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Enterprise

HPE Virtual Connect 4.62 Release Notes

Abstract

This document provides Virtual Connect release information for version 4.62. This document supersedes the information in the documentation set released with the previous version. This document is intended for the person who installs, administers, and troubleshoots servers and storage systems. Hewlett Packard Enterprise assumes that you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels.

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Notices

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Contents

- Navigation tips..... 4**
- Update recommendation..... 5**
- Supersedes information..... 6**
- Product models..... 7**
- Operating systems..... 8**
- Languages..... 9**
- Enhancements..... 10**
- Fixes..... 11**
- Issues and workarounds..... 13**
- Prerequisites..... 17**
- Installation instructions..... 19**
 - SPP support..... 19
 - Version support for HPE ProLiant Servers..... 19
 - Version support for HPE Integrity Servers..... 19
 - Fibre Channel support..... 19
 - Additional firmware information..... 22
- Important notes..... 23**
- Related information..... 26**
- Documentation feedback..... 27**
- Acronyms and abbreviations..... 28**

Navigation tips

Navigating in the HTML document

To navigate through the documentation sequentially:

- Click the Next arrow (➔) for the next topic
- Click Previous arrow (➜) for the previous topic

Navigating using the Internet browser toolbar:

- To return to the last page you viewed, click the **Back** button on the browser toolbar.
- To return to one of the last nine pages you viewed in this session, click the down arrow to the side of the **Back** or **Forward** button on the browser toolbar, and then click the page you want from the list.

Navigating to documentation on the Hewlett Packard Enterprise website

- From the URLs in this guide, you may need to make several selections to get to your specific documentation.
- For online access to technical documentation, self-help resources, live chat assistance, community forums of IT experts, technical knowledge base, remote monitoring and diagnostic tools, go to <http://www.hpe.com/support/hpesc>.
- For the latest versions of selected technical documentation, go to <http://www.hpe.com/support/hpesc>.

Update recommendation

Update Recommendation: Recommended

Supersedes information

Supersedes: VC 4.50

Product models

Virtual Connect 4.62 is supported on the following interconnect modules:

- HPE VC Flex-10/10D Module
- HPE VC FlexFabric 10Gb/24-Port Module
- HPE VC Flex-10 10Gb Enet Module
- HPE VC FlexFabric-20/40 F8 Module
- HPE VC 8Gb 20-Port FC Module
- HPE VC 8Gb 24-Port FC Module
- HPE VC 16Gb 24-Port FC Module

ⓘ **IMPORTANT:** Virtual Connect versions 4.30 and later no longer support first-generation HPE Integrity BL860c Server Blades and HPE Integrity BL870c Server Blades. HPE Integrity i2 and i4 model server blades are still supported.

ⓘ **IMPORTANT:** If VC Domain with HPE VC 8Gb 24-Port FC Module is running VC Firmware before VC 4.4x and upgrades to VC 4.6x or later, then VC Domain must be upgraded to VC 4.4x or 4.5x release and then to VC 4.6x or later. This upgrade is due to firmware update requirement only for the VC Domain having HPE VC 8Gb 24-Port FC Module.

Virtual Connect 4.62 adds support for the following server blade hardware:

HPE ProLiant BL460c Gen10 Server Blades.

ⓘ **IMPORTANT:** To upgrade to Virtual Connect 4.62, minimum Virtual Connect Support Utility required version is 1.13.0.

Operating systems

The HPE Virtual Connect version 4.62 firmware package operates in an embedded environment within each Virtual Connect module. Therefore, it is not dependent on any operating system.

For more information, see the Hewlett Packard Enterprise Operating Systems and Virtualization Software Support for ProLiant Servers webpage on the [**Hewlett Packard Enterprise website**](#). You can also view the Operating Systems section for Integrity Servers on the [**Hewlett Packard Enterprise website**](#).

