

Hitachi Unified Compute Platform (UCP) Advisor

2.8.0

Administration Guide

This document describes the administration process for UCP Advisor 2.8 management software and is intended for VMware administrators who manage Hitachi UCP systems.

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Contents

Preface.....	7
Intended audience.....	7
Product version.....	7
Release notes.....	7
Document conventions.....	7
Conventions for storage capacity values.....	9
Accessing product documentation.....	10
Getting help.....	10
Comments.....	10
Chapter 1: Getting started.....	11
Overview of UCP Advisor.....	11
Features.....	11
UCP Advisor environment.....	13
Supported features and hardware.....	14
Supported software.....	20
UCP Advisor Controller and Gateway VMs.....	21
Supported browser.....	22
Accessing UCP Advisor	22
Chapter 2: Managing storage resources.....	25
Storage system inventory.....	25
Managing datastores.....	26
Provisioning a datastore.....	26
Expanding a datastore.....	29
Mounting and unmounting a datastore.....	31
Deleting a datastore.....	33
Attaching a datastore.....	34
Detaching a datastore.....	37
Remounting a datastore.....	39
Managing parity groups.....	41
Creating a parity group.....	41
Deleting a parity group.....	43
Managing logical units.....	43
Creating a logical unit.....	44

Expanding a logical unit.....	45
Deleting a logical unit.....	45
Creating multiple logical units.....	45
Deleting multiple logical units.....	46
Managing storage pools.....	47
Creating a storage pool.....	47
Expanding a storage pool.....	48
Deleting a storage pool.....	49
Reviewing storage ports.....	49
Managing host groups.....	50
Creating a host group.....	50
Presenting a logical unit to a host group.....	51
Unpresenting a logical unit from a host group.....	52
Presenting a LUN to a VMware ESXi host.....	53
Unpresenting a LUN from a VMware ESXi host.....	53
Adding a WWN to a host group.....	54
Removing a WWN from a host group.....	55
Deleting a host group.....	56
Reviewing replication pairs.....	56
Reviewing resource groups.....	58
Chapter 3: Managing compute nodes.....	60
Compute node inventory.....	60
Modifying a chassis label.....	63
Modifying a server tag.....	64
Managing compute servers.....	64
Replacing a compute server.....	65
Modifying a compute server label.....	66
Upgrading server firmware.....	67
Managing power settings.....	68
Operating locator IDs.....	68
Setting a boot option.....	69
Listing vSAN datastores.....	69
Deploying an ESXi host to a cluster or datacenter.....	71
Chapter 4: Managing switches.....	73
Managing Ethernet switches.....	73
Ethernet switch inventory.....	73
Upgrading Ethernet switch firmware.....	75
Backing up a switch configuration.....	76
Restoring a switch configuration.....	77
Managing Ethernet ports.....	77

Creating and removing a VLAN on an Ethernet switch.....	78
Adding and removing ports from a VLAN.....	79
Synchronizing a VLAN trunk range to an Ethernet switch.....	80
Managing Fibre Channel switches.....	82
Fibre Channel switch inventory.....	83
Upgrading Fibre Channel switch firmware.....	85
Managing Fibre Channel ports.....	86
Managing aliases.....	87
Managing zones.....	88
Managing a zone configuration.....	88
Chapter 5: Administering UCP Advisor.....	90
Renewing an existing license.....	90
Registering a UCP system.....	91
Adding resources.....	94
User permissions.....	94
Automatically adding resources using a CSV file.....	94
Manually adding resources.....	96
Adding a chassis.....	97
Adding a compute node.....	98
Adding a storage system.....	99
Adding a network switch.....	100
Provisioning operating systems.....	101
Creating a new BIOS template.....	101
BIOS template default values.....	103
Creating a new host IP range.....	104
Creating an OS provisioning policy	106
Provisioning servers.....	108
OS provisioning with Hitachi Automation Director workflows.....	109
Managing BIOS templates.....	111
Modifying a BIOS template.....	111
Removing a BIOS template.....	111
Cloning a BIOS template.....	111
Managing host IP ranges.....	112
Modifying a host IP range.....	112
Removing a host IP range.....	112
Managing OS provisioning policies.....	113
Modifying an OS provisioning policy.....	113
Removing an OS provisioning policy.....	113
Configuring the UCP Gateway Host.....	114
Configuring vRealize Orchestrator.....	114
Configuring vRealize Log Insight.....	115

Configuring the VMware vCenter Appliance.....	116
Configuring Hitachi Automation Director.....	117
Running Hitachi Automation Director.....	118
Configuring the SCP Server.....	119
Scheduling the backup of a switch configuration.....	120
Upgrading and applying firmware and patches.....	121
Generating and downloading log files.....	123
Using the UCP Advisor REST API.....	124
Using the UCP Advisor CLI.....	127
Chapter 6: Troubleshooting.....	130
Accepting the SSL certificate in vRLI.....	130
Configuring vRLI.....	130
Troubleshooting UCP Advisor session timeouts.....	131
Troubleshooting UCP Advisor after running the installer.....	132
Troubleshooting vRealize Orchestrator.....	133
Troubleshooting slow performance.....	134
Troubleshooting switch upgrade issues.....	135
Troubleshooting Fibre Channel switch functionality issues.....	135
Manually unregistering UCP Advisor plugins from vCenter.....	136
Appendix A: REST API commands.....	137
Supported REST API commands.....	137

Preface

This document describes the administration tasks for Hitachi Unified Compute Platform (UCP) Advisor 2.8 software.

Intended audience

This document is intended for VMware Administrators who manage Hitachi UCP systems.

Administrators should have storage, networking, server, and virtualization experience.

Product version

This document revision applies to Hitachi UCP Advisor version 2.8.0 or later.

Release notes

Read the release notes before installing and using this product. They may contain requirements or restrictions that are not fully described in this document or updates or corrections to this document. Release notes are available on Hitachi Vantara Support Connect: <https://knowledge.hitachivantara.com/Documents>.




Document conventions


This document uses the following typographic conventions:

Convention	Description
Bold	<ul style="list-style-type: none">Indicates text in a window, including window titles, menus, menu options, buttons, fields, and labels. Example: Click OK.Indicates emphasized words in list items.

Convention	Description
<i>Italic</i>	<ul style="list-style-type: none"> Indicates a document title or emphasized words in text. Indicates a variable, which is a placeholder for actual text provided by the user or for output by the system. Example: <pre>pairedisplay -g group</pre> <p>(For exceptions to this convention for variables, see the entry for angle brackets.)</p>
Monospace	Indicates text that is displayed on screen or entered by the user. Example: <code>pairedisplay -g oradb</code>
< > angle brackets	Indicates variables in the following scenarios: <ul style="list-style-type: none"> Variables are not clearly separated from the surrounding text or from other variables. Example: <pre>Status-<report-name><file-version>.csv</pre> Variables in headings.
[] square brackets	Indicates optional values. Example: [a | b] indicates that you can choose a, b, or nothing.
{ } braces	Indicates required or expected values. Example: { a | b } indicates that you must choose either a or b.
| vertical bar	Indicates that you have a choice between two or more options or arguments. Examples: [a | b] indicates that you can choose a, b, or nothing. { a | b } indicates that you must choose either a or b.

This document uses the following icons to draw attention to information:

Icon	Label	Description
	Note	Calls attention to important or additional information.
	Tip	Provides helpful information, guidelines, or suggestions for performing tasks more effectively.
	Caution	Warns the user of adverse conditions and/or consequences (for example, disruptive operations, data loss, or a system crash).

Icon	Label	Description
	WARNING	Warns the user of a hazardous situation which, if not avoided, could result in death or serious injury.

Conventions for storage capacity values

Physical storage capacity values (for example, disk drive capacity) are calculated based on the following values:

Physical capacity unit	Value
1 kilobyte (KB)	1,000 (10^3) bytes
1 megabyte (MB)	1,000 KB or $1,000^2$ bytes
1 gigabyte (GB)	1,000 MB or $1,000^3$ bytes
1 terabyte (TB)	1,000 GB or $1,000^4$ bytes
1 petabyte (PB)	1,000 TB or $1,000^5$ bytes
1 exabyte (EB)	1,000 PB or $1,000^6$ bytes

Logical capacity values (for example, logical device capacity, cache memory capacity) are calculated based on the following values:

Logical capacity unit	Value
1 block	512 bytes
1 cylinder	Mainframe: 870 KB Open-systems: <ul style="list-style-type: none"> ▪ OPEN-V: 960 KB ▪ Others: 720 KB
1 KB	1,024 (2^{10}) bytes
1 MB	1,024 KB or $1,024^2$ bytes
1 GB	1,024 MB or $1,024^3$ bytes
1 TB	1,024 GB or $1,024^4$ bytes
1 PB	1,024 TB or $1,024^5$ bytes

Logical capacity unit	Value
1 EB	1,024 PB or 1,024 ⁶ bytes

Accessing product documentation

Product user documentation is available on Hitachi Vantara Support Connect: <https://knowledge.hitachivantara.com/Documents>. Check this site for the most current documentation, including important updates that may have been made after the release of the product.

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Thank you!

Chapter 1: Getting started

Hitachi UCP Advisor provides a single framework for managing diverse and distributed environments across the UCP system family.

Overview of UCP Advisor

Hitachi UCP Advisor provides detailed information about the infrastructure components and allows you to manage operations for connected devices.

UCP Advisor simplifies infrastructure operations. Seamless integration allows automated provisioning of the UCP systems--for both the converged and hyperconverged infrastructure. It provides unified management, central oversight, and smart life-cycle management for firmware upgrades, element visibility, and troubleshooting.

Features

Hitachi UCP Advisor provides pertinent information and allows you to manage operations for connected devices.

Major features include:

- Simplified deployments: UCP Advisor simplifies IT management and orchestration for faster and easier deployment of converged and hyperconverged systems.
- Automated upgrades from previous versions.
- Federated system management: UCP Advisor enables simplified management of one or many Unified Compute Platform systems, including converged and hyperconverged systems. UCP Advisor allows provisioning of compute nodes, storage, Ethernet, and Fibre Channel from a single, unified management interface.
- Easy synchronization of VLANs with rack switches: UCP Advisor intelligently synchronizes the virtual, distributed switch trunk VLANs with the node switch interfaces on the rack switches and allows easy port-level VLAN management.
- Simple, one-click firmware upgrade: The upgrade firmware option allows you to download a firmware bundle from the Hitachi portal and upload it to UCP Advisor. Supports firmware upgrade for compute nodes and Ethernet, or Fibre Channel switches. The simple, one-click automated upgrade process upgrades the firmware by moving the compute hosts into maintenance mode, applying relevant patches, and bringing hosts back online.
- Integration with VMware applications.
 - VMware vRealize Orchestrator: UCP Advisor integrates seamlessly with vRealize Orchestrator. You can initiate workflows such as managing compute nodes, performing data backup/restores, and provisioning of datastores. You can also track, manage, and complete the workflows in vRealize Orchestrator.
 - VMware vRealize Log Insight: UCP Advisor tightly integrates with vRealize Log Insight to provide a single interface to monitor system-level activities and provide security audit logs for the UCP environment. This enables you to quickly identify security-level breaches and detect unauthorized access from rogue IPs.
- Intelligent automation and orchestration with Hitachi Automation Director (HAD): Integration with Hitachi Automation Director enables IT process automation and smart infrastructure provisioning capabilities. UCP Advisor leverages the smart provisioning workflows and templates available through HAD.
- Ability to simultaneously or sequentially provision operating systems on multiple bare metal servers, or to overwrite operating systems on multiple servers that are already provisioned.

UCP Advisor provides the bare metal OS provisioning capability that allows the management of custom BIOS settings on the server and deployment of operating systems on the DS120 nodes with the option to use Automation Director for a customized workflow. See the Release Notes for the list of officially supported operating systems and URLs.

UCP Advisor provides the framework to deploy the custom operating systems shown in the supported operating system list, with the additional driver package as part of the image.

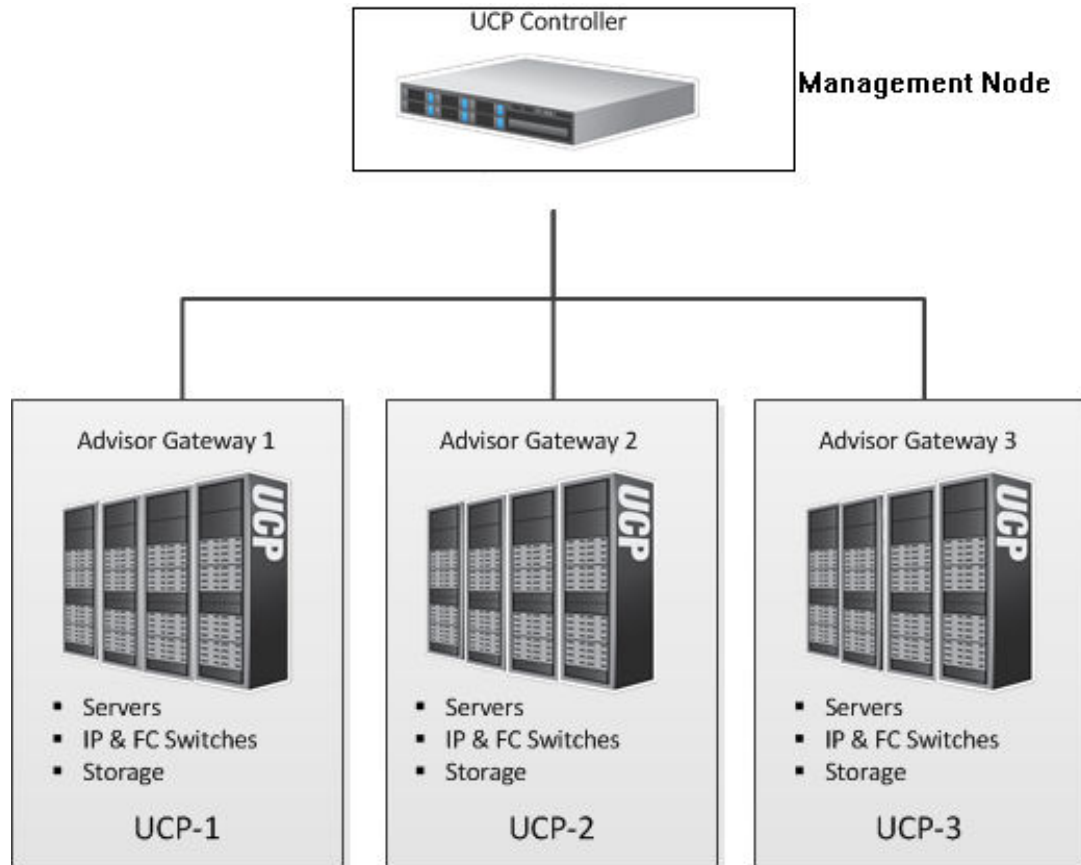
Once the bare metal operating system has been deployed on the physical server with the network configured, the environment is ready for configuration management. Any tools, such as Puppet, Chef, Ansible, and so on, can be used to add additional packages, services, and patches to the operating system.

- Ability to view and manage multisite VMware Infrastructure and link multiple vCenter Servers in UCP rack-scale (RS) systems.

UCP Advisor environment

The UCP Advisor environment consists of a UCP Controller (management node) and the onboarded Advisor Gateways.

A typical UCP Advisor environment is shown below.



The management node is the server on which the UCP Advisor components, UCP Controller VM, and Advisor Gateway VM are installed. The UCP Advisor software is deployed on *clustered server nodes*. The management node has redundant connections to ensure connectivity to UCP Advisor systems. For every UCP Advisor system, a single controller VM is deployed and can manage one or many UCP converged infrastructure (CI) or UCP hyperconverged (HC) systems, as long as an Advisor Gateway VM is deployed per system.

Each UCP CI system includes Ethernet and Fibre Channel switches, storage systems, servers, and compute nodes and is connected to the controller VM via individual gateway VMs in each CI, HC, and RS system.

Supported features and hardware

The following tables identify the UCP Advisor features and hardware supported by each UCP Advisor system.

UCP CI systems

Supported features/hardware		UCP CI 2.1 multirack (Skylake)	UCP CI 2.1 single rack (Skylake)
Server	Inventory	Yes	Yes
	Provisioning	Yes	Yes
	Firmware Upgrade	Yes	Yes
	Bare metal OS provisioning	Yes ¹	Yes ¹
Ethernet	Inventory	Yes	Yes
	Provisioning	Yes	Yes
	Firmware Upgrade	Yes	Yes
Fibre Channel	Inventory	Yes	N/A (direct attached)
	Provisioning	Yes	N/A (direct attached)
	Firmware Upgrade	Yes	N/A (direct attached)
Storage	Inventory	Yes	Yes
	Provisioning	Yes	Yes
Chassis		N/A	N/A
Server		DS120 DS220 DS225 DS240	DS120 DS220 DS225 DS240
Network	Ethernet	Cisco 93180YC Cisco 93180LC	Cisco 93180YC
	Fibre Channel	Brocade G620	N/A (direct attached)
	Management	Cisco 3048	Cisco 3048
Storage		VSP F350 VSP F370	VSP F350 VSP F370

Supported features/hardware	UCP CI 2.1 multirack (Skylake)	UCP CI 2.1 single rack (Skylake)
	VSP F400	VSP F400
	VSP F600	VSP F600
	VSP F700	VSP F700
	VSP F800	VSP F900
	VSP F900	VSP G350
	VSP F1500	VSP G370
	VSP G200	VSP G400
	VSP G350	VSP G600
	VSP G370	VSP G700
	VSP G400	VSP G900
	VSP G600	
	VSP G700	
	VSP G800	
	VSP G900	
	VSP G1000	
	VSP G1500	
Note 1. Bare metal provisioning for DS120 server only.		

UCP HC systems

Supported features/hardware		UCP HC (Skylake)	UCP HC (Broadwell)
Server	Inventory	Yes	Yes
	Provisioning	Yes ¹	Yes ¹
	Firmware Upgrade	Yes	Yes
	Bare metal OS provisioning	Yes ²	No
Ethernet	Inventory	Yes	Yes
	Provisioning	Yes	No
	Firmware Upgrade	Yes	No

Supported features/hardware		UCP HC (Skylake)	UCP HC (Broadwell)
Fibre Channel	Inventory	N/A (vSAN)	N/A (vSAN)
	Provisioning	N/A (vSAN)	N/A (vSAN)
	Firmware Upgrade	N/A (vSAN)	N/A (vSAN)
Storage	Inventory	Yes (vSAN)	Yes (vSAN)
	Provisioning	No (vSAN)	No (vSAN)
Chassis		N/A	N/A
Server		DS120 DS220	D51B-2U1N T41S-2U4N
Network	Ethernet	(Optional) Cisco 93180YC Cisco 93180LC	(Optional) Brocade 6740/6940
	Fibre Channel	N/A (vSAN)	N/A (vSAN)
	Management	(Optional) Cisco 3048	(Optional) Brocade 7450
Storage		N/A (vSAN)	N/A (vSAN)
Notes <ol style="list-style-type: none"> 1. Server provisioning: server LID, power control, boot options, deploy ESXi host to datacenter/cluster. 2. Bare metal provisioning for DS120 server only. 			

UCP RS systems

Supported features/hardware		UCP RS (Skylake)	UCP RS (Broadwell)
Server	Inventory	Yes	Yes
	Provisioning	Yes ¹	Yes ¹
	Firmware Upgrade	Yes	Yes
	Bare metal OS provisioning	No	No
Ethernet	Inventory	No	No
	Provisioning	No	No

Supported features/hardware		UCP RS (Skylake)	UCP RS (Broadwell)
	Firmware Upgrade	No	No
Fibre Channel	Inventory	N/A (vSAN)	N/A (vSAN)
	Provisioning	N/A (vSAN)	N/A (vSAN)
	Firmware Upgrade	N/A (vSAN)	N/A (vSAN)
Storage	Inventory	Yes (vSAN) ²	Yes (vSAN) ²
	Provisioning	No (vSAN)	No (vSAN)
Chassis		N/A	N/A
Server		DS120	D51B-2U1N
Network	Ethernet	(Managed by VCF) Cisco 9332PQ Cisco 93180YC	(Managed by VCF) Cisco 9372PX Cisco 9332PQ Cisco 93180YC
	Fibre Channel	N/A (vSAN)	N/A (vSAN)
	Management	(Managed by VCF) Quanta T1048 LB9	(Managed by VCF) Quanta T1048 LB9
Storage		N/A (vSAN)	N/A (vSAN)
Notes <ol style="list-style-type: none"> 1. Server provisioning: server LID, power control, boot options, deploy ESXi host to datacenter/cluster. 2. vSAN information for primary vCSA workload domain hosts only and onboard, but no vSAN information on nonprimary vCSA workload domain. 			

UCP 2000 systems

Supported features/hardware		UCP 2000 (Broadwell)
Server	Inventory	Yes
	Provisioning	Yes
	Firmware Upgrade	Yes
	Bare metal OS provisioning	No
Ethernet	Inventory	Yes

Supported features/hardware		UCP 2000 (Broadwell)
	Provisioning	No
	Firmware Upgrade	No
Fibre Channel	Inventory	Yes
	Provisioning	No
	Firmware Upgrade	No
Storage	Inventory	Yes
	Provisioning	Yes
Chassis		N/A
Server		T41S-2U4N
Network	Ethernet	Brocade 6740/6940
	Fibre Channel	Brocade 6505/6510
	Management	Brocade 7450
Storage		VSP F400 VSP F600 VSP F800 VSP G200 VSP G400 VSP G600 VSP G800

UCP 4000 systems

Supported features/hardware		UCP 4000 Cisco
Server	Inventory	Yes
	Provisioning	Yes
	Firmware Update	No
	Bare metal OS provisioning	No
Ethernet	Inventory	Yes
	Provisioning	No

Supported features/hardware		UCP 4000 Cisco
	Firmware Update	No
Fibre Channel	Inventory	Yes
	Provisioning	No
	Firmware Update	No
Storage	Inventory	Yes
	Provisioning	Yes
Chassis		Hitachi Compute Blade 500 (CB 500) Brocade 6546 in Chassis FC
Server		HB3, HB4
Network	Ethernet	Cisco Nexus 9372 Cisco Nexus 9332
	Fibre Channel	Brocade 6510 Brocade 6546
	Management	Cisco 3048
Storage		VSP F400 VSP F600 VSP F800 VSP F1500 VSP G200 VSP G400 VSP G600 VSP G800 VSP G1000 VSP G1500
Notes <ol style="list-style-type: none"> 1. Server LID, power control, boot options, deploy ESXi host to datacenter/cluster, and replace ESXi host in vCenter are not supported. 2. Datastore provisioning and create/delete multiple LUNs are not supported 		

Supported software

The UCP Advisor environment can include the following software programs. Prior to deploying, verify that the required software is installed and configured.

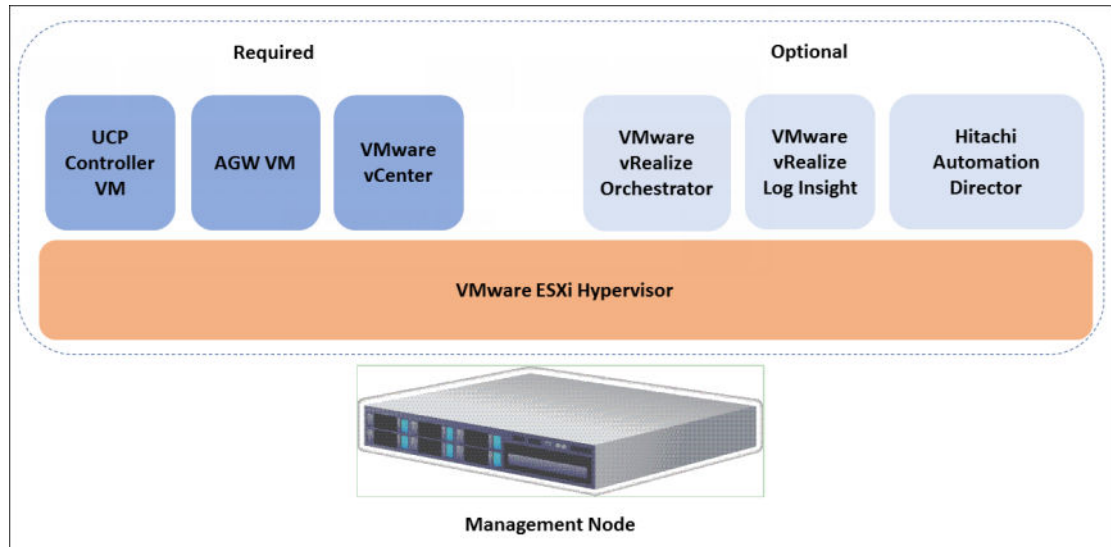
Required software	
Software	Version
VMware ESXi	6.0x, 6.5x, 6.7x
VMware vCenter Server Appliance	6.5U1(a-g), 6.5U2, 6.7, 6.7U1
VMware Tools	Multiple vCSA supported
VMware PowerCLI	6.5.2.6268016
UCP Advisor Controller	2.8.0.485
UCP Advisor Gateway	7.0.0.3552
Java	8u191 (64-bit)
Python	2.7.6 (64-bit)
Redis	3.0.503
OpenSSH	7.7

VMware software (optional)	
Component	Version
vSAN	Multiple vCSA supported
vRealize Orchestrator (vRO)	7.3
vRealize Log Insight (vRLI)	4.6

Hitachi software (optional)	
Hitachi Vantara	Version
Hitachi Automation Director	8.5.4
Hitachi Compute Connector Plugin for vRO	01.4.1.5773
Hitachi Storage Connector Plugin for vRO	01.4.1.818

Hitachi software (optional)	
Hitachi Vantara	Version
Hi-Track	8.1 or later

The software architecture and how it is deployed in a management node is shown in the following figure.



UCP Advisor Controller and Gateway VMs

UCP Advisor is comprised of the following virtual appliances.

The following table shows the amount of resources assigned to the UCP Advisor Controller VM.

Resources	Minimum requirement
Operating System	Windows Server 2016
RAM	16 GB
CPU	4 vCPUs (default)
Disk	250 GB (thin-provisioned disk)
Network	1 vNIC (connect to Management VLAN VMXNET3)
Supported virtualization host	ESXi 6.5 Update-1

The following table shows the amount of resources assigned to the UCP Advisor Gateway VM.

Resource	Quantity
Operating System	CentOS 7.3
RAM	2 GB (default)
CPU	2 vCPUs (default)
Disk	40 GB (thin-provisioned disk)
Network	1 vNIC (connect to management VLAN VMXNET3)
Supported virtualization host	ESXi 6.5 Update-1

Supported browser

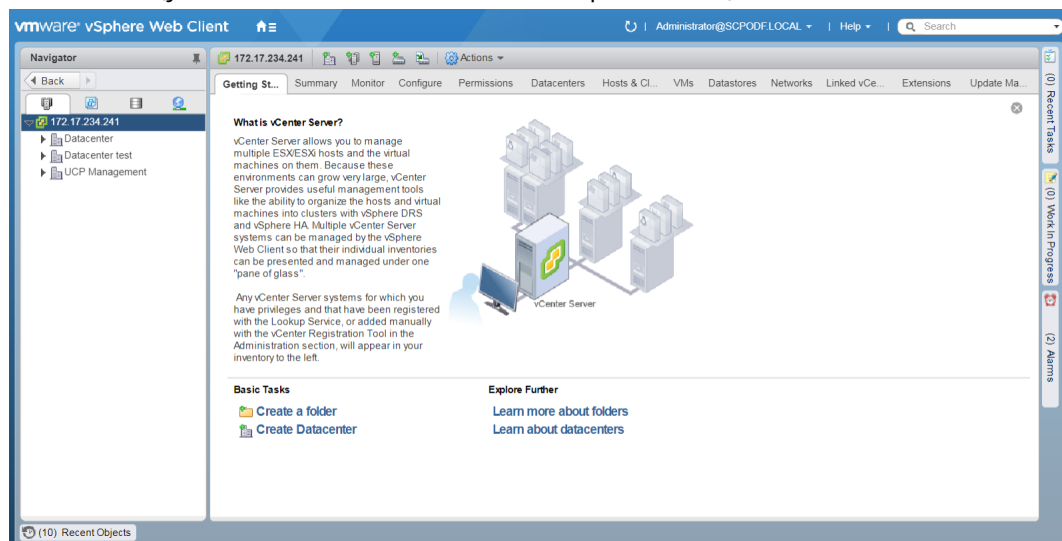
Hitachi UCP Advisor supports the Google Chrome browser for Windows, Mac, and Linux. The required version is 60.0 and later.

Accessing UCP Advisor

You access UCP Advisor from the VMware vSphere Web Client.

Procedure

1. Log on to the VMware vSphere Web Client using your vCenter Administrator credentials (you must have Administrator role permission).

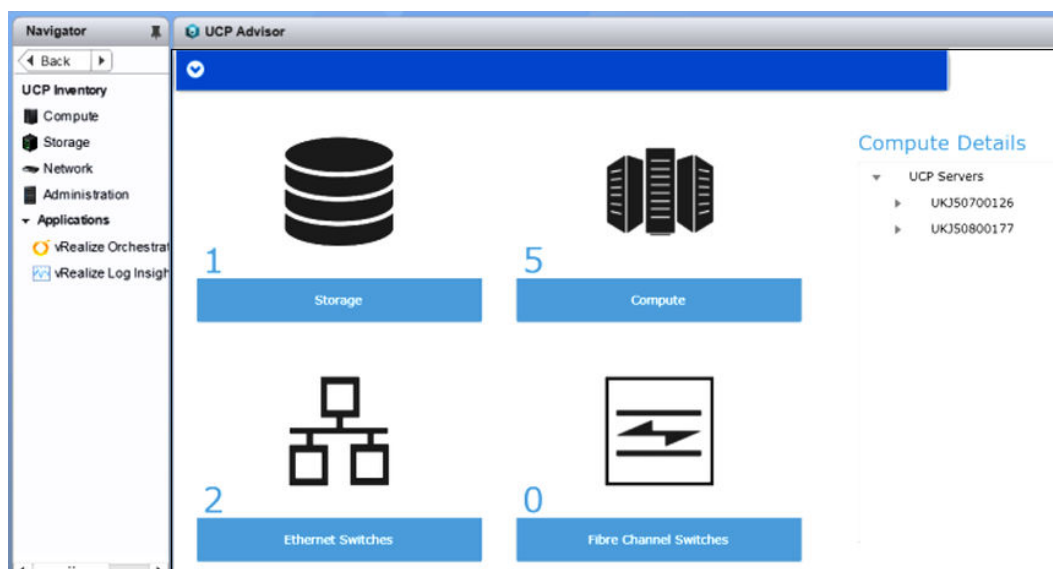


- From the **Home** menu, located in the upper left area of the **vSphere Web Client** window, select **UCP Advisor**. All currently available UCP system appliances are shown.



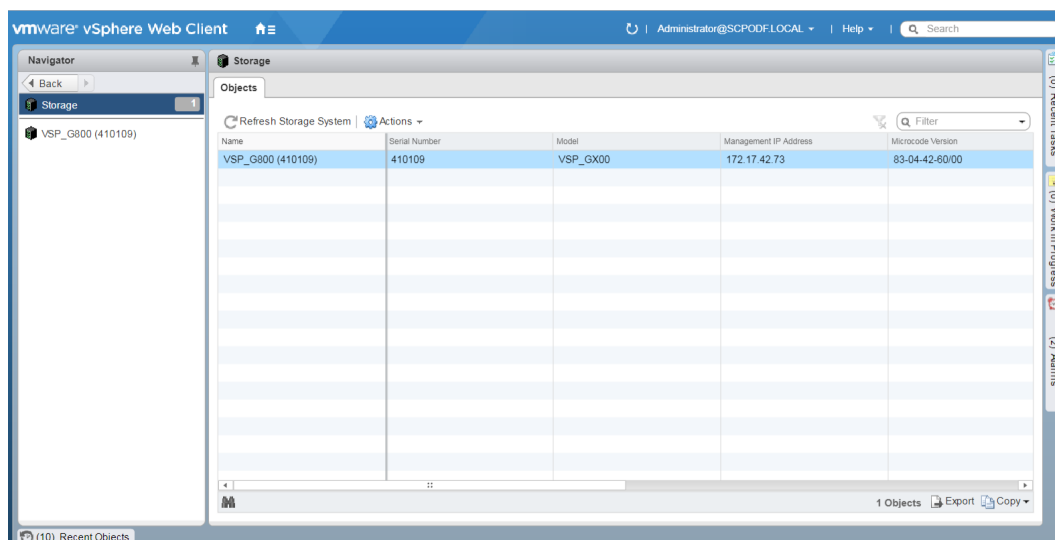
Note: In most cases, the UCP system and the devices required by your site will already have been registered and onboarded during the pre-deployment configuration. If you do not see the appliances that you expect, or if you need to add a new one, follow the procedure described in [Registering a UCP system \(on page 91\)](#).

- Select the UCP System appliance that you want to access. A choice of all currently onboarded compute, storage, or network devices is provided on the **UCP Advisor** window.

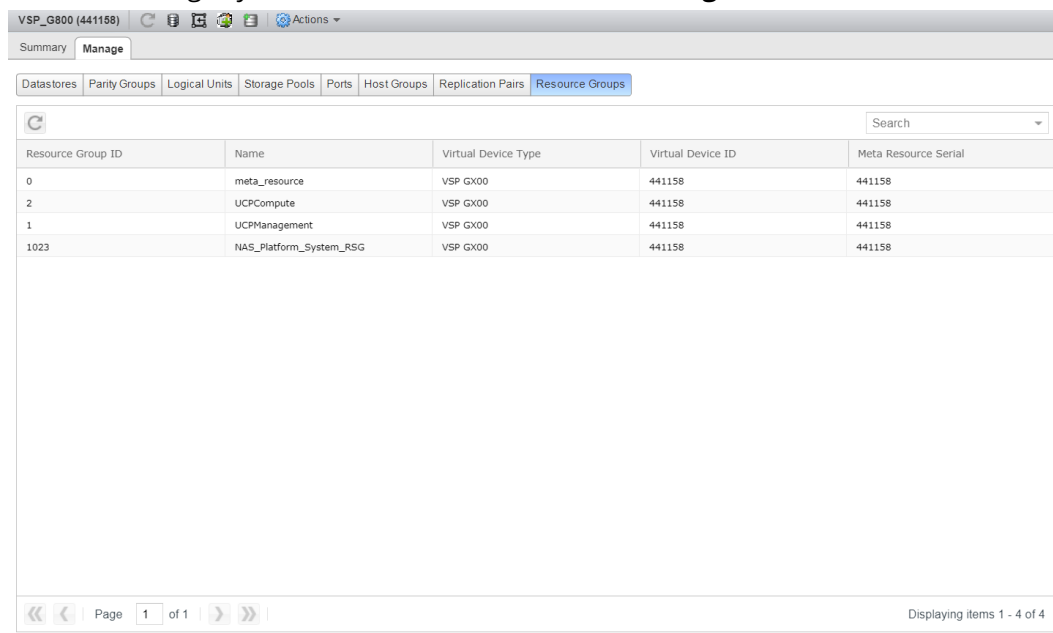


Note: If you need to onboard additional devices, see [Automatically adding resources using a CSV file \(on page 94\)](#) or [Manually adding resources \(on page 96\)](#) and add the necessary devices before continuing with the next steps.

- Click the icon representing the type of devices you want to manage. Depending on the type of device you select, a listing of available devices is shown. Following is an example of a storage device listing.



5. In the **Navigator** window (or listing of devices shown on the right), double-click on the device you want to access. As an example, the management window for the selected storage system device is shown with the **Manage** tab selected.



6. Click the **Summary** tab to get general information about the device, or click the **Manage** tab to access various management options.

Chapter 2: Managing storage resources

UCP Advisor dynamically allocates storage resources to virtual machines or hosts in the UCP Advisor environment.

Storage system inventory

You can manage storage systems configured in your UCP Advisor environment.

Click the Summary tab to access details regarding the currently selected storage system.

VSP_G1000 (56919)

Model: VSP_G1000
Serial Number: 56919
Management IP Address: 172.17.47.69
Firmware: 80-05-42-00/00
Status: Normal

Capacity

8.43 TB / 26.27 TB

Used Capacity	Free Capacity	Total Capacity
8.43 TB	26.27 TB	34.70 TB

Event ID	Description	Severity	Component Type	Timestamp
21804f	RIO path closed	MODERATE	DKC_ENVIRONMENT	6/30/2016 11:07:39 AM
7c0b00				7/16/2017 4:07:37 AM
21804f	RIO path closed	MODERATE	DKC_ENVIRONMENT	7/16/2017 4:05:42 AM
ffef00	Rebooted without volati...	SERVICE	SM	5/31/2016 1:10:08 PM
efc1e0	Correction access occur...	SERIOUS	DRIVE	11/11/2016 10:18:31 AM
21800f	RIO path closed	MODERATE	DKC_ENVIRONMENT	1/20/2017 8:14:02 AM
73ff00				5/29/2016 11:39:13 PM

The following details are provided on the Summary tab:

Model:

Identifies the model number of the storage system.

Serial Number:

Shows the serial number for the selected storage system.

Management IP Address:

Shows the management IP address.

Firmware:

Shows the current firmware level for the storage system.

Status:

Provides the current status for the storage system.

Capacity:

Shows the used, free, and total capacity for the storage system.

Below the summary details is a list of events for the selected storage system that you can use to determine how the storage system is functioning and to see if any errors have occurred.

Managing datastores

You can create, expand, delete, mount, unmount, attach, detach, and remount datastores.

Managing datastores includes the following tasks:

- Provisioning a datastore: Creates and provisions a new Virtual Machine File System (VMFS) datastore.
- Expanding a datastore: Expands an existing datastore.
- Mounting a datastore: Mounts the selected datastore.
- Unmounting a datastore: Unmounts the selected datastore.
- Deleting a datastore: Removes a datastore from all hosts having access to the datastore.
- Attaching a datastore: Makes an existing datastore available to one or more hosts and to the respective host groups.
- Detaching a datastore: Unmounts the datastore from one or more hosts and removes the volume from the respective host groups.
- Remounting a datastore: Remounts a lost datastore.

