

# Citrix SCOM Management Pack for Provisioning Services User Guide



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

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Citrix, Inc.  
851 West Cypress Creek Road  
Fort Lauderdale, FL 33309  
United States of America

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## Contents

Chapter 1: Quick introduction .....	3
About Provisioning Services Management Pack.....	3
Product architecture .....	3
Chapter 2: Installation and configuration .....	5
Preparing for the installation .....	5
Installing Provisioning Services Management Pack on the SCOM management server computer .....	6
Verifying the installation on the management server computer.....	10
Configuring access to the shared folder for agent installation .....	11
Configuring agent nodes to act as SCOM proxies .....	18
Setting up a Provisioning Services farm administrator account .....	20
Installing Provisioning Services Management Pack on the agent-managed computers .....	22
Verifying the installation and configuration on the agent-managed computers .....	23
Chapter 3: Uninstallation .....	24
Uninstalling Provisioning Services Management Pack from the agent-managed computers.....	24
Removing dependent management packs (customizations).....	25
Removing included management packs .....	25
Uninstalling Provisioning Services Management Pack from the SCOM management server computer .....	26
Chapter 4: Usage .....	27
Operating principles .....	27
Manually importing included management packs into SCOM .....	28
Customizing sealed management packs.....	29
Chapter 5: Support .....	29
General support resources.....	29
Contacting Citrix Customer Service .....	30

# Chapter 1: Quick 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.

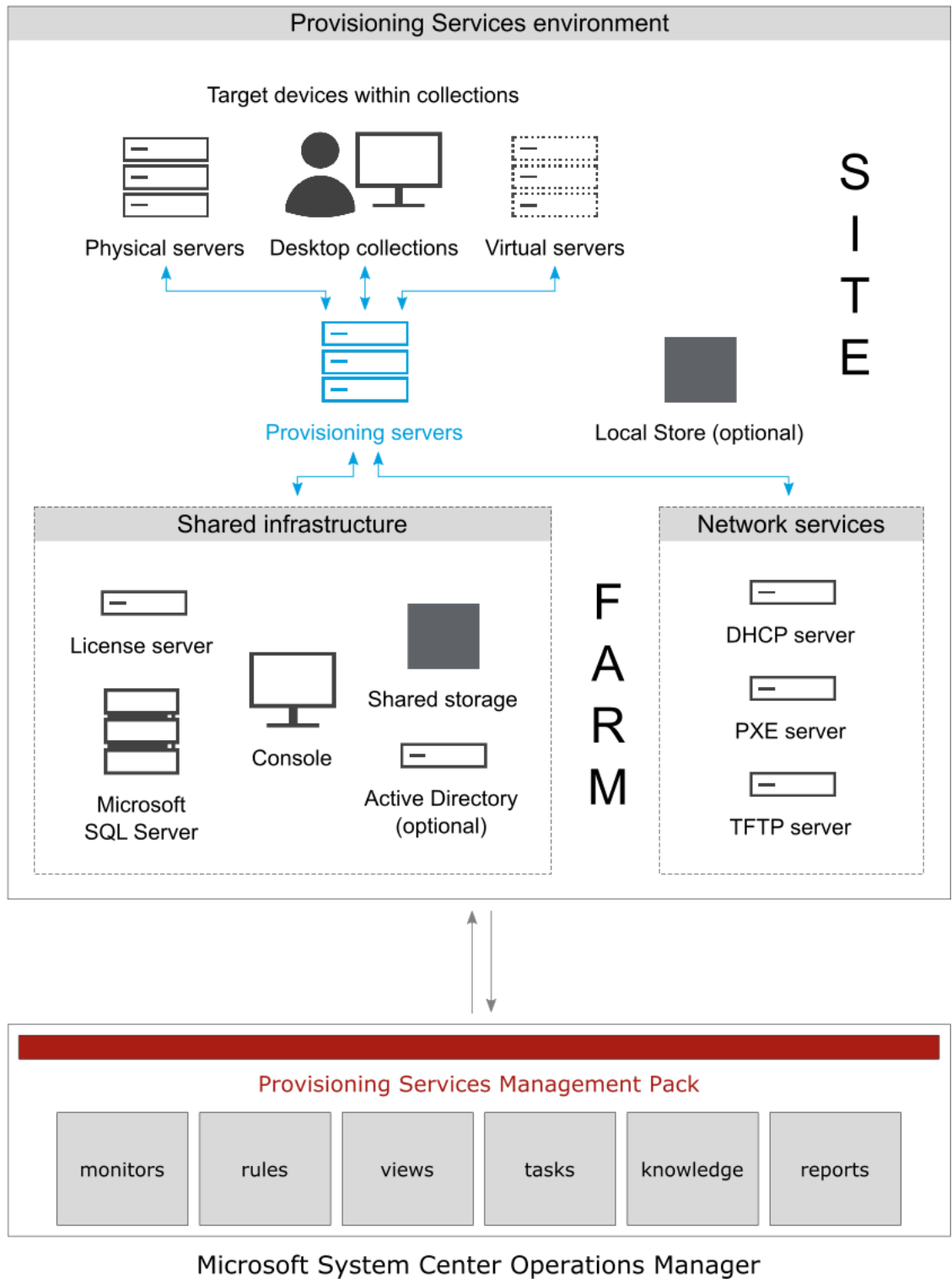
Provisioning Services Management Pack fully integrates topology, health, and performance data into SCOM, providing an end-to-end operations overview across the entire Provisioning Services estate, and enabling delivery of effective business service management. It covers the following key scenarios:

- 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:

- You environment meets the hardware and software requirements.  
For software requirements, see the *Citrix SCOM Management Pack for Provisioning Services Compatibility Matrix*. For hardware and/or other requirements, see the *Citrix SCOM Management Pack for Provisioning Services Release Notes*.
- A SCOM management group is chosen for Provisioning Services monitoring. The computer that hosts the SCOM management server of this management group is referred to as **management server computer**.
- SCOM agent is installed on all the computers that host Provisioning Services, and these computers are configured as **agent nodes** in the management group.
- The SCOM agent Action Account has administrative privileges on all the computers that host Provisioning Services.
- Complete Provisioning Services configuration data is available.
- The default management packs that the included management packs depend on are imported in SCOM:
  - Citrix Management Pack Library depends on the following:
    - Health Library
    - System Center Core Library
    - System Library
    - Windows Core Library
  - Citrix Management Pack for Provisioning Services depends on the following:
    - **Citrix Management Pack Library**
    - Data Warehouse Library
    - Health Library
    - Performance Library
    - Synthetic Transactions Library
    - System Application Log Library
    - System Center Core Library
    - System Library
    - Windows Core Library

- Windows Service Library
- o Citrix Management Pack for Provisioning Services Reports depends on the following:
  - **Citrix Management Pack for Provisioning Services**
  - Data Warehouse Library
  - Health Library
  - Microsoft Generic Report Library
  - System Center Core Library
  - System Library
  - Windows Core Library

---

**Note** If you accidentally delete any of the listed default management packs, you can import them back from the files in the SCOM installation directory.

