VMware Deliverable Release Notes

Hewlett Packard Enterprise

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 2022.09.01.00 Release Notes for VMware ESXi 7.0

BIOS (Login Required) - System ROM Top

ROM Flash Firmware Package - HPE Apollo 2000 Gen10/HPE ProLiant XL170r/XL190r Gen10 (U38) Servers
Version: 2.68_07-14-2022 **(Recommended)**
Filename: U38_2.68_07_14_2022.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant XL170/XL190 Gen10 System ROM - U38

Release Version:

2.68_07-14-2022

Last Recommended or Critical Revision:

2.68_07-14-2022

Previous Revision:

2.66_05-17-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Fixes

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Enhancements

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

ROM Flash Firmware Package - HPE Apollo 4200 Gen10/HPE ProLiant XL420 Gen10 (U39) Servers
Version: 2.68_07-14-2022 **(Recommended)**
Filename: U39_2.68_07_14_2022.fwpkg

Important Note!

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

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

Release Version:

2.68_07-14-2022

Last Recommended or Critical Revision:

2.68_07-14-2022

Previous Revision:

2.66_05-17-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Enhancements

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

ROM Flash Firmware Package - HPE Apollo 4510 Gen10/HPE ProLiant XL450 Gen10 (U40) Servers
Version: 2.68_07-14-2022 **(Recommended)**
Filename: U40_2.68_07_14_2022.fwpkg

Important Note!

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

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

Release Version:

2.68_07-14-2022

Last Recommended or Critical Revision:

2.68_07-14-2022

Previous Revision:

2.66_05-17-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability

documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Enhancements

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

ROM Flash Firmware Package - HPE Apollo 6500 Gen10/HPE ProLiant XL270d Gen10 (U45) Servers
Version: 2.68_07-14-2022 **(Recommended)**
Filename: U45_2.68_07_14_2022.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant XL270d Gen10 System ROM - U45

Release Version:

2.68_07-14-2022

Last Recommended or Critical Revision:

2.68_07-14-2022

Previous Revision:

2.66_05-17-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Fixes

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Enhancements

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

ROM Flash Firmware Package - HPE DL110 Gen10 Plus Telco (U56) Servers
Version: 1.64_08-11-2022 **(Recommended)**
Filename: U56_1.64_08_11_2022.fwpkg

Important Note!

Important Notes:

For customers who had already upgraded to v1.62 7/14/2022 ROM, it is highly recommended to upgrade to this version v1.64 if customers have Intel Optane Persistent Memory 200 Series installed in their system.

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant DL110 Gen10 Plus System ROM - U56

Release Version:

1.64_08-11-2022

Last Recommended or Critical Revision:

1.64_08-11-2022

Previous Revision:

1.60_05-12-2022

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue from previous published ROM release v1.62 7/14/2022 in which systems with Intel Optane Persistent Memory 200 Series may not appear under an OS.

This revision of the System ROM includes the latest revision of the Intel IPU 2022.2 microcode update which provides Intel's mitigation for BIOS advisory and security vulnerability documented as CVE-2022-21233. This security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00657. This issue is 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 vulnerability documented as CVE-2021-33060. This security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00686. These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerability documented as CVE-2022-27405 (https://nvd.nist.gov/vuln/detail/CVE-2022-27405). This issue is not unique to HPE servers.

Addressed an issue where Microsoft Secured-core is not grayed-out when TPM is not present.

Addressed an issue where the QR code in Rom Based Set Up menu linked to a discontinued site.

Addressed an issue where a hot plug event occurring before event handler operates would cause ESXi kernel to call exception waiting for hot plug status from device and then triggered an ASSERT with PSOD (Purple Screen Of Death).

Addressed an issue with displaying FW versions for Intel's latest ATS-M GPU cards.

Known Issues:

None

Fixes

Important Notes:

For customers who had already upgraded to v1.62 7/14/2022 ROM, it is highly recommended to upgrade to this version v1.64 if customers have Intel Optane Persistent Memory 200 Series installed in their system.

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue from previous published ROM release v1.62 7/14/2022 in which systems with Intel Optane Persistent Memory 200 Series may not appear under an OS.

This revision of the System ROM includes the latest revision of the Intel IPU 2022.2 microcode update which provides Intel's mitigation for BIOS advisory and security vulnerability documented as CVE-2022-21233. This security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00657. This issue is 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 vulnerability documented as CVE-2021-33060. This security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00686. These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerability documented as CVE-2022-27405 (https://nvd.nist.gov/vuln/detail/CVE-2022-27405). This issue is not unique to HPE servers.

Addressed an issue where Microsoft Secured-core is not grayed-out when TPM is not present.

Addressed an issue where the QR code in Rom Based Set Up menu linked to a discontinued site.

Addressed an issue where a hot plug event occurring before event handler operates would cause ESXi kernel to call exception waiting for hot plug status from device and then triggered an ASSERT with PSOD (Purple Screen Of Death).

Addressed an issue with displaying FW versions for Intel's latest ATS-M GPU cards.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant DL160 Gen10/DL180 Gen10 (U31) Servers
Version: 2.68_07-14-2022 **(Recommended)**
Filename: U31_2.68_07_14_2022.fwpkg

Important Note!

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant DL160 Gen10/DL180 Gen10 System ROM - U31

Release Version:

2.68_07-14-2022

Last Recommended or Critical Revision:

2.68_07-14-2022

Previous Revision:

2.66_05-17-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Enhancements

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

ROM Flash Firmware Package - HPE ProLiant DL20 Gen10 (U43) Servers
Version: 2.60_07-14-2022 **(Recommended)**
Filename: U43_2.60_07_14_2022.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant DL20 Gen10 System ROM - U43

Release Version:

2.60_07-14-2022

Last Recommended or Critical Revision:

2.60_07-14-2022

Previous Revision:

2.58_04-14-2022

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778), CVE-2022-1292 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-1292). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of Libpng library which provides mitigations for security vulnerability documented as CVE-2019-7317 (https://nvd.nist.gov/vuln/detail/CVE-2019-7317). This issue is not unique to HPE servers.

Removed PCIe bifurcation option in the ROM Based Setup Utility (RBSU) because it is not supported through ROM on this platform.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778), CVE-2022-1292 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-1292). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of Libpng library which provides mitigations for security vulnerability documented as CVE-2019-7317 (https://nvd.nist.gov/vuln/detail/CVE-2019-7317). This issue is not unique to HPE servers.

Removed PCIe bifurcation option in the ROM Based Setup Utility (RBSU) because it is not supported through ROM on this platform.

Known Issues:

None

ROM Flash Firmware Package - HPE Proliant DL20 Gen10 Plus Servers
Version: 1.60_07-14-2022 **(Recommended)**
Filename: U60_1.60_07_14_2022.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE Proliant DL20 Gen10 Plus System ROM - U60

Release Version:

1.60_07-14-2022

Last Recommended or Critical Revision:

1.60_07-14-2022

Previous Revision:

1.58_04-18-2022

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel IPU 2022.2 microcode update which provides Intel's mitigation for BIOS advisory and security vulnerability documented as CVE-2022-21233. This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of freetype library which provides mitigations for security vulnerability documented as CVE-2022-27405 (https://nvd.nist.gov/vuln/detail/CVE-2022-27405). This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of zlib library which provides mitigations for security vulnerability documented as CVE-2018-25032. This issue is not unique to HPE servers.

Addressed an issue where the system fails to boot OpenShift Container Platform in UEFI boot and optimized boot modes.

Addressed an issue where the system ROM does not display Storage controller product names when the RBSU language setting is non-English.

Addressed an issue where system would not reboot if reboot test was executed after PCIe Bifurcation.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel IPU 2022.2 microcode update which provides Intel's mitigation for BIOS advisory and security vulnerability documented as CVE-2022-21233. This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of freetype library which provides mitigations for security vulnerability documented as CVE-2022-27405 (https://nvd.nist.gov/vuln/detail/CVE-2022-27405). This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of zlib library which provides mitigations for security vulnerability documented as CVE-2018-25032. This issue is not unique to HPE servers.

Addressed an issue where the system fails to boot OpenShift Container Platform in UEFI boot and optimized boot modes.

Addressed an issue where the system ROM does not display Storage controller product names when the RBSU language setting is non-English.

Addressed an issue where system would not reboot if reboot test was executed after PCIe Bifurcation.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant DL325 Gen10 (A41) Servers
Version: 2.58_06-16-2022 (B) **(Recommended)**
Filename: A41_2.58_06_16_2022.fwpkg

Important Note!

Important Notes:

Ver. 2.58_06-16-2022(B) contains updates to the firmware packaging and is functionally equivalent to ver. 2.58_06-16-2022. It is not necessary to upgrade with Revision B if a previous component revision was used to upgrade the firmware to version 2.58_06-16-2022.

Deliverable Name:

HPE DL325 Gen10 System ROM - A41

Release Version:

2.58_06-16-2022

Last Recommended or Critical Revision:

2.58_06-16-2022

Previous Revision:

2.56_02-10-2022

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigations for security vulnerabilities documented as CVE-2022-0778 and CVE-2022-1292. These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of LibPng library which provides mitigations for security vulnerability documented as CVE-CVE-2019-7317. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of zlib library which provides mitigations for security vulnerability documented as CVE-2018-25032. This issue is not unique to HPE servers.

Addressed an issue where the system ROM does not display Storage controller product names when the ROM Based Setup Utility (RBSU) language setting is non-English.

Addressed an issue where systems using AMD 1st Generation EPYC processors would incorrectly count correctable DIMM errors from different channels into one channel thus possibly incorrectly causing Correctable Memory Error Threshold Exceeded errors to occur.

Known Issues:

None

Fixes

Important Notes:

Ver. 2.58_06-16-2022(B) contains updates to the firmware packaging and is functionally equivalent to ver. 2.58_06-16-2022. It is not necessary to upgrade with Revision B if a previous component revision was used to upgrade the firmware to version 2.58_06-16-2022.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigations for security vulnerabilities documented as CVE-2022-0778 and CVE-2022-1292. These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of LibPng library which provides mitigations for security vulnerability documented as CVE-CVE-2019-7317. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of zlib library which provides mitigations for security vulnerability documented as CVE-2018-25032. This issue is not unique to HPE servers.

Addressed an issue where the system ROM does not display Storage controller product names when the ROM Based Setup Utility (RBSU) language setting is non-English.

Addressed an issue where systems using AMD 1st Generation EPYC processors would incorrectly count correctable DIMM errors from different channels into one channel thus possibly incorrectly causing Correctable Memory Error Threshold Exceeded errors to occur.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant DL360 Gen10 (U32) Servers
Version: 2.68_07-14-2022 **(Recommended)**
Filename: U32_2.68_07_14_2022.fwpkg

Important Note!

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see

https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant DL360 Gen10 System ROM - U32

Release Version:

2.68_07-14-2022

Last Recommended or Critical Revision:

2.68_07-14-2022

Previous Revision:

2.66_05-17-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Enhancements

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

ROM Flash Firmware Package - HPE ProLiant DL380 Gen10 (U30) Servers
Version: 2.68_07-14-2022 **(Recommended)**
Filename: U30_2.68_07_14_2022.fwpkg

Important Note!

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant DL380 Gen10 System ROM - U30

Release Version:

2.68_07-14-2022

Last Recommended or Critical Revision:

2.68_07-14-2022

Previous Revision:

2.66_05-17-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Enhancements

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

ROM Flash Firmware Package - HPE ProLiant DL385 Gen10 (A40) Servers
Version: 2.58_06-16-2022 (B) **(Recommended)**
Filename: A40_2.58_06_16_2022.fwpkg

Important Note!

Important Notes:

Ver. 2.58_06-16-2022(B) contains updates to the firmware packaging and is functionally equivalent to ver. 2.58_06-16-2022. It is not necessary to upgrade with Revision B if a previous component revision was used to upgrade the firmware to version 2.58_06-16-2022.

Deliverable Name:

HPE DL385 Gen10 System ROM - A40

Release Version:

2.58_06-16-2022

Last Recommended or Critical Revision:

2.58_06-16-2022

Previous Revision:

2.56_02-10-2022

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigations for security vulnerabilities documented as CVE-2022-0778 and CVE-2022-1292. These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of LibPng library which provides mitigations for security vulnerability documented as CVE-CVE-2019-7317. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of zlib library which provides mitigations for security vulnerability documented as CVE-2018-25032. This issue is not unique to HPE servers.

Addressed an issue where the system ROM does not display Storage controller product names when the ROM Based Setup Utility (RBSU) language setting is non-English.

Addressed an issue where systems using AMD 1st Generation EPYC processors would incorrectly count correctable DIMM errors from different channels into one channel thus possibly incorrectly causing Correctable Memory Error Threshold Exceeded errors to occur.

Known Issues:

None

Fixes

Important Notes:

Ver. 2.58_06-16-2022(B) contains updates to the firmware packaging and is functionally equivalent to ver. 2.58_06-16-2022. It is not necessary to upgrade with Revision B if a previous component revision was used to upgrade the firmware to version 2.58_06-16-2022.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigations for security vulnerabilities documented as CVE-2022-0778 and CVE-2022-1292. These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of LibPng library which provides mitigations for security vulnerability documented as CVE-CVE-2019-7317. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of zlib library which provides mitigations for security vulnerability documented as CVE-2018-25032. This issue is not unique to HPE servers.

Addressed an issue where the system ROM does not display Storage controller product names when the ROM Based Setup Utility (RBSU) language setting is non-English.

Addressed an issue where systems using AMD 1st Generation EPYC processors would incorrectly count correctable DIMM errors from different channels into one channel thus possibly incorrectly causing Correctable Memory Error Threshold Exceeded errors to occur.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant DL560 Gen10/DL580 Gen10 (U34) Servers
Version: 2.68_07-14-2022 **(Recommended)**
Filename: U34_2.68_07_14_2022.fwpkg

Important Note!

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant DL560 Gen10/DL580 Gen10 System ROM - U34

Release Version:

2.68_07-14-2022

Last Recommended or Critical Revision:

2.68_07-14-2022

Previous Revision:

2.66_05-17-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see

https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Enhancements

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

ROM Flash Firmware Package - HPE ProLiant MicroServer Gen10 Plus (U48) Servers
Version: 2.60_07-14-2022 **(Recommended)**
Filename: U48_2.60_07_14_2022.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE MicroServer Gen10 Plus System ROM - U48

Release Version:

2.60_07-14-2022

Last Recommended or Critical Revision:

2.60_07-14-2022

Previous Revision:

2.58_04-14-2022

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778), CVE-2022-1292 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-1292). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of Libpng library which provides mitigations for security vulnerability documented as CVE-2019-7317 (https://nvd.nist.gov/vuln/detail/CVE-2019-7317). This issue is not unique to HPE servers.

Removed PCIe bifurcation option in the ROM Based Setup Utility (RBSU) because it is not supported through ROM on this platform.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778), CVE-2022-1292 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-1292). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of Libpng library which provides mitigations for security vulnerability documented as CVE-2019-7317 (https://nvd.nist.gov/vuln/detail/CVE-2019-7317). This issue is not unique to HPE servers.

Removed PCIe bifurcation option in the ROM Based Setup Utility (RBSU) because it is not supported through ROM on this platform.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant MicroServer Gen10 Plus v2 (U64) Servers
Version: 1.60_06-30-2022 **(Recommended)**
Filename: U64_1.60_06_30_2022.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant MicroServer Gen10 Plus v2 System ROM - U64

Release Version:

1.60_06-30-2022

Last Recommended or Critical Revision:

This is the initial version of the firmware.

Previous Revision:

This is the initial version of the firmware.

