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This document provides installation, configuration, and usage instructions for Citrix SCOM Management Pack for Provisioning Services.

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Chapter 1: Brief introduction

About Provisioning Services Management Pack

Citrix SCOM Management Pack for Provisioning Services (Provisioning Services Management Pack) is an availability and performance management solution that extends end-to-end service monitoring capabilities of Microsoft System Center Operations Manager (SCOM) to include the Citrix Provisioning Services (Provisioning Services) infrastructure.

With Provisioning Services Management Pack you can:

- Improve the Provisioning Services infrastructure availability and health
  If any important part of Provisioning Services environment is not available, the user may not be able to use its resources or use them with degraded performance. Provisioning Services Management Pack actively monitors the availability and performance of many Provisioning Services components, such as Provisioning Servers, stores, network services, and so on.
- Gain more insight into the Provisioning Services performance
  Performance degradation detection before the degradation affects end users is of great importance. With Provisioning Services Management Pack you have the overall view of Provisioning Server resource consumption, store disk space availability, target device utilization, and so on.

Provisioning Services Management Pack fully integrates topology, health, and performance data into SCOM, providing an end-to-end operations overview across the entire Provisioning Services estate, and enabling delivery of effective business service management. It covers the following key scenarios:

- Are all Provisioning Services instances running?
- If disk image streaming gets slower than expected, servers having CPU or network interfaces overloaded are pinpointed.
- Are store paths and store write cache paths accessible and to which degree the stores are utilized?
- If a farm is not fully operational, non-operational sites and servers causing the problem are identified.
- How much are device collections utilized and how many target devices are connected to vDisks?
- Identify which crucial Provisioning Server services are not operational and get errors from Provisioning Server log files and Windows event logs.

Product architecture

The following diagram shows how Provisioning Services Management Pack connects the SCOM management platform and the Provisioning Services estate.
Figure 1.1 A high-level view of the Provisioning Services Management Pack architecture
Chapter 2: Installation and configuration

This chapter contains instructions that you must follow to install and configure Provisioning Services Management Pack. Perform all procedures in the documented order of precedence.

Preparing for the installation

Before installing Provisioning Services Management Pack, make sure the following prerequisites are fulfilled:

- Your environment meets the software requirements. For software requirements, see the Citrix SCOM Management Pack for Provisioning Services Compatibility Matrix.
- A SCOM management server computer is chosen where the server side of Provisioning Services Management Pack will be installed. This computer is referred to as SCOM management server computer.
- SCOM agent is installed on all the computers that host Provisioning Server, and these computers are configured as agent-managed computers in the SCOM management group.
- The Action Account of SCOM Agent has administrative privileges on all the computers that host Provisioning Server.

Installing the product on the SCOM management server computer

The server-side part of Provisioning Services Management Pack must be installed on the computer that hosts SCOM management server.

To install Provisioning Services Management Pack on the SCOM management server computer, do the following:

1. Log on to the management server computer. Use a user account that has local administrative privileges and SCOM administrative privileges.

2. In Windows Explorer, locate the Citrix_SCOM_Management_Pack_for_ProvisioningServices_(<Version>).exe file (where <Version> is the current software version), and double-click it to invoke the installation process. Wait for the Setup Wizard to appear.

3. In the Welcome page of the Setup Wizard, click Next.
4. In the View Relevant Product Configuration page, click Next.

5. In the License Agreement page of the Setup Wizard, carefully read the end user license agreement. If you accept the terms of the agreement, click Next.

**Figure 2.2** The License Agreement page

Proceed as follows:
- To install the product to the default folder listed in the Setup Wizard, no special actions are required.
- To install the product to a different folder, follow the substeps:
  a. Click Change.
  b. In the Browse For Folder dialog box, browse to a desired installation folder, select it, and click OK.

Click Next.

7. In the Configure Post-Install Actions page of the Setup Wizard, decide whether the Setup Wizard should automatically import the included management packs into SCOM.

