Citrix SCOM Management Pack for XenApp 6.x User Guide

CITRIX®

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This document provides installation, configuration, and usage instructions for Citrix SCOM Management Pack for XenApp 6.x.

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Chapter 1: Brief introduction

About XenApp Management Pack

Citrix SCOM Management Pack for XenApp 6.x (**XenApp 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 XenApp 6.x (**XenApp**) infrastructure. It fully integrates topology, health, and performance data into SCOM, providing an end-to-end operations overview across the entire XenApp estate and enabling delivery of effective business service management.

XenApp Management Pack allows you to:

- Monitor health and availability

  If any important part of the XenApp is not available, the XenApp users will not be able to work. GUI freezes or the users are unable to log on to the XenApp application.

- Monitor performance

  Performance degradation detection before the degradation affects end users is of great importance.

- Monitor XenApp components and tasks

  Almost any job a XenApp user requires is done by the chain of XenApp tasks. If any task or component in this chain encounters a problem, the job for the end user cannot be done or cannot be finished as expected.

Product architecture

The following diagram shows how XenApp Management Pack connects the SCOM management platform and the XenApp infrastructure.

Figure A high-level view of the XenApp Management Pack architecture
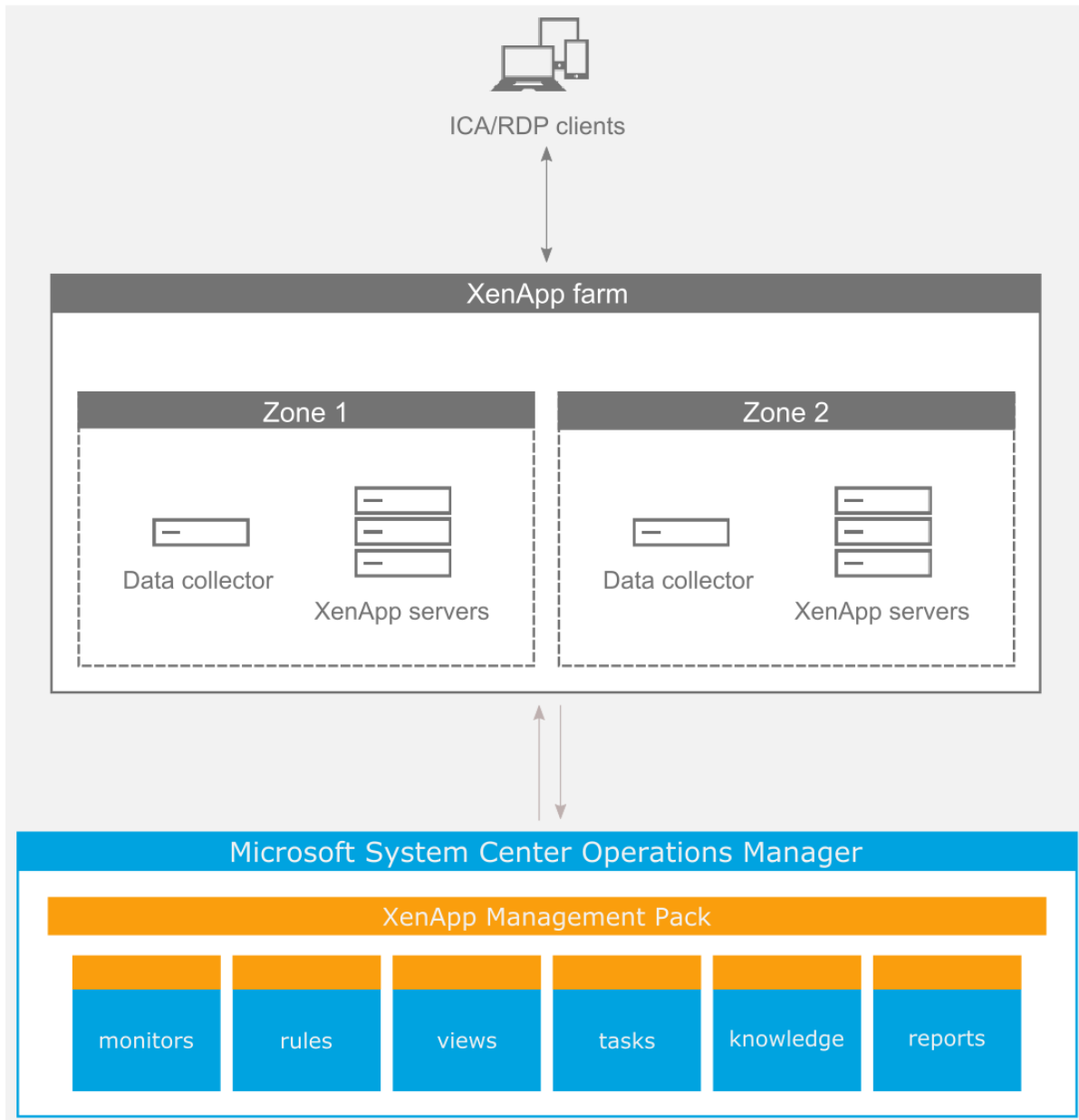
Chapter 2: Installation and configuration

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

Important For XenApp servers that are provisioned with Citrix Provisioning Services you must use this chapter differently—using a different flow and in conjunction with the *Citrix SCOM Management Pack for XenApp 6.x Provisioned XenApp Server Deployment Guide*. For such servers, skip the following content and follow instructions provided in the separate document:

- Some of the prerequisites in "Preparing for the installation" (specially marked)
- Section "Configuring access to the shared folder for agent installation"
- Section "Configuring SCOM agent to act as proxy on XenApp computers"
- Section "Providing information about XenApp farm administrator accounts"
- Section "Installing the product on the XenApp computers"

Preparing for the installation

Before installing XenApp 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 XenApp 6.x Compatibility Matrix*.

- A computer is chosen on which a SCOM management server resides and where the server side of XenApp Management Pack will be installed. This computer is referred to as **SCOM Management server**.

- SCOM agent is installed on all the computers that host XenApp, and these computers are configured as **agent-managed computers** in the SCOM management group.

  Note Skip this prerequisite for XenApp servers provisioned with Citrix Provisioning Services.

- The Action Account of SCOM agent has administrative privileges on all the computers that host XenApp.

  Note Skip this prerequisite for XenApp servers provisioned with Citrix Provisioning Services.

Installing the product on the SCOM management server computer

The server-side part of XenApp Management Pack must be installed on the SCOM management server computer.

To install XenApp 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_XenApp6_<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**.