Firmware Dependencies:

None

Enhancements/New Features:

This is the initial version of the firmware.

Problems Fixed:

None

Known Issues:

None

Enhancements

Important Notes:

None

Firmware Dependencies:

None

Enhancements/New Features:

This is the initial version of the firmware.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant ML110 Gen10 (U33) Servers
Version: 2.68_07-14-2022 **(Recommended)**
Filename: U33_2.68_07_14_2022.fwpkg

Important Note!

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant ML110 Gen10 System ROM - U33

Release Version:

2.68_07-14-2022

Last Recommended or Critical Revision:

2.68_07-14-2022

Previous Revision:

2.66_05-17-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Enhancements

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

ROM Flash Firmware Package - HPE ProLiant ML30 Gen10 (U44) Servers
Version: 2.60_07-14-2022 **(Recommended)**
Filename: U44_2.60_07_14_2022.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant ML30 Gen10 System ROM - U44

Release Version:

2.60_07-14-2022

Last Recommended or Critical Revision:

2.60_07-14-2022

Previous Revision:

2.58_04-14-2022

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778), CVE-2022-1292 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-1292). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of Libpng library which provides mitigations for security vulnerability documented as CVE-2019-7317 (https://nvd.nist.gov/vuln/detail/CVE-2019-7317). This issue is not unique to HPE servers.

Removed PCIe bifurcation option in the ROM Based Setup Utility (RBSU) because it is not supported through ROM on this platform.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778), CVE-2022-1292 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-1292). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of Libpng library which provides mitigations for security vulnerability documented as CVE-2019-7317 (https://nvd.nist.gov/vuln/detail/CVE-2019-7317). This issue is not unique to HPE servers.

Removed PCIe bifurcation option in the ROM Based Setup Utility (RBSU) because it is not supported through ROM on this platform.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant ML30 Gen10 Plus Servers
Version: 1.60_07-14-2022 **(Recommended)**
Filename: U61_1.60_07_14_2022.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE Proliant ML30 Gen10 Plus System ROM - U61

Release Version:

1.60_07-14-2022

Last Recommended or Critical Revision:

1.60_07-14-2022

Previous Revision:

1.58_04-18-2022

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel IPU 2022.2 microcode update which provides Intel's mitigation for BIOS advisory and security vulnerability documented as CVE-2022-21233. This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of freetype library which provides mitigations for security vulnerability documented as CVE-2022-27405 (https://nvd.nist.gov/vuln/detail/CVE-2022-27405). This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of zlib library which provides mitigations for security vulnerability documented as CVE-2018-25032. This issue is not unique to HPE servers.

Addressed an issue where the system fails to boot OpenShift Container Platform in UEFI boot and optimized boot modes.

Addressed an issue where the system ROM does not display Storage controller product names when the RBSU language setting is non-English.

Addressed an issue where system would not reboot if reboot test was executed after PCIe Bifurcation.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of the Intel IPU 2022.2 microcode update which provides Intel's mitigation for BIOS advisory and security vulnerability documented as CVE-2022-21233. This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of freetype library which provides mitigations for security vulnerability documented as CVE-2022-27405 (https://nvd.nist.gov/vuln/detail/CVE-2022-27405). This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of zlib library which provides mitigations for security vulnerability documented as CVE-2018-25032. This issue is not unique to HPE servers.

Addressed an issue where the system fails to boot OpenShift Container Platform in UEFI boot and optimized boot modes.

Addressed an issue where the system ROM does not display Storage controller product names when the RBSU language setting is non-English.

Addressed an issue where system would not reboot if reboot test was executed after PCIe Bifurcation.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant ML350 Gen10 (U41) Servers
Version: 2.68_07-14-2022 **(Recommended)**
Filename: U41_2.68_07_14_2022.fwpkg

Important Note!

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant ML350 Gen10 System ROM - U41

Release Version:

2.68_07-14-2022

Last Recommended or Critical Revision:

2.68_07-14-2022

Previous Revision:

2.66_05-17-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Fixes

Important Notes:

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Enhancements

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

ROM Flash Firmware Package - HPE ProLiant XL220n/XL290n Gen10 Plus 1U Node and 2U Node Configure-to-order Server (U47)
Version: 1.64_08-11-2022 **(Recommended)**
Filename: U47_1.64_08_11_2022.fwpkg

Important Note!

Important Notes:

For customers who had already upgraded to v1.62 7/14/2022 ROM, it is highly recommended to upgrade to this version v1.64 if customers have Intel Optane Persistent Memory 200 Series installed in their system.

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be

displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant XL220n Gen10 Plus 1U/XL290n Gen10 Plus 2U Node CTO Server System ROM - U47

Release Version:

1.64_08-11-2022

Last Recommended or Critical Revision:

1.64_08-11-2022

Previous Revision:

1.60_05-12-2022

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue from previous published ROM release v1.62 7/14/2022 in which systems with Intel Optane Persistent Memory 200 Series may not appear under an OS.

This revision of the System ROM includes the latest revision of the Intel IPU 2022.2 microcode update which provides Intel's mitigation for BIOS advisory and security vulnerability documented as CVE-2022-21233. This security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00657. This issue is 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 vulnerability documented as CVE-2021-33060. This security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00686. These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerability documented as CVE-2022-27405 (https://nvd.nist.gov/vuln/detail/CVE-2022-27405). This issue is not unique to HPE servers.

Addressed an issue where Microsoft Secured-core is not grayed-out when TPM is not present.

Addressed an issue where the QR code in Rom Based Set Up menu linked to a discontinued site.

Addressed an issue where a hot plug event occurring before event handler operates would cause ESXi kernel to call exception waiting for hot plug status from device and then triggered an ASSERT with PSOD (Purple Screen Of Death).

Addressed an issue with displaying FW versions for Intel's latest ATS-M GPU cards.

Known Issues:

None

Fixes

Important Notes:

For customers who had already upgraded to v1.62 7/14/2022 ROM, it is highly recommended to upgrade to this version v1.64 if customers have Intel Optane Persistent Memory 200 Series installed in their system.

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue from previous published ROM release v1.62 7/14/2022 in which systems with Intel Optane Persistent Memory 200 Series may not appear under an OS.

This revision of the System ROM includes the latest revision of the Intel IPU 2022.2 microcode update which provides Intel's mitigation for BIOS advisory and security vulnerability documented as CVE-2022-21233. This security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00657. This issue is 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 vulnerability documented as CVE-2021-33060. This security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00686. These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerability documented as CVE-2022-27405 (https://nvd.nist.gov/vuln/detail/CVE-2022-27405). This issue is not unique to HPE servers.

Addressed an issue where Microsoft Secured-core is not grayed-out when TPM is not present.

Addressed an issue where the QR code in Rom Based Set Up menu linked to a discontinued site.

Addressed an issue where a hot plug event occurring before event handler operates would cause ESXi kernel to call exception waiting for hot plug status from device and then triggered an ASSERT with PSOD (Purple Screen Of Death).

Addressed an issue with displaying FW versions for Intel's latest ATS-M GPU cards.

Known Issues:

None

ROM Flash Firmware Package - HPE ProLiant XL225n Gen10 Plus (A46) Servers
Version: 2.60_08-11-2022 **(Recommended)**
Filename: A46_2.60_08_11_2022.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant XL225n Gen10 Plus System ROM - A46

Release Version:

2.60_08-11-2022

Last Recommended or Critical Revision:

2.60_08-11-2022

Previous Revision:

2.58_06-09-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for the latest HPE UBM6 backplanes.

Problems Fixed:

This revision of the System ROM includes an updated revision of the AMD reference code for AMD 2nd Generation EPYC processors.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

Addressed an issue where the QR Code in ROM Based Setup Menu (RBSU) was not valid.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes an updated revision of the AMD reference code for AMD 2nd Generation EPYC processors.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

Addressed an issue where the QR Code in ROM Based Setup Menu (RBSU) was not valid.

Known Issues:

None

Enhancements

Added support for the latest HPE UBM6 backplanes.

ROM Flash Firmware Package - HPE ProLiant XL230k Gen10 (U37) Server
Version: 2.68_07-14-2022 **(Recommended)**
Filename: U37_2.68_07_14_2022.fwpkg

Important Note!

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE ProLiant XL230k Gen10 System ROM - U37

Release Version:

2.68_07-14-2022

Last Recommended or Critical Revision:

2.68_07-14-2022

Previous Revision:

2.66_05-17-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Fixes

Important Notes:

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (ttps://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerabilities documented as CVE-2022-27404, CVE-2022-27405, and CVE-2022-27406. This issue is not unique to HPE servers.

Addressed an issue where the system will hang with Red Screen of Death (RSOD) in ROM Based Setup Utility (RBSU) when user tries to switch [Image Description] choices for NVMe devices under the Firmware Update Page.

Known Issues:

None

Enhancements

Added support for One Button Secure Erase (OBSE) and encryption for Broadcom MR controller series on Intel Gen10 systems.

ROM Flash Universal Firmware Package - HPE Apollo 6500 Gen10 Plus/HPE ProLiant XL645d Gen10 Plus (A48) Servers
Version: 2.60_08-11-2022 **(Recommended)**
Filename: A48_2.60_08_11_2022.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE ProLiant XL645d/XL215n Gen10 Plus System ROM - A48

Release Version:

2.60_08-11-2022

Last Recommended or Critical Revision:

2.60_08-11-2022

Previous Revision:

2.58_06-09-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for the latest HPE UBM6 backplanes.

Problems Fixed:

This revision of the System ROM includes an updated revision of the AMD reference code for AMD 2nd Generation EPYC processors.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

Addressed an issue where the QR Code in ROM Based Setup Menu (RBSU) was not valid.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes an updated revision of the AMD reference code for AMD 2nd Generation EPYC processors.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

Addressed an issue where the QR Code in ROM Based Setup Menu (RBSU) was not valid.

Known Issues:

None

Enhancements

Added support for the latest HPE UBM6 backplanes.

ROM Flash Universal Firmware Package - HPE Apollo 6500 Gen10 Plus/HPE ProLiant XL675d Gen10 Plus (A47) Servers
Version: 2.60_08-11-2022 **(Recommended)**
Filename: A47_2.60_08_11_2022.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

HPE Apollo 6500 Gen10 Plus/ProLiant XL675d Gen10 Plus System ROM - A47

Release Version:

2.60_08-11-2022

Last Recommended or Critical Revision:

2.60_08-11-2022

Previous Revision:

2.58_06-09-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for the latest HPE UBM6 backplanes.

Problems Fixed:

This revision of the System ROM includes an updated revision of the AMD reference code for AMD 2nd Generation EPYC processors.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

Addressed an issue where the QR Code in ROM Based Setup Menu (RBSU) was not valid.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes an updated revision of the AMD reference code for AMD 2nd Generation EPYC processors.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

Addressed an issue where the QR Code in ROM Based Setup Menu (RBSU) was not valid.

Known Issues:

None

Enhancements

Added support for the latest HPE UBM6 backplanes.

ROM Flash Universal Firmware Package - HPE ProLiant DL325/DL325 v2/DL345 Gen10 Plus (A43) Servers
Version: 2.60_08-11-2022 **(Recommended)**
Filename: A43_2.60_08_11_2022.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

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

Release Version:

2.60_08-11-2022

Last Recommended or Critical Revision:

2.60_08-11-2022

Previous Revision:

2.58_06-09-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for the latest HPE UBM6 backplanes.

Problems Fixed:

This revision of the System ROM includes an updated revision of the AMD reference code for AMD 2nd Generation EPYC processors.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

Addressed an issue where the QR Code in ROM Based Setup Menu (RBSU) was not valid.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes an updated revision of the AMD reference code for AMD 2nd Generation EPYC processors.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

Addressed an issue where the QR Code in ROM Based Setup Menu (RBSU) was not valid.

Known Issues:

None

Enhancements

Added support for the latest HPE UBM6 backplanes.

ROM Flash Universal Firmware Package - HPE ProLiant DL360/DL380 Gen10 Plus (U46) Servers
Version: 1.64_08-11-2022 **(Recommended)**
Filename: U46_1.64_08_11_2022.fwpkg

Important Note!

Important Notes:

For customers who had already upgraded to v1.62 7/14/2022 ROM, it is highly recommended to upgrade to this version v1.64 if customers have Intel Optane Persistent Memory 200 Series installed in their system.

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Deliverable Name:

HPE DL360 Gen10 Plus/DL380 Gen10 Plus System ROM - U46

Release Version:

1.64_08-11-2022

Last Recommended or Critical Revision:

1.64_08-11-2022

Previous Revision:

1.60_06-01-2022

Firmware Dependencies:

None

Enhancements/New Features:

None

Problems Fixed:

Addressed an issue from previous published ROM release v1.62 7/14/2022 in which systems with Intel Optane Persistent Memory 200 Series may not appear under an OS.

This revision of the System ROM includes the latest revision of the Intel IPU 2022.2 microcode update which provides Intel's mitigation for BIOS advisory and security vulnerability documented as CVE-2022-21233. This security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00657. This issue is 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 vulnerability documented as CVE-2021-33060. This security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00686. These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778) and CVE-2022-2068

(https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerability documented as CVE-2022-27405 (https://nvd.nist.gov/vuln/detail/CVE-2022-27405). This issue is not unique to HPE servers.

Addressed an issue where Microsoft Secured-core is not grayed-out when TPM is not present.

Addressed an issue where the QR code in Rom Based Set Up menu linked to a discontinued site.

Addressed an issue where a hot plug event occurring before event handler operates would cause ESXi kernel to call exception waiting for hot plug status from device and then triggered an ASSERT with PSOD (Purple Screen Of Death).

Addressed an issue with displaying FW versions for Intel's latest ATS-M GPU cards.

Known Issues:

None

Fixes

Important Notes:

For customers who had already upgraded to v1.62 7/14/2022 ROM, it is highly recommended to upgrade to this version v1.64 if customers have Intel Optane Persistent Memory 200 Series installed in their system.

When installing with HPE Smart Update Manager (SUM) 8.9.5 or earlier, the warning message "Component Not Signed" might be displayed for SHA-384 signed components. This issue will be resolved in a future version of SUM. For details, see https://support.hpe.com/hpesc/public/docDisplay?docLocale=en_US&docId=a00125612en_us.

This version of the System ROM contains updates aligned with the Intel Product Update (IPU) version IPU.2022.2 guidance.

Firmware Dependencies:

None

Problems Fixed:

Addressed an issue from previous published ROM release v1.62 7/14/2022 in which systems with Intel Optane Persistent Memory 200 Series may not appear under an OS.

This revision of the System ROM includes the latest revision of the Intel IPU 2022.2 microcode update which provides Intel's mitigation for BIOS advisory and security vulnerability documented as CVE-2022-21233. This security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00657. This issue is 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 vulnerability documented as CVE-2021-33060. This security vulnerabilities are documented in Intel Security Advisory INTEL-SA-00686. These issues are not unique to HPE servers.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerabilities documented as CVE-2022-0778 (https://nvd.nist.gov/vuln/detail/CVE-2022-0778) and CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

This revision of the System ROM includes the latest revision of FreeType library which provides mitigations for security vulnerability documented as CVE-2022-27405 (https://nvd.nist.gov/vuln/detail/CVE-2022-27405). This issue is not unique to HPE servers.

Addressed an issue where Microsoft Secured-core is not grayed-out when TPM is not present.

Addressed an issue where the QR code in Rom Based Set Up menu linked to a discontinued site.

Addressed an issue where a hot plug event occurring before event handler operates would cause ESXi kernel to call exception waiting for hot plug status from device and then triggered an ASSERT with PSOD (Purple Screen Of Death).