Provisioning a datastore

You can provision a new Virtual Machine File System (VMFS) datastore to create a logical container of your virtual machines. When creating a datastore, UCP Advisor

automatically creates an associated LU that must be removed when a datastore is deleted.

Before you begin

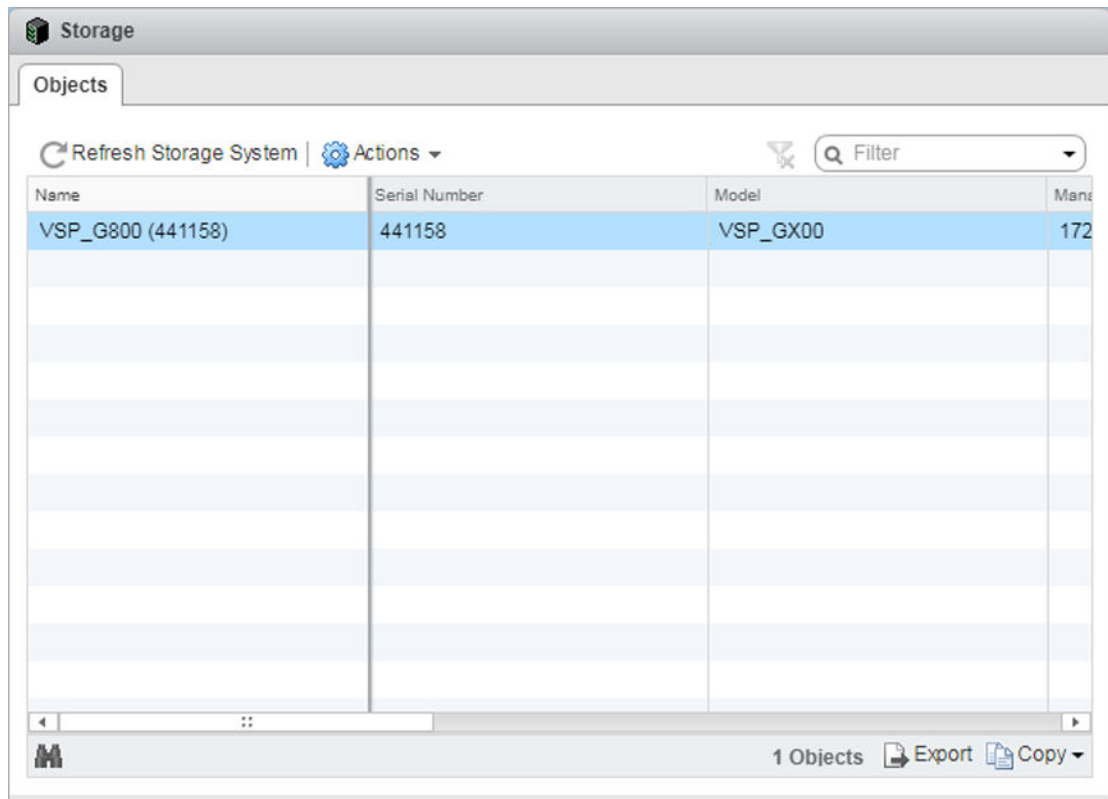
Make sure the storage device is onboarded in UCP Advisor and that the zoning and host group configuration are in place.



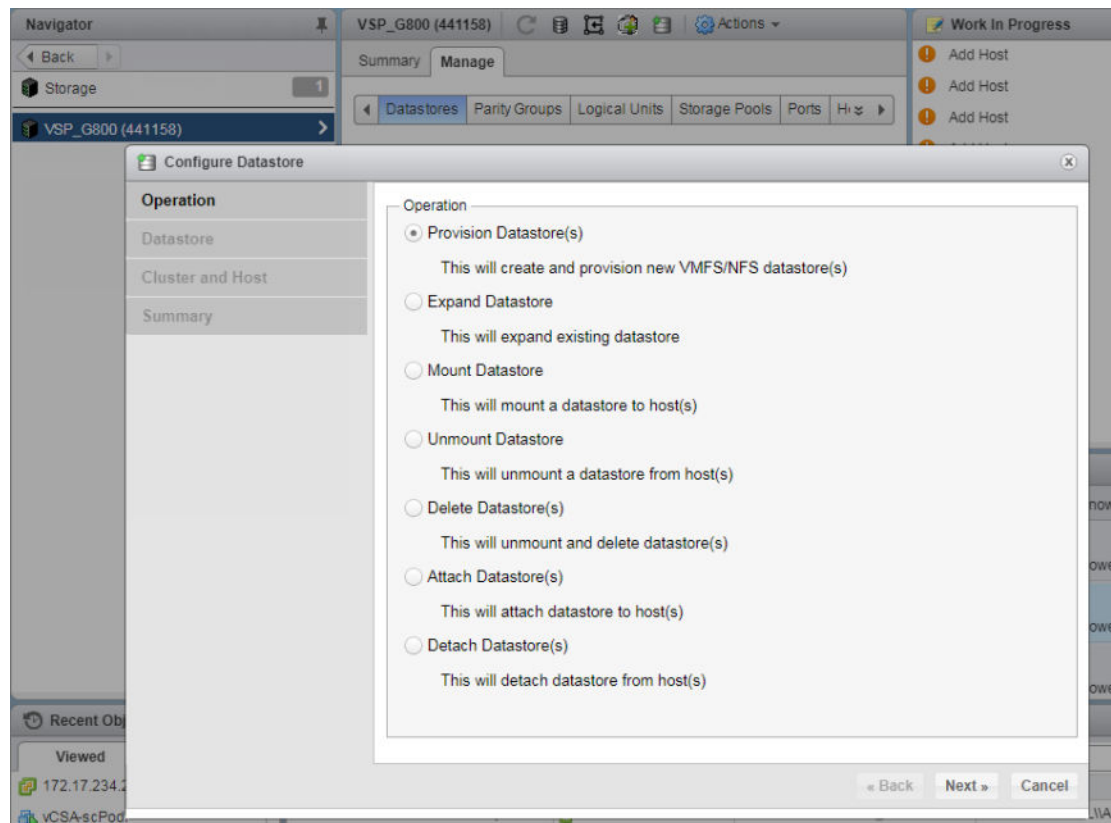
Note: Provisioning a datastore is not supported on UCP 4000.

Procedure

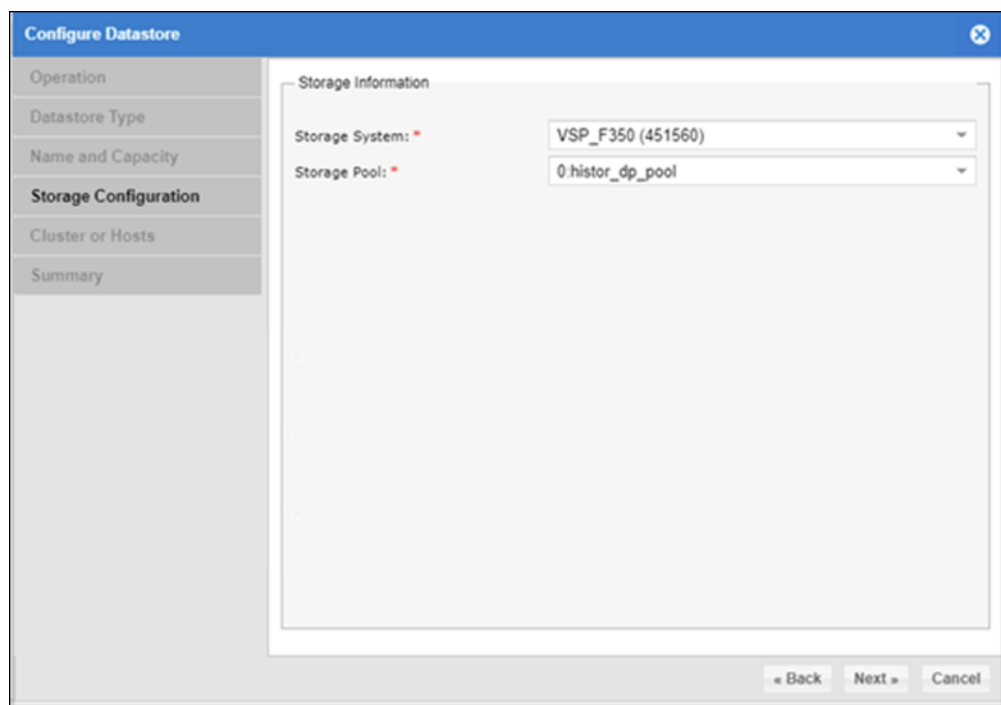
1. From the **Navigator** pane, or the **Objects** tab, double-click and select the storage system with the datastore to be provisioned.



2. Click the **Manage** tab, then click the **Datastores** tab.
3. Click **Configure Datastore > Provision Datastore(s)**, then click **Next**.



4. Select **Datastore Type** (VMFS Datastore is currently the only choice) and click **Next**.
5. Select **Single Datastore Creation** or **Multiple Datastore Creation**, specify the datastore name and capacity, then click **Next**.
6. Select the appropriate **Storage System** and **Storage Pool** from the list, then click **Next**.



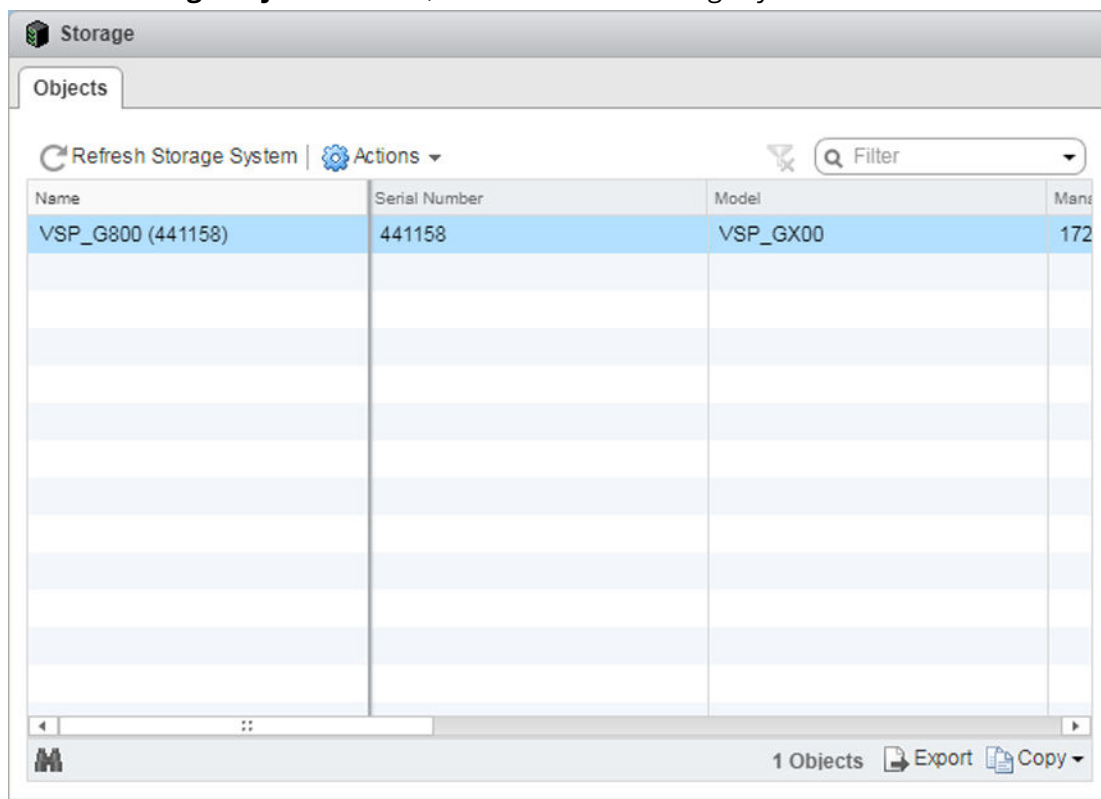
7. Select the **ESXi Cluster** or **Hosts**, then click **Next**.
8. Review the settings in the **Summary** window.
9. Click **Finish**.

Expanding a datastore

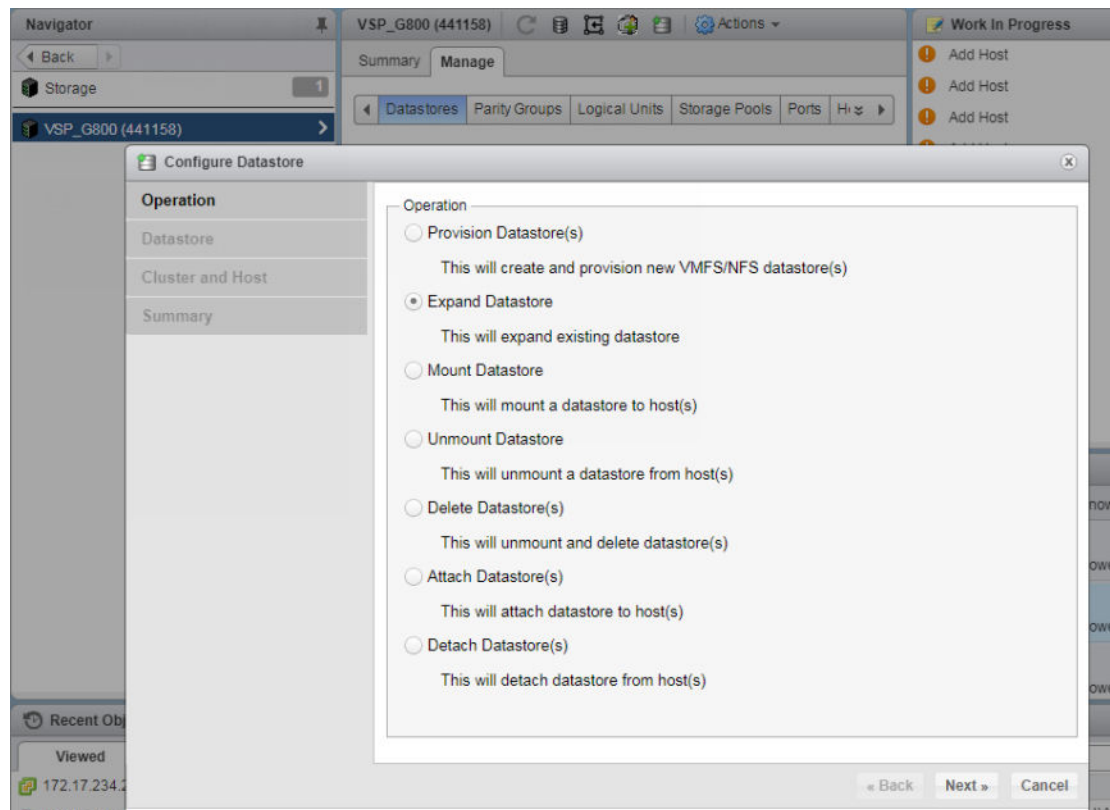
You can expand a datastore to increase the allocated capacity.

Procedure

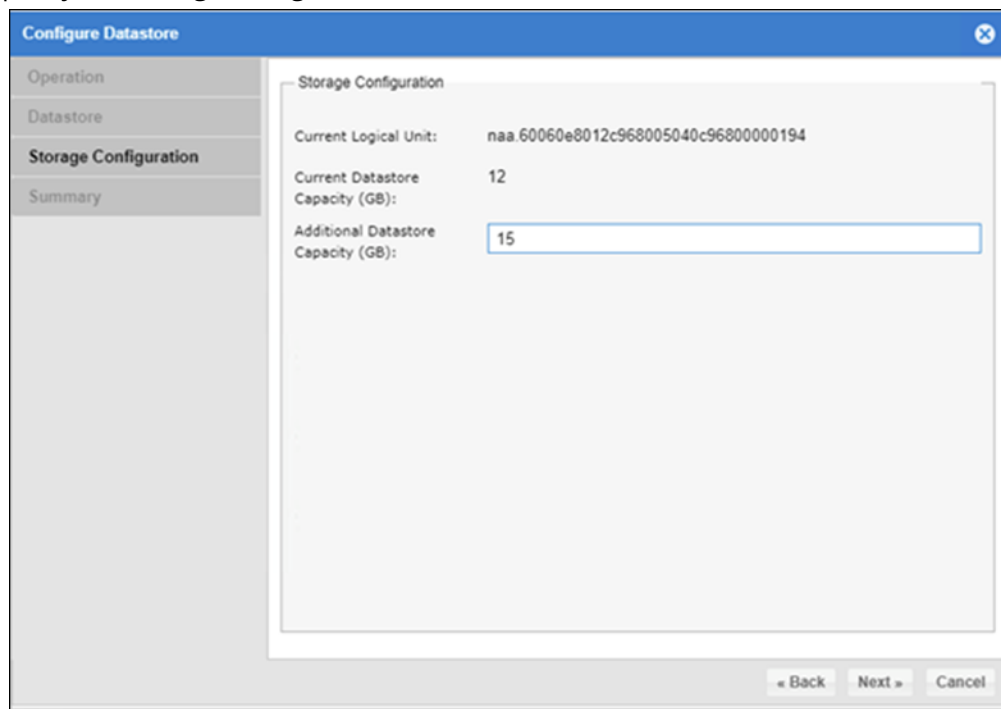
1. In the **Storage Objects** window, double-click the storage system.



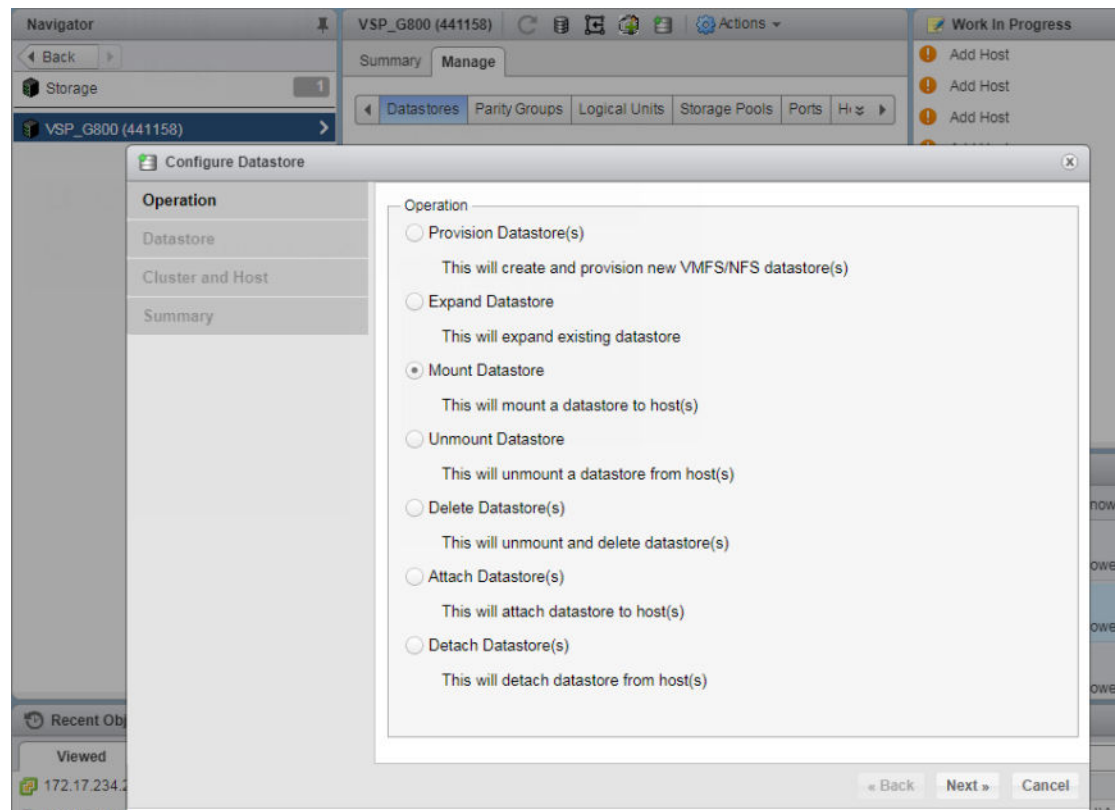
2. Click the **Manage** tab, then click the **Datastores** tab.
3. Click the **Configure Datastore** icon.



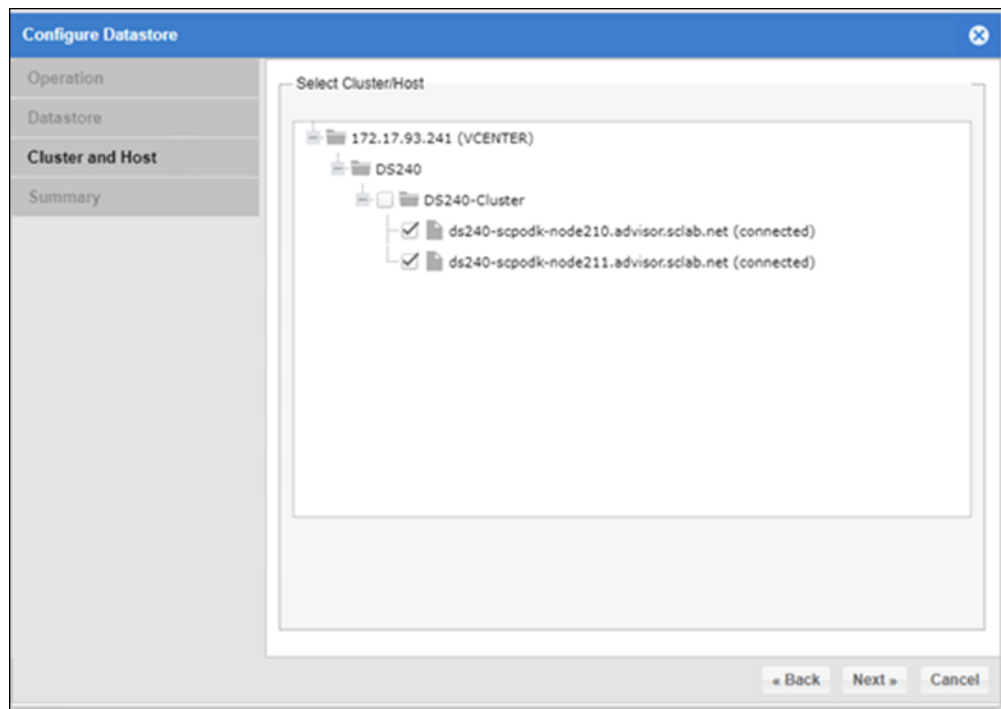
4. Click **Expand Datastore**, then click **Next**.
5. Select the appropriate datastore from the list, then click **Next**.
6. Specify the storage configuration details for the datastore, then click **Next**.



7. Review the summary details for the datastore, then click **Finish**.



5. Select the appropriate datastore, then click **Next**.
6. Select the cluster or host details, then click **Next**.



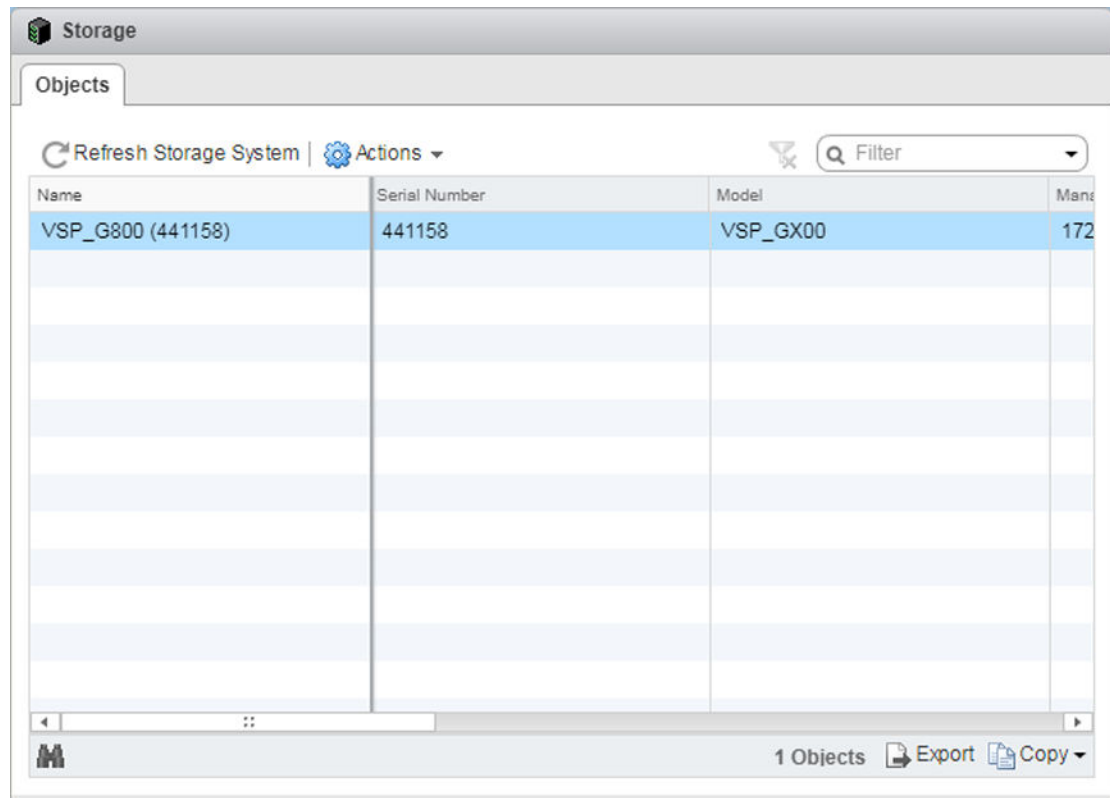
7. Review the summary details, then click **Finish**.
- To unmount a datastore, follow the same steps but select the **Unmount Datastore** option.

Deleting a datastore

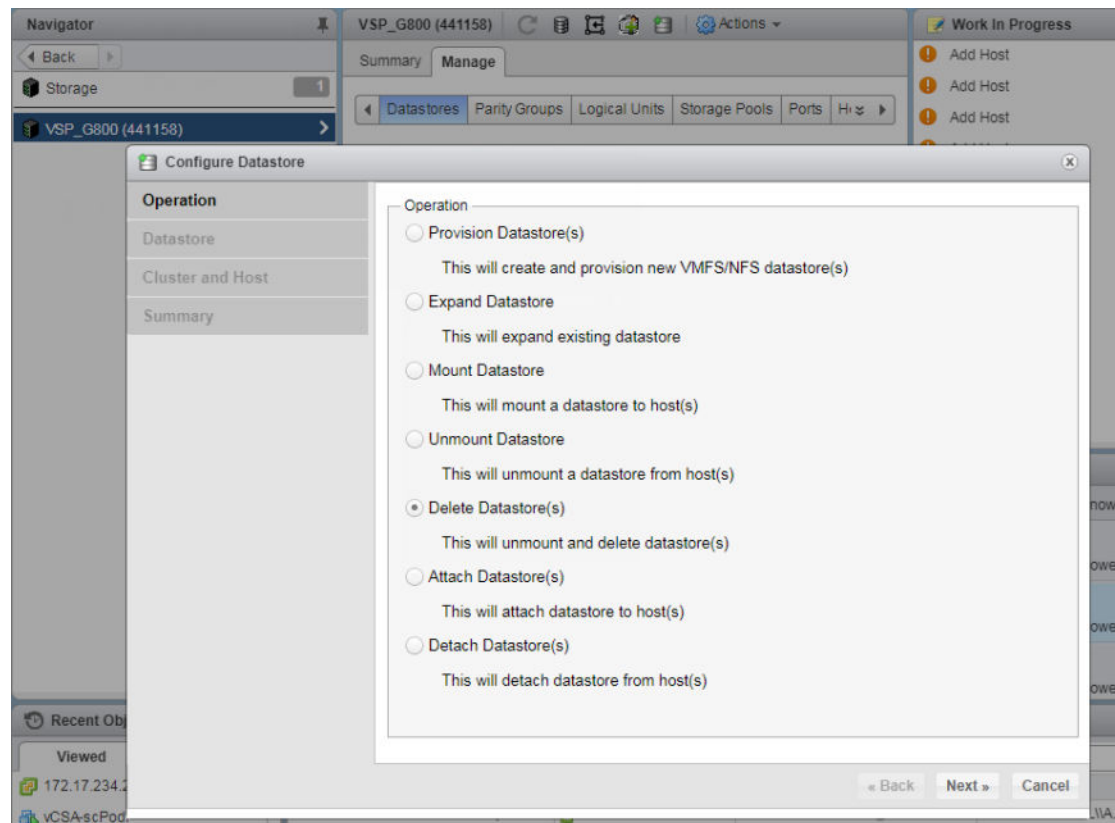
You can delete a datastore to remove it from an ESXi host or cluster.

Procedure

1. From the **Navigator** pane, or the **Objects** tab, double-click and select the storage system with the datastore to be deleted.



2. Click the **Manage** tab, then click the **Datastores** tab.
3. Click the **Configure Datastore** icon.



4. Click the **Delete Datastore** option, then click **Next**.
5. Select the appropriate datastores to delete from the tree, (if necessary, select the **Delete Datastore Logical Unit** check box to delete the logical unit associated with the datastore from storage), then click **Next**.
6. Review the summary details, then click **Finish**.



Note: You cannot delete datastores that are part of a replication pair (for example, global-active device (GAD)) from within UCP Advisor.

Attaching a datastore

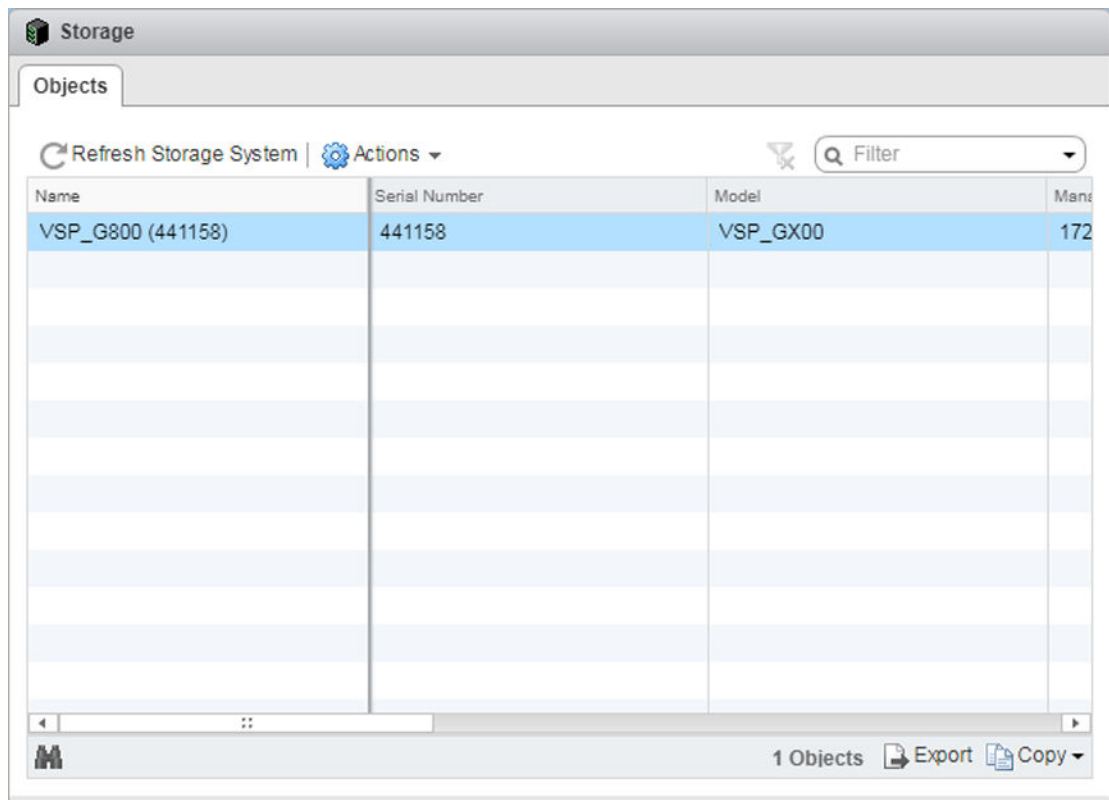
You can attach an existing datastore to one or more new hosts inside a cluster or datacenter.

Before you begin

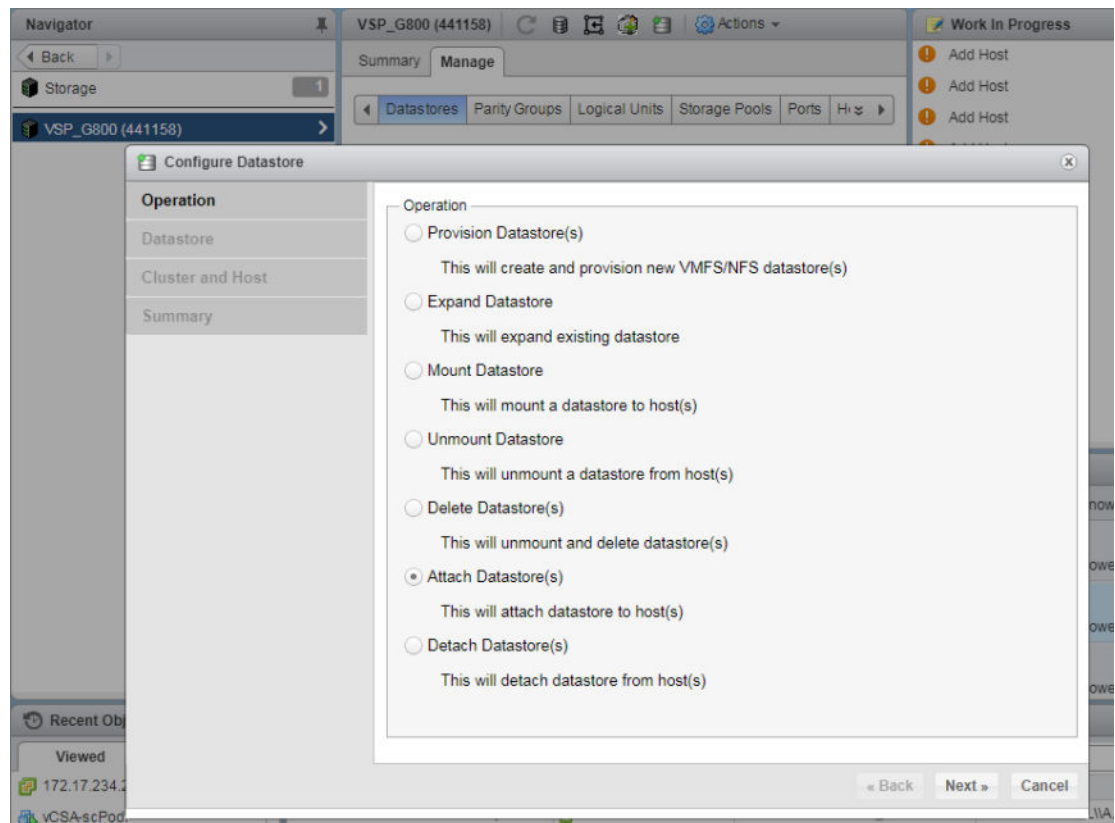
Verify that host groups have been created for the hosts and that zoning is configured properly.

Procedure

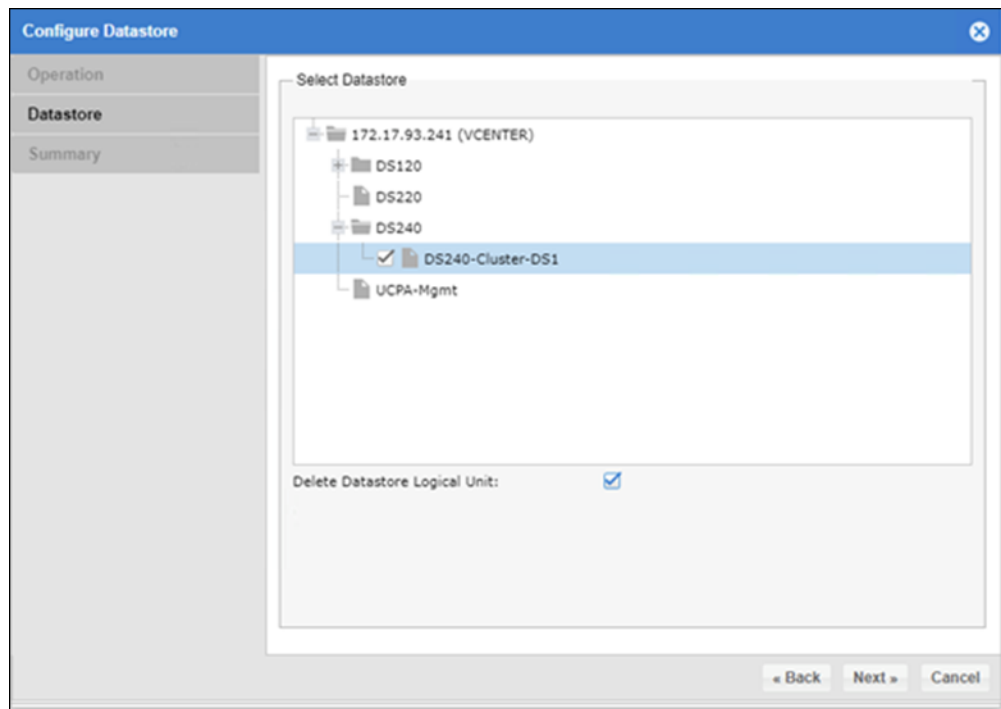
1. From the **Navigator** pane, or the **Objects** tab, double-click and select the storage system with the datastore to be attached.



