition was corrected and the amber LED now functions correctly.

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 Smart Array SR932i-p and SR416i-a Gen10+ Controllers
Version: 03.01.00.006 **(Recommended)**
Filename: HPE_SRXXX_Gen10p_3.01.00.006.fwpkg

Enhancements

Initial Release

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: 5.08 **(Recommended)**
Filename: CP044962.compsig; CP044962.zip

Important Note!

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

Fixes

- Smart Carrier Authentication Failure issue

Enhancements

- Added support for Gen10 plus UBM type 1/2/3 backplanes

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 2000 System - SAS Expander
Version: 1.52 (B) **(Recommended)**
Filename: CP045347.compsig; CP045347.zip

Enhancements

Added support for ESXi 7.0

Online ROM Flash Component for VMware ESXi - HPE Apollo 4200 Backplane Expander Firmware
Version: 1.79 (B) **(Recommended)**
Filename: CP045810.zip; CP045810_part1.compsig; CP045810_part2.compsig

Important Note!

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

Enhancements

Added ESXi 7.0 support.

Online ROM Flash Component for VMware ESXi - HPE Apollo 4200 Gen10 Plus Backplane Expander Firmware
Version: 0.37 **(Recommended)**
Filename: CP044965.compsig; CP044965.zip

Enhancements

Initial Release

Online ROM Flash Component for VMware ESXi - HPE Apollo 45xx Gen10 Backplane Expander Firmware
Version: 1.56 (D) **(Recommended)**
Filename: CP038103.compsig; CP038103.zip

Enhancements

- Added HPE Smart Array P824i-p controller support

Online ROM Flash Component for VMware ESXi - HPE Apollo 45xx Gen9 Backplane Expander Firmware
Version: 2.50 (B) **(Recommended)**
Filename: CP045346.compsig; CP045346.zip

Important Note!

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

Enhancements

Added support for the ESXi OS 7.0

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

Fixes

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

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

Important Note!

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

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

Prerequisites

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

  Check dependency failed.

  Current version: iLOx x.xx

  Minimum version required: iLO4 2.20

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

Enhancements

- Added VMware vSphere 6.7 OS support

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

Important Note!

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

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

Prerequisites

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

Enhancements

- Added support for VMware vSphere 6.7 OS

Online ROM Flash Component for VMware ESXi - HPE Smart Array P408i-p, P408e-p, P408i-a, P408i-c, E208i-p, E208e-p, E208i-c, E208i-a, P408i-sb, P408e-m, P204i-c, P204i-b, P816i-a and P416ie-m SR Gen10
Version: 3.53 **(Recommended)**
Filename: CP046359.compsig; CP046359.zip

Fixes

- An issue where the controller might become unresponsive while receiving periodic I/Os.
- Host I/O timeouts might occur due to continuing firmware attempts to discover devices during an expander configuration.
- A controller lockup problem (with code 0x1E10) might occur when a bad drive with unsupported block size.
- A Controller hangs when multiple hot-plug and hot remove events (drives or JBODs) were being processed.
- A Controller hangs on Flash Backed Write Cache enabled logical drives with sequential read towards the end of the logical drive.
- A Controller hangs when hot-plug physical drive with outstanding I/Os.
- A controller hangs if a host I/O and background consistency check simultaneously encounter a RAID-1 ADM or RAID-10 ADM stripe in which all drives have URE's on the same LBA.
- A Controller hangs when a drive is failed from a RAID6/60 logical drive when the host issues a Clear Controller Configuration command or any other configuration change command.
- The SSD data drive might be set offline (with reason code 0x37) when hot-remove and re-insert during a spare rebuild in progress.
- A drive might not be exposed to the OS if the system is rebooted just after the sanitize erase finishes.
- UBM backplanes are not detected properly when connected to specific ports (port 7 or above) in the 12Gb SAS Expander Card.
- A controller might hang when idle followed by a short burst of I/Os.
- The controller might return the previous drive firmware version, after a drive firmware update on SATA drives.
- The controller might fail drives (with reason code 0x49, I/O freeze timeout) during expander firmware upgrade on a multi-expander enclosure configuration.
- Hot-added drive LED control fails on specific fan-out expander type external enclosure models.
- Smart Array Essential series controller might not be responsive when processing sequential I/Os and the firmware coalescing logic can't get the memory.
- Filesystem or application might read old data when SmartCache configurations encounter intermittent write I/O errors to a primary logical drive.