6. In the Destination Folder page, define the XenApp Management Pack installation folder. Citrix
   recommends that you install XenApp 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 **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.

   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 later, 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, review the management packs import log, and click **Finish** to close the Setup Wizard.

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 and configured any of the following Citrix Management Pack products on the same computer, you may *not* need to repeat the steps:

- Provisioning Services Management Pack
- ShareFile Management Pack
- StoreFront Management Pack
- Web Interface Management Pack
- XenApp/XenDesktop Management Pack
- XenMobile 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 XenApp 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`).

   Figure 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 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.

   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**.

Figure The Completion page
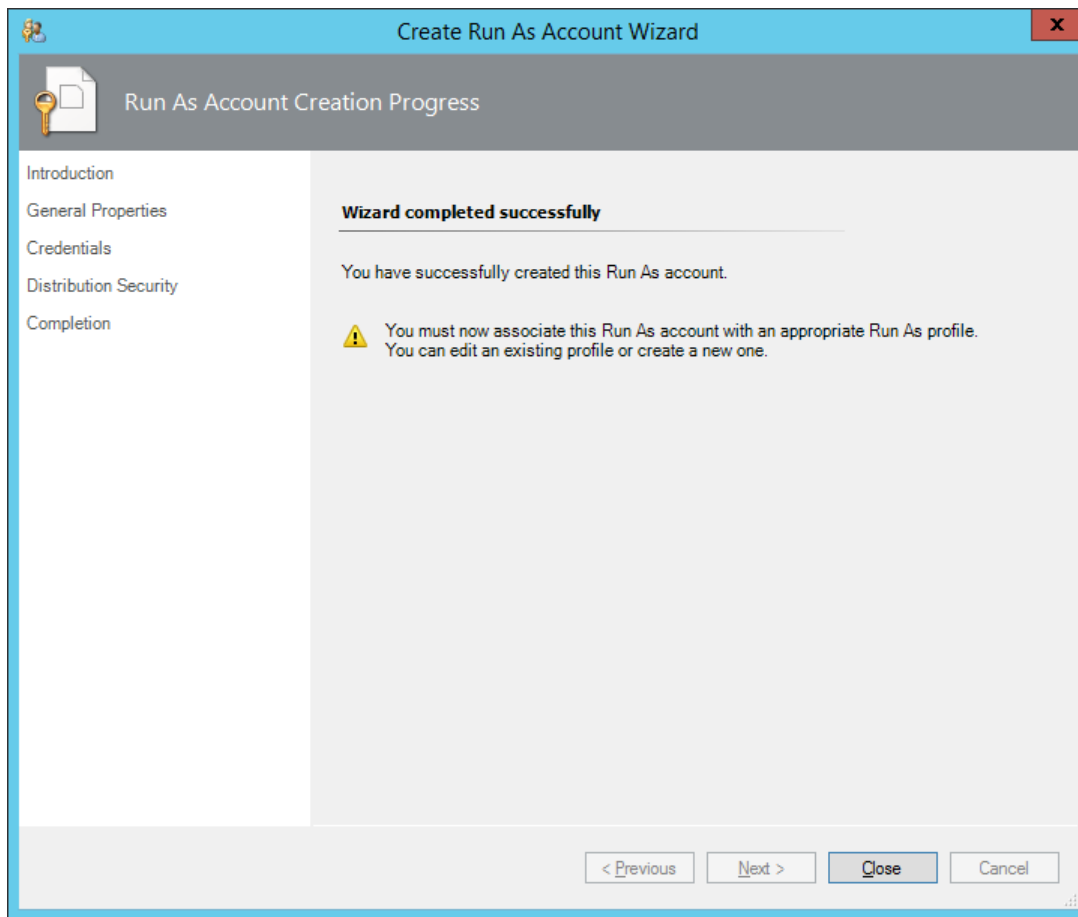
16. In the left pane, under Run As Configuration, click **Profiles**.

17. In the Profiles list, double-click **Citrix Management Pack Network Share Account**.

Figure The Introduction page

Run As Profile Wizard — Introduction

Introduction

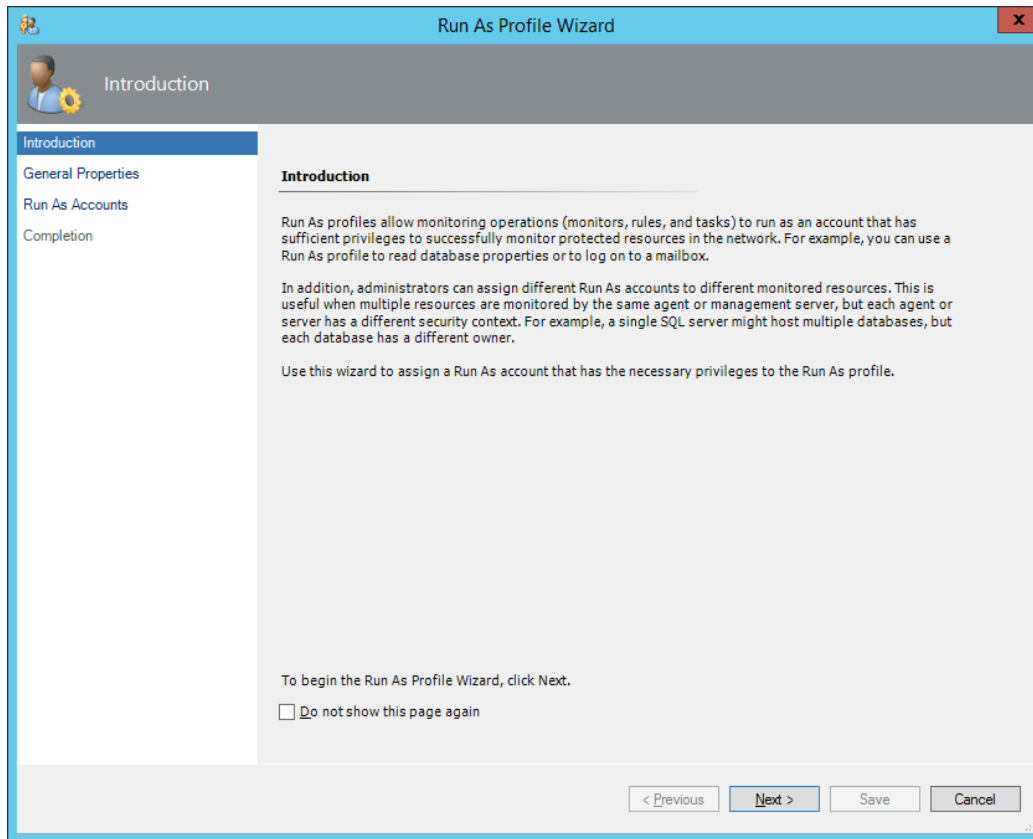Run As profiles allow monitoring operations (monitors, rules, and tasks) to run as an account that has sufficient privileges to successfully monitor protected resources in the network. For example, you can use a Run As profile to read database properties or to log on to a mailbox.