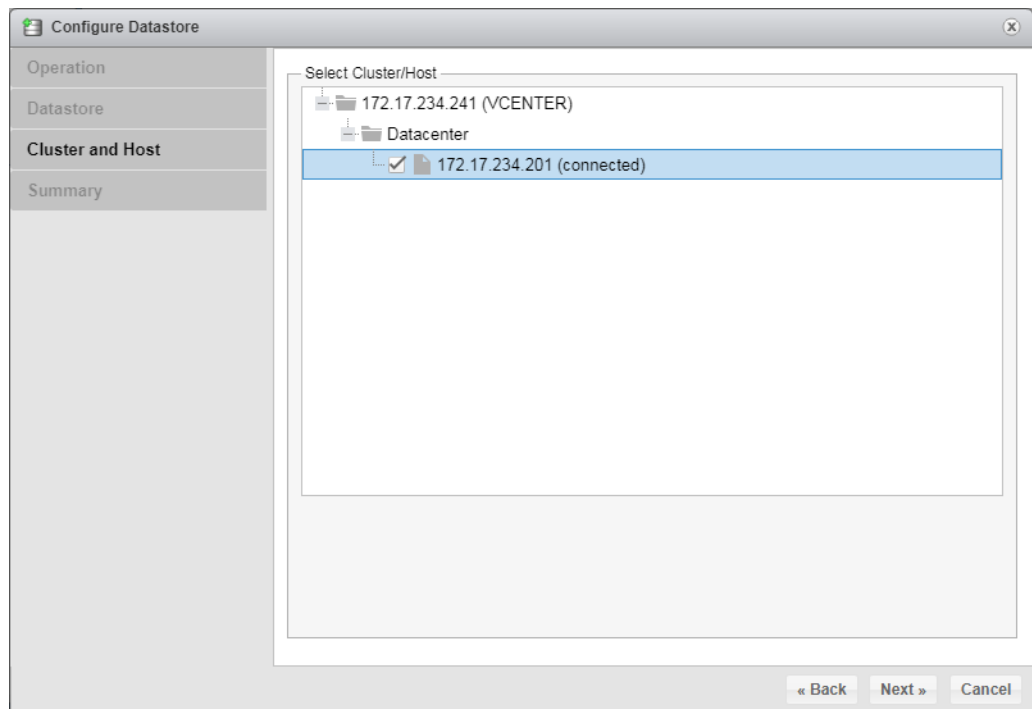
2. Click the **Manage** tab, and then click the **Datastores** tab.
3. Click the **Configure Datastore** icon.
4. Click the **Attach Datastore** option, and then click **Next**.



5. Select the datastore to attach, and then click **Next**.



6. Select the cluster or host. Click **Next**.



7. Review the summary details, and then click **Finish**.

Detaching a datastore

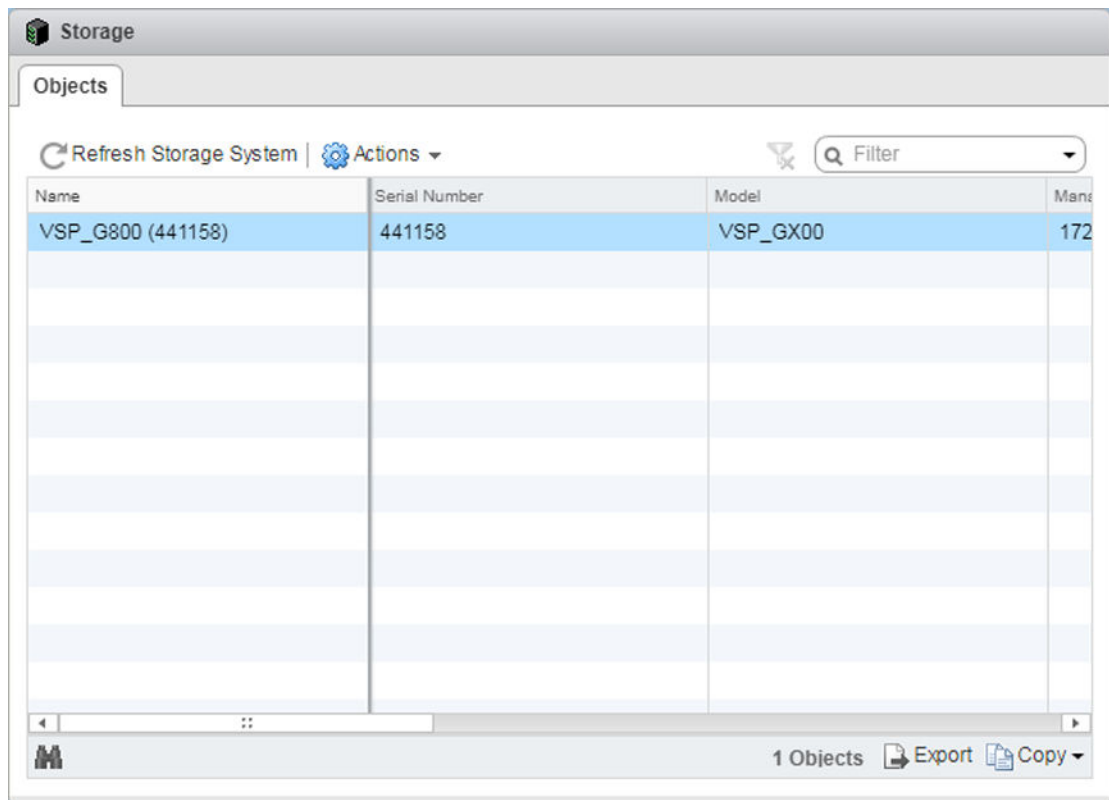
You can detach a datastore from one or more hosts. After a datastore is detached from a host, it is no longer available to that host.



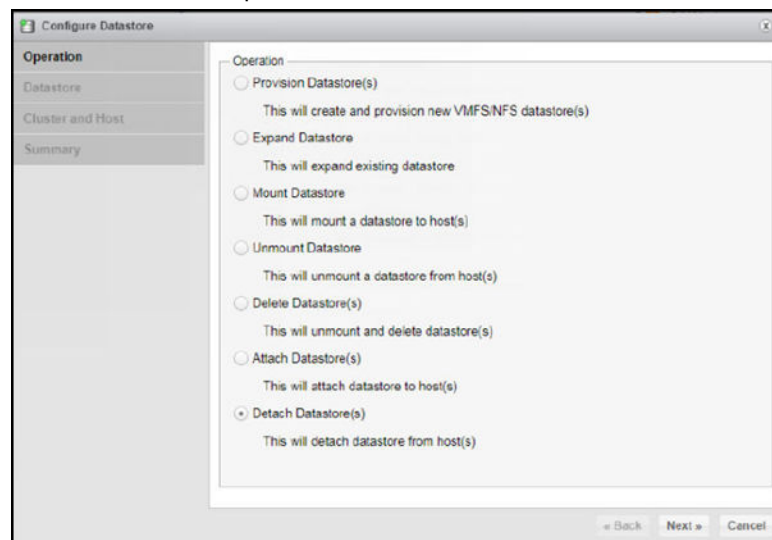
Caution: If you detach the datastore from all hosts, it will not be available for reattaching. You might need to present the LU to the host group on the storage system and remount it on the ESXi host before you can attach it again. Make sure you migrate all VMs from the datastore before detaching it.

Procedure

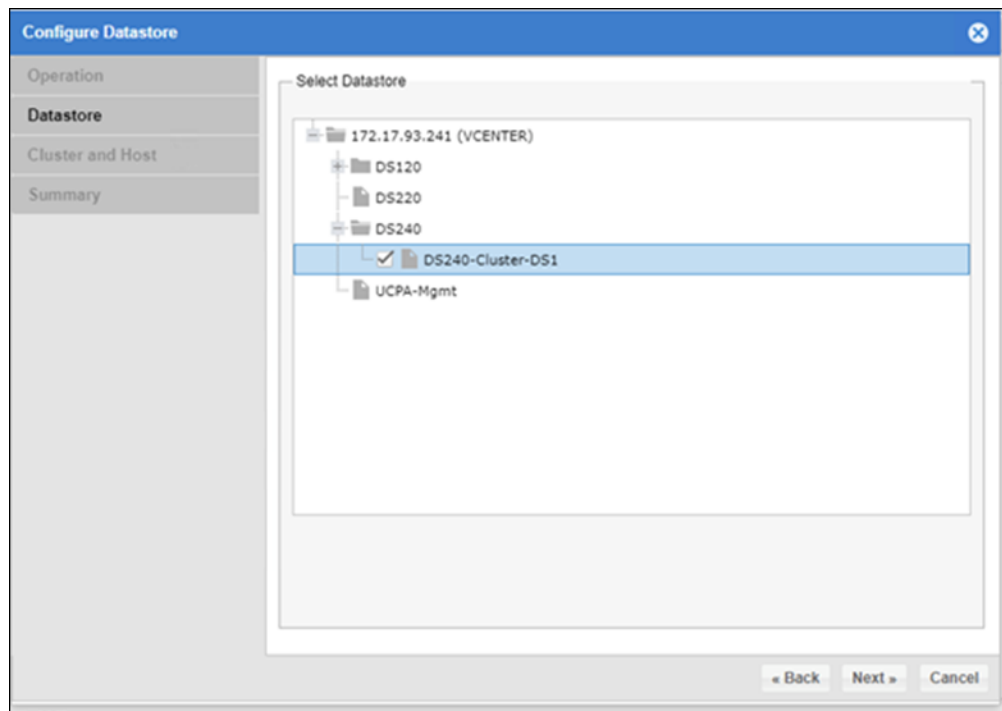
1. From the **Navigator** pane, or the **Objects** tab, double-click and select the storage system with the datastore to be detached.



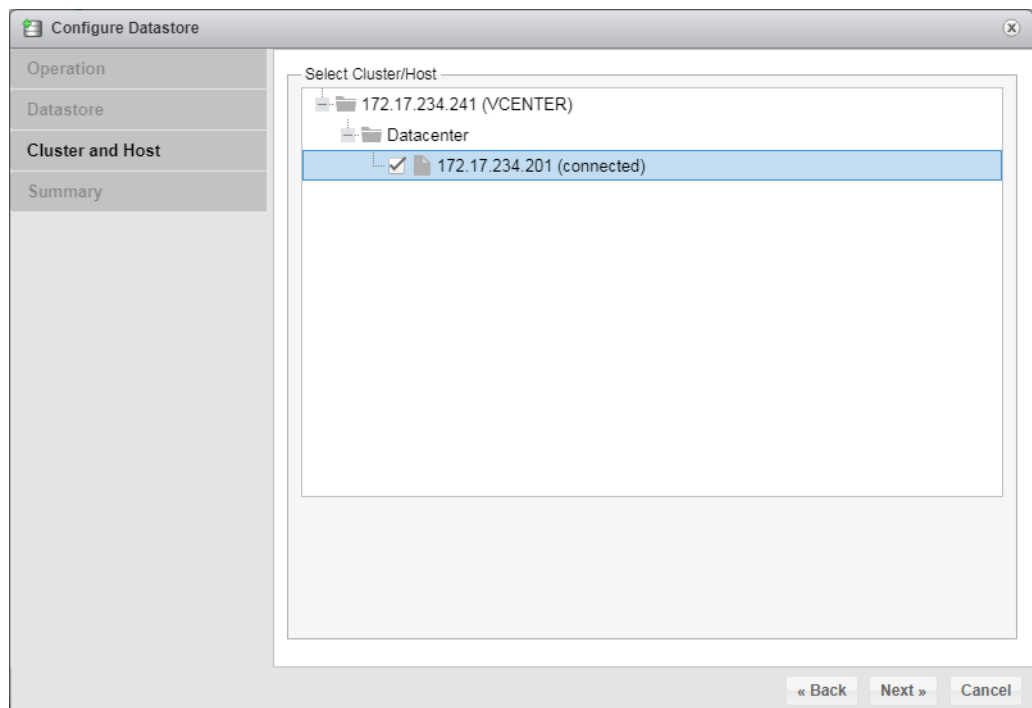
2. Click the **Manage** tab, and then click the **Datastores** tab.
3. Click the **Configure Datastore** icon.
4. Click the **Detach Datastore** option, and then click **Next**.



5. Select the datastore that you want to detach (only clusters and hosts where the datastore is attached are displayed). Click **Next**.



6. Select the cluster or host, and then click **Next**.



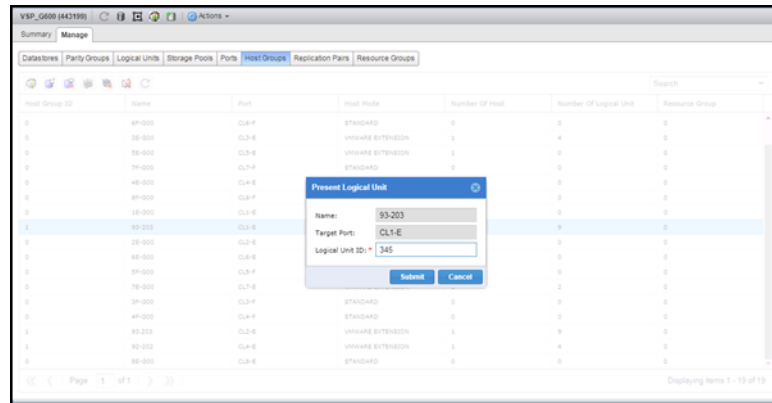
7. Review the summary details, and then click **Finish**.

Remounting a datastore

After a datastore has been detached from all hosts, it will not be visible in the Attach Datastore wizard. To make this datastore available in the Attach Datastore wizard, you must remount the datastore.

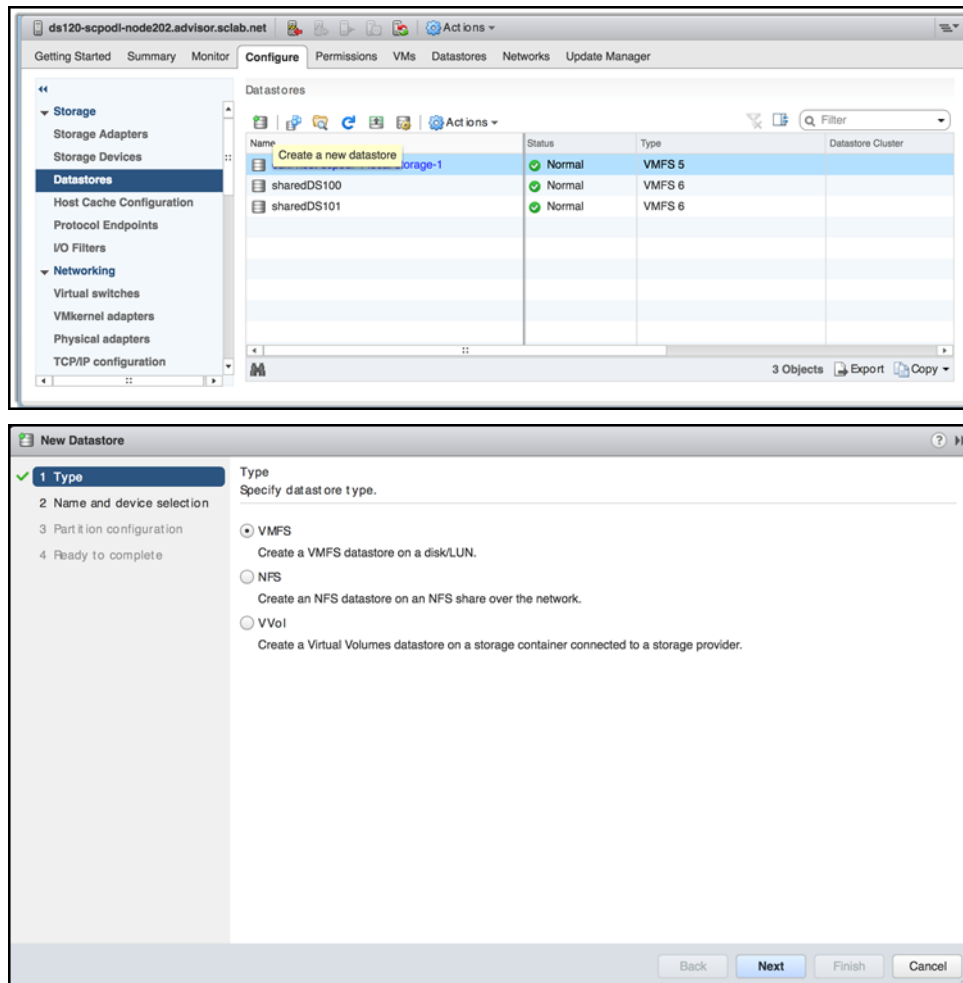
Procedure

1. Locate the LU on the storage system.
2. From **Host Groups**, select a host and click **Present Logical Unit**.



The LUN is now visible on the ESXi host.

3. Use the VMware new datastore wizard to mount the VMFS datastore.



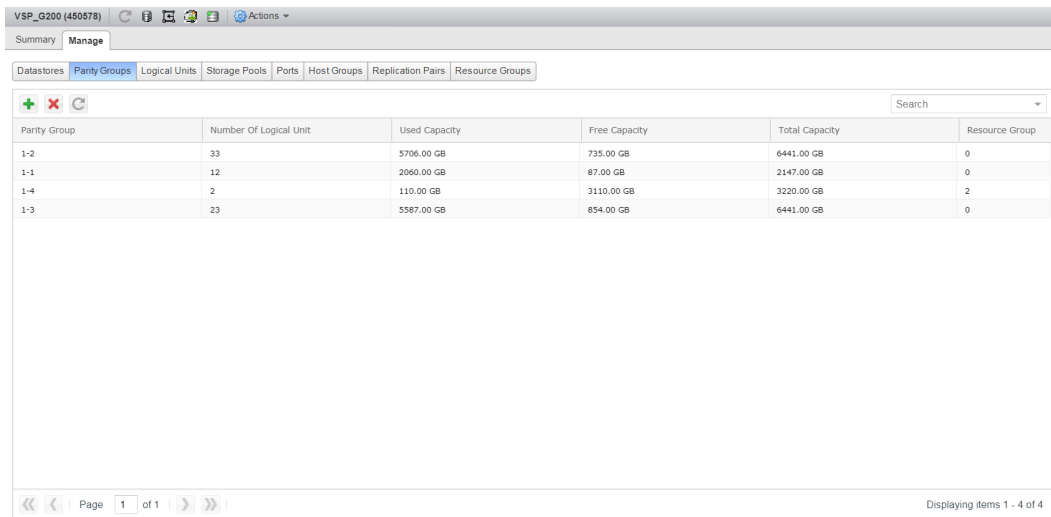
Result

After you have remounted the datastore on a host, it will be visible and available for attaching to other hosts.

Managing parity groups

You can create parity groups to allocate system volumes to ESXi hosts. You can also delete parity groups to free up disk space when the disks in the parity group are no longer in use.

The Parity Groups inventory, shown below, lists existing parity groups, their capacity, and the number of LUs in each.



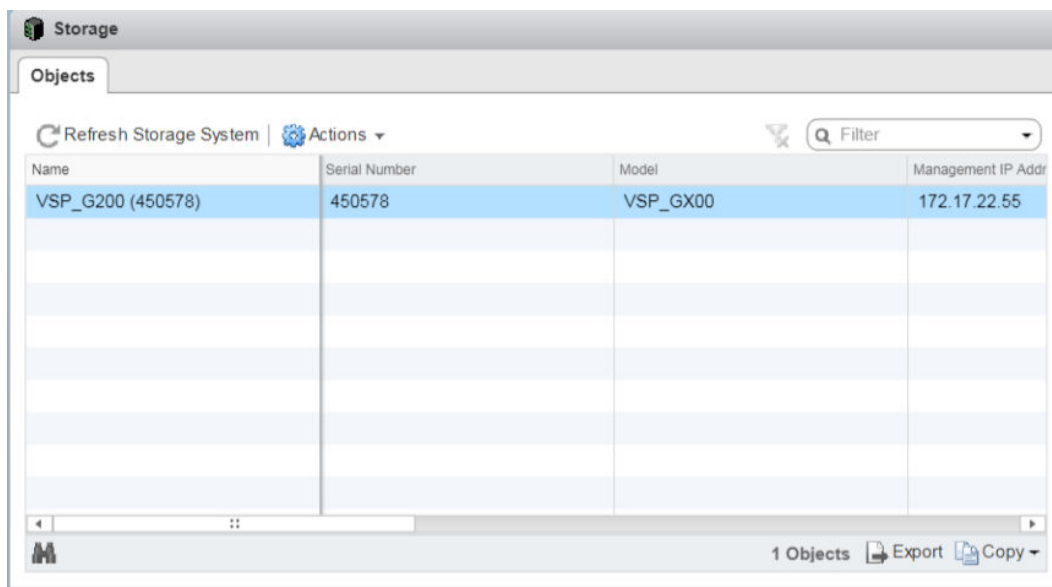
Parity Group	Number Of Logical Unit	Used Capacity	Free Capacity	Total Capacity	Resource Group
1-2	33	5706.00 GB	735.00 GB	6441.00 GB	0
1-1	12	2060.00 GB	87.00 GB	2147.00 GB	0
1-4	2	110.00 GB	3110.00 GB	3220.00 GB	2
1-3	23	5587.00 GB	854.00 GB	6441.00 GB	0

Creating a parity group

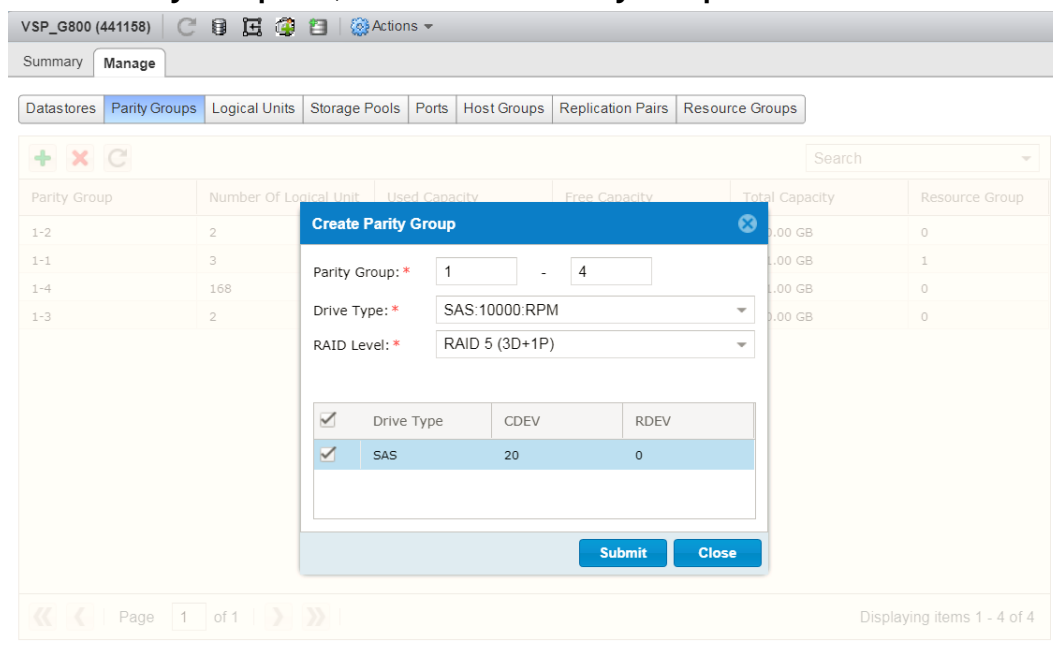
You can create parity groups for a set of physical drives that configure RAID in a storage system. A logical storage area extracted from a parity group is used as an LDEV (basic volume) that is used for allocation to hosts.

Procedure

1. In the **Objects** window, select the storage system where the parity group is to be added.



2. On the **Parity Groups** tab, click the **Create Parity Group** icon.



3. In the **Create Parity Group** dialog box, specify the following:

- Parity Group: Specify a number for the new parity group. For example, if the parity group number is 1 - 4, enter a 1 in the box on the left, and a 4 in the box on the right.
- Drive Type: Select the type of drive from the list.
- RAID Level: Select the RAID level from the list.

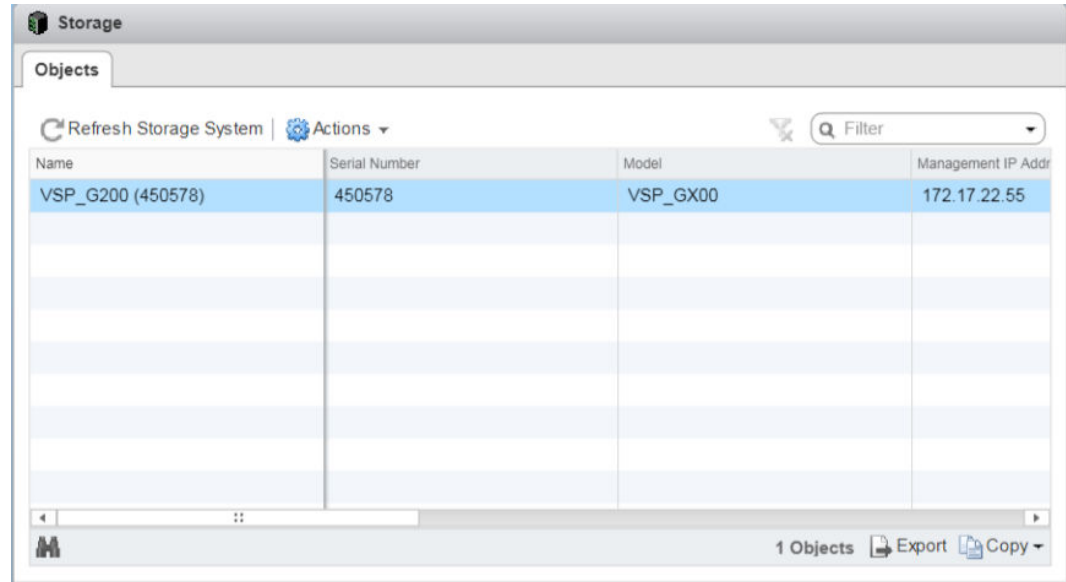
4. Click **Submit**.

Deleting a parity group

You can delete parity groups when they are no longer needed.

Procedure

1. On the **Objects** tab, double-click the required storage system.



2. From the **Manage** tab, select the **Parity Groups** tab.
3. On the **Parity Groups** tab, select the parity group to be deleted.
4. Click the **Delete Parity Group** icon.
5. Click **Yes** to confirm deletion of the selected parity group.

Managing logical units

You can provision, expand, and delete logical units (LUs) and present them to VMware ESXi hosts from the Logical Units tab shown below.

VSP_Q200 (450578)

Summary

Manage

Databases

Parity Groups

Logical Units

Storage Pools

Ports

Host Groups

Replication Pairs

Resource Groups

Search

Logical Unit	Name	Number of Paths	Provisioning Type	Storage Pool	Parity Group	Volume Type	ESXi Host	Total Capacity	Status
00:02:10 (528)	UCP-THT	0	DP	2	-			2.00 TB	NORMAL
00:03:00 (768)	UCP-HTI	0	Basic	-	1-3	JNL VOL		1.00 TB	NORMAL
00:00:7C (124)	GK-Test-CMD-Test-1120	2	DP	13	-	Command Device		0.05 GB	NORMAL
00:00:F5 (245)	khyati-VM-OND	3	DP	4	-			500.00 GB	NORMAL
00:00:7D (125)	GK-Test-CMD-1121	3	DP	13	-	Command Device		0.05 GB	NORMAL
00:00:7A (122)	QA_VM_DHD	2	DP	2	-			1.49 TB	NORMAL
00:00:7B (123)	Frank-test-CMD	0	Basic	-	1-1			1.00 GB	NORMAL
00:00:F4 (244)	SharedDS1	5	DP	4	-			10.00 TB	NORMAL
00:00:32 (50)	CMD-C2_B4_HBA1_1	0	Basic	-	1-2			0.05 GB	NORMAL
00:00:80 (128)	1234@SP	0	DP	4	-			2.00 GB	NORMAL
00:00:33 (51)	t	0	DP	2	-			0.09 GB	NORMAL
00:00:81 (129)	GK-Tets-DS--2	2	DP	4	-			1.00 TB	NORMAL
00:00:34 (52)	t t1	0	DP	2	-			0.09 GB	NORMAL
00:00:7E (126)	GK-Test-2	2	DP	4	-			1.00 TB	NORMAL
00:00:35 (53)	Anish_Test_Lun01	2	Basic	-	1-2			200.00 GB	NORMAL
00:00:7F (127)	Tenant_Data_-4	2	DP	4	-			5.00 GB	NORMAL
00:00:36 (54)	Anish_QA_Lun01	2	Basic	-	1-3			500.00 GB	NORMAL
00:00:37 (55)	build-2612	0	Basic	-	1-3			0.05 GB	NORMAL

«

<

Page 1 of 4

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Displaying items 1 - 50 of 183

Creating a logical unit

You can create a logical unit on the storage system that an ESXi server or virtual machine can use for I/O operations.

Procedure

1. On the **Logical Units** tab, click **Create Logical Unit**. The Create Logical Unit box opens where you can enter the relevant details.

VSP_G200 (450578)

Summary **Manage**

Datstores Parity Groups **Logical Units** Storage Pools Ports Host Groups Replication Pairs Resource Groups

Logical Unit	Name	Number of Paths	Provisioning Type	Storage Pool	Parity Group	Volume Type	ESXi Host
00:02:10 (526)	UCP-TNT	0	DP	2	-		
00:03:00 (768)	UCP-HTI	0	Basic	-	1-3	JNL VOL	
00:00:7C (124)	GK-Test-CMD-Test-1120	2	DP	13	-	Command Device	
00:00:F5 (245)	Khyati-VM-DND	3	DP	4	-		
00:00:7D (125)	GK-Test-Cmd-1121	3	DP	13	-	Command Device	
00:00:7A (122)	QA_VM_DND	2					
00:00:7B (123)	Frank-test-CMD	0					
00:00:F4 (244)	SharedDS1	5					
00:00:32 (50)	CMD-C2_B4_HBA1_1	0					
00:00:80 (128)	1234@SP	0					
00:00:33 (51)	t.	0					
00:00:81 (129)	GK-Tets-DS--2	2					
00:00:34 (52)	t t1	0	DP	2	-		
00:00:7E (126)	GK-Test-2	2	DP	4	-		
00:00:35 (53)	Anish_Test_Lun01	2	Basic	-	1-2		

Create Logical Unit

Name:

Storage Pool:

Size: MB

2. In the **Create Logical Unit** dialog box, specify the following:
 - Name: Enter the name of the LU for easy identification.
 - Storage Pool: Select a storage pool to create the LU.
 - Size: Specify the size of the LU.
3. Click **Submit**.

Expanding a logical unit

You can expand a logical unit to increase storage capacity that can be assigned to a host.

Procedure

1. On the **Logical Units** tab, select a logical unit from the list.
2. Click the **Expand Logical Unit** icon.

The screenshot shows the VSP_G200 (450578) interface with the 'Logical Units' tab selected. A table lists various logical units with columns for Logical Unit, Name, Number of Paths, Provisioning Type, Storage Pool, Parity Group, Volume Type, and ESXi Host. The logical unit 'UCP-HTI' (ID 768) is highlighted. An 'Expand Logical Unit' dialog box is open, showing the Name as 'UCP-HTI', Logical Unit ID as '768', and Size as '25 MB'. The dialog has 'Submit' and 'Cancel' buttons.

Logical Unit	Name	Number of Paths	Provisioning Type	Storage Pool	Parity Group	Volume Type	ESXi Host
00:02:10 (528)	UCP-TNT	0	DP	2	-		
00:03:00 (768)	UCP-HTI	0	Basic	-	1-3	JNL VOL	
00:00:7C (124)	GK-Test-CMD-Test-1120	2	DP	13	-	Command Device	
00:00:F5 (245)	Khyati-VM-DND	3	DP	4	-		
00:00:7D (125)	GK-Test-CMD-1121	3	DP	13	-	Command Device	
00:00:7A (122)	QA_VM_DND	2					
00:00:7B (123)	Frank-test-CMD	0					
00:00:F4 (244)	SharedDS1	5					
00:00:32 (50)	CMD-C2_B4_HBA1_1	0					
00:00:80 (128)	1234@SP	0					
00:00:33 (51)	t	0					
00:00:81 (129)	GK-Tets-DS--2	2					
00:00:34 (52)	t t1	0	DP	2	-		
00:00:7E (126)	GK-Test-2	2	DP	4	-		
00:00:35 (53)	Anish_Test_Lun01	2	Basic	-	1-2		

3. Check that the following fields are filled in correctly.
 - **Name:** Name of the logical unit.
 - **Logical Unit ID:** Specifies the logical unit ID.
 - **Size:** Enter the additional size for the logical unit.
4. Click **Submit**.

Deleting a logical unit

You can delete a logical unit.

Procedure

1. On the **Logical Units** tab, select a logical unit for deletion.
2. Click the **Delete Logical Unit** icon to mark the logical unit for deletion.
3. Verify the selected logical unit for deletion, then click **Yes**.



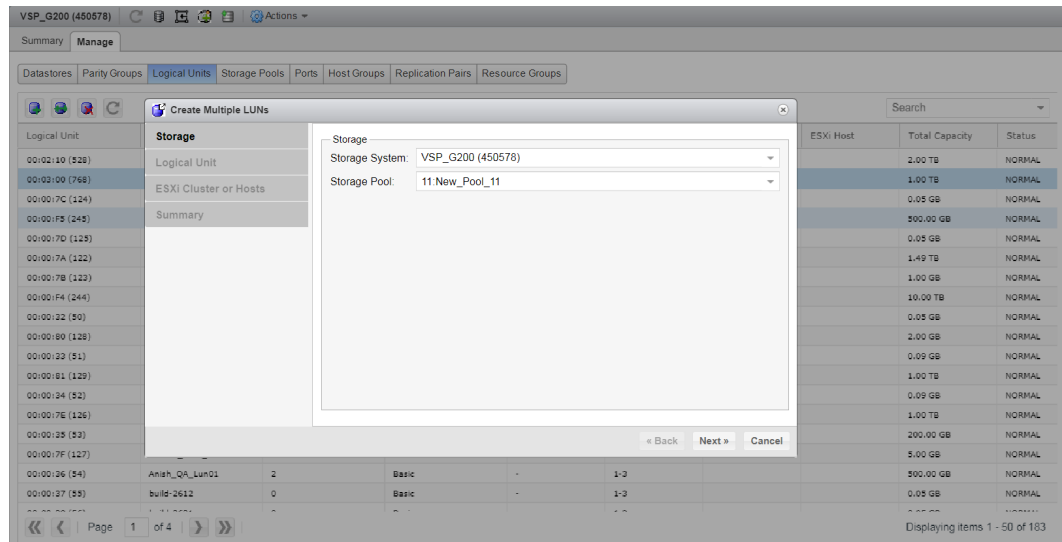
Note: You cannot delete LUNs that are part of a replication pair (for example, GAD pair) from within UCP Advisor, and any attempt to do so generates an error.

Creating multiple logical units

You can create multiple logical units to create datastores on ESXi hosts.

Procedure

1. From the **Actions** menu, select **LUN > Create Multiple LUNs**.



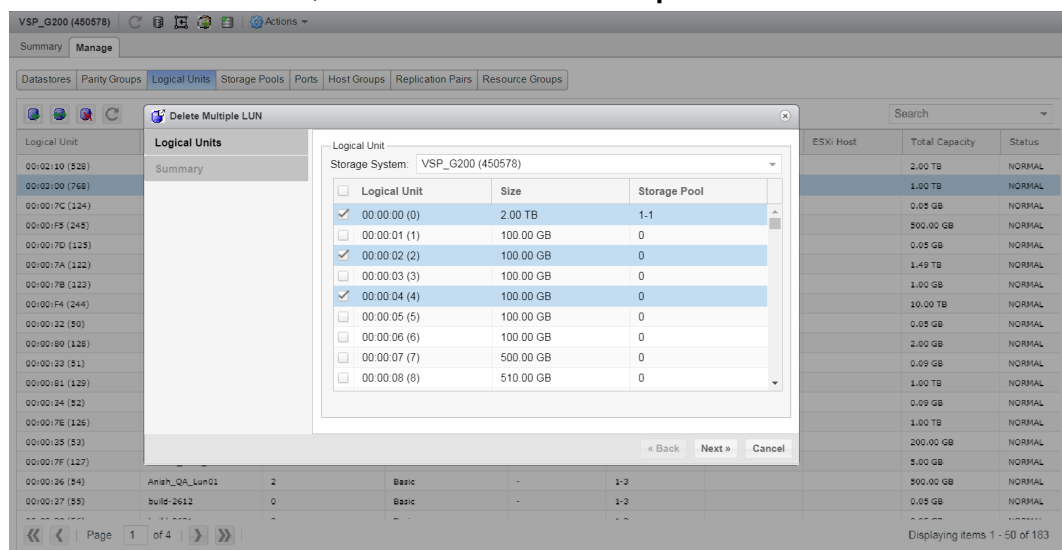
2. Select a storage system and storage pool, then click **Next**.
3. Specify the number of LUs, LU name prefix, initial LU number, and LU size, then click **Next**.
4. Select an ESXi cluster or host from the available systems, then click **Next**.
5. Review the summary details, then click **Finish**.

Deleting multiple logical units

You can remove selected logical units from all accessible hosts.

Procedure

1. From the **Actions** menu, select **LUN > Delete Multiple LUNs**.



2. Select a storage system, check the logical units to be deleted from the list, then click **Next**.
3. Verify the details for the logical unit(s) shown in the **Summary Information** pane, then click **Finish**.

Managing storage pools

You can create, expand, and delete storage pools in storage systems from the Storage Pools tab, accessed from the Manage tab.

Storage Pool	Name	Pool Type	Number Of Logical Unit	Used Capacity	Free Capacity	Total
10	AUTOxdTDcdV	HDP	0	0.00 GB	5.87 GB	5.87 GB
11	AUTOjJNrRkF	HDP	0	0.00 GB	5.87 GB	5.87 GB
50	UCPCCompute	HDT	29	52.38 GB	3164.31 GB	3216.69 GB
4	AUTOasdf11s	HDP	0	0.00 GB	15.87 GB	15.87 GB
3	AUTOZIQHf2w	HDP	0	0.00 GB	5.87 GB	5.87 GB
6	AUTO8rQPfG	HDP	1	0.00 GB	5.87 GB	5.87 GB
5	AUTOk17qRpK	HDP	1	0.00 GB	5.87 GB	5.87 GB
127	UCP-Mgmt	HDT	8	777.74 GB	2438.95 GB	3216.69 GB
0	PoolWithNasBootVols	HDP	4	500.39 GB	5937.13 GB	6437.52 GB
2	GK-Test-Pool-1	HDP	4	3.04 GB	0.86 GB	3.90 GB
1	testpool	HDP	3	0.82 GB	95.07 GB	95.89 GB
8	AUTOceLgCMm	HDP	1	0.00 GB	5.87 GB	5.87 GB
7	AITQahv144n	HDP	1	0.00 GB	5.87 GB	5.87 GB

Creating a storage pool

You can create a storage pool with associated parity groups.