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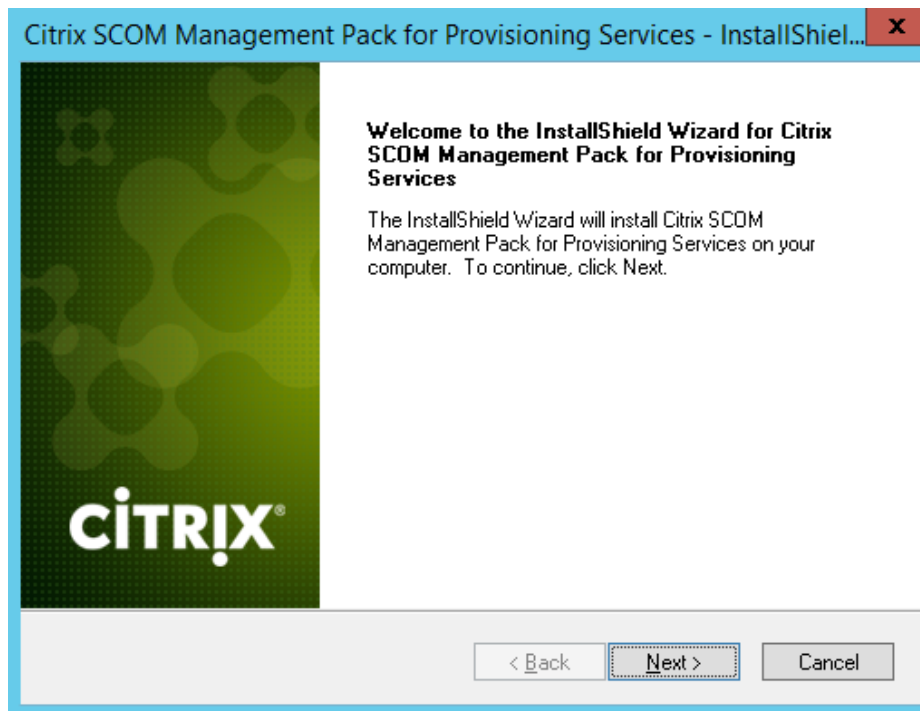
### Installing Provisioning Services Management Pack on the SCOM management server computer

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:

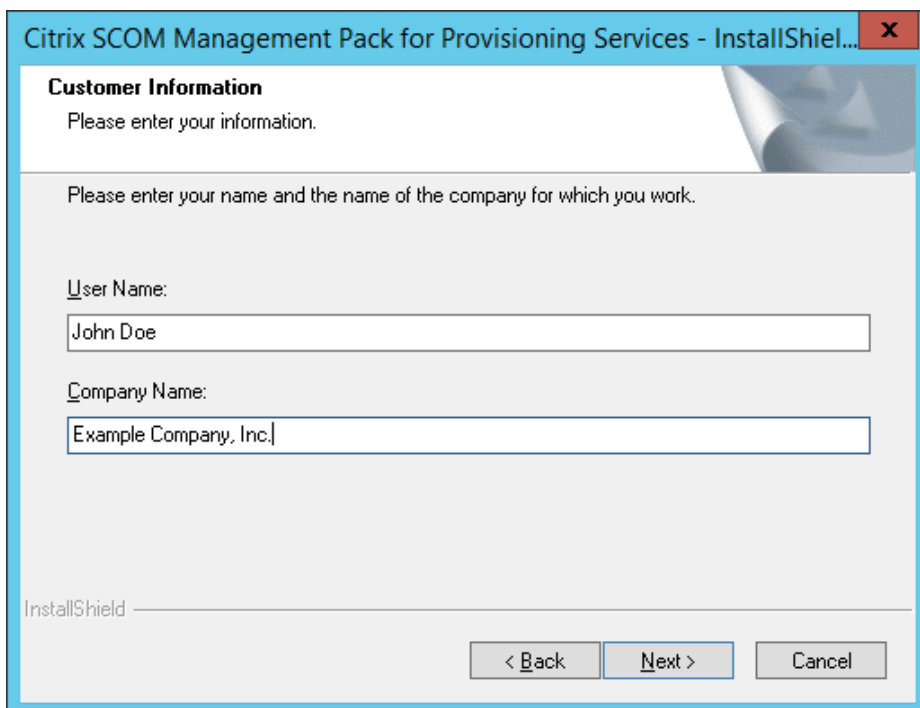
1. Log on to the management server computer. Use a user account from the local `Administrators` user group that has administrative privileges in SCOM.
2. In Windows Explorer, locate the `Citrix_SCOM_Management_Pack_for_ProvisioningServices_<Version>.exe` file (where `<Version>` is the current software 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**.