Enhancements

- Added UBM type3 backplane support
- Added support for long device model/product ID for SATA drives.

Online ROM Flash Component for VMware ESXi - Smart Array and Smart HBA H240ar, H240nr, H240, H241, H244br, P240nr, P244br, P246br, P440ar, P440, P441, P542D, P741m, P840, P840ar, and P841
Version: 7.00 (D) **(Recommended)**
Filename: CP047335.compsig; CP047335.zip

Fixes

- Improved flash engine efficiency

Online ROM Flash Component for VMware ESXi - Smart Array P220i, P222, P420i, P420, P421, P721m, and P822
Version: 8.32 (E) **(Recommended)**
Filename: CP045344.compsig; CP045344.zip

Enhancements

Added support for ESXi 7.0

Online ROM Flash Component for VMware ESXi - Smart Array P230i, P430, P431, P731m, P830i, and P830
Version: 5.02 (B) **(Recommended)**
Filename: CP045345.compsig; CP045345.zip

Enhancements

Added support for the ESXI OS7.0

Supplemental Update / Online ROM Flash Component for Linux (x64) - Smart Array P230i, P430, P431, P731m, P830i, and P830
Version: 5.02 **(Recommended)**
Filename: rpm/RPMS/x86_64/firmware-smartarray-112204add8-5.02-1.1.x86_64.rpm

Important Note!

- When booting a system running Red Hat Enterprise Linux 7.1 Operating System, the HP Smart Array controllers might not be recognized. This issue is due to changes in the OS where the sg driver is no longer loaded during system boot. The work around for this issue is to manually issue a "**modprobe sg**" command which should load the sg driver. After the sg driver is loaded, the /dev/sg* devices should be present and the sg driver can be used to access SCSI devices.

Fixes

- The firmware updates could fail while SmartCache is enabled due to active I/O in the Smart Cache.
- The serial output of the expander could fail to be populated in the controller logs due to the buffer not being handled appropriately by the controller

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Firmware - Storage Fibre Channel
HPE Firmware Flash for Emulex Fibre Channel Host Bus Adapters for VMware vSphere 6.5
Version: 2021.02.01 **(Recommended)**
Filename: CP044728.compsig; CP044728.zip

Important Note!

Release Notes:

[HPE Emulex Adapter Release Notes](#)

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

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

To obtain the guide:

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

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

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

Fixed the following:-

- Fixed a behavior where the SN1600E would wrongly display an unwanted message when loading Unified Extensible Firmware Interface (UEFI) driver defaults

Added the following:-

- Added support for Distributed Management Task Force (DMTF) – Platform Level Data Model (PLDM) Firmware Update to the SN1200E, SN1600E, and SN1610E
- The adapter will now reset to defaults when the user activates Hewlett Packard Enterprise (HPE) Secure Erase from Hewlett Packard Enterprise (HPE) intelligent provisioning
- Added support for Fabric Performance Impact Notifications (FPIN)

This Firmware package contains following firmware versions:

Adapter	Speed	Universal Boot Image	Firmware	UEFI	Boot Bios
HPE 81E 8Gb Single Port PCIe Fibre Channel Host Bus Adapter	8Gb	12.80a3	2.10X6	12.8.183.0	12.8.9.0
HPE 82E 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter	8Gb	12.80a3	2.10X6	12.8.183.0	12.8.9.0
HPE 84E 8Gb Quad Port Fibre Channel Host Bus Adapter	8Gb	12.80a3	2.10X6	12.8.183.0	12.8.9.0
HPE SN1000E 16Gb Dual Port Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1000E 16Gb Single Port Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1100E Quad Port 16Gb Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1610E 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1610E 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5

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 a behavior where the SN1600E would wrongly display an unwanted message when loading Unified Extensible Firmware Interface (UEFI) driver defaults

Enhancements

Added the following:-

- Added support for Distributed Management Task Force (DMTF) – Platform Level Data Model (PLDM) Firmware Update to the SN1200E, SN1600E, and SN1610E
- The adapter will now reset to defaults when the user activates Hewlett Packard Enterprise (HPE) Secure Erase from Hewlett Packard Enterprise (HPE) intelligent provisioning
- Added support for Fabric Performance Impact Notifications (FPIN)

This Firmware package contains following firmware versions:

