HP Virtual Connect Manager Version 1.15b and 1.16
Release Notes and Compatibility Matrix

Audience assumptions

This document is for the person who installs, administers, and troubleshoots servers and storage systems. HP assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels.

About this document

These release notes provide information for HP Virtual Connect Manager versions 1.15, 1.15b, and 1.16, which supersedes the information in the documentation set released with version 1.15 of HP Virtual Connect Manager.

HP Virtual Connect Manager version 1.15b contains an update to the Fibre Channel module firmware.

HP Virtual Connect Manager version 1.16 provides interoperability for non-server devices present within enclosures in the Virtual Connect domain and improvements to the signal quality of 10GBASE-CX4 cables.

Contents

Hardware and firmware requirements

HP Virtual Connect Manager firmware

The latest HP Virtual Connect Manager firmware package (version 1.16) contains the following firmware versions:

- HP 1/10Gb VC-Enet version 1.16
- HP 4Gb VC-FC version 1.02

> **IMPORTANT:** The VC-Enet module firmware must be updated to version 1.15 before updating the VC-FC module firmware. Otherwise, the VC-FC firmware might not appear to be successfully updated.

Supported hardware

Versions 1.15, 1.15b, and 1.16 of HP Virtual Connect firmware support the following hardware:

- Virtual Connect modules
    - HP 1/10Gb Virtual Connect Ethernet Module
    - HP 4Gb Virtual Connect Fibre Channel Module
- Server blades
    - HP ProLiant BL460c Server Blade
    - HP ProLiant BL480c Server Blade
    - HP ProLiant BL465c Server Blade
    - HP ProLiant BL685c Server Blade
    - HP Integrity BL860c Server Blade (only supported by Virtual Connect v1.16)
- HP BladeSystem c-Class c7000 Enclosure with Onboard Administrator
- Integrated Network Interfaces and mezzanine cards
    - HP BladeSystem Dual NC370i Multifunction Network Adapter
    - HP NC373i Integrated Multifunction Gigabit Server Adapter
    - HP NC373m PCI Express Dual Port Multifunction Gigabit Server Adapter
    - HP NC326i Integrated Dual Port PCI Express Gigabit Server Adapter
    - HP NC326m PCI Express Dual Port Multifunction Gigabit Server Adapter
    - HP NC325m PCI Express Quad Port Gigabit Server Adapter
    - HP QLogic QMH2462 4Gb FC HBA for c-Class BladeSystem
    - HP Emulex LPe1105-HP 4Gb FC HBA for c-Class BladeSystem (Microsoft® Windows® and VMware ESX 3.01)

For the latest list of supported hardware, see the HP website (http://www.hp.com/go/bladesystemupdates).

Firmware upgrade requirements

> **IMPORTANT:** For compatibility and proper operation of HP Virtual Connect Manager, all system firmware must be current.

Always install the most current firmware for the following items:

- Server blade system ROMs
- Ethernet mezzanines
- Fibre Channel mezzanines
- HP BladeSystem Onboard Administrator

For additional information on required firmware versions and to download firmware upgrades, see the HP website (http://www.hp.com/go/bladesystemupdates).

Required firmware versions for this release

Product	Required firmware version
HP Onboard Administrator	Version 1.30 or later
BL460c and BL480c	System ROM 2006.09.18 or later
BL465c and BL685c	System ROM 2006.12.02 or later
BL860c*	System, BMC, and iLO-2 version 1.01A
iLO	Version 1.20 or later
NC370i, NC373i, and NC373m	Boot code version 1.9.6 and C Class option ROM 1.1.3** or later
NC326i, NC325m, and NC326m	Boot code version 3.28 and C Class option ROM 1.1.3** or later
QLogic QMH2462 4Gb FC HBA	• For ProLiant server blades, use QLogic multiboot image 1.57 (with BIOS 1.26) or later • For Integrity server blades, use EFI 1.09 (in multiboot 1.64) or later
HP Emulex LPe 1105-HP 4Gb FC	Emulex boot-pair 6.00a2 and 3.2a1 HBAnywhere or later

* This product is only supported by Virtual Connect v1.16
** Use the HP Gigabit Server Adapter Firmware Upgrade Utility for c-Class Blades version 1.10 (HP website (http://h18023.www1.hp.com/support/files/server/us/download/25604.html)) or one of the online methods available for the OS. To find the online update method for your OS, go to the HP website (http://www.hp.com/go/bladesystemupdates) and search for Server Blade Software & Updates.