In addition, administrators can assign different Run As accounts to different monitored resources. This is useful when multiple resources are monitored by the same agent or management server, but each agent or server has a different security context. For example, a single SQL server might host multiple databases, but each database has a different owner.

Use this wizard to assign a Run As account that has the necessary privileges to the Run As profile.

To begin the Run As Profile Wizard, click Next.
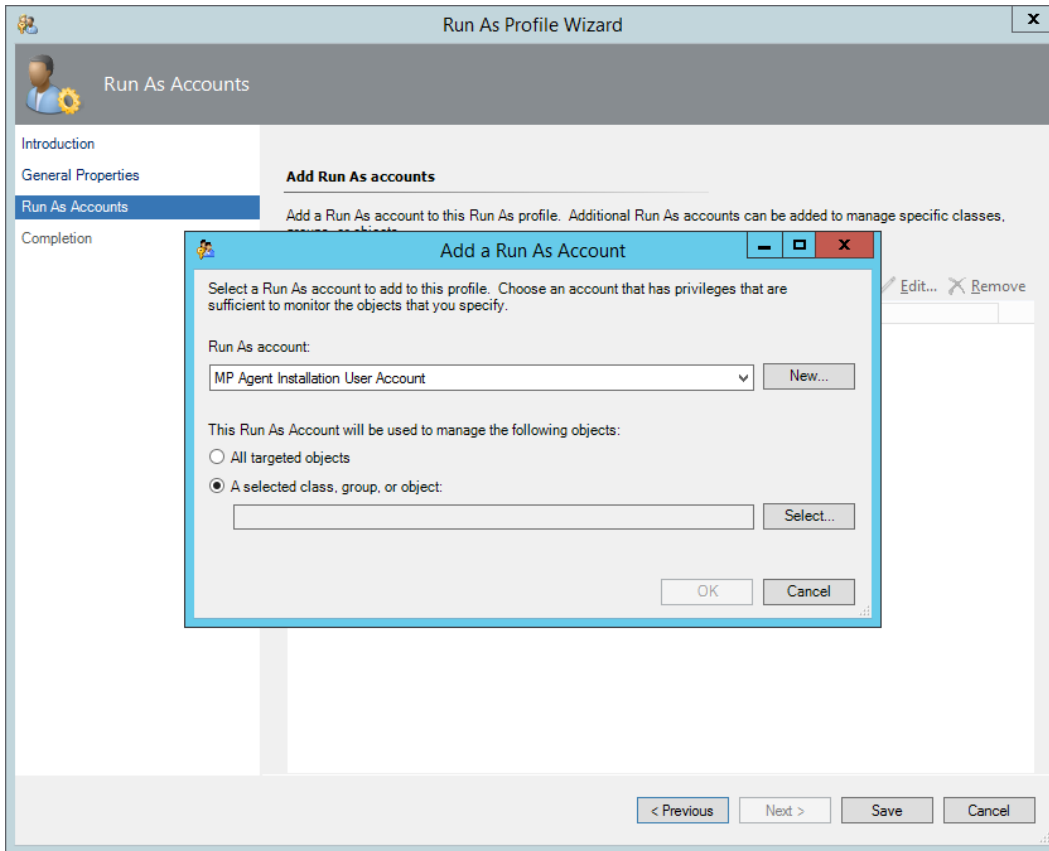
☐ Do not show this page again

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.

Figure 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 The Class Search dialog box
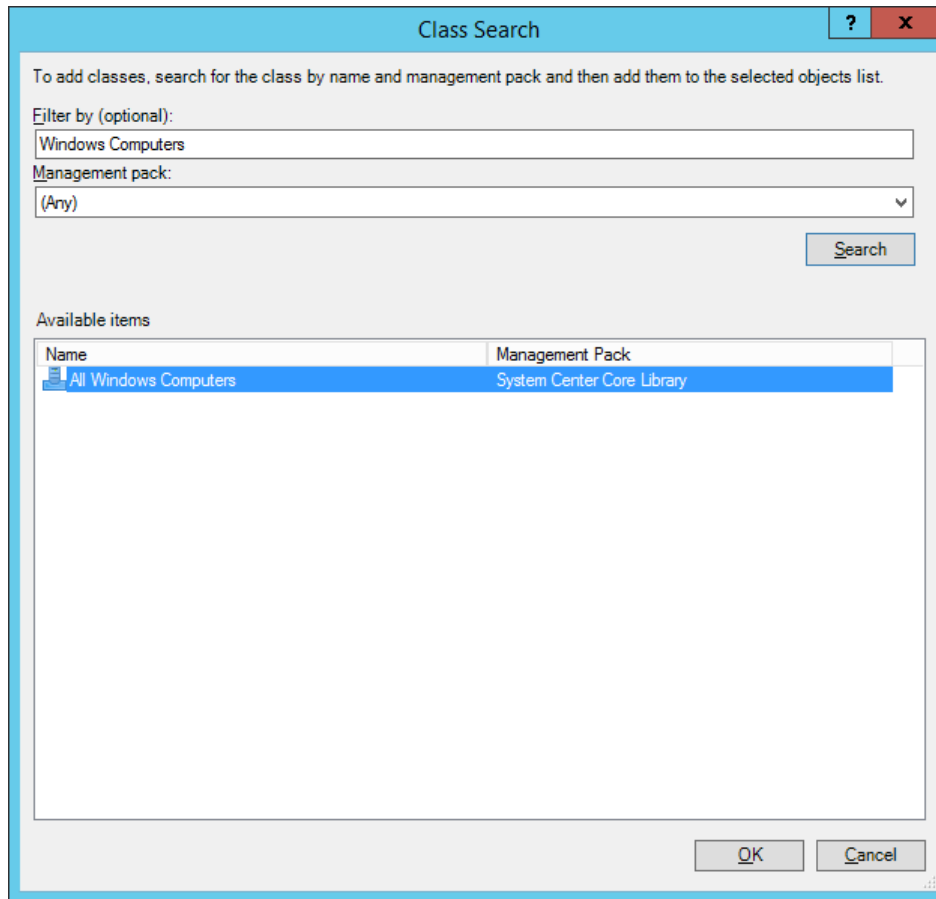
26. Click **OK** to close the Class Search dialog box.

