



# **Transitioning a Virtual Connect configuration to HPE OneView**



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## About this document

This document describes how to transition an existing [Virtual Connect](#) domain to be managed by [HPE OneView](#) using an HPE OneView advanced license. The process for migrating Virtual Connect domains from a Virtual Connect Enterprise Manager (VCEM) domain group into HPE OneView is also described. HPE OneView 2.00 introduced the option of monitoring and inventorying Virtual Connect domains while continuing to manage them with Virtual Connect Manager. HPE OneView 3.00 introduced support for in-service migrations. This allows servers to remain powered on during the migration from Virtual Connect Manager to HPE OneView management. Another enhancement in HPE OneView 3.00 and later allow up to four Virtual Connect domains to be migrated semi-simultaneously into HPE OneView.

## Planning and preparation

Before transitioning existing infrastructure from being managed by Virtual Connect Manager (VCM) to HPE OneView management inventory and evaluate the current environment. Once the inventory has been completed, you can evaluate when and how the environment should transition to HPE OneView management.

See [Appendix A](#) for an overview of Virtual Connect and HPE OneView terminology and concepts.

## Inventory the existing environment

The first step is to inventory the current [BladeSystem](#) environment. This includes gathering information from the following:

- Onboard Administrator (OA)
- [Integrated Lights-Out \(iLO\)](#)
- Virtual Connect Manager
- Virtual Connect Enterprise Manager, if it is part of your management infrastructure

The command-line interfaces to OA, VCM, and VCEM provide an easy way to capture configuration information. The products' web interfaces are helpful for spot checks on configuration settings as well.

Use the information gathered from your current environment if needed for reference after the configuration has been migrated to HPE OneView.

## Firmware requirements

Verify that the firmware versions installed on OA, iLO, and Virtual Connect (VC) meet the minimum requirements listed in the [HPE OneView Support Matrix](#). This is required for HPE OneView to manage the enclosure.

## Onboard Administrator

Gather the following items from each BladeSystem enclosure you plan to transition to HPE OneView management:

- OA firmware version
- Primary OA management IP address
- Administrator account username and password information
- Log into the OA command-line interface (CLI) and capture the output of the OA show config command to a text file

Use the OA IP address, username, and password to bring each BladeSystem enclosure under HPE OneView management.

## Integrated Lights-Out

iLOs must be configured to allow local user accounts. As part of bringing an iLO under HPE OneView management, a local user account is added to the iLO.



## Virtual Connect

Gather the following items from Virtual Connect:

- Virtual Connect module management IP addresses.
- Usernames/passwords and privileges for each Virtual Connect domain which you will transition to HPE OneView management. This information will be needed in the event that you remove the enclosure from HPE OneView management and revert to managing it with Virtual Connect.
- Factory default Administrator password located on the label of the Virtual Connect modules. This will be required should you have to restore the Virtual Connect domain from a domain backup.

Create a backup of the Virtual Connect domain and secure it in the event that it is needed in the future.

## Enclosure information

Use the VCM CLI `show enclosure` command to display the enclosure or enclosures in the Virtual Connect domain.

```
-> show enclosure *
```

If the Virtual Connect domain contains more than one c7000 enclosure, separate the domain into two or more single enclosures as part of the transition to HPE OneView management. More details on this are provided later in the document.

## Server information

Use the VCM CLI `show server` command to display the servers in the Virtual Connect domain.

```
-> show server *
```

If the Virtual Connect domain contains servers which are not supported by HPE OneView, they will remain unmanaged when the enclosure is brought into HPE OneView.

## Interconnect information

Use the VCM CLI `show interconnect` command to display the interconnect modules in the Virtual Connect domain.

```
-> show interconnect *
```

If the enclosure contains non-Virtual Connect devices such as pass-through modules, Ethernet, Fibre Channel, SAS, or InfiniBand switches, these can be migrated to HPE OneView for monitoring and health reporting. These non-Virtual Connect devices will remain unmanaged in HPE OneView.

## Configuration settings for the running Virtual Connect domain

Use the VCM CLI `show config` command to gather details of the domain configuration, and then save them to a text file you will reference when configuring HPE OneView.

```
-> show config
```

If the Virtual Connect domain is v4.20 or later you can use the `"includepoolinfo"` option on the VCM CLI `show config` command to more easily capture the domain information including MACs and WWNs as shown below.

```
-> show config -includepoolinfo
```

The details from the Virtual Connect domain will be used by the migration process to configure HPE OneView logical interconnect groups, as well as other HPE OneView appliance settings.

## Profile configurations for the running domain

Use the VCM CLI `show profile *` command to gather details of server profiles, connections, connection settings, and profile assignments and save them to a text file you can reference when checking the corresponding server profiles in HPE OneView.



```
-> show profile *
```

Server logical serial number information

Use the VCM CLI `show serverid` command to gather details on logical serial number settings for the domain and save them to a text file you can reference when checking serial number settings in HPE OneView.

```
-> show serverid
```

The logical serial numbers from the domain will be used when migrating the HPE OneView server profiles. This allows logical serial numbers to remain unchanged after the transition to HPE OneView.

### Virtual Connect Enterprise Manager

If the Virtual Connect domain is managed as part of a Virtual Connect domain group, gather the VCEM/SIM username/passwords and privileges controlling management access to the domain you are transitioning.

Log in to the CMS host and open a command prompt. Use the VCEM CLI to export the profile information to a CSV file.

```
C:> vcemcli -export profiles -exportfile ProfileInformation.csv
```

You can refer to the profile names, profile assignments, connections, and addresses detailed in the CSV file if you need to check the prior settings of the server profiles following migration to HPE OneView.

Evaluate the Virtual Connect domain groups defined in the environment and consider forming similar collections of enclosures into your HPE OneView logical interconnect groups. Since Virtual Connect domain groups share common [networking](#) and [storage](#) configurations among their domains, there can be a natural correspondence between Virtual Connect domain groups and HPE OneView logical interconnect groups.

---

### Note

If VCEM is being used as part of a Matrix environment, ensure that no Fibre Channel or FCoE connections have multiple Fibre Channel boot configurations specified.

---

### Virtual Connect features not supported in HPE OneView 4.00

The following Virtual Connect features are not supported in HPE OneView 4.00:

- Multi-enclosure stacked domains
- iSCSI connections configured with DHCP addresses
- c3000 enclosures
- Network access groups
- IGMP multicast filters
- Double dense servers
- RADIUS and TACACS+ user authentication
- sFlow®

Based on your specific requirements, it might be possible to alter the configuration to work around these features.

Depending on the factors which motivated the multi-enclosure Virtual Connect domain design, the configuration could be suitable for transitioning to HPE OneView. If the design goal is to reduce management overhead by managing the enclosures from a single VCM instance, then transitioning to HPE OneView will provide an even greater reduction in management overhead. If the design goal is to reduce upstream switch port consumption or to use stacking links for cluster heartbeats or vMotion traffic within the single Virtual Connect domain, transitioning to HPE OneView might not be as advantageous. HPE OneView requires each enclosure to have its own uplinks to the upstream switch.



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**Important**

If the domain consists of a single c3000 enclosure, do not transition it to HPE OneView management. HPE OneView does not support c3000 enclosures.

---

If the Virtual Connect domain contains Integrity servers or pre-G7 blades, they will remain unmanaged when the enclosure is brought into HPE OneView.

## Migrating the Virtual Connect and VCEM configuration to HPE OneView

### Migration concepts

The following sections show example aspects of a Virtual Connect configuration and the corresponding settings in HPE OneView. The examples use a combination of the Virtual Connect command-line interface and the Virtual Connect web interface along with the HPE OneView web interface. The procedure for migrating the configuration into HPE OneView is detailed later in the document.

```
->show network Network_21
Name                : Network_21
Type                : Enet
Status              : OK
Smart Link          : Enabled
State               : Enabled
Shared Uplink Set   : UplinkSet_Net10
VLAN ID             : 21
Native VLAN         : Disabled
Internal ID         : 25
Private             : Disabled
Preferred Speed     : 2.5 Gb
Max Speed           : 10 Gb
```

**Figure 1.** Network\_21 as shown in the VCM CLI



Figure 2 shows the corresponding configuration for Network\_21 in HPE OneView.

**Network\_21** Overview

**General**

- Type: Ethernet
- VLAN: 21
- Associated with subnet ID: none
- Purpose: General
- Preferred bandwidth: 2.5 Gb/s
- Maximum bandwidth: 10 Gb/s
- Smart link: Yes
- Private network: No
- Uplink set: [UplinkSet-1](#)
- Used by: [1 server profile](#)
- Member of: [NetworkSet-1](#)

Figure 2. Network\_21 as shown in HPE OneView

In Virtual Connect a shared network must be associated with a shared uplink set when the shared network is created. In HPE OneView all networks are created independently and later associated with uplink sets on logical interconnect groups and logical interconnects.