Versions 1.15, 1.15b, and 1.16 of HP Virtual Connect firmware 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. No version checking of mezzanine card firmware is available, so be sure to verify that the mezzanine card firmware is up to date.

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

HP Virtual Connect Fibre Channel Module Compatibility Matrix

The following table lists the switches and firmware versions that are supported with HP Virtual Connect Fibre Channel interconnect modules.

Switch family	Supported versions	Unsupported switches
Brocade and HP B-series Fibre Channel switches	FOS 5.2.0b FOS 5.1.0d	• Brocade 4/12 SAN Switch for c-Class • Brocade 4/24 SAN Switch for c-Class • HP MSA SAN switches • HP StorageWorks 2/8 EL and 2/16 EL switches
McData and HP M-series Fibre Channel switches	E/OS 9.00.00 E/OS 8.02.00	• McDATA Intrepid 10000 Director switch
Cisco and HP C-series Fibre Channel switches	SAN-OS 3.0(3) SAN-OS 3.0(2a) SAN-OS 3.0(1)	• Cisco MDS 9124e Fabric Switch for c-Class • Cisco MDS 9020 Fabric Switch

New features

The VC-Enet version 1.15 firmware includes the following features:

- Smart Link

  A network enabled with Smart Link automatically drops link to the server ports if all uplink ports lose link. This feature can be useful for certain server network teaming (bonding) configurations.

- Native VLAN

  Identifying a network on a shared uplink set as the native VLAN causes all untagged incoming packets to be placed on this network. All outgoing packets are VLAN tagged. Only one network can be designated as the native VLAN.

- Speed setting on uplink ports

  Selecting a speed of 10 or 100 Mb disables autonegotiation and forces the speed to the selected value. Selecting a speed of 1Gb forces autonegotiation to advertise only 1Gb support. For all speed settings, regardless of forced speed or use of autonegotiation, only Full Duplex mode is supported. This setting requires all connected ports to have matching speed and duplex configurations to operate correctly.

- Active/Standby uplink port status

  The status of each uplink port connected to an external switch is displayed to indicate whether it is actively passing traffic or is functioning in a standby role.

- MAC cache failover speedup

  This feature alerts switches attached to a VC-Enet module when a link previously in standby mode becomes active, reducing the time it takes for the attached switches to begin passing traffic over the newly active link.

For additional information, see the Virtual Connect user guide on the HP website (http://www.hp.com/go/bladesystem/documentation).

Important notes and recommendations

When a c-Class enclosure is used with Virtual Connect v1.15, 1.15b, and 1.16, the following configuration restrictions and guidelines apply:

- Plan your interconnect module usage carefully before running the Virtual Connect Domain Setup Wizard. After an interconnect bay is configured for use with a VC-Enet or VC-FC module, it remains configured for that module type until the overall VC domain is deleted. Virtual Connect will report failures for any VC-Enet or VC-FC module that is removed from the domain.

- Ensure that all VC-Enet and VC-FC modules in a VC domain are at the same firmware revision. To check the firmware revision level, select the "Firmware Update" tab on the "Domain Settings" page. The firmware revision level for each module in the domain is shown.

- Only connect HP 4Gb VC-FC Module uplinks to Fibre Channel switch ports that are NPIV-enabled. If using a Brocade FC switch, verify that NPIV is properly enabled by using the `portshow` command. If not properly enabled, you may need to downgrade the Brocade switch firmware, and then upgrade the firmware again for the enable to work properly.

- Always install an HP 1/10Gb VC-Enet Module in interconnect bay 1.

- For redundancy, HP recommends installing a second HP 1/10Gb VC-Enet Module in interconnect bay 2.

- For interconnect bays 3-8, install an HP 1/10Gb VC-Enet Module or HP 4Gb VC-FC Module in the bay corresponding to the mezzanine signals.

- Verify that all system component firmware is up to date. A server blade is displayed as incompatible by Virtual Connect if the server ROM is not at the minimum level required by Virtual Connect. Virtual Connect is not able to verify firmware revisions for all components, so a server blade component can be incompatible even if the server blade is not listed as incompatible.

- To improve network performance and prevent unnecessary Spanning Tree Topology Change Notifications (TCN) on the network, configure Ethernet switches connected to Virtual Connect with the same Spanning Tree settings you would use when connecting to a server blade NIC. For Cisco switches, this is done by using the `portfast` command to enable ports connected to a VC-Enet module. This action ensures that link state changes on Virtual Connect do not cause a TCN.