Adapter	Speed	Universal Boot Image	Firmware	UEFI	Boot Bios
HPE 81E 8Gb Single Port PCIe Fibre Channel Host Bus Adapter	8Gb	12.80a3	2.10X6	12.8.183.0	12.8.9.0
HPE 82E 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter	8Gb	12.80a3	2.10X6	12.8.183.0	12.8.9.0
HPE 84E 8Gb Quad Port Fibre Channel Host Bus Adapter	8Gb	12.80a3	2.10X6	12.8.183.0	12.8.9.0
HPE SN1000E 16Gb Dual Port Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1000E 16Gb Single Port Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1100E Quad Port 16Gb Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter	16Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1610E 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5
HPE SN1610E 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5

Supported Devices and Features

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

8Gb FC Adapter:

- HPE 81E 8Gb Single Port PCIe Fibre Channel Host Bus Adapter
- HPE 82E 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter
- HPE 84E 8Gb Quad Port Fibre Channel Host Bus Adapter

16Gb FC Adapter:

- HPE SN1000E 16Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1000E 16Gb Single Port Fibre Channel Host Bus Adapter
- HPE SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter
- HPE SN1100E Quad Port 16Gb Fibre Channel Host Bus 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

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HPE Firmware Flash for Emulex Mezzanine Fibre Channel Host Bus Adapters for VMware vSphere 6.5
Version: 2021.02.01 **(Recommended)**
Filename: CP044762.compsig; CP044762.zip

Important Note!

Release Notes:

HPE Emulex Adapter Release Notes

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

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

To obtain the guide:

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

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

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

Fixed the following:-

- Fixed a behavior where the SN1600E would wrongly display an unwanted message when loading Unified Extensible Firmware Interface (UEFI) driver defaults

Added the following:-

- Added support for Distributed Management Task Force (DMTF) – Platform Level Data Model (PLDM) Firmware Update to the SN1200E, SN1600E, and SN1610E
- The adapter will now reset to defaults when the user activates Hewlett Packard Enterprise (HPE) Secure Erase from Hewlett Packard Enterprise (HPE) intelligent provisioning
- Added support for Fabric Performance Impact Notifications (FPIN)

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	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5

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 a behavior where the SN1600E would wrongly display an unwanted message when loading Unified Extensible Firmware Interface (UEFI) driver defaults

Enhancements

Added the following:-

- Added support for Distributed Management Task Force (DMTF) – Platform Level Data Model (PLDM) Firmware Update to the SN1200E, SN1600E, and SN1610E
- The adapter will now reset to defaults when the user activates Hewlett Packard Enterprise (HPE) Secure Erase from Hewlett Packard Enterprise (HPE) intelligent provisioning
- Added support for Fabric Performance Impact Notifications (FPIN)

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	12.8.352.12	12.8.352.12	12.8.352.10	12.8.352.5

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

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HPE Firmware Flash for QLogic Fibre Channel Host Bus Adapters for VMware vSphere 6.5
Version: 2021.02.01 **(Recommended)**
Filename: CP044780.compsig; CP044780.zip

Important Note!

Refer release notes available at:

HPE QLogic Adapter Release Notes

Fixed the following:-

- Enhancements have been made to the firmware to prevent and better recover from any stoppage as described in Customer Advisory available at https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00094722en_us
- Fixed a behavior where the number of active Input/Output (IO) exchanges could be reduced under certain fabric conditions, resulting in reduced performance.

Added the following:-

- Added support for Fabric Performance Impact Notifications (FPIN)

This Firmware package contains following firmware versions:

Adapter	Speed	MBI	Firmware	UEFI	Boot Bios
HPE 81Q 8Gb PCIe Fibre Channel Host Bus Adapter	8Gb	3.82.00	8.08.207	7.00	3.56
HPE 82Q 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter	8Gb	3.82.00	8.08.207	7.00	3.56
HPE 84Q 8Gb Quad Port Fibre Channel Host Bus Adapter	8Gb	3.82.00	8.08.207	7.00	3.56
HPE SN1000Q 16GB Dual Port PCIe Fibre Channel Host Bus Adapter	16Gb	6.04.04	8.08.232	7.04	3.43
HPE SN1000Q 16GB Single Port PCIe Fibre Channel Host Bus Adapter	16Gb	6.04.04	8.08.232	7.04	3.43
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	02.04.07	09.06.02	7.11	0.0
HPE SN1610Q 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	02.04.07	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/

Fixes

Fixed the following:-

- Enhancements have been made to the firmware to prevent and better recover from any stoppage as described in Customer Advisory available at https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00094722en_us
- Fixed a behavior where the number of active Input/Output (IO) exchanges could be reduced under certain fabric conditions, resulting in reduced performance.

