

Veritas™ InfoScale Availability Library Management Pack Guide for Microsoft System Center Operations Manager 2016

Windows

VCS Library Management Pack

VERITAS™

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Deploying the VCS Library Management Pack

This chapter includes the following topics:

- [About the VCS Library Management Pack](#)
- [About deploying the VCS Library Management Pack](#)
- [Installing the Operations Manager 2016 agent](#)
- [Configuring agent-managed computers as proxy](#)
- [Uninstalling the VCSOpsMgrIntegration service](#)

About the VCS Library Management Pack

The Veritas InfoScale Availability (formerly Cluster Server—VCS) Library Management Pack, *Veritas.VCS.Library.mp*, is required to monitor applications that are configured under VCS, in a Microsoft System Center Operations Manager 2016 (SCOM) monitoring environment.

The VCS Library Management Pack functions as follows:

When you install the Operations Manager 2016 agent on physical cluster nodes, the nodes get added to the Agent-Managed group on the management server. When you import the SQL management packs on the management server, these management packs discover the clustered SQL instances (virtual servers) running on the nodes.

The VCS Library Management Pack invokes the VCSOpsMgrIntegration Service which then connects to the management server and adds the SQL virtual servers as agentless managed computers. The service also sets the physical cluster nodes where the SQL service groups are online as proxy for the virtual servers. Application

monitoring starts as soon as the virtual servers are added as agentless managed objects on the management server.

Consider that you install the Operations Manager 2016 agent on cluster node 'N1' and 'N2', having the virtual server name 'V1' for the Exchange Lanman resource. Using the discovery rule the Exchange management pack discover these nodes as "VCS Virtual Server - V1". The VCSOpsMgrIntegration service running on SCOM server adds the VCS Virtual Server V1 as agent-less managed computers in SCOM server and sets the proxy to 'N1', as V1 is online on N1. Once the virtual server is added as agent-less managed computer in SCOM server, the application monitoring starts.

Note: Apart from monitoring the application, if you want to monitor the SQL service group and its resources, you must import the VCS Management Pack, *Veritas.Cluster.Server.mp*.

The VCS Library Management Pack contains the following components:

- Monitor for VCSOpsMgrIntegration Service.
This monitors the state of VCSOpsMgrIntegration service. While the service is running the state is healthy. However, in case of a failure the state is critical.
- Rule to monitor the errors occurred, if any, while processing the data in VCSOpsMgrIntegration Service.
This rule generates an alert in the SCOM server, whenever the VCSOpsMgrIntegration service logs an event in the application event log, with the event id 1.
- Two groups:
 - VCS Virtual Server Group, that contains the VCS virtual servers that are monitored by the SCOM server.
 - VCS Windows Servers Group, that contains the list of Windows servers where VCS is installed.
- Two targets, VCS Physical Server, and VCS Virtual Server, representing the physical servers and the VCS virtual servers.

About deploying the VCS Library Management Pack

This chapter describes how to deploy the VCS Library Management Pack in a Microsoft System Center Operations Manager 2016 monitoring environment. Complete the procedures in the given order.

Installing the VCSOpsMgrIntegration service

This procedure is required only if you plan to import the VCS SQL management pack for Operations Manager 2016.

Deploy the VCSOpsMgrIntegration Service only on the SCOM server. The service gets installed on the SCOM server in the “Manual” mode and terminates itself if it fails to connect to the Operations Manager, using the SCOM SDK. The Integration service creates a log file named,

“VCSOpsMgrIntegration.log” at

`%ProgramFiles%\Veritas\MOMUtils\OpsMgr` on the SCOM server node.

Note: The debug logging is disabled by default. You can enable it by creating the registry key "HKLM\Software\Veritas\VCS\OpsMgrIntegration" and setting the DWORD value named 'ServiceLogLevel' with 1 as its value.

In Operations Manager 2016, managed items are collectively referred to as objects. Computers can either be agent managed or agentless managed objects. Each agentless managed computer must be associated with an agent-managed computer that acts as a proxy and provides remote agent functionality for the virtual server. Operations Manager 2016 server retrieves agentless managed object related events from its associated agent-managed proxy.