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.

Verifying the installation on the management server computer

To verify that the XenApp 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** and click **Programs and Features** (actions of this step may differ on operating systems earlier than Windows Server 2016).

3. Check for the presence of the following entry in the Name column:

```
Citrix SCOM Management Pack for XenApp 6.x
```

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 installation of the XenApp Management Pack agent and deployment of its configuration to the managed computers.

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 Elements of XenApp Management Pack, as seen in the SCOM Operations console
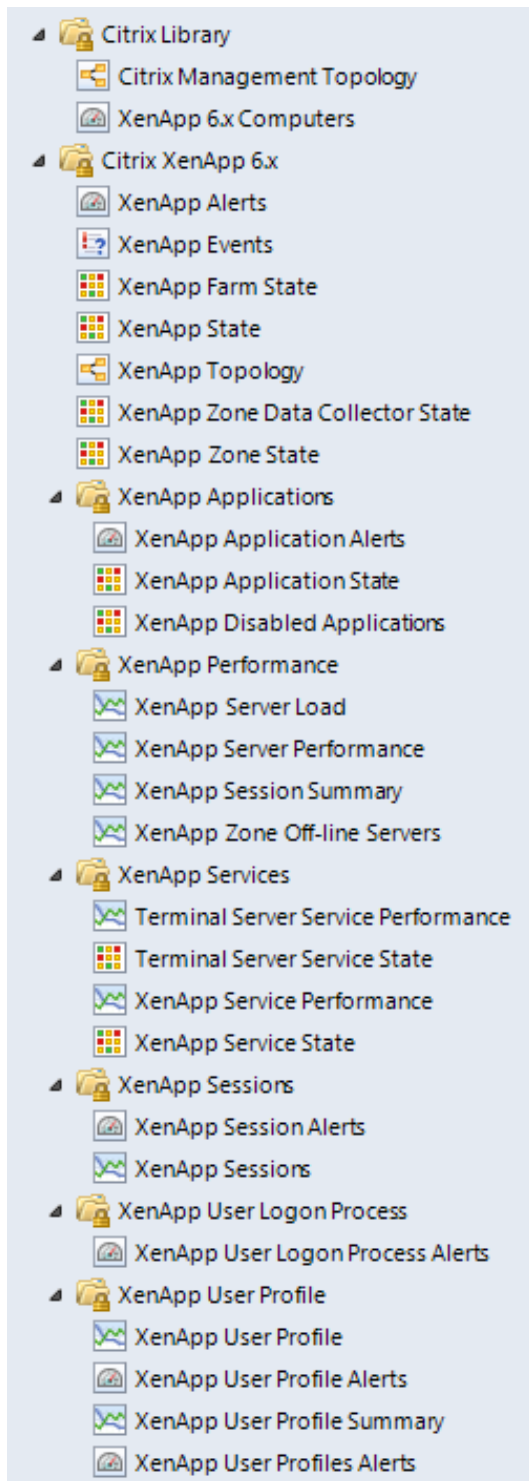
7. In the **Administration** view, expand **Administration > Management Packs** and click **Installed Management Packs** (the navigation pane structure may differ in SCOM versions earlier than 2016).

8. Verify the following management pack versions are listed in the results pane:

Citrix Management Pack for XenApp 6.x	1.45.32.0
Citrix Management Pack for XenApp 6.x Reports	1.45.32.0
Citrix Management Pack Library	1.0.8.0

Configuring SCOM agent to act as proxy on XenApp computers

SCOM agent on each computer where XenApp is installed must be configured to act as a proxy agent. This configuration enables the agent to relay or forward information from or about other computes and network devices to the SCOM management server.

You can either configure SCOM agent instances one by one or you can configure all applicable SCOM agent instances at the same time. The latter scenario is particularly useful in large XenApp environments.

To configure the SCOM agent instances 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 XenApp computer, 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 applicable SCOM agent instances (instances on all discovered XenApp computers) at the same time, do the following:

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

2. Go to **Start > All apps > Citrix** (actions of this step may differ on operating systems earlier than Windows Server 2016).

3. Click **XenApp 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 XenApp 6.x Computers list in the Monitoring view of the SCOM Operations console.

   Note Newly added agent-managed computers may not be immediately visible in the XenApp 6.x Computers list in the SCOM Operations console. Allow some time for the list to get updated.

   This discovery process may take a while.

   Figure The Proxy tab of the Citrix Management Pack Configuration tool
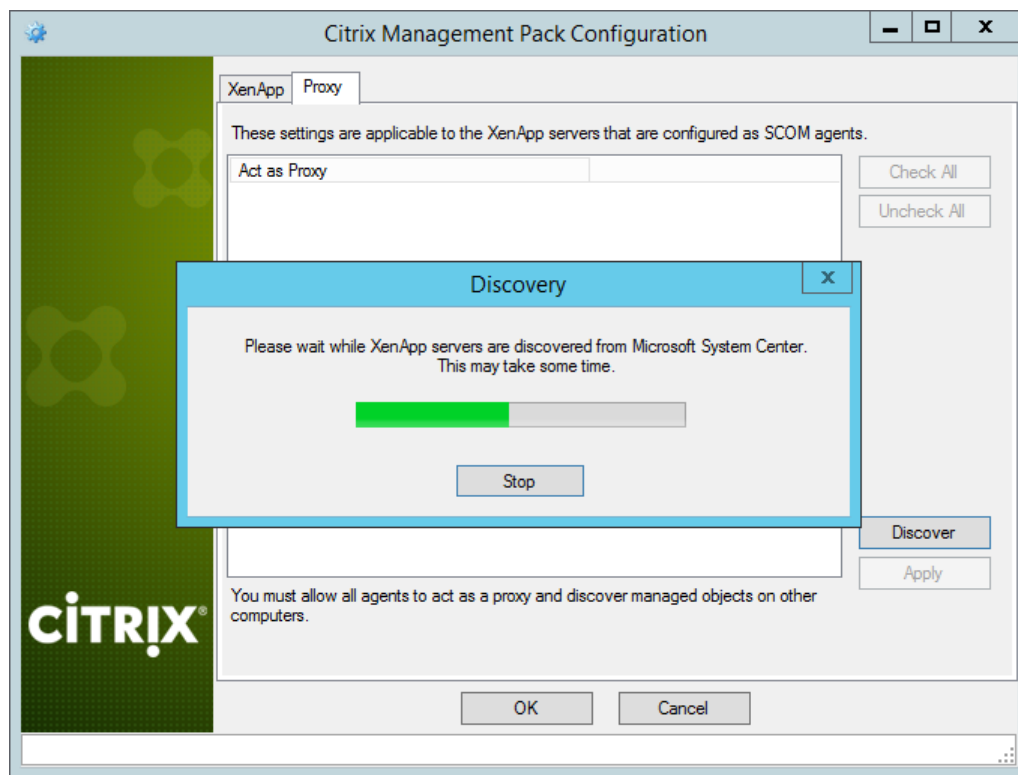
6. Select the XenApp computers or click **Check All** to select all of them. Click **Uncheck All** to clear the selection.