Addressed an issue with displaying FW versions for Intel's latest ATS-M GPU cards.

Known Issues:

None

ROM Flash Universal Firmware Package - HPE ProLiant DL365/DL385/DL385 v2 Gen10 Plus (A42) Servers
Version: 2.60_08-11-2022 **(Recommended)**
Filename: A42_2.60_08_11_2022.fwpkg

Important Note!

Important Notes:

None

Deliverable Name:

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

Release Version:

2.60_08-11-2022

Last Recommended or Critical Revision:

2.60_08-11-2022

Previous Revision:

2.58_06-09-2022

Firmware Dependencies:

None

Enhancements/New Features:

Added support for the latest HPE UBM6 backplanes.

Problems Fixed:

This revision of the System ROM includes an updated revision of the AMD reference code for AMD 2nd Generation EPYC processors.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

Addressed an issue where the QR Code in ROM Based Setup Menu (RBSU) was not valid.

Known Issues:

None

Fixes

Important Notes:

None

Firmware Dependencies:

None

Problems Fixed:

This revision of the System ROM includes an updated revision of the AMD reference code for AMD 2nd Generation EPYC processors.

This revision of the System ROM includes the latest revision of openSSL which provides mitigation for BIOS security vulnerability documented as CVE-2022-2068 (https://nvd.nist.gov/vuln/detail/CVE-2022-2068). This security vulnerability is documented in the CVE report site. This issue is not unique to HPE servers.

Addressed an issue where the QR Code in ROM Based Setup Menu (RBSU) was not valid.

Known Issues:

None

Enhancements

Added support for the latest HPE UBM6 backplanes.

Driver - Lights-Out Management Top

HPE iLO Native Driver for ESXi 7.0
Version: 10.8.0 **(Recommended)**
Filename: ilo-driver_700.10.8.0.6-1OEM.700.1.0.15843807_20300719.zip

Fixes

- Fixed issue where ilo driver is failing to acquire contiguous physical memory below 4GB causing userworld apps like hponcfg to be unable to communicate with iLO.

Enhancements

- Added support for vSphere 8.0

Driver - Network Top

HPE Broadcom NetXtreme-E Drivers for VMware vSphere 7.0
Version: 2022.10.12 **(Recommended)**
Filename: cp051496.compsig; cp051496.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,* 218.0.303000 or later, for use with this driver.

Fixes

- This product correct an issue which the problem of failing to bring up maximum amount of VFs.
- This product correct an issue which the PSOD if rx-ring size is less than 256 or exact 128.
- This product correct an issue which the vxlan tunnel port config failure symptom during driver reload.

Enhancements

This product is updated to maintain compatibility with CNSA (Commercial National Security Algorithm) compliance.

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 Ethernet 10Gb 2-port SFP+ BCM57412 OCP3 Adapter
- HPE Ethernet 10Gb 2-port SFP+ BCM57412 Adapter
- HPE Ethernet 10Gb 2-port BaseT BCM57416 OCP3 Adapter
- HPE Ethernet 10Gb 2-port BaseT BCM57416 Adapter
- HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 OCP3 Adapter
- HPE Ethernet 10/25Gb 2-port SFP28 BCM57414 Adapter
- Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 Adapter for HPE
- Broadcom BCM57504 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter for HPE

HPE Intel i40en Driver for VMware vSphere 7.0
Version: 2022.09.01 **(Recommended)**
Filename: cp051854.compsig; cp051854.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 3.17.0 or later, for use with this driver.

Enhancements

This product enhances to Collect of FW debug data in different scenarios

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 563i 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 Ethernet 10Gb 2-port SFP+ OCP3 X710-DA2 Adapter
- HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter

HPE Intel igbn Driver for VMware vSphere 7.0
Version: 2022.09.01 **(Recommended)**
Filename: cp049913.compsig; cp049913.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 3.2.0 or later, for use with this driver.

Enhancements

This product now supports HPE ProLiant MicroServer Gen10 Plus v2

Supported Devices and Features

These drivers support the following network adapters:

- HPE Ethernet 1Gb 2-port 361T Adapter
- HPE Ethernet 1Gb 2-port 361i Adapter
- HPE Ethernet 1Gb 2-port 363i Adapter
- HPE Ethernet 1Gb 4-port 366FLR Adapter
- HPE Ethernet 1Gb 4-port 366T Adapter
- HPE Ethernet 1Gb 4-port 366i Adapter
- HPE Ethernet 1Gb 4-port 366i Communication Board
- Intel I350-T4 Ethernet 1Gb 4-port BASE-T Adapter for HPE
- Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter for HPE
- Intel(R) I350 Gigabit Network Connection

HPE Intel ixgben Driver for VMware vSphere 7.0
Version: 2022.09.01 **(Recommended)**
Filename: cp051869.compsig; cp051869.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 3.2.0 or later, for use with this driver.

Enhancements

This product enhances to Collect of FW debug data in different scenarios

Supported Devices and Features

These drivers support the following network adapters:

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

HPE QLogic FastLinQ 10/25/50 GbE Multifunction Driver for VMware vSphere 7.0
Version: 2022.09.01 **(Recommended)**

Filename: cp050967.compsig; cp050967.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 as below for use with these drivers,

- HPE QLogic FastLinQ Firmware Package for Arrowhead adapters, version 8.59.05 or later.
- HPE QLogic FastLinQ Online Firmware Upgrade Utility for VMware, version 4.16.3 or later.

Fixes

- This product correct an issue which Links down due to unaligned ILT page size between storage & nic driver.
- This product correct an issue which PSOD while in idle state
- This product correct an issue which PSOD on 100G while capturing periodic stats.
- This product correct an issue which PSOD while rebooting after driver install
- This product correct an issue which PSOD during switchport enable/disable operations on POLLING mode.
- This product correct an issue which accounting error related to port statistics and incorrectly recording Rx drops. The incorrect logging of Rx drops can generate a VMware alert message similar to “High pNic error rate detected.

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 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

HPE QLogic NX2 10/20 GbE Multifunction Driver for VMware vSphere 7.0
Version: 2022.09.01 **(Recommended)**
Filename: cp050968.compsig; cp050968.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 1.31.0 or later, for use with this driver.

Fixes

- This product correct an issue which System crashed with PSOD upon clean reboot.
- This product correct an issue which Physical link LED still ON even after esxcli down.
- This product correct an issue which PSOD occured while querying adapters with esxcli plugin.
- This product correct an issue which recursive panic occurs when capturing VM-Support dump.

Enhancements

This product is updated to maintain compatibility with CNSA (Commercial National Security Algorithm) compliance.

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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Intel icen Driver for VMware vSphere 7.0
Version: 2022.09.01 **(Recommended)**
Filename: cp051860.compsig; cp051860.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 *Intel Firmware Package For E810 Ethernet Adapter*, version 3.20 or later, for use with this driver.

Enhancements

This product enhances to Collect of FW debug data in different scenarios

Supported Devices and Features

This product supports the following network adapters:

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

Mellanox ConnectX-4, ConnectX-5 and ConnectX-6 "nmlx5_en" Driver Component for VMware ESXi 7.0 Update 2 and Update 3
Version: 2021.04.21 (C) **(Recommended)**
Filename: cp053556.compsig; cp053556.zip

Important Note!

Important: Version 4.21.71.1 supports VMware ESXi 7.0 Update 2 and Update 3 only.

Known Issues with driver version 4.21.71.101:

- A mismatch between the uplink and the VF MTU values may result in CQE with error.
  Workaround:: Align the uplink and the VF MTU values.
- Enabling sriov_mc_isolation module parameter may result in vmknic and emulated NICs multicast and IPv6 traffic loss.
  Workaround: Unset or set the module parameter to 0.
- RDMA is not supported in the Hypervisor with ENS (Enhanced Network Stack) model 2.
- 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.
- ECN (Explicit congestion notification) statistic counters accumulatorsPeriod and ecnMarkedRocePackets display wrong values and cannot be cleared.
- ECN tunable parameter initialAlphaValue for the Reaction Point protocol cannot be modified.
- Card's speed remains zero after port goes down and reboot is performed.
- RoCE traffic may fail after vMotion when using namespace.
- Legacy SR-IOV is not supported with Model 1.
- When in ENS mode, changing the scheduler to HCLK, may cause traffic loss.
- The 'esxcli mellanox uplink link info -u <vmnic_name>' command reports the 'Auto negotiation' capability always as 'true'.
- 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 devices:
  - ConnectX-4 / ConnectX-5: up to 127

Fixes

Fixes included in driver version 4.21.71.101:

- Fixed a compatibility issue with VMware Update Manager as it wouldn't accept a bundle with metadata xml with old versioning scheme. The metadata xml now contains the new versioning scheme.

Enhancements

The following changes have been made in sub-version 2021.04.21(C):

- Product rebuilt to have the new SHA 384 signature.
- Removed support for the following servers:
  - Blade servers BLxxxx Gen9/Gen10 series.

New features and changes in driver version 4.21.71.101:

- Added support for the following features:
  - vSan over RDMA.
  - Receive Side Scaling (RSS) for ENS model 0.
  - ENS FPO Model 1 with Rx path flow lookup offloaded (ConnectX5 onwards)
  - ENS FPO Model 1 with Tx path partial action execution offloaded (ConnectX5 onwards)
  - ENS FPO Model 2 with SR-IOV as passthrough technology (ConnectX5 onwards)
  - 200GbE link speed.
  - ConnectX-6 Lx devices.
  - Data Center Bridging Capability Exchange (DCBX) protocol with hardware offload.
  - sriov_mc_isolation module parameter to isolate multicast traffic to SR-IOV interfaces. Default value is OFF.
  - ens_fallback_model to set the default fallback mode when the option to query ENS model from the OS is no supported. Default to Model 1.
- Scaled support for up to 10K connections over RDMA networks.
- Updated the kernel parameter "supported_num_ports" default value to 1 to lower memory constraints. Note: The user must set a value corresponding to the amount of ports installed in the system.

Supported Devices and Features

HPE Part Number	Device Name	PSID
P24837-B21	HPE Ethernet 10/25Gb 2-port 642SFP28 Adapter	HPE0000000054
P11338-B21	HPE Ethernet 10Gb 2-port 548SFP+ Adapter	HP_1200111023
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
817749-B21	HPE Ethernet 10/25Gb 2-port FLR-SFP28 MCX4121A-ACFT Adapter	HP_2690110034
817753-B21	HPE Ethernet 10/25Gb 2-port SFP28 MCX4121A-ACUT Adapter	HP_2420110034
P21927-B21	HPE Ethernet 100Gb 2-port QSFP28 MCX516A-CCHT Adapter	MT_0000000417
P10112-B21	Mellanox MCX562A-ACAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	MT_0000000241
P13188-B21	Mellanox MCX512F-ACHT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	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 QSFP28 MCX515A-CCAT Adapter	HPE0000000014
P25960-B21	Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE	MT_0000000437
P06154-B21	HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe3 x16 MCX653105A-HDAT Adapter	HPE0000000034
P06250-B21	HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe3 x16 MCX653105A-ECAT Adapter	HPE0000000035
P06251-B21	HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe3 x16 MCX653106A-ECAT Adapter	HPE0000000036
P23664-B21	HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 MCX653105A-HDAT Adapter	MT_0000000451
P23665-B21	HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe4 x16 MCX653105A-ECAT Adapter	MT_0000000452
P23666-B21	HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe4 x16 MCX653106A-ECAT 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
P42041-B21	Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	MT_0000000551
P42044-B21	Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	MT_0000000575

net-mst kernel module driver component for VMware ESXi 7.0
Version: 2020.11.11 (D) **(Recommended)**
Filename: cp052137.compsig; cp052137.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

The following changes have been made in sub-version 2020.11.11(D):

- Product rebuilt to have the new SHA 384 signature.
- Removed support for the following servers:
  - Blade servers BLxxxx Gen9/Gen10 series.

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
P42041-B21	Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE	MT_0000000551
P42044-B21	Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE	MT_0000000575

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nmlx4_en Driver Component for VMware 7.0
Version: 2020.11.11 (B) **(Recommended)**
Filename: cp053712.compsig; cp053712.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 7.0 Driver Version 3.19.70.1 follow the below link:
https://www.mellanox.com/page/products_dyn?product_family=29&mtag=vmware_driver

Fixes

No fixes are included in version 3.19.70.1:

Enhancements

The following changes have been made in sub-version 2020.11.11(B):

- Product rebuilt to have the new SHA 384 signature.

Changes and New Features in version 3.19.70.1:

- 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

VMware ESXi 7.0 MST Drivers Offline Bundle for Mellanox Adapters
Version: 4.14.3.3 **(Recommended)**
Filename: Mellanox-NATIVE-NMST_4.14.3.3-1OEM.700.1.0.15525992_16211416.zip

Prerequisites

NA

Enhancements

VM70 nmst 4.14.3.3

Driver - Storage Controller [Top]

HPE MR416i-a, MR416i-p, MR216i-a, MR216i-p controller (64-bit) Driver for vSphere 7.0
Version: 7.716.03.00 (B) **(Recommended)**
Filename: Broadcom-lsi-mr3_7.716.03.00-1OEM.700.1.0.15843807_17632848.zip

Enhancements

- Added support for DL20 Gen10 Plus Server.

HPE MR416i-a, MR416i-p, MR216i-a, MR216i-p controller (64-bit) Driver for vSphere 7.0 (Driver Component)
Version: 2021.04.01 (C) **(Recommended)**
Filename: cp053568.compsig; cp053568.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.

Enhancements

- Support SHA384 format

HPE ProLiant Gen10 Smart Array and Gen10 Plus Smart RAID Controller Driver for VMware vSphere 7.0 (Bundle file)
Version: 4330.0.116 **(Recommended)**
Filename: Microchip-smartpqi_70.4330.0.116-1OEM.700.1.0.15843807_20200549.zip

Enhancements

For Sep MSB Usage

HPE ProLiant Gen10 Smart Array and Gen10 Plus Smart RAID Controller Driver for VMware vSphere 7.0 (Driver Component).
Version: 2022.10.01 **(Recommended)**
Filename: cp051258.compsig; cp051258.zip

Important Note!

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

Fixes

- Fixed an issue where the SCSI READ BLOCK LIMITS (0x5) command is never completed by firmware and a TMF ABORT is issued in ESXi.
- Fixed an issue where the driver reports an error when the unsupported SCSI Maintenance IN (0xA3) command with service action “report supported opcode” (0xC) is sent to the logical drive.

Enhancements

- Added module parameter to disable managed interrupts (disable_managed_interrupts=1).

Firmware - Network [Top]

Broadcom Firmware Package for BCM5741x adapters
Version: 222.1.68.0 **(Recommended)**
Filename: bcm222.1.68.0.pup.fwpkg

Important Note!

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

- Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 222.0.126.0 or later
- HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.2-222.0.142.0 or later

- HPE Broadcom NetXtreme-E Drivers for VMware, version 222.0.118.0 or later

Fixes

This product addresses some minor adjustment with its internal UEFI code structure.

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

Broadcom Firmware Package for BCM5750x adapters
Version: 222.1.68.0 (B) **(Recommended)**
Filename: bcm222.1.68.0_Thor.pup.fwpkg

Important Note!

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

- Broadcom NetXtreme-E Driver for Microsoft Windows Server, version 222.0.126.0 or later
- HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.2-222.0.142.0 or later
- HPE Broadcom NetXtreme-E Drivers for VMware, version 222.0.118.0 or later

Fixes

This product addresses some minor adjustment with its internal UEFI code structure.

Enhancements

This product is updated to maintain compatibility with CNSA (Commercial National Security Algorithm) compliance.