SQL instances (virtual servers) configured with VCS are monitored as agentless managed objects and the cluster nodes on which these virtual servers are configured to run are monitored as agent managed objects.

All the VCS application management packs contain discovery rules to discover the VCS virtual servers for the respective applications. The VCSOpsMgrIntegration service monitors for the discovery of new VCS virtual servers every 10 minutes and adds them as agentless managed computers to the SCOM Management Server.

When a virtual server comes online, a rule in the VCS library management pack monitors this event and generates an alert that contains information about the virtual server name and the cluster node (physical server) on which the virtual server is online. The Integration service running on the SCOM server, monitors the Lanman resource, after every 60 seconds and then switches the proxy to the cluster node on which the virtual server is online. The Operations Manager 2016 server then starts monitoring the virtual server using the new proxy (node on which the virtual server is online).

Consider a 2-node VCS cluster, where Node1 and Node2 are the system names and INST1 is the clustered SQL instance (virtual server). Node1 and Node2 are configured as agent managed objects and INST1 is configured as agentless managed object. When INST1 is online on Node1, Operations Manager 2016 server

retrieves INST1 related events from Node1. If INST1 fails over to Node2, all INST1 related events are logged in the Node2 event log. The VCSOpsMgrIntegration Service detects this information from the Lanman agent alert, and switches the proxy to Node2. The Operations Manager 2016 server now retrieves INST1 related events from the Node2 event log.

If you modify the Lanman name in your configuration, the new Lanman name as well as the previous Lanman name appears in the discovery list of Agentless managed computer. In this case, manually delete the old Lanman name from the SCOM server. Once deleted, it will not be discovered again.

Thus, the VCSOpsMgrIntegration Service enables Operations Manager 2016 server to retrieve and monitor events related to the clustered SQL instances, from the nodes (physical systems) on which they are online.

To install the VCSOpsMgrIntegration Service

- 1 From the Operations Manager 2016 management server, navigate to the location where you saved the VCS Library Management Pack.
- 2 Double-click the **install.bat** for SCOM 2016. The VCSOpsMgrIntegration Service is installed at the following location on the Operations Manager server:

```
C:\Program Files\Veritas\MOMUtils\OpsMgr
```

- 3 Start the VCSOpsMgrIntegration service.

```
net start VCSOpsMgrIntegration
```

Importing the VCS Library Management Pack

Use the following procedure to import the VCS Library Management Pack, *Veritas.VCS.Library.mp*.

Before you proceed, ensure that the Operations Manager 2016 infrastructure is set up and configured correctly. See the Microsoft System Center Operations Manager 2016 documentation for more information.

To import the VCS Library Management Pack for SCOM 2016

- 1 Log on to the computer with an account that is a member of the Operations Manager Administrators role for the Operations Manager 2016 management group.
- 2 In the Operations Console, click **Administration**.
- 3 Right-click the **Management Packs** node and then click **Import Management Packs** to launch the Import Management Packs wizard.
- 4 Click **Add**, and then click **Add from disk**.

- 5 The Select Management Packs to import dialog box appears. Change to the directory that holds the VCS Library Management Pack file, select the management pack **Veritas.VCS.Library.mp** and then click **Open**.
- 6 On the Select Management Packs page, the VCS Library Management Pack that you selected for import is listed. A green check mark indicates that the management pack can be imported. Click **Import**.

A red error icon indicates that the management pack is dependent on one or more management packs that are not in the Import list and are not available in the catalog. To view the missing management packs, click **Error** in the Status column. To remove the management pack with the error from the Import list, right-click the management pack, and then click **Remove**.

- 7 The Import Management Packs page appears and shows the progress for each management pack. Each management pack is downloaded to a temporary directory, imported to Operations Manager, and then deleted from the temporary directory. If there is a problem at any stage of the import process, select the management pack in the list to view the status details. Click **Close**.