**Figure 2.3** The Configure Post-Install Actions page

To let the Setup Wizard import the management packs, select the **Automatically import the Management Pack** option. Citrix recommends this choice.

To import the management packs into SCOM manually at a later time, leave the **Automatically import the Management Pack** option unselected. For instructions about how to import or reimport the management packs, see “Manually importing included management packs into SCOM”
8. Click **Install**. The Setup Wizard displays the Installing the product page and starts copying the installation files.

9. After the installation completes, the installation completion page is displayed.

   If you let the Setup Wizard to automatically import the management packs, click **Next**. In the opposite case, click **Finish** to close the Setup Wizard.

10. If you let the Setup Wizard to automatically import the management packs, it displays the Executing post-install actions page. Attend the import process.

11. In the post-installation completion page, click **Finish** to close the Setup Wizard.

**Figure 2.4** The post-installation completion page

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**Configuring access to the shared folder for agent installation**

**Note** Steps of this procedure must be followed only once on a SCOM management server computer. In case you previously installed any of the following Citrix Management Pack products on the same computer, you do not need to repeat the steps:

- ShareFile Management Pack
- StoreFront Management Pack
- Web Interface Management Pack
To configure access to the shared folder for agent installation, do the following:

1. Log on to the SCOM management server computer. Use a user account that has local administrative privileges.

2. Choose a local user account (local to the computer with the shared folder) or a domain user account that will have access to the shared folder, for the purpose of agent deployment and configuration.

   **Important** Citrix recommends creating a new, dedicated user account that you will use only for deployment of the Management Pack agent to managed computers.

3. Using an operating system administrative tool, add the user account to the local CitrixMPShareUsers user group.

4. Launch the SCOM Operations console.

5. In the Administration view, in the left pane, expand Run As Configuration, and then click Accounts.

6. In the Tasks pane, expand Actions, and then click Create Run As Account.

7. In the Create Run As Account Wizard window, click Next.

8. In the Run As account type drop-down menu, leave the default selection (Windows).
9. In the **Display name** text box, type a name that the SCOM Operations console will use to refer to the newly created SCOM user account. Click **Next**.

10. In the **User name** text box, type the user name of the operating system user account that you chose in step 2.
11. In the **Password** and **Confirm password** text boxes, type the valid password of the operating system user account.

12. In the **Domain** text box, update the value if needed. Click **Next**.

13. Depending the effective security policy in your SCOM environment, select either the **Less secure** or **More secure** option.

**Note** Selecting **More secure** requires manual steps to be performed in SCOM for each newly added managed computer.

14. Click **Create**.

15. After the message about successful account creation appears, click **Close**.
16. In the left pane, under Run As Configuration, click Profiles.

17. In the Profiles list, double-click Citrix Management Pack Network Share Account.
18. In the Run As Profile Wizard window, in the Introductory page, click **Next**. In the General Properties page, click **Next**.

19. In the Run As Accounts page, click **Add**.

20. In the Add a Run As Account dialog box, in the Run as account list, select the newly created SCOM user account.
21. Select the **A selected class, group, or object** option.

22. Click **Select** and then select **Class**.

23. In the Class Search dialog box, in the **Filter by (optional)** text box, type **Windows Computers**.

24. Click **Search**.

25. In the Available items list, select **All Windows Computers**.
26. Click **OK** to close the Class Search dialog box.

27. Click **OK** to close the Add a Run As Account dialog box.

28. Click **Save** to update the profile. This may take a while.

29. Click **Close** to close the Run As Profile Wizard window.

**Verifying the installation on the SCOM management server computer**

To verify that the Provisioning Services Management Pack installation on the management server computer is correct, do the following:

1. Log on to the management server computer.

2. Go to **Start > Control Panel**, click **Programs**, and then click **Programs and Features**.
3. Check for the presence of the following entry in the Name column:

   Citrix SCOM Management Pack for Provisioning Services

4. To check if the CitrixMPShare shared folder is correctly configured, open a Command Prompt window and run the following commands in sequence (their outputs in case of success are also shown):