Languages

Languages supported for this release: English

Enhancements

VC 4.62 contains the following enhancements:

- Ability to configure the TLS version (TLSv1.0/1.1/1.2) in Non-FIPS mode for VC ENET modules
- Support for HPE ProLiant BL460c Gen10 blade server
- Support for Microsoft® Internet Explorer 11.0.43
- Support for Mozilla™ Firefox® 54.0
- Support for Mozilla™ Firefox® Extended Support Release (ESR) 52.1.2

Fixes

VC 4.62 release resolves the following issues:

- One or more uplink ports that is part of LACP group may stop forwarding traffic after the module recovers from a Reset/Reboot/Power-cycle.
- In a rare scenario, after server reboot, FC HBA may not be able to perform FLOGI and the corresponding downlink port may transition into G-PORT state.
- When there are huge number of MAC addresses learned by HPE VC FlexFabric 10Gb/24-Port Module and having two or more uplinks connected on the SAN Fabric, SAN latency or outage may occur upon reboot or bring up of blade server having storage connectivity with this module.
- Disabled support for blowfish-cbc, 3des-cbc, aes192-cbc, aes128-cbc, rijndael-cbc@lysator.liu.se, and cast128-cbc for SSH communication.
- After applying the settings (Boot Mode = UEFI, UEFI optimized Boot = disabled) from RBSU, assigning profile with boot mode "AUTO" changes the server boot mode to "legacy".
- Disabled support for 96-bit and MD5-based HMAC Algorithms for SSH communication.
- If you configure SNMPv3 with authphrase and privphrase in VC 4.30 and later and upgrade to VC 4.4x or VC 4.50, the snmp daemon might crash after upgrade.
- If the server does not have valid boot device, both assign and unassign profile operations may fail with the following error messages:

```
Bay<bay_number> : Profile state failed, because VCM could not configure environment settings on the server
```

```
Bay <Number> : To correct this issue reset the server physically or issue the OA CLI command reset server #. Then, re-apply the profile. If issue still persists, clear the server BIOS settings, and re-apply the profile.
```

- In IGMP configurations with criss-cross connections (uplink from one bay connected to TOR and downlink on another bay), igmpd repeatedly crashes while receiving IGMP control traffic on VC Stacking links on the HPE VC FlexFabric-20/40 F8 modules.
- HPE VC FlexFabric-20/40 F8 Modules does not display uplink ports in SAN Fabrics "server connections".
- Duplicate initiator name is allowed in iSCSI profile connection across profile configuration settings.
- Duplicate initiator IP is allowed in iSCSI profile connection within and across profile configuration settings.
- In a rare instance, internal parity error may result in a transient network outage.
- VCM is not logging failed SSH login attempts in the System Log.
- In a multi-enclosure stacked domain, unable to change port speed of a shared uplink set.
- When adding a VLAN network to a SUS for the first time, the uplink associated with the SUS is getting reset.

VC 4.62 release addresses the following security vulnerabilities and weaknesses:

- CVE-2015-6563
- CVE-2015-6564
- CVE-2016-6515
- CVE-2016-2183 (Sweet32)
- CVE-2016-6306
- CVE-2016-2177
- CVE-2016-2178
- CVE-2016-2180
- CVE-2016-2182
- CVE-1999-0517
- CVE-2016-0800
- CVE-2017-3731
- CVE-2015-2808
- CVE-2013-2566
- CVE-2015-3276

Issues and workarounds

Issue

If the profile assigned to a bare metal server is modified in its POWER ON state, and then if the server is rebooted, the server will not be powered on. The OA device bay status page displays “Device power delayed until VC profile is applied” message.

Workaround

To power on the server user must choose either of the following options:

1. User can modify and apply the profile.
2. User can unassign the profile (Server will power on automatically) and reassign the profile.

Issue

SNMPv3 walk is not working in HPE VC 16Gb 24-Port FC Module with FIPS mode ON.

Workaround

There is no workaround in VC at this time.

Issue

SNMPv3 Traps are not getting generated in HPE VC 16Gb 24-Port FC Module with FIPS mode ON.

Workaround

There is no workaround in VC at this time.

Issue

A rollback operation from VC 4.62 to VC 4.50 may cause HPE VC 16Gb 24-Port FC Module to go into No-Communication state.

Workaround

Reset the HPE VC 16Gb 24-Port FC Module.

Issue

The ifOutDiscards are incorrectly incremented for ingress drops on HPE VC Flex-10/10D Module.

Workaround

There is no workaround in VC at this time.

Issue

The ifOutDiscards do not display correct value on HPE VC Flex-10 10Gb Enet Module and HPE VC FlexFabric 10Gb/24-Port Module.

Workaround

There is no workaround in VC at this time.

Issue

Telemetry displays incorrect data for traffic above 32Gbps on the HPE VC FlexFabric-20/40 F8 Module.

Workaround

There is no workaround in VC at this time. If the TOR switch supports telemetry, see the TOR switch for telemetry information.

