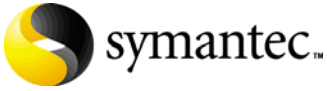
Microsoft System Center Operations Manager 2007 Management Pack Guide for Symantec NetBackup™



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Chapter 1

Introducing Microsoft System Center Operations Manager Management Pack for Symantec NetBackup

Microsoft System Center Operations Manager Management Pack for Symantec NetBackup lets you monitor and manage NetBackup alerts using Microsoft System Center Operations Manager 2007 (SCOM). By detecting and alerting you on critical conditions, this Management Pack helps prevent possible service outages.

For information about NetBackup alerts, see "Alert Conditions in OpsCenter" on page 20.

This document discusses how you can deploy and configure the *SCOM Management Pack for NetBackup* into your existing SCOM 2007 environment. Currently, Symantec OpsCenter (OpsCenter), a management solution shipped with NetBackup, can generate and monitor NetBackup alerts. By deploying the SCOM Management Pack for NetBackup and integrating OpsCenter and SCOM, SCOM can receive the SNMP trap alerts that have been configured in OpsCenter. As a result, SCOM can be used for the centralized management of NetBackup alerts.

Note: The term SCOM in this document refers specifically to SCOM 2007.

Note: The term NetBackup alerts used in this document means alerts about NetBackup. It does not mean that these alerts are generated by NetBackup.

Chapter 2

Integrating OpsCenter and SCOM 2007

This chapter describes how you can integrate OpsCenter and SCOM to be able to receive NetBackup alerts using SCOM 2007.

Table 2-1 on page 9 describes the sequence of steps to be followed for integrating OpsCenter and SCOM.

Table 2-1 Sequence of steps for integrating OpsCenter and SCOM

Step	Description	See this Topic
1	Check the list of prerequisites for OpsCenter and SCOM integration.	"Prerequisites for OpsCenter and SCOM integration" on page 10.
2	Install SNMP and WMI SNMP provider on the SCOM server.	"Installing and configuring SNMP and WMI SNMP provider" on page 10.
3	Compile the three OpsCenter MIB files into WMI format on the SCOM server.	"Compiling the OpsCenter MIB files into WMI format" on page 11.
4	Deploy the SCOM Management Pack for NetBackup on the SCOM server.	"Deploying the SCOM Management Pack for NetBackup" on page 12.
5	Configure Symantec OpsCenter.	"Configuring Symantec OpsCenter" on page 16.
6	View NetBackup alerts in SCOM 2007 on the SCOM server.	"Viewing NetBackup alerts in SCOM 2007" on page 16.

Prerequisites for OpsCenter and SCOM integration

The prerequisites for OpsCenter and SCOM integration include the following:

- SCOM 2007 must be installed on the host machine where SNMP traps are received. In addition, SCOM 2007 Service Pack 1 (final RTM version) or higher must be installed.
- The managed NetBackup servers must be on NetBackup 6.0 or above.
- SCOM 2007 agent must be installed on the OpsCenter server and configured to be managed by the SCOM server.
- SNMP Service must be installed on the host machine where SCOM server is running. The service can be installed from a Windows installation CD.
- SNMP Service must be installed on the host machine where OpsCenter server is running. The service can be installed from a Windows installation CD.
- SCOM Management Pack for NetBackup must be downloaded and deployed on the SCOM server.
- SCOM server must have the rights to access WMI database or SCOM 2007 agent when OpsCenter server is running.

Installing and configuring SNMP and WMI SNMP provider

Use the following steps to install and configure the SNMP service and the WMI SNMP provider on the SCOM server and the OpsCenter server:

1. Ensure that the SNMP service is installed and running on the SCOM server. To install the SNMP provider, perform the following steps:
   a. From the Control Panel, select **Add or Remove Programs**.
   b. In the Add/Remove dialog box, select **Add/Remove Windows components** from the left pane.
   c. Select **Management and Monitoring Tools**, and then click **Details**.
   d. Select **Simple Network Management Protocol** and **WMI SNMP Provider**, and click **OK**.
   e. Follow the steps in the wizard to complete the installation.
2. Configure the SNMP service on the SCOM server so that the SCOM server is able to receive SNMP traps.
   To configure the SNMP service, perform the following steps:

a Right click the **My Computer** icon, and then click **Manage**.

b In the Computer Management console tree, expand the **Services and Applications** node, and then click **Services**.

c In the details pane, right-click **SNMP Service**, and then click **Properties**.

d In the Properties dialog box, on the General tab, set the Startup type to **Automatic**.

e In the Properties dialog box, on the Traps tab, add `public` as the Community name. Also add `localhost` as the trap destination.

f In the Properties dialog box, on the Security tab, add the Community Name `public` with rights READ CREATE to Accepted Community names.

g In the Properties dialog box, on the Security tab, select **Accept SNMP packet from any host**.