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

8. *Optional.* To cease a SCOM agent instance to act as a proxy agent, 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 XenApp farm administrator accounts**

A farm administrator account needs to be provided to XenApp Management Pack for each XenApp farm that you want to manage. The user account must be the local administrator of each XenApp 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. Go to **Start > All apps > Citrix** (actions of this step may differ on operating systems earlier than Windows Server 2016).

3. Click **XenApp MP Configuration**.

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

5. In the Add XenApp farm admin account dialog box, type the following data in the respective text boxes:

    ○ Farm name

      Tip Click **Discover** to open the Farm name discovery dialog box. You can use it to retrieve the farm name based on a valid host name of some farm member (computer).

    ○ Properties of the farm administrator account:
      – Domain name
      – User name
      – Password

Figure The Add XenApp farm admin account dialog box
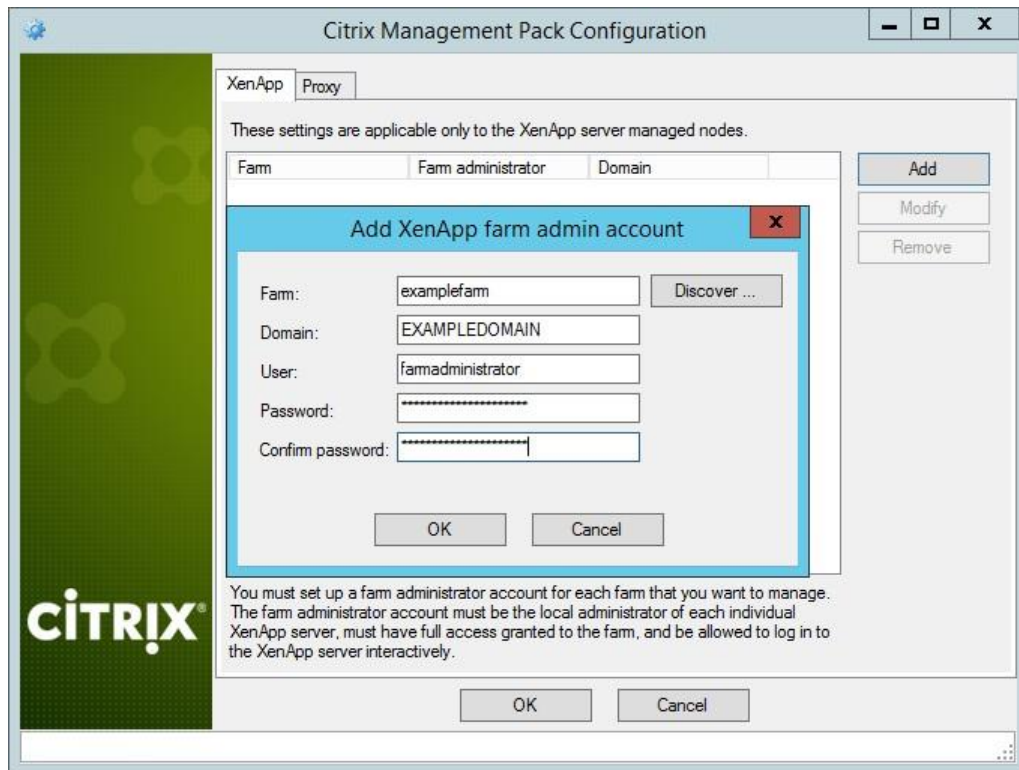
6. Click **OK**.

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 XenApp 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 XenApp farm administration account when XenApp Management Pack Agent is already installed on the XenApp computers, run the `Update Configuration on Citrix MPXA Agent` task from the SCOM Operations console to refresh the local configuration data.

Installing the product on the XenApp computers

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

To install XenApp Management Pack Agent on a XenApp 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 **XenApp 6.x Computers**.

3. In the XenApp 6.x Computers pane, select a XenApp computer from the XenApp 6.x Computers list.

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

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

   ○ **UpgradeAgent**: This option, when set to `true`, causes uninstallation of the existing XenApp 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`

   ○ **Debug**: You *may* not alter this option.

   Default value: `false`

   ○ **AgentInstallationSource**: This option defines location of the Management Pack agent installation package and its configuration files. Specify the value according to relationship between the agent-managed computer and the SCOM management server:

   – If SCOM agent on the agent-managed computer reports only to the management server where XenApp/XenDesktop Management Pack is installed, leave the value empty. The location is automatically determined based on data retrieved from the agent-managed computer. In most cases, the retrieved location host name matches the host name of the management server computer where the installation task is invoked.

   – 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 XenApp/XenDesktop 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 alternative location of the Management Pack agent installation package and its agent 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**: In the current product version, this option has no effect. On an agent-managed computer, the Management Pack agent's program files are always installed to the `%ProgramData%\Citrix\XenApp MP Agent` directory.

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 XenApp 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 MPXA Agent** task to pinpoint the problematic prerequisite.

Tip The Agent installation task can be run for multiple selected XenApp computers.

Verifying the installation and configuration on the XenApp computers

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

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

2. Launch the SCOM Operations console.

3. In the **Monitoring** view, in the left pane, expand **Citrix Library**, and click **XenApp 6.x Computers**.

4. In the XenApp 6.x Computers pane, select the XenApp computer (on which the XenApp Management Pack Agent was just installed) from the XenApp 6.x Computers list.

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

6. Observe the output the task generates. If all checks are denoted successful, the installation and configuration on the XenApp computer are correct.

Chapter 3: Uninstallation

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

Uninstalling the product from the XenApp computers

You can uninstall XenApp Management Pack Agent from the XenApp computers either by using a SCOM task or manually.

To uninstall XenApp Management Pack Agent from a XenApp computer by using a SCOM task, 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 **XenApp 6.x Computers**.