Procedure

1. On the **Storage Pools** tab, click the **Create Storage Pool** icon to create a storage pool for the selected storage system.

Storage Pool	Name	Pool Type
10	AUTOxgTdcv	HDP
11	AUTOJINrRKF	HDP
50	UCPCompute	HDT
4	AUTOasdf11s	HDP
3	AUTOZiQHf2w	HDP
6	AUTOBrQFqG	HDP
5	AUTOK17qRpK	HDP
127	UCP-Mgmt	HDT
0	PoolWithHasBootVols	HDP
2	GK-Test-Pool-1	HDP
1	testpool	HDP
8	AUTOcelGcMm	HDP
7	AUTOaby144e	HDP
9	AUTOsd14TD8	HDP

Capacity	Total Capacity	Current Subscr...	Warning
	5.87 GB	0	80
	5.87 GB	0	80
GB	3216.69 GB	91	70
B	15.87 GB	0	80
	5.87 GB	0	80
	5.87 GB	38	80
	5.87 GB	46	80
GB	3216.69 GB	65	70
GB	6437.53 GB	8	70
	3.90 GB	378	80
B	95.89 GB	8	60
	5.87 GB	21	80
	5.87 GB	38	80
	5.87 GB	0	80

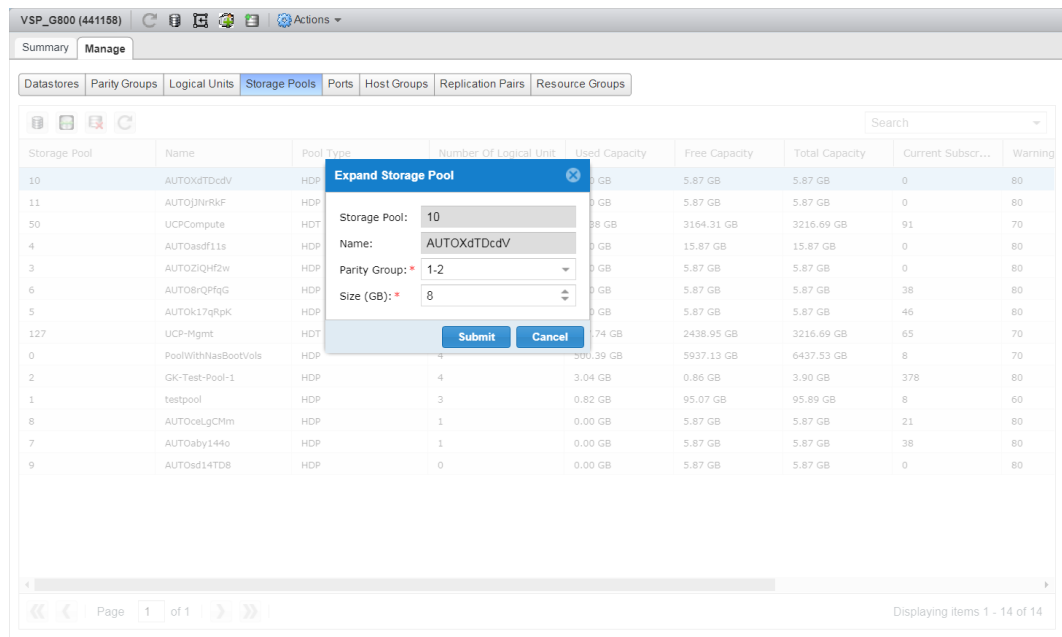
2. In the **Create Storage Pool** dialog box, specify the following:
 - Pool Name: Name of the storage pool for easy identification.
 - Pool Type: Select the storage pool type.
 - Add Pool Volume: Select the required parity group and specify the size of the allocated capacity (LDEV) that is created in the parity group to be allocated to the pool.
 - Subscription Limit: Specify the overprovisioning limit.
 - Warning Limit(%): Specify the storage pool warning threshold.
 - Depletion Limit(%): Specify the storage pool depletion threshold.
3. Click **Submit**.

Expanding a storage pool

You can expand a storage pool and increase its capacity.

Procedure

1. On the **Storage Pools** tab, select a storage pool.
2. Click the **Expand Storage Pool** icon to expand the storage pool.



3. In the **Expand Storage Pool** dialog box, select a parity group and enter the additional capacity size for the expansion.
4. Click **Submit**.

Deleting a storage pool

You can delete storage pools from a storage system.

Procedure

1. On the **Storage Pools** tab, select a storage pool.
2. Click the **Delete Storage Pool** icon to delete the storage pool.
3. Verify that the correct storage pool is selected, then click **Yes** to delete the storage pool.

Reviewing storage ports

You can display ports and their current status when managing storage systems.

From the Ports tab, you can get port details for a selected storage system.

VSP_G800 (441158) Summary Manage

Datstores Parity Groups Logical Units Storage Pools Ports Host Groups Replication Pairs Resource Groups

Search

Port	Port Type	Speed	Port Security	Target WWN
CL1-F	FC	AUTO	Enabled	50:06:0E:80:12:A0:C6:05
CL2-E	FC	AUTO	Enabled	50:06:0E:80:12:A0:C6:14
CL1-E	FC	AUTO	Enabled	50:06:0E:80:12:A0:C6:04
CL2-C	UNKNOWN	AUTO	Disabled	
CL1-C	UNKNOWN	AUTO	Disabled	
CL2-A	NOT EQUIPPED	AUTO	Disabled	
CL1-A	NOT EQUIPPED	AUTO	Disabled	
CL4-F	FC	AUTO	Enabled	50:06:0E:80:12:A0:C6:35
CL3-F	FC	AUTO	Enabled	50:06:0E:80:12:A0:C6:25
CL4-E	FC	AUTO	Enabled	50:06:0E:80:12:A0:C6:34
CL2-F	FC	AUTO	Enabled	50:06:0E:80:12:A0:C6:15
CL3-E	FC	AUTO	Enabled	50:06:0E:80:12:A0:C6:24

Page 1 of 1

Displaying items 1 - 12 of 12

Managing host groups

You can create and delete host groups, present and unpresent LUs to host groups, and add or remove WWNs from host groups on the Hosts Groups tab, accessible from the Manage tab.

VSP_G800 (441158) Summary Manage

Datstores Parity Groups Logical Units Storage Pools Ports Host Groups Replication Pairs Resource Groups

Search

Host Group ID	Name	Port	Host Mode	Number Of Host	Number Of Logical Unit	Resource Group
2	T41S_2U_02_P00	CL3-E	VMWARE EXTENSION	1	4	1
1	T41S_2U_01_P01	CL2-E	VMWARE EXTENSION	1	4	1
4	SkyLake_201_2	CL3-E	VMWARE EXTENSION	2	14	2
0	1F-G00	CL1-F	STANDARD	0	0	0
0	2F-G00	CL2-F	STANDARD	0	0	0
1	atest1267676382	CL2-F	STANDARD	2	0	2
2	atest1587602532	CL2-F	WINDOWS EXTENSION	2	0	2
5	atest1587602532	CL1-E	WINDOWS EXTENSION	1	0	2
0	3E-G00	CL3-E	STANDARD	0	0	0
1	host14	CL3-F	WINDOWS	1	1	0
12	ashtest	CL1-E	WINDOWS EXTENSION	1	0	2
6	172.17.228.104	CL1-E	VMWARE EXTENSION	2	1	2
16	test1-delete	CL1-E	STANDARD	1	0	2
0	4E-G00	CL4-E	STANDARD	0	0	0
4	atest1267676382	CL1-E	STANDARD	2	0	2
6	mgmt	CL2-E	VMWARE EXTENSION	2	4	0
2	T41S_2U_02_P01	CL2-E	VMWARE EXTENSION	1	4	1
7	mgmt	CL1-E	VMWARE EXTENSION	2	5	0
1	T41S_2U_01_P00	CL1-E	VMWARE EXTENSION	1	4	1

Page 1 of 1

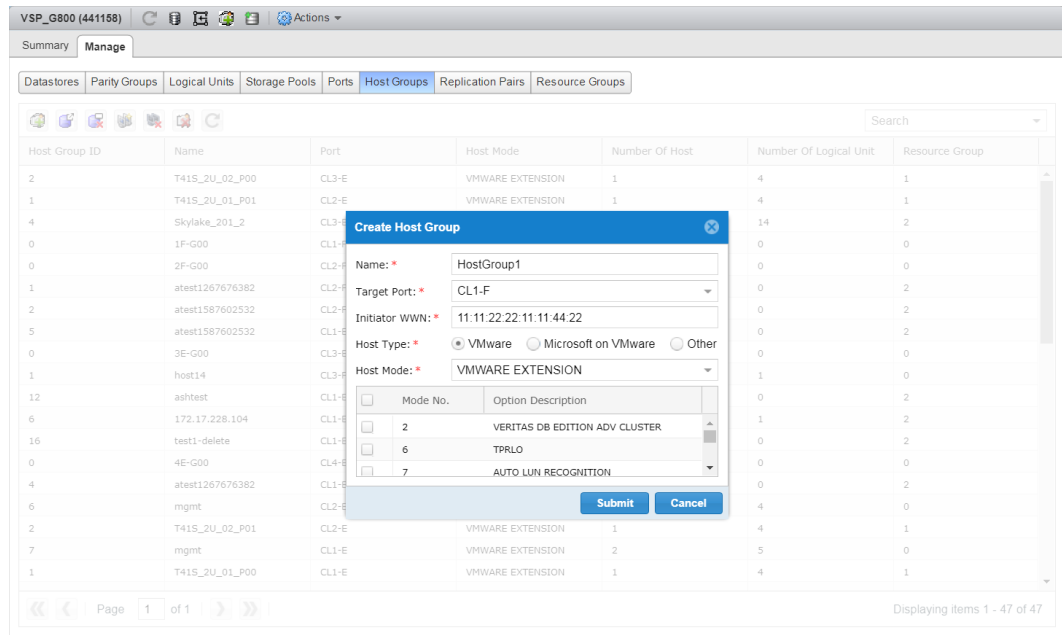
Displaying items 1 - 47 of 47

Creating a host group

You can create host groups for an ESXi host.

Procedure

1. On the **Host Groups** tab, click the **Create Host Groups** icon.



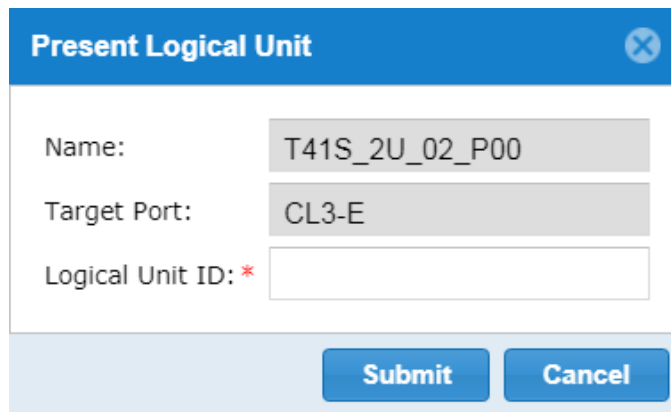
2. In the **Create Host Group** dialog box, specify the following:
 - Name: The name of the host group for easy identification.
 - Target Port: Select the appropriate target port from the list.
 - Initiator WWN: Specify the initiator WWN in the format "xx:xx:xx:xx:xx:xx:xx:xx" (for example, 10:00:00:90:fa:f0:94:d9).
 - Host Type: Specify the host type (VMware, Microsoft on VMware, Other).
 - Host Mode: Select the appropriate host mode from the list.
3. Click **Submit**.

Presenting a logical unit to a host group

You can present a logical unit to a host group.

Procedure

1. On the **Host Groups** tab, select a host group, then click the **Present Logical Unit** icon.



The **Present Logical Unit** dialog box has a blue header with a close button. It contains three input fields: 'Name' with the value 'T41S_2U_02_P00', 'Target Port' with the value 'CL3-E', and 'Logical Unit ID' which is empty and marked with a red asterisk. At the bottom right are 'Submit' and 'Cancel' buttons.

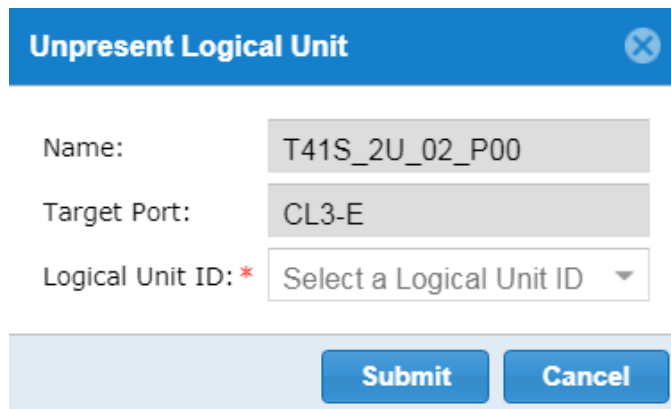
2. In the **Present Logical Unit** dialog box, specify the following:
 - Name: The name of the host group for easy identification.
 - Target Port: The name of the target port.
 - Logical Unit ID: Enter the logical unit ID.
3. Click **Submit**.

Unpresenting a logical unit from a host group

You can unpresent a logical unit from a host group.

Procedure

1. On the **Host Groups** tab, select a host group, then click the **Unpresent Logical Unit** icon.



The **Unpresent Logical Unit** dialog box has a blue header with a close button. It contains three input fields: 'Name' with the value 'T41S_2U_02_P00', 'Target Port' with the value 'CL3-E', and 'Logical Unit ID' which is a dropdown menu showing 'Select a Logical Unit ID' and is marked with a red asterisk. At the bottom right are 'Submit' and 'Cancel' buttons.

2. In the **Unpresent Logical Unit** dialog box, specify the following:
 - Name: The name of the host group for easy identification.
 - Target Port: The name of the target port.
 - Logical Unit ID: Select the logical unit ID.
3. Click **Submit**.

Presenting a LUN to a VMware ESXi host

You can present a logical unit to an ESXi host and storage host group.

Procedure

1. From the **Actions** list, select **LUN**, then select **Present LUN** to present a logical unit to an ESXi host.

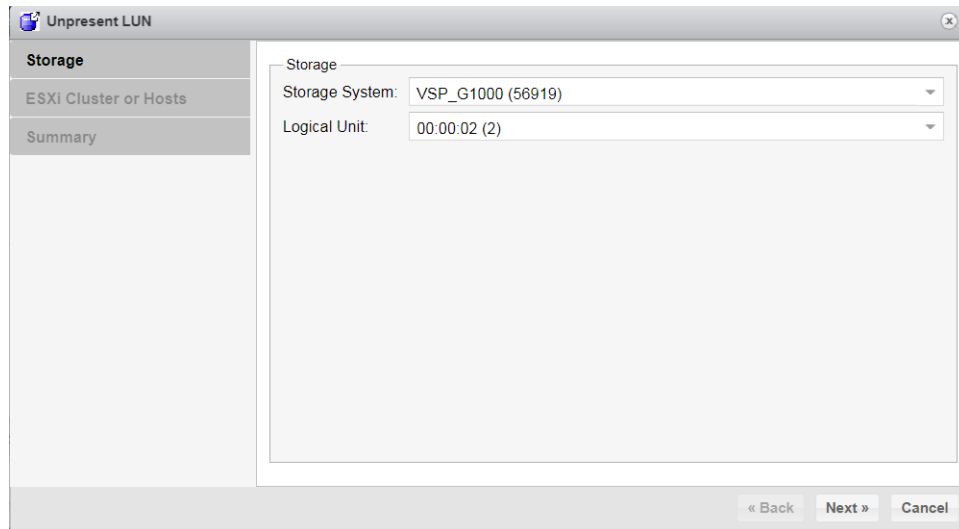
2. Select the **Storage System**.
3. Select the **Logical Unit** ID.
4. Click **Next**.
5. Select **ESXi Cluster or Hosts**.
6. Click **Next**.
7. Review the **Summary** window.
8. Click **Submit**.

Unpresenting a LUN from a VMware ESXi host

You can unpresent a logical unit so that it is no longer visible to a VMware ESXi host or other host groups.

Procedure

1. From the **Actions** list, select **LUN**, then select **Unpresent LUN** to unpresent a logical unit to an ESXi host.



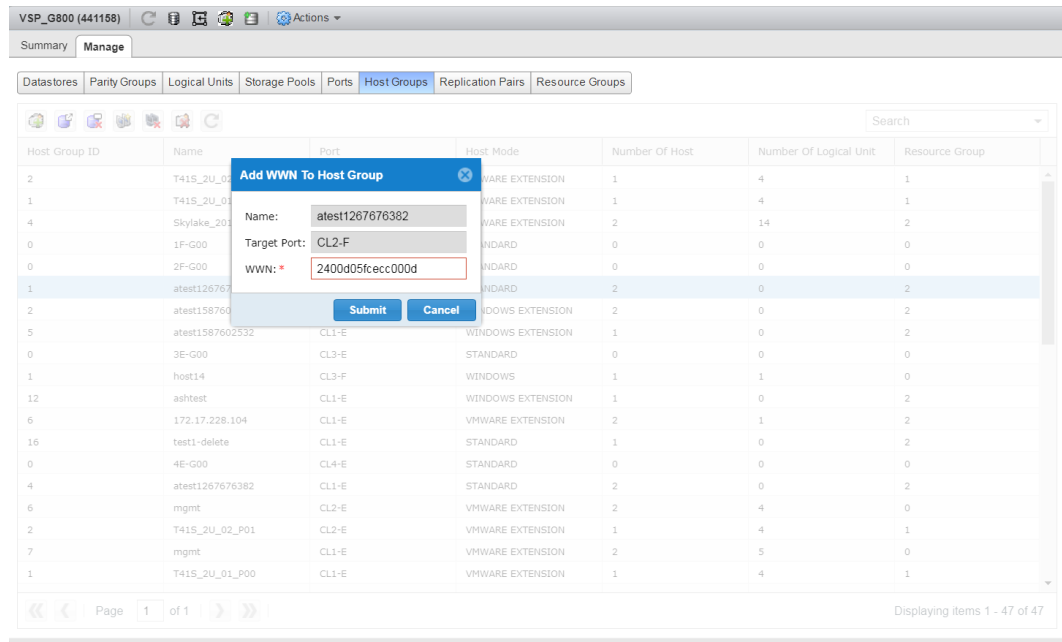
2. Select the **Storage System** with the logical units to be unpresented.
3. Select the **Logical Unit** ID.
4. Click **Next**.
5. Select **ESXi Cluster or Hosts**.
6. Click **Next**.
7. Review the **Summary** window.
8. Click **Submit**.

Adding a WWN to a host group

You can add a WWN to an existing host group.

Procedure

1. On the **Host Groups** tab, select a host group, then click **Add WWN To Host Group**.



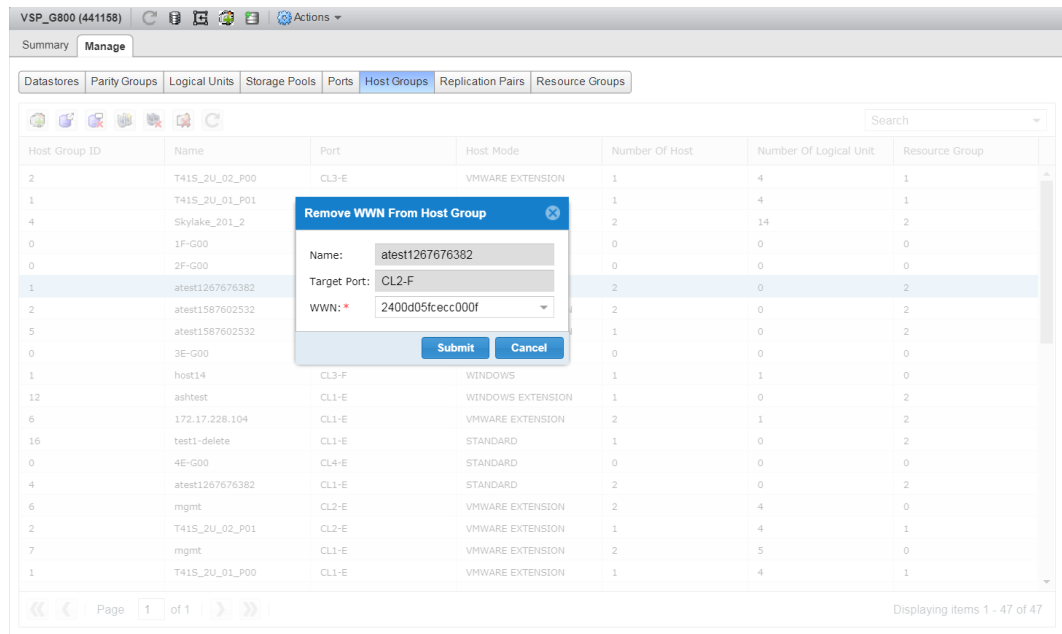
2. Enter the WWN using the following format: xx:xx:xx:xx:xx:xx:xx:xx (for example, 10:00:00:10:9b:1c:30:49) .
3. Click **Submit**.

Removing a WWN from a host group

You can remove a host from an existing host group.

Procedure

1. On the **Host Groups** tab, select the host group, then click the **Remove WWN From Host Group** icon.



2. In the **Remove WWN From Host Group** dialog box, select the appropriate WWN from the list.
3. Click **Submit**.

Deleting a host group

You can delete a host group when it is no longer required.

Procedure

1. On the **Host Groups** tab, select the host group to be deleted, then click the **Delete Host Group** icon.
2. Click **Yes** to confirm the deletion.

Result

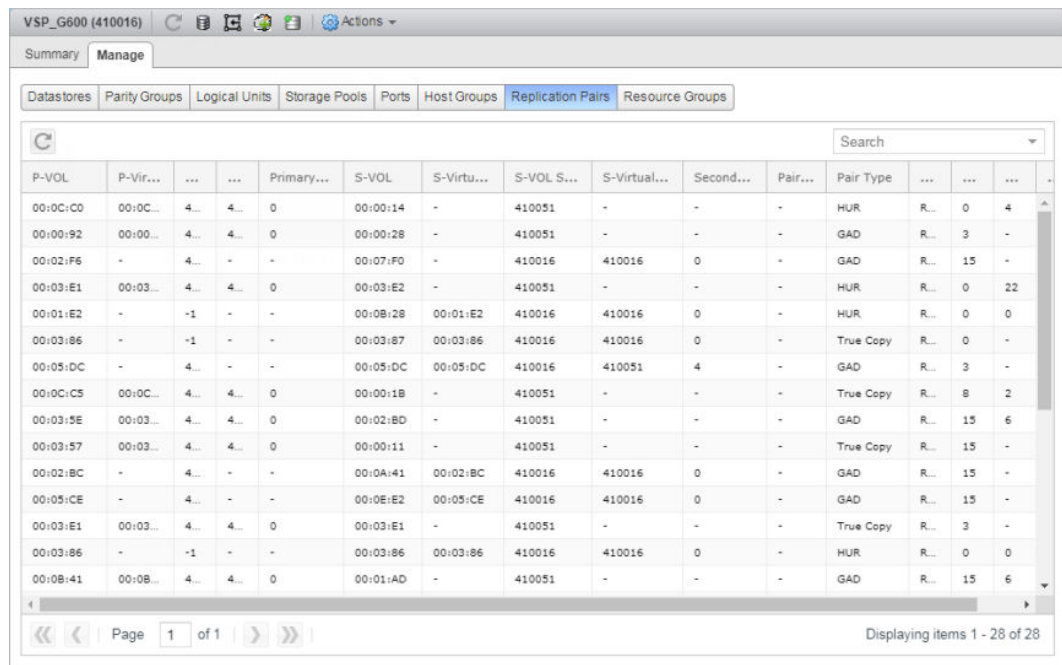
The selected host group is deleted and is no longer shown in the list.

Reviewing replication pairs

You can view relevant information regarding replication pairs for a selected storage system. This information is useful for determining which volumes are paired.

Procedure

1. On the **Replication Pairs** tab, review the information for the replication pairs associated with the currently selected storage device.



P-VOL	P-Vir...	...	...	Primary...	S-VOL	S-Virtu...	S-VOL S...	S-Virtual...	Second...	Pair...	Pair Type	...	...	...	...
00:0C:C0	00:0C...	4...	4...	0	00:00:14	-	410051	-	-	-	HUR	R...	0	4	-
00:00:92	00:00...	4...	4...	0	00:00:28	-	410051	-	-	-	GAD	R...	3	-	-
00:02:F6	-	4...	-	-	00:07:F0	-	410016	410016	0	-	GAD	R...	15	-	-
00:03:E1	00:03...	4...	4...	0	00:03:E2	-	410051	-	-	-	HUR	R...	0	22	-
00:01:E2	-	-1	-	-	00:0B:28	00:01:E2	410016	410016	0	-	HUR	R...	0	0	-
00:03:86	-	-1	-	-	00:03:87	00:03:86	410016	410016	0	-	True Copy	R...	0	-	-
00:05:DC	-	4...	-	-	00:05:DC	00:05:DC	410016	410051	4	-	GAD	R...	3	-	-
00:0C:C5	00:0C...	4...	4...	0	00:00:1B	-	410051	-	-	-	True Copy	R...	8	2	-
00:03:5E	00:03...	4...	4...	0	00:02:BD	-	410051	-	-	-	GAD	R...	15	6	-
00:03:57	00:03...	4...	4...	0	00:00:11	-	410051	-	-	-	True Copy	R...	15	-	-
00:02:BC	-	4...	-	-	00:0A:41	00:02:BC	410016	410016	0	-	GAD	R...	15	-	-
00:05:CE	-	4...	-	-	00:0E:E2	00:05:CE	410016	410016	0	-	GAD	R...	15	-	-
00:03:E1	00:03...	4...	4...	0	00:03:E1	-	410051	-	-	-	True Copy	R...	3	-	-
00:03:86	-	-1	-	-	00:03:86	00:03:86	410016	410016	0	-	HUR	R...	0	0	-
00:0B:41	00:0B...	4...	4...	0	00:01:AD	-	410051	-	-	-	GAD	R...	15	6	-

The following information is provided:

P-VOL

In a volume pair, the source volume that is copied to another volume using the volume replication functionality of the storage system. The data on the P-VOL is duplicated synchronously or asynchronously on the secondary volume (S-VOL).

P-Virtual Volume

The virtual volume associated with the P-VOL.

P-VOL Serial

Serial number of the storage system that includes the P-VOL.

P-Virtual Device

The primary virtual device associated with the replication pair.

Primary Resource Group

The resource group that is associated with the primary volume in the replication pair.

S-VOL

After a backup, the volume in a copy pair that is the copy of the original data on the primary volume (P-VOL). Recurring differential data updates keep the data in the S-VOL consistent with the data in the P-VOL.

S-Virtual Volume

The virtual volume associated with the secondary volume in the replication pair.

S-VOL Serial

Serial number of the storage system that includes the S-VOL.

S-Virtual Device

The virtual device associated with the secondary volume in the replication pair.

S-Virtual Resource Group

The resource group that is associated with the secondary volume in the replication pair.

Pair Name

The resource group that is associated with the primary volume in the replication pair.

S-VOL Access Mode

Access mode for the S-VOL after pairs are split. Valid values are READONLY and READWRITE.

Mirror ID

When multiple S-VOLs are created for one P-VOL, a mirror ID is assigned to each volume pair.

Pair Type

Type of replication pair global-active device (GAD), Hitachi TrueCopy[®], and Hitachi Universal Replicator (HUR).

Consistency Group ID

The ID of the consistency group in which the volume pair resides. If not consistent, no value is shown and a hyphen is displayed.

Status

Status of the given volume in the volume pair. The following statuses are supported:

- UNKNOWN: Status is unknown.
- COPY: Initial copy operation for the volume pair is in progress. The pair is not yet synchronized.
- PAIR: Volume is in a paired state. The initial copy is completed and the data is duplicated.
- PSUS: Volume pair is in a suspended state for the primary volume.
- PSUE: Volume pair is suspended and blocked due to a failure condition.
- PDUB: One of the LDEVs within the LUSE has failed.
- RCPY: Copying is in progress by resynchronization.
- PFUL: Thin Image or Copy-on-Write Snapshot pool exceeds the threshold in the PAIR status.
- PFUS: The Thin Image or Copy-on-Write Snapshot pool exceeds the threshold in the PSUS status.
- SSWS: Secondary volume is in a suspend-with-swap state



Note: The volumes in a replication pair cannot be deleted using UCP Advisor. An error message is generated when the deletion of a GAD pair is attempted.

Reviewing resource groups

You can review a list of resource groups for a selected storage system. A resource group is a collection of resources that are grouped by one or more system resource types that include storage system, parity groups, pools, LDEV IDs, and storage ports.

On the Resource Groups tab, review the resource group specifications.

VSP_G800 (441158)

Actions

Summary

Manage

Datstores

Parity Groups

Logical Units

Storage Pools

Ports

Host Groups

Replication Pairs

Resource Groups

Search

Resource Group ID	Name	Virtual Device Type	Virtual Device ID	Meta Resource Serial
0	meta_resource	VSP GX00	441158	441158
2	UCPCompute	VSP GX00	441158	441158
1	UCPManagement	VSP GX00	441158	441158
1023	NAS_Platform_System_RSG	VSP GX00	441158	441158

«

«

Page 1 of 1

»

»

Displaying items 1 - 4 of 4

Chapter 3: Managing compute nodes

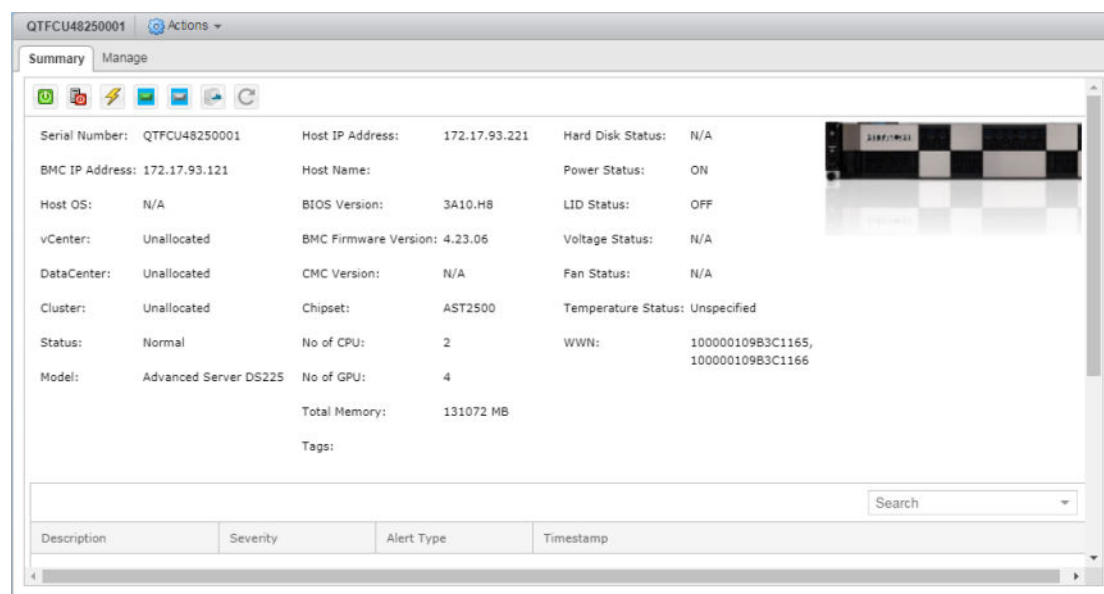
Hitachi UCP Advisor provides pertinent information and allows you to manage operations for connected servers.

Compute node inventory

You can obtain a summary of pertinent details for a selected compute node (or Hitachi Compute Blade 500 chassis for UCP 4000 systems) by accessing the Summary tab from the **UCP Navigator** window.

The Summary tab presents general details for a selected server, and the Manage tab provides even more detailed information regarding the various components for a server. For instance, you can see the serial number associated with the server, alerts, and the current operating status for its various components. In addition, you can also replace a server, modify a chassis or server label, or update the firmware.

The Summary tab, shown below, provides information about the server, its location, and its current state.



The following summary details are provided:

Serial Number:

Serial number of the server.

BMC IP Address:

BMC IP address for the server.

Host OS:

ESXi host hypervisor version of the OS.

vCenter:

Indicates the vCenter server to which the host is assigned.

DataCenter:

Indicates where the ESXi host resides.

Cluster:

If applicable, shows the cluster to which the ESXi host is assigned.

Status:

The status can be one of the following:

- Normal
- Maintenance
- Unreachable

Model:

Shows the model of the server.

Host IP Address:

IP address for the server.

BIOS Version:

Shows the current BIOS version.

BMC Firmware Version:

Shows the current BMC firmware version.

CMC Version:

Shows the current CMC version.

Chipset:

Chipset used by the server.

No. of CPUs:

Number of CPUs used by the server.

No. of GPUs:

Number of graphical processing units (GPU) used by the server.

Total Memory:

Total available physical memory available to the server.

Tags:

Shows tags for filtering.

Hard Disk Status:

Shows the current status (present or absent) for the hard disk used by the server.

Power Status:

Shows whether the power is currently on or off.

LID Status:

Shows whether the location ID is on or off for the server.

Voltage Status:

Shows the current voltage status.

Fan Status:

Shows the current fan status.

Temperature Status:

Shows the current temperature for the server.

WWN:

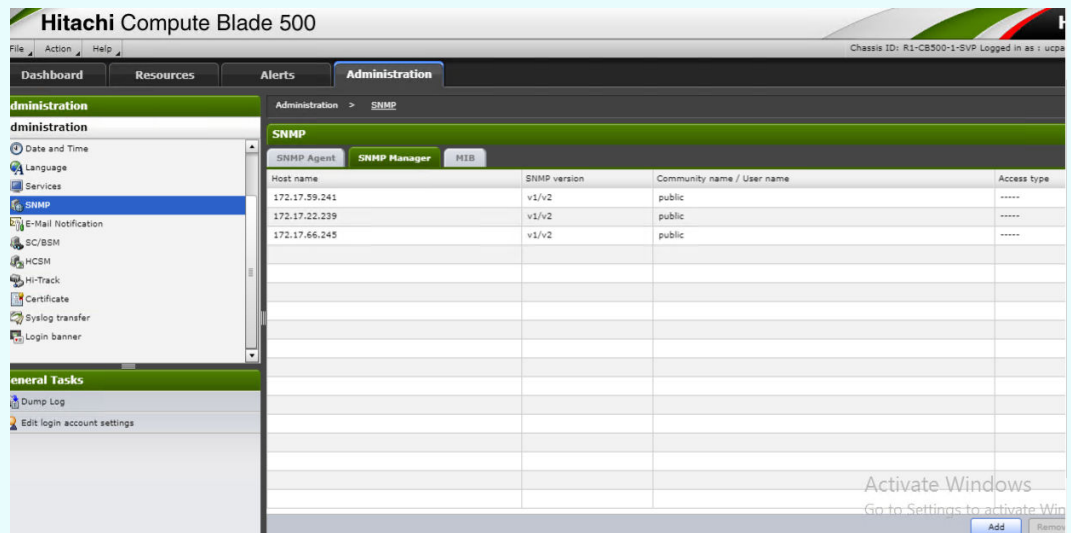
Specifies the WWN for the server.

Alerts:

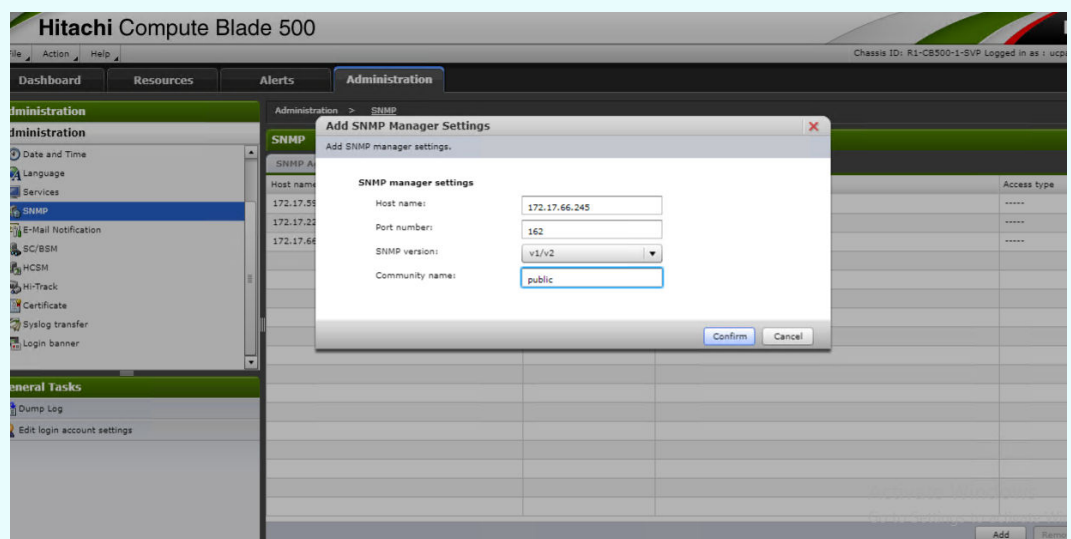
Shows server alerts with time stamps and severity.



Note: To get voltage, temperature, and fan status for the CB 500 chassis, you must provide the appropriate SNMP Manager details from the Chassis SVP. On the Administration panel, select SNMP, then click the SNMP Manager tab.



Click Add, then provide the host name IP address for the Advisor gateway and other relevant details.



A collection of icons at the top of the Summary window allows you to quickly perform common operations that affect the performance of the server.