3 Configure the SNMP service on the OpsCenter server.
To configure the SNMP service, perform the following steps:

a Right click the **My Computer** icon, and then click **Manage**.

b In the Computer Management console tree, expand the **Services and Applications** node, and then click **Services**.

c In the details pane, right-click **SNMP Service**, and then click **Properties**.

d In the Properties dialog box, on the Security tab, select **Accept SNMP packets from these hosts**.

e In the Properties dialog box, on the Security tab, click **Add** (located at the bottom of the dialog box) to add the IP address of the SCOM server.

Compiling the OpsCenter MIB files into WMI format

In order to capture and display OpsCenter generated SNMP traps with WMI, you must compile OpsCenter MIB's into Windows Management Instrumentation (WMI) format so that SCOM can read them. The MIB files can be compiled using the `smi2smir` utility on the SCOM server. This utility loads the MIB information into WMI and is located in `C:\WINDOWS\system32\wbem\snmp` directory.

Note: Three MIB files namely `VERITAS-REG.mib`, `VERITAS-TC.mib`, and `VRTS-cca.mib` have been shipped with the SCOM Management Pack for NetBackup.

To compile the OpsCenter MIB files into WMI format

1. Navigate to the directory where the MIB's have been extracted.
2. Set the value of the `PATH` variable by using the following command:
   ```
   SET PATH=C:\WINDOWS\system32\wbem\snmp;%PATH%
   ```
3. Use the `smi2smir.exe` utility to compile the three MIB files for OpsCenter. The compiler runs in the command-line mode, using one MIB file as input. Use the following command to compile the files:
   ```
   smi2smir.exe /sa /t <MIB FILE>
   ```
4. The compiled modules can be verified using the following command:
   ```
   smi2smir.exe /l
   ```
   This command lists all the compiled modules in the WMI. On running this command, the following modules (or more) must be displayed:
   ```
   Smi2smir: modules in the SMIR:
   "VERITAS_REG"
   "RFC1213_MIB"
   ```

Deploying the SCOM Management Pack for NetBackup

Before you can use SCOM 2007 to receive and display NetBackup alerts, you must first download and deploy the SCOM Management Pack for NetBackup on the SCOM server.

The following procedures describe how to discover network devices on the SCOM server and deploy the SCOM Management Pack for NetBackup on the SCOM server.

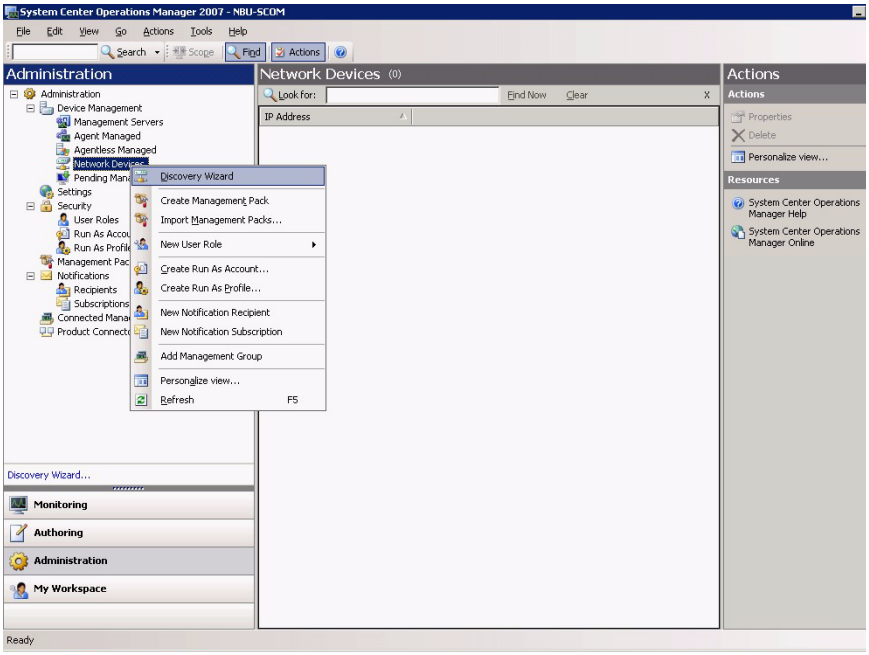
After following these procedures, the SCOM server is configured as an SNMP trap receiver.