Issue

In Mozilla™ Firefox® and Mozilla™ Firefox® ESR browser, when VCM GUI page is opened using Context menu (menu opened using right-click mouse operation), user will not be able to enter the text using keyboard in the Text Input field. This is a browser issue.

Workaround

Click URL bar or focus out of the VCM GUI page and click back on Text Input field on VCM GUI page to input text.

Issue

If a server profile has iSCSI connection with its boot parameters set, then attempt to rename the profile fails.

Workaround

Remove boot-parameters set for the profile's iSCSI connections, rename the profile, and add the boot parameters back.

Issue

Due to anomaly in OA, when VC Server Profile gets modified and applied on to a powered on server, it may have network outage on the server when it is cold booted.

Workaround

This issue is fixed in OA version 4.60.

Issue

If RIBCL is disabled in iLO, then primary and secondary option in FC, FCoE or iscsi boot settings will not work in VCM.

Workaround

UEFI boot order can be set using RBSU instead of VCM.

Issue

The VCM GUI session in Mozilla™ Firefox® ESR browser with Windows 8 and later will log out immediately after logging in. This issue is seen even if the maximum session timeout value is configured.

Workaround

This is a web browser-specific issue. You can use supported Microsoft® Internet Explorer and Mozilla™ Firefox® web browser instead of Mozilla™ Firefox® ESR web browser.

Issue

Loss of SAN connectivity might happen when HPE 8GB 20-Port FC Module is connected through multiple uplinks to FC switches which allocate FC IDs with same domain/area across multiple ports.

Workaround

Configure one uplink port per SAN Fabric or use switch vendor provided workaround such as fcid-allocation area company-id command on the upstream FC switch to ensure unique area IDs.

Issue

When the domain is in FIPS mode, some SSH client versions do not support SHA256 and are unable to log in to the VCM CLI.

Workaround

Use an SSH client that supports the SHA256 algorithm. For more information, see the Customer Advisory [c04625269](#).

Issue

Only manual login redistribution is supported across VC-FC uplinks. When many NPIV logins are carried over a VC FC uplink connected to a SAN switch configured with a “default-zone all access” zoning policy,

or when zones have been configured on the SAN with large numbers of devices in each zone, there is a possibility that NPIV logins might get redistributed across multiple uplinks upon uplink port failure and recovery.

Workaround

To avoid this, create multiple zones on the SAN switch with a smaller number of port devices in each zone to group relevant NPIV ports together. HPE recommends using a WWN-based soft-zoning policy while having many NPIV ports. For more information on supported zoning policies, see the [HPE SAN Design Reference Guide](#).

Issue

Two alerts are generated when an Ethernet or FC cable is removed from a FlexFabric module. Ethernet and FC ports are identified differently in traps. For example, port X1 is identified as 1017 for Ethernet and 1.1 for FC. If a port is configured as an FC port on a FlexFabric module, VC sends both an Ethernet and FC trap when the link changes state.

Workaround

There is no workaround in VC at this time.

Issue

A server using an HPE FlexFabric 20Gb 2-Port 630FLB/630M Adapter and configured to use Ethernet jumbo frames might experience lower FCoE throughput if server traffic is oversubscribed (more than 20Gb) on the FlexFabric Adapter port and the server is only reading disks without writing them. This is because the Ethernet traffic is consuming excessive bandwidth.

Workaround

Configure the server to use standard 1,500 byte MTU frames. Alternatively, ensure that server traffic (FCoE and Ethernet) does not oversubscribe the port bandwidth of 20Gb.

Issue

Under certain circumstances, the checkpoint status icon in the GUI persists for a long time and is not cleared. The CLI also shows a "Checkpoint Status: Invalid" status in the show domain command output. This condition occurs occasionally after a VC module firmware upgrade using VCSU.

Workaround

Reset VCM on the primary module or reset the primary module using the OA.

Issue

An upgrade using VCSU fails when upgrading a configured domain in FIPS mode from VC4.30/4.31 to VC4.40 and higher. The VCSU log displays the following message:

Backup Module is in unintegrated mode and not in backup mode. Cannot force failover. Fail over not successful to activate primary module. Aborting further activations as this would destroy the VC Domain configuration.

Workaround

Use the manual activation option -oe manual described in the VCSU user guide.