Enhancements

Added the following:-

- Added support for Fabric Performance Impact Notifications (FPIN)

This Firmware package contains following firmware versions:

Adapter	Speed	MBI	Firmware	UEFI	Boot Bios
HPE 81Q 8Gb PCIe Fibre Channel Host Bus Adapter	8Gb	3.82.00	8.08.207	7.00	3.56
HPE 82Q 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter	8Gb	3.82.00	8.08.207	7.00	3.56
HPE 84Q 8Gb Quad Port Fibre Channel Host Bus Adapter	8Gb	3.82.00	8.08.207	7.00	3.56
HPE SN1000Q 16GB Dual Port PCIe Fibre Channel Host Bus Adapter	16Gb	6.04.04	8.08.232	7.04	3.43

HPE SN1000Q 16GB Single Port PCIe Fibre Channel Host Bus Adapter	16Gb	6.04.04	8.08.232	7.04	3.43
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	02.04.07	09.06.02	7.11	0.0
HPE SN1610Q 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	02.04.07	09.06.02	7.11	0.0

Supported Devices and Features

This firmware supports the following HPE adapters:

8Gb Fibre Channel Host Bus Adapter:

- HPE 81Q 8Gb Single Port PCIe Fibre Channel Host Bus Adapter
- HPE 82Q 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter
- HPE 84Q 8Gb Quad Port Fibre Channel Host Bus Adapter

16Gb Fibre Channel Host Bus Adapter:

- HPE SN1000Q 16Gb Dual Port PCIe Fibre Channel Host Bus Adapter
- HPE SN1000Q 16Gb Single Port PCIe 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

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HPE Firmware Flash for QLogic Mezzanine Fibre Channel Host Bus Adapters for VMware vSphere 6.5
Version: 2021.02.01 **(Recommended)**
Filename: CP044793.compsig; CP044793.zip

Important Note!

Release Notes:

HPE QLogic Adapter Release Notes

Fixed the following:-

- Enhancements have been made to the firmware to prevent and better recover from any stoppage as described in Customer Advisory available at https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00094722en_us
- Fixed a behavior where the Unified Extensible Firmware Interface (UEFI) driver would force the system to reboot if one or both ports of a mezzanine adapter were not connected to an interconnect module during boot.
- Fixed a behavior where the number of active Input/Output (IO) exchanges could be reduced under certain fabric conditions, resulting in reduced performance.

Added the following:-

- Added support for Fabric Performance Impact Notifications (FPIN)

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/

Fixes

Fixed the following:-

- Enhancements have been made to the firmware to prevent and better recover from any stoppage as described in Customer Advisory available at https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00094722en_us
- Fixed a behavior where the Unified Extensible Firmware Interface (UEFI) driver would force the system to reboot if one or both ports of a mezzanine adapter were not connected to an interconnect module during boot.
- Fixed a behavior where the number of active Input/Output (IO) exchanges could be reduced under certain fabric conditions, resulting in reduced performance.

Enhancements

Added the following:-

- Added support for Fabric Performance Impact Notifications (FPIN)

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:

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

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Software - Management **Top**

HPE Management Bundle Smart Component for ESXi 6.5
Version: 2021.04.12 **(Recommended)**
Filename: cp046908.compsig; cp046908.zip

Fixes

Agentless Management Service

- Reduce Software Inventory cache refresh time to 15 seconds to help resolve OneView online SW update issues without reboot.
- Fixed resource leak when AHS logging fails
- Fix incorrect reporting of SATA disks attached to Smart Array and SAS controllers in the cpqIdeAtaDisk MIB.

Enhancements

Agentless Management Service

- Added support for new NIC devices (Gen10 AMS only)
- Added support for new SATA, SAS and NVMe drives (Gen10 AMS only)

Software - Storage Controller **Top**

HPE MegaRAID Storage Administrator StorCLI for VMware6.5
Version: 2021.04.00 **(Recommended)**
Filename: cp045835.compsig; cp045835.zip

Enhancements

- Added support for the Apollo 4510 system

Software - Storage Fibre Channel **Top**

HPE Blade Emulex(BRCM) Mezzanine Fibre Channel over Ethernet driver for VMware vSphere 6.5
Version: 2021.02.01 **(Recommended)**
Filename: cp042231.compsig; cp042231.zip

Important Note!