Supported Devices and Features

This product supports the following network adapters:

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

Broadcom NX1 Online Firmware Upgrade Utility for VMware
Version: 1.30.2 **(Recommended)**
Filename: CP051467.compsig; CP051467.zip

Important Note!

This software package contains combo image v20.22.41 with the following firmware versions:

NIC	Boot Code Version	PXE Version	NCSI Version	UEFI Version	CCM Version
BCM 5719 1GbE 4p BASE-T Adptr	1.46	21.6.2	1.5.35	21.6.36	222.0.137.0
BCM 5719 1GbE 2p BASE-T OCP3 Adptr	1.46	21.6.2	1.5.35	21.6.36	222.0.137.0
BCM 5720 1GbE 2p BASE-T LOM Adptr	1.42	21.6.2	1.5.35	21.6.36	222.0.137.0

Prerequisites

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

Fixes

This product addresses some minor adjustment with its internal UEFI code structure.

Supported Devices and Features

This product supports the following network adapters:

- Broadcom BCM5720 Ethernet 1Gb 2-port BASE-T LOM Adapter for HPE
- Broadcom BCM5719 Ethernet 1Gb 4-port Base-T Adapter for HPE
- Broadcom BCM5719 Ethernet 1Gb 4-port Base-T OCP3 Adapter for HPE

HPE Broadcom NetXtreme-E Firmware Package for BCM5741x adapters
Version: 218.0.303000 (B) **(Recommended)**
Filename: bcm218.0.303000.Optimized.pup.fwpkg

Important Note!

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

- HPE Broadcom NetXtreme-E Driver for Windows Server , version 219.0.44.0 or later
- HPE Broadcom NetXtreme-E Drivers for Linux, version 1.10.2-219.0.55.0 or later
- HPE Broadcom NetXtreme-E Drivers for VMware, version 2022.03.04 or later

Fixes

- This product addresses an issue a packet missing problem after some amounts of multicast UDP streams transmitted.
- This product addresses an issue the port identifier LED problem on HPE Ethernet 10Gb 2-port 535T Adapter .

Enhancements

This product is updated to maintain compatibility with CNSA (Commercial National Security Algorithm) compliance.

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 NetXtreme-E Online Firmware Upgrade Utility for VMware
Version: 5.15.0 **(Recommended)**
Filename: CP051500.compsig; CP051500.zip

Important Note!

HPE recommends *HPE Broadcom NetXtreme-E Drivers for VMware*, versions 2022.03.04 or later, for use with this firmware.

This software package contains NVM Image version 218.0.303000 with the following firmware versions:

NIC	Bootcode Version	NCSI Version	MBA Version	UEFI Version	CCM Version	RoCE Version
HPE Ethernet 10Gb 2-port 535FLR-T Adapter	218.0.229.0	218.0.173.0	218.0.38.0	218.0.93.0	218.0.28.0	218.0.5.0
HPE Ethernet 10Gb 2-port 535T Adapter						
HPE Ethernet 10/25Gb 2-port 631FLR-SFP28 Adapter						
HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter						
HPE Ethernet 10Gb 2-port 537SFP+ Adapter						
HPE Ethernet 10Gb 2-port						

537SFP+ FLR Adapter						

Prerequisites

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

Enhancements

This product no longer supported of updating FW via Service Pack for Proliant on HPE Proliant Gen9 servers.

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: 1.31.2 **(Recommended)**
Filename: CP051380.compsig; CP051380.zip

Important Note!

This software package contains combo image v20.22.41 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	21.6.2	1.5.35	21.6.36	222.0.137.0
HPE Ethernet 1Gb 4-port 331i Adapter (22BE) HPE Ethernet 1Gb 4-port 331FLR Adapter HPE Ethernet 1Gb 4-port 331T Adapter	1.46	21.6.2	1.5.35	21.6.36	222.0.137.0
HPE Ethernet 1Gb 2-port 332i Adapter (22E8) HPE Ethernet 1Gb 2-port 332T Adapter	1.42	21.6.2	1.5.35	21.6.36	222.0.137.0

Prerequisites

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

Enhancements

This product no longer supported of updating FW via Service Pack for Proliant on HPE Proliant Gen9 servers.

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 Intel Online Firmware Upgrade Utility for VMware
Version: 3.17.3 **(Recommended)**
Filename: CP051601.compsig; CP051601.zip

Important Note!

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

	EEPROM / NVM	OROM	Single NVM

NIC	Version	Version	Version
HPE Ethernet 1Gb 2-port 361i Adapter	8000119A	1.3227.0	N/A
HPE Ethernet 1Gb 2-port 361T Adapter	80001147	1.3227.0	N/A
HPE Ethernet 1Gb 2-port 363i Adapter	8000119E	1.3227.0	N/A
HPE Ethernet 1Gb 4-port 366i Communication Board	800011A0	1.3227.0	N/A
HPE Ethernet 1Gb 4-port 366i Adapter	8000119F	1.3227.0	N/A
HPE Ethernet 1Gb 4-port 366FLR Adapter	800011A1	1.3227.0	N/A
HPE Ethernet 1Gb 4-port 366T Adapter	80001146	1.3227.0	N/A
HPE Ethernet 1Gb 2-port 368i Adapter	80003942	1.3227.0	N/A
HPE Ethernet 1Gb 2-port 368FLR-MMT Adapter	80003945	1.3227.0	N/A
HPE Ethernet 1Gb 4-port 369i Adapter	80003940	1.3227.0	N/A
HPE Ethernet 10Gb 2-port 560FLR-SFP+ Adapter	800009E0	1.3227.0	N/A
HPE Ethernet 10Gb 2-port 560SFP+ Adapter	800009E1	1.3227.0	N/A
HPE Ethernet 10Gb 2-port 561T Adapter	80000636	1.3227.0	N/A
HPE Ethernet 10Gb 2-port 561FLR-T Adapter	800005B6	1.3227.0	N/A
HPE Ethernet 10Gb 2-port 568i Adapter	80003941	1.3227.0	N/A
HPE Ethernet 10Gb 2-port 568FLR-MMSFP+ Adapter	80003945	1.3227.0	N/A
HPE Ethernet 10Gb 2-port 568FLR-MMT Adapter	80003945	1.3227.0	N/A
HPE Ethernet 10Gb 2-port 563i Adapter	800035C0	1.1375.0	N/A
HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter	8000C689	1.3227.0	11.1.1
HPE Ethernet 10Gb 2-port 562FLR-T Adapter	800016F1	1.3227.0	10.55.3
HPE Ethernet 10Gb 2-port 562SFP+ Adapter	8000C688	1.3227.0	11.1.1
HPE Ethernet 10Gb 2-port 562T Adapter	800016EF	1.3227.0	10.55.3

The combo image v1.3227.0 includes: Boot Agent: 1GbE - v1.5.89, 10GbE - v2.4.45, 40GbE - v1.1.42 & UEFI Drivers: 1GbE - v9.8.06, 10GbE - v8.1.02, 40GbE - v4.9.13

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 a issue where Firmware version isn't displaed in NIC HII menu

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 Firmware Package for Arrowhead adapters
Version: 8.59.05 **(Recommended)**
Filename: ql_hp_ah_mbi_8.59.05_pldm.fwpkg

Important Note!

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

- HPE QLogic FastLinQ 10/25/50 GbE Drivers for Linux, version 8.70.6.1-1 or later
- HPE QLogic FastLinQ 10/25/50 GbE Drivers for Microsoft Windows Server x64 Editions, version 8.70.9.0 or later
- HPE QLogic FastLinQ 10/25/50 GbE Multifunction Drivers for VMware, version 5.0.336.0 or later

Enhancements

This product now supports Red Hat Enterprise Linux 8 Update 6, Liunx 9 and SUSE Linux Enterprise Server 15 Service Pack 4

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 Adapter
- HPE StoreFabric CN1200R-T Converged Network Adapter
- HPE StoreFabric CN1300R Converged Network Adapter

HPE QLogic FastLinQ Online Firmware Upgrade Utility for VMware
Version: 4.16.3 **(Recommended)**
Filename: CP050990.compsig; CP050990.zip

Important Note!

HPE recommends *HPE QLogic FastLinQ 10/25/50GbE Multifunction Drivers for VMware*, versions 6.0.326.0 or later, for use with this firmware.

This software package contains combo image version v8.59.05 includes:

- Boot Code (MFW): 8.59.15.0
- UEFI: 4.1.13.1
- 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 now removes the support for VMware ESXi 6.5 and 6.7

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: 1.31.4 **(Recommended)**
Filename: CP050993.compsig; CP050993.zip

Important Note!

HPE recommends HPE QLogic NX2 10/20GbE Multifunction Drivers for VMware, versions 2022.09.0 or later, for use with this firmware.

This software package contains combo image v7.19.14 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	7.16.13	7.14.13	8.9.3	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	7.16.13	7.14.13	8.9.3	7.14.0	7.14.3	7.14.4	7.12.25

Prerequisites

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

Enhancements

- This product now removes the support for VMware ESXi 6.5 and 6.7
- This product is updated to maintain compatibility with CNSA (Commercial National Security Algorithm) compliance.

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 E810-2CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter
Version: 3.20 **(Recommended)**
Filename: HPE_E810_2CQDA2_O_SEC_3p20_PLDMoMCTP_80012766.fwpkg

Important Note!

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

- Intel icea Driver for Microsoft Windows Server, version 1.11.44.0 or later
- Intel ice Drivers for Linux, version 1.8.8-2 or later
- Intel icen Driver for VMware, version 2022.09.01 or later

Fixes

This product addresses a modification on warning message when trying to update FW in power off state

Supported Devices and Features

This product supports the following network adapters:

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

Intel Firmware Package For E810-CQDA2 Ethernet 100Gb 2-port QSFP28 Adapter
Version: 3.20 **(Recommended)**
Filename: HPE_E810_CQDA2_3p20_PLDMoMCTP_80012763.fwpkg

Important Note!

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

- Intel icea Driver for Microsoft Windows Server, version 1.11.44.0 or later
- Intel ice Drivers for Linux, version 1.8.8-2 or later
- Intel icen Driver for VMware, version 2022.09.01 or later

Fixes

This product addresses a modification on warning message when trying to update FW in power off state

Supported Devices and Features

This product supports the following network adapters:

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

Intel Firmware Package For E810-CQDA2 Ethernet 100Gb 2-port QSFP28 OCP3 Adapter
Version: 3.20 **(Recommended)**
Filename: HPE_E810_CQDA2_OCP_3p20_NCSIwPLDMoMCTP_80012767.fwpkg

Important Note!

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

- Intel icea Driver for Microsoft Windows Server, version 1.11.44.0 or later
- Intel ice Drivers for Linux, version 1.8.8-2 or later
- Intel icen Driver for VMware, version 2022.09.01 or later

Fixes

This product addresses an issue where Server Critical Fault Warning Is Experienced With HPE 100Gb QSFP28 MPO SR4 100m Transceivers

Supported Devices and Features

This product supports the following network adapters:

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

Intel Firmware Package For E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 Adapter
Version: 3.20 **(Recommended)**
Filename: HPE_E810_XXVDA2_SD_3p20_PLDMoMCTP_8000D853.fwpkg

Important Note!

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

- Intel icea Driver for Microsoft Windows Server, version 1.11.44.0 or later

- Intel ice Drivers for Linux, version 1.8.8-2 or later
- Intel icen Driver for VMware, version 2022.09.01 or later

Fixes

This product addresses a modification on warning message when trying to update FW in power off state

Supported Devices and Features

This product supports the following network adapters:

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

Intel Firmware Package For E810-XXVDA2 Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter
Version: 3.20 **(Recommended)**
Filename: HPE_E810_XXVDA2_SD_OCP_3p20_NCSIwPLDMoMCTP_8000D82B.fwpkg

Important Note!

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

- Intel icea Driver for Microsoft Windows Server, version 1.11.44.0 or later
- Intel ice Drivers for Linux, version 1.8.8-2 or later
- Intel icen Driver for VMware, version 2022.09.01 or later

Fixes

This product addresses a modification on warning message when trying to update FW in power off state

Supported Devices and Features

This product supports the following network adapters:

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

Intel Firmware Package For E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 Adapter
Version: 3.20 **(Recommended)**
Filename: HPE_E810_XXVDA4_FH_3p20_PLDMoMCTP_80012765.fwpkg

Important Note!

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

- Intel icea Driver for Microsoft Windows Server, version 1.11.44.0 or later
- Intel ice Drivers for Linux, version 1.8.8-2 or later
- Intel icen Driver for VMware, version 2022.09.01 or later

Fixes

This product addresses a modification on warning message when trying to update FW in power off state

Supported Devices and Features

This product supports the following network adapters:

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

Intel Firmware Package For E810-XXVDA4 Ethernet 10/25Gb 4-port SFP28 OCP3 Adapter
Version: 3.20 **(Recommended)**
Filename: HPE_E810_XXV4_OCP_3p20_NCSIwPLDMoMCTP_80012764.fwpkg

Important Note!

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

- Intel icea Driver for Microsoft Windows Server, version 1.11.44.0 or later
- Intel ice Drivers for Linux, version 1.8.8-2 or later
- Intel icen Driver for VMware, version 2022.09.01 or later

Fixes

This product addresses a modification on warning message when trying to update FW in power off state

Supported Devices and Features

This product supports the following network adapters:

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

Intel Online Firmware Upgrade Utility for VMware
Version: 3.17.4 **(Recommended)**
Filename: CP051603.compsig; CP051603.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	8000CBAA	1.3218.0	8.70
HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter	8000CBAB	1.3218.0	8.70
Intel I350-T4 Ethernet 1Gb 4-port BASE-T Adapter	80001099	1.3218.0	N/A
Intel I350-T4 Ethernet 1Gb 4-port BASE-T OCP3 Adapter	80001199	1.3218.0	N/A
Intel(R) I350 Gigabit Network Connection (2-port)	8000119C	1.3218.0	N/A
Intel(R) I350 Gigabit Network Connection (4-port)	8000119D	1.3218.0	N/A

The combo image v1.3218.0 includes: Boot Agent: 1GbE - v1.5.89, Boot Agent I40E - v1.1.42 & UEFI Drivers: 1GbE - v9.8.06, 40 gigabit driver - v4.9.13

Prerequisites

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

Enhancements

This product now supports HPE ProLiant MicroServer Gen10 Plus v2

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 Firmware Package for Arrowhead adapters
Version: 8.59.05 **(Recommended)**
Filename: ql_ah_mbi_open_8.59.05_pldm.fwpkg

Important Note!

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

- Marvell FastLinQ 10/25/50 GbE Drivers for Microsoft Windows Server x64 Editions, version 8.70.9.0 or later
- HPE QLogic FastLinQ 10/25/50 GbE Drivers for Linux, version 8.70.6.1-1 or later
- HPE QLogic FastLinQ 10/25/50 GbE Multifunction Drivers for VMware, version 5.0.336.0 or later

Enhancements

This product now supports Red Hat Enterprise Linux 8 Update 6, Liunx 9 and SUSE Linux Enterprise Server 15 Service Pack 4

Supported Devices and Features

This product supports the following network adapters:

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

Mellanox Firmware Package (FWPKG) - Mellanox MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adapter for HPE
Version: 26.33.1048 **(Recommended)**
Filename: 26_33_1048-MCX631102AS-ADA_Ax.pldm.fwpkg

Important Note!

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

A list of known issues with this release is available
at: https://docs.nvidia.com/networking/display/ConnectX6LxFirmwarev26331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

Prerequisites

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

Fixes

The following issues have been fixed in version 26.33.1048:

- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- A configuration issue which flipped the MSB of Partition Key field in CNP packets and led to P_KEY mismatch between CNP packets and regular packets.
- A rare case where asserts and ext_synd appeared in dmesg after performing driver restart.
- An issue that prevented the np_cnp_sent counter from increasing after it reached its maximum although there were CNPs sent upon receiving ECN-marked packets.