Issue

The following FC modules do not support Long-Distance Mode (LD Mode in Fabric OS) with VC firmware 4.40 and higher

- HPE VC 16Gb 24-Port FC Module
- HPE VC 8Gb 24-Port FC Module

Workaround

Before upgrading the VC firmware to 4.40 and higher, ensure that LD mode is not configured in the Brocade ToR FC switch. If LD mode is configured in the Brocade ToR switch, upgrading VC firmware to 4.40 and higher might result in FC outage in the enclosure.

Issue

When a double dense server is inserted in the enclosure and “double dense” is not enabled during domain configuration, then the enclosure front view image will not be shown/aligned properly in enclosure view page.

Workaround

There is no workaround.

Issue

To access VCM in Mozilla Firefox web browser, add the IP address of the VCM to be accessed to the security exception list. In IPv6 address, if you add unexpanded form of IPv6 address to security exception list of Mozilla Firefox, then the flash pages will fail to load in Mozilla Firefox web browser.

Workaround

To resolve this issue, add the expanded form of IPv6 address to the security exception list of the Mozilla Firefox web browser. IPv6 address of VCM can be added to Mozilla Security exception list in two ways. First, when accessing VCM IP for the first time where the browser will require to add security exception. Second, by performing the following steps:

1. Select **Tools->Options**
2. Click the **Advance panel > Certificates** tab
3. Click the **View certificates > Servers** tab
4. Click **Add Exception**
5. Enter the name of the server and port.
6. Get the certificate and confirm security exception.

Prerequisites

- VC SR-IOV prerequisites:
 - Supports the following adapters:
 - HPE FlexFabric 20Gb 2-Port 650FLB Adapter
 - HPE FlexFabric 20Gb 2-Port 650M Adapter
 - HPE FlexFabric 10Gb 2-Port 536FLB Adapter
 - HPE Flex-10 10Gb 2-Port 530FLB Adapter
 - HPE FlexFabric 10Gb 2-Port 534FLB Adapter
 - HPE Flex-10 10Gb 2-Port 530M Adapter
 - HPE FlexFabric 10Gb 2-Port 534M Adapter
 - HPE NC552m Flex-10 Adapter
 - HPE NC553m 10Gb 2-Port FlexFabric Converged Network Adapter
 - HPE FlexFabric 10Gb 2-Port 554M Adapter
 - HPE Flex-10 10Gb 2-Port 552M Adapter
 - HPE FlexFabric 10Gb 2-Port 554FLB Adapter
 - HPE FlexFabric 20Gb 2-Port 630FLB Adapter
 - HPE FlexFabric 20Gb 2-Port 630M Adapter
 - Supports the following operating systems:
 - Microsoft Windows Server 2016 (64 bit)
 - VMware ESXi 6.0 U2
 - Red Hat Enterprise Linux 7.3
 - SUSE Linux Enterprise Server 11 SP4 and SLES 12
- The lowest VCEM 7.6 support compatibility mode is set to VC 3.30.
- If you are planning to use VC 4.62 firmware in a VCEM environment, Hewlett Packard Enterprise recommends upgrading VCEM to version 7.6 Limited Release 2. For more information about compatibility between VC firmware and VCEM versions, see the *Virtual Connect Enterprise Manager User Guide* on the [Hewlett Packard Enterprise website](#).
- Customers using Insight Control for VMware vCenter Server should upgrade to version 6.3 when using Virtual Connect firmware version 3.30 and later. Version 6.3 fixes a known issue with version 6.2 where Virtual Connect data did not display correctly.
- The Virtual Connect GUI requires a minimum of 512 MB of available memory to operate efficiently.
- To operate with HPE VC 8Gb 20-Port FC Modules, all HPE Emulex LPe 1205 8Gb FC HBAs that are revision A (identified by label EDC A-4904) must perform a CFL region 19 flash update. For download

and installation instructions, see the LPe1205 product page on the [**Hewlett Packard Enterprise website**](#).

- Virtual Connect Manager version 4.62 requires Adobe Flash Player 11.1.x or higher before you can log in. Hewlett Packard Enterprise recommends updating to Adobe Flash Player 27.x or higher for Windows and 11.2 for Linux systems.

For more information, see the latest *HPE Virtual Connect for c-Class BladeSystem User Guide* in the [**Virtual Connect Information Library**](#).

- When VC 4.10 or higher is configured in "IPv6 Only" mode, the OA "Enclosure IP Mode" must also be configured through the OA CLI or OA GUI. However, you must ensure that any OA IPv4 addresses are cleared or the VC module cannot function correctly. To recover, clear any OA IPv4 addresses using the OA CLI or OA GUI, and then reset the VC module. For more information, see the "Enabling IPv6 support" section in the latest *HPE Virtual Connect for c-Class BladeSystem User Guide* in the [**Virtual Connect Information Library**](#).