3. In the XenApp 6.x Computers pane, select a XenApp computer from the XenApp 6.x Computers list.

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

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

6. Repeat steps 3 to 5 for each additional XenApp computer.

   Tip The Agent uninstallation task can be run for multiple selected XenApp computers.

To uninstall XenApp Management Pack Agent from a XenApp computer manually, do the following:

1. Log on to the XenApp 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** and click **Programs and Features** (actions of this step may differ on operating systems earlier than Windows Server 2016).

4. Right-click **Citrix SCOM Management Pack Agent for XenApp 6.x** and select **Uninstall**. Wait for the Setup Wizard to appear.

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**.

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 XenApp Management Pack, do the following:

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

2. In the **Administration** view, expand **Administration > Management Packs** and click **Installed Management Packs** (the navigation pane structure may differ in SCOM versions earlier than 2016).

3. In the results pane, locate the management packs that depend on the management packs included in XenApp 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 XenApp Management Pack, do the following:

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

2. In the **Administration** view, expand **Administration > Management Packs** and click **Installed Management Packs** (the navigation pane structure may differ in SCOM versions earlier than 2016).

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.

   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), 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 results pane, right-click **Citrix Management Pack for XenApp 6.x 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 XenApp 6.x**.

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 XenApp 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** and click **Programs and Features** (actions of this step may differ on operating systems earlier than Windows Server 2016).

4. Right-click **Citrix SCOM Management Pack for XenApp 6.x** and select **Uninstall**. Wait for the Setup Wizard to appear.

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. Delete the `%ProgramData%\Citrix\CitrixMPShare\XenApp MP` folder.

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

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.

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

Chapter 4: Usage

Optional configuration

Tuning thresholds for monitors and rules

Some monitors and rules have default thresholds that might need additional tuning to suit your environment. You should evaluate monitors and rules to determine whether the default thresholds are appropriate for your environment. If a default threshold is not appropriate for your environment, you should adjust the threshold by overriding it.

For a complete list of monitors and rules, see the *Citrix SCOM Management Pack for XenApp 6.x Reference Guide*, which you can find in the `Citrix_MPXA_ReferenceGuide.html` file.

Discovering objects

For general information about discovering objects in SCOM, see the "Object Discoveries" section of the [What Is in an Operations Manager Management Pack?](#) webpage on the Microsoft TechNet website.

The following table lists the object types that XenApp Management Pack discovers in the monitored environment.

Table 4.1 Discovered XenApp object types

Object type	Description

	Application	A published application.
	Application Folder	A folder that contains published applications.
	Farm	A XenApp farm.
	Services Group	A folder that contains Terminal Server and XenApp services.
	Terminal Server Service	A Terminal Server service.
	XenApp	A XenApp server.
	XenApp Availability	An object used for monitoring availability of XenApp servers.
	XenApp Farms	The root object for the XenApp Management Pack topology.
	XenApp Folder	A folder that contains XenApp servers.
	XenApp Service	A XenApp service.
	XenApp TCP Probe	An object used for probing various ports on XenApp server.

	Zone	A XenApp zone.
	Zone Data Collector	A special XenApp server that holds information about the zone and published applications.
	Zone Group	A folder that contains zone objects.

Important It may take up to 1 hour for objects to be discovered for the first time.

To check whether any XenApp objects are discovered in your SCOM, do the following:

1. Log on to the management server computer.

2. Launch the SCOM Operations console.

3. In the **Monitoring** view, type `XenApp` in the **Search** text box and then click **Search**.

4. In the Search Window dialog box, browse through the objects listed in the object groups.

Data warehouse sizing

XenApp Management Pack publishes various data in SCOM data warehouse for reporting purposes. Data is stored in the following datasets:

- Event dataset
- Logon Details dataset (XenApp MP)
- Performance dataset
- Process Details dataset (XenApp MP)
- Session Details dataset (XenApp MP)
- State dataset

There are many factors that affect the space consumption on SCOM data warehouse. The amount of data depends on the size of monitored XenApp environment and on the number of enabled data collecting rules.

About XenApp Management Pack datasets

Datasets store data in raw and aggregated form. XenApp Management Pack introduces three custom datasets for detailed user session information, for the user logons and for the detailed process information. All other data is stored in default SCOM datasets. Data retention settings are different for each dataset. For information about default SCOM dataset configuration, see [How to Configure Grooming Settings for the Reporting Data Warehouse Database](#).

Logon Details dataset

Logon Details dataset stores information about user logons (logon time, logon duration, individual logon phase duration etc.). The default data retention is 400 days.

The following reports use user logon details information:

- XenApp logons and published application usage per user
- Server logons
- User logons

User logon information is collected by the `Publish XenApp User Logon Details DW` rule.

Session Details dataset

The Session Details dataset stores detailed information about user sessions (usernames, client info, session names, application names, session CPU, memory and other metrics). The default data retention is 400 days.

The following reports use user session details information:

- XenApp logons and published application usage per user
- XenApp user activity (on published application)
- XenApp user activity (on server)

User session details information is collected by the `Publish XenApp User Session Details DW` rule. The rule is disabled by default with a parameter override. To enable it, create an override and set the `Enabled` parameter to `true`. The rule is targeted on XenApp server and collects detailed session information for each user session every 300 seconds.

Process Details dataset

Process Details dataset stores detailed information about system processes (process name, PID, user name, session ID, CPU usage, page file bytes, working set size, IO operations and page faults). The default data retention is 15 days.

The following reports use process details information:

- XenApp server process performance

Process details information is collected by the `Publish XenApp Process Details DW` rule. The rule is disabled by default with a parameter override. To enable it, create an override and set the `Enabled` parameter to `true`. The rule is targeted on XenApp server and collects detailed process information for a set of processes every 300 seconds. The set of processes is defined by the `CollectionType` rule parameter. For more information, see the rule's product knowledge.

Grooming settings for the Logon Details, Session Details and Process Details datasets

To change grooming settings, do the following:

1. Open **SQL Server Management Studio** and connect to the reporting data warehouse.

2. In the Object Explorer pane, expand **Databases**, expand **OperationsManagerDW** database, and then expand **Tables**.

3. Right-click **dbo.Dataset** and then select **Open Table**.

4. Make a note of DatasetID GUID values for rows with DatasetDefaultName equal to each of the following values:

   - XenApp Logon Details DataSet
   - XenApp Process Details DataSet
   - XenApp Session Details DataSet

5. In the Object Explorer pane, right-click **dbo.StandardDatasetAggregation** and then select **Open Table**.

6. In the DatasetID column, locate the dataset GUID noted in step 4.

7. Locate the MaxDataAgeDays column and edit the value to set the grooming interval.

8. Repeat steps 6 and 7 for the other two GUID values.

Calculating data warehouse space consumption

Size of published data in the SCOM data warehouse is different for each dataset.

