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Introduction

In today’s world of cloud computing and virtual environments, managing physical servers, storage, and networking is a critical task for the IT administrator. Tools that can simplify and automate these operations increase productivity, optimize resources, and aid in troubleshooting. HPE OneView for VMware vCenter™ (HPE OV4VC) is part of the management software for HPE Converged Infrastructure, and brings physical server, networking, and storage management into the VMware vCenter management suite. This integration enables VMware administrators to monitor and manage HPE server, networks, and storage seamlessly from within the vCenter management console using a single application plug-in.

HPE OneView for VMware vCenter overview

The HPE OneView plug-in for VMware vCenter Server™ consists of several modules for use in managing HPE servers, networks, or storage systems to deliver single-pane-of-glass management of both virtual and physical environments. It is displayed as an additional tab inside the VMware vSphere® Client management console. By accessing this tab, a VMware® administrator can quickly obtain context-sensitive server and storage-specific information for individual elements of the virtual environment. It enables the VMware administrator to see how virtual machines (VMs) are mapped to the underlying physical datastores and individual disk volumes. This information illustrates the clear relationship between VMs, datastores, and storage, which allows a VMware administrator to more effectively manage and troubleshoot their virtual environment. Server, network, and storage details are incorporated in key areas of the plug-in, such as the HPE Infrastructure and HPE Management tabs within vCenter.

Traditionally, storage arrays have their own management interface with unique capabilities and terminology specific to that array. The native management interfaces are still available for the storage administrator to configure and manage the array. For a VMware administrator or even a storage administrator, HPE OneView for vCenter allows you to view storage information and manage HPE storage products using a single interface. The plug-in helps VMware administrators by providing end-to-end mapping between vSphere virtual storage identifiers and physical storage system identifiers. Because of this mapping, the VMware administrators can quickly obtain specific storage information and provide storage administrators with detailed storage and virtual environment information.

HPE OneView also supports the vSphere APIs for Storage Awareness (VASA), a set of standardized VMware APIs allowing storage vendors to deliver storage array-related data into vCenter Server. These APIs are also used with the VMware vSphere® Storage Distributed Resource Scheduler™ (DRS) and with profile-driven storage features. VMware vSphere Storage DRS improves overall management and enables more efficient use of storage resources through grouping, placement, and balancing. Profile-driven storage helps identify the appropriate storage needed for a given VM depending on the required service level.

The result is a streamlined approach to selecting the correct storage and ensuring VM placement upon it. Implementation of the VASA APIs for the HPE 3PAR StoreServ, HPE StoreVirtual, and HPE MSA 1040 and 2040 arrays are included in the plug-in.

This document focuses on the storage module of HPE OneView for vCenter and specifically on new functionality and features included in version 8.0.1.

Existing functionality is still supported in both the VMware vSphere® Web Client and vSphere Client:

- Plug-in co-existence with HPE OneView
- Single installer for HPE storage, HPE servers, and HPE Virtual Connect
- Support for HPE 3PAR StoreServ, HPE StoreVirtual, and HPE MSA storage systems
- Provision datastores and virtual machines using HPE storage systems
- Map the relationships from clusters, hosts, virtual machines, and datastores to HPE storage systems
- View detailed context-sensitive storage information
- Support for VMware VASA
- HPE Infrastructure inventory list
- Cluster support
- Monitor HPE StoreOnce Backup systems
- HPE 3PAR StoreServ Peer Persistence software support
- Graphical view of VMs-to-volumes relationships
- Deploy HPE StoreOnce VSA and HPE StoreVirtual VSA
These capabilities greatly improve the VMware administrator’s visibility into the relationships between the virtual and physical infrastructure. This enhanced visibility combined with powerful provisioning capabilities allows the VMware administrator to achieve high productivity and ensure quality of service.

**HPE OneView for VMware vCenter deployment**

HPE OneView for VMware vCenter integrates as a plug-in within the vCenter Server and web UI. The VMware administrator accesses the vCenter Server management capabilities, including the functionality of the plug-in, using either the vSphere Client software or the vSphere Web Client interface.