Installation instructions

Use HPE BladeSystem c-Class Virtual Connect Support Utility to update the VC 4.62.

To download the latest utility, see the [Hewlett Packard Enterprise website](#).

For information about using the utility, see the *HPE BladeSystem c-Class Virtual Connect Support Utility Release Notes* in the [Virtual Connect Information Library](#).

SPP support

VC 4.62 supports the following SPPs:

- SPP 2018.03.0
- SPP 2017.10.1
- SPP 2017.07.2
- SPP 2017.04.0

Hewlett Packard Enterprise recommends using the most current firmware and driver updates for your components following the SPP release.

Version support for HPE ProLiant Servers

Firmware and software versions have been tested using the latest Service Pack for ProLiant as a baseline set and are fully supported by Hewlett Packard Enterprise. Hewlett Packard Enterprise recommends using the latest SPP release and component updates specific to your solution. To deploy the baseline set with component updates, follow the pre-deployment planning steps in the following documents on the <http://www.hpe.com/info/spp/documentation>:

- HPE Virtual Connect for c-Class BladeSystem Setup and Installation Guide
- HPE BladeSystem ProLiant Firmware Management Best Practices Implementer Guide

△ CAUTION: Hewlett Packard Enterprise recommends using the firmware and software versions listed in the latest SPP version to ensure complete solution component compatibility and full functionality. These versions have been tested as a set. Using other version levels might result in operational issues.

The contents of the latest SPP version is documented in the Service Pack for ProLiant Release Notes, Contents Report, and Server Support Guide on the <http://www.hpe.com/info/spp/documentation>.

Version support for HPE Integrity Servers

To obtain HPE BladeSystem Release Sets for Integrity Servers, see the [Hewlett Packard Enterprise website](#).

Fibre Channel support

Observe the following:

- If VC Domain with HPE VC 8Gb 24-Port FC Module is running VC Firmware before VC 4.4x and upgrades to VC 4.6x or later, then VC Domain must be upgraded to VC 4.4x or 4.5x release and then

to VC 4.6x or later. This upgrade is due to firmware update requirement only for the VC Domain having HPE VC 8Gb 24-Port FC Module.

- Always use the latest Virtual Connect Support Utility to upgrade FC firmware.
- When upgrading VC firmware, upgrade each domain with the entire firmware package, including the VC-Enet and VC-FC firmware. Upgrading only VC-Enet or VC-FC firmware is not supported.
- FlexFabric upgrades result in a fabric outage.

When upgrading FlexFabric module firmware, the module temporarily drops FC connectivity during the activation process. A redundant FC configuration will fail over with no loss of application connectivity to the fabric.

- Do not downgrade HPE Virtual Connect 4Gb Fibre Channel modules (with enhanced NPIV) to VC 2.10 or lower.
- Do not downgrade HPE Virtual Connect 16Gb Fibre Channel modules to VC 4.40 or lower.
- To see a list of supported driver versions for your interconnect, see the *Virtual Connect Connectivity Stream* document on the **Single Point of Connectivity Knowledge (SPOCK) website**.

Each VC firmware package contains a separate FC firmware version. The following table shows that the FC firmware version included with each VC firmware package.

Virtual Connect firmware	HPE 4Gb VC-FC Module firmware (409513-B21)	HPE Virtual Connect 4Gb FC Module firmware (409513-B22)	HPE VC 8Gb 20-Port FC Module firmware	HPE VC 8Gb 24-Port FC Module firmware	HPE VC 16Gb 24-Port FC Module firmware
v1.31	1.20	— *	—	—	—
v1.32, v1.34	1.21	—	—	—	—
v2.01, v2.02	1.30	1.30	—	—	—
v2.10, v2.12	1.32	1.32	1.32	1.00	—
v2.30–v2.33	1.40	1.40	1.40	1.01	—
v2.34	1.41	1.41	1.41	1.01	—
v3.0x	1.40	1.40	1.40	1.02	—
v3.10, v3.15	1.41	1.41	1.41	1.03	—
v3.17, v3.18	1.41	1.41	1.41	1.04	—
v3.30	1.42	1.42	1.42	1.04	—
v3.51, v3.60, v3.70	1.43	1.43	1.43	1.04	—
v3.75	1.44	1.44	1.44	1.04	—
v4.01	1.44	1.44	1.44	1.05	—
v4.10	—	2.00	2.00	1.10	—
v4.20, v4.21	—	2.01	2.01	1.11	—
v4.30, v4.31	—	2.02	2.02	1.11	—
v4.40	—	2.05	2.05	3.00	3.00