Virtual Connect administrators can assign multiple VLANs to a single profile connection as shown in Figure 3.

**Ethernet Adapter Connections**

Server VLAN Tag to vNet Mappings

Force the same VLAN mappings as in the Shared Uplink Set UplinkSet\_One

Networks not in mapping

Alphabetical | Filtered

All  
  A-C  
  D-F  
  G-I  
  J-L  
  M-O  
  P-R  
  S-V  
  W-Z  
  0-3  
  4-6  
  7-9

vNet Name	Status	Server VLAN Id	Untagged
Network_100	✓	100	<input type="checkbox"/>
Network_101	✓	101	<input type="checkbox"/>
Network_102	✓	102	<input type="checkbox"/>
Network_103	✓	103	<input type="checkbox"/>

Figure 3. Multiple networks in Virtual Connect



This provides administrators with great flexibility when configuring network connectivity in server profiles. However if these four VLANs are to be assigned to a network connection on additional profiles, the operation must be repeated for each profile.

HPE OneView replaces the Virtual Connect multiple networks feature with network sets, which allows you to quickly deploy network environment changes to multiple server profiles by combining VLANs into a group, and then assigning that set of networks to the connection on a profile. If another VLAN is added to the network set later, the additional VLAN automatically becomes available to all profiles configured to use that network set. Similarly, if a VLAN is removed from a network set, all servers associated with the network set immediately cease using that VLAN. You don't have to revisit each profile to change the networks on the connection. In Figure 4, the administrator has added VLANs to the NetworkSet-1 network set. This network set can then be assigned to profile connections.

**NetworkSet-1** | Overview ▾ | ⌘

---

**General**

Preferred bandwidth      2.5 Gb/s

Maximum bandwidth      10 Gb/s

Used by                      [1 server profile](#)

---

**Networks**

<a href="#">Network 101</a>	101	Untagged	<a href="#">Network 102</a>	102	<a href="#">Network 105</a>	105
<a href="#">Network 21</a>	21		<a href="#">Network 103</a>	103		
<a href="#">Network 100</a>	100		<a href="#">Network 104</a>	104		

Figure 4. Network set configuration in HPE OneView

An example of NetworkSet-1 network set assigned to a server profile in HPE OneView.

▼ ● 2 profconn-1 NetworkSet-1 (network set) FlexibleLOM 1:1-a Not bootable

Interconnect      [Encl1, interconnect 1](#)

Type                Ethernet

MAC address      D2:A8:C8:A0:00:01 (v)

Requested bandwidth      2.5 Gb/s

Allocated bandwidth      2.5 Gb/s

Max bandwidth      10 Gb/s

Figure 5. Network set assigned to a profile connection in HPE OneView





## Fabrics

An example of a fabric in the VCM CLI.

```

->show fabric Fab1
Name           : Fab1
Type           : FabricAttach
Bay           : 1
Ports         : X3,X4
Status        : OK
Speed         : Auto
LinkDist      : Auto
Preferred Speed : Auto
Max Speed     : Unrestricted

External Uplink Ports
-----
ID              Status  Speed  Port WWN              Connected To
-----
enc0:1:X3      OK      8 Gb   51:08:05:F3:00:18:0C:03  51:08:05:F3:00:11:3C:01
enc0:1:X4      OK      8 Gb   51:08:05:F3:00:18:0C:04  51:08:05:F3:00:11:3C:01
    
```

Figure 6. Fabric configuration in VCM CLI

An example of a fabric in HPE OneView. First, define the Fibre Channel network and then add it to the logical interconnect group.

**Fabric1** | Overview ▾ | ⌘

---

**General** [Edit](#)

Type	Fibre Channel Fabric attach
Associated SAN	none
SAN manager	none
Preferred bandwidth	2.5 Gb/s
Maximum bandwidth	8 Gb/s
Uplink set	<a href="#">Fab1</a>
Login redistribution	Auto
Link stability interval	30 seconds
Used by	<a href="#">12 server profiles</a>

Figure 7. Fabric configuration in HPE OneView



Once the FC network has been defined, edit the logical interconnect group to configure uplink ports for this network. OneView native FC fabrics must have an uplink port assigned to an associated uplink set to allow profile connectivity. Depending on the FC HBAs in use, the Factory Default WWNN and WWPN values may be swapped from prior settings when the server is moved from Virtual Connect management to OneView management.

**Edit Fab1**
?

**General**

---

Name

Type Fibre Channel

---

**Networks**

Network  ✕ 🔍

---

**Uplink Ports**

Interconnect Module	▲ Bay ▲	▲ Port	Speed	
HP VC FlexFabric-20/40 F8 Module	1	X2	Auto <span>▼</span>	✕
HP VC FlexFabric-20/40 F8 Module	1	X3	Auto <span>▼</span>	✕

Add uplink ports
Remove all

OK
Cancel

**Figure 8.** Fabric uplink port configuration in HPE OneView



## Shared Uplink Sets

An example of an Active/Standby Shared Uplink Set viewed with the VCM CLI.

```
->show uplinkset UplinkSet_Net10
Name          : UplinkSet_Net10
Status        : OK
Connection Mode : Auto
LACP Timer    : Domain-Default (Short [1 sec])

External Uplink Ports
=====
ID           Status           Type      Speed
=====
enc0:1:X6   Linked [Active]      SFP-SX   Auto
           [10Gb]
-----
enc0:2:X6   Linked [Standby]     SFP-SX   Auto
           [10Gb]
-----

Associated Networks [VLAN Tagged]
=====
Name         Type  VLAN ID  Native VLAN  SmartLink  Private
=====
Network_21  Enet  21      Disabled    Enabled    Disabled
Network_22  Enet  22      Disabled    Enabled    Disabled
Network_23  Enet  23      Disabled    Enabled    Disabled
Network_24  Enet  24      Disabled    Enabled    Disabled
Network_25  Enet  25      Disabled    Enabled    Disabled
```

**Figure 9.** Shared Uplink Set in the VCM CLI

Edit the logical interconnect group and add an uplink set containing the networks of interest. HPE OneView's Smart Search feature makes it easy for you to filter and select the networks you want to use in the logical interconnect group. You can use the Update from group action on each of the logical interconnects to apply the new group settings to the logical interconnect.



Here is a similar example of an Active/Standby shared uplink set viewed in HPE OneView.

**Create Uplink Set** ?

**General**

Name: UplinkSet Net10

Type: **Select type** Select a type

- Ethernet
- Fibre Channel
- Tunnel
- Untagged

**Create** **Create +** **Cancel**

**Figure 10.** Logical interconnect group uplink set configuration in HPE OneView

**Add Networks to UplinkSet\_Net10** ?

Network

1 selected 4 matches

Name	Type	VLAN ID
Network_22	Ethernet	22
Network_23	Ethernet	23
Network_24	Ethernet	24
Network_25	Ethernet	25

**Add** **Add +** **Cancel**

**Figure 11.** Adding networks to a logical interconnect group uplink set configuration in HPE OneView



Add the uplink ports to the uplink set.

The screenshot shows a dialog box titled "Add Uplink Ports to UplinkSet\_Net10". At the top right is a question mark icon. Below the title is a search bar with a magnifying glass icon. Below the search bar, it says "1 selected" on the left and "all 45" on the right. A table lists 15 ports, with the first row highlighted in green. The table has columns for "Interconnect Module", "Bay", "Port", and "Capability". At the bottom of the dialog are three buttons: "Add", "Add +", and "Cancel".

Interconnect Module	Bay	Port	Capability
HP VC FlexFabric-20/40 F8 Module	1	Q1.1	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q1.2	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q1.3	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q1.4	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q2.1	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q2.2	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q2.3	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q2.4	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q3.1	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q3.2	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q3.3	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q3.4	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q4.1	Ethernet + FCoE
HP VC FlexFabric-20/40 F8 Module	1	Q4.2	Ethernet + FCoE
.....	-	---	---

Figure 12. Adding uplink ports to a logical interconnect group uplink set configuration in HPE OneView



### SNMP settings

The following example shows SNMP settings in the VCM web UI.