   Command:
   net share | findstr -i CitrixMPShare

   Command output:
   CitrixMPShare
      %ProgramData%\Citrix\CitrixMPShare

   Command:
   net use \\<ManagementServerHostName>\CitrixMPShare
         /USER:<DomainName>\<UserName>

   Command output:
   The command completed successfully

   Command:
   dir \\<ManagementServerHostName>\CitrixMPShare

   Command output:
   <FolderContents>

   In these instances, %ProgramData% refers to the actual value of this operating system variable. <ManagementServerHostName> is the name of the SCOM management server computer. <DomainName> is the domain or computer name and <UserName> is the name of the user account that you chose in step 2 of the procedure documented in “Configuring access to the shared folder for agent installation”. <FolderContents> is the list of the contents of the CitrixMPShare folder.

   **Note** The shared folder is vital for communication between the management server and the agent-managed computers during installation of the agent.

5. Launch the SCOM Operations console.

6. In the Monitoring view, expand the items in the left pane until they match the following figure.
Configuring agent-managed computers to act as SCOM proxies

Each agent-managed computer where Provisioning Services is installed must be configured to act as a SCOM proxy computer. This configuration enables the agent to relay or forward information from or about other computes or network devices to the management server. You can either configure the agent-managed computers one by one or you can configure all discovered agent-managed computers at the same time. The latter scenario is particularly useful in large Provisioning Services environments.

To configure the agent-managed computers one by one, do the following:

1. Launch the SCOM Operations console and connect to the management server.
2. In the Administration view, in the left pane, expand Device Management, and then click Agent Managed.

3. For each Provisioning Services computer (agent-managed), follow the steps:
   a. Right-click the host name, and select Properties.
   b. Click the Security tab.
   c. Select the Allow this agent to act as proxy and discover managed objects on other computers option.
   d. Click OK.

To configure all discovered agent-managed computers at the same time, do the following:

1. Log on to the management server computer. Use a user account that has local administrative privileges.


3. Click Provisioning Services MP Configuration.

4. In the Citrix Management Pack Configuration window, click the Proxy tab.

5. Click Discover to invoke the discovery process. It will discover all computers that are listed in the Provisioning Services Computers list in the Monitoring view of the SCOM Operations console.

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Note Newly added agent-managed computers may not be immediately visible in the Provisioning Services Computers list in the SCOM Operations console. Allow some time for the list to get updated.

This discovery process may take a while.
6. Select the Provisioning Services computers or click **Check All** to select all of them. Click **Uncheck All** to clear the selection.

7. Click **Apply** to update the configuration in SCOM. This may take a while.

8. **Optional.** To cease an agent-managed computer to act as a proxy, clear its entry in the Act as Proxy list, and click **Apply** to update the configuration in SCOM.

9. Click **OK** to close the window.

---

**Providing information about Provisioning Services farm administrator accounts**

A farm administrator account must be provided to Provisioning Services Management Pack for each Provisioning Services farm that you want to manage. This user account must be the local administrator of each Provisioning Services server and must have full access granted to the farm.

To provide the farm administrator accounts, do the following:

1. Log on to the management server computer. Use a user account that has local administrative privileges.
2. Locate ** Provisioning Services Management Pack ** on the Apps screen (Windows Server 2012) or go to **Start > All Programs > Citrix > Provisioning Services Management Pack ** (Windows Server 2008).

3. Click ** Provisioning Services MP Configuration. **

4. In the Citrix Management Pack Configuration window, in the Provisioning Services tab, click ** Add. **

5. In the Add Provisioning Services farm admin account dialog box, type the following data in the respective text boxes:
   - Farm name
   - Properties of the farm administrator account:
     - Domain name
     - User name
     - Password

   **Figure 2.13** The Add Provisioning Services farm admin account dialog box

6. Click ** OK. **

7. Repeat steps 4 and 5 for each additional farm administrator account you want to set.
8. Optional. To modify the domain name, user name, or password of a farm administrator configuration, click Modify. In the Modify Provisioning Services farm admin account dialog box, modify the data as required, and then click OK.