Performance Dataset

Most data collection rules in XenApp Management Pack publish data to the performance dataset. Performance dataset keeps hourly and daily aggregated data. SCOM default retention times are as follows:

Raw data	10 days
Hourly aggregations	400 days
Daily aggregations	400 days

Estimated size (data and index size) of each record in Performance dataset is:

Raw data	68 bytes / record
Hourly aggregations	162 bytes / record
Daily aggregations	162 bytes / record

Logon Details Dataset

Logon Details dataset does not aggregate data. Retention time is 400 days.

Estimated size (data and index size) of each record in Logon Details dataset is:

Raw data	131 bytes / record

Session Details Dataset

Session Details dataset keeps raw session data and aggregated billing daily data. Retention time is 400 days.

Estimated size (data and index size) of each record in Session Details dataset is:

Raw data	212 bytes / record
Billing daily aggregations	106 bytes / record

Bear in mind that collecting detailed user session information can significantly impact your SCOM data warehouse size if there are many users using your XenApp environment.

Process Details Dataset

Process Details dataset does not aggregate data. Retention time is 15 days.

Estimated size (data and index size) of each record in Process Details dataset is:

Raw data	166 bytes / record

Calculating data warehouse growth with default XenApp Management Pack configuration

Default XenApp Management Pack configuration includes 15 enabled performance collecting rules, which are targeted on XenApp server. Rules execute every 5 minutes. Most rules collect data for 1 instance per rule. Some rules collect data for multiple instances.

Performance data size per day for *one* XenApp server is calculated with the following formulas:

+ <RAW_Perf_record_size> * <#_raw_samples_per_day> * <#_of_1instance_rules>

+ <HOURLY_Perf_record_size> * <#_hourly_samples_per_day> * <#_of_1instance_rules>

+ <DAILY_Perf_record_size> * <#_daily_samples_per_day> * <#_of_1instance_rules>

+ <RAW_Perf_record_size> * <#_raw_samples_per_day> * <#_of_multiple_instance_rules> * <#_of_instances>

+ <HOURLY_Perf_record_size> * <#_hourly_samples_per_day> * <#_of_multiple_instance_rules> * <#_of_instances>

+ <DAILY_Perf_record_size> * <#_daily_samples_per_day> * <#_of_multiple_instance_rules> * <#_of_instances>

To get the size for the entire environment, multiply this result with the number of XenApp servers.

Sample calculation for a XenApp environment with 10 XenApp servers and 50 published applications is as follows (*we used 11 rules that collect XenApp server related metrics and 4 rules that collect data for all local Applications (instances) on XenApp server*):

```
(    68bytes * 288 samples * 11 rules
+    162 bytes * 24 samples * 11 rules
+    162 bytes * 1 sample * 11 rules
```

```
+       68 bytes * 288 samples * 4 rules * 50 applications (instances)
+      162 bytes * 24 samples  * 4 rules * 50 applications (instances)
+      162 bytes * 1 sample  * 4 rules * 50 applications (instances)
)
* 10 servers
= 47.56 MB per day
```

Because raw data remains in the data warehouse only for 10 days, calculation for long term data consumption should not include size of the RAW data:

```
(      162 bytes * 24 samples * 11 rules
+      162 bytes * 1 sample * 11 rules
+      162 bytes * 24 samples * 4 rules * 50 applications (instances)
+      162 bytes * 1 sample * 4 rules * 50 applications (instances)
)
* 10 servers
= 8.15MB per day
```

Figure Data warehouse performance data growth monthly chart (based on a XenApp environment with 10 XenApp servers and 50 applications)
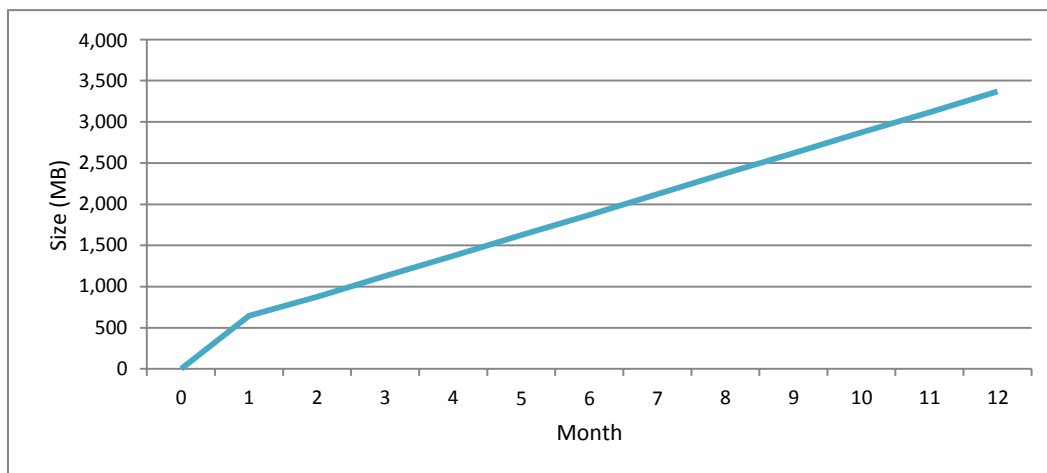
User logon detailed data consumption per day is not very space consuming. This rule intercepts and collects all user logons that occur on a XenApp server.