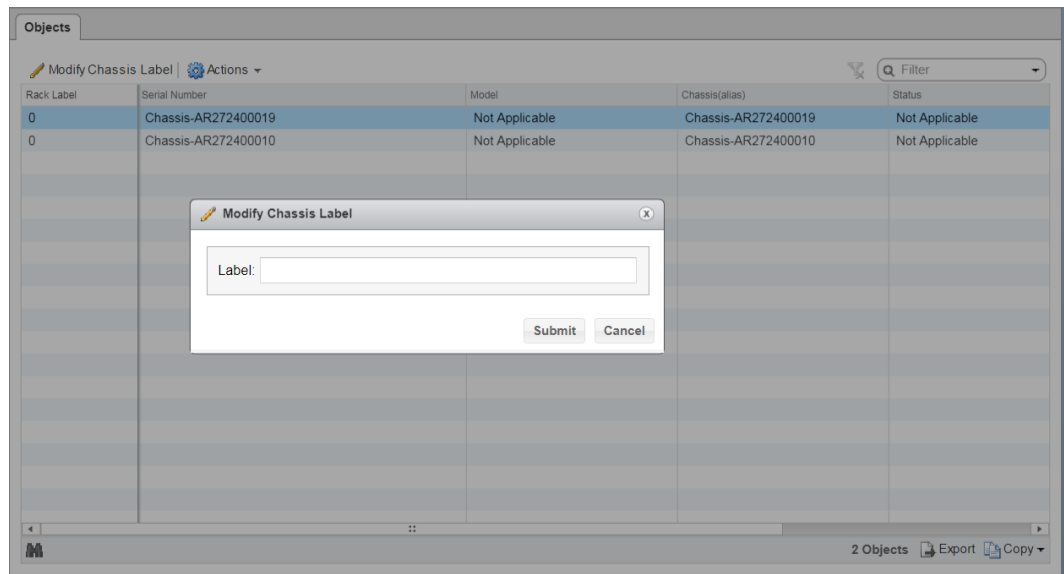
Modifying a chassis label

You can modify an existing chassis label.

Procedure

1. In the Advisor window, click the **Compute** icon.

2. In the **Objects** window, select the chassis you want to modify, then click **Modify Chassis Label**.



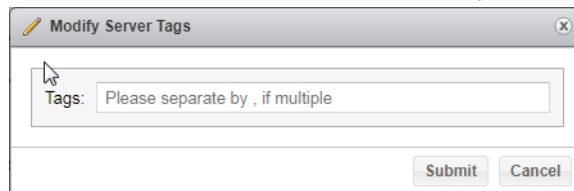
3. Enter the new chassis label name and click **Submit**.

Modifying a server tag

Server tags are useful for filtering the compute inventory when performing batch provisioning or other tasks. You can add new tags to a server, or modify existing ones.

Procedure

1. In the UCP Advisor window, click the **Compute** icon, and then select the server that you want to tag.
2. In the **Related Objects** window, double-click the server.
3. From the **Actions** menu, select **Modify Server Tags**.



4. Enter the new server tag, and then click **Submit**.
5. Refresh the vSphere Web Client window to see the new server tag.

Managing compute servers

You can obtain detailed, component-level information for a selected server by accessing the Manage tab from the UCP Navigator window. You can also perform a number of management operations from the Actions list.

From the Manage tab, you can access detailed information regarding a server:

- CPU: Shows details about the CPU, including model, manufacturer, frequency, and status.
- GPU: Shows details about the GPU, including model and manufacturer. Memory information is also shown if ESXi information is provided at onboarding.
- FRU: Shows details regarding the chassis and its components.
- FAN: Shows details about the system fans and their operating parameters.
- Temperature: Shows the temperature of components based on their location, and provides other operational thresholds.
- Voltage: Shows the voltage usage of components based on their location, and provides other operational thresholds.
- Memory: Shows available memory, frequency, and its current status.
- vSAN Datastores: Shows various details regarding the vSAN datastores associated with the server.



Note: To see fan, temperature, and voltage information for the CB 500 chassis, the proper SNMP settings must be configured as described in [Compute node inventory \(on page 60\)](#).

Replacing a compute server

You can replace an existing ESXi host in a VMware cluster with a new server. The storage settings are automatically updated so that the logical units used by the original host are presented to the newly replaced host, and the datastores (other than local) on the original host are presented to the newly replaced host.

Before you begin

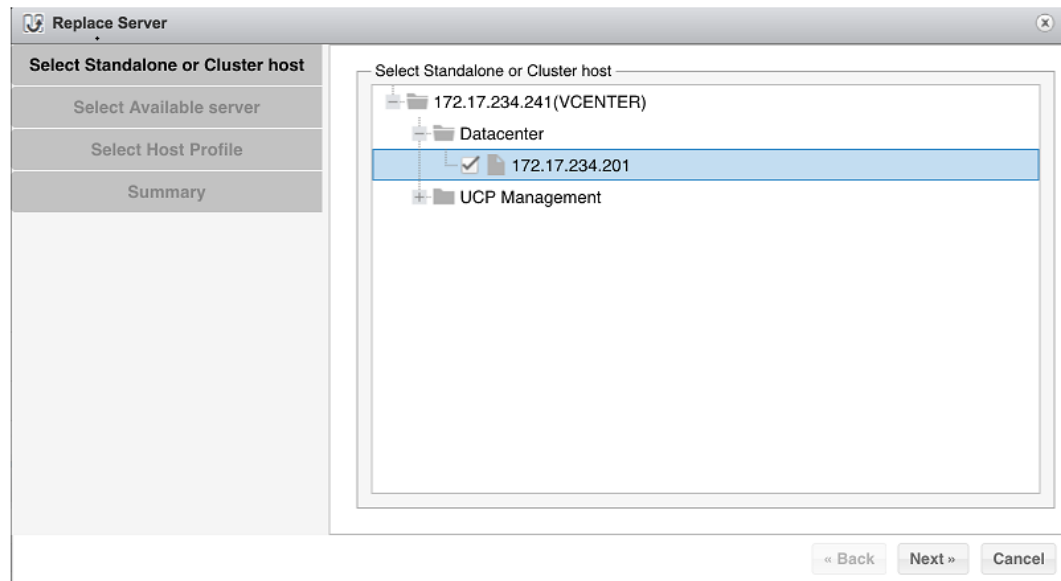
- Set up the ESXi host that is to be used in place of the server you are replacing and prepare an appropriate host profile. Creating a host profile requires a VMware vSphere Enterprise Plus license for the ESXi host.
- Ensure that the server to be replaced is present in the vCenter inventory.
- For compute servers, make sure the firmware version and model of the source and target servers are the same.



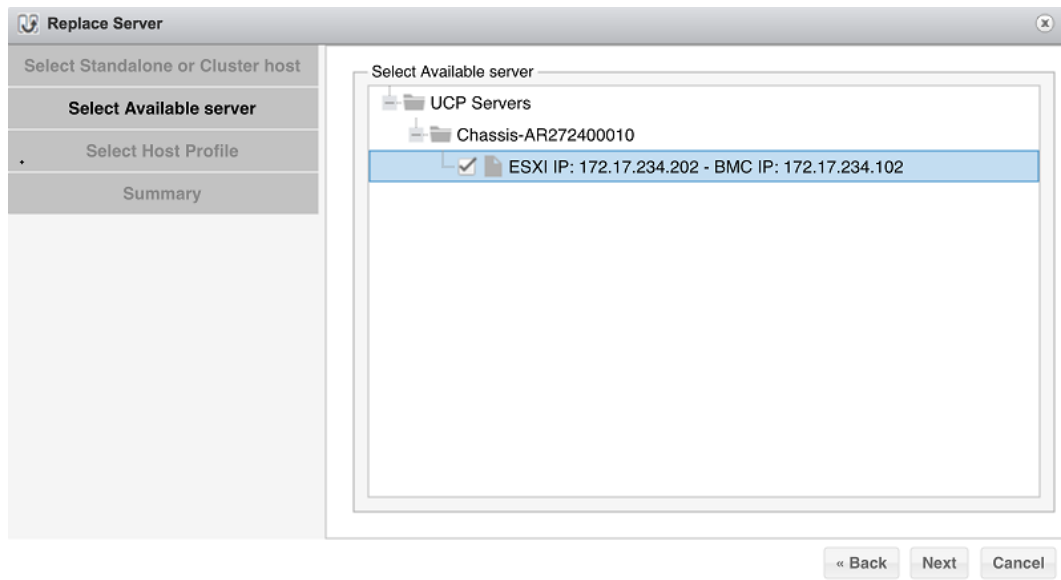
Note: Host replacement and the migration of vSAN datastores is not supported for HC nodes. Also, the same firmware version must be available on the source and target when replacing a host server.

Procedure

1. In the **UCP Advisor** window, click the **Compute** icon.
The currently active compute servers are listed in the **Navigator** window.
2. In the **Navigator** window, right-click on any server, then select the server you want to replace.
3. From the **Actions** list, click **Replace Server**.



4. Select either a standalone or cluster from the hierarchy of servers shown in the server tree, then click **Next**.
5. Select the server to be replaced.



6. Select the ESXi host profile to use for the replacement server.
7. Click **Finish**.

Result

The original server is replaced with the new server according to the selected host profile.

Modifying a compute server label

You can change the label currently assigned to a server to some other name.

Procedure

1. In the **UCP Advisor** window, click the **Compute** icon.
The currently active compute devices are listed in the **Navigator** window.
2. In the **Navigator** window, double-click the compute node, then select the server with the label you want to change.
3. From the **Actions** list, click **Modify Server Label**.
The **Modify Server Label** dialog box opens.
4. Enter the modified server label and click **Submit**.

Result

The label for the currently selected server is modified to reflect the newly entered name.

Upgrading server firmware

You can upgrade the server firmware to the latest level.

Before you begin

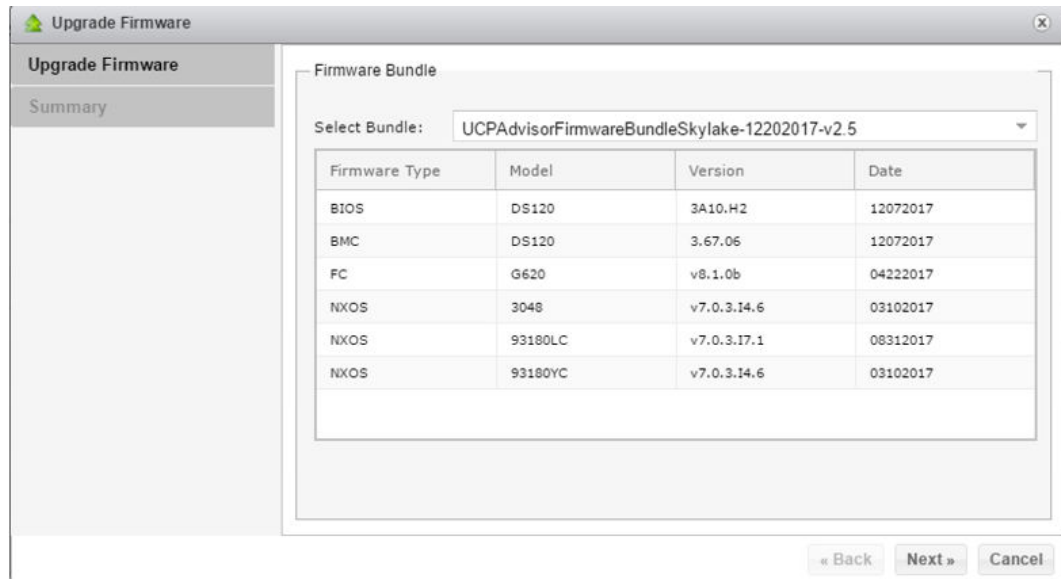
- Upload the appropriate firmware bundle from the Firmware tab, available from the Administration selection in the Navigator window.
- During a firmware upgrade, the server goes through a power recycle and the UCP Advisor Gateway VM fails, and is thus not accessible. To avoid any disruption, migrate the UCP Advisor Gateway appliance to a different server before performing the firmware upgrade.



Note: Firmware upgrades are not currently supported for UCP 4000 servers. For power operations to work, the server should be a part of the vCenter inventory.

Procedure

1. In UCP Advisor, click the **Compute** icon.
2. In the **Navigator** window, select the server to be upgraded with the latest firmware.
3. From the **Actions** list, select **Upgrade Firmware**.



4. Select the firmware bundle to upload and click **Next**.
The **Summary** window opens.
5. Confirm your selection and click **Finish**.

Managing power settings

You can turn power on or off, or reset the power for the server.

Procedure

1. In UCP Advisor, click the **Compute** icon.
2. In the **Navigator** window, select the server to be turned off or on.
3. Select **Actions > Power > On**.
The **Power ON/Power OFF** window opens, requesting confirmation.
4. Click **Yes** to complete the operation.

Result

The selected server is either turned on or off.

If for some reason a server is not responding, you can choose the Reset option from the Actions list to try and bring the server back online.

Operating locator IDs

You can identify the location of servers by turning the server lamp on or off from UCP Advisor. These lamps are called locator IDs (LIDs).

Procedure

1. In UCP Advisor, click the **Compute** icon.
2. In the **Navigator** window, select the server with the LID to be turned on or off.

3. From the **Actions** list, select **LID**, then select **On** or **Off**.
The **LID On/Power Off** window opens, requesting confirmation.
4. Click **Yes** to complete the operation.

Setting a boot option

You can specify the boot location where the initial operating system is loaded when a server is brought online.

Before you begin

A valid boot location must contain the portions of an operating system required to bootstrap the system. The following options are available:

- Normal
- SVC Partition
- PXE
- CDROM
- HDD
- BIOS Setup
- FLOPPY
- HDD SAFE



Note: For boot operations to work, the server must be part of the vCenter inventory.

Procedure

1. In UCP Advisor, click the **Compute** icon.
2. In the **Navigator** window, select the server for which you want to set the boot option.
3. From the **Actions** list, select **Set Boot Option**.

4. Select one of the available boot locations and click **Submit**.

Listing vSAN datastores

You can get a list of vSAN datastores associated with a given server.

Before you begin

- In order for the vSAN datastore information to be available to UCP Advisor, the vSAN must be brought online by following the VMware best practices.
- Ensure that the vSAN cluster exists in the same vCenter inventory where the appliance is registered.

Procedure

1. In UCP Advisor, click the **Compute** icon.
2. In the **Navigator** window, select the server for which you want to list the datastores.
3. Click the **Manage** tab, then click the **vSAN Datastores** tab.

QTFCR28060158 Actions

Summary Manage

CPU GPU FRU FAN Temperature Voltage Memory **vSAN Datastores**

Host Config

Hostname: 172.17.67.201	Status: connected	Health: healthy	Network Partition: Group 1
Accessible: Yes	Read-Only: No	Total Disks: 3	Disks In Use: 3

Datastore

Datastore Name	Free Space	Capacity
vsanDatastore	11030.67 GB	11178.05 GB

Physical Storage Devices

Display Name	Capacity	Disk Tier	Drive Type	State	Operational S
Local NVMe Disk (t10.NVMe____INTEL_SSDPE21K37...	349.32 GB	Cache	Flash	Mounted	Attached
Local NVMe Disk (t10.NVMe____INTEL_SSDPE2KX02...	1863.02 GB	Capacity	Flash	Mounted	Attached
Local NVMe Disk (t10.NVMe____INTEL_SSDPE2KX02...	1863.02 GB	Capacity	Flash	Mounted	Attached

Other Storage Devices

Display Name	Capacity	Disk Tier	Drive Type	State	Operational S
HITACHI Fibre Channel Disk (naa.60060e8012aa0700...	5 GB	Capacity	HDD	Mounted	Attached
Local ATA Disk (t10.ATA____SATADOM2DSH_TYPE_...	29.82 GB	Cache	Flash	Mounted	Attached

Details regarding the selected server are provided as follows:

- **Host Config:** Shows the host name and other related details.
- **Datastore:** Shows the datastore name, free space, and capacity.
- **Physical Storage Devices:** Shows the physical storage devices associated with the datastore, and lists capacity, tier, drive type, state, operational state, and other information.
- **Other Storage Devices:** Shows any other storage devices associated with the datastore, and lists capacity, tier, drive type, state, operational state, and other information.

Deploying an ESXi host to a cluster or datacenter

You can deploy an ESXi host to an ESXi cluster or datacenter.

The following ESXi host configurations are supported:

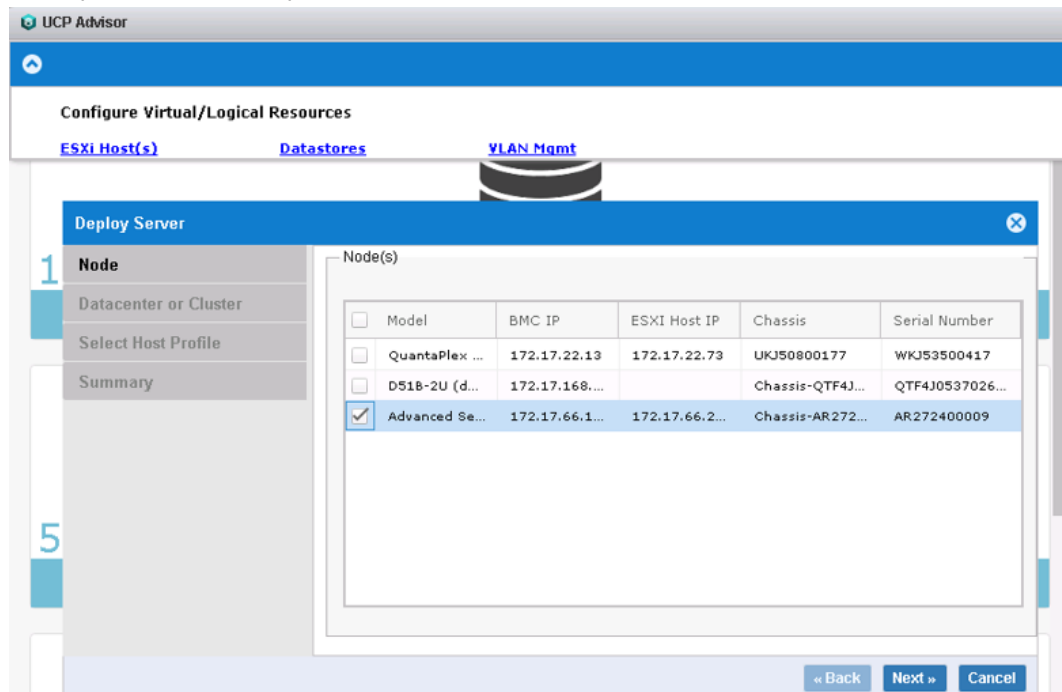
- Deployment of an ESXi host to an ESXi cluster.
- Deployment of an ESXi host to a datacenter.

Before you begin

Make sure any compute nodes that have been onboarded with ESXi credentials in UCP Advisor and ESXi host are not managed in any vCenter prior to deployment.

Procedure

1. From the **Configure Virtual/Logical Resources** banner that is accessible by clicking the up arrow at the top of the UCP Advisor main window, click **ESXi Host(s)**.



2. Select one or more servers to deploy.
3. From the **Datacenter or Cluster** tab, choose a cluster to deploy.
4. (Optional) Provide the ESXi license key.
5. (Optional) From the **Select Host Profile** tab, select a host profile. (Available for VMware vSphere Enterprise Plus license only.)
6. Select **Finish** to deploy the ESXi host(s) to the selected cluster.

After initiating the deployment of the host, the following tasks are performed:

- Zone configuration is validated against the best practice for each of the hosts and a warning task event is generated if the zoning configuration does not comply with the best practice.
- Host group configuration is validated against the best practice for each of the hosts and a warning task event is generated if the host group configuration does not comply with the best practice.
- Common LUNs that are shared by other hosts in an existing cluster are identified, common LUNs are presented to the hosts, and the datastores are re-scanned for each of the hosts.
- Selected host profiles are attached to each of the cluster hosts.

Chapter 4: Managing switches

UCP Advisor provides pertinent information and allows you to manage operations for connected Ethernet and Fibre Channel switches.



Note: Switch provisioning is not currently supported for UCP 2000, UCP 4000, HC, and RS based Broadwell servers.

Managing Ethernet switches

You can obtain detailed, component-level information for a selected Ethernet switch by accessing the Manage tab from the UCP Navigator window. In addition to the information provided from the Manage tab, you can also perform a number of management operations from the Actions list.

By using the UCP Navigator, you can access the Ethernet Switches window that provides a Summary tab that presents general details for a selected switch.

The Manage tab shows additional details and lets you manage ports and perform other management operations for a given switch:

- **Ethernet Ports:** Shows details about the Ethernet ports and allows you to specify which ports are to be managed.
- **VLAN:** Shows details regarding VLANs and allows you to add, delete, and specify ports associated with a VLAN.

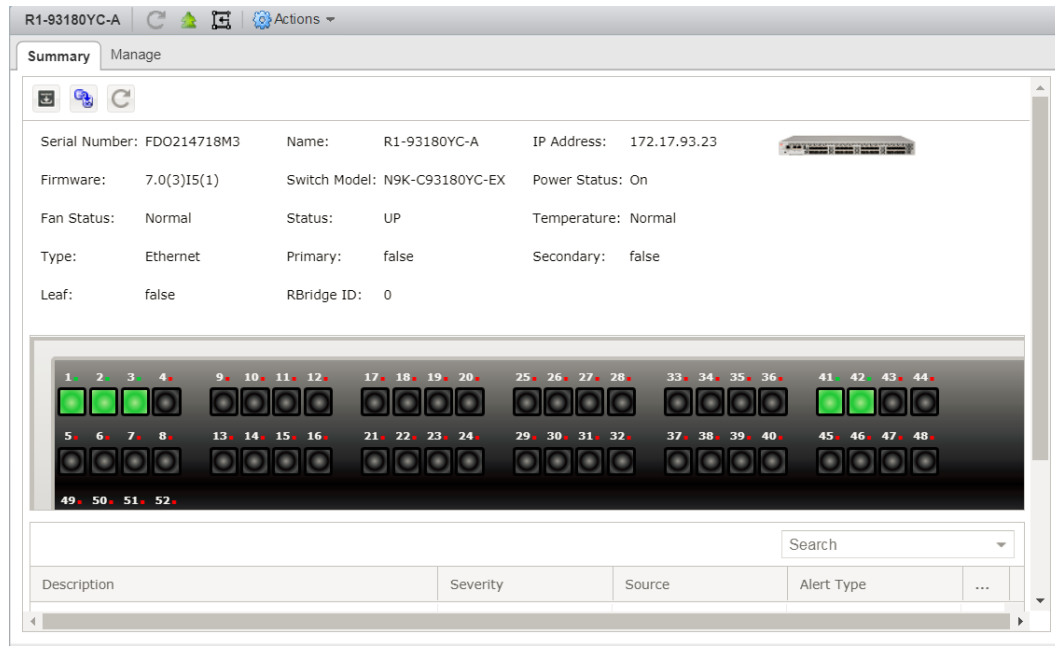
From the Actions list, you can perform the following management task:

- **Upgrade Firmware:** Allows you to upgrade the firmware for a selected switch.

Ethernet switch inventory

You can obtain a summary of pertinent details for a selected Ethernet switch by accessing the Summary tab from the UCP Navigator window.

The Summary tab, shown below, provides information about the Ethernet switch, its location, and its current state.



Alerts regarding the currently selected switch are shown at the bottom of the Summary window, indicating severity level, source, and type of alert. You can use this information to track alerts that are generated during the operation of the switch.

The following details are provided in the summary:

Serial Number:

Serial number of the switch.

Firmware:

Firmware version for the switch.



Note: Following a firmware upgrade, it can take up to 30 minutes for the new firmware version to be updated in the summary details. However, you can get the latest firmware version by clicking the Refresh button from within the vSphere web client.

Fan Status:

Indicates the current fan status.

Type:

Indicates the type of switch (Ethernet).

Switch Model:

Indicates the switch model.

IP Address:

Indicates the IP address for the switch.

Status:

Shows the onboard status as follows:

- UP
- DOWN
- UNKNOWN
- UNREACHABLE

Power Status:

Shows the current power status (On or Off).

Temperature:

Shows the current temperature status as follows:

- Other
- Unknown
- Normal
- Warning
- Critical
- Fatal

Name:

Shows the switch name.

Primary:

True if this switch is the primary node in the cluster.

Secondary:

True if this switch is the secondary node in the cluster.

Leaf:

True if this switch is the leaf node in the cluster.

RBridge ID:

For Brocade switches, specifies the Switch RBridge ID.

Upgrading Ethernet switch firmware

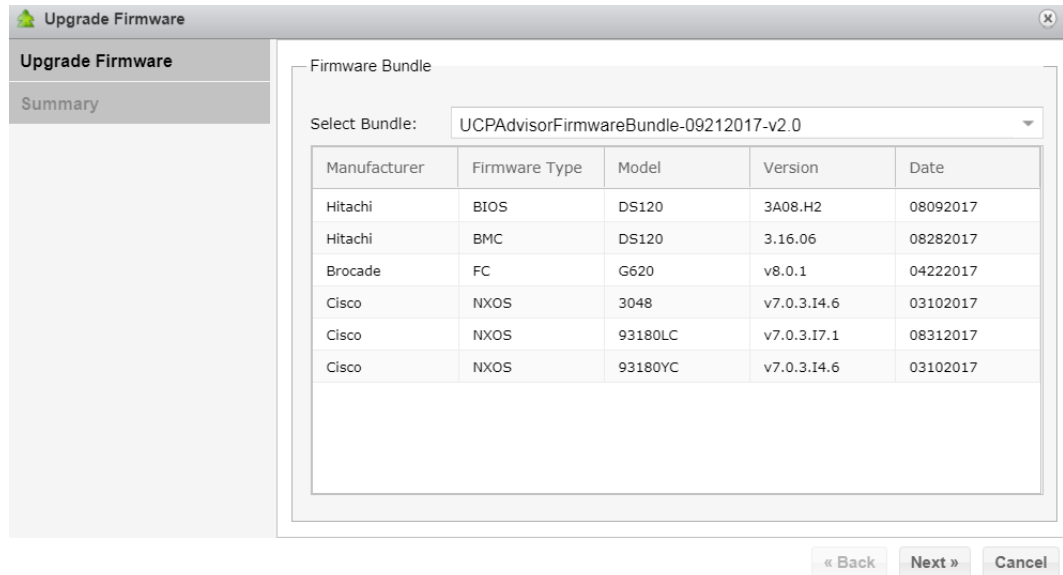
You can upgrade the firmware for a selected Ethernet switch. The firmware upgrade operation can take approximately 30 minutes to complete, depending on the switch type.

Before you begin

Upload the appropriate firmware bundle from the Firmware tab, available from the Administration selection in the Navigator window.

Procedure

1. In the **UCP Advisor** window, click the **Ethernet Switches** icon.
2. In the **Navigator** window, click **Ethernet Switches**, then select the switch with the firmware to be updated.
3. From the **Actions** list, click **Upgrade Firmware**.



4. Select the appropriate firmware bundle from the list, then click **Next**.
5. Check the information provided in the **Summary Information** window, then click **Finish**.

The firmware upgrade operation can take approximately 30 minutes to complete, depending on the switch type. After completion, the switch will reboot.

6. If necessary, you can consult the entry in the **Recent Tasks** window to check that the firmware upgrade task has been completed and to determine any other relevant details regarding the task.

Backing up a switch configuration

You can perform a backup of the current Ethernet switch configuration as a profile that can subsequently be restored.

Procedure

1. In the **UCP Advisor** window, click the **Ethernet Switches** icon.
2. In the **Navigator** window, click **Ethernet Switches**, then double-click the switch with the configuration you want to back up.
3. From the **Summary** tab, click the **Backup Profile** icon.
The **Backup Profile** window opens, requesting confirmation of the backup.
4. Click **Yes**. A message indicates that the current configuration profile is being saved. The **Back up** window opens indicating whether the backup has been completed successfully.

5. If necessary, you can consult the entry in the **Recent Tasks** window to check that the backup task has completed and to determine any other relevant details regarding the task.

Restoring a switch configuration

You can restore a previously backed up configuration profile for a selected Ethernet switch.

Procedure

1. In the **UCP Advisor** window, click the **Ethernet Switches** icon.
2. In the **Navigator** window, click **Ethernet Switches**, then double-click the switch where you want to restore a previously backed up configuration profile.
3. On the **Summary** tab, click the **Restore Profile** icon.

4. Select the backup file to be restored from the list, then click **Submit** to initiate the backup restoration.
The restore profile operation can take around 5 minutes to complete, depending on the backup size. After completion, the switch will reboot.
5. If necessary, you can consult the entry in the **Recent Tasks** window to check that the restore task has been completed and to determine any other relevant details regarding the task.

Managing Ethernet ports

You can display the details of Ethernet ports.

Procedure

1. In the **UCP Advisor** window, click the **Ethernet Switches** icon.
2. In the **Navigator** window, click **Ethernet Switches**, then double-click the switch for the ports you want to include or exclude from management.
3. On the **Manage** tab, click the **Ethernet Ports** tab. All of the currently active ports are listed by their Port ID, including port status, speed, and other details.

The screenshot shows the 'Manage' tab of the 'Ethernet Ports' section. A table lists 13 ports with their status, speed, VLAN ID, device type, tag, online status, and a 'Managed' checkbox. All checkboxes are checked. The table is paginated, showing items 1 to 50 of 54.

Port ID	Port Status	Speed	VLAN ID	Device Type	Tag	Online Status	Managed
1/1	UP	10G	234, 235	eth	Trunk	Online	<input checked="" type="checkbox"/>
1/2	UP	10G	234, 235, 788...	eth	Trunk	Online	<input checked="" type="checkbox"/>
1/3	DOWN	10G	234	eth	Trunk	Offline	<input checked="" type="checkbox"/>
1/4	DOWN	25G	234	eth	Trunk	Offline	<input checked="" type="checkbox"/>
1/5	DOWN	25G	10, 11, 234	eth	Trunk	Offline	<input checked="" type="checkbox"/>
1/6	DOWN	25G	234	eth	Trunk	Offline	<input checked="" type="checkbox"/>
1/7	DOWN	25G	234	eth	Trunk	Offline	<input checked="" type="checkbox"/>
1/8	DOWN	25G	100, 234	eth	Trunk	Offline	<input checked="" type="checkbox"/>
1/9	DOWN	25G	15	eth	Trunk	Offline	<input checked="" type="checkbox"/>
1/10	DOWN	25G		eth	Access	Offline	<input checked="" type="checkbox"/>
1/11	DOWN	25G		eth	Access	Offline	<input checked="" type="checkbox"/>
1/12	DOWN	25G		eth	Access	Offline	<input checked="" type="checkbox"/>
1/13	DOWN	25G	1, 9, 10, 11, ...	eth	Trunk	Offline	<input checked="" type="checkbox"/>

4. In the **Managed** column, use the check boxes to specify which ports are to be managed.

Result

Ethernet port status is shown for the ports that are checked.

Creating and removing a VLAN on an Ethernet switch

You can create or remove a VLAN for a selected Ethernet switch.

Procedure

1. In the **UCP Advisor** window, click the **Ethernet Switches** icon.
2. In the **Navigators** window, click **Ethernet Switches**, then double-click on the switch where you want to add or remove a VLAN.
3. On the **Manage** tab, click the **VLAN** tab.
All of the currently active VLANs are listed by their VLAN ID, including name, associated ports, VLAN type, and other details.
4. To create a new VLAN, click the **Create VLAN** icon.

Create VLAN

Name:

vlan11

VLAN ID:

504

Type:

Trunk

Access

<input type="checkbox"/>	Port
<input checked="" type="checkbox"/>	1/1
<input type="checkbox"/>	1/2
<input checked="" type="checkbox"/>	1/3
<input type="checkbox"/>	1/4
<input type="checkbox"/>	1/5
<input type="checkbox"/>	1/6
<input type="checkbox"/>	1/7

Submit

Cancel

- Enter the name for the new VLAN, its ID, and specify whether it is a **Trunk** or **Access** port by clicking the appropriate button. You can also specify the ports that are to be associated with the newly created VLAN. Selecting a port is optional, and when not selected, the **Trunk** or **Access** type is ignored.
- Click **Submit**.
To remove a VLAN, select the entry in the listing, click the **Delete** icon, then confirm the deletion.

Adding and removing ports from a VLAN

You add and remove ports from a VLAN.

Procedure

- In the **UCP Advisor** window, click the **Ethernet Switches** icon.
- In the **Navigator** window, click **Ethernet Switches**, then double-click the switch where you want to add or remove ports assigned to a VLAN.
- On the **Manage** tab, click the **VLAN** tab.
All of the currently active VLANs are listed by their VLAN ID, including name, associated ports, VLAN type, and other details.
- To assign or remove a port for an existing VLAN, click the **Add or Remove VLAN to Ports** icon.

Add or Remove Port From VLAN
✕

VLAN ID: 9

	Port	Type
<input type="checkbox"/>	1/1	Trunk
<input checked="" type="checkbox"/>	1/2	Trunk
<input type="checkbox"/>	1/3	Trunk
<input checked="" type="checkbox"/>	1/4	Trunk
<input type="checkbox"/>	1/5	Trunk
<input type="checkbox"/>	1/6	Trunk
<input type="checkbox"/>	1/7	Trunk

Submit
Cancel

5. Select the appropriate VLAN ID from the list, then check or uncheck the boxes next to ports that are to be included or excluded for the selected VLAN.
6. Add or remove a port from the VLAN, or toggle the type between **Trunk** or **Access**.
7. Click **Submit**.

Synchronizing a VLAN trunk range to an Ethernet switch

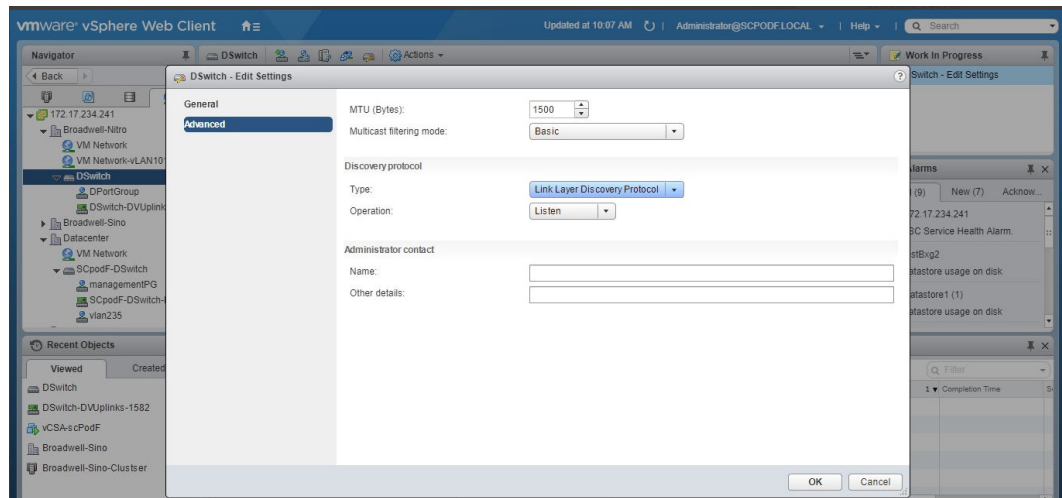
You can copy a VLAN range from a VMware distributed virtual switch to a UCP switch device.

Before you begin

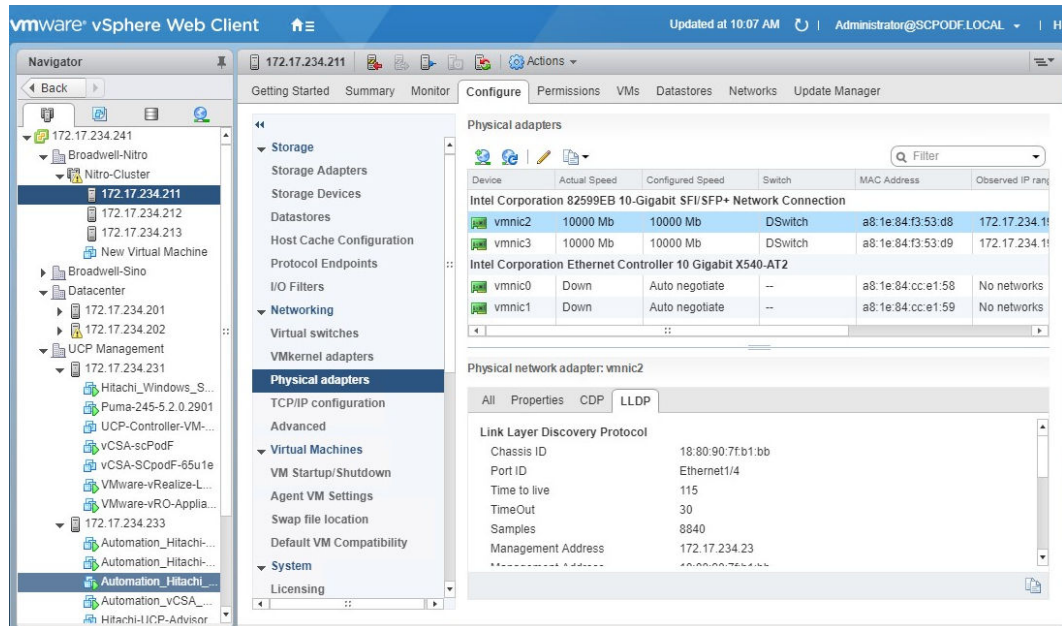
- Configure the vSphere Distributed Switch in vCenter for VLAN synchronization.
- Verify that the selected hosts are part of the distributed switch.
- Enable LLDP for the distributed switch.
- Verify that the selected ESXi hosts have a VMware vSphere Enterprise Plus license.

Procedure

1. In the vSphere Web Client, navigate to the distributed switch.
2. On the **Configure** tab, expand **Settings** and select **Properties**.
3. Click **Edit**.