**Figure 2.1** Initial Setup Wizard page of Provisioning Services Management Pack



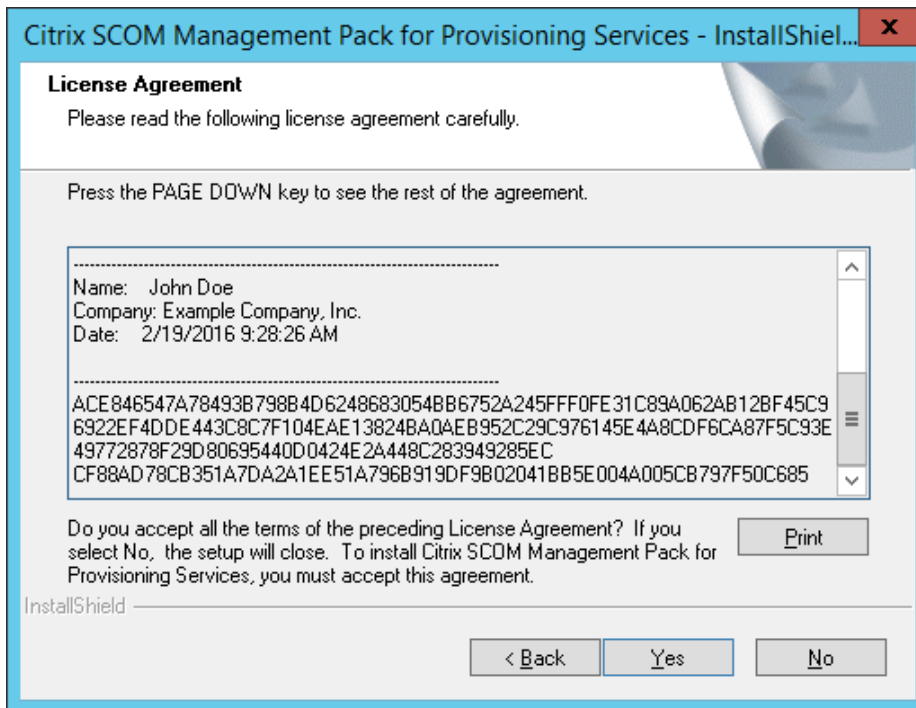
4. In the Product Configuration page, click **Next**.
5. In the Customer Information page, type valid information into the **User Name** and **Company Name** text boxes. Click **Next**.

**Figure 2.2** The Customer Information page



6. In the Registration Information dialog box, verify that the provided information is correct and click **Yes**.
7. 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 **Yes**.

**Figure 2.3** The License Agreement page



8. In the Choose Destination Location page, define the Provisioning Services Management Pack installation folder. Citrix recommends that you install Provisioning Services Management Pack to the default folder.

Proceed as follows:

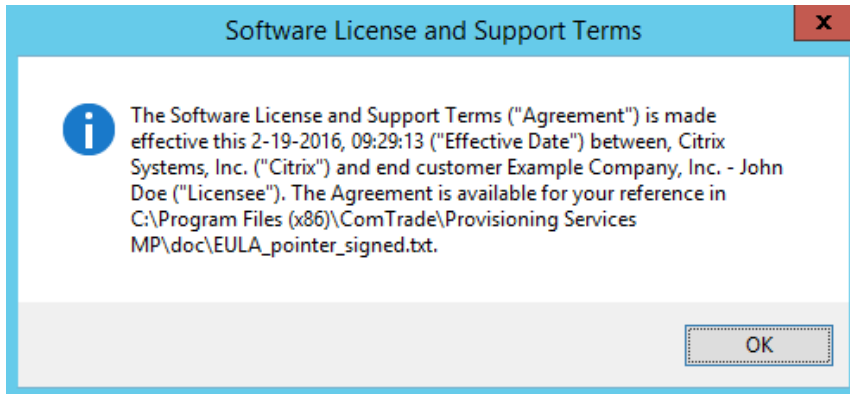
- To install the product to the default folder listed in the Setup Wizard, no special actions are required.
- To install the product to a different folder, follow the substeps:
  - a. Click **Browse**.
  - b. In the Choose Folder dialog box, browse to a desired installation folder, select it, and click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

Click **Next**.



9. In the Software License and Support Terms dialog box, read the message and click **OK**.

**Figure 2.4** The Software Licenses and Support Terms dialog box



10. In the Start Copying Files page of the Setup Wizard, click **Next**. The Setup Wizard starts copying the installation files.
11. After the installation completes, the installation completion page is displayed.

**Figure 2.5** Final Setup Wizard page



To let the Setup Wizard automatically import the included management packs into SCOM, leave the **Automatically import the Management Pack** option selected. Citrix recommends this choice.

To import the management packs into SCOM manually at a later time, clear the **Automatically import the Management Pack** option. For instructions about how to import or reimport the management packs, see “Manually importing included management packs into SCOM”

12. Click **Finish** to close the Setup Wizard.
13. If you let the Setup Wizard to automatically import the management packs, a Command Prompt window appears and reports the import progress. After the process completes, a dialog box informs you about successful completion. Click **OK** to close the dialog box.

### Verifying the installation on the 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:

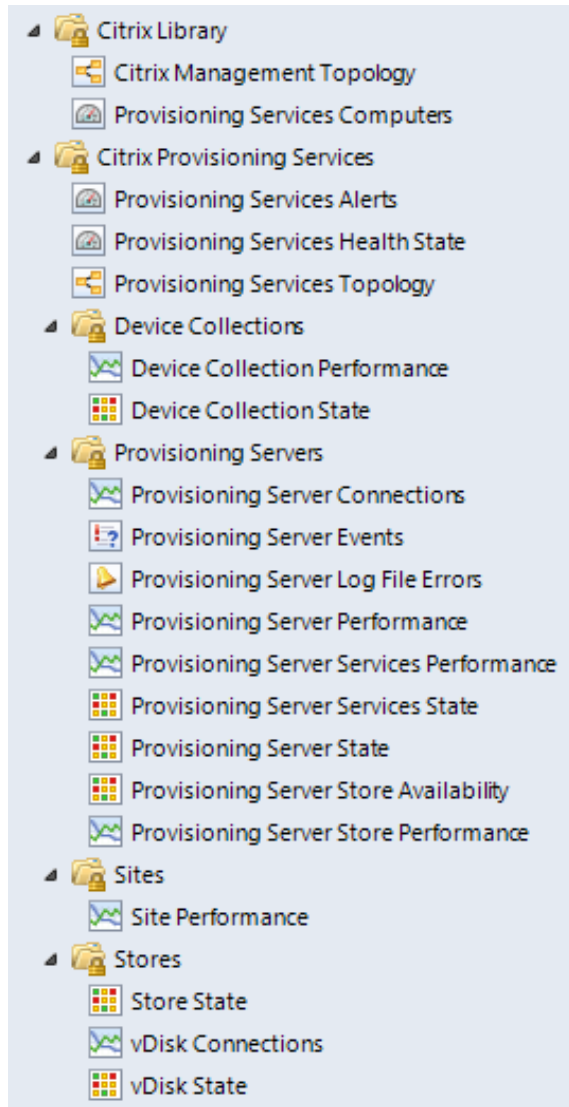
```
Citrix SCOM Management Pack for Provisioning Services
```

4. Check if there is the `CitrixMPShare` shared folder on the computer and whether it points to the `%ProgramData%\Citrix\CitrixMPShare` location.