Note: You must be logged on as a member of the SCOM Administrators group to perform these procedures.

To discover network devices on the SCOM server

1. Launch the SCOM Operations Console on the SCOM server.
   Select **Start > Programs > System Center Operations Manager 2007 > Operations Console**.
2. In the Operations Console, click the **Administration** button.
3. In the Administration pane, expand **Administration** and then expand **Device Management**.

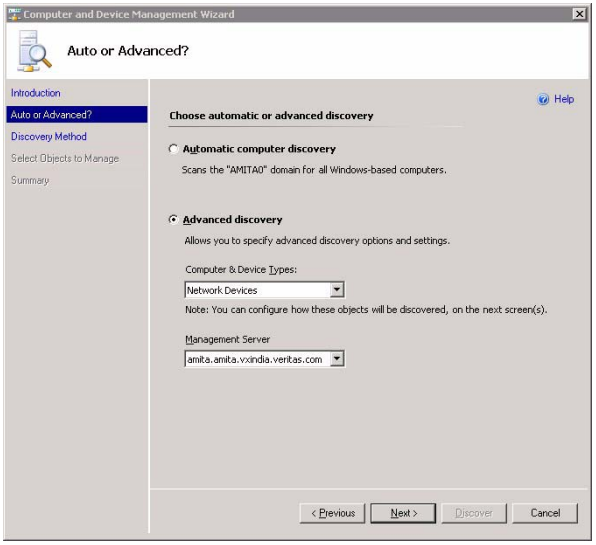
4 Right-click on **Network Devices** and then click **Discovery Wizard**. The Discovery wizard helps you to identify SNMP-enabled devices on the SCOM server.



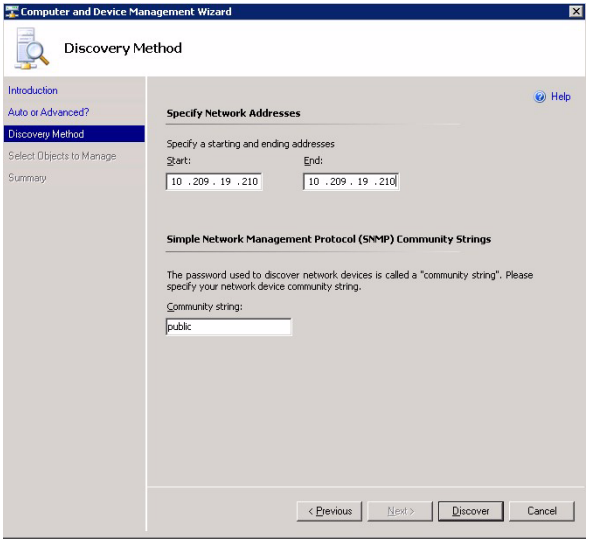
5 In the Computer and Device Management Wizard, on the Introduction page, click **Next**.
The Introduction page does not appear if the Computer and Device Management Wizard has been run before and **Don't show this page again** was selected.