## SNMP Configuration

VC-FC
VC-Enet

### SNMP/SMI-S Configuration for VC-FC Modules ?

Enable SNMP  
 Enable SMI-S

System Contact:

Read Community:

### SNMP Access ?

IP Address	Network Mask Bits	Type	Action
128.221.239.0	24	Enet	<a href="#">Delete</a>

[+ Add](#)

Apply
Cancel

---

### SNMP Trap Destinations ?

Destination	IP Address / DNS	Community String	Format	Action
MainConsole	128.222.239.99	public	SNMPv1	<a href="#">Edit</a> <span style="border: 1px solid gray; padding: 0 2px;">▼</span>

[+ Add](#)

Figure 13. SNMP settings in VCM



And the corresponding SNMP configuration screen for the logical interconnect group in HPE OneView.

**SNMP**

SNMP **Enabled**

System contact

Read community

---

Trap Destinations

Destination	Community String	Format	Severity	VCM	VC-Enet	VC-FC	
128.222.239.99	public	SNMPv1	All	Legacy	Other, Port thresholds, Port status	Other, Port status	

**Add trap destination**

---

SNMP Access

IP or subnet

128.222.239.0/24

**Add SNMP access**

**Figure 14.** SNMP settings in HPE OneView



## Advanced settings

The following example shows MAC Cache Fail-over, Port Protection, and Throughput Statistics settings in VCM.

**Other** -

---

**MAC Cache Fail-over**

Enable Fast MAC Cache Fail-over ?

MAC Refresh Interval  seconds

---

**Port Protection**

Enable Loop Protection ?

Enable Pause Flood Protection ?

---

**Throughput Statistics**

Enable Throughput Statistics ?

Configurations:  ?

---

**LACP Configuration**

Default LACP Timer:  Long (30 sec)  Short (1 sec) ?

---

**LLDP Configuration**

Enable Enhanced TLV ?

**Figure 15.** Advanced settings in VCM





The following example shows the corresponding settings in HPE OneView for the logical interconnect group. Control of LACP timer is available on HPE OneView uplink sets.

### Interconnect Settings

---

Fast MAC cache failover	<input checked="" type="checkbox"/>	
MAC refresh interval	<input style="width: 80px;" type="text" value="5"/>	seconds
IGMP snooping	<input type="checkbox"/>	
IGMP idle timeout interval	<input style="width: 80px;" type="text" value="260"/>	seconds
Loop protection	<input checked="" type="checkbox"/>	
Pause flood protection	<input checked="" type="checkbox"/>	
LLDP tagging	<input type="checkbox"/>	
LLDP enhanced TLV	<input type="checkbox"/>	

---

### Utilization Sampling

Sample collection	<input checked="" type="checkbox"/>	
Interval between samples	<input style="width: 80px;" type="text" value="120"/>	seconds
Total number of samples	<input style="width: 80px;" type="text" value="300"/>	
Sample collection rate	30.0 samples per hour	
Total sampling history	10:00:00	

Figure 16. Interconnect and utilization settings in HPE OneView



### Server profiles

Here is a simple server profile as shown in the VCM CLI. Virtual Connect shows both the physical and logical serial number and UUID.

```
->show profile BlueProfile
Name : BlueProfile
Device Bay : <Unassigned>
Server : -- --
Status : OK
Serial Number : <Factory-Default> Serial Number [Logical]
Serial Number [Logical] : VCX0000000
UUID : -- --
UUID [Logical] : 02134859-7e4f-4909-a7e7-58474c4743b4
NAG : Default
Hide Unused FlexNICs : true

Ethernet Network Connections
=====
Port Network Name Status PXE MAC Address Allocated
Speed
(min-max)
=====
1 net100 OK UseBIOS 00-17-A4-77-00-02 -- --
2 net200 OK UseBIOS 00-17-A4-77-00-04 -- --

FCoE Connections
=====
Port Connected Name Type Status Allocated WWPN MAC Address
to Bay Speed
(min-max)
=====
1 1 Fab 1 SAN OK -- -- 50:06:0B:00: 00-17-A4-77-
00:C2:62:00 00-00
```

**Figure 17.** Server profile definition in the VCM CLI



Figure 18 shows a similar profile in HPE OneView. The logical serial number and UUID were specified when creating the profile using values copied from the previous Virtual Connect configuration. The MACs and WWNs were entered as the connections were added to the HPE OneView server profile.

The screenshot displays the configuration for a server profile named 'BlueProfile'. It is divided into three main sections: General, Firmware, and Connections.

**General**

- Description: VC Server Profile
- Server profile template: none
- Server hardware: Encl1, bay 3
- Server hardware type: BL460c Gen8.1
- Enclosure group: EG-1
- Affinity: Device bay
- Server power: Off
- Serial number (p): SGH100X8RN
- UUID (p): 37333036-3831-4753-4831-30305838524E
- iSCSI initiator name (v): iqn.2015-02.com.hpe:oneview-f4334c7d-9375-4e9d-a16d-98ab207dff94

**Firmware**

- Firmware baseline: managed manually

**Connections**

Expand all Collapse all

ID	Name	Network	Port	Boot
▶ 1	Network 10	vlan10	FlexibleLOM 1:2-a	managed manually
▶ 2	Fab2	Fabric attach	Mezzanine 2:1	managed manually
▶ 3	Fabric1	Fabric attach	FlexibleLOM 1:1-b	managed manually

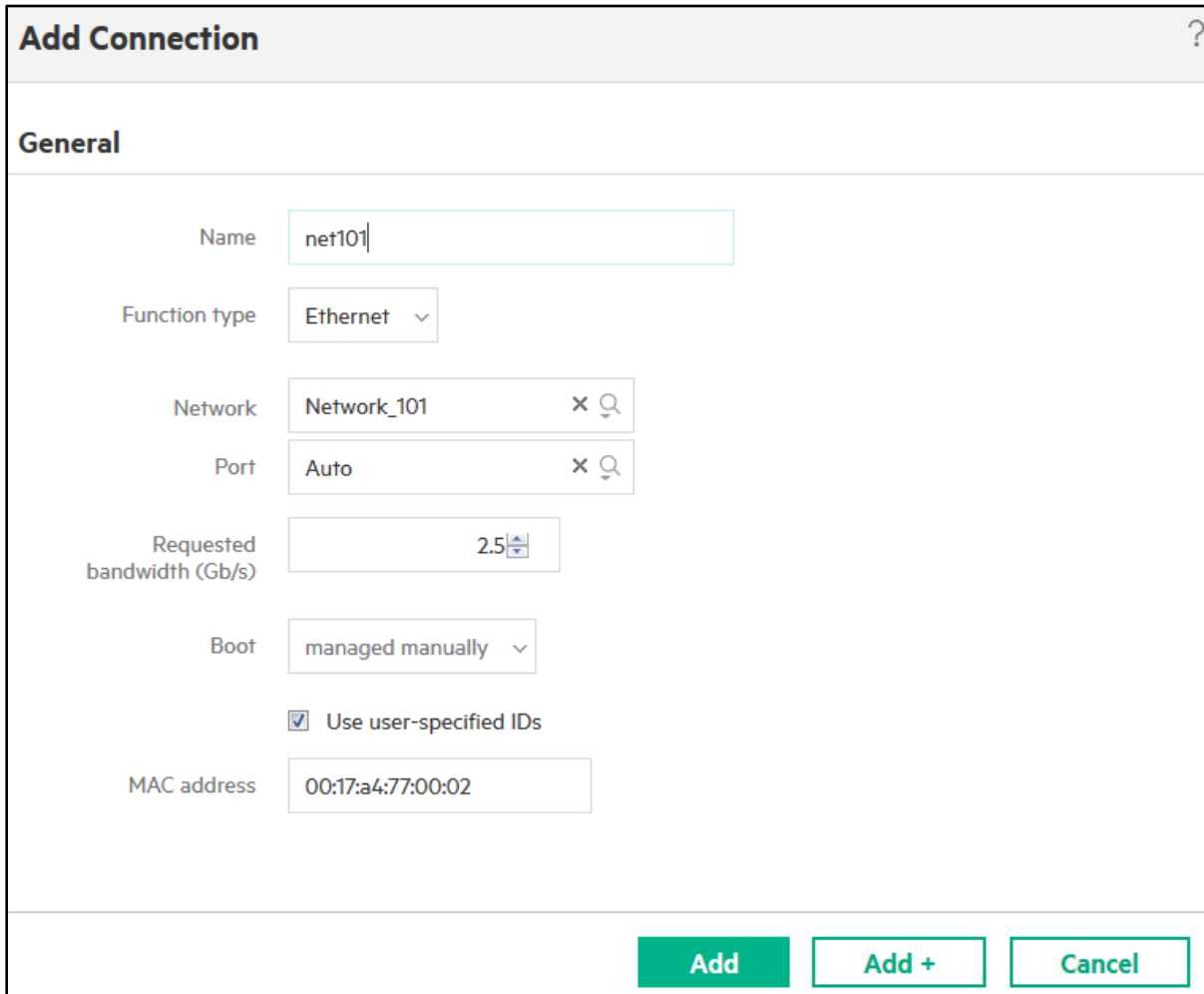
Figure 18. Server profile definition in HPE OneView

When assigning connections to a server profile in HPE OneView, you can select the FlexNIC to which the connection will be assigned, or you can select Auto and let HPE OneView designate the FlexNIC. When migrating from Virtual Connect, the FlexNIC assignments in HPE OneView are specified in order to match the ordering that was present in Virtual Connect.