9. Optional. To remove a farm administrator configuration, click Remove and then click Yes.

10. Click OK to apply the configuration changes and close the window.

Note If you modify data for a Provisioning Services account where Provisioning Services Management Pack Agent is already installed on the Provisioning Services computers, run the Update Configuration on Citrix MPPVS Agent task from the SCOM Operations console to refresh the local configuration data.

Installing the product on the Provisioning Services computers

On the Provisioning Services computers, only Provisioning Services Management Pack Agent must be installed.

To install Provisioning Services Management Pack Agent on a Provisioning Services computer, do the following:

1. Launch the SCOM Operations console and connect to the management server.

2. In the Monitoring view, in the left pane, expand Citrix Library, and then click Provisioning Services Computers.

3. In the Provisioning Services Computers pane, select a Provisioning Services computer from the Provisioning Services Computers list.

4. In the Tasks pane, expand Citrix MPPVS Agent Computer Role Tasks, and then click Install Citrix MPPVS Agent.

5. In the Run Task – Install Citrix MPPVS Agent dialog box, adjust the task parameters as follows:

   - UpgradeAgent: This option, when set to true, causes uninstallation of the existing Provisioning Services Management Pack Agent from the agent-managed computer before the current version is installed. Before such uninstallation, the SCOM agent must be put into maintenance mode.
     Default value: false
   - IgnorePrereqCheck: You may not alter this option.
     Default value: false
   - Debug: You may not alter this option.
     Default value: false
○ **AgentInstallationSource**: This option defines the location of the agent installation package and its configuration files. If no value is specified, the installation process attempts to identify the location based on the data received from the management server.

The value for this option must be specified according on the agent-managed computer – SCOM management server relationship:

– If the agent-managed computer is managed by the management server where Provisioning Services Management Pack is installed, leave the value empty.

– If the agent-managed computer is managed by some other management server or the computer hosts a multi-homed SCOM agent instance, specify the host name of the management server computer where Provisioning Services Management Pack is installed.

– If the agent-managed computer does not have access to the CitrixMPShare shared folder on the management server computer, specify the location of the Management Pack agent installation package and its configuration files in the UNC format. A prerequisite is that these files are copied from the CitrixMPShare shared folder to a location the agent-managed computer has access to.

Default value: (empty)

○ **AgentInstallationDestination**: This option defines the Management Pack agent’s program installation directory on the agent-managed computer. If no value is specified, the Management Pack agent is installed to the %ProgramFiles%\Citrix\Provisioning Services MP Agent directory.

Default value: (empty)

6. Click **Run** to invoke the installation process.

7. Observe the output the task generates. If the task reports no errors, the installation on the Provisioning Services computer is correct.

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**Tip** The task initially performs a prerequisite check. If any of the installation prerequisites are not fulfilled, the process is interrupted before the actual installation begins. In this case, invoke the **Check Installation Prerequisites for Citrix MPPVS Agent** task to pinpoint the problematic prerequisite.

**Tip** The Agent installation task can be run for multiple selected Provisioning Services computers.

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**Verifying the installation and configuration on the Provisioning Services computers**

To verify that the Provisioning Services Management Pack Agent installation and configuration on a Provisioning Services computer are correct, do the following:

1. Launch the SCOM Operations console and connect to the management server.
2. In the **Monitoring** view, in the left pane, expand **Citrix Library**, and then click **Provisioning Services Computers**.

3. In the Provisioning Services Computers pane, select the Provisioning Services computer (on which Provisioning Services Management Pack Agent was just installed) from the Provisioning Services Computers list.

4. In the Tasks pane, expand **Actions**, and then click **Check Requirements and Configuration for Citrix MPPVS Agent**.