The shared folder is vital for communication between the management server and the agent node 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.

**Figure 2.6** Elements of Provisioning Services Management Pack, as seen in the SCOM Operations console



### 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:

- StoreFront Management Pack
- Web Interface Management Pack
- XenApp and XenDesktop Management Pack
- XenApp 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 from the local `Administrators` user group.
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.

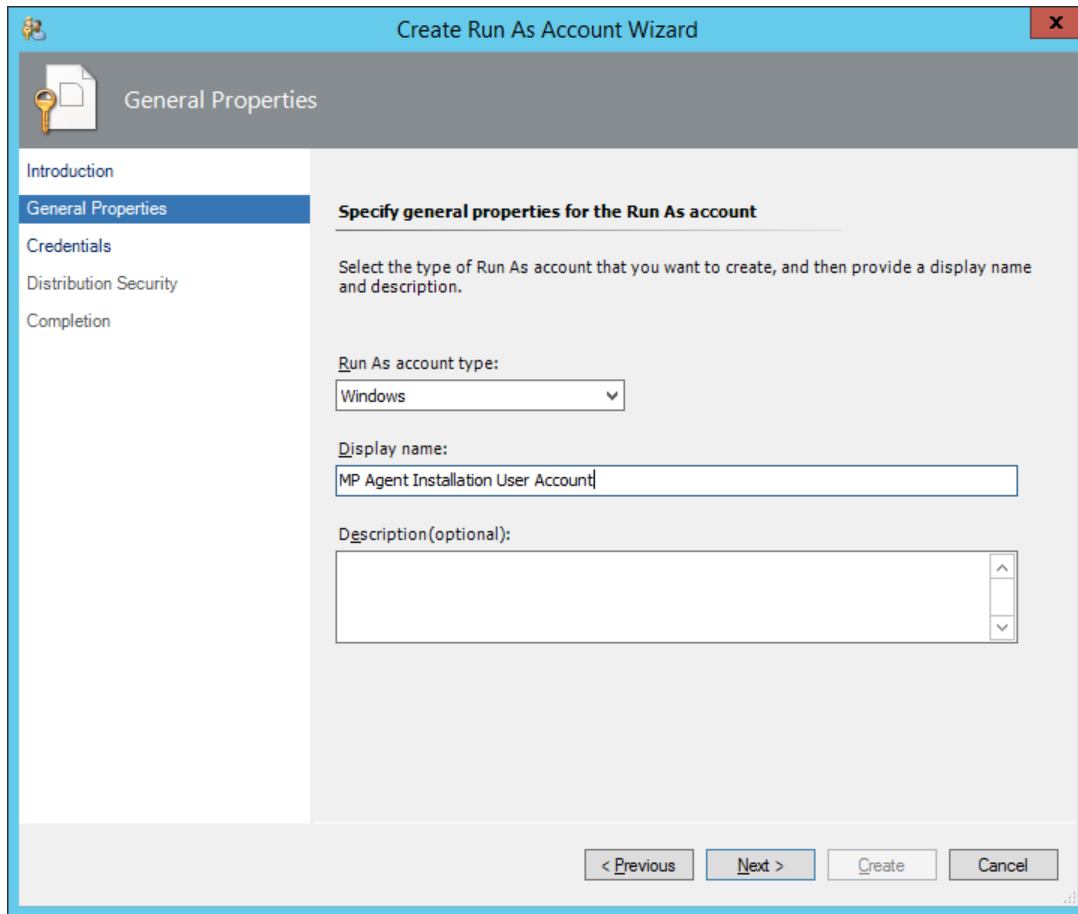
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**Important:** Citrix recommends creating a new, dedicated user account that you will use only for deployment of the Management Pack agent to managed computers.

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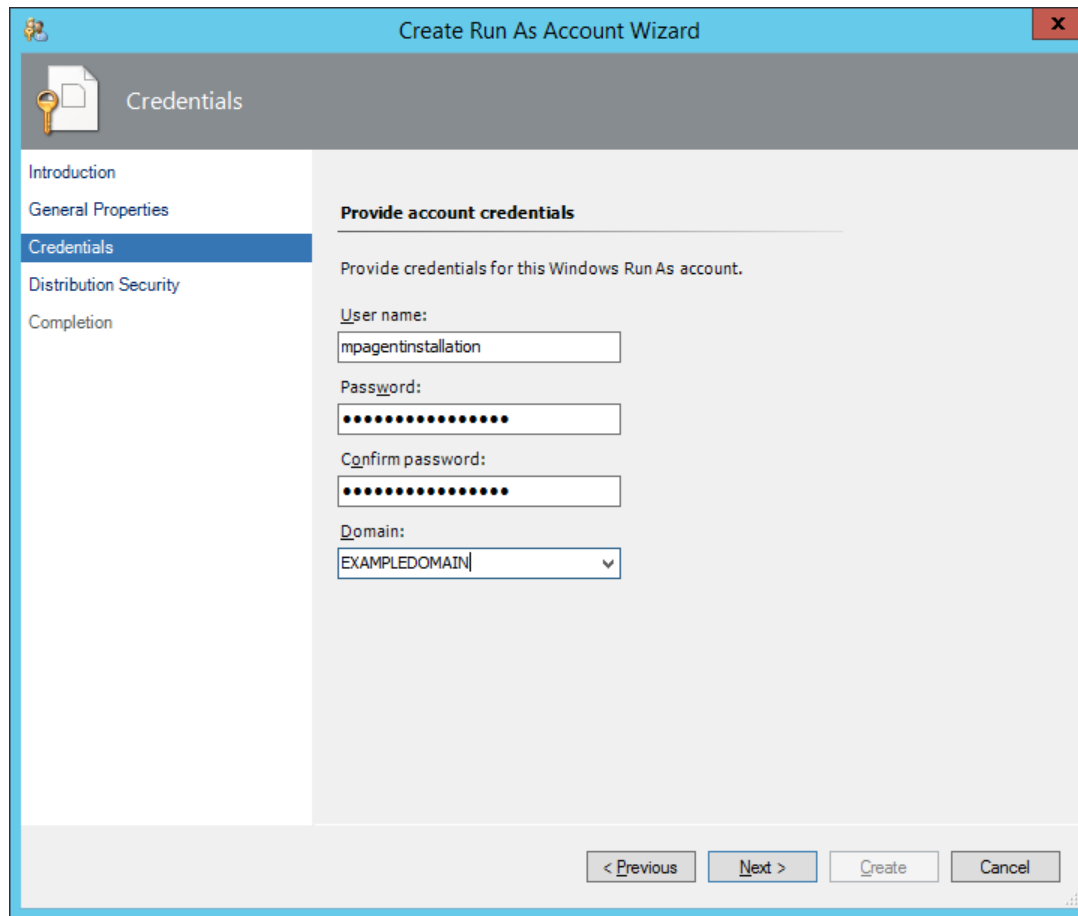
3. Using an operating system administrative tool, add the user account to the local `CitrixMPShareUsers` user group.
4. Launch the SCOM Operations console.
5. In the **Administration** view, in the left pane, expand **Run As Configuration**, and then click **Accounts**.
6. In the Tasks pane, expand **Actions**, 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`).