HPE OneView does not support server profile connections that do not have a specific network or fabric assigned. When unassigned connections are present, they will be listed as warnings or blocking issues in the compatibility report.



Figure 19 shows an example of adding a connection to a server profile in HPE OneView with the FlexNIC assignment and user-defined MAC address entered.



**Add Connection** ?

**General**

Name:

Function type:

Network:  × 🔍

Port:  × 🔍

Requested bandwidth (Gb/s):

Boot:

Use user-specified IDs

MAC address:

**Figure 19.** A server profile Ethernet connection definition in HPE OneView



Figure 20 shows an example of adding an FCoE connection to a server profile in HPE OneView with the FlexNIC assignment and user-defined MAC, WWPN, and WWNN fields.

The screenshot shows the 'Add Connection' dialog box in HPE OneView. The 'General' tab is active. The 'Name' field contains 'Database1'. The 'Function type' dropdown is set to 'Fibre Channel'. The 'Network' field contains 'Fabric1'. The 'Port' field contains 'Auto'. The 'Requested bandwidth (Gb/s)' dropdown is open, showing 'Auto' selected and 'None' as an option. The 'Boot' dropdown is set to 'managed manually'. There is a checked checkbox for 'Use user-specified IDs'. Below this are three empty input fields for 'WWPN', 'WWNN', and 'MAC address'. At the bottom of the dialog are three buttons: 'Add', 'Add +', and 'Cancel'.

**Figure 20.** A server profile FCoE connection definition in HPE OneView

If your domain was managed by VCEM and you have exported the profile configuration to a CSV file, you can reference that file to check server profiles in HPE OneView using matching settings for profile names, bay assignments, connections, MACs, and WWNs.

### Ethernet boot parameters

Virtual Connect Manager supports setting PXE boot parameters and enabling/disabling PXE boot on server profiles. VCM provides the following PXE boot options:

- Use BIOS (default)—PXE boot settings are not configured by VCM. BIOS settings are used.
- Enabled—The port is enabled for PXE boot.
- Disabled—The port is disabled for PXE boot.

HPE OneView provides the following boot options on Ethernet connections:

- Not Bootable—The port is disabled for boot.
- Primary—The port is enabled for boot and is first in the boot order.
- Secondary—The port is enabled for boot and is second in the boot order.



HPE OneView does not support mixing connections configured to “Use BIOS” and connections configured to enable or disable boot together in the same profile.

---

**Important**

Both VCM and HPE OneView can use either an untagged network or tagged VLAN from which the server can boot. This means that the upstream switch must be configured to handle whichever type of network is selected for booting.

---

**Fibre Channel boot parameters**

Virtual Connect Manager supports setting Fibre Channel boot parameters and enabling/disabling Fibre Channel boot on server profiles. VCM provides the following SAN boot options for either Fibre Channel or Fibre Channel over Ethernet connections:

- Use BIOS/EFI (default)—SAN boot settings are not configured by VCM. BIOS settings are used.
- Primary—The port is enabled for SAN boot and is first in the boot order.
- Secondary—The port is enabled for SAN boot and is second in the boot order.
- Disabled—The port is disabled for SAN boot.

HPE OneView provides the following SAN boot options for Fibre Channel connections. The “Use BIOS” option is not supported on Fibre Channel connections.

- Primary—The port is enabled for SAN boot and is first in the boot order.
- Secondary—The port is enabled for SAN boot and is second in the boot order.
- Not Bootable—The port is disabled for SAN boot.



### HPE OneView boot order

HPE OneView provides control over the boot order for server profiles as shown in Figure 21. This is an enhancement which is not available in Virtual Connect.

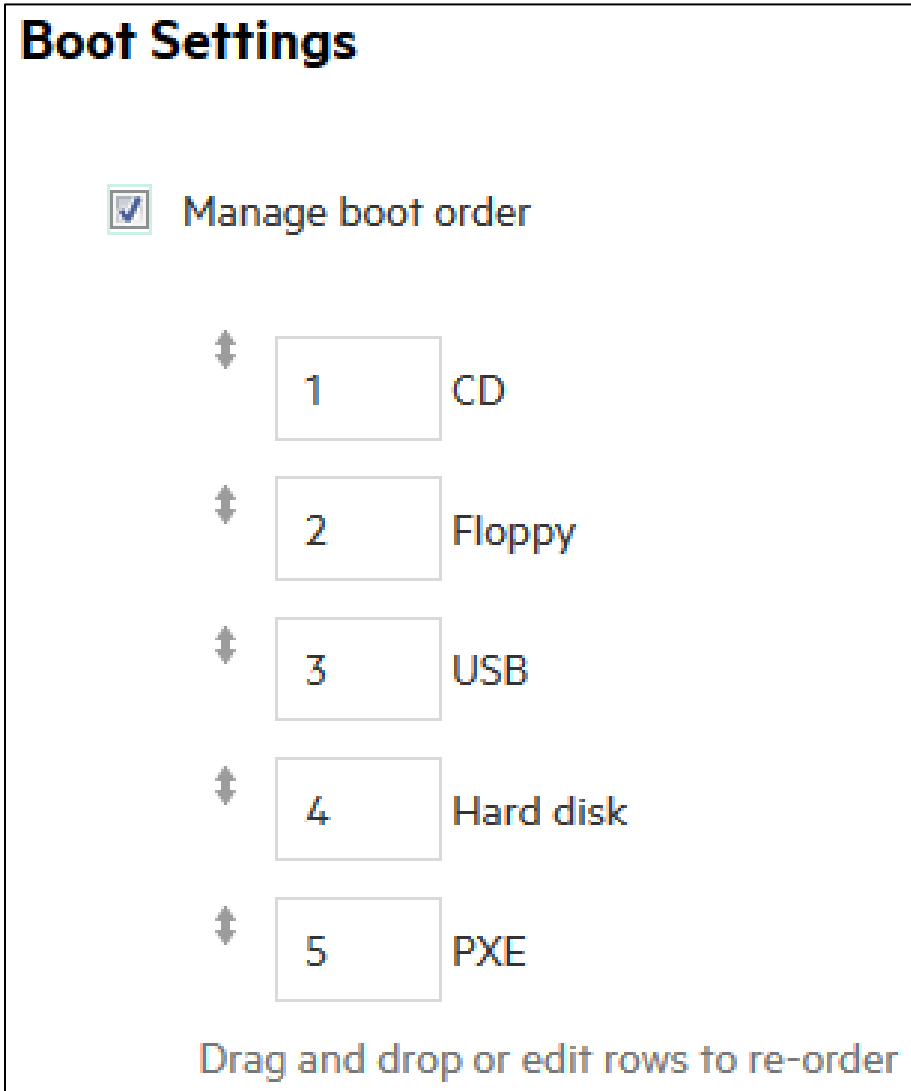


Figure 21. Profile connection definition in HPE OneView



## User roles and privileges

Figure 22 from the VCM web UI shows four different local users corresponding to the four VCM administrative roles.

Username	Roles	Role Operations	Full Name	Contact info	Account Status	Action
<input type="checkbox"/> Administrator	Domain, Network, Storage, Server	Firmware Update (VCSU), Restore Domain Configuration, Save Domain Configuration, Export Support Files, Port Monitoring			Enabled	<a href="#">Edit</a> ▼
<input type="checkbox"/> SamStorage	Storage				Enabled	<a href="#">Edit</a> ▼
<input type="checkbox"/> NormNetwork	Network	Port Monitoring, Export Support Files			Enabled	<a href="#">Edit</a> ▼
<input type="checkbox"/> SandraServer	Server	Port Monitoring			Enabled	<a href="#">Edit</a> ▼

Figure 22. User roles and privileges in VCM

The HPE OneView Infrastructure administrator account corresponds to the VCM Administrator account and the network and server administrator accounts correspond to VCM accounts and are shown in Figure 23.