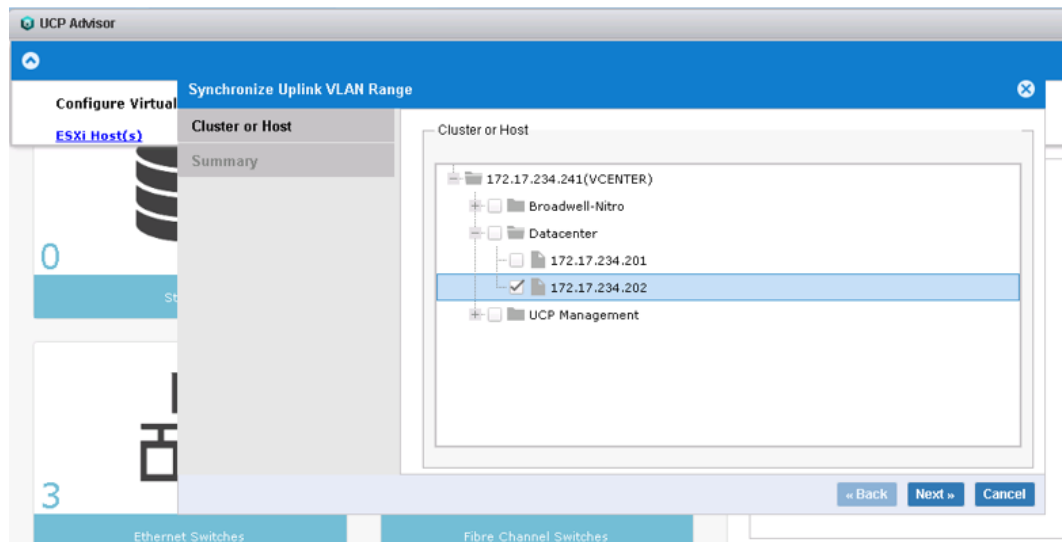


4. Click **Advanced** to edit the vSphere Distributed Switch settings.
5. In the **Discovery protocol** category, for the **Type** setting, select the **Link Layer Discovery Protocol** option and make sure that **Listen** is selected for the **Operation** setting.
6. Click **OK**.
7. On the **Configure** tab, verify that the appropriate information is shown for the physical network adapter on the **LLDP** tab.

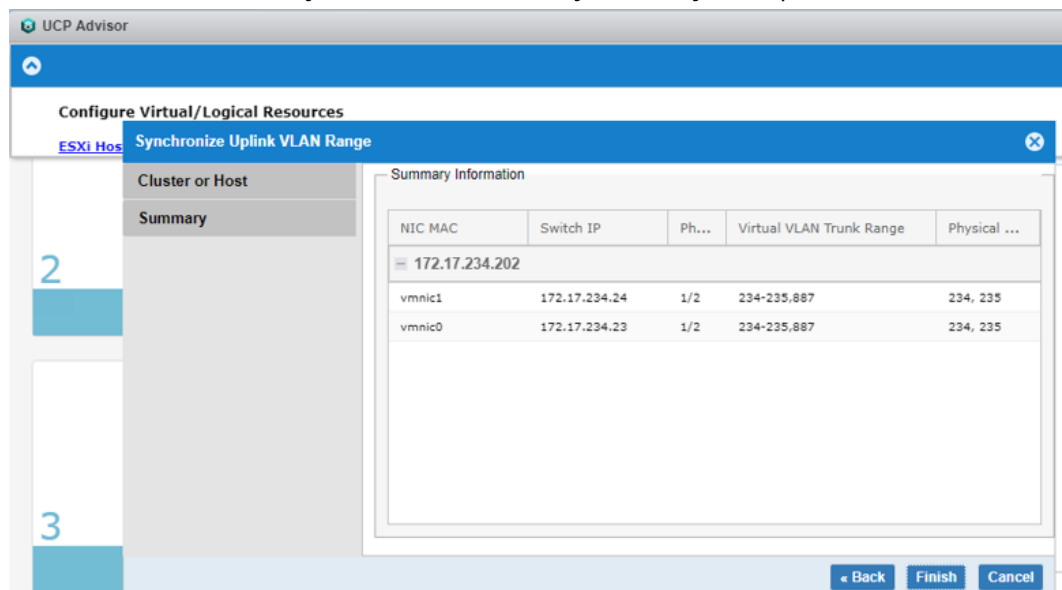


It might take some time for the LLDP details to get populated. Wait until the data is updated in vCenter before triggering the VLAN synchronization operation. After the vSphere Distributed Switch has been properly configured in vCenter, you can use UCP Advisor to complete the synchronization as described in the remaining steps.

8. From the **Configure Virtual/Logical Resources** banner at the top of the UCP Advisor main window, click **VLAN Mgmt**.



9. Select the appropriate host from the cluster or data center.
10. Expand the selected server and verify the server NIC MAC address, switch IP address, physical port, VLAN trunk range (comes from the vCenter dvSwitch uplink port group VLAN), and physical VLAN trunk range (comes from the physical Ethernet switch port VLAN).
11. Check that the summary information correctly reflects your input.



12. Click **Finish** to complete the VLAN synchronization.

Managing Fibre Channel switches

You can obtain detailed, component-level information for a selected Fibre Channel switch by accessing the Manage tab from the UCP Navigator window. You can also perform a number of management operations from the Actions list.

From the Manage tab, you can access detailed information regarding a switch by selecting the appropriate tab:

- **Ports:** Shows details about the Fibre Channel ports.
- **Alias:** Shows currently defined aliases for the selected switch, and allows you to add, edit, and remove aliases.
- **Zones:** Shows currently defined zone names for the selected switch, and allows you to add, edit, and remove zones.
- **Zone Config:** Shows the zone configuration associated with the selected switch, and allows you create, edit, and remove zone configurations. You can also enable and disable zone configurations.

From the Actions list, you can perform the following management task:

- **Upgrade Firmware:** Allows you to upgrade the firmware for a selected switch to the latest version.

Fibre Channel switch inventory

You can obtain a summary of pertinent details for a selected Fibre Channel switch by accessing the Summary tab from the UCP Navigator window.

The Summary tab, shown below, provides information about the Fibre Channel switch, its location, and its current state.

Description	Severity	Source	Alert Type	Timestamp
Security violation: Login failure attempt via TELNET/SSH/RSN...	INFO	R1-CH1-6546-B	SEC-1193	2018-01-30 09:32:58
Login Information: Login successful via TELNET/SSH/RSN. IP A...	INFO	R1-CH1-6546-B	SEC-1203	2018-01-30 10:05:19
Security violation: Login failure attempt via TELNET/SSH/RSN...	INFO	R1-CH1-6546-B	SEC-1193	2018-01-30 10:12:58

Alerts regarding the currently selected switch are shown at the bottom of the Summary window, indicating severity level, source, and type of alert. You can use this information to track alerts that are generated during the operation of the switch.

The following details are provided in the summary:

Serial Number:

Serial number of the switch.

Firmware:

Firmware version for the switch.



Note: Following a firmware upgrade, it can take up to 30 minutes for the new firmware version to be updated in the summary details. However, you can get the latest firmware version by clicking the Refresh button from within the vSphere web client.

Fan Status:

Indicates the current fan status.



Note: Fan status is not provided for the CB 500 chassis.

Type:

Indicates the type of switch (Fibre Channel).

Chassis IP:

IP address of the CB 500 chassis.

Name:

Shows the switch chassis name.

Switch Model:

Indicates the switch model.

Status:

Shows the onboard status as follows:

- UP
- DOWN
- UNKNOWN
- UNREACHABLE

Role:

Specifies the role for the switch.

Chassis Slot:

Slot ID for in-chassis Fibre Channel switch in CB 500 chassis.

IP Address:

Indicates the IP address for the switch.

Power Status:

Shows the current power status (On or Off).



Note: Power status is not provided for the CB 500 chassis.

Temperature:

Shows the current temperature as follows:

- Other
- Unknown
- Normal
- Warning
- Critical
- Fatal



Note: Temperature status is not provided for the CB 500 chassis.

A collection of icons at the top of the Summary window allows you to enable and disable the switch, and back up and restore profiles associated with the switch. The following operations are available:

Backup Profile

Backs up the current profile.

Restore Profile

Restores the specified profile.

Enable FC Switch

Enables the Fibre Channel switch.

Disable FC Switch

Disables the Fibre Channel switch.

Clear Zone Config

Clears the zone configuration.

Upgrading Fibre Channel switch firmware

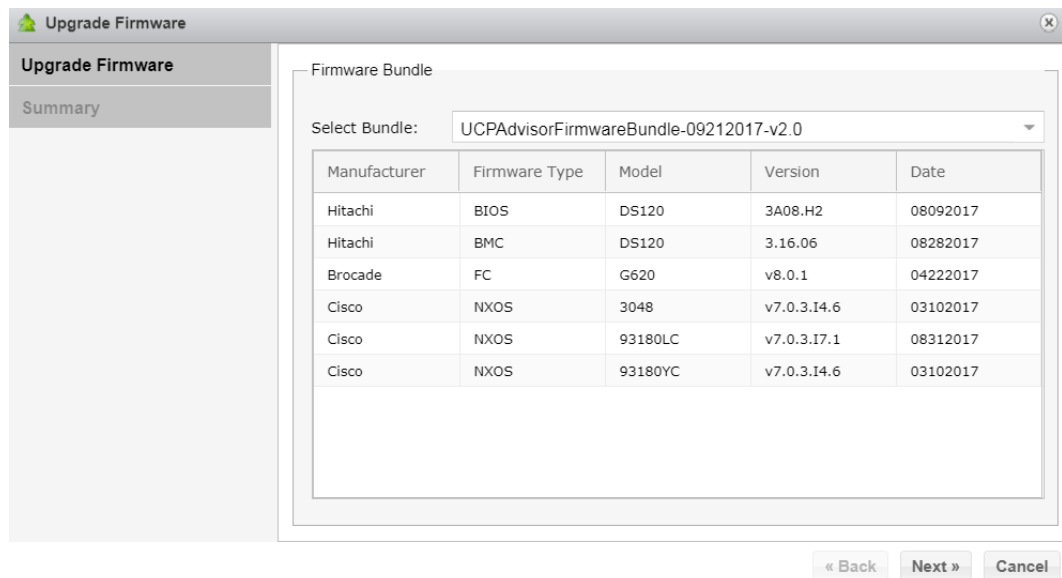
You can upgrade the firmware for a selected Fibre Channel switch.

Before you begin

- Prior to upgrading the switch firmware, you must first upload the appropriate firmware bundle from the Firmware tab, available from the Administration selection in the Navigator window.

Procedure

1. In the **UCP Advisor** window, click the **Fibre Channel** icon.
2. In the **Navigator** window, click **Fibre Channel Switches**, then select the switch with the firmware to be updated.
3. Click **Upgrade Firmware** either from the top of the **Switches** window or as an option from the **Actions** list. The **Upgrade Firmware** window opens with a listing of available firmware bundles, along with pertinent details for each entry.



4. Select the appropriate firmware bundle from the list, then click **Next**.
5. If necessary, you can consult the entry in the **Recent Tasks** window to check that the firmware upgrade task has completed and to determine any other relevant details regarding the task.

Managing Fibre Channel ports

You can determine the ports associated with a Fibre Channel switch and check their current status.

Procedure

1. In the **UCP Advisor** window, click the **Fibre Channel** icon.
2. On the **Navigator** window, click **Fibre Channel Switches**, then select the switch where you want to review port details.
3. On the **Manage** tab, click the **Ports** tab.
All of the ports associated with the selected Fibre Channel switch are listed by their port ID, name, and other pertinent details:

Port Entry Descriptions

Port ID: Shows the ID associated with the port.

Port Name: Shows the port name.

Speed: Shows the speed classification for the port as follows:

- AN = Automatic speed negotiation is enabled.
- Nx = Negotiated x Gbps; for example, N8 speed means the negotiated speed is 8 Gbps.
- xG = Port speed is set as fixed at x Gbps; for example, 8G indicates that the speed is fixed at 8 Gbps.

WWN: Shows the World Wide Name (members) associated with the port.

Status: Indicates whether the port is currently online or not.

Connected Device Name: The connected Initiator/Target name.

Connected Device WWN: The connected Initiator/Target PWWN.

Managing aliases

You can add, edit, and delete members of a zone alias for a selected Fibre Channel switch.

Procedure

1. In the **UCP Advisor** window, click the **Fibre Channel** icon.
2. In the **Navigator** window, click **Fibre Channel Switches**, then select the switch where you want to add or remove an alias.
3. On the **Manage** tab, click the **Alias** tab.
All of the currently active aliases are listed by their name and associated members.
4. To create a new alias, click the **Add Alias** icon. The **Add Alias** window opens where you can specify an alias name and select the WWNs to be associated with the new alias.

<input type="checkbox"/>	WWN
<input type="checkbox"/>	10:00:00:90:fa:f0:94:d8
<input type="checkbox"/>	10:00:00:10:9b:1c:30:48
<input type="checkbox"/>	50:06:0e:80:12:a0:c6:04
<input type="checkbox"/>	50:06:0e:80:12:a0:c6:15
<input type="checkbox"/>	50:06:0e:80:12:a0:c6:24
<input type="checkbox"/>	50:06:0e:80:12:a0:c6:34
<input type="checkbox"/>	50:06:0e:80:07:de:57:00

5. Enter the name for the new alias, then check the boxes next to the members that are to be associated with the newly created alias. If necessary, you can select the **WWN** check box to include all available members.
6. Click **Submit**.
To edit an existing alias, select the name of the alias from the list and then click the **Edit Alias** icon and make the necessary modifications.
To remove an existing alias, select the name from the list, then click the **Delete Alias** icon and confirm the deletion.

Managing zones

You can create, edit, and delete zones for a selected Fibre Channel switch.

Procedure

1. In the **UCP Advisor** window, click the **Fibre Channel** icon.
2. In the **Navigator** window, click **Fibre Channel Switches**, then select the switch where you want to add or remove a zone.
3. On the **Manage** tab, click the **Zones** tab.
All of the currently active zones are listed by their zone name, including their associated members.
4. To create a new zone, click the **Create Zone** icon. The **Add Zone** window opens where you can specify a new zone name and select an associated alias name.

Add Zone

Zone Name:

<input checked="" type="checkbox"/>	Alias Name
<input checked="" type="checkbox"/>	CL1A
<input checked="" type="checkbox"/>	CL1B
<input checked="" type="checkbox"/>	CL3A
<input checked="" type="checkbox"/>	CL5A
<input checked="" type="checkbox"/>	CL8B
<input checked="" type="checkbox"/>	G800_CL1E
<input checked="" type="checkbox"/>	G800_CL2F

5. Choose an alias for the selected zone.
6. Click **Submit**.
To edit an existing zone, select the name of the zone from the list and then click the **Edit Zone** icon.
To remove an existing zone, select the name of an existing zone from the list, then click the **Delete Zone** icon.

Result

The new zone is created and listed according to the name and other information you supplied.

Managing a zone configuration

You can add, edit, and delete zone configurations for a selected Fibre Channel switch.

Procedure

1. In the **UCP Advisor** window, click the **Fibre Channel** icon.

2. In the **Navigators** window, click **Fibre Channel Switches**, then select the switch where you want to add or remove a zone configuration.
3. On the **Manage** tab, click the **Zone Config** tab.
All of the currently active zone configurations are listed, including their associated members.
4. To create a new zone configuration, click the **Create Zone Config** icon. The **Add Zone Config** window opens where you can enter a name for the new zone configuration and select the associated members.

Add Zone Config

Zone Cfg Name:

<input type="checkbox"/>	Zone Name
<input checked="" type="checkbox"/>	Skylake_201_2
<input type="checkbox"/>	Skylake_202_z2
<input checked="" type="checkbox"/>	khoa
<input type="checkbox"/>	mgmtzone
<input type="checkbox"/>	srini
<input type="checkbox"/>	zone1
<input type="checkbox"/>	zone2

Submit **Cancel**

5. Enter the name for the new zone configuration, then select the appropriate check boxes for the associated members.
6. Click **Submit**.

To edit an existing zone configuration, select the name of the zone configuration from the list, then click the **Edit Zone Config** icon and make the necessary modifications.

To remove an existing zone configuration, select the name of an existing configuration from the list, then click the **Delete Zone Config** icon.

To enable a defined zone configuration, select the name of the defined zone configuration from the list, then click the **Enable Zone Config** icon.

To disable an effective zone configuration, select the name of the effective zone configuration from the list, then click the **Disable Zone Config** icon.

Result

The new zone configuration is created and listed according to the name and other information you supplied. The zone configuration will now be part of the defined configuration. After a new zone is added or deleted, use the enabling and disabling a zone configuration instructions to enable or disable the configuration.

Chapter 5: Administering UCP Advisor

You can perform administrative tasks to add devices and configure operational parameters from the UCP Advisor environment.

Renewing an existing license

UCP Advisor ships with a 60-day trial license. You must apply for and obtain a permanent license after the trial period is over.

If the trial license has already expired, you are prompted to enter the license key before you can access UCP Advisor. In this case, provide the System-ID and node count values to your Hitachi representative to obtain a license key.

Procedure

1. In the **Navigator** window, click **Administration**. The **Administration** window opens with the **License** tab selected.

The screenshot shows the 'Administration' window with the 'License' tab selected. The window has a top navigation bar with tabs: License, Onboard, Configuration, Compute, Chassis, Storage, Network, Backup, Firmware, Log Bundle, and Rest API. The 'License' tab is active. Below the navigation bar, there are three main sections: 'License Information', 'Apply License Key', and 'Registered Compute Devices'.

License Information

System ID:	d7-72-d3-01-c2-bc	License Key:	00C6-5B05-0000-C8E5-F7AB-3A82-EAA5-D256-D772
Node Count (Available / Total):	Unlimited	License Type:	Trial
Days To Expire:	60	Status:	Valid License

Apply License Key

License Key:

Registered Compute Devices

UCP Appliance	Registered Compute Devices
Storage	0
Santa Clara	3
CP500	2

2. Enter the license in the **License key** field.
3. Click **Apply**.

Registering a UCP system

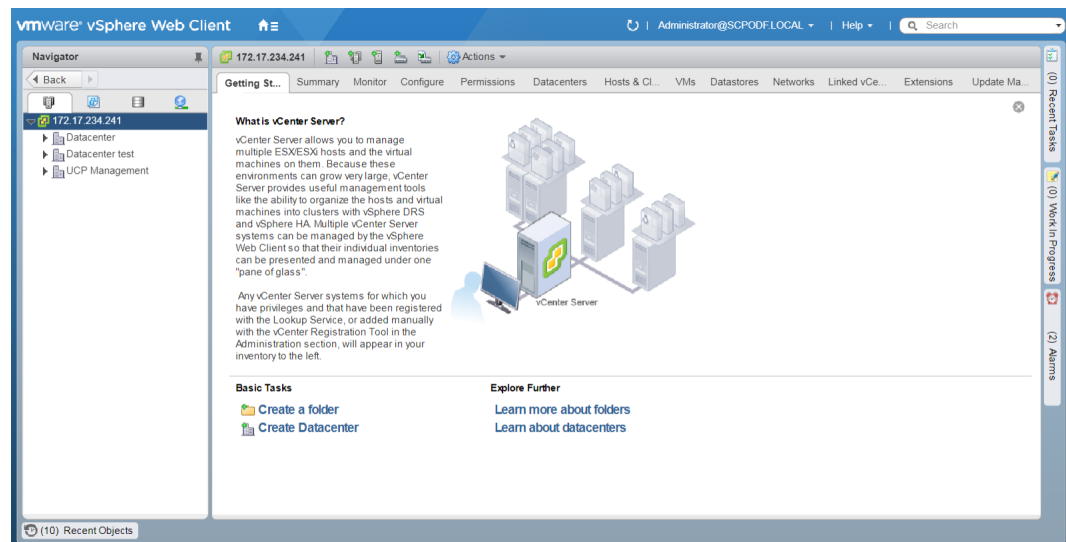
In most cases, the UCP appliances required for your site will be registered during the deployment phase of the installation, but you can register new appliances as necessary.

Before you begin

To learn about the various types of systems that are supported by UCP Advisor, and the hardware capabilities and limitations for each, see: [Supported features and hardware \(on page 14\)](#).

Procedure

1. Log on to the VMware vSphere Web Client using your vCenter Administrator credentials.



2. From the **Home** menu, located in the upper left area of the **vSphere Web Client** window, select **UCP Advisor**.



Note: In most cases, the UCP system and the devices required by your site were registered and onboarded during the pre-deployment configuration. The following step is provided if you need to register a different UCP system. To onboard additional devices, see [Automatically adding resources using a CSV file \(on page 94\)](#) or [Manually adding resources \(on page 96\)](#) and add the necessary devices before continuing with the next steps.

3. If a UCP System has not yet been registered, you will need to register one by clicking on the plus (+) sign to access the **Register a UCP System** dialog box where you can enter the appropriate values, as shown in the example below.

UCP Advisor

UCP SYSTEMS

No UCP System registered. Please add a UCP System

Register a UCP System

Appliance ID: UCP-CI-12345

UCP System Name: Appliance1

UCP Controller Host: 172.17.57.114

UCP Gateway Host: 172.17.57.138 : 8444

Model: UCP CI

vCenter Address: 172.17.57.113

vCenter Username: administrator@scpodk.local

vCenter Password:

Submit Cancel

4. Enter the relevant details as follows, then click **Submit**:

Appliance ID:

This is the descriptor ID for the appliance.



Note: The UCP Appliance ID is the number assigned to the appliance. For UCP CI appliances, the 5-digit serial number is required (UCP-CI-00000). The serial number is located on a white rectangular label affixed in the top-left corner of the front of the rack.



UCP System Name:

A common name used to refer to the UCP system.

UCP Controller Host:

UCP Advisor Controller VM IP address.

UCP Gateway Host:

UCP Advisor Gateway VM IP address.

Model:

UCP Advisor supports the following UCP appliance models: UCP CI (Converged Infrastructure), UCP HC (Hyperconverged), UCP RS (Rack Scale), UCP 2000, UCP 4000, and Logical UCP.

vCenter Address:

The vCenter server address.

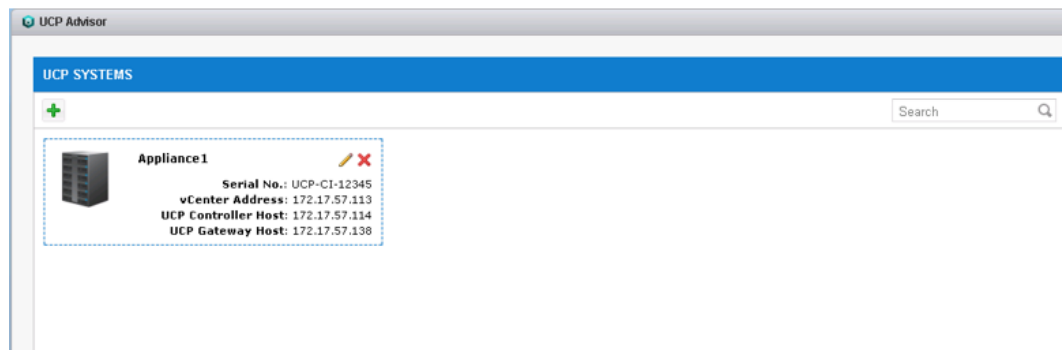
vCenter SSO credential:

The user name for the vCenter.

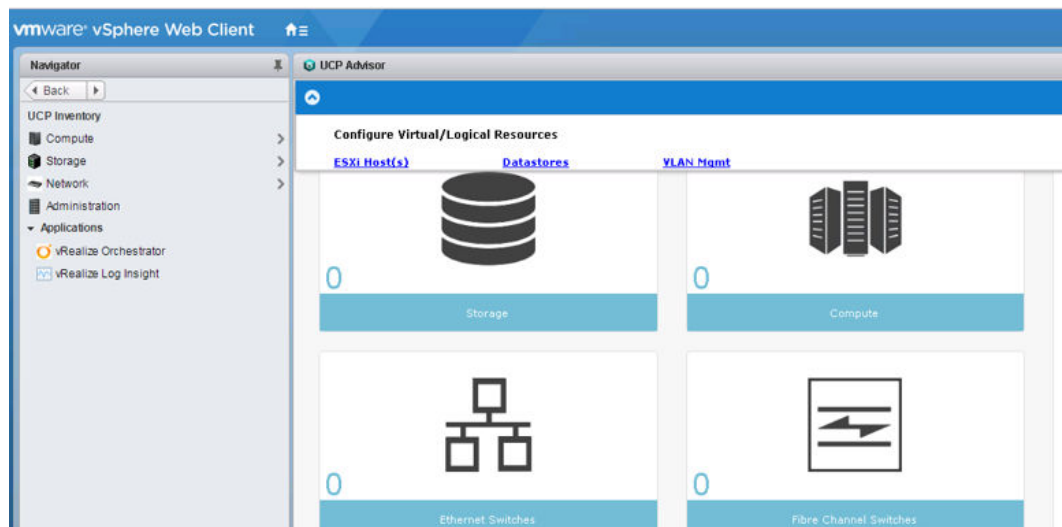
vCenter Password:

The password for the vCenter.

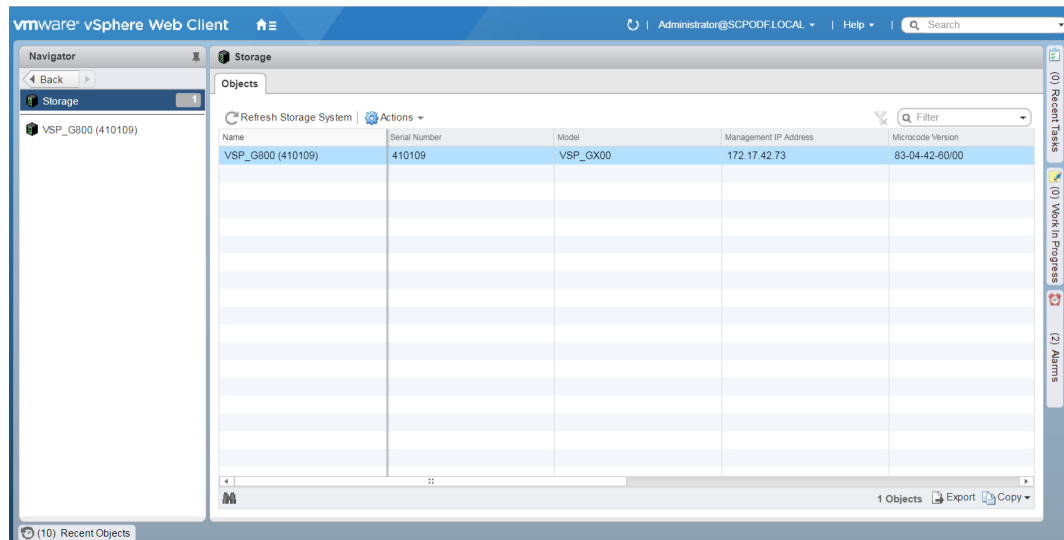
After you enter the details, the specified UCP system is made available.



- Click on the icon representing the UCP system. You are provided a choice of compute, storage, or network devices on the **UCP Advisor** window.



- Click on the icon representing the type of devices you want to manage. Depending on the type of device you select, you see a listing of available devices.



Adding resources

UCP Advisor can automatically register and configure UCP hyperconverged or converged infrastructure resources in a single workflow using a CSV file. If necessary, you can also add individual resources manually.

User permissions

Users must be assigned administrator-level permissions to manage servers, switches, storage, and chassis hardware within UCP Advisor, as shown in the following table. Note that the name of the administrator role differs according to the resource type.

Resources	Permission
Server	Administrator
Switch	network-admin
Storage	Administrator User Group
Chassis	Administrators

Automatically adding resources using a CSV file

Users with administrator-level permissions can use a CSV file to automatically add a chassis (for UCP 4000 systems) and multiple storage, compute, and network switch devices, and server and chassis labels.

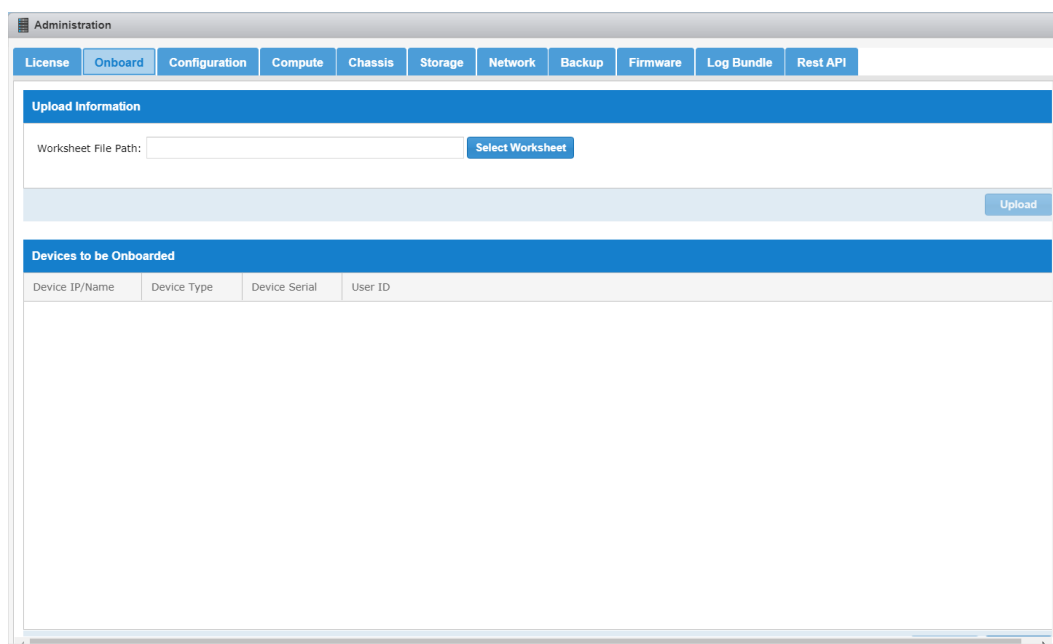
Before you begin

Verify that you have administrator-level permissions for the resource you want to add.

You must have a CSV file prepared that specifies the chassis (for UCP 4000 systems) and provides the configuration details on how various storage, switch, and compute devices are to be brought onboard. In most cases, a CSV file has already been prepared during the installation process, but you can edit this file, or create a new one, to add devices and labels or change the configuration. However, be sure the number of columns in your CSV file matches the number of columns in the sample spreadsheet that is located in the installation folder (C:\Program Files\Hitachi\UCP Advisor\Documentation\UCPAdvisorOnBoardSheet.csv). Manually enter the connection information for the devices, then save the configuration as a CSV file. Verify that the user names have the appropriate administrator-level permissions and that the passwords only contain allowed characters.

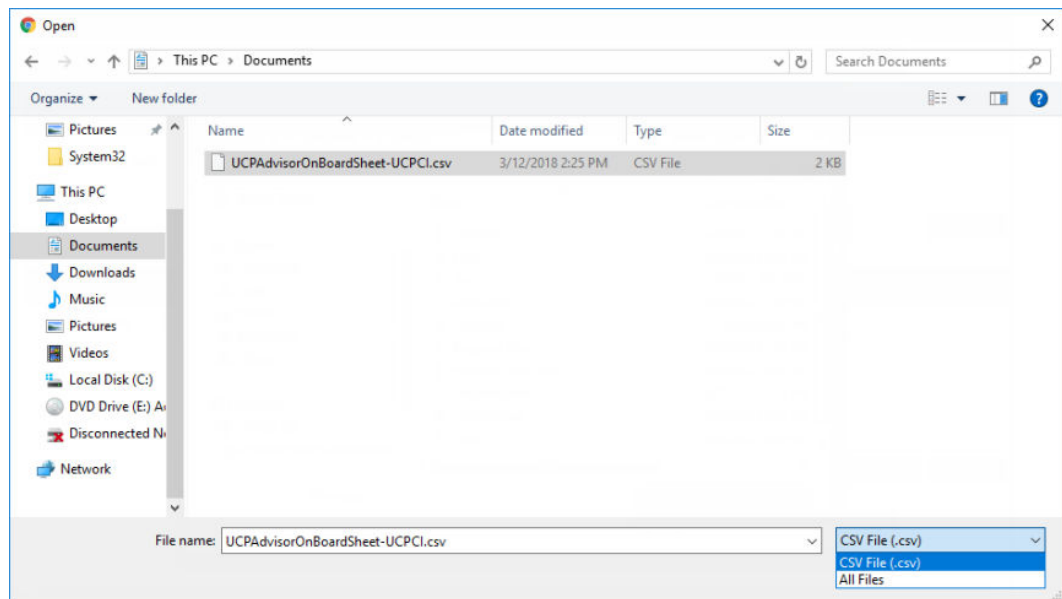
Procedure

1. In the **Navigator** window, click **Administration**.
2. Click the **Onboard** tab.

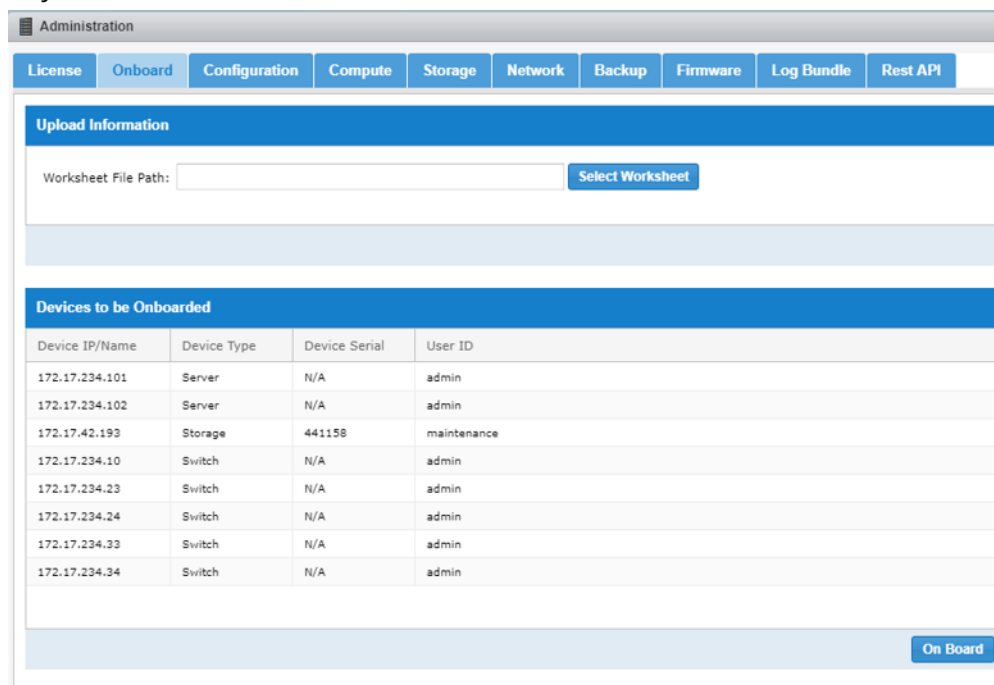


The screenshot shows the 'Administration' window with the 'Onboard' tab selected. The interface includes a top navigation bar with tabs: License, Onboard, Configuration, Compute, Chassis, Storage, Network, Backup, Firmware, Log Bundle, and Rest API. Below the navigation bar, there is a section titled 'Upload Information' with a 'Worksheet File Path:' text box and a 'Select Worksheet' button. An 'Upload' button is located to the right of this section. Below the 'Upload Information' section, there is a section titled 'Devices to be Onboarded' which contains a table with the following headers: Device IP/Name, Device Type, Device Serial, and User ID. The table is currently empty.

3. Click **Select Worksheet**, then browse to the CSV file for the devices you want to onboard.



4. Click **Upload**.
The configuration details for the devices are uploaded and shown in the **Devices to be Onboarded** pane.
5. Verify the device details.



6. Click **On Board**.

Manually adding resources

In most cases, the chassis (for UCP 4000 systems), and other devices for your site, were specified during the installation process and are automatically loaded through a CSV

configuration file. However, you can manually add a chassis, or other storage, network, and compute devices as needed.

Adding a chassis

Users with administrator-level permissions can manually add, edit, or remove a Hitachi Compute Blade 500 (CB 500) chassis for a UCP 4000 system managed by UCP Advisor.

Before you begin

Verify you have administrator-level permissions for adding a chassis.

Procedure

1. In the **Navigator** window, click **Administration**.
2. Click the **Compute** tab.
3. Click the **Add Chassis Device** icon.

4. In the **Add Chassis Device** dialog box, enter the configuration details for the chassis being added:
 - Management IP Address: IP address for the management node associated with the chassis being added.
 - Username: Username of an account with administrative access for adding the chassis.
 - Password: Password that corresponds to the specified account in the Username field.
5. Click **Submit**.
Dialog for onboarding SVP and subtasks for onboarding blades.



Note: You need to use the **Edit Chassis Device** dialog to enter the ESXi host information after the blades are onboarded.

Result

The new chassis and specified blades are brought on-board and are reflected in the list of devices.

To remove a chassis, click the Remove Chassis Device icon, select the chassis to be removed, then confirm the removal. When a chassis is removed, all associated blades are also removed.

Adding a compute node

Users with administrator-level permissions can manually add a compute node to be managed by UCP Advisor.

Before you begin

Verify you have administrator-level permissions for adding a compute node.

Procedure

1. In the **Navigator** window, click **Administration**.
2. Click the **Compute** tab.
3. Click the **Add Compute Device** icon.

4. In the **Add Compute Device** dialog box, enter the compute node details:
 - Hostname or IP Address: Host name or IP address for the compute device being added.



Note: Only the IP address is supported in the current version. The addition of individual HB3/HB4 blade servers is not currently supported.

- Username: User name identifying the user adding the compute device.

- Password: Password for the user adding the compute device.
- ESXi INFO: Optional ESXi host name or IP address and credential information.

Result

The new compute device is brought on-board and reflected in the list of devices.

Adding a storage system

Users with administrator-level permissions can manually add a storage system to be managed by UCP Advisor.

Before you begin

Verify you have administrator-level permissions for adding a storage system.

Procedure

1. In the **Navigator** window, click **Administration**.
2. Click the **Storage** tab.
3. Click the **Add Storage System** icon.