Release Notes:
HPE Emulex Adapters Release Notes

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

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

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

To obtain the guide:

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

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

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

If the server contains only CNA adapters and lpfc driver is already been installed, post the new driver update, please remove the lpfc driver using the following command:

 #esxcli software vib remove lpfc

Updated to Driver version 12.0.1278.0

Prerequisites

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

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

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

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

To obtain the guide:

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

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

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

If the server contains only CNA adapters and lpfc driver is already been installed, post the new driver update, please remove the lpfc driver using the following command:

 #esxcli software vib remove lpfc

Enhancements

Updated to Driver version 12.0.1278.0

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 QLogic Fibre Channel driver component for VMware vSphere 6.5
Version: 2021.02.01 **(Recommended)**
Filename: cp044777.compsig; cp044777.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.

Fixed the following:

- Fixed a behavior where enabling VM-ID and SmartSAN on a boot from Storage Area Network (SAN) setup caused driver load incomplete
- Fixed a behavior where automatic attempts to recover from the behavior described in Customer Advisory available at https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00094722en_us would result in a Purple Screen of Death (PSoD)

Added the following:

- Added Non-volatile memory express (NVMe) over Fibre Channel (FC) Capability
- Added support for Fabric Performance Impact Notifications (FPIN)

Driver version 2.1.101.0

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 a behavior where enabling VM-ID and SmartSAN on a boot from Storage Area Network (SAN) setup caused driver load incomplete
- Fixed a behavior where automatic attempts to recover from the behavior described in Customer Advisory available at https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00094722en_us would result in a Purple Screen of Death (PSoD)

Enhancements

Added the following:-

- Added Non-volatile memory express (NVMe) over Fibre Channel (FC) Capability
- Added support for Fabric Performance Impact Notifications (FPIN)

Driver version 2.1.101.0

Supported Devices and Features

This driver supports the following HPE adapters:

8Gb Fibre Channel Host Bus Adapter:

- HPE 81Q 8Gb Single Port PCIe Fibre Channel Host Bus Adapter
- HPE 82Q 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter
- HPE 84Q 8Gb Quad Port Fibre Channel Host Bus Adapter

16Gb Fibre Channel Host Bus Adapter:

- HPE SN1000Q 16Gb Dual Port PCIe Fibre Channel Host Bus Adapter
- HPE SN1000Q 16Gb Single Port PCIe 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

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HPE QLogic Mezzanine Fibre Channel driver component for VMware vSphere 6.5
Version: 2021.02.01 **(Recommended)**
Filename: cp044790.compsig; cp044790.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.

Fixed the following:-

- Fixed a behavior where enabling VM-ID and SmartSAN on a boot from Storage Area Network (SAN) setup caused driver load incomplete
- Fixed a behavior where automatic attempts to recover from the behavior described in Customer Advisory available at https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00094722en_us would result in a Purple Screen of Death (PSoD)

Added the following:-

- Added Non-volatile memory express (NVMe) over Fibre Channel (FC) Capability
- Added support for Fabric Performance Impact Notifications (FPIN)

Driver version 2.1.101.0

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 a behavior where enabling VM-ID and SmartSAN on a boot from Storage Area Network (SAN) setup caused driver load incomplete
- Fixed a behavior where automatic attempts to recover from the behavior described in Customer Advisory available at https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00094722en_us would result in a Purple Screen of Death (PSoD)

Enhancements

Added the following:-

- Added Non-volatile memory express (NVMe) over Fibre Channel (FC) Capability
- Added support for Fabric Performance Impact Notifications (FPIN)

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

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HPE Storage Emulex Fibre Channel driver component for VMware vSphere 6.5
Version: 2021.02.01 **(Recommended)**
Filename: cp044735.compsig; cp044735.zip

Important Note!