Name	Role
administrator	Infrastructure administrator
NormNetwork	Network administrator
SandraServer	Server administrator

<b>administrator</b>	
Login name	administrator
Full name	Default appliance administrator
Role	Infrastructure administrator
Contact	
Email	unset
Office phone	unset
Mobile phone	unset

Figure 23. User accounts in HPE OneView





## Separating a multi-enclosure stacked domain into single enclosure domains

HPE OneView does not support multi-enclosure stacked domains. It is possible to remove enclosures from a multi-enclosure domain to form single enclosure domains which can be migrated into HPE OneView. The procedure to separate the enclosures differs slightly depending on whether Virtual Connect Enterprise Manager is managing the multi-enclosure domain.

### Separating enclosures when VCEM is in use

1. Backup the CMS database including VCEM information.
2. Remove the multi-enclosure stacked domain from the VC domain group containing it.
3. Backup the VCM configuration.
4. Reconfigure cabling and uplinks to prepare for separating the stack and ensure that all enclosures have uplinks for all networks and fabrics.
5. Un-assign profiles from the remote enclosure(s) in the multi-enclosure stacked domain. The profiles will remain in VCEM and will be assigned when the single enclosure domain is brought into a new VC domain group.
6. Remove the remote enclosure(s) from the VC domain and remove the stacking cables connecting the base and remote enclosures.
7. Import the base enclosure into a new VC domain group.
8. Import the remote enclosure(s) into same VCEM domain group as the base enclosure. VCEM will push the network and fabric configuration to the formerly remote enclosure(s) when brought into the VC domain group.
9. Re-assign profiles back to servers in the newly added enclosure(s).
10. Remove each domain from the new domain group and backup the VCM configuration.
11. Migrate each of the newly created single enclosure domains into HPE OneView.

### Separating enclosures when VCEM is not in use

1. Use the VCM CLI `show config -includepoolinfo` command to capture the existing VCM domain configuration and take a VCM backup.
2. Reconfigure cabling and uplinks to prepare for separating the stack and ensure that all enclosures have uplinks for all networks and fabrics.
3. Un-assign profiles from the remote enclosure(s) in the multi-enclosure stacked domain.
4. Remove the remote enclosure(s) from the VC domain and remove the stacking cables connecting the base and remote enclosures.
5. Create individual domains on the now-separated enclosures.
6. Use applicable portions of the script produced from the `show config -includepoolinfo` command to duplicate the base enclosure uplink, fabric and network configuration into the newly created domains.
7. Use applicable portions of the `show config -includepoolinfo` output to recreate profiles with user-defined MAC and WWNs for profile connections in the individual domains.
8. Assign profiles to the correct server bays.
9. Migrate each of the newly created single enclosure domains into HPE OneView.



## Migrating a partially stacked domain

Partially stacked Virtual Connect domains can be migrated into HPE OneView. The previous manual process is no longer required.

## HPE OneView and Virtual Connect operations

HPE OneView consolidates configuration, firmware management, backup/restore, and monitoring functions which were provided by separate tools in the Virtual Connect management environment.

### Virtual Connect management

HPE OneView replaces Virtual Connect Manager and Virtual Connect Enterprise Manager when the enclosure is migrated into HPE OneView. Virtual Connect Manager is no longer available and cannot be logged into once the enclosure is managed by HPE OneView.

### Firmware management

HPE OneView makes it easy to manage firmware reliably and quickly across your [data center](#). It replaces separate tools such as the Virtual Connect Support Utility (VCSU) for managing Virtual Connect firmware. The HPE OneView online help provides more information on firmware management using HPE OneView.

### Configuration backup and restore

HPE OneView provides services to create a backup file of the HPE OneView appliance and to restore the appliance from a backup file. The backup file is a point in time snapshot of the appliance configuration and management data. This replaces separate tools for backing up SIM/VCEM and Virtual Connect configuration information. The HPE OneView online help has details on what information is contained in the backup file. While it is possible to create a snapshot of the virtual machine hosting the HPE OneView appliance this is not recommended. Virtual machine backups introduce the risk of duplicate MACs and WWNs if the appliance is restored to a point in the past relative to the configuration that is currently deployed on the interconnects managed by HPE OneView.

### Health, performance, and monitoring

Adding resources to the appliance automatically configures them for monitoring. The appliance is registered to receive SNMP traps and you can monitor resources without any additional configuration or discovery. HPE OneView integrates with iLO agentless monitoring in [HPE ProLiant Gen8 servers](#) to report problems with core server components.

## Automated migration process

HPE OneView 1.20 introduced a migration feature allowing Virtual Connect domains to be migrated automatically into HPE OneView management while retaining domain and server profile settings such as MACs and WWNs. The domain is checked for compatibility. A compatibility report is generated listing all issues that the administrator must resolve before the domain can be imported. Once the issues are resolved, the domain can be brought under HPE OneView management. The HPE OneView online help and HPE OneView User Guide contain more details on using the automated migration process. The Figure 24 illustrates the automated migration workflow.

HPE OneView 3.00 introduced support for in-service migrations. This allows servers to remain powered on during the migration from Virtual Connect Manager to HPE OneView management. The servers being migrated should be configured with redundant interconnect modules and connectivity to avoid network or storage interruptions as the interconnect modules are reconfigured and activated. The overall time required for in-service migration is longer than required for offline migration. This is because in-service migration activates each interconnect module separately with a delay between modules. In contrast, offline migration activates all interconnect modules simultaneously. With in-service migration, some setting changes such as BIOS and SR-IOV settings will be applied during the next server reboot. HPE OneView proceeds with in-service migration if servers in the enclosure are powered on. If all servers in the enclosure are powered off, HPE OneView will perform an offline migration. Review Customer Advisory (c05384185) [h20565.www2.hpe.com/hpsc/doc/public/display?sp4ts.oid=5410258&docLocale=en\\_US&docId=emr\\_na-a00003643en\\_us](https://www2.hpe.com/hpsc/doc/public/display?sp4ts.oid=5410258&docLocale=en_US&docId=emr_na-a00003643en_us) to determine if iLO NAND problems might adversely affect in-service migration of the c-Class environment.

Another enhancement in HPE OneView 3.00 and later allows up to four Virtual Connect domains to be migrated semi-simultaneously into HPE OneView. After the compatibility check has completed and the logical interconnect group, enclosure group, networks, network sets, and server profiles have been created for the first domain being migrated, the compatibility check and migration of a second enclosure can be initiated while HPE OneView completes adding the previous enclosure and assigning its profiles. This is covered in more detail in the HPE OneView online help and user guide.