6 On the Auto or Advanced? page, do the following:

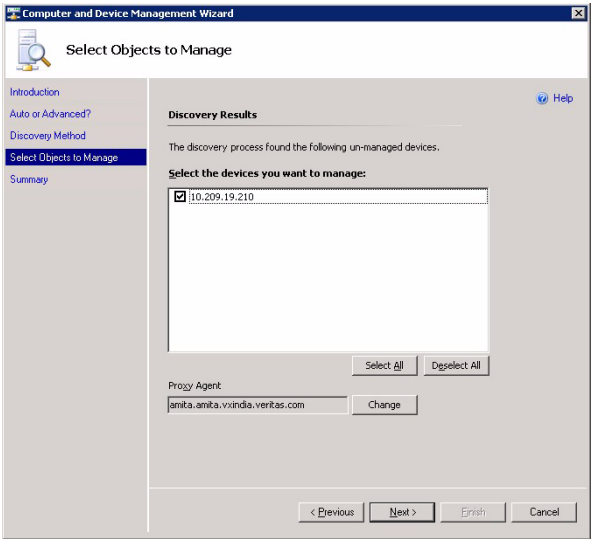
- **a** Select **Advanced discovery**.
- **b** In the Computer & Device Types list, select **Network Devices**.
- **c** Click **Next**.



7 On the Discovery Method page, enter the IP address of the OpsCenter server in both Start and End fields, and then click **Discover**. The Discovery Progress page is displayed.



8 On the Select Objects to Manage page, select the IP address obtained as discovery result (IP address of the SCOM server), and then click **Next**.



9 On the Summary page, click **Finish**.

To deploy SCOM Management Pack on the SCOM server

1 Launch the SCOM 2007 Operations Console on the SCOM server.

2 In the Operations Console, click the **Administration** button.

3 Right-click the Management Packs node and then click **Import Management Pack(s)**.

4 In the Select Management Pack(s) to import dialog box, browse to the directory where the SCOM Management Pack is saved. Select `NetBackup.Operations.Manager.xml` and click **Open**.

Note: `NetBackup.Operations.Manager.xml` is shipped with the SCOM Management Pack for NetBackup.

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5 In the Import Management Packs dialog box, which displays the Management Pack that you selected, click the **Import** button.

6 After the import process is complete, and the dialog box displays an icon next to each Management Pack indicating success or failure of the importation, click the **Close** button.

7 You must restart the SCOM server after importing this Management Pack.

Note: SCOM 2007 will not be able to monitor NetBackup alerts if you do not restart your SCOM server after importing the Management Pack.

Configuring Symantec OpsCenter

You must configure OpsCenter to send SNMP traps to the desired SCOM agent. A SCOM Administrator can thus monitor and manage all NetBackup alerts that are configured in OpsCenter to be sent to the SCOM server as SNMP traps.

To configure Symantec OpsCenter

1. Log on to the OpsCenter console as an Administrator.
2. Select **Settings** > **Recipients** > **SNMP**.
3. In the Tasks pane, click **Create Recipients.** Enter the details to create an SNMP trap recipient and click **OK**.
4. Select **Managing > Alert Policies > Details**.
5. In the Tasks pane, click **New Alert Policy.** Enter the details to create an alert policy that generates an SNMP trap.
6. Select an alert condition for this policy. For many alert conditions, you may need to enter threshold parameters and other required or optional parameters.
7. Enter a name and description for the alert policy. The name must be unique.
8. Specify any email recipients if required. Click **Save and Next** to continue further.
9. Select a Recipient for Trap notifications and click **Finish**.

The alert policy is created. When the selection criteria for this policy are met, an SNMP trap is generated for the recipient, which can be received and displayed in the SCOM Operations Console on clicking the Monitoring button.

Note: See the OpsCenter online help for more information on configuring OpsCenter. You can access the context-sensitive help while using OpsCenter, by clicking **Help** on the title bar.