Enhancements

New Features and Changes in Version 26.33.1048:

- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added support for VF migration. The hypervisor can now suspend its VF, meaning from that point the VF cannot perform action such as send/receive traffic or run any command. In this firmware version only the suspend resume mode is

supported (on the same VM).
- Added support for VF migration.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

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

Mellanox Firmware Package (FWPKG) - Mellanox MCX631432AS-ADAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE
Version: 26.33.1048 **(Recommended)**
Filename: 26_33_1048-MCX631432AS-ADA_Ax.pldm.fwpkg

Important Note!

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A list of known issues with this release is available at: https://docs.nvidia.com/networking/display/ConnectX6LxFirmwarev26331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

Prerequisites

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

Fixes

The following issues have been fixed in version 26.33.1048:

- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- A configuration issue which flipped the MSB of Partition Key field in CNP packets and led to P_KEY mismatch between CNP packets and regular packets.
- A rare case where asserts and ext_synd appeared in dmesg after performing driver restart.
- An issue that prevented the np_cnp_sent counter from increasing after it reached its maximum although there were CNPs sent upon receiving ECN-marked packets.

Enhancements

New Features and Changes in Version 26.33.1048

- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added support for VF migration. The hypervisor can now suspend its VF, meaning from that point the VF cannot perform action such as send/receive traffic or run any command. In this firmware version only the suspend resume mode is supported (on the same VM).
- Added support for VF migration.

- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

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

Mellanox Firmware Package (FWPKG) for Mellanox MCX562A-ACAI Ethernet 10/25Gb 2-port SFP28 OCP3 Adapter for HPE
Version: 16.33.1048 **(Recommended)**
Filename: 16_33_1048-MCX562A-ACA_Ax_Bx.pldm.fwpkg

Important Note!

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A list of known issues with this release is available at: https://docs.nvidia.com/networking/display/ConnectX5Firmwarev16331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

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 16.33.1048 :

- A rare issue that caused the QP not to receive a completion.
- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- The card occasionally masked some PCIe AER reporting.
- Incorrect flow of credits blockage that prevented booting during DC cycle test.
- An issue with BMC medium migration from SMBUS to PCIe, and increased FIFOs to pass large packets in case of the migration.

Enhancements

Important : Security Hardening Enhancements - This release contains important reliability improvements and security hardening enhancements. HPE recommends upgrading your device firmware to this version to improve the firmware security and reliability of your device.

New features and changes included in version 16.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP

will provide information on the syndrome type and which side caused the error.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

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

Mellanox Firmware Package (FWPKG) for HPE Ethernet 100Gb 1-port QSFP28 PCIe3 x16 MCX515A-CCAT Adapter : HPE part numbers P31246-B21 and P31246-H21
Version: 16.33.1048 **(Recommended)**
Filename: 16_33_1048-MCX515A-CCA_HPE_Ax.pldm.fwpkg

Important Note!

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

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

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

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

A list of known issues with this release is available at: https://docs.nvidia.com/networking/display/ConnectX5Firmwarev16331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

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 16.33.1048 :

- A rare issue that caused the QP not to receive a completion.
- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- The card occasionally masked some PCIe AER reporting.
- Incorrect flow of credits blockage that prevented booting during DC cycle test.
- An issue with BMC medium migration from SMBUS to PCIe, and increased FIFOs to pass large packets in case of the migration.

Enhancements

Important : Security Hardening Enhancements - This release contains important reliability improvements and security hardening enhancements. HPE recommends upgrading your device firmware to this version to improve the firmware security and reliability of

your device.

New features and changes included in version 16.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

This software package contains the following firmware versions:

Mellanox Ethernet Only Adapters	Firmware Version	PSID
HPE Ethernet 100Gb 1-port QSFP28 PCIe3 x16 MCX515A-CCAT Adapter(P31246-B21 and P31246-H21)	16.33.1048	MT_0000000591

Mellanox Firmware Package (FWPKG) for HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 MCX653105A-HDAT Adapter : HPE part numbers P23664-B21 and P23664-H21
Version: 20.33.1048 **(Recommended)**
Filename: 20_33_1048-MCX653105A-HDA_HPE_Ax.pldm.fwpkg

Important Note!

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

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

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

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A list of known issues with this release is available at: https://docs.nvidia.com/networking/display/ConnectX6Firmwarev20331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

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 20.33.1048:

- An issue where RDMA write may experience performance degradation when working with Adaptive Routing and DCT half-handshake mode.
- An issue that ignored the default value of TX_SCHEDULER_BURST when its value in the ini was different than "0".
- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- RDMA_WRITE traffic performance degradation that occured when working with DC on Adaptive Routing network.
- Bad cache invalidations of destroyed QPs.
- A rare case where asserts and ext_synd appeared in dmesg after performing driver restart.
- An issue related to host isolation on multi-host systems.

Enhancements

Security Hardening Enhancements: This release contains important reliability improvements and security hardening enhancements. HPE recommends upgrading your device firmware to this release to improve the firmware security and reliability of your device.

New features and changes included in version 20.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Crypto features can be in either wrapped or unwrapped mode. Meaning, the key can be wrapped or in plaintext when running the CREATE_DEK PRM command. To comply with the requirements specified in FIPS publication, all the created DEKs must be wrapped.
  This feature adds new NV_CONFIG per device to control this mode, and enables the user to change all the crypto features to wrapped or cleartext.
- Implemented SLD detection code. Surprise Down Error Reporting Capable value was changed from 1 to 0 in boards where the downstream perst was not controlled thus causing SLD detection not to function properly.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

This software package contains the following firmware versions:

Mellanox InfiniBand Adapter	Firmware Version	PSID
HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 MCX653105A-HDAT Adapter (P23664-B21 and P23664-H21)	20.33.1048	MT_0000000451

Mellanox Firmware Package (FWPKG) for HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 OCP3 MCX653435A-HDAI Adapter : HPE part numbers P31323-B21 and P31323-H21
Version: 20.33.1048 **(Recommended)**
Filename: 20_33_1048-MCX653435A-HDA_HPE_Ax.pldm.fwpkg

Important Note!

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

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

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A list of known issues with this release is available at: https://docs.nvidia.com/networking/display/ConnectX6Firmwarev20331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

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 20.33.1048:

- An issue where RDMA write may experience performance degradation when working with Adaptive Routing and DCT half-handshake mode.
- An issue that ignored the default value of TX_SCHEDULER_BURST when its value in the ini was different than "0".
- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- RDMA_WRITE traffic performance degradation that occured when working with DC on Adaptive Routing network.
- Bad cache invalidations of destroyed QPs.
- A rare case where asserts and ext_synd appeared in dmesg after performing driver restart.
- An issue related to host isolation on multi-host systems.

Enhancements

Security Hardening Enhancements: This release contains important reliability improvements and security hardening enhancements. HPE recommends upgrading your device firmware to this release to improve the firmware security and reliability of your device.

New features and changes included in version 20.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Crypto features can be in either wrapped or unwrapped mode. Meaning, the key can be wrapped or in plaintext when running the CREATE_DEK PRM command. To comply with the requirements specified in FIPS publication, all the created DEKs must be wrapped.
  This feature adds new NV_CONFIG per device to control this mode, and enables the user to change all the crypto features to wrapped or cleartext.
- Implemented SLD detection code. Surprise Down Error Reporting Capable value was changed from 1 to 0 in boards where the downstream perst was not controlled thus causing SLD detection not to function properly.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

This software package contains the following firmware versions:

Mellanox InfiniBand Adapter	Firmware Version	PSID
HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe4 x16 OCP3 MCX653435A-HDAI		

Adapter (P31323-B21 and P31323-H21)	20.33.1048	MT_0000000592

Mellanox Firmware Package (FWPKG) for HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 MCX653106A-HDAT Adapter : HPE part numbers P31324-B21 and P31324-H21
Version: 20.33.1048 **(Recommended)**
Filename: 20_33_1048-MCX653106A-HDA_HPE_Ax.pldm.fwpkg

Important Note!

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

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

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

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**
200GbE/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	**200GbE/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

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

A list of known issues with this release is available at: https://docs.nvidia.com/networking/display/ConnectX6Firmwarev20331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

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 20.33.1048:

- An issue where RDMA write may experience performance degradation when working with Adaptive Routing and DCT half-handshake mode.
- An issue that ignored the default value of TX_SCHEDULER_BURST when its value in the ini was different than "0".
- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- RDMA_WRITE traffic performance degradation that occured when working with DC on Adaptive Routing network.
- Bad cache invalidations of destroyed QPs.
- A rare case where asserts and ext_synd appeared in dmesg after performing driver restart.
- An issue related to host isolation on multi-host systems.

Enhancements

Security Hardening Enhancements: This release contains important reliability improvements and security hardening enhancements. HPE recommends upgrading your device firmware to this release to improve the firmware security and reliability of your device.

New features and changes included in version 20.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Crypto features can be in either wrapped or unwrapped mode. Meaning, the key can be wrapped or in plaintext when running the CREATE_DEK PRM command. To comply with the requirements specified in FIPS publication, all the created DEKs must be wrapped.
  This feature adds new NV_CONFIG per device to control this mode, and enables the user to change all the crypto features to wrapped or cleartext.
- Implemented SLD detection code. Surprise Down Error Reporting Capable value was changed from 1 to 0 in boards where the downstream perst was not controlled thus causing SLD detection not to function properly.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

This software package contains the following firmware versions:

Mellanox InfiniBand Adapter	Firmware Version	PSID
HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 MCX653106A-HDAT Adapter(P31324-B21 and P31324-H21)	20.33.1048	MT_0000000594

Mellanox Firmware Package (FWPKG) for HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 OCP3 MCX653436A-HDAI Adapter : HPE part numbers P31348-B21 and P31348-H21
Version: 20.33.1048 **(Recommended)**
Filename: 20_33_1048-MCX653436A-HDA_HPE_Ax.pldm.fwpkg

Important Note!

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

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

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

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**
200GbE/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	**200GbE/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

A list of known issues with this release is available at: https://docs.nvidia.com/networking/display/ConnectX6Firmwarev20331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

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 20.33.1048:

- An issue where RDMA write may experience performance degradation when working with Adaptive Routing and DCT half-handshake mode.
- An issue that ignored the default value of TX_SCHEDULER_BURST when its value in the ini was different than "0".
- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- RDMA_WRITE traffic performance degradation that occured when working with DC on Adaptive Routing network.
- Bad cache invalidations of destroyed QPs.
- A rare case where asserts and ext_synd appeared in dmesg after performing driver restart.
- An issue related to host isolation on multi-host systems.

Enhancements

Security Hardening Enhancements: This release contains important reliability improvements and security hardening enhancements. HPE recommends upgrading your device firmware to this release to improve the firmware security and reliability of your device.

New features and changes included in version 20.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Crypto features can be in either wrapped or unwrapped mode. Meaning, the key can be wrapped or in plaintext when running the CREATE_DEK PRM command. To comply with the requirements specified in FIPS publication, all the created DEKs must be wrapped.
  This feature adds new NV_CONFIG per device to control this mode, and enables the user to change all the crypto features to wrapped or cleartext.
- Implemented SLD detection code. Surprise Down Error Reporting Capable value was changed from 1 to 0 in boards where the downstream perst was not controlled thus causing SLD detection not to function properly.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

This software package contains the following firmware versions:

Mellanox InfiniBand Adapter	Firmware Version	PSID
HPE InfiniBand HDR/Ethernet 200Gb 2-port QSFP56 PCIe4 x16 OCP3 MCX653436A-HDAI Adapter (P31348-B21 and P31348-H21)	20.33.1048	MT_0000000593

Mellanox Firmware Package (FWPKG) for HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe4 x16 MCX653105A-ECAT Adapter : HPE part numbers P23665-B21 and P23665-H21
Version: 20.33.1048 **(Recommended)**
Filename: 20_33_1048-MCX653105A-ECA_HPE_Ax.pldm.fwpkg

Important Note!

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

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

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

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A list of known issues with this release is available at: https://docs.nvidia.com/networking/display/ConnectX6Firmwarev20331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

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 20.33.1048:

- An issue where RDMA write may experience performance degradation when working with Adaptive Routing and DCT half-handshake mode.
- An issue that ignored the default value of TX_SCHEDULER_BURST when its value in the ini was different than "0".
- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- RDMA_WRITE traffic performance degradation that occured when working with DC on Adaptive Routing network.
- Bad cache invalidations of destroyed QPs.
- A rare case where asserts and ext_synd appeared in dmesg after performing driver restart.
- An issue related to host isolation on multi-host systems.

Enhancements

Security Hardening Enhancements: This release contains important reliability improvements and security hardening enhancements. HPE recommends upgrading your device firmware to this release to improve the firmware security and reliability of your device.

New features and changes included in version 20.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Crypto features can be in either wrapped or unwrapped mode. Meaning, the key can be wrapped or in plaintext when running the CREATE_DEK PRM command. To comply with the requirements specified in FIPS publication, all the created DEKs must be wrapped.
  This feature adds new NV_CONFIG per device to control this mode, and enables the user to change all the crypto features to wrapped or cleartext.
- Implemented SLD detection code. Surprise Down Error Reporting Capable value was changed from 1 to 0 in boards where the downstream perst was not controlled thus causing SLD detection not to function properly.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

This software package contains the following firmware versions:

Mellanox InifiniBand Adapter	Firmware Version	PSID
HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe4 x16 MCX653105A-ECAT Adapter (P23665-B21 and P23665-H21)	20.33.1048	MT_0000000452

Mellanox Firmware Package (FWPKG) for HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe4 x16 MCX653106A-ECAT Adapter : HPE part numbers P23666-B21 and P23666-H21
Version: 20.33.1048 **(Recommended)**
Filename: 20_33_1048-MCX653106A-ECA_HPE_Ax.pldm.fwpkg

Important Note!

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

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

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

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

A list of known issues with this release is available at: https://docs.nvidia.com/networking/display/ConnectX6Firmwarev20331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

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 20.33.1048:

- An issue where RDMA write may experience performance degradation when working with Adaptive Routing and DCT half-handshake mode.
- An issue that ignored the default value of TX_SCHEDULER_BURST when its value in the ini was different than "0".
- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- RDMA_WRITE traffic performance degradation that occured when working with DC on Adaptive Routing network.
- Bad cache invalidations of destroyed QPs.
- A rare case where asserts and ext_synd appeared in dmesg after performing driver restart.
- An issue related to host isolation on multi-host systems.

Enhancements

Security Hardening Enhancements: This release contains important reliability improvements and security hardening enhancements. HPE recommends upgrading your device firmware to this release to improve the firmware security and reliability of your device.

New features and changes included in version 20.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Crypto features can be in either wrapped or unwrapped mode. Meaning, the key can be wrapped or in plaintext when running the CREATE_DEK PRM command. To comply with the requirements specified in FIPS publication, all the created DEKs must be wrapped.
  This feature adds new NV_CONFIG per device to control this mode, and enables the user to change all the crypto features to wrapped or cleartext.
- Implemented SLD detection code. Surprise Down Error Reporting Capable value was changed from 1 to 0 in boards where the downstream perst was not controlled thus causing SLD detection not to function properly.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

This software package contains the following firmware versions:

Mellanox InfiniBand Adapter	Firmware Version	PSID
HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe4 x16 MCX653106A-ECAT Adapter (P23666-B21 and P23666-H21)	20.33.1048	MT_0000000453

Mellanox Firmware Package (FWPKG) for Mellanox MCX623105AS-VDAT Ethernet 200Gb 1-port QSFP56 Adapter for HPE
Version: 22.33.1048 **(Recommended)**
Filename: 22_33_1048-MCX623105AS-VDA_Ax.pldm.fwpkg

Important Note!