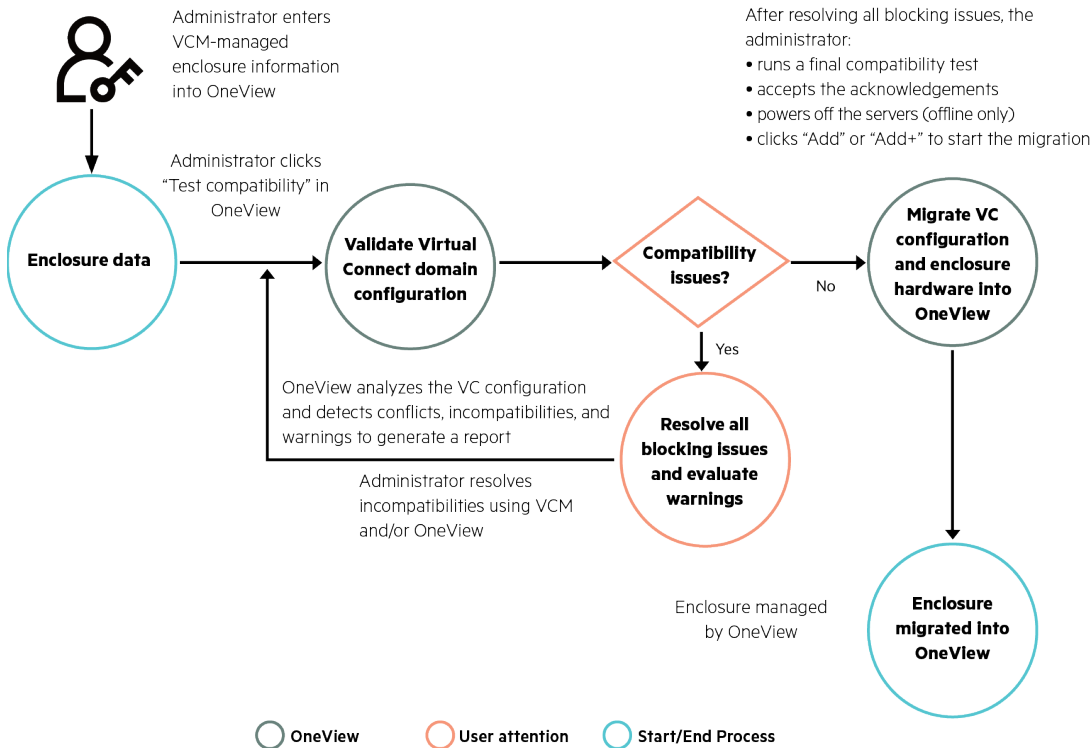


Figure 24. Migration from VCM to HPE OneView

1. Identify the Virtual Connect domains to be transitioned to HPE OneView management and gather OA, iLO, and VCM configuration information, including a current Virtual Connect domain backup and the output of `show config -includepoolinfo` as described above.
2. If the Virtual Connect domain is currently managed by VCEM, use the VCEM CLI to export profile information as described above. Then use the VCEM web UI to remove the domain from the Virtual Connect domain group. Or use the HPE OneView PowerShell module to remove the domain from the Virtual Connect domain group. When the last domain is removed from the domain group, any remaining unassigned profiles in the domain group will be pushed to this domain.
3. Install and configure the HPE OneView appliance as outlined in the following steps if you have not already done so. If the HPE OneView appliance is already configured and running, proceed to step 4 to import the enclosure to HPE OneView.
  - A. Proceed through the HPE OneView first-time setup.
  - B. Verify that the HPE OneView firmware baseline (SPP file) is current and update it if necessary.
  - C. Define HPE OneView users, using the user information from VCM if appropriate.
4. Select the option to "Migrate from Virtual Connect domain" in the "Add Enclosure" dialog.
5. Enter the OA IP address, username, and password. Select the enclosure group and the appropriate license.
6. Enter the VCM address and credentials.
7. Check the compatibility and resolve any issues from the compatibility report. The HPE OneView online help and the HPE OneView User Guide have more information on the compatibility report and resolving the issues that are reported.
8. Optionally, power off the servers in the Virtual Connect domain if you want to perform an offline migration. Leave the servers powered on if you want to perform an in-service migration.
9. Read and accept the migration acknowledgements and click Add or Add+ to perform the migration.
10. If completing an offline migration, power on the servers once the enclosure is managed by HPE OneView.



## Appendix A—Terminology and concepts

The HPE Virtual Connect family of BladeSystem c-Class interconnects provides IT administrators with the simplest way to define the connectivity of servers supporting the business. HPE OneView is the next generation of infrastructure lifecycle management software. HPE OneView replaces multiple HPE management tools with a single platform designed for HPE BladeSystem today and HPE ProLiant rack mount servers, HPE Storage, and HPE Networking in the future.

### Virtual Connect

HPE Virtual Connect was initially introduced to simplify server connection management, provide cable reduction, and bring down the siloes between server, storage, and network administrators. It enables users to rapidly change and deploy server connectivity.

Designed for the HPE BladeSystem c-Class enclosures and servers, Virtual Connect is a set of hardware and software components including Virtual Connect interconnect modules and embedded VCM software. Virtual Connect simplifies the setup and administration of server connections. VCM is embedded on VC-Enet modules and is accessible through a web-based GUI or CLI. The Onboard Administrator provides a web link to the VCM GUI. The VCM CLI can be accessed remotely through any SSH session or through the Onboard Administrator CLI.

Virtual Connect was designed for high availability and business continuity. It provides redundant network connectivity, active loop prevention resiliency and near zero downtime during firmware update orchestration. HPE Virtual Connect Manager was designed for active failover, similar to all other high availability features of HPE BladeSystem c-Class, with its modular, hot-plug architecture.

Virtual Connect provides a standards based environment which makes the enclosure edge look like server connections thereby allowing full interoperability with the traditional network equipment vendors. Built on industry best security practices, Virtual Connect provides strong security across management interfaces with support for SSL and SSH, role-based user authorization across local accounts, LDAP, RADIUS, and TACACS+.

Virtual Connect preserves server connectivity attributes while the server itself remains stateless. This means getting servers online from a new bare metal server is quick and easy.

In addition to the traditional LAN and SAN connectivity, Virtual Connect provides all of the benefits of converged infrastructure by reducing the number of NICs, HBAs and switches required in the traditional blade and rack mount environments.

The following sections describe aspects of a Virtual Connect environment that correspond to the new configuration which will be created in HPE OneView.

### Domain

A basic Virtual Connect domain contains a single c7000 enclosure (or a single c3000 enclosure) and the blade servers and Virtual Connect interconnect modules in the enclosure. Up to four c7000 enclosures can be stacked into a single Virtual Connect domain. By stacking (cabling) the Virtual Connect Ethernet modules together within the domain, every server blade in the domain can be configured to access any external Ethernet network connection through any of the configured uplinks on any Virtual Connect Ethernet module in the domain.

Virtual Connect domains define network reachability as well as a management context for VCM. Some of the key properties of Virtual Connect domains are:

- Some or all Ethernet capable interconnect modules must be interconnected using either an external cable or via the internal links between each pair of horizontally adjacent modules, depending on the domain stacking mode.
- All Ethernet capable interconnect modules must be members of the same Virtual Connect domain in order to form stacking links.
- In full stacking mode, all Ethernet networks are provisioned to all interconnects that are members of the domain.
- FC and FCoE network traffic is not sent across stacking links and will directly egress each interconnect module.
- The Virtual Connect domain presents a global set of configuration attributes that are applied to all interconnect modules as a set. This includes Ethernet configuration settings such as IGMP snooping, loop prevention, fast MAC Cache Fail-over and port monitoring. Other globally configured settings include SNMP configuration.
- All BladeSystem c-Class enclosures within a Virtual Connect domain must be identically configured with all interconnects in the same location.



## Logical interconnect

Describes the available networks, uplink sets, and stacking links for the interconnect modules in a Virtual Connect domain. In full stacking mode there is a single logical interconnect containing all the interconnect modules. In horizontal stacking configurations, horizontally adjacent interconnect modules form logical interconnects. In primary slice stacking configuration, only the primary and standby interconnect modules for the enclosure form a logical interconnect.

## Networks

Networks (vNets) are logical objects within a Virtual Connect domain defining Ethernet connectivity for the servers to the data center infrastructure.

There are four basic types of Ethernet networks within Virtual Connect Domains:

1. Dedicated untagged network. This is a single network that does not support VLAN tagged traffic. The customer network to which it is connected will not be VLAN tagged either.
2. Dedicated VLAN tunnel network. This is a single network that passes both OS-tagged and untagged frames through VC interconnects without modification.
3. VLAN tagged network. This type of network carries VLAN tagged packets as part of the VLAN trunk on the uplink ports or downlink ports.
4. FCoE network. This type of network carries VLAN tagged packets and contains elements of both SAN Fabrics and Ethernet Networks. Traffic from FCoE networks does not traverse stacking links.

## Shared Uplink Set (SUS)

A Shared Uplink Set identifies a grouping of Virtual Connect-Ethernet module uplinks that can carry multiple networks over the same cable or set of cables. In this case, each Ethernet packet carries a VLAN tag (IEEE 802.1Q) to identify the specific network to which it belongs. A single network on the Shared Uplink Set can be designated as Native allowing untagged packets received on this Uplink Set to be placed onto this network. However, all traffic leaving the VC enabled enclosure will always be VLAN tagged.

## Fabric

Fabrics are logical objects within Virtual Connect domain defining Fibre Channel connectivity for the servers to the data center infrastructure. Virtual Connect uplink ports that are part of the Fabric present themselves as N\_Ports to the data center switches.

## Server profile

Virtual Connect supports rapid server deployment with the ability to pre-provision server connectivity for the entire BladeSystem c-Class enclosure in advance of the actual server hardware delivery. With the ability to stack multiple enclosures, server connectivity resources and workloads can be moved within a single enclosure, between enclosures and anywhere in the data center in case of a server failure. Through server profiles, VCM not only provisions server connectivity attributes, but also ensures that server UUIDs, MAC addresses, WWNs, and server boot parameters move with the profile, presenting a cost-effective solution for rapid system recovery or for reassigning server workloads.

## Users and privileges

Virtual Connect offers multiple methods for user authentication and authorization with role-based access permissions ranging from read-only to full domain administrator. Other role permissions include: network, server, and storage administrator. These permissions allow separate administrators to control different aspects of the Virtual Connect configuration. VCM allows some operations within Virtual Connect domain, such as exporting support files or upgrading firmware, to be delegated to any of the four roles.