Viewing NetBackup alerts in SCOM 2007

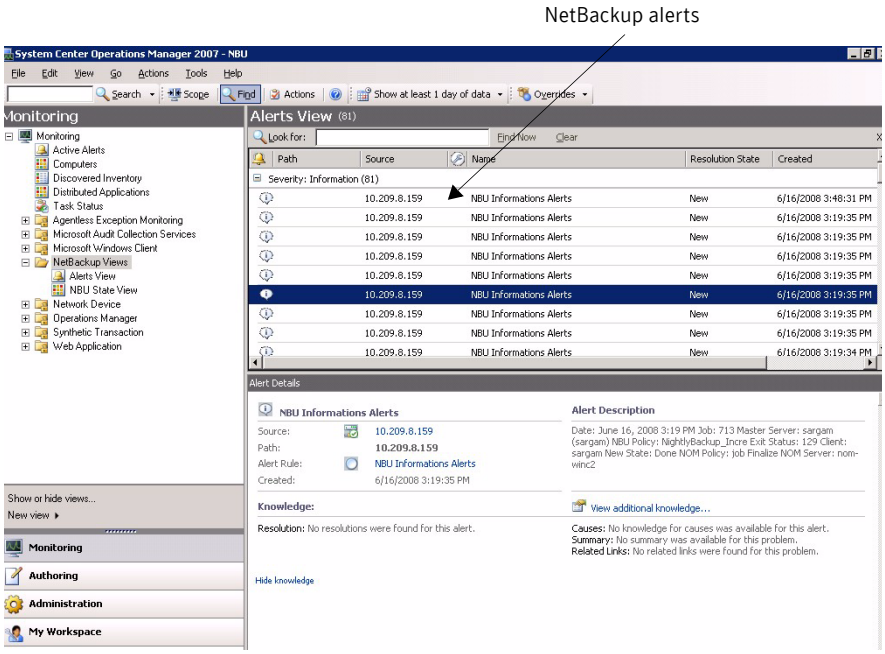
Netbackup alerts can be viewed from the Monitoring pane in the Operations Console of SCOM 2007 on the SCOM server.

Use the following procedure to view NetBackup alerts on the SCOM server.

To view NetBackup alerts in SCOM 2007

1. Launch the SCOM Operations console on the SCOM server.
   Select **Start** > **Programs** > **System Center Operations Manager 2007** > **Operations Console**.
2. In the Operations Console, click on **Monitoring** button.
3. In the Monitoring pane, expand **NetBackup Views**, and click **Alerts View**.
   Figure 2-1 shows the Alerts View.

Figure 2-1 NetBackup alerts in SCOM 2007



Chapter 3

NetBackup Alerts

This chapter lists the NetBackup alerts that you can view using SCOM. By integrating OpsCenter and SCOM as per the instructions in Chapter 2, "Integrating OpsCenter and SCOM 2007", SCOM can receive the SNMP trap alerts that have been configured in OpsCenter.

Alert Severity Mapping between OpsCenter and SCOM

To get alerts in OpsCenter, you can create an alert policy based on a set of pre-defined alert conditions. While creating an alert policy, you need to select the alert condition and specify the alert severity. Based on the alert severity, the alert is displayed in the selected alert category in OpsCenter.

Note: See *Symantec OpsCenter Administrator's Guide* or the OpsCenter online help for more details on creating an alert policy.

The following alert severities are present in OpsCenter:

- Critical
- Major
- Informational
- Warning

Table 3-1 on page 19 lists the alert severity in OpsCenter and the corresponding alert severity depicted in SCOM.

Table 3-1 Alert Severity Mapping between OpsCenter and SCOM

Alert Severity in OpsCenter	Alert Severity in SCOM
Critical	Critical

Table 3-1 Alert Severity Mapping between OpsCenter and SCOM

Alert Severity in OpsCenter	Alert Severity in SCOM
Major	Error
Informational	Information
Warning	Warning

Alert Conditions in OpsCenter

Table 3-2 on page 20 lists the alert conditions available in OpsCenter.

Table 3-2 Alert Conditions in OpsCenter

Serial Number	Alert Condition
Job	High Job Failure Rate
	Hung Job
	Job Finalized
Media	Frozen Media
	Suspended Media
	Media Required for Restore
	Exceeded Max Media Mounts
	Low Available Media
	High Frozen Media
	High Suspended Media
Cat**alog**	Catalog Space low
	Catalog not Backed up
	Catalog Backup Disabled
Tape	Mount Request
	No Cleaning Tape
	Zero Cleaning Left
Disk	Disk Pool Full
	Disk Volume Down

Table 3-2 Alert Conditions in OpsCenter

Serial Number	Alert Condition
	Low Disk Volume Capacity
	Drive is Down
	High Down Drives
Host	Agent Server Communication break
	Master Server Unreachable
	Lost Contact with Media Server
	Service Stopped
	Symantec ThreatCon
	Job Policy Change

Note: In addition to the alert conditions, OpsCenter contains an internal pre-defined alert policy called the **License Capacity Alert**. The License Capacity alert is an informational alert. It is internal to OpsCenter and cannot be modified. SNMP recipients for this policy can be configured.