Figure 2.7 The General Properties page



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.

**Figure 2.8** The Credentials page



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.

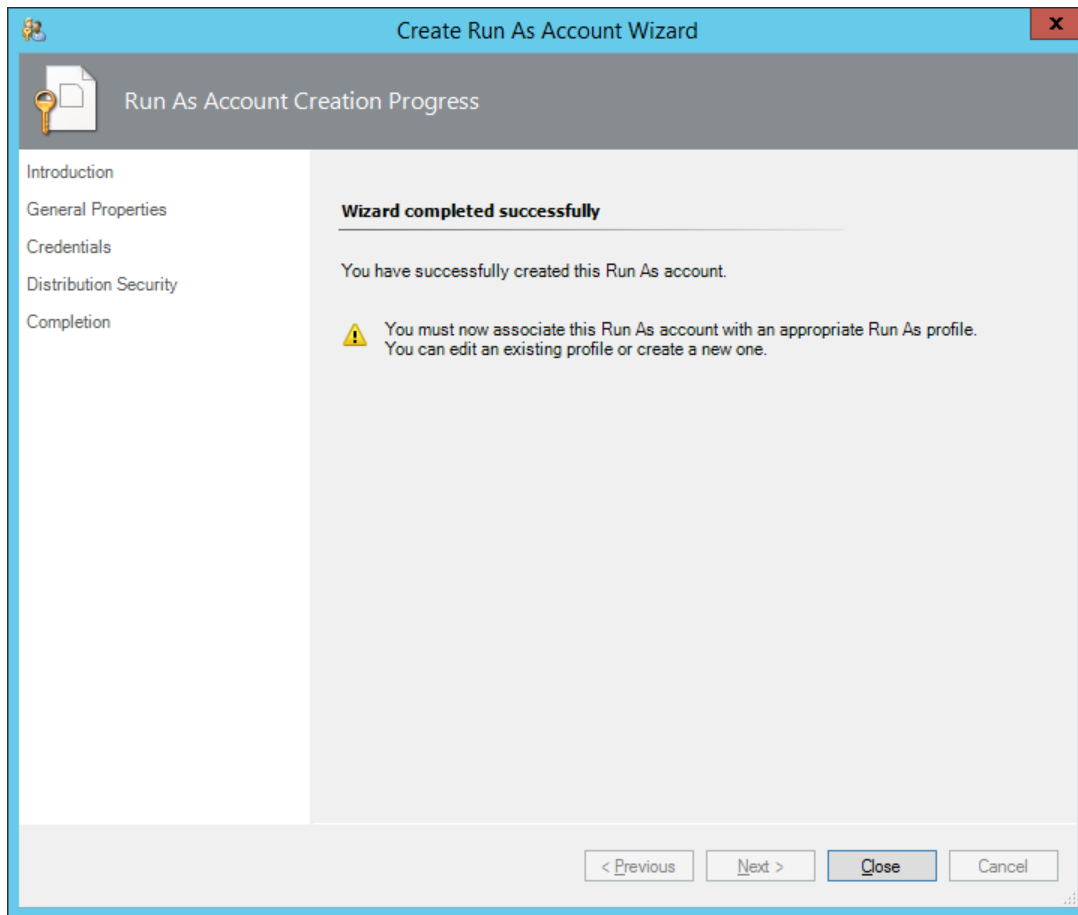
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Note: Selecting **More secure** requires manual steps to be performed in SCOM for each newly added managed computer.

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14. Click **Create**.
15. After the message about successful account creation appears, click **Close**.