## Virtual Connect Enterprise Manager

VCEM centralizes network connection management and workload mobility for HPE BladeSystem servers that use Virtual Connect to access LANs, SANs, and converged network environments. VCEM helps organizations increase productivity, respond faster to workload and infrastructure changes, and reduce operating costs. Built on the Virtual Connect architecture integrated into every HPE BladeSystem c-Class enclosure, VCEM provides a central console to administer network address assignments, perform group-based configuration management, and to rapidly deploy, move, and failover server connections and workloads for multiple Virtual Connect Domains.

The following sections describe the concepts of Virtual Connect domain groups and the user and privilege settings available in VCEM and Insight Management.



**Domain group**

Is a logical collection of Virtual Connect domains with a common network and storage configuration.

**Users and privileges**

The privileges assigned to a VCEM account control the operations which the account can perform on VCEM resources such as domain groups and server profiles. VCEM supports read-only access and four administrative roles. The roles are VCEM Group Limited Operator, VCEM Domain Group Operator, VCEM Domain Group Administrator, and VCEM Administrator.

**HPE OneView**

The HPE OneView appliance provides several software-defined resources, such as groups and server profiles, enabling you to capture the best practices of your experts across a variety of disciplines, including networking, storage, hardware configuration, and operating system build and configuration. By having your experts define the server profiles and the networking groups and resources, you can eliminate cross-silo disconnects. You can enable system administrators to provision and manage thousands of servers without requiring that your experts be involved with every server deployment.

The following sections describe the software-defined resources you'll work with when transitioning from Virtual Connect Manager to HPE OneView.

**Domain**

The HPE OneView domain refers to all the resources managed by a single HPE OneView appliance. While the HPE OneView UI does not display domains it is helpful to understand the distinction between the HPE OneView notion of domains and that of domains in VCM. Information about HPE OneView domain resources is available through the [REST API](#).

**Logical interconnect**

Describes the available networks, uplink sets, and stacking links for the interconnect modules in a single c7000 enclosure. This is the Virtual Connect configuration that is deployed from the logical interconnect group.

**Logical interconnect group**

A collection of logical interconnects that have the same configuration of stacking, firmware, uplink sets, and uplink definitions. If the settings for the logical interconnect group are changed, or settings for a logical interconnect contained in the group are changed, HPE OneView flags the logical interconnect as inconsistent with its logical interconnect group. You can use the Update from group action on the logical interconnect to bring it back into compliance with the settings for the logical interconnect group. The logical interconnect group serves as a template for the Virtual Connect configuration of the group members.

**Interconnect**

Interconnects provide communication between the server hardware in the enclosure and data center networks. An interconnect is the physical I/O module and corresponds to a Virtual Connect module in the enclosure.

**Enclosure group**

An enclosure group represents a set of similarly configured c7000 enclosures and references one or more logical interconnect groups used for defining and maintaining logical interconnects.

**Server profile**

Defines the personality assigned to a server that includes firmware baseline, BIOS settings, network connectivity, boot configuration, iLO settings, and unique IDs.

**Network**

Ethernet or Fibre channel connections to data center infrastructure.

**Network set**

A collection of Ethernet networks identified with a single name. Network sets can be specified when adding connections to a server profile. Changes to the network set will take effect for all profiles using the set rather than requiring changes to be made to each individual profile.

**Users and privileges**

HPE OneView user accounts can be assigned full or specialized privileges. Accounts with Infrastructure administrator privilege can view, create, edit, or remove resources managed by the appliance, including management of the appliance itself through the UI, REST API or command line. The Infrastructure administrator can also manage information provided by the appliance in the form of activities, notifications, and logs. HPE OneView provides specialized roles which can restrict the account to Read only, Backup administrator, Network administrator or Server administrator permissions.



## Appendix B—Tools for automating HPE OneView configuration

In addition to the HPE OneView web UI described above, HPE OneView provides an extensive REST API which can perform any of the operations available through the HPE OneView UI. The HPE OneView online help has complete details on scripting with the HPE OneView REST API.

To automate the provisioning of HPE OneView, HPE provides a collection of libraries for Windows® PowerShell, Python, and sample scripts.

### Windows PowerShell scripted migration process

The PowerShell library for HPE OneView 1.2.0 introduced a cmdlet that enables scripted migrations of Virtual Connect domains managed by Virtual Connect Manager (VCM) and Virtual Connect Enterprise Manager (VCEM). The cmdlet, “Invoke-HPOVVCmMigration” makes the necessary API calls to VCM and/or VCEM to migrate the domain configurations into HPE OneView. In a PowerShell window, execute the command “Get-Help Invoke-HPOVVCmMigration-full” for help and examples on using the cmdlet to script VC domain migrations into HPE OneView as shown here. Visit [hewlettpackard.github.io/POSH-HPOneView/](http://hewlettpackard.github.io/POSH-HPOneView/) to download the latest PowerShell for HPE OneView.

```
[HPONEVIEW]: [Not Connected] PS C:..\HPOV1.20.0112.0> Get-Help Invoke-HPOVVCmMigration
```

NAME

```
Invoke-HPOVVCmMigration
```

SYNOPSIS

```
Migrate Virtual Connect Manager to HP OneView.
```

SYNTAX

```
Invoke-HPOVVCmMigration [-OAIPAddress] <String> [-OAUserName] <String>
[-OAPassword] <String> [-VCMUserName] <String> [-VCMPassword] <String>
[[-EnclosureGroup] [<Object>]] [[-LogicalInterconnectGroup] [<Object>]]
[-licensingIntent] <String> [-Nowait [<SwitchParameter>]] [-WhatIf
<SwitchParameter>]] [-Confirm [<SwitchParameter>]] [<CommonParameters>]
Invoke-HPOVVCmMigration [-OAIPAddress] <String> [-OAUserName] <String>
[-OAPassword] <String> [-VCMUserName] <String> [-VCMPassword] <String>
[[-EnclosureGroup] [<Object>]] [[-LogicalInterconnectGroup] [<Object>]]
[-licensingIntent] <String> [-VCEMCMS] <String> [-VCEMUser] <String>
[-VCEMPassword] <String> [-WhatIf [<SwitchParameter>]] [-Confirm [<SwitchParameter>]] [<CommonParameters>]
Invoke-HPOVVCmMigration [-OAIPAddress] <String> [-OAUserName] <String>
[-OAPassword] <String> [-VCMUserName] <String> [-VCMPassword] <String>
[[-EnclosureGroup] [<Object>]] [[-LogicalInterconnectGroup] [<Object>]]
[-licensingIntent] <String> [-VCEMCMS] <String> [-VCEMUser] <String>
[-VCEMPassword] <String> -Report <SwitchParameter> [-Export [<String>]]
[-WhatIf [<SwitchParameter>]] [-Confirm [<SwitchParameter>]] [<CommonParameters>]
```

DESCRIPTION

This function is used to migrate an existing Virtual Connect Manager configuration to HP OneView. If an enclosure was added to an HP OneView appliance as Monitor-Only, then you must first remove the enclosure from the appliance, and then use this cmdlet to migrate the enclosure.

Using the -VCEMCMS, -VCEMUser and -VCEMPassword parameters, the targeted Virtual Connect Domain can be removed from a Virtual Connect Enterprise Manager Domain Group first before initiating the VC Migration tool within the HPE OneView appliance.

The required VCEM 7.3/7.4 Patch is available here: <ftp://ftp.hp.com/pub/softlib2/software1/pubsw-generic/p270829882/v106568>.

VCEM 7.4.1 or greater users do not require the patch to be installed, as the API is built into 7.4.1 or greater.



It is important to also have a Virtual Connect Domain Backup prior to migration. You may also want to gather the output from the 'show config -includepoolinfo' VCM CLI command to review or verify resources were migrated successfully.

Please read 'Chapter 9 Planning for enclosure migration from VCM into HPE OneView' in the HPE OneView 1.20 User Guide for more information about migration and other planning resources.

#### RELATED LINKS

Get-HPOVEnclosure

Add-HPOVEnclosure

Update-HPOVEnclosure

Remove-HPOVEnclosure

Online: [github.com/HewlettPackard/POSH-HPOneView/wiki/Invoke-HPOVVcmMigration](https://github.com/HewlettPackard/POSH-HPOneView/wiki/Invoke-HPOVVcmMigration)

#### REMARKS

To see the examples, type: "get-help Invoke-HPOVVcmMigration -examples".

For more information, type: "get-help Invoke-HPOVVcmMigration -detailed".

For technical information, type: "get-help Invoke-HPOVVcmMigration -full".