Installing the Operations Manager 2016 agent

Complete this procedure to discover cluster nodes and deploy the Operations Manager 2016 agent to them from the Operations Manager 2016 console.

Before you proceed, ensure that the Lanman agent attributes, `ADUpdateRequired` and `DNSUpdateRequired`, are set to `True`. If they are not, set them to `True` and then take the Lanman resource offline and bring it online.

To install the Operations Manager 2016 agent

- 1 Log on to the computer with an account that is a member of the Operations Manager Administrators role for the Operations Manager 2016 management group.
- 2 In the Operations Console, click **Administration**.
- 3 At the bottom of the navigation pane, click **Discovery Wizard**.
- 4 On the Discovery Type panel, click **Windows Computers** and then click **Next**.
- 5 On the Auto or Advanced panel, select either **Automatic computer discovery** or **Advanced discovery**.

If you select Automatic computer discovery, click **Next**, and then go to step 7.

If you select Advanced discovery, continue with the following steps:

- In the Computer & Device Classes list, select **Servers & Clients**.

- In the Management Server list, click the computer that you want to use to discover the computers.
 - Select the **Verify discovered computers can be contacted** check box. This is likely to increase the success rate of agent installation, but discovery can take longer.
 - Click **Next**.
- 6 On the Discovery Method panel, you can locate the computers that you want to manage by either scanning or browsing Active Directory Domain Services or typing the computer names.
- If you want to scan, do the following:
- If it is not already selected, select **Scan Active Directory** and then click **Configure**.
 - In the Find Computers dialog box, type the desired criteria for discovering computers and then click **OK**.
 - In the Domain list, click the domain of the computers that you want to discover.
 - Click **Next**.
- If you want to browse Active Directory or type the computer names, do the following:
- Select **Browse for, or type-in computer names**, click **Browse**, specify the names of the computers you want to manage, and then click **OK**.
 - In the Browse for, or type-in computer names box, type the computer names, separated by semi-colon, comma, or a new line.
 - Click **Next**.
- 7 On the Administrator Account panel, do one of the following:
- Select **Use selected Management Server Action Account** if it is not already selected.
 - Select **Other user account**, type the User name and Password, and then select the Domain from the list. If the User name is not a domain account, select **This is a local computer account, not a domain account**. The account must have administrative privileges on the targeted computers. If you select **This is a local computer account, not a domain account**, the Management Server Action Account is used to perform discovery.
- 8 Click **Discover** to display the Discovery Progress panel.
- 9 On the Select Objects to Manage panel, do the following and then click **Next**:

- Select the cluster nodes on which you want to install the agent. You must select the cluster nodes using the physical name of the node, and not the virtual server name.
 - From the Management Mode drop-down list, select **Agent**.
- 10** On the Summary page, do the following and then click **Finish**:
- Leave the Agent installation directory set to the default of `%ProgramFiles%\System Center Operations Manager` or type an installation path.
If a different Agent installation directory is specified, the root of the path must exist on the targeted computer or agent installation fails.
 - Leave Agent Action Account set to the default, Local System, or select **Other** and type the User name, Password, and Domain. The Agent Action Account is the default account the agent uses to perform actions.
- In the Agent Management Task Status box, the Status for each selected node changes to Success. This indicates that the agent is installed successfully.
- 11** Click **Close**. After the agent is installed, the node is added to the *Agent-Managed* group.

Configuring agent-managed computers as proxy

This procedure is required only if you plan to import the VCS SQL management pack on the Operations Manager 2016 server.

After the Operations Manager 2016 agent installation, the cluster nodes are added to the *Agent Managed* group. Use the following procedure to configure these cluster nodes (agent-managed computers) as a proxy for virtual servers (agentless managed computers) that are running on these nodes. This enables the events generated by the clustered SQL instances (virtual servers) to be reported to the Operations Manager 2016 server.