5. Observe the output the task generates. If all checks are denoted successful, the installation and configuration on the Provisioning Services computer are correct.

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### Chapter 3: Uninstallation

This chapter contains instructions that you must follow to effectively uninstall Provisioning Services Management Pack. Perform all procedures in the documented order of precedence.

**Uninstalling the product from the Provisioning Services computers**

To uninstall Provisioning Services Management Pack Agent from a Provisioning Services computer, do the following:

1. Launch the SCOM Operations console and connect to the management server.

2. In the Monitoring view, expand **Citrix Library**, and then click **Provisioning Services Computers**.

3. In the Provisioning Services Computers pane, select a Provisioning Services computer from the Provisioning Services Computers list.

4. In the Tasks pane, expand **Actions**, and then click **Uninstall Citrix MPPVS Agent**.

5. In the Run Task – Uninstall Citrix MPPVS Agent dialog box, click **Run** to invoke the uninstallation process.

6. Repeat steps 3 to 5 for each additional Provisioning Services computer.

**Tip** The Agent uninstallation task can be run for multiple selected Provisioning Services computers.
Removing dependent management packs (customizations)

**Important** Perform this procedure only if you have customized the management packs included in the product.

To remove the customizations that you made to the management packs included in Provisioning Services Management Pack, do the following:

1. Launch the SCOM Operations console and connect to the management server.

2. In the Administration view, click **Management Packs**.

3. In the middle pane, locate the management packs that depend on the management packs included in Provisioning Services Management Pack.

4. For each such dependent management pack (except for Microsoft.SystemCenter.SecureReferenceOverride), follow the steps:
   a. Right-click it and then click **Delete**.
   b. On the message stating that deleting the management pack might affect the scoping of some user roles, click **Yes**.

Removing included management packs

To remove the management packs included in Provisioning Services Management Pack, do the following:

1. Launch the SCOM Operations console and connect to the management server.

2. In the Administration view, click **Management Packs**.

3. Remove references to the included management packs from the Microsoft.SystemCenter.SecureReferenceOverride management pack. To do this perform the following steps:
   a. Identify which included management packs are referenced. In the **Administration > Management Packs** context of the SCOM Operations console, right-click Microsoft.SystemCenter.SecureReferenceOverride and select **Properties**. In the dialog box, click the **Dependencies** tab.
   b. For each such referenced management pack, find out its ID. Right-click the referenced management pack. In the dialog box, take note of the value in the ID text box on the **General tab**.

d. Make a copy of the file you exported the management pack to.

e. Edit the originally exported file: use the IDs to find and remove all dependencies to the management packs from the Manifest > References context (the Reference elements) and the Monitoring > Overrides context (the SecureReferenceOverride elements), and then save the changes.

Tip  For better tracking, increase the management pack version by adjusting the value of the Version element within the Identity element.

f. Import back the altered Microsoft.SystemCenter.SecureReferenceOverride management pack from the modified file.

4. In the middle pane, right-click Citrix Management Pack for Provisioning Services Reports, and then select Delete.

5. On the message stating that deleting the management pack might affect the scoping of some user roles, click Yes.

6. Repeat steps 4 and 5 with Citrix Management Pack for Provisioning Services.

7. Check if other Citrix SCOM Management Pack products are installed on the management server computer. If none of them is installed, repeat steps 4 and 5 with Citrix Management Pack Library.

Uninstalling the product from the SCOM management server computer

To uninstall Provisioning Services Management Pack from the SCOM management server computer, do the following:

1. Log on to the management server computer. Use a user account that has local administrative privileges and SCOM administrative privileges.

2. Make sure no product folders or files are in use by any user.

3. Go to Start > Control Panel, click Programs, and then click Programs and Features.


5. In the Welcome page of the Setup Wizard, click Uninstall.
6. In the Uninstalling the product page, the Setup Wizard reports the uninstallation progress.