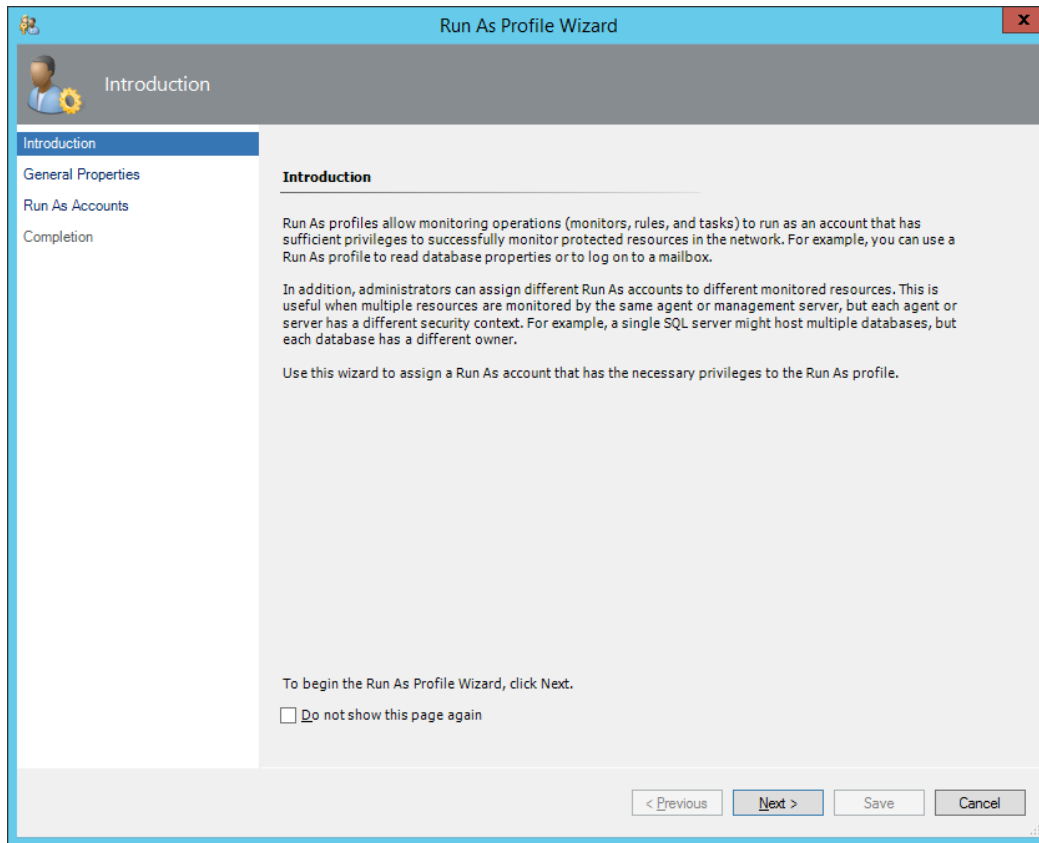
**Figure 2.9** The Completion page



16. In the left pane, under Run As Configuration, click **Profiles**.

17. In the Profiles list, right-click **Citrix Management Pack Network Share Account**, and then select **Properties**.

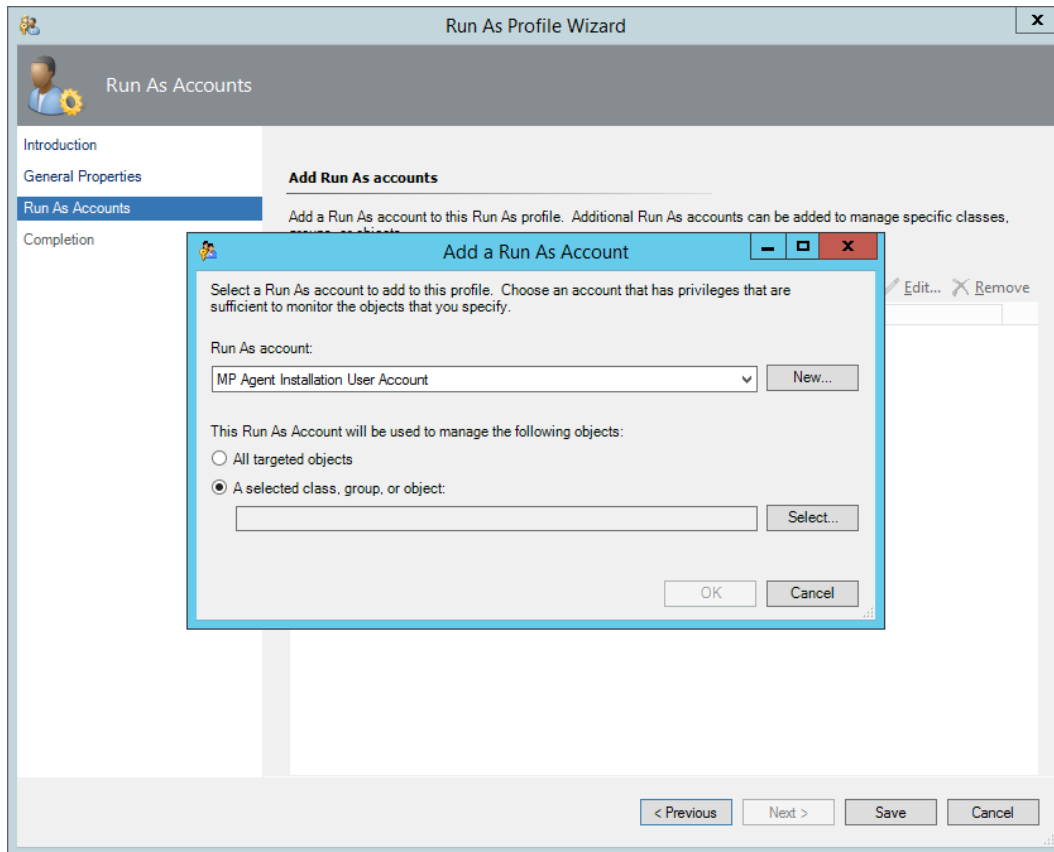
Figure 2.10 The Introduction page



18. In the Run As Profile Wizard window, click **Next** twice.
19. In the Add 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.

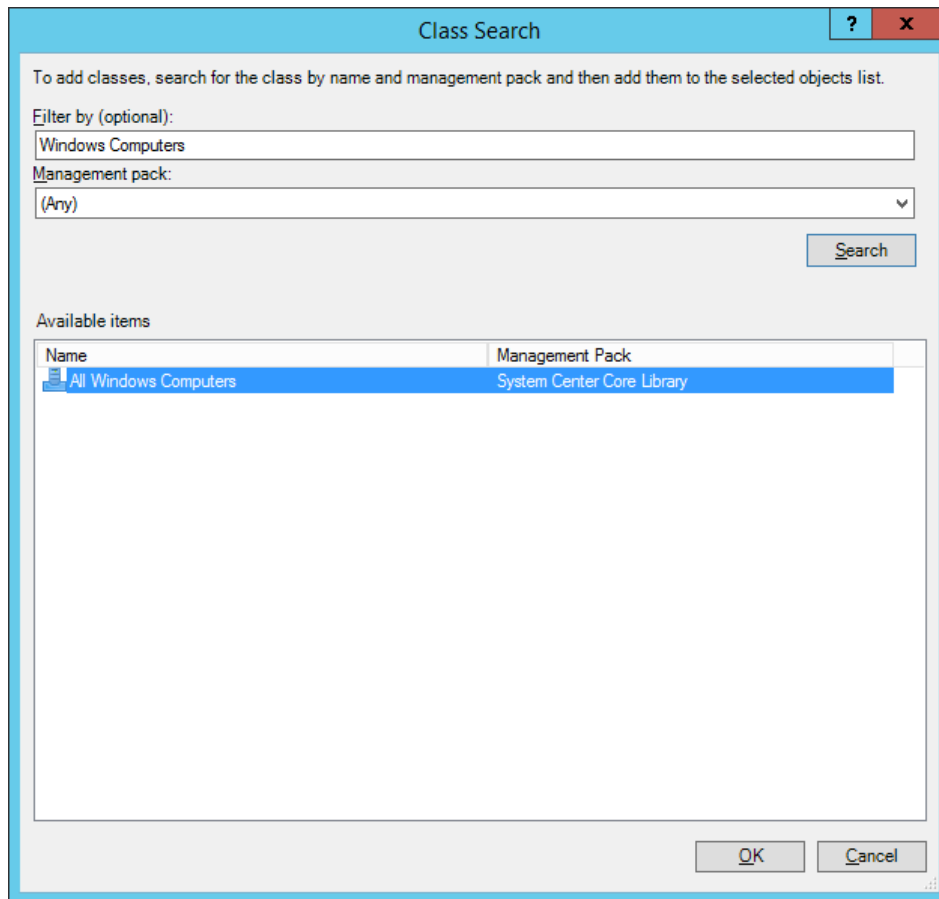


Figure 2.11 The Add a Run As Account dialog box



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**.