Formula for DW data size calculation is as follows:

<RAW_Logon_record_size> * <#_of_users> * <# _avg_logons_per_user>

Sample calculation for a XenApp environment with 10 XenApp servers and 50 published applications is as follows (w*e assume that on average each user performs 2 logons per day*):

```
131 bytes * 2 logons * 500 users
= 0.12 MB per day
```

Figure Data warehouse logon data growth monthly chart (based on a XenApp environment with 500 users)
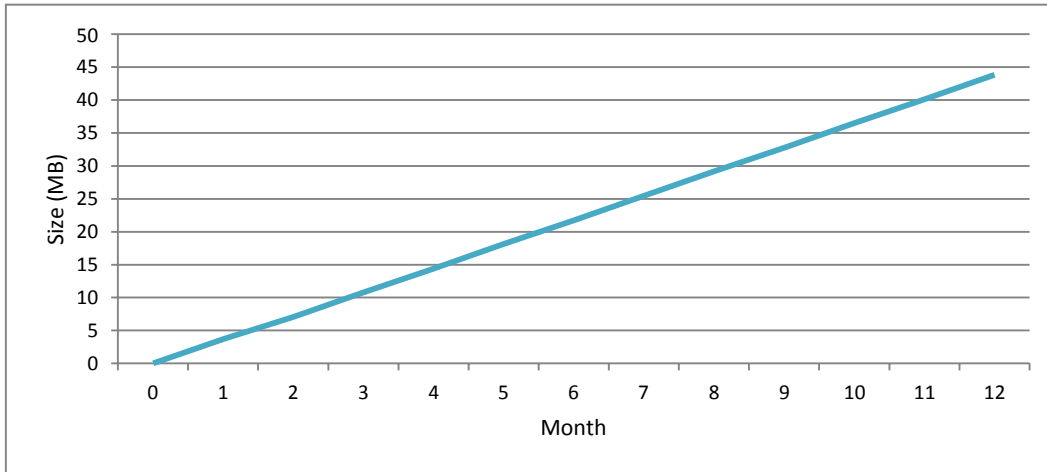
User session detailed data consumption per day is calculated with a different formula. Because collecting session detailed information can be space consuming, the rule for collecting user session details (`Publish XenApp User Session Details DW`) is disabled by default with an override.

The rule executes every 300 seconds and collects all active user sessions on the server. It also tracks all published applications that the user has been using in that session.
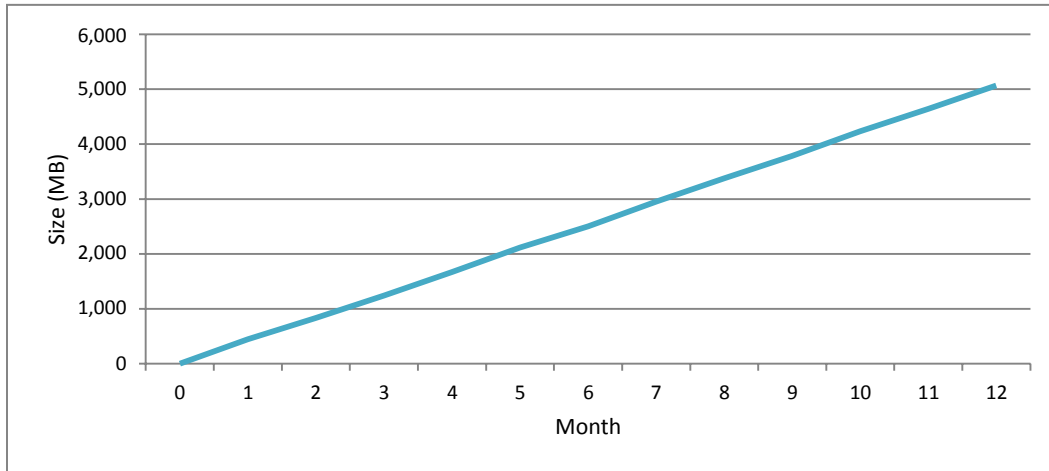
Formula for data size calculation is as follows:

<RAW_Session_record_size> * <#_raw_samples_per_day> * <# _user_sessions> * <#_avg_application_per_user>
+ <DAILY_Billing_Aggregation_record_size> * <# _avg_daily_users> * <#_avg_application_per_user>

Sample calculation for XenApp environment with 10 XenApp servers, 50 Applications and 500 users is as follows (*we assume that each user is using on average 2 applications for 8 hours per day, 5 days per week*):

```
212 bytes * 96 samples * 2 applications * 500 user sessions
+ 106 bytes * 2 applications * 500 users
= 19.56 MB per day = 97.80 MB per week
```

Figure Data warehouse session data growth monthly chart (based on XenApp environment with 500 users running average 2 applications for 8 hours per day, 5 days per week)

Calculating process detailed data consumption per day

Because collecting process detailed information can be space consuming, the rule for collecting process details (Publish XenApp Process Details DW) is disabled by default with an override.

The rule executes every 300 seconds and collects performance metrics for a set of processes on the server.

Formula for data size calculation is as follows:

<RAW_Process_record_size> * <#_raw_samples_per_day> * <# _processes> * <#_servers>

Sample calculation for XenApp environment with 10 XenApp servers, collecting performance metrics for top 10 processes, is as follows (*we assume that each XenApp server is running 24 hours per day, 7 days per week*):

```
166 bytes * 288 samples * 10 processes * 10 servers
= 4.56 MB per day
```

Figure Data warehouse process data growth daily chart (based on XenApp environment with 10 servers, collecting top 10 processes per server)
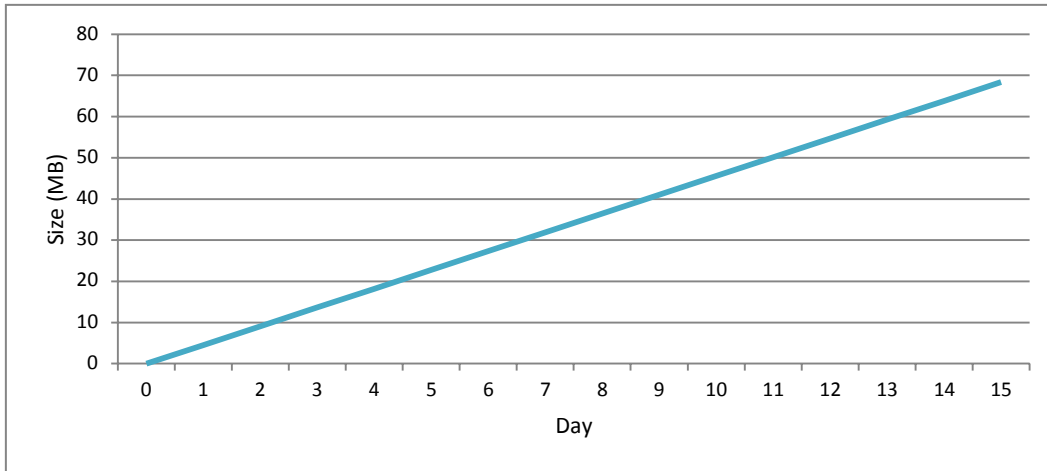
Manually importing included management packs into SCOM

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 XenApp 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**.

    o   Comtrade.Citrix.Library.mp
    o   Comtrade.Citrix.XenApp.mp
    o   Comtrade.Citrix.XenApp.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 XenApp 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.