Table Continued

Virtual Connect firmware	HPE 4Gb VC-FC Module firmware (409513-B21)	HPE Virtual Connect 4Gb FC Module firmware (409513-B22)	HPE VC 8Gb 20-Port FC Module firmware	HPE VC 8Gb 24-Port FC Module firmware	HPE VC 16Gb 24-Port FC Module firmware
v4.41	—	2.05	2.05	3.01	3.01
v4.45	—	2.05	2.05	3.01	3.01
v4.50	—	—	2.10	3.05	3.05
v4.62	—	—	2.15	3.09	3.09

* Dashes denote unsupported versions.

Beginning with VC 4.10:

- Modules with the part number 409513-B21 are displayed as “HPE 4Gb VC-FC Module” and are unsupported by VC 4.10 and higher.
- Modules with the part number 409513-B22 are displayed as “HPE Virtual Connect 4Gb FC Module” and are unsupported by VC 1.34 and lower.

The part number can be verified using VCM or OA:

If using VCM:

1. In the left pane, under the Hardware section, click the Enclosure name, and then select **Interconnect Bays**.
2. The Interconnect Bays screen is displayed.
3. Under the Interconnect Bays Summary table, click the relevant module.
4. Locate the part number under the Interconnect Bay Information table.

If using OA:

1. In the left pane, click **Enclosure Information**, and then select **Interconnect Bays**.

The Interconnect Bay screen is displayed.

2. Under the Interconnect List table, click the relevant bay.
3. Under the Interconnect Bay Information screen, click the **Information** tab.
4. Locate the part number under the Interconnect Bay Information tab.

The following table shows firmware upgrade/downgrade support for the HPE VC 8Gb 20-Port FC Modules:

From version	To version	Fabric outage during upgrade
VC 1.31	VC 1.32 to 1.34	No
VC 1.31	VC 2.01 to 4.62	Yes
VC 1.32/1.34	VC 1.31	No
VC 1.32/1.34	VC 2.01 to 4.62	Yes

Table Continued

From version	To version	Fabric outage during upgrade
VC 2.01/2.02	VC 2.10 to 4.10	No
VC 2.01/2.02	VC 1.31 to 1.34 and 4.20 to 4.62	Yes
VC 2.10/2.12	VC 2.3 to 4.10	No
VC 2.10/2.12	VC 1.31 to 2.02 and 4.20 to 4.62	Yes
VC 2.3x	VC 3.0 to 4.10	No
VC 2.3x	VC 1.31 to 2.12 and 4.20 to 4.62	Yes
VC 3.0x	VC 3.10 to 4.10	No
VC 3.0x	VC 4.20 to 4.62	Yes
VC 3.10/3.15/ 3.17/3.18	VC 3.30 to 4.10	No
VC 3.10/3.15/ 3.17/3.18	VC 1.31 to 3.0 and 4.20 to 4.62	Yes
VC 3.30/3.51/ 3.60/3.70/3.75/ 4.01/4.10	VC 1.31 to 3.18 and 4.20 to 4.62	Yes
VC 4.20/4.21/4.30/4.31/ 4.40/4.41/4.45/4.50/4.62	VC 1.31 to 4.10	Yes

Additional firmware information

Versions 3.15 and higher of HPE Virtual Connect Manager check the server ROM image version and display an incompatible state only for server blades that have a VC Server Profile assigned and are using incompatible server ROM versions.

Virtual Connect does not have the capability to perform version checking of the mezzanine card firmware. Validate this information through server POST for mezzanine support utilities.

Server blades and mezzanine cards that do not meet the required firmware versions do not accept Virtual Connect-assigned parameters such as MACs and WWNs properly and therefore maintain factory defaults. However, these server blades do have the Ethernet network and Fibre Channel fabric connectivity specified in their Virtual Connect server profiles. This connectivity enables you to use network-based firmware update tools for server blade and mezzanine firmware updates.

For Virtual Connect Fibre Channel and FlexFabric modules, the supported firmware and OS drivers are listed in the **Single Point of Connectivity Knowledge (SPOCK) website**. The link to Virtual Connect is under the category "Other Hardware" in the list of selections on the left.