**Figure 2.12** The Class Search dialog box



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.

### **Configuring agent nodes to act as SCOM proxies**

Each agent node 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 nodes one by one or you can configure all discovered nodes at the same time. The latter scenario is particularly useful in large Provisioning Services environments.

To configure the agent nodes one by one, do the following:

1. Choose the computers that will act as proxies in your Provisioning Services environment.
2. Log on to the management server computer.
3. Launch the SCOM Operations console.
4. In the **Administration** view, in the left pane, expand **Device Management**, and then click **Agent Managed**.
5. 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 nodes at the same time, do the following:

1. Log on to the management server computer. Use a user account from the local `Administrators` user group.
2. Go to **Start > All Programs > Citrix > Provisioning Services Management Pack**.
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.

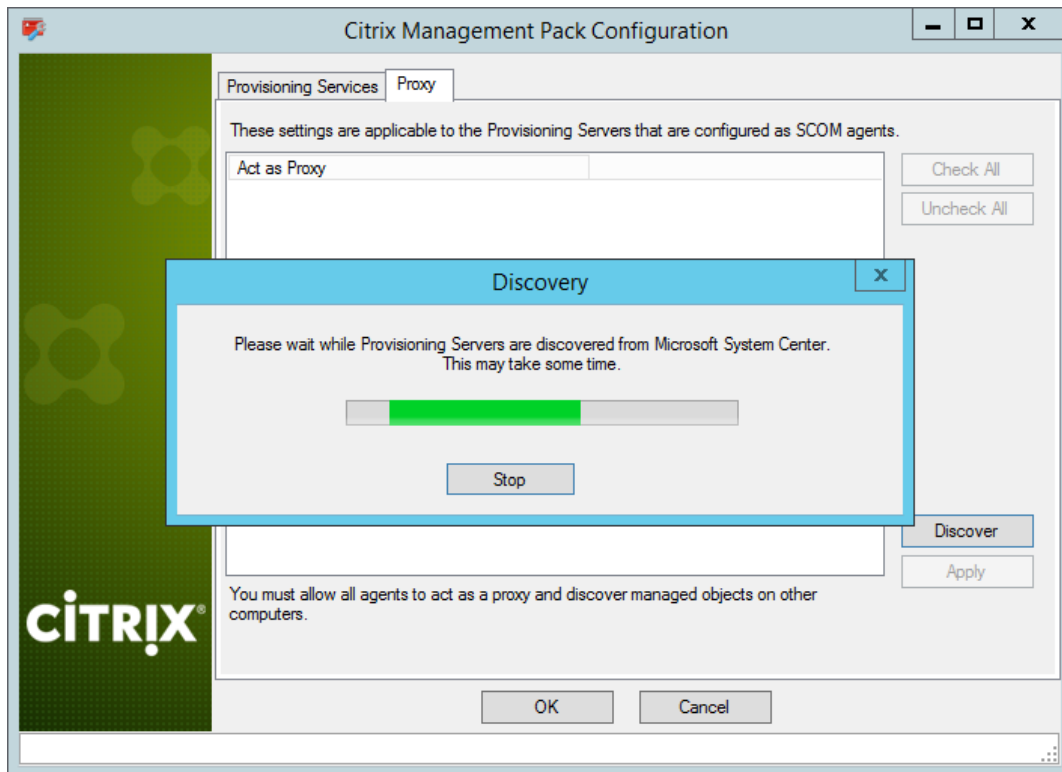
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**Note:** Newly added agent nodes may not be immediately visible in the Provisioning Services Computers list in SCOM. Allow some time for the list to get updated.

---

This discovery process may take a while.

**Figure 2.13** The Proxy tab of the Citrix Management Pack Configuration tool



6. Select the computers that you want to configure as proxies 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. Optionally, to cease an agent node 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.

### Setting up a Provisioning Services farm administrator account

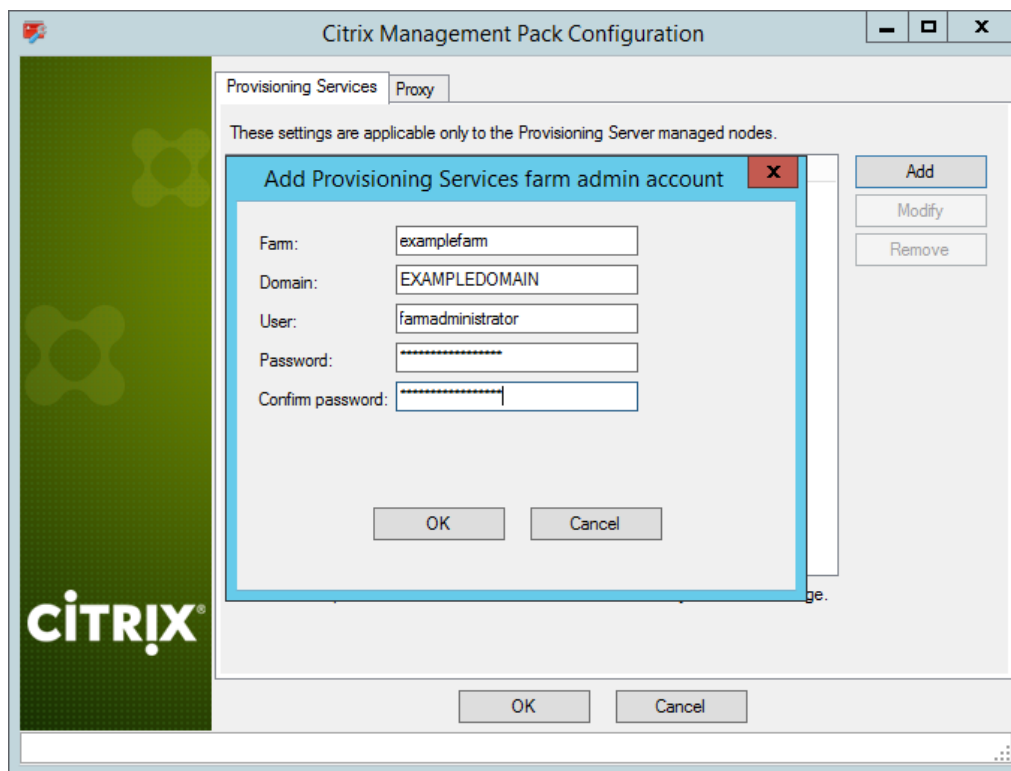
A farm administrator account needs to be set in Provisioning Services Management Pack for each Provisioning Services farm that you want to manage. The farm administrator account must be the local administrator of each Provisioning Services server and must have full access granted to the farm.