- Do not use Virtual Connect and non-Virtual Connect modules in horizontally adjacent bays.

- Virtual Connect assigns or migrates MAC addresses/WWNs for server Ethernet/FC ports connected to HP Virtual Connect Modules. Virtual Connect also assigns MAC/WWNs to server Ethernet/FC ports that are not connected to an I/O module because VC modules can be added later. Server Ethernet/FC ports connected to non-VC modules retain the server factory default MACs/WWNs.

- Verify that all iLOs and VC modules have received IP addresses. Without IP addresses on all modules, Virtual Connect will not work properly.

- If deploying VC to an enclosure with already installed server blades, HP recommends that VC-assigned MAC addresses not be used. Configure VCM to use server factory default MAC addresses.

- Back up the VC domain configuration each time changes are made. While saved in non-volatile memory and check-pointed to the neighboring module, HP recommends saving the configuration external to the enclosure.
- Removing a VC-Enet module and plugging it into another enclosure causes the configuration information on that module to be cleared. This action prevents a configured spare from overwriting configuration data in another enclosure.

For additional information, see the Virtual Connect user guide on the HP website (http://www.hp.com/go/bladesystem/documentation).

Known issues

General

- During an Onboard Administrator failover, Virtual Connect Manager can lose communication with the Onboard Administrator for as long as 15 minutes. During this time, Virtual Connect Manager is not able to make profile changes to server blades or perform some enclosure administration functions, such as powering servers on and off.

- Changes in the server ROM-based setup utilities (RBSU) can override Virtual Connect server profile settings for PXE (enabled or disabled). If a change is made in RBSU, that change is not reflected in Virtual Connect Manager.

- RDP "rip and replace" does not work properly when using VC-administered MAC addresses because RDP is tracking the server blades by MAC address rather than by the primary lookup key (which can be set to serial number, MAC address, UID, or Asset Tag). To work around this issue, manually redeploy the server blade.

Fibre Channel and SAN boot

- The VC-Enet module firmware must be updated before the VC-FC module firmware. Otherwise, the VC-FC firmware might not appear to be successfully updated.

- To properly boot from SAN with some versions of Linux, change the QLogic HBA connection options to "point to point only" in the QLogic BIOS configuration.

- The VC-FC module health status remains "good" during hardware reset and power cycle events initiated though the OA. Although the state transition is not seen, the reset does occur.

- The VC-FC module port operational and speed statuses reflect the current configuration rather than the operational status.

- Virtual Connect Manager does not provide an interface to force 1-Gb speed on the VC-FC module uplink and downlink ports. However, the ports will auto-negotiate properly to 1 Gb.

- The VC-FC module does not have a Web-based management interface. However, the OA presents a URL that results in a blank web page when clicked. This behavior is expected as all management of the VC-FC module is done through the Virtual Connect Manager interface.

- The Fibre Channel login sequence can be delayed by approximately 20 seconds when more than one server blade HBA is aggregated through the same VC-FC uplink port attached to a Cisco switch and these HBAs are in the same zone. To avoid this problem, do not place server HBAs in the same zone on the fabric switch.

- Server blade boot can be delayed when a VC-FC uplink port is attached to a Brocade switch and more than one server blade HBA is aggregated through that uplink port and these HBAs are in the same zone. To avoid this problem, do not place server HBAs in the same zone on the fabric switch.

User interface

- Virtual Connect Manager allows users to change the number of VC-FC Module uplink ports connected to an external Fabric Switch without a warning while a server might be accessing remote storage devices.

- Virtual Connect Manager shows either a server blade or an interconnect module as degraded (but not both) for an I/O Ekey mismatch.

- If non-Administrator credentials are entered for the Onboard Administrator during Virtual Connect Domain Import, the import fails without explanation. The VC-Enet module must be power cycled to recover and allow for entry of new OA credentials.

- Network uplinks that are linked after the Network Setup Wizard has been started may not show proper link status in the wizard. When the wizard is completed, all uplink link statuses are displayed correctly.

- The main window of the GUI might show more updated information than the left window. Refresh the page to synchronize.

- A server profile can be assigned to a device bay with a server that has fewer physical NIC ports than defined in the server profile. In most cases, a warning is provided, but in some cases it is not.