Important notes

Observe the following information:

- When TLSv1.2 only is enabled for VC ENET modules, the VCM communicates with VC FC modules using TLSv1.2.
- PXE Boot order for Gen10 Blade server under UEFI Mode is supported from VC 4.6x onwards. However, VC 4.50 or earlier still allows configuration of PXE Boot Order for Gen10 Blades as well, but it won't be able to set the required settings in the Blade. When running Gen10 with VC 4.50 or earlier, one can use Onboard Administrator(OA) or iLO to set the PXE Boot Order. In such instances, if you want to manage PXE Boot order from VC, you must first upgrade to VC 4.6x and then re-apply or unassign and assign the Server Profile with the required PXE Boot Order. If profile is not re-applied after the upgrade to VC 4.6x, PXE Boot Order set by OA or iLO earlier will continue to work until profile is re-applied or reassigned from VCM.
- Disabling TLSv1.0 and TLSv1.1 may prevent older versions of HPE OneView from migrating the Virtual Connect domain into HPE OneView management. Enable TLSv1.0 and TLSv1.1 to migrate the domain into HPE OneView if needed.
- Disabling TLSv1.0 and TLSv1.1 will prevent VCEM 7.3 and prior release to manage the domain. Ensure that you have VCEM 7.3.2 or later versions installed before disabling TLSv1.0 and TLSv1.1.
- Hewlett Packard Enterprise recommends using TLS 1.2 client to connect to VCM.
- In HPE ProLiant BL460c Gen10 blade server, it is recommended to keep RIBCL enabled in iLO.
- When upgrading VC, if the domain is in FIPS mode, use HP SUM 7.2.1 or higher or VCSU.
- 10GBASE-T transceivers operate at a speed of 1Gb or 10Gb when managed by VCM. The default speed is 10Gb. To configure a speed change, it must be set manually. In stacking links, 10GBASE-T transceivers function at 10Gb.
- Due to cooling requirements, VC ENET modules can only support a specific number of 10GBASE-T SFP+ transceivers.

The following table lists the maximum number of supported 10GBASE-T SFP+ transceivers for each VC ENET module.

Interconnect module	Maximum number of 10GBASE-T SFP+ transceivers supported
VC Flex-10 10Gb Ethernet	4
VC FlexFabric 10Gb/24-port	4*
VC Flex-10/10D Ethernet	6
VC FlexFabric-20/40 F8	4

* Ports X5 to X8 only. Not supported on ports X1 to X4.

- VC does not provide remote table information if a module is in an un-integrated state, such as not being managed by VC. The MAC address of the remote entity is not learned by processing LLDP frames. It is learned via OA > VCM/OneView > VCP.
- When upgrading to VC 4.50 or higher, the following SR-IOV settings are configured:

- When upgrading from 4.10 through 4.30, the SR-IOV mode is set to "Simplified" for all existing profiles. All VFs are allocated to the third PF or FlexNIC port of the server. To assign VFs to other PFs, set the SR-IOV mode to "Advanced."
- VC 4.10 enables SR-IOV VFs on the third PF of SR-IOV-capable NICs and does not override BIOS setting for SR-IOV enablement.
- When upgrading from 4.00 or lower, SR-IOV is disabled by default to maintain pre-4.10 SR-IOV behavior.
- VC 4.40 enables SR-IOV in BIOS. When the server reboots, this can trigger a reordering of PCI NICs. SR-IOV behavior is NIC and OS dependent. Windows in particular is subject to NIC enumeration changes.
- When upgrading from VC 4.40 or higher to VC 4.50 or higher, the SR-IOV settings are maintained.
- When upgrading to VC 4.50 or higher:
 - If VCM SR-IOV mode is set to "Simplified", leave BIOS SR-IOV setting unchanged so customers can disable SR-IOV in BIOS.
 - Enable SR-IOV in BIOS if SR-IOV is set to "Auto" or "Custom" for any profile connection.
 - If SR-IOV is "Disabled" for all profile connections, leave BIOS SR-IOV unchanged.
- If a new VC FC module is installed in an interconnect bay, which is lower than an existing VC FC module bay, for example, if new VC FC modules are installed in bay 3 and bay 4, where bay 5 and bay 6 already have VC FC modules that are part of the domain, server profiles that have a fabric configured with the existing VC FC module will not allow you to manage FC connections. To recover from this situation, remove all the existing FC connections from the profile using VCM CLI, and then add the fabrics again either using VCM GUI or VCM CLI.
- The total number of NICs displayed by the operating system might be more than configured by VC even if "Hide Unused FlexNICs" has been selected in the server profile. This can happen while configuring Ethernet Network Connections in the server profile, either by skipping interfaces or configuring an odd number of total interfaces.