Add Storage System

Storage INFO

Serial Number: * 410016

Management IP Address: * 172.17.41.40

Username: * ucpadmin

Password: *

☒ Controller IPs

Controller 1 IP: * 172.56.56.18

Controller 2 IP: * 172.56.56.19

Submit Close

4. In the **Add Storage System** dialog box, enter the storage system details.
 - Serial Number: Serial number for the storage system being added.
 - Management IP Address: IP address for the storage system being added.
 - Username: User name identifying the user adding the storage system. The user must belong to the user group that has administrator privileges to create user accounts.

- Password: Password for the user adding the storage system. The password can have alphanumeric characters and the following symbols: hyphen (-), period (.), at mark (@), underscore (_), backslash (\), and comma (,).
- Controller IPs: Controller IP addresses for controller <1/2> (VSP G/F350, G/F370, G/F700, G/F900 storage systems only).

Result

The new storage device is brought on-board, as reflected in the list of devices.

Adding a network switch

Users with administrator-level permissions can manually add a network switch to UCP Advisor.

Before you begin

Verify you have administrator-level permissions for adding a network switch.

Procedure

1. In the **Navigator** window, click **Administration**.
2. Click the **Compute** tab.
3. Click the **Add Switch** icon.

4. In the **Add Switch** dialog box, enter the appropriate details for the switch being added:
 - Hostname or IP Address: Host name or IP address for the switch being added.



Note: Only IP address is currently supported.

- Switch Type: This can be one of the following:
 - Ethernet
 - Ethernet Management (management switch)
 - Fibre Channel

- Username: Name of the user adding the switch.
- Password: Password for the user adding the switch.

Result

The new switch device is brought on-board, as reflected in the list of devices.

Provisioning operating systems

You can simultaneously or sequentially provision operating systems on multiple bare metal servers, or overwrite operating systems on multiple servers that are already provisioned. Servers are provisioned in parallel five at a time; more than five are provisioned in batch mode. For supported operating system types for bare metal provisioning, see release notes available on https://knowledge.hds.com/Documents/Converged/UCP_Advisor.

To do this:

- (Optional) Create a BIOS template that specifies the BIOS settings for the servers to be provisioned. You can provision a server without modifying BIOS settings. If you do not specify a BIOS template in the policy, the settings are left unchanged on the server.
- Specify a host IP address range that defines the IP addresses assigned to the servers.
- Create a provisioning policy that defines which OS information is installed.
- Select the servers for provisioning.

For more advanced OS provisioning, you can use Hitachi Automation Director to build customized workflows that handle actions before and after OS provisioning, such as customizing the server, adding a server to vCenter, or modifying the network or storage settings.

For Automation Director documentation, see https://knowledge.hitachivantara.com/Documents/Management_Software/Automation_Director.

Creating a new BIOS template

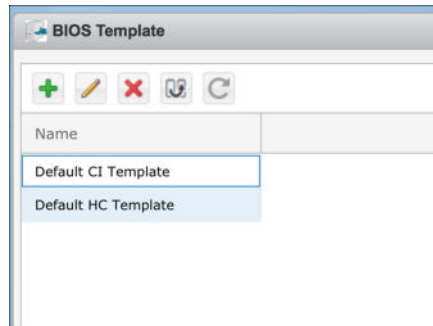
Create a new BIOS template that defines server BIOS settings. The BIOS settings are: Name, Boot Mode, Boot Order, NUMA, Virtualization Technology, Legacy OpROM Support, Turbo Mode, and CPU C6 State. These settings are applied to servers during OS provisioning.

Before you begin

Onboard the servers to UCP Advisor that you want to provision with an operating system.

Procedure

1. In the Navigator window, click **Bare Metal Provisioning > BIOS Template**. You can use a default CI or HC template, or you can create a new template based on a default one.



2. Click the **Add BIOS Template** icon.

 A screenshot of the 'New BIOS Template' dialog box. It has a blue title bar with the text 'New BIOS Template' and a close button (X). The dialog contains several configuration options, each with a label and a dropdown menu or text field. The options are: Name (with a red asterisk), Boot Mode, Boot Order 1, Boot Order 2, Boot Order 3, Boot Order 4, NUMA, Virtualization Technology, Legacy OpROM Support, Turbo Mode, and CPU C6 State. At the bottom right are 'Submit' and 'Close' buttons.

Name: *	VT_E423
Boot Mode:	UEFI
Boot Order 1:	CD/DVD
Boot Order 2:	USB
Boot Order 3:	Hard Disk
Boot Order 4:	Network
NUMA:	Enabled
Virtualization Technology:	Enabled
Legacy OpROM Support:	Select Legacy OpROM
Turbo Mode:	--Ignored--
CPU C6 State:	Select CPU C6 State

3. Enter a unique configuration name for the new BIOS template.
The name must be between 1 and 32 alphanumeric characters and cannot contain the following special characters: quotation (") or backslash (\).
4. Enter any of the following optional settings for the new BIOS template. To leave a setting unchanged from its original value, select *Ignored*.
 - Boot Mode: Select a boot mode. See the Release Notes for supported boot modes for the supported operating system types for bare metal provisioning.
 - Boot Order 1-4: Specify the sequence in which the devices are booted.
 - NUMA: Enable or disable the setting for nonuniform memory access.
 - Virtualization Technology: Enable or disable the use of virtualization technology.
 - Legacy OpROM Support: Select a supported legacy option ROM, or disable the support.
 - Turbo Mode: Enable or disable turbo mode.
 - CPU C6 State: Enable, disable, or set on auto the power-saving CPU C6 state when the CPU is idle.

5. Click **Submit**.

Next steps

Create a host IP range.

BIOS template default values

The following table shows the default settings for the CI BIOS template.

Name of setting	Default value
Name	Default CI Template
Boot Mode	UEFI
Boot Order 1	CD/DVD
Boot Order 2	USB
Boot Order 3	Hard Disk
Boot Order 4	Network
NUMA	Enabled
Virtualization Technology	Enabled
Legacy OpROM Support	Select Legacy OpROM
Turbo Mode	--Ignored--
CPU C6 State	Select CPU C6 State

The following table shows the default settings for the HC BIOS template.

Name of setting	Default value
Name	Default HC Template
Boot Mode	UEFI
Boot Order 1	Hard Disk
Boot Order 2	CD/DVD
Boot Order 3	Select Boot Order
Boot Order 4	Select Boot Order
NUMA	Enabled
Virtualization Technology	Enabled
Legacy OpROM Support	Disabled
Turbo Mode	Enabled
CPU C6 State	Enabled

Creating a new host IP range

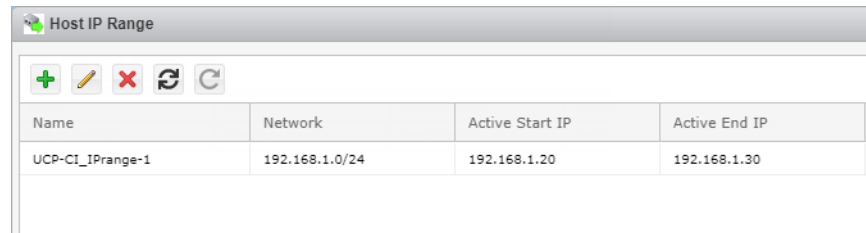
Create a new host IP range that defines the IP addresses assigned to the servers selected for OS provisioning. The range must be in the management network for the respective rack.

Before you begin

- Onboard the servers to UCP Advisor that you want to provision with an operating system.
- (Optional) Create a BIOS template. You can create a new host IP range without modifying BIOS settings. If you don't specify a BIOS template then the settings will be left unchanged on the server.

Procedure

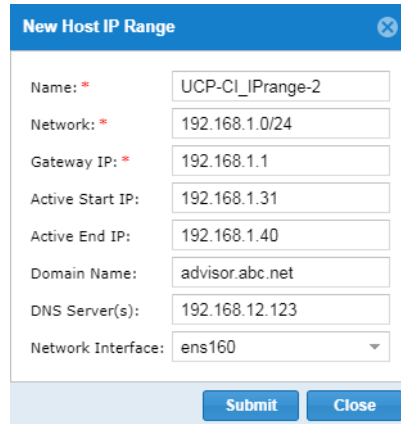
1. In the Navigator window, click **Bare Metal Provisioning > Host IP Range**.



The image shows a window titled "Host IP Range" with a toolbar containing icons for adding (+), editing (pencil), deleting (X), refreshing (circular arrow), and undo (curved arrow). Below the toolbar is a table with the following data:

Name	Network	Active Start IP	Active End IP
UCP-CI_IPrange-1	192.168.1.0/24	192.168.1.20	192.168.1.30

2. Click the **Add Host IP Range** icon.



The image shows a "New Host IP Range" dialog box with the following fields and values:

Name: *	UCP-CI_IPrange-2
Network: *	192.168.1.0/24
Gateway IP: *	192.168.1.1
Active Start IP:	192.168.1.31
Active End IP:	192.168.1.40
Domain Name:	advisor.abc.net
DNS Server(s):	192.168.12.123
Network Interface:	ens160

At the bottom of the dialog are "Submit" and "Close" buttons.

3. Enter the required settings for the new host IP range:

- Name: Enter a unique configuration name for the host IP range. It must be between 1 and 32 alphanumeric characters and cannot contain the following special characters: quotation (") or backslash (\).
- Network: Enter the network IP address, for example, 192.168.1.0/24.
- Gateway IP: Enter the gateway IP address for the network.

4. Enter any optional settings for the new host IP range:

- Active Start IP: Specify the starting active IP address for the range. It must be lower than the active end IP address.
- Active End IP: Specify the ending active IP address for the range. It must be equal to or higher than the active start IP address.
- Domain Name: Enter the network domain name. It must be between 1 and 32 alphanumeric characters and can have the following special character: hyphen (-).
- DNS Server(s): Enter the IP address for each domain name server.
- Network Interface: Enter the network interface name, for example `ens160`.

5. Click **Submit**.

Next steps

Create an OS provisioning policy.

Creating an OS provisioning policy

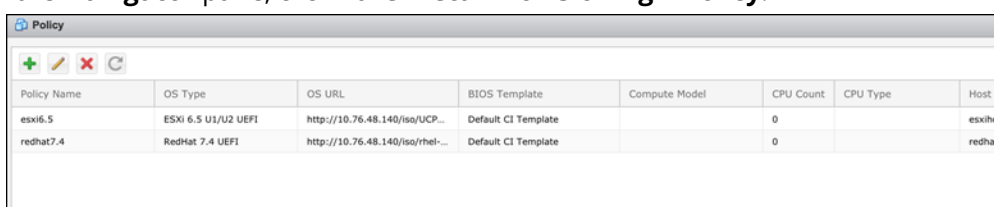
Create a reusable OS provisioning policy that defines which OS information is installed and which servers are provisioned.

Before you begin

- Create a BIOS template.
- Create a host IP range.
- Create an HTTP repository for the operating system ISO files.
- (Optional) Apply tags to servers in the compute inventory for filtering.

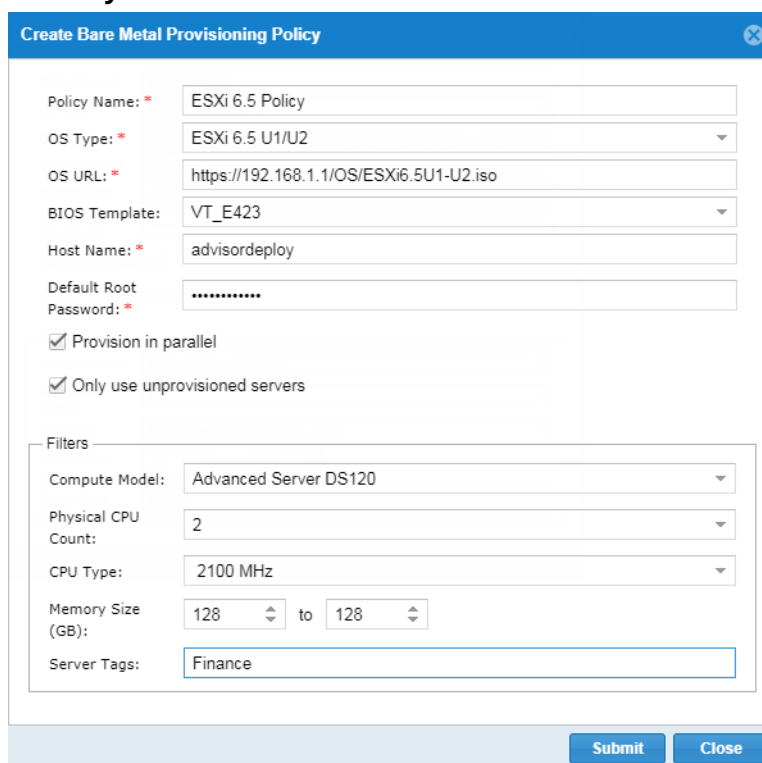
Procedure

1. In the **Navigator** pane, click **Bare Metal Provisioning > Policy**.



Policy Name	OS Type	OS URL	BIOS Template	Compute Model	CPU Count	CPU Type	Host Name
esxi6.5	ESXi 6.5 U1/U2 UEF1	http://10.76.48.140/iso/UCP...	Default C1 Template		0		esxihost
redhat7.4	RedHat 7.4 UEF1	http://10.76.48.140/iso/rhel...	Default C1 Template		0		redhat

2. Click the **Add Policy** icon.



Create Bare Metal Provisioning Policy

Policy Name: * ESXi 6.5 Policy

OS Type: * ESXi 6.5 U1/U2

OS URL: * https://192.168.1.1/OS/ESXi6.5U1-U2.iso

BIOS Template: VT_E423

Host Name: * advisordeploy

Default Root Password: *

☒ Provision in parallel

☒ Only use unprovisioned servers

Filters

Compute Model: Advanced Server DS120

Physical CPU Count: 2

CPU Type: 2100 MHz

Memory Size (GB): 128 to 128

Server Tags: Finance

Submit **Close**

3. Enter the required settings for the new OS provisioning policy:
 - Policy Name: Enter a unique configuration name for the OS provisioning policy. The policy name must be between 1 and 32 alphanumeric characters and cannot contain the following special characters: quotation (") or backslash (\).
 - OS Type: Select the type of operating system you want to provision to the servers.
 - OS URL: Enter the HTTP URL to the ISO file in the repository for the operating system you selected.
 - BIOS Template: Select a BIOS template to apply default BIOS settings to the servers being provisioned.
 - Host Name: Enter the name of the host. The host name must be between 1 and 32 alphanumeric characters and can have the following special character: hyphen (-). The name of the host has a unique incremental ID appended to the end. This ID is a local counter and it is incremented by 1 when you register the host. For example, the host name Finance will increment to Finance-1, Finance-2, and so on. If you have another host name, such as Engineering, it would also increment to Engineering-1, Engineering-2, and so on.
 - Default Root Password: Enter a default host root password for the servers being provisioned. The password must be between 8 and 256 alphanumeric characters. There are no restrictions on special characters.
4. Select the **Provision in parallel** option to provision the servers simultaneously. Clear this option to provision the servers sequentially.
5. Select the **Only use unprovisioned servers** option to limit OS provisioning to servers that have not been provisioned previously. Clear this option to provision all servers, overwriting any existing operating systems on previously provisioned servers.
6. Apply any optional filters to the compute inventory. The filter selection options are populated dynamically according to the servers available in your compute inventory.
 - Compute Model: Select a server model from the list of supported models available in the compute inventory.
 - Physical CPU Count: Select the number of physical CPUs from the number available.
 - CPU Type: Select the CPU type from the types available.
 - Memory Size: Select the range of total memory size (GB) for the specified compute model across the specified physical CPU count. For example, enter 48000 for a total memory size of 48 TB. To specify a range without a boundary, enter 0 to 0. To specify an exact memory size, enter identical values, for example, 128 GB to 128 GB.
 - Server Tags: Enter server tags, if any. Tags must be between 8 and 256 alphanumeric characters. Separate multiple tags with a comma (,). The server must contain all of the specified tags when the filtering occurs.
7. Click **Submit**.

Next steps

Specify the OS provisioning details, and then start the OS provisioning task.

Provisioning servers

You can install operating systems on bare metal servers or overwrite operating systems on servers that are already provisioned.

Before you begin

- Create a host IP range.
- Create an OS provisioning policy.
- (Optional) Apply tags to servers in the compute inventory for filtering.

Procedure

1. In the **Navigator** pane, click **Bare Metal Provisioning > OS Provisioning**.

	Server Label	Tags	Model	CPU Type	Memor
<input checked="" type="checkbox"/>	QTFCR28060134	Finance	Advanced Server DS1...	Intel Xeon 2100 MHz	196608
<input checked="" type="checkbox"/>	QTFCR28060133	Finance	Advanced Server DS1...	Intel Xeon 2100 MHz	196608

2. Select a host IP range.
3. Select a policy.
4. Select the servers to be provisioned. You can filter the server list by entering one or more tags in **Additional Server Tags**. Only servers that exactly match all the tags entered are displayed. Click the column headers in the server list to sort by column, add or remove columns, or apply text filters.

5. Click **Start OS Provisioning**.

Server Label	BMC IP	Host IP
QTFCR28060133	172.17.94.102	172.17.94.223
QTFCR28060131	172.17.94.103	172.17.94.224

6. Click **Submit**.

Next steps

Monitor the OS provisioning task in the Recent Tasks pane.

OS provisioning with Hitachi Automation Director workflows

If Hitachi Automation Director is available in your environment, you can enhance OS provisioning using Automation Director workflows. For example, you can use a customized Automation Director workflow that includes additional steps before or after OS provisioning, such as customizing the server, adding a server to vCenter, or modifying the network or storage settings.

Before you begin

- Verify that the Automation Director software is installed, and is registered with UCP Advisor.
- Verify that custom OS provisioning workflows that can be run from UCP Advisor are available.

Procedure

1. In the **Navigator** pane, click **Bare Metal Provisioning > OS Provisioning**.

	Server Label	Tags	Model	BMC IP	Status	CPU Count	Memory(MB)	
<input checked="" type="checkbox"/>	QTFCR28060131		Advanced Server DS1...	172.17.94.103	Normal	2	98304	
<input checked="" type="checkbox"/>	QTFCR2806017E	IT dept	Advanced Server DS1...	172.17.94.104	Normal	2	98304	
<input type="checkbox"/>	Server	Finance	Advanced Server DS1...	172.17.94.101	Normal	2	98304	
<input checked="" type="checkbox"/>	QTFCR28060133		Advanced Server DS1...	172.17.94.102	Normal	2	98304	

2. Select a host IP range.
3. Select a policy.
4. Select the servers to be provisioned. You can filter the server list by entering one or more tags in **Additional Server Tags**. Only servers that exactly match all the tags entered are displayed. Click the column headers in the server list to sort by column, add or remove columns, or apply text filters.
5. Click **Other Actions**. The Automation Director workflows created for UCP Advisor are displayed, along with an explanation of the function that each performs. Clear the **Show only UCP Advisor workflows** option to see the default workflows.

Search by name or tag

☒ Show only UCP Advisor workflows

- Add Server to Cluster S3C-01
- Server_LID_Disable_04
- Server_LID_Disable_SCPODA_02
- Server_LID_Disable_SCPODB_1
- Server_LID_Disable_SCPODL
- Compute_node_powerOn
- Test_PowerOff_scpodK
- Compute_node_PowerOff_PodL
- Server_Poweroff_SCPODL_v2
- BaremetalWorkflow_SCpodB_01**
- BaremetalWorkflow_SCpodB_MultipleServer
- BaremetalWorkflow_SCpodB_MultipleServer2

This operation authenticates with the advisor rest api and performs ESXi OS Provisioning

Submit Close

6. Select the required workflow, and then click **Submit**.

Result

The selected Automation Director workflow is run. You can monitor its status in the Recent Tasks pane.

Managing BIOS templates

You can modify, remove, and clone existing BIOS templates.

Modifying a BIOS template

You can edit a default template to create a new custom template or edit the information in a custom template.. The BIOS settings that you can modify are: Name, Boot Order, NUMA, Virtualization Technology, Legacy OpROM Support, Turbo Mode, and CPU C6 State.

Procedure

1. In the Navigator window, click **Bare Metal Provisioning > BIOS Template**.
2. Select the BIOS template that you want to modify.
3. Click the **Edit BIOS Template** icon.
4. Modify the information, and then click **Submit**.

Removing a BIOS template

You can remove an existing BIOS template that is not used by an OS provisioning policy.

Procedure

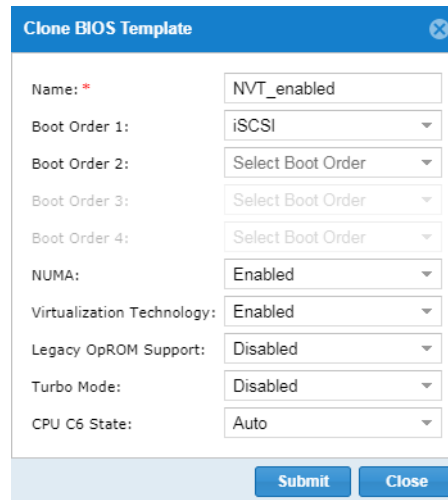
1. In the Navigator window, click **Bare Metal Provisioning > BIOS Template**.
2. Select the BIOS template that you want to remove.
3. Click the **Remove BIOS Template** icon.
4. Confirm that you want to remove the selected BIOS template, and then click **OK**.

Cloning a BIOS template

You can duplicate an existing BIOS template. This is helpful if you want to create a new BIOS template with similar information as an existing BIOS template.

Procedure

1. In the Navigator window, click **Bare Metal Provisioning > BIOS Template**.
2. Select the BIOS template that you want to clone.
3. Click the **Clone BIOS Template** icon.



Clone BIOS Template

Name:

Boot Order 1:

Boot Order 2:

Boot Order 3:

Boot Order 4:

NUMA:

Virtualization Technology:

Legacy OpROM Support:

Turbo Mode:

CPU C6 State:

Submit **Close**

4. Enter a unique configuration name for the cloned BIOS template. It must be between 1 and 32 alphanumeric characters and cannot contain the following special characters: quotation (") or backslash (\).
5. Modify any optional settings for the cloned BIOS template, and then click **Submit**.

Managing host IP ranges

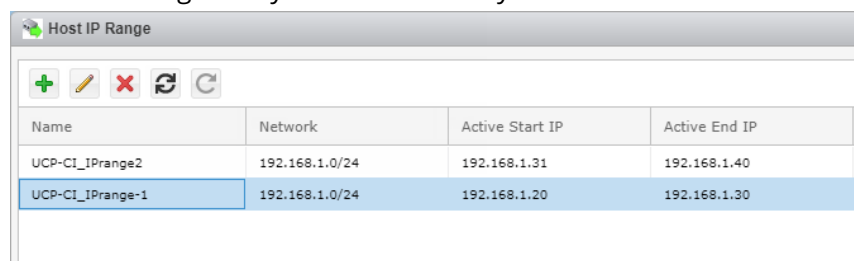
You can modify and remove existing host IP ranges that are not in use.

Modifying a host IP range

You can modify an existing host IP range that is not allocated to any hosts.

Procedure

1. In the Navigator window, click **Bare Metal Provisioning > Host IP Range**.
2. Select the host IP range that you want to modify.



Name	Network	Active Start IP	Active End IP
UCP-CI_IPrange2	192.168.1.0/24	192.168.1.31	192.168.1.40
UCP-CI_IPrange-1	192.168.1.0/24	192.168.1.20	192.168.1.30

3. Click the **Edit Host IP Range** icon.
4. Modify the information, and then click **Submit**.

Removing a host IP range

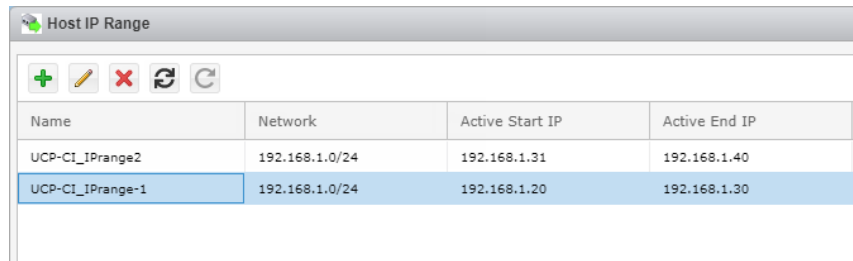
You can remove an existing host IP range that is not allocated to any hosts.



Note: You can unreserve a host IP range through the API. To access API documentation, go to **Administration > Rest API**.

Procedure

1. In the Navigator window, click **Bare Metal Provisioning > Host IP Range**.



Name	Network	Active Start IP	Active End IP
UCP-CI_IPrange2	192.168.1.0/24	192.168.1.31	192.168.1.40
UCP-CI_IPrange-1	192.168.1.0/24	192.168.1.20	192.168.1.30

2. Select the host IP range that you want to remove.
3. Click the **Remove Host IP Range** icon.
4. Confirm that you want to remove the selected host IP range, and then click **OK**.

Managing OS provisioning policies

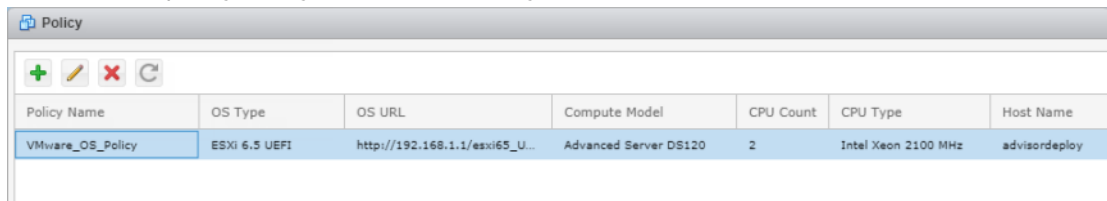
You can modify and remove existing OS provisioning policies.

Modifying an OS provisioning policy

You can modify the information for an existing OS provisioning policy.

Procedure

1. In the **Navigator** pane, click **Bare Metal Provisioning > Policy**.
2. Select the policy that you want to modify.



Policy Name	OS Type	OS URL	Compute Model	CPU Count	CPU Type	Host Name
VMware_OS_Policy	ESXi 6.5 UEFI	http://192.168.1.1/esxi65_U...	Advanced Server DS120	2	Intel Xeon 2100 MHz	advisordeploy

3. Click the **Edit Policy** icon.
4. Modify the relevant information, and then click **Submit**.

Removing an OS provisioning policy

You can remove obsolete OS provisioning policies.

Procedure

1. In the **Navigator** pane, click **Bare Metal Provisioning > Policy**.
2. Select the policy that you want to remove.
3. Click the **Remove Policy** icon.
4. Confirm that you want to remove the selected policy, and then click **OK**.

Configuring the UCP Gateway Host

You can configure the UCP gateway credentials used by the UCP Advisor web service to collect logs.

Procedure

1. In the **Navigator** window, click **Administration**.
2. Click the **Configuration** tab.
3. Scroll down to **UCP Gateway Host** and click the **Edit** icon.

4. In the **UCP Gateway Host** dialog box, enter the relevant details. Many of the details for the UCP Gateway Host are populated already:
 - Hostname or IP Address: Host name or IP address for the UCP Gateway Host.
 - Port: Port used for the UCP Gateway Host.
 - Username: User name identifying the user configuring the application.
 - Password: Password for the user configuring the application.
5. Enter the credentials and click **Submit** to register and configure the UCP Gateway Host.

Configuring vRealize Orchestrator

You can configure the optional vRealize Orchestrator application with UCP Advisor to automate IT workflow processes on Hitachi storage and compute devices.

For more information, see the following documentation:

- [Compute Connector for VMware vRealize Orchestrator](#)
- [Storage Connector for VMware vRealize Orchestrator](#)

Before you begin

- Ensure that vRealize Orchestrator is deployed. For more information, see the *VMware vSphere ESXi and vCenter Server 6.0/6.5 Documentation* for information on deploying vRO, found on the VMware website: <http://www.vmware.com/>.
- The Hitachi Storage Connector software must be installed as an addition to vRealize Orchestrator to add Hitachi workflows to the Orchestrator library. It sends storage operations triggered by workflows to the web service component to be carried out. This component is represented by a file named `ollnplugin-HSC.dar`.
- The Hitachi Compute Connector software must be installed as an addition to vRealize Orchestrator to add Hitachi workflows to the Orchestrator library. It sends compute operations triggered by workflows to the web service component to be carried out. This component is represented by a file named `ollnplugin-HiVCOserver.dar`.

Procedure

1. In the **Navigator** window, click **Administration**.
2. Click the **Configuration** tab.
3. Scroll down to **vRealize Orchestrator** and click **Add**.

4. In the **vCenter Appliance Configuration** dialog box, enter the relevant details as follows:
 - Hostname or IP Address: Host name or IP address for vRealize Orchestrator.
 - Port: Port used for the vRealize Orchestrator application. Specify 23020 for HTTP or 23021 for HTTPS (vRO Web Service).
 - Username: User name identifying the user configuring the application.
 - Password: Password for the user configuring the application.
5. Click **Submit** to register and configure vRealize Orchestrator.

Configuring vRealize Log Insight

You can configure the vRealize Log Insight application to deliver heterogeneous and highly scalable log management with intuitive, actionable dashboards, sophisticated analytics, and broad third-party extensibility. This application provides deep operational visibility and faster troubleshooting across physical, virtual, and cloud environments.

Before you begin

The Hitachi UCP Advisor converged content pack enables the collection of syslog information from storage, compute, and network devices that are on-boarded to inventory. Before using the vRealize Insight application, you need to enable the syslog through a content pack.

For server and storage devices, use the following content pack:

```
C:\Program Files\Hitachi\UCP Advisor\HiLogInsightConverged\Content
Packs\ UCP Advisor Converged v01.0.0.vlcp
```

For Brocade and Cisco Systems, download the content pack from the VMware solution exchange:

<https://marketplace.vmware.com/vsx/solutions/brocade-ip-networks-log-insight-content-pack>

Procedure

1. In the Navigator window, click **Administration**.
2. Click the **Configuration** tab.
3. Scroll down to **vRealize Log Insight** and click **Add**.

4. In the **vRealize Log Insight** dialog box, enter the relevant details as follows:
 - Hostname or IP Address: Host name or IP address of the user.
 - Username: User name identifying the user configuring the application.
 - Password: Password for the user configuring the application.
 - Port: Port used for the vRealize Log Insight application. Port 9543 is specified.
5. Click **Submit** to register and configure vRealize Log Insight.

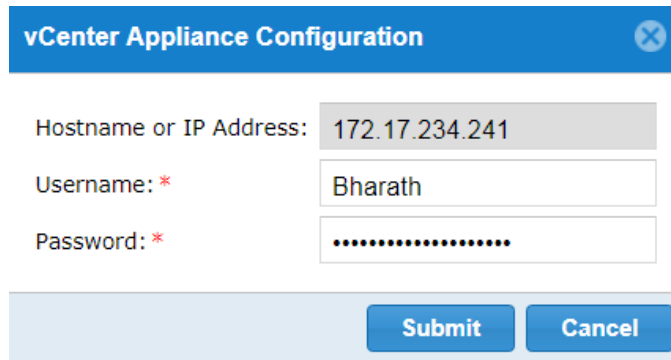
Configuring the VMware vCenter Appliance

You can configure the vCenter Appliance to communicate with UCP Advisor.

Procedure

1. In the **Navigator** window, click **Administration**.

2. Click the **Configuration** tab.
3. Scroll down to **vCenter Appliance** and click **Edit**.



The dialog box is titled "vCenter Appliance Configuration" with a close button (X) in the top right corner. It contains three input fields: "Hostname or IP Address" with the value "172.17.234.241", "Username" with the value "Bharath", and "Password" which is masked with dots. At the bottom right, there are two buttons: "Submit" and "Cancel".

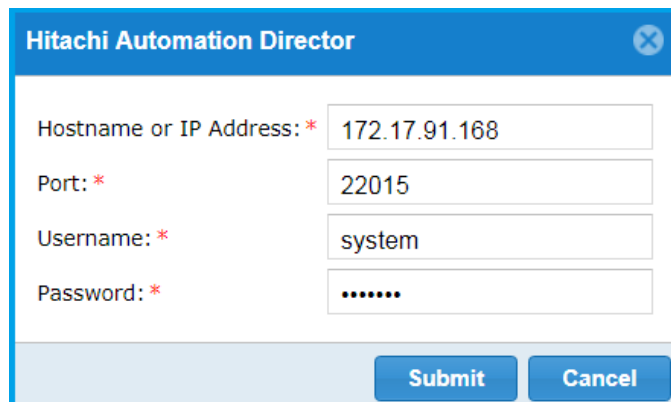
4. In the **vCenter Appliance Configuration** dialog box, enter the relevant details as follows:
 - Hostname or IP Address: Host name or IP address for the appliance (already filled in).
 - Username: User name identifying the user configuring the appliance.
 - Password: Password for the user configuring the appliance.
5. Click **Submit** to update the appliance.

Configuring Hitachi Automation Director

You can configure Hitachi Automation Director to enable workflows to be run from UCP Advisor.

Procedure

1. In the **Navigator** window, click **Administration**.
2. Click the **Configuration** tab.
3. Scroll down to **Hitachi Automation Director** and click the **Add** icon.



The dialog box is titled "Hitachi Automation Director" with a close button (X) in the top right corner. It contains four input fields: "Hostname or IP Address" with the value "172.17.91.168", "Port" with the value "22015", "Username" with the value "system", and "Password" which is masked with dots. At the bottom right, there are two buttons: "Submit" and "Cancel".

4. In the **Hitachi Automation Director** dialog box, enter the relevant details as follows:
 - Hostname or IP Address: Host name or IP address for the Hitachi Automation Director server.
 - Port: Port for Hitachi Automation Director.
 - Username: User name identifying the user with administrator privileges who is to access Hitachi Automation Director. Enter `system`.
 - Password: The Hitachi Automation Director administrator password. Enter `manager`.
5. Click **Submit**.

Running Hitachi Automation Director

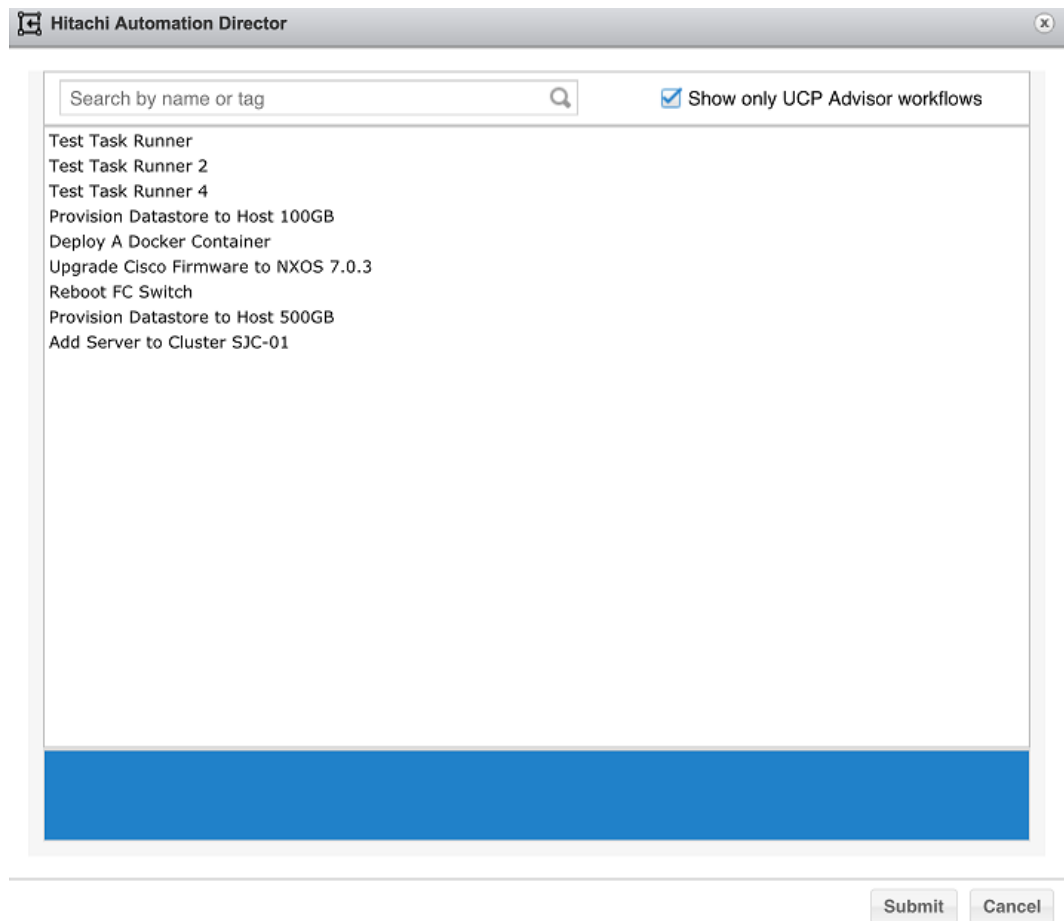
You can access Hitachi Automation Director from within UCP Advisor and make use of specially designed workflows that automate many of the common management tasks.

Before you begin

- Ensure the Hitachi Automation Director software is installed, and is registered with UCP Advisor.
- Ensure that your Hitachi representative has created custom workflows that can be run from UCP Advisor.

Procedure

1. In the **Navigator** window, or from the icons in the **UCP Advisor** window, select the type of device you want to manage (Storage, Compute, Ethernet Switches, or Fibre Channel Switches).
2. Double-click and select the device from the **Objects** window.
3. From the **Actions** list, select **Hitachi Automation Director**. A listing of Automation Director workflows is provided, along with an explanation of the function that each performs. If the list is empty, contact your Hitachi representative. Clear the **Show only UCP Advisor workflows** option to see the default workflows.



4. Select the required workflow from the list and click **Submit**.

Result

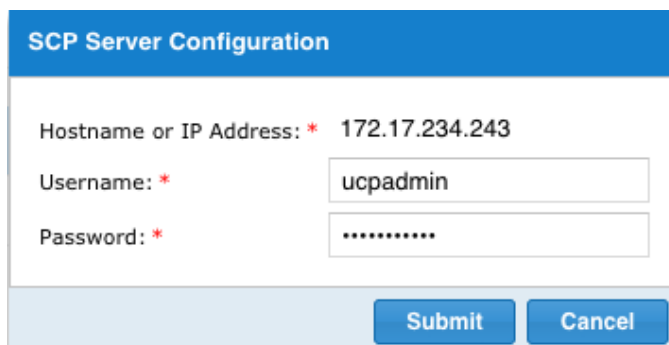
The selected Automation Director workflow is run. You can monitor its status in the Recent Tasks pane.