7. In the Completion page of the Setup Wizard, click **Finish**.

8. Check if other Citrix SCOM Management Pack products are installed on the management server computer. If none of them is installed, follow the steps:
   a. Stop sharing the **CitrixMPShare** shared folder.
   b. Delete the **%ProgramData%\Citrix\CitrixMPShare** folder.

   **Caution** This action permanently deletes the Agent configuration data. You will be unable to reuse it at a later time.

   c. Using an operating system administrative tool, delete the local **CitrixMPShareUsers** user group.

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**Chapter 4: Usage**

**Operating principles**
For a general overview of Citrix Provisioning Services, see “Provisioning Services Product Overview” in the Citrix Provisioning Services documentation.

Provisioning Services Management Pack is able to actively monitor the availability of Provisioning Servers and their dependent components. For this purpose, a Provisioning Services farm administrator account is required by Provisioning Services Management Pack to be able to log on to the farm.

With Provisioning Services Management Pack, you can monitor:

- Provisioning Server availability
- All Provisioning Server operating system services
- Local and shared stores accessibility
- Free disk space and write cache size on the stores
- Provisioning Server log files and entries in the operating system event log
- Provisioning Server resource consumption
- Target device activity on vDisks and device collections
- vDisk availability

Provisioning Services Management Pack also collects data, gathered from Provisioning Services environment, such as
- CPU and memory consumption on Provisioning Server host computers
- Network traffic on Provisioning Servers
- Number of all and active devices, and device utilization on device collections
- Number of all and active devices, and device utilization on site
- Number of connected target devices on Provisioning Servers
- Number of connected target devices on vDisks
- Store free space and free space utilization (from each Provisioning Server perspective)
- Store write cache size (from each Provisioning Server perspective)

All collected data is available in Performance views for short periods of time (depends on the effective settings for SCOM database grooming), and also through reports for extended periods of time.

**Manually importing included management packs into SCOM**

For general instructions about how to import management packs into SCOM, see the [How to Import an Operations Manager Management Pack](#) webpage on the Microsoft TechNet website.

To import the sealed management packs for Provisioning Services manually, do the following:

1. Log on to the management server computer.
2. Launch the SCOM Operations console.
3. In the Administration view, click **Management Packs**.
4. In the Tasks pane, expand **Actions**, and then click **Import Management Packs**.
5. In the Import Management Packs dialog box, click **Add**, and then select **Add from disk**.
6. In the Online Catalog Connection, click **No**.
7. In the Select Management Packs to import dialog box, browse to the folder that contains the following management pack files, select those files, and then click **Open**.
   - `Comtrade.Citrix.Library.mp`
   - `Comtrade.Citrix.ProvisioningServices.mp`
   - `Comtrade.Citrix.ProvisioningServices.Reports.mp`
8. Click **Install**.
Customizing sealed management packs

Similarly to customizing the default SCOM management pack, you can customize the sealed management packs that Provisioning Services Management pack provides. For details, see the Microsoft TechNet website:

- For general information about customization of management packs, see the [Customizing Management Packs](#) webpage.
- For instructions on how to customize a management pack, see the [Create a New Management Pack for Customizations](#) webpage.

Chapter 5: Support

General support resources

Citrix® offers a variety of resources for support with your Citrix environment, including the following:

- The Knowledge Center is a self-service, Web-based technical support database that contains thousands of technical solutions, including access to the latest hotfixes, service packs, and security bulletins.
- Technical Support Programs for both software support and appliance maintenance are available at a variety of support levels.
- The Subscription Advantage program is a one-year membership that gives you an easy way to stay current with the latest product version upgrades and enhancements.
- Citrix Education provides official training and certification programs on virtually all Citrix products and technologies.

For more information about Citrix services and support, see the [Citrix Support Services and Resources](#) website.

You can also participate in and follow technical discussions offered by the experts on various Citrix products at the [Welcome to the Citrix Community](#), [Citrix Discussions](#), and [Citrix Services](#) websites.

Contacting Citrix Customer Service

To contact Citrix Customer Service, see the [Contact Support](#) website.