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A list of known issues with this release is available at: https://docs.nvidia.com/networking/display/ConnectX6DxFirmwarev22331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

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 22.33.1048:

- vDPA traffic unbalance issue in active-backup VF LAG mode.
- An issue that occured after powering off DC in Multi-Host system which resulted in OOB connection to the BMC getting lost (and fatal error appeared) due to a firmware bug in the PCIe flush flow.

The issue was fixed by increasing the flush time and not waiting for PCIe credits to return to default values.
- A rare HW/FW timing race of serdes' power-up sequence.
- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- An issue that resulted in temporary packet drops while changing PTP/FCS configuration when the links were up.
- Optimized the virtio data path to reach line speed for Tx bandwidth.
- An issue that resulted in notification indicator mistakenly being reported as FATAL thus, raising false indication.
- Bad cache invalidations of destroyed QPs.
- A configuration issue which flipped the MSB of Partition Key field in CNP packets and led to P_KEY mismatch between CNP packets and regular packets.
- An issue that resulted in wrong port calibration due to incorrect mapping of the port during initialization stage.

Enhancements

New features and changes included in version 22.33.1048:

- Enabled 200Gb/s out-of-the-box throughput on crypto capable devices.
  Note: If any crypto offloads is in use, 200Gb/s throughput can be achieved only after the next firmware reset
- Added support for VF migration. The hypervisor can now suspend its VF, meaning from that point the VF cannot perform action such as send/receive traffic or run any command. In this firmware version only the suspend resume mode is supported (on the same VM).
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added Precision Time Protocol (PTP) support.
  In this version, the support includes:
  16 PTP SQs only
  only 2 ports
  only RT clock mode
  In this version, the following are not supported:
  PTP packet drop
  PTP SQ on VF
  Note: All PTP SQs must be closed before operating LFWP (life fw patch).
- Added support for HW Steering objects dump via resource dump interface.
  This support includes: STC, RTC, STE, modify argument, and modify pattern.
- Added support for VF migration.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Added support for creating a steering definer with a dword selector using create_match_definer_object and the "SELECT" format.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- [Beta] Added HW Steering support for the following:
  set, add and copy inline STC action
  set and copy actions for several fields using modify_pattern object and inline stc modify action
  FDB mode in HW steering using FDB_RX and FDB_TX flow table types
  ASO flow meter action via STC
  flow counter query using ASO WQE
  allocation of large bulks for the objects: STE, ASO flow meter and modify argument
  jumbo match RTC
  count action in STC
- Added support for holdover mode to comply to SyncE specifications (EEC compliance) to limit the maximum phase transient response upon link loss.
- Added support for noise filtering to comply to the SyncE specifications requirements.
- Optimized the performance of vDPA virtio including: throughput, QoS, and accuracy of min/max bandwidth when virtio works with the QoS settings.
- The new vDPA virtio-net Full Emulation capability reduces the switchover time of creating a virtq from scratch during live migration, by creating the virtq beforehand on the target server.
  When swithover happens, the pre-created virtq will be used and modified with necessary parameters.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Added support for advanced ZTR_RTTCC algorithm based on the Programmable CC platform to achieve better congestion control without dependency on the switch ECN marking.
- DIM is used to tune moderation parameter dynamically for vDPA using an mlxreg command.
  To disable this capability, run:
  mlxreg -d /dev/mst/mt41686_pciconf0 --reg_id 0xc00d --reg_len 0x8 -s "0x4.1:1=0x0"
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Added support for creating a dynamic flex parser on untrusted function, and changed the flex parser cap for untrusted function to the following:

maximum flex parser node = 2
maximum dw sample = 4

- Added support for SNAPI (comm-channel) connection while running on raw ETH link.
- Crypto features can be in either wrapped or unwrapped mode. Meaning, the key can be wrapped or in plaintext when running the CREATE_DEK PRM command.
  To comply with the requirements specified in FIPS publication, all the created DEKs must be wrapped.
  This feature adds new NV_CONFIG per device to control this mode, and enables the user to change all the crypto features to wrapped or cleartext.
- [Beta] A new capability that enables the software to directly access ICM and write/modify the DEK objects. Such change improves the DEK object update rate by re-using DEK object instead of creating a new one.
  In addition, added the following:
  New for DEK object: bulk allocation, modify_dek cmd, and new mode - sw_wrapped.
  New general object INT_KEK
- Implemented SLD detection code. Surprise Down Error Reporting Capable value was changed from 1 to 0 in boards where the downstream perst was not controlled thus causing SLD detection not to function properly.

Supported Devices and Features

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

Mellanox Firmware Package (FWPKG) for Mellanox MCX623106AS-CDAT Ethernet 100Gb 2-port QSFP56 Adapter for HPE
Version: 22.33.1048 **(Recommended)**
Filename: 22_33_1048-MCX623106AS-CDA_Ax.pldm.fwpkg

Important Note!

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

A list of known issues with this release is available at: https://docs.nvidia.com/networking/display/ConnectX6DxFirmwarev22331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

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 22.33.1048:

- vDPA traffic unbalance issue in active-backup VF LAG mode.
- An issue that occured after powering off DC in Multi-Host system which resulted in OOB connection to the BMC getting lost (and fatal error appeared) due to a firmware bug in the PCIe flush flow.
  The issue was fixed by increasing the flush time and not waiting for PCIe credits to return to default values.
- A rare HW/FW timing race of serdes' power-up sequence.
- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- An issue that resulted in temporary packet drops while changing PTP/FCS configuration when the links were up.
- Optimized the virtio data path to reach line speed for Tx bandwidth.
- An issue that resulted in notification indicator mistakenly being reported as FATAL thus, raising false indication.
- Bad cache invalidations of destroyed QPs.
- A configuration issue which flipped the MSB of Partition Key field in CNP packets and led to P_KEY mismatch between CNP packets and regular packets.
- An issue that resulted in wrong port calibration due to incorrect mapping of the port during initialization stage.

Enhancements

New features and changes included in version 22.33.1048:

- Enabled 200Gb/s out-of-the-box throughput on crypto capable devices.
  Note: If any crypto offloads is in use, 200Gb/s throughput can be achieved only after the next firmware reset
- Added support for VF migration. The hypervisor can now suspend its VF, meaning from that point the VF cannot perform action such as send/receive traffic or run any command. In this firmware version only the suspend resume mode is supported (on the same VM).
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added Precision Time Protocol (PTP) support.
  In this version, the support includes:
  16 PTP SQs only
  only 2 ports
  only RT clock mode
  In this version, the following are not supported:
  PTP packet drop
  PTP SQ on VF
  Note: All PTP SQs must be closed before operating LFWP (life fw patch).
- Added support for HW Steering objects dump via resource dump interface.
  This support includes: STC, RTC, STE, modify argument, and modify pattern.
- Added support for VF migration.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Added support for creating a steering definer with a dword selector using create_match_definer_object and the "SELECT" format.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- [Beta] Added HW Steering support for the following:
  set, add and copy inline STC action
  set and copy actions for several fields using modify_pattern object and inline stc modify action
  FDB mode in HW steering using FDB_RX and FDB_TX flow table types
  ASO flow meter action via STC
  flow counter query using ASO WQE
  allocation of large bulks for the objects: STE, ASO flow meter and modify argument
  jumbo match RTC
  count action in STC
- Added support for holdover mode to comply to SyncE specifications (EEC compliance) to limit the maximum phase transient response upon link loss.
- Added support for noise filtering to comply to the SyncE specifications requirements.
- Optimized the performance of vDPA virtio including: throughput, QoS, and accuracy of min/max bandwidth when virtio works with the QoS settings.
- The new vDPA virtio-net Full Emulation capability reduces the switchover time of creating a virtq from scratch during live migration, by creating the virtq beforehand on the target server.
  When swithover happens, the pre-created virtq will be used and modified with necessary parameters.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Added support for advanced ZTR_RTTCC algorithm based on the Programmable CC platform to achieve better congestion control without dependency on the switch ECN marking.
- DIM is used to tune moderation parameter dynamically for vDPA using an mlxreg command.
  To disable this capability, run:
  mlxreg -d /dev/mst/mt41686_pciconf0 --reg_id 0xc00d --reg_len 0x8 -s "0x4.1:1=0x0"
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Added support for creating a dynamic flex parser on untrusted function, and changed the flex parser cap for untrusted function to the following:
  maximum flex parser node = 2
  maximum dw sample = 4
- Added support for SNAPI (comm-channel) connection while running on raw ETH link.
- Crypto features can be in either wrapped or unwrapped mode. Meaning, the key can be wrapped or in plaintext when running the CREATE_DEK PRM command.
  To comply with the requirements specified in FIPS publication, all the created DEKs must be wrapped.
  This feature adds new NV_CONFIG per device to control this mode, and enables the user to change all the crypto features to wrapped or cleartext.
- [Beta] A new capability that enables the software to directly access ICM and write/modify the DEK objects. Such change improves the DEK object update rate by re-using DEK object instead of creating a new one.
  In addition, added the following:
  New for DEK object: bulk allocation, modify_dek cmd, and new mode - sw_wrapped.
  New general object INT_KEK
- Implemented SLD detection code. Surprise Down Error Reporting Capable value was changed from 1 to 0 in boards where the downstream perst was not controlled thus causing SLD detection not to function properly.

Supported Devices and Features

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

Mellanox Firmware Package(FWPKG) for HPE Ethernet 10/25Gb 2-port SFP28 MCX512F-ACHT Adapter
Version: 16.33.1048 (A) **(Recommended)**
Filename: 16_33_1048-MCX512F-ACH_Ax_Bx.pldm.fwpkg

Important Note!

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A list of known issues with this release is available at: https://docs.nvidia.com/networking/display/ConnectX5Firmwarev16331048/Known+Issues

Note : Flashing PLDM enabled Nvidia network adapters (Ethernet and VPI) may fail to update with FWPKG firmware component when systems have more than two adapters of the same type installed.

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 changes have been made in sub-version 16.33.1048(A):

- Product rebuilt to have the new SHA 384 signature.

The following issues have been fixed in version 16.33.1048 :

- A rare issue that caused the QP not to receive a completion.
- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- The card occasionally masked some PCIe AER reporting.
- Incorrect flow of credits blockage that prevented booting during DC cycle test.
- An issue with BMC medium migration from SMBUS to PCIe, and increased FIFOs to pass large packets in case of the migration.

Enhancements

Important : Security Hardening Enhancements - This release contains important reliability improvements and security hardening enhancements. HPE recommends upgrading your device firmware to this version to improve the firmware security and reliability of your device.

New features and changes included in version 16.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.

- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

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

Online Firmware Upgrade Utility (ESXi 7.0) for HPE Ethernet 10Gb 2-port 548SFP+ Adapter
Version: 1.0.3 (A) **(Recommended)**
Filename: CP053228.compsig; CP053228.zip

Prerequisites

Use iLO5 firmware version 2.30 or higher with ConnectX4-Lx firmware version 14.32.1010. Thermal sensor reporting on the adapter will not be functional with older versions of iLO5 firmware.

Fixes

The following changes have been made in sub-version 1.0.3(A):

- Product rebuilt to have the new SHA 384 signature.

The following issues have been fixed in version 14.32.1010:

- Firmware got into an unresponsive state and caused unexpected behavior when connecting an optical transceiver that support RxLOS and the remote side port was down.
- The system could not create more than 128K QPs.
- On rare occasions, the system got into an unresponsive state when a peer port went down while using an Optical module.
- Packet Pacing rate was used if asymmetric VFs was enabled.
- Incorrect RNR timeout when trying to set it during the rts2rts_qp transition.
- Issue with RSS on IPSec flows in ConnectX-4 Lx led to performance degradation. In this scenario, the SPI optimization caused packets from a given host to hash to the same CPU core. The fix was to ignore SPI optimization according to l4_type in ConnectX-4 Lx adapter cards.
- The GetInventory NC-SI command reported leading 0xf in firmware version when it started with 0.

Enhancements

Firmware for the following device has been updated to 14.32.1010:

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

New features and changes included in version 14.32.1010:

- Added 3 new assert filters (Health buffer, NVlog, FW trace). The assert will be exposed now if its severity level is equal to or above the new filter.
- Enabled Rate Limit per VM instead of VM-TC. This capability is implemented by adding support to a new Scheduling element type: rate limit elements that will connect to the rate_limit and will share its rate limit.
- Added support for asymmetrical VFs per PF. To enable it:PF_NUM_OF_VF_VALID must be true, and PF_NUM_OF_VF to a non-zero value.
- Limited the external loopback speed to the used module's capabilities.
- Improved linkup time when using the fast linkup capability.
- Added support for the slow_restart and slow_restart_idle parameters to enable Zero Touch RoCE capability.

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 7.0) for HPE Mellanox Ethernet only adapters
Version: 1.0.4 **(Recommended)**
Filename: CP052140.compsig; CP052140.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.

Prerequisites

Use iLO5 firmware version 2.30 or higher with ConnectX4-Lx/ConnectX5 firmware version 14.32.1010/16.32.1010 (or later) respectively. Thermal sensor reporting on the adapter will not be functional with older versions of iLO5 firmware.

Fixes

The following issues have been fixed in version 2.42.5044 :

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

The following issues have been fixed in version 14.32.1010:

- Firmware got into an unresponsive state and caused unexpected behavior when connecting an optical transceiver that support RxLOS and the remote side port was down.
- The system could not create more than 128K QPs.
- On rare occasions, the system got into an unresponsive state when a peer port went down while using an Optical module.
- Packet Pacing rate was used if asymmetric VFs was enabled.
- Incorrect RNR timeout when trying to set it during the rts2rts_qp transition.
- Issue with RSS on IPSec flows in ConnectX-4 Lx led to performance degradation. In this scenario, the SPI optimization caused packets from a given host to hash to the same CPU core. The fix was to ignore SPI optimization according to l4_type in ConnectX-4 Lx adapter cards.
- The GetInventory NC-SI command reported leading 0xf in firmware version when it started with 0.

The following issues have been fixed in version 16.33.1048:

- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- The card occasionally masked some PCIe AER reporting.
- Incorrect flow of credits blockage that prevented booting during DC cycle test.
- An issue with BMC medium migration from SMBUS to PCIe, and increased FIFOs to pass large packets in case of the migration.

Enhancements

Firmware for the following devices has been 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 has been updated to 14.32.1010:

- 817749-B21 (HPE Ethernet 25Gb 2-port 640FLR-SFP28 Adapter)
- 817753-B21 (HPE Ethernet 25Gb 2-port 640SFP28 Adapter)

Firmware for the following device has been updated to 16.33.1048:

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

New features and changes included in version 14.32.1010:

- Added 3 new assert filters (Health buffer, NVlog, FW trace). The assert will be exposed now if its severity level is equal to or above the new filter.
- Enabled Rate Limit per VM instead of VM-TC. This capability is implemented by adding support to a new Scheduling element type: rate limit elements that will connect to the rate_limit and will share its rate limit.
- Added support for asymmetrical VFs per PF. To enable it:PF_NUM_OF_VF_VALID must be true, and PF_NUM_OF_VF to a non-zero value.
- Limited the external loopback speed to the used module's capabilities.
- Improved linkup time when using the fast linkup capability.
- Added support for the slow_restart and slow_restart_idle parameters to enable Zero Touch RoCE capability.