To set up farm administrator accounts, do the following:

1. Log on to the management server computer. Use a user account from the local Administrators user group.

2. Go to **Start > All Programs > Citrix > Provisioning Services Management Pack**.
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 2.14** 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. Optionally, 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. Optionally, to remove a farm administrator configuration, click **Remove** and then click **Yes**.
10. Click **OK** to apply the configuration changes and close the window.

### Installing Provisioning Services Management Pack on the agent-managed computers

On the computers that are agent-managed by SCOM, only Provisioning Services Management Pack Agent must be installed.

To install Provisioning Services Management Pack Agent on an agent-managed computer, do the following:

1. Log on to the management server computer.
2. Launch the SCOM Operations console.
3. In the **Monitoring** view, in the left pane, expand **Citrix Library**, and then click **Provisioning Services Computers**.
4. In the middle pane, select the agent-managed computer from the Provisioning Services Computers list.
5. In the Tasks pane, expand **Citrix MPPVS Agent Computer Role Tasks**, and then click **Install Citrix MPPVS Agent**.
6. In the Run Task – Install Citrix MPPVS Agent, 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 computer must be put into maintenance mode.  
Default value: `false`
  - **IgnorePrereqCheck**: 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, 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 installation directory on the agent-managed computer. If no value is specified, the Management Pack agent is installed to the

`%ProgramData%\ComTrade\Provisioning Services MP Agent` directory.

Default value: (empty)

7. Click **Run** to invoke the installation process.
8. Observe the output the task generates. If the task reports no errors, the installation on the agent-managed computer is correct.

---

**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.

---

## Verifying the installation and configuration on the agent-managed computers

To verify that the Provisioning Services Management Pack installation on an agent-managed computer is correct, do the following:

1. Log on to the agent-managed 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 Agent for Provisioning Services`

4. Go to **Start > Administrative Tools** and double-click **Services**.

5. In the Name column of the Services window, locate the `Citrix MPPVS Agent` service, and make sure that its status is to `Started`.

To verify that the Provisioning Services Management Pack configuration on an agent-managed computer is correct, do the following:

1. Log on to the management server computer. Use a user account from the local `Administrators` user group.
2. Launch the SCOM Operations console.
3. In the **Monitoring** view, in the left pane, expand **Citrix Library**, and click **Provisioning Services Computers**.
4. In the middle pane, select the Provisioning Services (agent-managed) computer.
5. In the Tasks pane, expand **Actions**, and then click **Check Requirements and Configuration for Citrix MPPVS Agent**.
6. Observe the output the task generates. If all checks are denoted successful, the configuration on the monitored node is correct.

## 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 Provisioning Services Management Pack from the agent-managed computers

To uninstall Provisioning Services Management Pack from an agent-managed computer that has Provisioning Services Management Pack Agent installed, do the following:

1. Log on to the management server computer.
2. Launch the SCOM Operations console.
3. In the Monitoring view, expand **Citrix Library**, and then click **Provisioning Services Computers**.
4. In the middle pane, select the agent-managed computer.



5. In the Tasks pane, expand **Actions**, and then click **Uninstall Citrix MPPVS Agent**.
6. Repeat steps 4 and 5 for each additional agent-managed computer.

### Removing dependent management packs (customizations)

To remove the customizations that you made to the management packs included in Provisioning Services Management Pack, 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 middle pane, locate the management packs that depend on the management packs included in Provisioning Services Management Pack.
5. For each such dependent management pack, 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. Log on to the management server computer.
2. Launch the SCOM Operations console.
3. In the Administration view, click **Management Packs**.
4. 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.
  - c. Export the `Microsoft.SystemCenter.SecureReferenceOverride` management pack.
  - 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).
  - f. Import back the altered `Microsoft.SystemCenter.SecureReferenceOverride` management pack from the modified file.
5. In the middle pane, right-click **Citrix Management Pack for Provisioning Services Reports**, and then select **Delete**.
  6. On the message stating that deleting the management pack might affect the scoping of some user roles, click **Yes**.
  7. Repeat steps 4 and 5 with **Citrix Management Pack for Provisioning Services**.
  8. 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 Provisioning Services Management Pack 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 from the local `Administrators` user group that has administrative privileges in SCOM.
2. Make sure no other users are logged on to the computer.
3. Go to **Start > Control Panel**, click **Programs**, and then click **Programs and Features**.
4. Right-click **Citrix SCOM Management Pack for Provisioning Services** and select **Uninstall**. Wait for the Setup Wizard to appear.

---

**Important:** If a warning informs you about other logged on users, the program might not uninstall completely.

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5. In the Welcome page of the Setup Wizard, click **Next**.
6. In the Product Configuration page, click **Next**.
7. In the Confirm Uninstall dialog box, click **OK**.
8. In the Completion page of the Setup Wizard, click **Finish**.
9. 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.
  - c. Using an operating system administrative tool, delete the local `CitrixMPShareUsers` user group.

## 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. Make sure all required default management packs are present in the list in the middle pane. For a list of requirements, see “Preparing for the installation”.
5. In the Tasks pane, expand **Actions**, and then click **Import Management Packs**.
6. In the Import Management Packs dialog box, click **Add**, and then select **Add from disk**.
7. In the Online Catalog Connection, click **No**.
8. 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

9. 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.