After registering with the vCenter Server, all vSphere Clients connected to that vCenter Server gain access to HPE OneView for VMware vCenter through the HPE Management tab.

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**Note**

The HPE Management tab is displayed when vSphere Clients connect to the vCenter Server after configuring it with HPE OneView for VMware vCenter software.

The HPE OneView for VMware vCenter software establishes a connection with vCenter Server and the storage module uses this connection to resolve the disks for each VMware® ESX® / VMware® ESXi™ host, datastore, and VM. After resolving these disks, the storage module then creates a connection to all configured HPE storage systems to resolve the disks visible by the ESX/ESXi host to the LUNs presented from the HPE storage systems. When LUNs are successfully resolved, the relevant storage information is cached or displayed in context within the vSphere Client.

**What is new in this release?**

- HPE OneView for vCenter is delivered as a virtual appliance
- Simplified wizard-driven deployment and configuration
- New Administrator Console for configuring vCenter Servers and storage systems
- Migration Tool provided for migrating HPE OV4VC v7.x to HPE OV4VC v8.x
- New HPE branding
- Support for the Intel® Broadwell CPU processor for existing HPE Gen9 servers
- Support for HPE WS460c server blades
HPE OneView for VMware vCenter as an appliance

Starting with the 8.0.1 release, HPE OneView is delivered as a virtual appliance, a preconfigured virtual machine ready to be deployed on a hypervisor host. This allows VMware administrators a faster and more efficient setup of HPE OneView for vCenter in their VMware environments. The new HPE OneView for vCenter Migration Tool helps in migrating configuration data from the previous Windows®-based product to the new appliance-based product.

HPE OneView for VMware vCenter Administrator Console

The entirely new HPE OV4VC Administrator Console provides a significantly improved user experience compared to the previous Storage Administrator Portal. The new Administrator Console user interface is built using modern web programming languages, HTML5 and CSS3. The following are some examples of this new user interface (UI).

![Figure 1. Main menu—HPE OV4VC Administrator Console](image)

The Administrator Console can be used to perform the following actions:

- Configure vCenter Servers and HPE storage systems that need to be managed by HPE OV4VC
- View the activities performed on the appliance
- Add or edit users
- Management VM section can be used to configure the network and DNS settings
- Enable Trace-level logging and trigger log collection required for logging a support call for the product
- Find information about all active sessions in the appliance
- Upgrade the appliance to subsequent releases
- Initiate Backup and Restore of the configuration data about the servers, enclosures, and storage systems in the HPE OneView for VMware vCenter plug-in
- Define custom properties that can be used for debugging, as suggested by support personnel
Migrating from v7.x to v8.x using HPE OneView for vCenter Migration Tool

The HPE OneView for vCenter Migration Tool helps in migrating from the Windows-based v7.x versions to the new virtual appliance-based version v8.x of the product.

When upgrading from v7.x to v8.x, the following information is migrated:

- Configuration of all supported HPE storage systems and the storage pools
- News feed and tasks, which typically is saved in the Postgres database
- Information about vCenter Servers that are configured in HPE OneView for VMware vCenter
- Configuration of server module components

In case the Migration Tool finds any configurations that are not supported in the newer release, it displays a warning that the configuration details cannot be exported. In this case, you can proceed to export only the supported configuration settings.

To begin a migration, execute the HPE OneView for VMware vCenter Migration Tool on the system running Windows Server® or virtual machine where the Windows version of HPE OneView for vCenter is installed.
The Migration Tool uninstalls the Windows-based installation and exports the current configuration settings.

The exported settings can be imported into the new HPE OV4VC virtual appliance. The backup file can be restored from the Backup and Restore section on the main page of the Administrator Console. For more information about restoring configurations, see the HPE OneView for VMware vCenter User Guide.
Backup and Restore
The Backup and Restore feature allows the backup of the server, storage, and HPE OneView configuration data. This includes credentials for configured vCenter Servers and storage systems along with storage pool permissions.

Backup
The Backup feature enables a point-in-time backup of the current configuration data. The Backup is created in the form of an encrypted zip file and stored on the appliance. You can also download and restore the backups on any HPE OV4VC appliance.