- If a server is rebooted several times while its server profile is being edited, an error displaying an XSL transformation failure may be displayed. Do not edit a server profile while repeatedly rebooting a server.

- In the Bay Summary screen for a VC-FC module in Virtual Connect Manager, some servers might be displayed with the incorrect model number. The model number is displayed correctly in other screens and in the Onboard Administrator.

- When using Internet Explorer 6 or Internet Explorer 7, some web pages do not display correctly on machines configured for Chinese language options. Change the language encoding in Internet Explorer to "Western European (ISO)" or use Mozilla Firefox.

- In the Server Connections tab of the Ethernet Networks screen, the port status shows OK even if the server port is not linked.

Firmware update

- The VC-Enet module firmware must be updated before the VC-FC module firmware. Otherwise, the VC-FC firmware might not appear to be successfully updated.

- If the firmware update procedure indicates a failure to activate a module or appears to be stuck, it might be caused by a timeout and/or a stale web page. To refresh the screen and verify the actual update status, click the **Firmware update** link under Domain Settings in the left navigation pane of the VCM user interface.

- During the firmware update activation countdown, an Internet Explorer pop-up might be displayed stating "Failed to create processor object: The stylesheet does not contain a document element. The stylesheet may be empty, or it may not be a well-formed XML document." This pop-up can be dismissed without consequences.

Resolved issues

The following issues that existed in Virtual Connect 1.10 have been resolved in Virtual Connect 1.15:

- To move a server profile from a device bay containing a storage blade to another bay, the storage blade must first be removed.

- Do not create or modify a network name with a hyphen ("-") in the name. Only use characters that are alpha-numeric (a-z, A-Z, 0-9) and the underscore ("_"). Virtual Connect Manager does not reject names with a hyphen, but subsequent updates to the network fail without giving any error indication.

- If a VC-FC module is connected to a Fibre Channel switch that does not support NPIV, the Virtual Connect user interface performance will degrade significantly. If this occurs, disconnect the FC switch, reconfigure the FC switch for NPIV support, and reconnect.

- Server blade boot can be delayed when more than one server blade HBA is aggregated through a VC-FC uplink port attached to a fabric switch. This situation occurs when the VC-FC uplink port WWN is placed in the same zone as the server HBA WWNs. To avoid this problem, do not place VC-FC uplink ports in the same zone with server HBAs on the fabric switch.

- When the server profile wizard attempts to assign a profile to a server that is powered on, a "creation failed" message is displayed. The profile is created, but not assigned to a device bay. The profile can be assigned to the device bay later when the server is powered off.

- When creating a shared uplink set with a large number of networks, the error "object name already in use" might be displayed or some networks might not be created. Verify that all the intended networks were actually added to the shared uplink set by choosing to view all networks. If any networks were not created, edit the shared uplink set and add the uncreated networks.

- Virtual Connect Manager might not display an error in the Domain Status screen when a VC-FC module is removed from the enclosure or powered down.

- Some messages listed in the Domain Status screen might not appear in the Domain Status Summary window.

- If the Domain Setup Wizard is cancelled prior to completion, it might not start automatically in future logins. The wizard can be initiated again from the Tools menu.

- If a server is rebooted several times while its server profile is being edited, an error displaying an XSL transformation failure may be displayed. Do not edit a server profile while repeatedly rebooting a server.

- The current IP address of the VC-Enet modules is not displayed in the Onboard Administrator 1.30 Enclosure Bay IP Addressing (EBIPA) screen. This omission does not affect the ability of EBIPA to assign IP addresses to VC-Enet modules.

The following issues that existed in VC-FC v1.01 have been resolved in VC-FC v1.02, which is packaged in Virtual Connect 1.15b and 1.16:

- A Brocade (or HP B-Series) Fibre Channel Switch running Fabric OS v5.2.x will reject NPIV login requests when more than seven c-Class server blades are attempting to log in simultaneously through a VC-FC module.

- When running with 16:1 oversubscription ratio on a VC-FC module, the hardware registers do not allow auto-routed traffic for the sixteenth server blade. When this scenario occurs, the firmware routes FC frames, causing a significant drop in the performance.

The following issues that existed in Virtual Connect 1.15b and earlier versions have been resolved in Virtual Connect 1.16:

- Server profiles could be assigned to a bay occupied by a non-server device.

- The Virtual Connect GUI labeled all server bays as Bay 0 and failed to recognize any servers in the enclosure.

- Signal quality for 10GBASE-CX4 cables was poor.

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