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New features and changes included in version 16.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

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 7.0) for HPE Mellanox VPI (Ethernet and Infiniband mode) ConnectX4 and ConnectX5 devices on VMware ESXi 7.0
Version: 1.0.4 **(Recommended)**
Filename: CP052129.compsig; CP052129.zip

Fixes

Fixes in version 12.28.2006:

- Fixes 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.
- Fixed an issue that caused PortCounters.PortRcvErr / PPCNT.infiniband_counters.PortRcvErr not to report port icrc errors.

The following issues have been fixed in version 16.33.1048

- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- The card occasionally masked some PCIe AER reporting.
- Incorrect flow of credits blockage that prevented booting during DC cycle test.
- An issue with BMC medium migration from SMBUS to PCIe, and increased FIFOs to pass large packets in case of the migration.

Enhancements

Firmware for the following devices has been updated to 12.28.2006:

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

Firmware for the following devices has been updated to 16.33.1048:

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

New Features and changes included in version 12.28.2006:

- Increased the maximum XRQ number to 512.

New features and changes included in version 16.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

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 7.0) for HPE Mellanox VPI (Ethernet and Infiniband mode) ConnectX6 devices on VMware ESXi 7.0
Version: 1.0.4 **(Recommended)**
Filename: CP052145.compsig; CP052145.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**
200GbE/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	**200GbE/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 20.32.1010. 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 20.33.1048:

- An issue where RDMA write may experience performance degradation when working with Adaptive Routing and DCT half-handshake mode.
- An issue that ignored the default value of TX_SCHEDULER_BURST when its value in the ini was different than "0".
- Implemented SLD detection code. Surprise Down Error Reporting Capable value was changed from 1 to 0 in boards where the downstream perst was not controlled thus causing SLD detection not to function properly.
- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- RDMA_WRITE traffic performance degradation that occured when working with DC on Adaptive Routing network.
- Bad cache invalidations of destroyed QPs.
- A rare case where asserts and ext_synd appeared in dmesg after performing driver restart.
- An issue related to host isolation on multi-host systems.

Enhancements

Firmware for the following devices has been updated to 20.33.1048:

- HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe3 x16 MCX653105A-HDAT Adapter - P06154-B21
- HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe3 x16 MCX653105A-ECAT Adapter - P06250-B21
- HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe3 x16 MCX653106A-ECAT Adapter - P06251-B21

New features and changes included in version 20.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Crypto features can be in either wrapped or unwrapped mode. Meaning, the key can be wrapped or in plaintext when running the CREATE_DEK PRM command. To comply with the requirements specified in FIPS publication, all the created DEKs must be wrapped.
  This feature adds new NV_CONFIG per device to control this mode, and enables the user to change all the crypto features to wrapped or cleartext.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

HPE Part Number	Device Name	PSID
P06154-B21	HPE InfiniBand HDR/Ethernet 200Gb 1-port QSFP56 PCIe3 x16 MCX653105A-HDAT Adapter	HPE0000000034
P06250-B21	HPE InfiniBand HDR100/Ethernet 100Gb 1-port QSFP56 PCIe3 x16 MCX653105A-ECAT Adapter	HPE0000000035
P06251-B21	HPE InfiniBand HDR100/Ethernet 100Gb 2-port QSFP56 PCIe3 x16 MCX653106A-ECAT Adapter	HPE0000000036

Online Firmware Upgrade Utility (ESXi 7.0) for HPE Mellanox VPI (Ethernet and Infiniband mode) devices on VMware ESXi 7.0
Version: 1.0.1 (A) **(Recommended)**
Filename: CP053315.compsig; CP053315.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 0xfffff).
- 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

The following changes have been made in sub-version 1.0.1(A):

- Product rebuilt to have the new SHA 384 signature.

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 7.0) for Mellanox Open Ethernet cards
Version: 1.0.4 **(Recommended)**
Filename: CP052150.compsig; CP052150.zip

Important Note!

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

Prerequisites

Use iLO5 firmware version 2.30 or higher with ConnectX4-Lx/ConnectX5 firmware version 14.32.1010/16.32.1010 respectively. Thermal sensor reporting on the adapter will not be functional with older versions of iLO5 firmware.

Fixes

The following issues have been fixed in version 14.32.1010:

- Firmware got into an unresponsive state and caused unexpected behavior when connecting an optical transceiver that support RxLOS and the remote side port was down.
- The system could not create more than 128K QPs.
- On rare occasions, the system got into an unresponsive state when a peer port went down while using an Optical module.
- Packet Pacing rate was used if asymmetric VFs was enabled.

- Incorrect RNR timeout when trying to set it during the rts2rts_qp transition.
- Issue with RSS on IPSec flows in ConnectX-4 Lx led to performance degradation. In this scenario, the SPI optimization caused packets from a given host to hash to the same CPU core. The fix was to ignore SPI optimization according to l4_type in ConnectX-4 Lx adapter cards.
- The GetInventory NC-SI command reported leading 0xf in firmware version when it started with 0.

The following issues have been fixed in version 16.33.1048:

- Rare lanes skew issue that caused CPU to timeout in Rec.idle.
- The card occasionally masked some PCIe AER reporting.
- Incorrect flow of credits blockage that prevented booting during DC cycle test.
- An issue with BMC medium migration from SMBUS to PCIe, and increased FIFOs to pass large packets in case of the migration.

Enhancements

Firmware for the following devices has been updated to 14.32.1010:

- 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 device has been updated to 16.33.1048:

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

New features and changes included in version 14.32.1010:

- Added 3 new assert filters (Health buffer, NVlog, FW trace). The assert will be exposed now if its severity level is equal to or above the new filter.
- Enabled Rate Limit per VM instead of VM-TC. This capability is implemented by adding support to a new Scheduling element type: rate limit elements that will connect to the rate_limit and will share its rate limit.
- Added support for asymmetrical VFs per PF. To enable it:PF_NUM_OF_VF_VALID must be true, and PF_NUM_OF_VF to a non-zero value.
- Limited the external loopback speed to the used module's capabilities.
- Improved linkup time when using the fast linkup capability.
- Added support for the slow_restart and slow_restart_idle parameters to enable Zero Touch RoCE capability.

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New features and changes included in version 16.33.1048:

- Added pci_rescan_needed field to the MFRL access register to indicate whether a PCI rescan is needed based on the NV configurations issued by the software.
  Note: If the Keep Link Up NV configuration is changed, phyless reset will be blocked.
- Added a new MAD of class SMP that has the attributes hierarchy_Info as defined in the IB Specification and is used to query the hierarchy information stored on the node and the physical port.
- Added a new register (vhca_icm_ctrl access_reg) to enable querying and limiting the ICM pages in use.
- Enhanced the XRQ QP error information provided to the user in case QP goes into an error state. In such case, QUERY_QP will provide information on the syndrome type and which side caused the error.
- Replaced the deprecated NetworkPort schema with Port schema in NIC RDE implementation.
- Updated the ibstat status reported when the phy link is down. Now QUERY_VPORT_STATE.max_tx_speed of UPLINK will not be reported as 0 anymore.
- Disabled the option to send SMPs from unauthorized hosts.
- Enabled the option to modify the ip_ecn field in the packet header in firmware steering.
- Modified the TX or RX cache invalidation behavior. TX or RX cache invalidation now does not occur automatically but only when the software performs the sync operation using the using sync_steering command.
- Modified the maximum bulk size per single allocation from "log_table_size - log_num_unisizes", to allocate any range size, to remove limitations that HWS objects such as counters and modify arguments might encounter.
- Enabled delay drop for hairpin packets. If a hairpin QP is created with delay_drop_en enabled, the feature will be enabled across all GVMIs, based on the delay drop status.

Supported Devices and Features

HPE Part Number	Mellanox Ethernet Only Adapters	PSID
P21930-B21	HPE Ethernet 10Gb 2-port SFP+ MCX4121A-XCHT Adapter	MT_0000000414
P11341-B21	HPE Ethernet 10Gb/25Gb 2-port SFP28 MCX4621A-ACAB OCP3 Adapter	MT_0000000238
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 (C) **(Recommended)**
Filename: nvdimm-16gb_1.04.fwpkg

Enhancements

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

Supported Devices and Features

This package supports the following Memory Device:

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

Firmware package for HPE Persistent Memory featuring Intel Optane DC Persistent Memory on HPE Gen10 Plus Servers
Version: 02.02.00.1553 (D) **(Recommended)**
Filename: dcpmm_02.02.00.1553.fwpkg

Important Note!

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

Fixes

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

Enhancements

- Add ESXi 8.0 support

Supported Devices and Features

This package supports the following Memory Devices:

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

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Firmware package for HPE Persistent Memory featuring Intel Optane DC Persistent Memory on HPE Gen10 Servers
Version: 01.02.00.5446 (C) **(Recommended)**
Filename: dcpmm_01.02.00.5446.fwpkg

Important Note!

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

Enhancements

- Add ESXi 8.0 Support

Supported Devices and Features

This package supports the following Memory Devices:

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

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Online Flash Component for Linux - 16GB NVDIMM-N DDR4-2666
Version: 1.04 (C) **(Optional)**
Filename: RPMS/x86_64/firmware-nvdimm-16gb-1.04-3.1.x86_64.compsig; RPMS/x86_64/firmware-nvdimm-16gb-1.04-3.1.x86_64.rpm

Enhancements

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

Supported Devices and Features

This package supports the following Memory Device:

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

Firmware - Storage Controller Top

Firmware Package - HPE MR216i-a Gen10 Plus Tri Mode Controller
Version: 52.16.3-4455 (B) **(Recommended)**
Filename: HPE_MR216i-a_Gen10P_52.16.3-4455.fwpkg

Important Note!

This firmware version to be used on HPE MR216i-a Gen10 Plus Controller.

Enhancements

Support UBM6 and rebuild with SHA384

Firmware Package - HPE MR216i-p Gen10 Plus Tri Mode Controller with Gen10 and Gen10 Plus servers
Version: 52.16.3-4455 (B) **(Recommended)**
Filename: HPE_MR216i-p_Gen10P_52.16.3-4455.fwpkg

Important Note!

This firmware version to be used on HPE MR216i-p Gen10 Plus Controller.

Enhancements

Support UBM6 and rebuild with SHA384

Firmware Package - HPE MR416i-a Gen10 Plus Tri Mode Controller
Version: 52.16.3-4455 (B) **(Recommended)**
Filename: HPE_MR416i-a_Gen10P_52.16.3-4455.fwpkg

Important Note!

This firmware version to be used on HPE MR416i-a Gen10 Plus Controller.

Enhancements

Support UBM6

Firmware Package - HPE MR416i-p Gen10 Plus Tri Mode Controller with Gen10 and Gen10 Plus servers
Version: 52.16.3-4455 (B) **(Recommended)**
Filename: HPE_MR416i-p_Gen10P_52.16.3-4455.fwpkg

Important Note!

This firmware version to be used on HPE MR416i-p Gen10 Plus Controller.

Enhancements

Support UBM6 and rebuild with SHA384

Firmware Package - HPE SR932i-p Gen10 Plus /SR416i-a Gen10 Plus Controllers
Version: 03.01.14.062 **(Recommended)**
Filename: HPE_SR416_SR932_Gen10P_03.01.14.062.fwpkg

Fixes

- Fixed a performance issue with a RAID 5 volume writing sequential IOs that resulted in IOs taking a long time and LUN resets.
- Fixed an issue where UBM3 backplanes fail to flash.
- Fixed a Predictive Failure drive LED blinking issue.
- Fixed an issue where a re-enabled encrypted single drive RAID 0 volume was reported with state Offline after system reboot.
- Fixed long SATA SSD TRIM causing hang.
- Fixed an issue where events are sent continuously if the host does not respond to PlatformEventMessage.
- Fixed an issue where Redfish Volume Create fails when using 4Kn data drives.
- Fixed an issue with issuing back to back SCSI UNMAP commands to NVMe drives.
- Updated Redfish Drive.Identifiers.DurableName to conform to the standard.
- Updated Redfish Volume.Identifiers.DurableName to conform to the standard.
- Updated Redfish to the 2021.4 schema bundle.

Enhancements

- Added UBM6 backplane support.
- Improved single RAID volume performance for multiple streams of sequential IO.
- Added support to send SCSI timestamp to drives to sync host system time (RTC).
- Added a new HII menu that will attempt to re-enable a previously failed volume whose physical drives are back online.
- Added an Unlock Controller option in the HII menu when controller password is set for Controller Based Encryption (CBE).
- Added a new HII menu option to setup and configure Controller Based Encryption (CBE).
- Added support for the following Redfish ACTION requests:
  – Drive.SecureErase
  – Drive.Reset
  – Storage.ResetToDefaults
- Added support for Redfish PATCH requests for the following properties:
  – Volume.DisplayName
  – Volume.Links.DedicatedSpareDrives
  – Volume.IOPerfModeEnabled
  – Volume.ReadCachePolicy
  – Volume.WriteCachePolicy
  – Drive.LocationIndicatorActive
  – Drive.WriteCacheEnabled

    – StorageController.ControllerRates.ConsistencyCheckRatePercent
    – StorageController.ControllerRates.RebuildRatePercent
    – StorageController.ControllerRates.TransformationRatePercent

- Added the following Redfish alerts:
  – DriveOffline
  – DriveMissing
  – DriveOfflineCleared
  – VolumeOffline
  – VolumeOfflineCleared
  – BatteryMissing
  – BatteryFailure
  – BatteryCharging

    – BatteryOK
    – ControllerDegraded
    – ControllerFailure
    – ControllerPreviousFailure
    – ControllerPasswordRequired
    – ControllerPasswordEntered (changing to ControllerPasswordAccepted in the future)

- Added MaxMembers to Redfish VolumeCollection
- Added ‘NativeDriveEncryption’ (SED) to Redfish Volume.EncryptionTypes.
- Improved the consistency of I/O latency by caching iLO inventory commands

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HPE D3600/D3700/D3610/D3710 12Gb SAS Disk Enclosure ROM Flash Component for VMware (ESXi)
Version: 5.04 (E) **(Recommended)**
Filename: CP048111.compsig; CP048111.md5; CP048111.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 (L) **(Recommended)**
Filename: CP052324.compsig; CP052324.md5; CP052324.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 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: 0130 **(Recommended)**
Filename: CP051586.compsig; CP051586.md5; CP051586.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 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:

- Smart Array reporting "Storage Enclosure FW upgrade Problem Detected".
- PSU version is showing as "No Ver" after inserted the New bel power PSU.
- GEM_5_2 Coverity defect fix.

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

Online Firmware Flash for ESXi - HPE NS204i-p, NS204i-d, NS204i-t, NS204i-r Gen10+ Boot Controller
Version: 1.0.14.1055 **(Critical)**
Filename: CP047954.compsig; CP047954.zip

Important Note!

VMware **7.0u1 is** supported by HPE NS204i-p, NS204i-d, NS204i-t and NS204i-r Gen10+ Boot Controller

VMware 7.0 is NOT supported by HPE NS204i-p, NS204i-d, NS204i-t and NS204i-r Gen10+ Boot Controller

Fixes

Firmware may skip rebuilding chunks of data on the new drive when the drive rebuild is performed followed by a Redfish Read on servers with NS204i adapter card.

Online ROM Flash Component for ESXi (x86) - HPE Smart Array P824i-p MR Gen10
Version: 24.23.0-0048 **(Recommended)**
Filename: CP052319.compsig; CP052319.zip

Fixes

- Fixed an issue that previous configuration may be completely missing at boot. The issue may happen when there is one or more malfunction drive in timeout-recovered loop, and power cycling the system while controller FW initialization.
- Fixed an issue that FW may report Error Code 0x000000d.
- Fixed an issue that Foreign Import from Mutli Span/LD drives with other drives, FW crash and import failure.
- Fixed a FW exception and controller is not detected issue. It may occur during system reboot or FW upgrade in expander environment with multiple drives.
- Fixed an issue that sanitize operation is completed before actual completion from drive.
- Fixed a Machine Check event if drive timeout is triggered when StartStopUnit command is about to finish.