To configure agent-managed computers as proxy

- 1** Log on to the computer with an account that is a member of the Operations Manager Administrators role for the Operations Manager 2016 Management Group.
- 2** In the Operations Console, click **Administration**.
- 3** In the Administration pane, expand **Administration**, expand **Device Management**, and then click **Agent Managed**.
- 4** In the results pane, right-click a cluster node and then click **Properties**.

- 5 In the Agent Properties dialog box, click the **Security** tab, select **Allow this agent to act as a proxy and discover managed objects and on other computers**, and then click **OK**.
- 6 Repeat steps 4 and 5 for the remaining nodes in the cluster.

Uninstalling the VCSOpsMgrIntegration service

To uninstall the VCSOpsMgrIntegration service

- 1 Using the command prompt, access the following path:

```
cd %programfiles%\Veritas\MOMUtils\OpsMgr
```
- 2 Stop the service. On the command prompt, type the following command.

```
net stop VCSOpsMgrIntegration
```
- 3 Unregister the service, using the following command.

```
VCSOpsMgrIntegration -Uninstall
```
- 4 Access the path `cd %programfiles%\Veritas\MOMUtils` and delete the `OpsMgr` folder.

Troubleshooting

This chapter includes the following topics:

- [About troubleshooting VCS management pack issues](#)

About troubleshooting VCS management pack issues

This chapter describes the process of recovering from various error conditions that may occur when monitoring applications using the VCS management packs.

Conflict while trying to monitor clusterized standalone instances

This error may occur in the following scenario. Consider a setup where standalone non-clustered application instances are being monitored by Operations Manager 2016 server. Now, if the standalone application instances are made highly available with VCS, and you wish to monitor these clusterized instances with the same Operations Manager 2016 server. The Operations Manager 2016 server discovery already has the entry of the standalone instance. When you try to re-discover the clusterized virtual instances, it may lead to a conflict.

To fix the problem, do the following:

- 1 Delete the standalone application instance name from the Operations Manager 2016 server.
- 2 Configure the application instance under VCS.
- 3 Configure Operations Manager 2016 to monitor the clusterized instance.

VCS virtual server discovery fails

The Operations Manager 2016 server may sometimes fail to discover the virtual servers configured in VCS. This may occur if the VCS virtual servers are not added as agentless managed computers on the management server.

Check the following items:

- Ensure that the VCSOpsMgrIntegration Service is deployed on the management server.
- Ensure that the respective application service group is online in the cluster.
- Make sure that the Lanman agent attributes, ADUpdateRequired and DNSUpdateRequired, are set to True. If they are not, set them to True, and then take the Lanman resource offline and bring it online.

Additional discovery and monitoring of virtual servers for other applications running on cluster nodes

Complete the following steps:

- Override application discoveries to disable them for the VCS Virtual Server Group computer group.
- Use `Remove-SCOMDisabledClassInstance` cmdlet to remove objects for which monitoring is disabled.

Note: `Remove-SCOMDisabledClassInstance` cmdlet removes all objects for which monitoring is disabled and this includes objects discovered for other management packs as well. Before using the cmdlet, refer to the Operations Manger 2016 documentation for detailed information about its usage.

Application instances are not discovered on cluster nodes where the Veritas High Availability engine is not running

The management pack discovery script uses VCSOpsMgrIntegration Service, on cluster nodes to retrieve information from the VCS configuration. If the Veritas High Availability Engine (HAD) is not running on the node, this utility fails and eventually the discovery scripts also fail.

Workaround: Start the Veritas High Availability Engine (HAD) using `hastart` command.

Proxy is not set properly for agent-less managed SQL virtual servers

You may find incorrect proxy for virtual servers in case the node on which service group is online gets added to the management server after the virtual server is added as an agentless managed computer.

Workaround:

- 1** Log on to the computer with an account that is a member of the Operations Manager Administrators role for the Operations Manager 2016 management group.
- 2** In the Operations Console, click **Administration > Device Management > Agentless managed**.
- 3** Right-click **Virtual server for proxy is incorrect**.
- 4** Select **Change proxy agent** and then from the displayed list select the Windows computer on which service group is online.