Configuring the SCP Server

You can edit the SCP Server configuration file that allows files to be easily transferred between UCP Advisor and a network switch.

Procedure

1. In the **Navigator** window, click **Administration**.
2. Click the **Configuration** tab.
3. Scroll down to **SCP Server** and click the **Edit** icon.



SCP Server Configuration

Hostname or IP Address: * 172.17.234.243

Username: * ucpadmin

Password: *

Submit Cancel

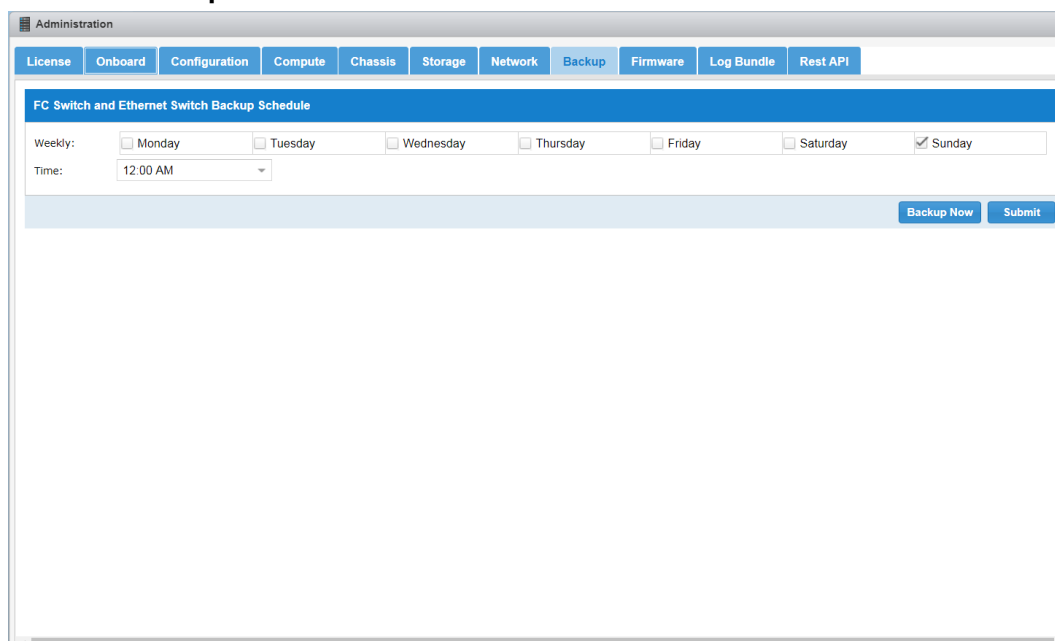
4. In the **SCP Server Configuration** dialog box, enter the relevant details as follows:
 - Hostname or IP Address: Host name or IP address for the SCP server. The host name is automatically supplied.
 - Username: User name identifying the user configuring the application.
 - Password: Password for the user configuring the application.
5. Click **Submit** to configure the server.

Scheduling the backup of a switch configuration

You can schedule, or immediately perform, a backup of a selected switch configuration.

Procedure

1. In the **Navigator** window, click **Administration**.
2. Click the **Backup** tab.



Administration

License Onboard Configuration Compute Chassis Storage Network Backup Firmware Log Bundle Rest API

FC Switch and Ethernet Switch Backup Schedule

Weekly: ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☒ Sunday

Time: 12:00 AM

Backup Now Submit

3. You have the option of scheduling the backup for a specified time, or you can perform the backup immediately.
 - To set up a scheduled backup, specify the appropriate day of the week when the backup is to take place, then specify a time from the list.
 - To perform an immediate backup, click **Backup Now**.
4. Click **Submit** to initiate the backup sequence.

Result

The backup is performed as specified and can be confirmed by checking the task list.

Upgrading and applying firmware and patches

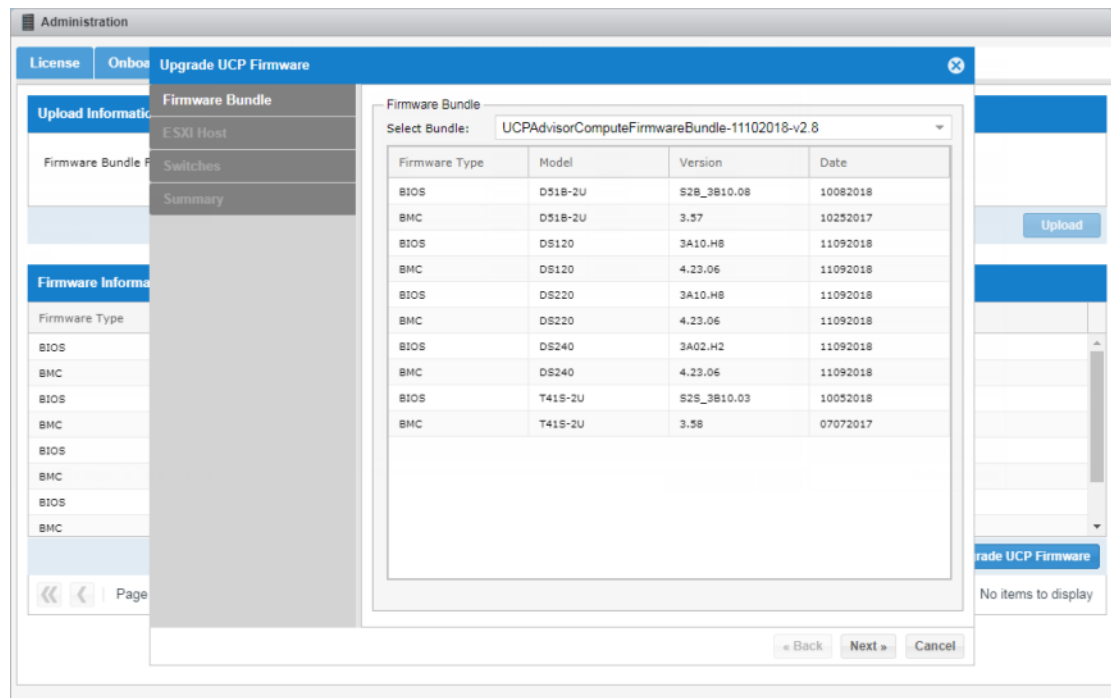
You can upgrade firmware for compute nodes, Fibre Channel, and Ethernet switches.

Procedure

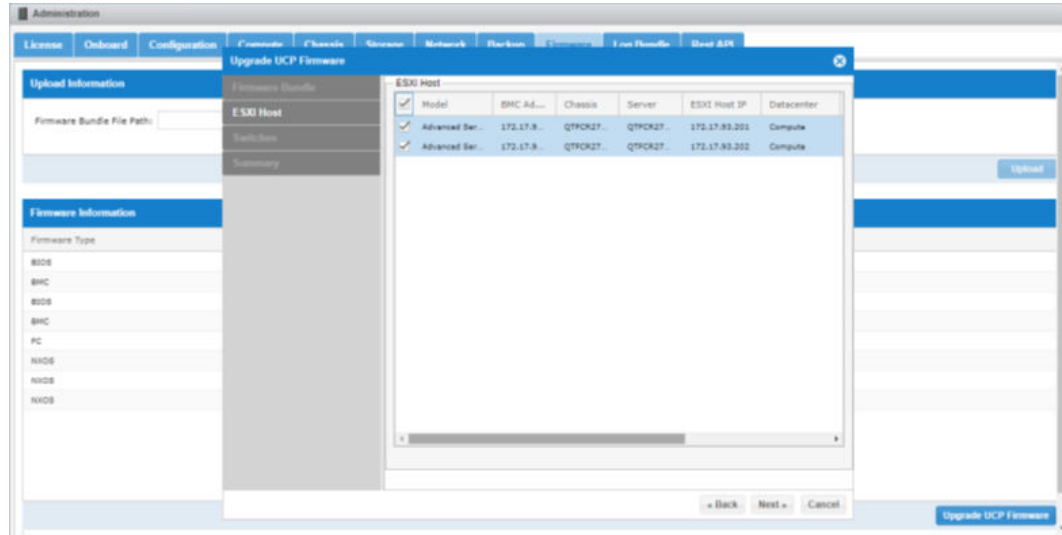
1. In the **Navigator** window, click **Administration**.
2. Click the **Firmware** tab, then wait for the firmware information to appear in the **Firmware Information** window.

Firmware Type	Model	Version	Date
BIOS	06120	3A10-M3	01152018
BMC	06120	3.75.06	02012018
BIOS	06220	3A10-M3	01152018
BMC	06220	3.75.06	02012018
FC	0620	v8.1.09	04222017
NVD	3048	v7.0.3.14.6	03102017
NVD	93180LC	v7.0.3.07.1	08312017
NVD	93180VC	v7.0.3.14.6	03102017

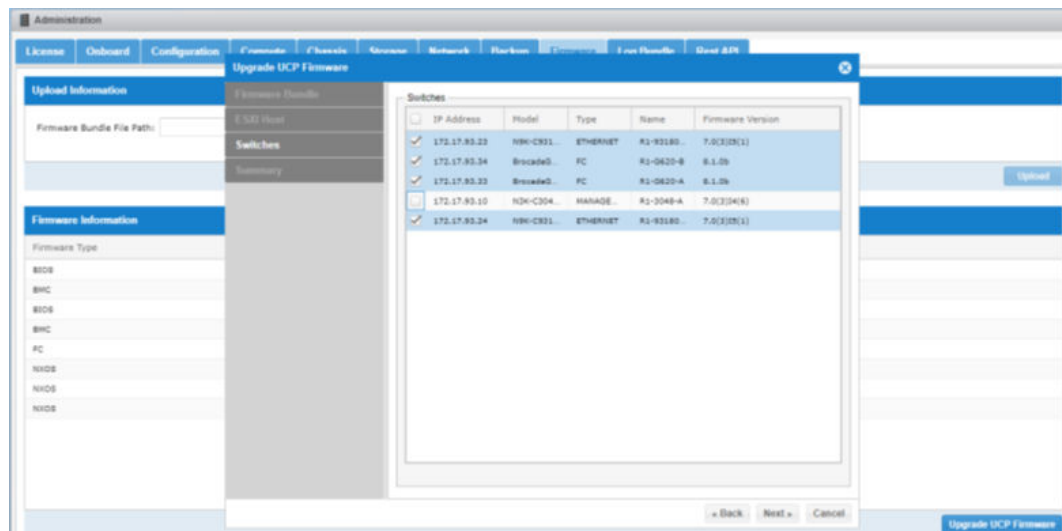
3. Click **Select Bundle** to specify the file path for the firmware bundle.



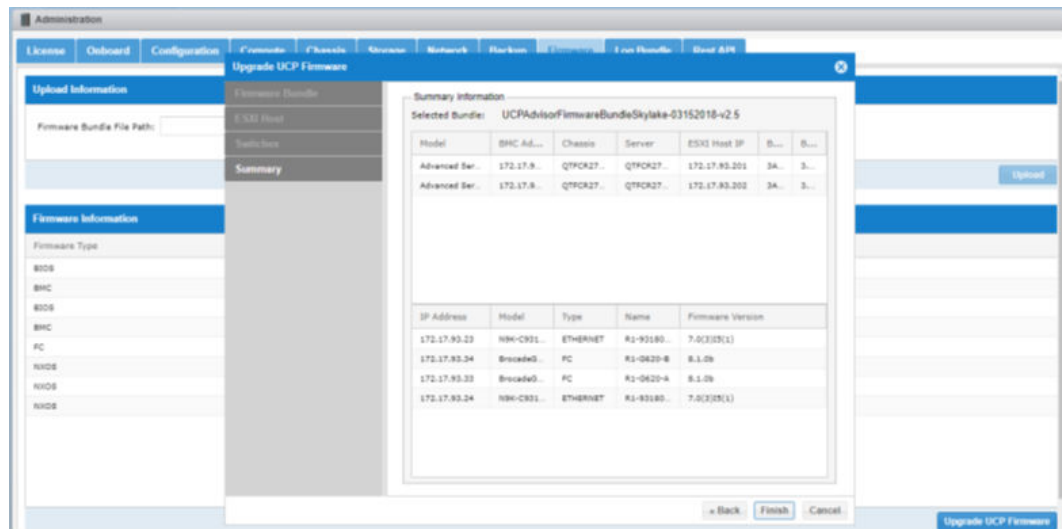
4. Click **Upload** to load the selected bundle.
5. When the contents are uploaded, click **Upgrade UCP Firmware**.
6. Select the firmware bundle for the upgrade, then click **Next**.
7. Select the servers, then click **Next**.



8. Select the switches, then click **Next**.



9. Verify the upgrade information from the **Summary Information** window, then click **Finish**.



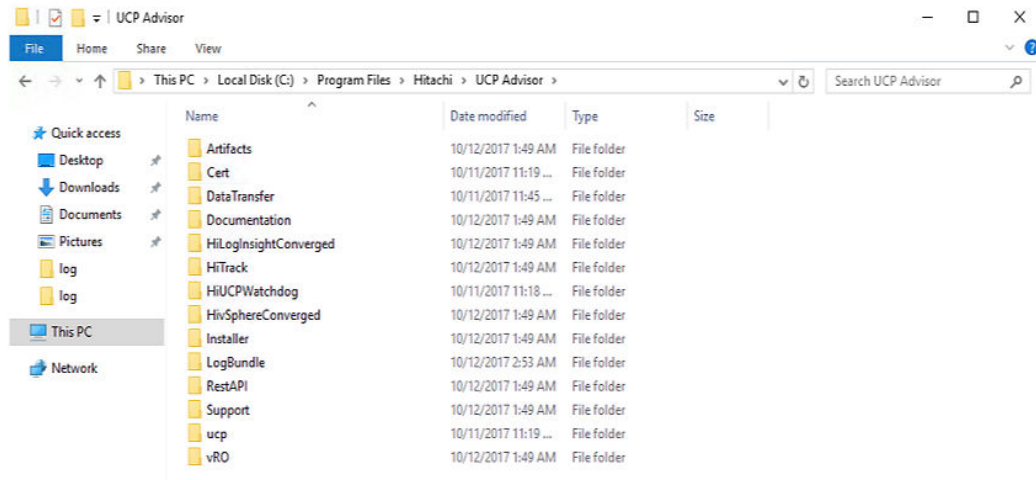
Generating and downloading log files

You can generate and download UCP Advisor system log file bundles for failure analysis and troubleshooting.

Procedure

1. In the **Navigator** window, click **Administration**.
2. Click the **Log Bundle** tab.
3. Click **Generate Log Bundle**.
The **Log Bundles generated successfully** dialog box opens.
4. Click **Download** to download the log bundles.
The zipped (.zip) file of log bundles is downloaded to your local download directory.
5. Unzip the downloaded file and review as required.

The following figure shows an example set of downloaded log bundles.



6. If required, contact Hitachi Vantara Corporation customer support for technical support at the following location:

<https://www.hitachivantara.com/en-us/services/customer-support-services.html>

Have the downloaded log bundles zip file ready to send in an email to the Hitachi technical support representative.

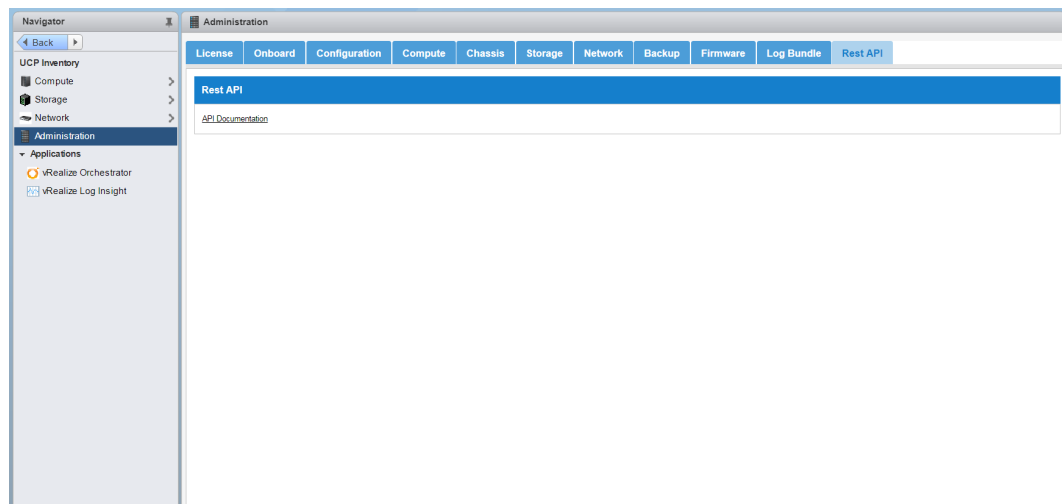
Using the UCP Advisor REST API

You can use the UCP Advisor REST API to perform management functions. The REST APIs are described and documented in the Swagger UI that is displayed from UCP Advisor.

Alternatively, if the UCP service is running and you know the IP address for the UCP controller VM, you can access the REST APIs in Swagger at: <https://<controller-vm-ip>:23015/swagger-ui.html>. For more information about the supported API resources, see [REST API commands \(on page 137\)](#).

Procedure

1. In the **Navigator** window, click **Administration**.
2. Click the **Rest API** tab.



3. Click **API Documentation**.

 The image shows the Swagger UI for the UCP Advisor REST API. At the top is a green bar with the 'swagger' logo, a dropdown menu set to 'default (/v2/api-docs)', and an 'Explore' button. Below this is the title 'UCP Advisor REST API' followed by 'Hitachi Unified Compute Platform Advisor API'. A note states 'Created by Hitachi Vantara' and provides a link to 'https://www.hitachivantara.com/en-us/products-solutions/converged-infrastructure.html'. The main body is a table listing API endpoints:

compute-devices : Register, remove, and view information for servers	Show/Hide	List Operations	Expand Operations
fibre-channel-alias : Assign alias's to storage ports SAN Fabric(s)	Show/Hide	List Operations	Expand Operations
firmware : Upload firmware and trigger device upgrades	Show/Hide	List Operations	Expand Operations
network-devices : Register, remove ethernet and fibre channel switches	Show/Hide	List Operations	Expand Operations
raid-groups : Create and manage RAID Groups (Parity Group)	Show/Hide	List Operations	Expand Operations
storage-devices : Register or remove storage systems	Show/Hide	List Operations	Expand Operations
storage-pool : Create and manage storage pools	Show/Hide	List Operations	Expand Operations
storage-ports : Create, manage host groups and view storage port information	Show/Hide	List Operations	Expand Operations
system : Get information on appliance(s) and get session tokens	Show/Hide	List Operations	Expand Operations
vans : Create and manage vians	Show/Hide	List Operations	Expand Operations
vmware : Create mount and expand Datastores	Show/Hide	List Operations	Expand Operations
volumes : Create and manage volumes	Show/Hide	List Operations	Expand Operations
zone-configs : Create and manage SAN Fabric zone configs	Show/Hide	List Operations	Expand Operations
zones : Create and manage SAN Fabric zones	Show/Hide	List Operations	Expand Operations

 At the bottom, it says '[BASE URL: /api/v1/ , API VERSION: Version 2.0.0]'.

4. Click the options you want for detailed information.

Initiating a UCP Advisor API session

To initiate a UCP Advisor API session, you must first get information on the available appliances and generate the required session tokens by invoking the following commands:

GET `https://<IP address of Controller VM> 23015/v1/services/system/actions/GetAppliances/Invoke`

Response Body

```
[
  {
    "Id": "a4fc0c0e-b573-411a-a25a-d343f5d1cbc8",
    "Model": "UCP CI",
    "Name": "SCpodB_test",
    "UcpAgentHost": "172.17.66.245",
    "UcpAgentPort": 8444,
    "SerialNumber": "UCP-CI-000002"
  },
  {
    "Id": "3490c15a-4002-4d1d-8b4a-88a2c116de99",
    "Model": "UCP CI",
    "Name": "SCpodB",
    "UcpAgentHost": "172.17.57.138",
    "UcpAgentPort": 8444,
    "SerialNumber": "UCP-CI-000001"
  }
]
```

POST /services/system/actions/Authenticate/invoke

Run the authenticate API with appropriate appliance information to get a session token.

```
payload
{
  "applianceId": "a4fc0c0e-b573-411a-a25a-d343f5d1cbc8", (Copy this
  appliance ID from above get appliances output)
  "password": "Passw0rd!",
  "username": "administrator@scpodb.local",
  "vcenterIp": "172.17.66.246"
}
```

Response Body

```
190ace68-d7bb-457a-a859-303378e65b34
```



Note: To run any APIs in Swagger, use the above session token and provide the required input parameter.

GET /compute/services/compute-devices/actions/GetAllComputeDevices/invoke

Parameters				
Parameter	Value	Description	Parameter Type	Data Type
X-Auth-Token	190ace68-d7bb-457a-a859-303378e65b34	X-Auth-Token	header	string



```
[
  {
    "ApplianceId": "a4fc0c0e-b573-411a-a25a-d343f5d1cbc8",
    "BMCLoginId": "admin",
    "BMCLoginPassword": "",
    "BMCVersion": "3.67.06",
    "BiosVersion": "3A10.H2",
    "BladeIP": "172.17.66.110",
    "BmcOS": null,
    "CMVersion": null,
    "CPUInfo": 2,
    "ChassisFirmwareVersion": null,
    "ChassisLabel": "Chassis-AR272400015",
    "ChassisSerialNumber": null,
    "ChassisUniqueKey": "Chassis-AR272400015",
    "ChassisVendor": "Hitachi Data Systems",
    "Chipset": "AST2500(A2)",
    "Cluster": "Unallocated",
    "Datacenter": "Unallocated",
    "DeviceId": "001c4c (Quanta) 3542 ",
  }
]
```

Using the UCP Advisor CLI

You can use the UCP Advisor CLI to perform management functions. The following procedure is for the Windows platform.

Before you begin

Create an environment variable called `UCPA_HOST` (for Linux and Mac, place this in your `.bashrc`; for Windows, go to Advance Settings in System Properties) – **export** `UCPA_HOST= https:// <ucp-advisor-IP>:23015`.

Download the UCP CLI package from the UCP Advisor media kit or UCP Advisor installed path.

Procedure

1. Open a command prompt and navigate to `C:\Program Files\Hitachi\UCP Advisor\ucp\cli\win`.

```

C:\Program Files\Hitachi\UCP Advisor\ucp\cli\win>ucpctl.exe
NAME:
    ucpctl.exe

USAGE:
    ucpctl.exe [global options] command [command options] [arguments...]

VERSION:
    0.1.0

COMMANDS:
    env      Command to show the ucp advisor server IP address
    info     View information about client and server
    list     List appliances
    login    Login to an appliance
    ex: ./ucpctl login --username user --vcenterIp 10.11.23.25 --applianceId 13123

    describe List resources
    create    Create resources
    delete   Delete resources
    expand    Expand a resource
    register  Register a new device
    deregister Deregister a registered entity
    invoke    Run actions or set properties on resources
    help, h   Shows a list of commands or help for one command

GLOBAL OPTIONS:
    --help, -h   show help
    --version, -v print the version

```

2. Enter **ucpctl.exe list** to get a registered UCP appliance in UCP Advisor.

```

C:\Program Files\Hitachi\UCP Advisor\ucp\cli\win>ucpctl.exe list
- Id: a4fc0c0e-b573-411a-a25a-d343f5d1cbc8
  Model: UCP CI
  Name: SCpodB_test
  UcpAgentHost: 172.17.66.245
  UcpAgentPort: 8444
- Id: 3490c15a-4002-4d1d-8b4a-88a2c116de99
  Model: UCP CI
  Name: SCpodB
  UcpAgentHost: 172.17.57.138
  UcpAgentPort: 8444

```

3. Initiate the login and provide the previously returned appliance ID, then enter the vCenter credential to create a valid session as shown in the examples below.

```

C:\Program Files\Hitachi\UCP Advisor\ucp\cli\win>ucpctl.exe login --username administrator@scpodb.local -vcenterIp 172.17.66.246 --applianceId a4fc0c0e-b573-411a-a25a-d343f5d1cbc8
administrator@scpodb.local password:

Sat Jan 13 06:32:45 -0800 PST 2018 Hitachi Unified Compute Platform Advisor
Appliance: a4fc0c0e-b573-411a-a25a-d343f5d1cbc8

```

After a session token has been generated, all CLIs can be invoked with the required input parameter.


```
C:\Program Files\Hitachi\UCP Advisor\ucp\cli\win>ucpactl.exe describe compute-devices
- ApplianceId: a4fc0c0e-b573-411a-a25a-d343f5d1cbc8
  BMCLoginId: admin
  BMCLoginPassword: cmb9.admin
  BMCVersion: 3.67.06
  BiosVersion: 3A10.H2
  BladeIP: 172.17.66.110
  BmcOS: null
  CMCVersion: null
  CPUInfo: 2
  ChassisFirmwareVersion: null
  ChassisLabel: Chassis-AR272400015
  ChassisSerialNumber: null
  ChassisUniqueKey: Chassis-AR272400015
  ChassisVendor: Hitachi Data Systems
  Chipset: AST2500(A2)
  Cluster: Unallocated
  Datacenter: Unallocated
  DeviceId: '001c4c (Quanta) 3542 ''
  FabricId: null
  FanStatus: Normal
  GlobalResourceId: UCP-CI-000002.SRV.AR272400015
  GuestOS: N/A
  HardDiskStatus: Present
  HostIp: 172.17.66.210
  HostPassword: Password!
  HostUsername: root
  IntrusionState: inactive
  IsCoolingFanAtFault: false
```

Chapter 6: Troubleshooting

Common problems and possible solutions are described in this module.

Accepting the SSL certificate in vRLI

Use the following guidelines and suggested steps to help resolve issues when accepting SSL certificates.

Condition:

When the vRLI is selected from the Navigator, UCP Advisor displays an error message instead of the vRLI logon screen.

What it Means:

The SSL certificate has not been accepted for vRLI for this particular domain.

Corrective Action:

The certificate must be accepted.

To accept the SSL certificate, follow these steps:

1. Open another tab in the vRLI logon page.
2. Enter the same vRLI IP address in the URL field (for example, `https://<IP address>/`).
3. If the web browser does not automatically accept the SSL certificate, manually accept it.

Configuring vRLI

Use the following guidelines and suggested steps to help resolve vRLI issues.

Condition:

The vRLI configuration does not work.

What it Means:

Incorrect vRLI IP address and credentials may have been entered.

Corrective Action:

The credentials must be correct when deploying vRLI.

To configure vRLI, follow these steps:

1. In the **Navigator**, click **Administration**.

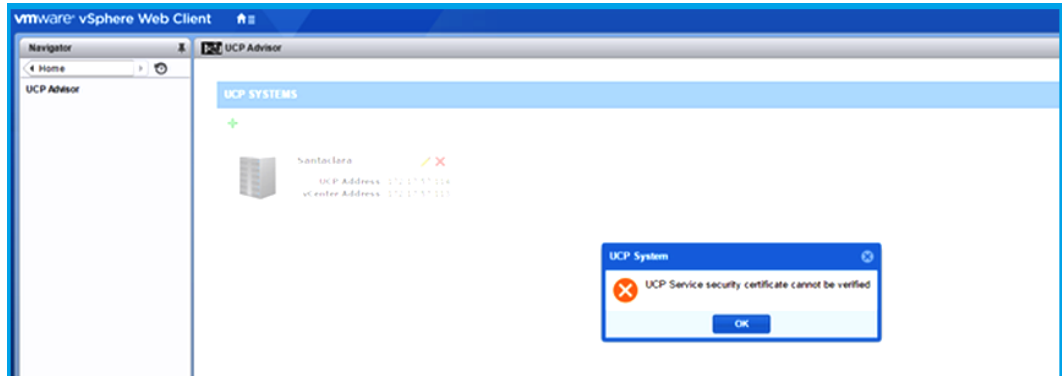
2. Click the **Configuration** tab.
3. In the vRealize Log Insight area, click the plus (+) icon.
4. Enter a host name or IP address.
5. Enter a vRLI account name and password.
6. Click **OK**.

Troubleshooting UCP Advisor session timeouts

Use the following guidelines and suggested steps to help resolve issues when UCP Advisor session timeouts occur.

Condition:

The UCP Advisor session suddenly stops because it has been idle for too long. An error message, similar to the following figure, might appear.



What it Means:

The UCP Advisor plugin cannot access the web service.

Corrective Action:

Restart the UCP Advisor web service.

To restart the UCP Advisor web service, follow these steps:

1. From the taskbar, click **Services**.
2. Right-click the **Hitachi UCP Advisor Services** Services entry, then click **Restart**.

If this symptom persists after you restart the UCP Advisor web service, confirm that the self-signed certificate used for HTTPS access exists. The certificate (UCPAdvisor.cer) should be located in <C:\Program Files\Hitachi\UCP Advisor\Cert>.

If the certificate does not exist in the folder, perform the following steps:

1. Run the following PowerShell command:

```
New-SelfSignedCertificate -CertStoreLocation cert:\localmachine
\<My_DNS_hostname>
```

2. Run the following PowerShell command:

```
Export-Certificate -Cert (Get-ChildItem -Path cert:\LocalMachine
\<My_DNS_hostname>\B6FA9B3A0FEB81E77BC0708 55) -FilePath
"C:\Program Files\Hitachi\UCP Advisor\Cert\UCPAdvisor.cer"
```

3. Restart the web service.

If the symptoms persist even after you create the certificate, clean up the SSL certificate for port 23011 by performing these additional steps:

1. Run the following command to identify the SSL certificate:

```
netsh http show sslcert ipport=0.0.0.0:23011
```

2. Run the following command to remove the SSL certificate from port 23011:

```
netsh http delete sslcert ipport=0.0.0.0:23011
```

3. Delete the SSL certificate from the certificate store. Locate the SSL certificate with the thumbprint that matches the output Certificate Hash in the certificate store called Local Computer in the Certificates MMC snap-in.
4. Delete the SSL certificate.
5. Delete all files in the C:\Program Files\Hitachi\UCP Advisor\Cert folder.

Create and export a new self-signed SSL certificate by performing these steps:

1. To create a new self-signed SSL certificate, run `New-SelfSignedCertificate`. The cmdlet outputs the new certificate thumbprint.
2. In the PowerShell console Window, run the following cmdlet:

```
New-SelfSignedCertificate -dnsname <host name> -
CertStoreLocation cert:\LocalMachine\<My_DNS_hostname>
```

3. To export the new self-signed SSL certificate as a .cer file from the certificate store, run the following command:

```
Export-Certificate -Cert cert: \LocalMachine\<My_DNS_hostname>\
<New-SelfSignedCertificate_Thumbprint> -FilePath "C:\Program
Files\Hitachi\UCP Advisor\ Cert\UcpAdvisor.cer"
```

4. Restart the UCP Advisor web service.

Troubleshooting UCP Advisor after running the installer

Use the following guidelines and suggested steps to help resolve UCP Advisor issues after running the installer.

Condition:

After a successful UCP Advisor installation, you cannot access the Dashboard or launch a UCP Advisor instance.

What it Means:

This may happen when one or more services required by UCP Advisor are not running.

Corrective Action:

Verify that the required UCP Advisor services are all running. If the services are not running, start any stopped services with the following steps:

1. From the taskbar, click **Services**.

Verify that all of the following services are running:

- Hitachi UCP Advisor Services
- Hitachi vRO Converge Web Service
- Hitachi UCP Advisor Hi-Track Web Service
- Redis
- Hitachi UCP VI Service
- Hitachi Syslog Agent for vRLI
- HiWatchdogServiceForUCPAdvisor

2. If one of the services is not running, right-click on the service.

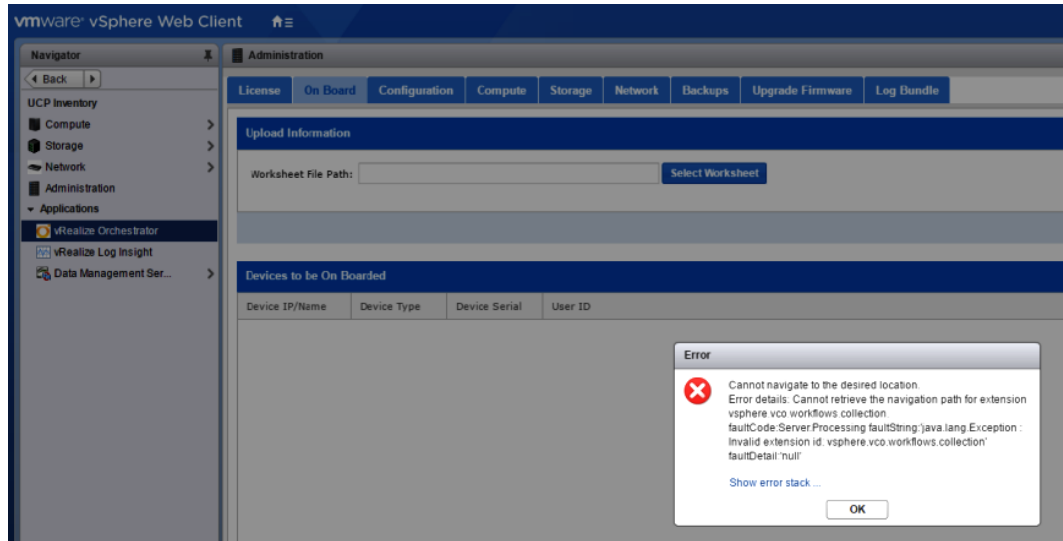
3. Click **Restart**.

Troubleshooting vRealize Orchestrator

Use the following guidelines and suggested steps to help resolve vRO issues.

Condition:

Clicking on vRealize Orchestrator generates an error.



What it Means:

This may happen when vRealize Orchestrator is not properly configured with vCenter.

Corrective Action:

Verify that vRealize Orchestrator is registered with the vCenter server before invoking vRealize Orchestrator from the UCP Advisor application.

Troubleshooting slow performance

Use the following guidelines and suggested steps to help resolve UCP Advisor performance issues.

Condition:

You have successfully installed UCP Advisor, but performance for navigation and adding devices is slow.

What it Means:

Frequently, this means that several UCP Advisor resources may be overloaded.

Corrective Action:

Verify that UCP Advisor resources are not overloaded by following these steps:

1. Verify that the Hypervisor is not overloaded to the point where the performance is degraded. If the Hypervisor is heavily loaded, consider moving the appliance to a host that is not as busy.
2. Verify that an appropriate amount of free disk space remains.

Troubleshooting switch upgrade issues

Use the following guidelines and suggested steps to help resolve switch upgrade issues.

Condition:

An issue occurs during the upgrade of Brocade G620 and Cisco 3048, 93180YC, or 93180LC switches when the SSH host keys have been changed.

Following is an example of the type of error message that is output for this condition.

```
Error - Failed to upgrade firmware. Failed to upgrade network
switch firmware with firmware file /UCPFirmware/Firmware/FC/
G620/v8.0.1. Failed to upgrade network switch firmware with
firmware file /UCPFirmware/Firmware/FC/G620/v8.0.1. One or more
parameters are not valid. The server is inaccessible or
firmware path is invalid. Please make sure the server name/IP
address and the firmware path are valid, the protocol and
authentication are supported. It is also possible that the RSA
host key could have been changed and please contact the System
Administrator for adding the correct host key. at
Hitachi.Storage.ExceptionHelper`2.ThrowNewException (L logger,
Exception exception, T id, Object[] args)
```

What it Means:

As a security precaution, the upgrade of switches fails when the SSH host keys have been changed.

Corrective Action:

Clear the list of trusted SSH hosts for switches where the upgrade fails as follows.

For Brocade switches, issue the following:

```
admin> sshutil delknownhost -all This Command will delete all the
known host keys. Please Confirm with Yes (Y,y) , No (N,n) [N]: y All
Known Host(s) deleted Successfully.
```

For Cisco System switches, issue the following:

```
R1-93180LC-EX-B# clear ssh hosts
R1-93180LC-EX-B#
```

Troubleshooting Fibre Channel switch functionality issues

Use the following guidelines and suggested steps to help resolve UCP Advisor Fibre Channel switch issues.

Condition:

Add FC switch throws functionality error.

Error - Failed to get FC network switch status information.
This functionality or a part of it is not supported for this device. Authentication failed. Please check your username and password.

What it means:

The SNMP config SNMPV1 might be disabled.

Corrective action:

Login to the Fibre Channel switch using SSH, then run the following command:

```
snmpconfig --enable snmpv1
```

Manually unregistering UCP Advisor plugins from vCenter

After uninstalling older versions of UCP Advisor, you need to unregister the UCP Advisor plugin from vCenter.

Procedure

1. Browse to the following path:
`https://VCSA_IP_Address/mob`
2. Select and unregister the hitachi.ucp.advisor extension.
3. Go to the Extension Manager and click **Unregister extension**.
4. Unregister com.hitachi.ucp.advisor.

Appendix A: REST API commands

Supported REST API commands

UCP Advisor supports the categories of REST API commands listed in the following table:

Category	Description
compute-devices	Register, remove and view information for servers.
fibre-channel-alias	Assign aliases to storage ports SAN Fabric.
firmware	Upload firmware and trigger device upgrades.
network-devices	Register, remove and manage ethernet and Fibre Channel switches.
raid-groups	Create and manage RAID groups (parity groups).
storage-devices	Register, remove, and view storage system information.
storage-pools	Create and manage storage pools.
storage-ports	Create, manage host groups, and view storage port information.
system	Get system information and configure settings.
vlands	Create and manage VLANs.
vmware	Create, mount, and expand datastores. Deploy hosts to vCenter.
volumes	Create and manage volumes.
zone-configs	Create and manage SAN Fabric zone configurations.
zones	Create and manage SAN Fabric zones.

For the complete list and details of all REST API commands supported by UCP Advisor, click the API Documentation link on the REST API tab in the Administration window.

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