For online help, type: "get-help Invoke-HPOVVcmMigration -online"

The HPE OneView PowerShell Library is available for download from [hewlettpackard.github.io/POSH-HPOneView/](https://hewlettpackard.github.io/POSH-HPOneView/) along with documentation and examples.

## Appendix C—Manual migration process

The automated migration procedures described above are strongly preferred over manual migration. The following steps describe the manual process of migrating an existing Virtual Connect domain into HPE OneView. Manual migration is an offline process.

1. Identify the Virtual Connect domains to be transitioned to HPE OneView management and gather OA, iLO, and VCM configuration information, including a current Virtual Connect domain backup as described above.
2. If the Virtual Connect domain is currently managed by VCEM, use the VCEM CLI to export profile information as described above. Then use the VCEM web UI to remove the domain from the Virtual Connect domain group. When the last domain is removed from the domain group, any remaining unassigned profiles in the domain group will be pushed to this domain.
3. Install and configure the HPE OneView appliance as outlined in the following steps if you have not already done so. If the HPE OneView appliance is already configured and running, proceed to step 7 to import the enclosure to HPE OneView.
  - A. Proceed through the HPE OneView first-time setup.
  - B. Verify that the HPE OneView firmware baseline (SPP file) is current and update it if necessary.
  - C. Define HPE OneView users, using the user information from VCM if appropriate.
  - D. Define HPE OneView Ethernet and Fibre Channel networks using the information gathered from the VCM CLI show commands described earlier.
  - E. Define network sets for commonly used groups of Ethernet networks, where appropriate.
  - F. Define a logical interconnect group including uplink sets matching the interconnect modules installed in the Virtual Connect enclosure(s) you will import to HPE OneView. The Virtual Connect domain groups defined in the existing VCEM configuration can provide an example of how enclosures can be grouped into enclosure groups in HPE OneView.
  - G. Define SNMP traps and the SNMP access configuration for the logical interconnect group using information from the VCM CLI show commands captured earlier.
  - H. Configure the advanced Network Settings for the logical interconnect group: Fast MAC Cache Fail-over, IGMP snooping, pause flood and loop protection.
  - I. Set the utilization sampling rates for the logical interconnect group.
  - J. Take a backup of the HPE OneView appliance.





4. Verify that all information (including a current Virtual Connect domain backup) has been gathered as described above in steps 1 and 2. The domain backup will be used in the event that you need to revert the domain back to Virtual Connect management for any reason in the future.
5. Then, and only then, power off all servers in the target enclosure and delete the Virtual Connect domain. The Virtual Connect domain must be deleted before OneView can import the enclosure. Attempts to import the enclosure without having deleted the domain will fail.

---

**Important**

The servers in the enclosure will be unavailable once they have been powered off and the domain is deleted until the enclosure has been imported into HPE OneView, profiles created and assigned to the servers, and they have been powered up.

---

6. If this was a multi-enclosure domain, remove the stacking cables which connect the Virtual Connect modules that are in separate enclosures. Any vertical stacking cables between modules installed together in a common enclosure should be left in place (such as cables between VC Ethernet modules which are not horizontally adjacent in the enclosure). Install any additional stacking cables to each enclosure as documented in the **Virtual Connect Setup and Install Guide** to ensure that modules in each imported enclosure will be redundantly connected.
7. Perform the following steps for each enclosure being transitioned to HPE OneView management.
  - A. Ensure that the enclosure firmware is at least at the minimum level supported by HPE OneView.

These requirements are listed in the **HPE OneView Support Matrix**.
  - B. Determine whether the enclosure should be associated with an existing enclosure group or if a new enclosure group should be created for it. This depends on the similarity of the configuration of the enclosure being imported with the configurations of any existing enclosure groups already managed by HPE OneView.
  - C. Determine whether the enclosure should be associated with an existing logical interconnect group or if a new logical interconnect group should be added. This depends on the similarity of the configuration of the enclosures being imported with the configurations of any existing logical interconnect groups already created in the HPE OneView appliance.
  - D. Add the enclosure into the HPE OneView appliance. VCM will be disabled when the enclosure is added into HPE OneView. The VCM web UI and VCM CLI interfaces are not available once the enclosure is managed by HPE OneView.
  - E. Designate the enclosure group and logical interconnect group for the enclosure.
  - F. HPE OneView will automatically update the OA, servers' BIOS, and iLOs to the firmware version defined as the baseline or to the minimum required by HPE OneView, if no baseline has been set. Virtual Connect interconnect firmware is managed separately via the logical interconnect. Navigate to the logical interconnect and use the Update firmware action to update the Virtual Connect interconnect firmware.
  - G. Define server profiles.
    - i. Use the logical serial number and logical UUID information gathered from the previous Virtual Connect environment when creating profiles if applicable. Enter this information in the profile's advanced settings. The logical serial number and logical UUID cannot be changed once they have been set on a profile.
    - ii. There are three alternatives for managing MAC and WWN information in HPE OneView. Which approach is best for your environment depends on whether you want to recreate HPE OneView server profiles with the identical MAC and WWN settings from your Virtual Connect environment, or whether you want HPE OneView to assign MACs and WWNs from either an auto generated or a customer defined pool of addresses.
      - a. If you want to reuse MAC and WWN values from your Virtual Connect profiles in HPE OneView profiles, add connections with user-specified IDs. You can use the address information captured from the previous Virtual Connect Domain show commands or from the CSV export of profiles from the VCEM CLI if applicable. Addresses cannot be edited once the connection has been created for the profile.
      - b. If you want HPE OneView to assign addresses to connections from a Virtual Connect pool of addresses, define custom address ranges in HPE OneView matching the address ranges used in the previous Virtual Connect environment. Add connections to profiles relying on the range settings to assign the connection address rather than assigning addresses manually for each connection.



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**Note**

There is a slight difference in the HPE OneView algorithm for assigning WWPN and WWNN values from the Virtual Connect algorithm. HPE OneView allocates the WWPN as the value of the WWNN+1. Virtual Connect uses the reverse order, allocating the WWNN as the value of the WWPN+1.

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- c. You can also use Factory-assigned MACs and WWNs in HPE OneView just as you can in Virtual Connect.
- iii. When assigning connections to a profile in HPE OneView, you can select the FlexNIC to which the connection will be assigned, or you can select Auto and let HPE OneView designate the FlexNIC. When migrating from Virtual Connect, you'll want to select the FlexNIC assignments in HPE OneView in order to match the ordering that was present in Virtual Connect.

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**Note**

HPE OneView doesn't support profile connections without a network assigned to them (appearing as "unassigned" in VCM). These unassigned connections cannot be added to HPE OneView profiles.

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**Note**

Connection settings such as bandwidth and networks can be changed dynamically without powering off the server to which the profile is assigned. Server profiles will display the preferred bandwidth for each connection while the host Operating System will show the maximum allocated bandwidth as specified on the network or network set assigned to the connection.

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- iv. Associate the server profile with the desired firmware baseline.
- H. Power on servers and check connectivity.
- I. If necessary, configure port monitoring.
- J. Take a backup of the HPE OneView appliance.

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**Note**

While it is possible to create a snapshot of the virtual machine hosting the HPE OneView appliance this is not recommended due to the risk of duplicate MACs and WWNs if the appliance is restored to a point in the past relative to the configuration that is currently deployed on the interconnects managed by HPE OneView.

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- 8. Put a process in place which ensures that regular backups are created daily for the HPE OneView appliance. You can also use REST APIs to schedule a backup process from outside the appliance, collect backup files according to your policies and integrate HPE OneView backups with enterprise backup and restore products.



### Additional resources

[hpe.com/info/OneView/Docs](http://hpe.com/info/OneView/Docs)

HPE OneView online help

HPE OneView Release Notes

HPE OneView Support Matrix

HPE OneView Installation Guide

HPE OneView User Guide

HPE OneView REST API Reference

[hpe.com/info/VirtualConnect](http://hpe.com/info/VirtualConnect)

Virtual Connect Command Line User Guide

Virtual Connect Enterprise Manager User Guide

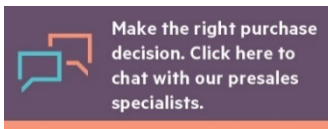
Virtual Connect Enterprise Manager Command Line User Guide

[hewlettpackard.github.io/POSH-HPOneView/](http://hewlettpackard.github.io/POSH-HPOneView/)

[github.com/HewlettPackard/python-hpOneView](https://github.com/HewlettPackard/python-hpOneView)

### Learn more at

[hpe.com/info/oneview](http://hpe.com/info/oneview)



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