For example, if you configure LOM1:1-d, and then skip LOM1:1-a, LOM1:1-c, LOM1:2-a and LOM1:2-c, the operating system displays 6 network interfaces:

- LOM1:1-a
- LOM1:1-c
- LOM1:1-d
- LOM1:2-a
- LOM1:2-c
- LOM1:2-d

Similarly, if you configure LOM1:1-a, LOM1:1-c, LOM1:1-d, LOM1:2-a, and LOM1:2-c, the operating system also displays six network interfaces, including LOM1:2-d. This happens because the CNA enumerates all physical functions until it reaches the network-assigned interface, and then it enumerates all physical functions for LOM1:2 as configured in LOM1:1. Unassigned NICs that are shown in the operating system might not be used as there is no network associated with it in the server profile.

- When changing the PXE/IP boot order, the server might require a reboot after applying the VC profile.
- When an OS is installed on the hard drive, it automatically updates the boot order, placing the hard drive first. If the PXE/IP boot order is configured in the VC profile, the server might not boot from PXE, as the boot order was updated by the OS. To boot from PXE, be sure to check the boot order in RBSU or OA.
- Changes in RBSU can override Virtual Connect server profile settings for PXE (enabled or disabled). If you make a change in RBSU, that change is not reflected in Virtual Connect Manager. If you set PXE through RBSU, Hewlett Packard Enterprise recommends using the "Use-BIOS" setting.
- A network outage may result when upgrading directly from VC 2.xx release version to VC 4.60 release in a Multi-Enclosure environment. Upgrade from VC 2.xx to VC 3.70 or VC 4.10 first, and then upgrade from VC 3.70 or VC 4.10 to VC 4.60 in a Multi-Enclosure stacked domain.
- IPv6 requires a minimum SPP release of 2013.09.0 (B). The minimum OA firmware version required is 4.01, and the minimum iLO 4 firmware version required is 1.30.
- FCoE protocol, which includes FIP Snooping, is not supported on uplinks with SFP-LR transceivers.
- When connecting a Virtual Connect FlexFabric 10Gb/24-port Module directly to 3PAR storage systems in a VC multi-enclosure stacked domain, a server profile migration of a SAN-booted server between enclosures is not supported. Similarly, in domains managed by Virtual Connect Enterprise Manager, migrating a server profile of a SAN-booted server between enclosures is not supported.

To perform a server profile migration of a SAN-booted server between enclosures directly attached to a 3PAR storage system in a VC multi-enclosure stacked domain, the following manual steps are required:

1. Power off the server.
 2. Un-assign the server profile.
 3. Change the Primary and Secondary Target WWNs in the FC Boot Parameters section of the profile to reflect the WWNs of the 3PAR storage array ports directly connected to the destination enclosure.
 4. Assign the profile to the destination location.
 5. Power on the destination server.
- The latest version of VC MIBs can be downloaded from the HPE Systems Insight Manager "MIB Kit" site at the [Hewlett Packard Enterprise website](#).
 - Virtual Connect documents for current and past releases are located on the [Hewlett Packard Enterprise website](#).

Related information

Virtual Connect Enterprise Manager support

For information about the VC firmware that is compatible with VCEM, see the latest version of the *Virtual Connect Enterprise Manager User Guide* on the [**Hewlett Packard Enterprise website**](#).

Documentation feedback

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Acronyms and abbreviations

CNA

Converged Network Adaptor

FCoE

Fibre Channel over Ethernet

FIPS

Federal Information Processing Standard

LLDP

Link Layer Discovery Protocol

MIB

management information base

OA

Onboard Administrator

QoS

Quality of Service

PEM

Privacy Enhanced Mail

RIBCL

Remote Insight Board Command Language

SPP

Service Pack for ProLiant

SR-IOV

Single-root input/output virtualization

SSL

Secure Sockets Layer

ToR

top of rack

UEFI

Unified Extensible Firmware Interface

VC

Virtual Connect

VCEM

Virtual Connect Enterprise Manager

VCM

Virtual Connect Manager

VCSU

Virtual Connect Support Utility

WWN

World Wide Name