Release Notes:
HPE Emulex Adapters Release Notes

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

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

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

To obtain the guide:

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

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

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

Added the following:-

- Changed the default Logical Unit Number (LUN) queue depth from 30 to 64
- Added Non-volatile memory express (NVMe) over Fibre Channel (FC) capability

Updated to Driver version 12.8.317.0

<u>**Prerequisites**</u>

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

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

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

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

To obtain the guide:

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

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

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

<u>**Enhancements**</u>

Added the following:-

- Changed the default Logical Unit Number (LUN) queue depth from 30 to 64
- Added Non-volatile memory express (NVMe) over Fibre Channel (FC) capability

Updated to Driver version 12.8.317.0

<u>**Supported Devices and Features**</u>

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

8Gb FC Adapter:

- HPE 81E 8Gb Single Port PCIe Fibre Channel Host Bus Adapter
- HPE 82E 8Gb Dual Port PCIe Fibre Channel Host Bus Adapter
- HPE 84E 8Gb Quad Port Fibre Channel Host Bus Adapter

16Gb FC Adapter:

- HPE SN1000E 16Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1000E 16Gb Single Port Fibre Channel Host Bus Adapter
- HPE SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter
- HPE SN1100E Quad Port 16Gb Fibre Channel Host Bus 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

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HPE Storage Emulex Mezzanine Fibre Channel driver component for VMware vSphere 6.5
Version: 2021.02.01 **(Recommended)**
Filename: cp044769.compsig; cp044769.zip

<u>**Important Note!**</u>

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

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

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

To obtain the guide:

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

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

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

Added the following:-

- Changed the default Logical Unit Number (LUN) queue depth from 30 to 64
- Added Non-volatile memory express (NVMe) over Fibre Channel (FC) capability

Updated to Driver version 12.8.317.0

Prerequisites

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

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

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

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

To obtain the guide:

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

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

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

Enhancements

Added the following:-

- Changed the default Logical Unit Number (LUN) queue depth from 30 to 64
- Added Non-volatile memory express (NVMe) over Fibre Channel (FC) capability

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

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HPE Storage Emulex(BRCM) Fibre Channel over Ethernet driver for VMware vSphere 6.5
Version: 2021.02.01 **(Recommended)**
Filename: cp042522.compsig; cp042522.zip

Important Note!

Release Notes:
HPE Emulex Adapters Release Notes

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

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

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

To obtain the guide:

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

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

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

If the server contains only CNA adapters and lpfc driver is already been installed, post the new driver update, please remove the lpfc driver using the following command*:*

 #esxcli software vib remove lpfc

Updated to Driver version 12.0.1278.0

Prerequisites

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

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

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

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

To obtain the guide:

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

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

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

If the server contains only CNA adapters and lpfc driver is already been installed, post the new driver update, please remove the lpfc driver using the following command*:*

#esxcli software vib remove lpfc

Enhancements

Updated to Driver version 12.0.1278.0

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

Software - System Management

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 Offline Bundle for ESXi 6.5
Version: 3.7.1 **(Recommended)**
Filename: esxi6.5uX-mgmt-bundle-3.7.1.2-1.zip

Fixes

Agentless Management Service

- Reduce Software Inventory cache refresh time to 15 seconds to help resolve OneView online SW update issues without reboot.
- Fixed resource leak when AHS logging fails
- Fix incorrect reporting of SATA disks attached to Smart Array and SAS controllers in the cpqIdeAtaDisk MIB.

Enhancements

Agentless Management Service

- Added support for new NIC devices (Gen10 AMS only)
- Added support for new SATA, SAS and NVMe drives (Gen10 AMS only)

Supported Devices and Features

VMware vSphere version support:

- VMware vSphere 6.5 U2
- VMware vSphere 6.5 U3

HPE Utilities Offline Bundle for ESXi 6.5
Version: 10.7.1 **(Recommended)**
Filename: HPE-Utility-Component_6.5.0.10.7.1-8.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

Includes an updated the Smart Storage Administrator CLI.

Integrated Smart Update Tools for VMware ESXi 6.5
Version: 2.8.0.0 **(Recommended)**
Filename: sut-esxi6.5-offline-bundle-2.8.0.0-22.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

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Smart Storage Administrator (SSA) CLI for VMware 6.5
Version: 5.10.45.0 **(Recommended)**
Filename: MIS_bootbank_ssacli-5.10.45.0-6.5.0.4240417.oem.vib

Enhancements

Adding support to the HPE SR Gen10 Plus Controllers.

Get connected
hpe.com/info/getconnected

Current HPE driver, support, and security alerts delivered directly to your desktop

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