Enhancements

- Change the order of DDF (Disk Data Format) header updates when there are errors existing in DDF headers currently on the drive. This is to avoid potential DDF corruption when there are malfunctioned drives in an array.
- Change spinupdrivecount from 2 to 4 by default. This is to improve the large capacity HDD discovery in system bootup.

Online ROM Flash Component for VMware ESXi - HPE 12Gb/s SAS Expander Firmware for HPE Smart Array Controllers and HPE HBA Controllers
Version: 5.14 (B) **(Recommended)**
Filename: CP053178.compsig; CP053178.zip

Important Note!

- **Do NOT downgrade FW to previous version if your current expander is 5.10; please upgrade to 5.12 immediately.**

Enhancements

Support SHA384

Online ROM Flash Component for VMware ESXi - HPE Apollo 2000 Gen10 Backplane Expander Firmware
Version: 1.00 (F) **(Recommended)**
Filename: CP052254.compsig; CP052254.zip

Enhancements

- Update build environment with SHA384
- Update OS

Online ROM Flash Component for VMware ESXi - HPE Apollo 2000 Gen10 Plus Backplane Expander FW
Version: 1.27 (B) **(Recommended)**
Filename: CP052251.compsig; CP052251.zip

Enhancements

- Update build environment with SHA384
- Update OS

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

Version: 1.79 (D) **(Recommended)**
Filename: CP052258.zip; CP052258_part1.compsig; CP052258_part2.compsig

Important Note!

- Please update **Smart Array FW to 4.11 or later**, before any new upgrade for *HPE* Apollo *4200 Gen10* Server Backplane *Expander* firmware.
- Power cycle / cold reboot is required if firmware is upgraded from version 1.03 or earlier.

Enhancements

- Update build environment with SHA384
- Update OS

Online ROM Flash Component for VMware ESXi - HPE Apollo 4200 Gen10 Plus Backplane Expander Firmware
Version: 0.39 (C) **(Recommended)**
Filename: CP052260.compsig; CP052260.zip

Prerequisites

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

Enhancements

- Update build environment with SHA384
- Update OS

Online ROM Flash Component for VMware ESXi - HPE Apollo 45xx Gen10 Backplane Expander Firmware
Version: 1.56 (G) **(Recommended)**
Filename: CP052262.compsig; CP052262.zip

Enhancements

- Update build environment with SHA384
- Update OS

Online ROM Flash Component for VMware ESXi - HPE Smart Array P408i-p, P408e-p, P408i-a, E208i-p, E208e-p, E208i-a, P816i-a SR Gen10
Version: 5.32 (B) **(Recommended)**
Filename: CP053855.compsig; CP053855.zip

Fixes

- Fixed an issue where the encrypted data is not accessible for a RAID 50/60 volume when it was failed and healed using “Heal Array”.
- Fixed an issue where pointers in PLDM commands were accessed before initialized.
- Fixed an issue where UBM3 backplanes fail to flash.
- Fixed a Predictive Failure drive LED blinking issue.
- Fixed an issue where a re-enabled encrypted single drive RAID 0 logical drive was reported with state Offline after system reboot.
- Fixed long SATA SSD TRIM causing hang.
- Fixed an issue where the product ID of an enclosure was not showing correctly.
- Fixed an issue where the drive bay number for a failed drive is wrong.
- Fixed an issue where the Real Time Clock (RTC) timestamp was not sent to the SES based storage enclosure SEPs attached to internal connectors of the controller.
- Fixed an issue where events are sent continuously if the host does not respond to PlatformEventMessage.
- Fixed an issue where Redfish Volume Create fails when using 4Kn data drives.
- Update Redfish Drive.Identifiers.DurableName to conform to the standard.
- Update Redfish Volume.Identifiers.DurableName to conform to the standard.
- Updated Redfish to the 2021.4 schema bundle.

Enhancements

- Added UBM6 backplane support.
- Added support for SED Local Key Management.

- Added a new HII menu that will attempt to re-enable a previously failed volume whose physical drives are back.
- Added an Unlock Controller option in the HII menu when controller password is set for Controller Based Encryption (CBE).
- Added new HII menu options to configure Controller Based Encryption (CBE).
- Added new HII options to enable and configure SED Local Key Management.
- Added support for the following Redfish ACTION requests:
  – Drive.SecureErase
  – Drive.Reset
  – Storage.ResetToDefaults
- Added support for Redfish PATCH requests for the following properties:
  – Volume.DisplayName
  – Volume.Links.DedicatedSpareDrives
  – Volume.IOPerfModeEnabled
  – Volume.ReadCachePolicy
  – Volume.WriteCachePolicy
  – Drive.LocationIndicatorActive
  – Drive.WriteCacheEnabled

  – StorageController.ControllerRates.ConsistencyCheckRatePercent
  – StorageController.ControllerRates.RebuildRatePercent
  – StorageController.ControllerRates.TransformationRatePercent

- Added the following Redfish alerts:
  – DriveOffline
  – DriveMissing
  – DriveOfflineCleared
  – VolumeOffline
  – VolumeOfflineCleared
  – BatteryMissing
  – BatteryFailure
  – BatteryCharging

  – BatteryOK
  – ControllerDegraded
  – ControllerFailure
  – ControllerPreviousFailure
  – ControllerPasswordRequired
  – ControllerPasswordEntered (changing to ControllerPasswordAccepted in the future)

- Added MaxMembers to Redfish VolumeCollection
- Added 'Reverting' to Redfish Drive.Operations.OperationName used for SED.
- Added 'NativeDriveEncryption' (SED) to Redfish Volume.EncryptionTypes.
- Added support for Redfish Drive.EncryptionStatus for SED.
- Redfish Drive.Status.State will be set to StandbyOffline in the following conditions:
  - SED is Foreign
  - SED is Locked (only for controller owned SEDs)
  - SED is controller owned and controller is waiting on SED adapter password
- Added support for Redfish Volume.Encrypted for SED.

Universal Firmware Package for HPE Gen10 Plus Boot Controller NS204i-p, NS204i-d, NS204i-t, NS204i-r
Version: 1.0.14.1063 (C) **(Recommended)**
Filename: HPE_NS204i_Gen10P_1.0.14.1063.fwpkg

Important Note!

This firmware version is to be used on NS204i controllers.

Use iLO to flash HPE_NS204i_Gen10P_PLDM_xxxx.fwpkg above 1.0.14.1055.; continuously HPE offers PLDM Type5 FW flash through .fwpkg file only.

Please find the minimum version required (1.0.14.1055) in below links:

a. Windows https://support.hpe.com/hpesc/public/swd/detail?swItemId=MTX-1b2c98e9d2594b9db679e89bbe#tab-history
b. Linux https://support.hpe.com/hpesc/public/swd/detail?swItemId=MTX-207ea7e739f048049a66d61008#tab-history
c. VMware https://support.hpe.com/hpesc/public/swd/detail?swItemId=MTX_141038fe565b457ca9fe4d28de#tab-history

Fixes

- Issue fixed for RDE dictionary reflash error during booting up

Enhancements

Update build environment from SHA512 to SHA384

Firmware - Storage Fibre Channel

Top

HPE Firmware Flash for Emulex Fibre Channel Host Bus Adapters for VMware vSphere 7.0
Version: 2022.09.01 **(Recommended)**
Filename: CP050098.compsig; CP050098.zip

Important Note!

This Firmware package contains following firmware versions:

Adapter	Speed	Universal Boot Image	Firmware	UEFI	Boot Bios
HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	16Gb	14.0.499.21	14.0.499.21	14.0.499.2	14.0.490.0
HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter	16Gb	14.0.499.21	14.0.499.21	14.0.499.2	14.0.490.0
HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	14.0.499.21	14.0.499.21	14.0.499.2	14.0.490.0
HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	14.0.499.21	14.0.499.21	14.0.499.2	14.0.490.0
HPE SN1610E 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	14.0.499.20	14.0.499.20	14.0.499.2	14.0.490.0
HPE SN1610E 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	14.0.499.20	14.0.499.20	14.0.499.2	14.0.490.0
HPE SN1700E 64Gb Single Port Fibre Channel Host Bus Adapter	64Gb	14.0.499.20	14.0.499.20	14.0.499.2	14.0.490.0
HPE SN1700E 64Gb Dual Port Fibre Channel Host Bus Adapter	64Gb	14.0.499.20	14.0.499.20	14.0.499.2	14.0.490.0

Prerequisites

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

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

Enhancements

This Firmware package contains following firmware versions:

Adapter	Speed	Universal Boot Image	Firmware	UEFI	Boot Bios
HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	16Gb	14.0.499.21	14.0.499.21	14.0.499.2	14.0.490.0
HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter	16Gb	14.0.499.21	14.0.499.21	14.0.499.2	14.0.490.0
HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	14.0.499.21	14.0.499.21	14.0.499.2	14.0.490.0
HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	14.0.499.21	14.0.499.21	14.0.499.2	14.0.490.0
HPE SN1610E 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	14.0.499.20	14.0.499.20	14.0.499.2	14.0.490.0
HPE SN1610E 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	14.0.499.20	14.0.499.20	14.0.499.2	14.0.490.0
HPE SN1700E 64Gb Single Port Fibre Channel Host Bus Adapter	64Gb	14.0.499.20	14.0.499.20	14.0.499.2	14.0.490.0
HPE SN1700E 64Gb Dual Port Fibre Channel Host Bus Adapter	64Gb	14.0.499.20	14.0.499.20	14.0.499.2	14.0.490.0

Supported Devices and Features

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

16Gb FC Adapter:

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

32Gb FC Adapter:

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

64Gb FC Adapter:

- HPE SN1700E 64Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1700E 64Gb Single Port Fibre Channel Host Bus Adapter

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HPE Firmware Flash for QLogic Fibre Channel Host Bus Adapters for VMware vSphere 7.0
Version: 2022.09.01 **(Recommended)**
Filename: CP050127.compsig; CP050127.zip

Important Note!

This Firmware package contains following firmware versions:

Adapter	Speed	MBI	Firmware	UEFI	Boot Bios
HPE SN1100Q 16GB Dual Port PCIe Fibre Channel Host Bus Adapter	16Gb	1.77.12	9.09.00	7.19	3.64
HPE SN1100Q 16GB Single Port PCIe Fibre Channel Host Bus Adapter	16Gb	1.77.12	9.09.00	7.19	3.64
HPE SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	1.77.12	9.09.00	7.19	3.64
HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	1.77.12	9.09.00	7.19	3.64
HPE SN1610Q 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	02.06.27	09.09.00	7.28	0.0
HPE SN1610Q 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	02.06.27	09.09.00	7.28	0.0

Prerequisites

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

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

Enhancements

This Firmware package contains following firmware versions:

Adapter	Speed	MBI	Firmware	UEFI	Boot Bios
HPE SN1100Q 16GB Dual Port PCIe Fibre Channel Host Bus Adapter	16Gb	1.77.12	9.09.00	7.19	3.64
HPE SN1100Q 16GB Single Port PCIe Fibre Channel Host Bus Adapter	16Gb	1.77.12	9.09.00	7.19	3.64
HPE SN1600Q 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	1.77.12	9.09.00	7.19	3.64
HPE SN1600Q 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	1.77.12	9.09.00	7.19	3.64
HPE SN1610Q 32Gb Dual Port Fibre Channel Host Bus Adapter	32Gb	02.06.27	09.09.00	7.28	0.0
HPE SN1610Q 32Gb Single Port Fibre Channel Host Bus Adapter	32Gb	02.06.27	09.09.00	7.28	0.0

Supported Devices and Features

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

16Gb Fibre Channel Host Bus Adapter:

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

32Gb Fibre Channel Host Bus Adapter:

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

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Software - Management Top

HPE Agentless Management Bundle Smart Component on ESXi for Gen10 and Gen10 Plus Servers
Version: 2022.09.01 **(Recommended)**
Filename: cp050760.compsig; cp050760.zip

Enhancements

Agentless Management Service

- Added feature to allow custom trap community name for SMA mode.
- Added support for cpqSasLogDrv MIB OID for the HPE Smart Array P824i-p MR Gen10 Controller.

HPE Fiber Channel and Storage Enablement Bundle Smart Component for ESXi 7.0
Version: 2022.09.01 **(Recommended)**
Filename: cp050934.compsig; cp050934.zip

Enhancements

- Supports VMware ESXi 7.0 U2 and ESXi 7.0 U3

HPE iLO Driver Bundle Smart Component for ESXi 7.0
Version: 2022.09.01 **(Recommended)**
Filename: cp050763.compsig; cp050763.zip

Fixes

- Fixed issue where ilo driver is failing to acquire contiguous physical memory below 4GB causing userworld apps like hponcfg to be unable to communicate with iLO.

Enhancements

- Added support for vSphere 8.0

Software - Storage Controller Top

HPE MegaRAID Storage Administrator StorCLI for VMware7.0
Version: 2021.04.00 (B) **(Recommended)**
Filename: cp053569.compsig; cp053569.zip

Enhancements

- Add SHA384 format

Software - Storage Fibre Channel Top

HPE QLogic Fibre Channel driver component for VMware vSphere 7.0
Version: 2022.09.01 **(Recommended)**
Filename: cp050126.compsig; cp050126.zip

Important Note!

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

Prerequisites

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

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

Enhancements

Driver version 5.1.68.0

Supported Devices and Features

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

16Gb Fibre Channel Host Bus Adapter:

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

32Gb Fibre Channel Host Bus Adapter:

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

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

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HPE Storage Emulex Fibre Channel driver component for VMware vSphere 7.0
Version: 2022.09.01 **(Recommended)**
Filename: cp051532.compsig; cp051532.zip

Important Note!

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

Prerequisites

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

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

Enhancements

Updated to Driver version 14.0.543.0

Supported Devices and Features

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

16Gb FC Adapter:

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

32Gb FC Adapter:

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

64Gb FC Adapter:

- HPE SN1700E 64Gb Dual Port Fibre Channel Host Bus Adapter
- HPE SN1700E 64Gb Single Port Fibre Channel Host Bus Adapter

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Software - System Management Top

HPE Agentless Management Bundle for ESXi for HPE Gen10 and Gen10 Plus Servers
Version: 701.11.8.5 **(Recommended)**
Filename: amsdComponent_701.11.8.5.22-1_20314731.zip

Enhancements

Agentless Management Service

- Added feature to allow custom trap community name for SMA mode.
- Added support for cpqSasLogDrv MIB OID for the HPE Smart Array P824i-p MR Gen10 Controller.

HPE Fiber Channel and Storage Enablement Component for ESXi 7.0
Version: 3.9.0 **(Recommended)**
Filename: fc-enablement-component_700.3.9.0.4-1_20266032.zip

Enhancements

- Supports VMware ESXi 7.0 U2 and ESXi 7.0 U3

HPE MegaRAID Storage Administrator StorCLI for VMware
Version: 007.1616.0000.0000 **(Recommended)**

Filename: BCM-vmware-storcli64_007.1616.0000.0000-01_17650073.zip

Enhancements

Supported on ESXi OS 7.0 64 bit

Integrated Smart Update Tools for VMware ESXi 7.0
Version: 701.3.0.0 **(Recommended)**
Filename: sutComponent_701.3.0.0.13-0-signed_component-20268559.zip

Important Note!

Integrated Smart Update Tools for ESXi 7.0 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 enhancements in this release.