Restore
You can perform a restore in the following ways:

- Restore from a previously downloaded backup file by browsing the file or dragging and dropping the backup file into the Restore dialog on the settings page of HPE OV4VC Administrator Console
- Restore from a local backup, if it exists

Custom properties
You can use the custom properties section on the settings page of Administrator Console to set any properties in the appliance. Properties can be either added, edited, or deleted.

Enabling logging
Trace-level logging may be required by support personnel to troubleshoot any issues. Use the logging section on the settings page of the Administrator Console to configure Trace-level logging.

Supported HPE storage products
HPE OneView for vCenter provides support for the following HPE storage product families from within a VMware vCenter environment:

- HPE 3PAR StoreServ arrays
- HPE StoreVirtual arrays and HPE StoreVirtual VSA
- HPE MSA 1040/2040 Storage systems
- HPE StoreOnce Backup storage systems

Starting with version 8.0.1, HPE OneView for VMware vCenter no longer supports the following storage systems:

- HPE EVA Storage systems
- HPE XP/P9000 Storage systems
- HPE MSA2000 G2 / P2000 G3 Storage systems
Configuration requirements for HPE storage within HPE OneView

- For HPE StoreVirtual, network access to all storage nodes in the management group is required.
- For HPE MSA, network access to the storage array is required.
- For HPE StoreOnce, network access between the management server and the management port of the HPE StoreOnce Backup system is required.

New HPE branding and improved content layout

The HPE OneView for vCenter plug-in has been updated to reflect the new HPE branding. The HPE Infrastructure icon allows you to drill into your HPE hardware components such as blade enclosures, storage systems, and hyperconverged appliances.

Figure 5. HPE branding changes in vSphere Web Client—Home tab
**Improved content layout**
The new layout in the HPE Management tab provides a better view of components on the screen with an improved side navigation menu. The horizontal tabs have now been replaced by this menu to provide easier navigation.

![HPE Management tab—improved content layout](image)

**Troubleshooting and recommendations**
Before deploying a new HPE OV4VC appliance:

- If you are migrating from a Windows-based HPE OV4VC installation, please run the Migration Tool on the Windows system where HPE OV4VC is installed. The Migration Tool backs up your configurations to an encrypted backup file and then uninstalls the HPE OV4VC software.
- Designate an IP address and hostname for the HPE OV4VC appliance. Please ensure that both forward and reverse DNS resolution exist.
While deploying the appliance, please provide the fully qualified domain name (FQDN) in the Hostname field in the Customize template screen as shown in figure 7.

Figure 7. Deploying HPE OV4VC OVF template—customization

After deploying the appliance, if you encounter certificate issues while adding vCenter:

- Verify that HPE OV4VC appliance has been deployed using the FQDN by checking the hostname
- Ensure the HPE OV4VC appliance does not have any communication issues with vCenter
- Ensure that both forward and reverse DNS resolution exist between the HPE OV4VC appliance and vCenter
- Restart the HPE OV4VC appliance and try adding vCenter again
Conclusion

The new virtual appliance-based model of HPE OneView for vCenter enables simplified deployment and streamlines the installation and configuration process. The new HPE OneView for vCenter 8.0.1 release provides a clean and intuitive user interface via the Administrator Console to configure vCenter Servers and storage systems and as well as manage the virtual appliance. The plug-in provides details at the VM, datastore, ESX/ESXi host, and cluster levels, which makes physical storage information easily accessible from the native vSphere management software interface. Users can view information for specifically selected vSphere objects and their related physical storage components. This provides a VMware administrator with a comprehensive view of the physical storage and servers within a virtual environment and allows them to be managed efficiently through HPE OneView for VMware vCenter.

Resources

Download the latest HPE OneView for VMware vCenter at h20392.www2.hpe.com/portal/swdepot/displayProductInfo.do?productNumber=HPVPR

HPE Storage compatibility matrix—SPOCK:
hpe.com/storage/spock

Learn more at hpe.com/info/ovvcenter/docs