Citrix SCOM Management Pack for StoreFront

Aug 14, 2017

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Citrix SCOM Management Pack 1.12 for StoreFront

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Citrix SCOM Management Pack for StoreFront 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 StoreFront (**StoreFront**) infrastructure.

With the Citrix SCOM Management Pack for StoreFront, you can improve the StoreFront infrastructure availability and health. If any important part of Citrix environment that StoreFront relies on is not available, the user will not be able to use its resources at all or will be using them with a degraded performance. The Citrix SCOM Management Pack for StoreFront actively monitors the availability of StoreFront and its core components.
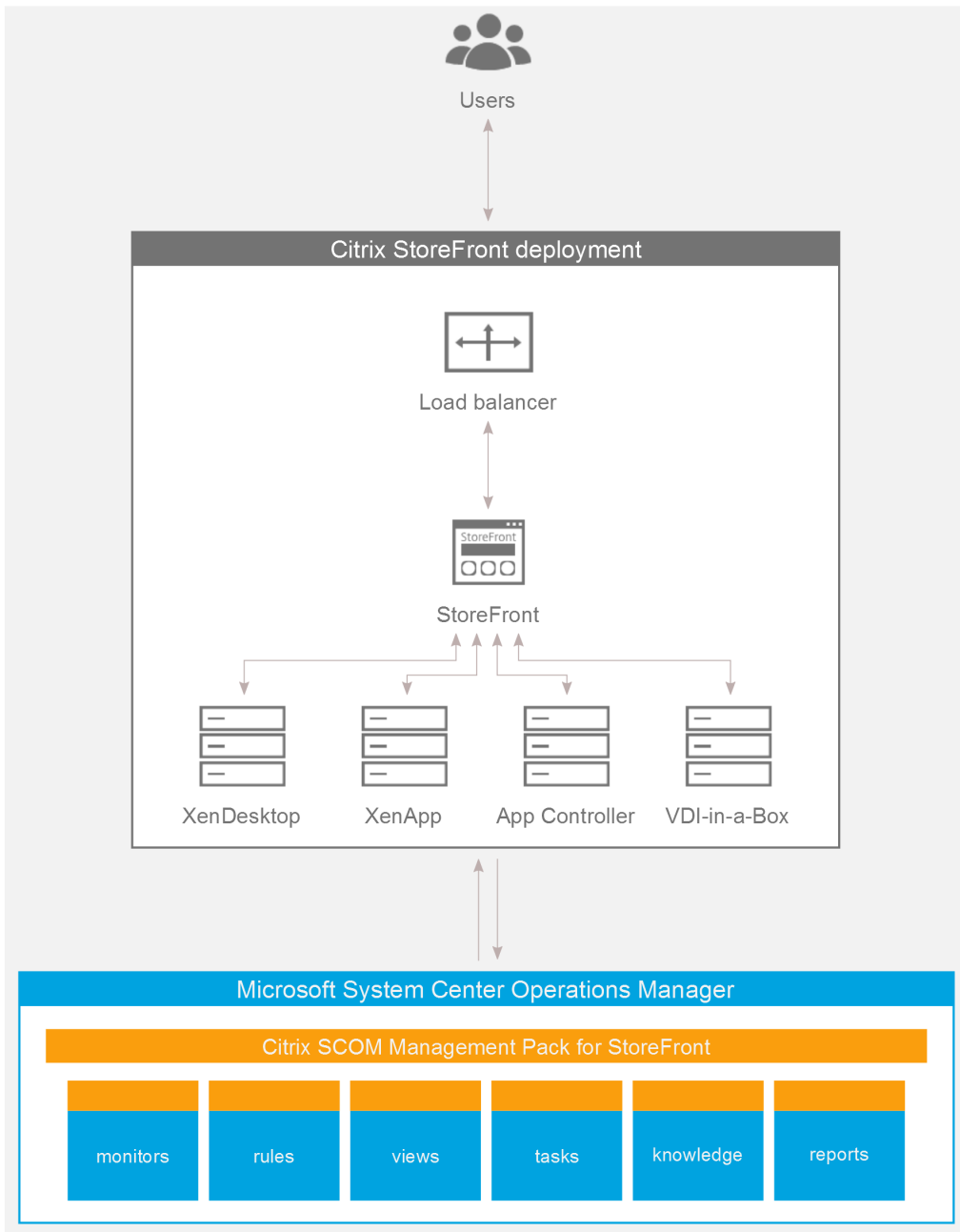
The Citrix SCOM Management Pack for StoreFront fully integrates topology, health, and performance data into SCOM, providing an end-to-end operations overview across the entire StoreFront estate, and enabling delivery of effective business service management.

The Citrix SCOM Management Pack for StoreFront covers the following key scenarios:

- StoreFront environment discovery and its presentation in a topology view
- StoreFront Services probing for each discovered store and measuring response times
- Web page availability and load time monitoring
- Controller connection probing
- StoreFront Services monitoring

Architecture

The following diagram shows how StoreFront Management Pack connects to the SCOM management platform and the StoreFront estate.

Users

Citrix StoreFront deployment

Load balancer

StoreFront

XenDesktop   XenApp   App Controller   VDI-in-a-Box

Microsoft System Center Operations Manager

Citrix SCOM Management Pack for StoreFront

monitors   rules   views   tasks   knowledge   reports

What's new

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Citrix SCOM Management Pack 1.12 for StoreFront introduces the following new or enhanced features:

- **Support for Citrix StoreFront.** Citrix SCOM Management Pack for StoreFront now supports StoreFront version 3.12.

Known issues

The following is a list of known issues in this product version:

- **Issue ID**: SCOM-1200
  Symptom: After installing the Citrix SCOM Management Pack for StoreFront, the states of correctly operating StoreFront computers are shown as Healthy only after the second discovery interval; until then the states are shown as Not monitored. After the second discovery interval, all objects get discovered. Restarting the SCOM agent does not resolve the issue.
  Action: None. There is no workaround available.

- **Issue ID**: n/a
  Symptom: For a monitored Citrix StoreFront server where StoreFront software version 2.0 or 2.1 is installed, the following notification is sent:
  The "StoreFront MP" service on computer " status is not operational.
  Agent Error: 'Workflow ID: agent-service-info-discovery
  Status: successful
  Error Message:
  Workflow ID: server-discovery
  Status: failed
  Error Message: The PS object does not have an 'IsAnonymous' property'.
  Operations Manager Health Explorer shows a healthy state for this server. If you run the **Check Requirements and Configuration** task for the server, it completes without errors.
  Action: Upgrade your Citrix StoreFront software to version 2.5 or later.

- **Issue ID**: SCOM-217 (4285)
  Symptom: Store service probe fails and reports the *No request token choices available* or *There is no ExplicitForms protocol in request token choices or the location is not provided* error.
  This product version supports only the explicit method (user name and password) of the store service authentication.
  Action: Enable the explicit authentication method for the authentication service. For this purpose, create a new user account that has logon permission on the store. The user account does not need administrative privileges. Enter credentials of the user account using the Citrix Management Pack Configuration tool of Citrix SCOM Management Pack for StoreFront. For instructions, see Setting up probing user accounts for StoreFront availability in Install and Configure.

- **Issue ID**: SCOM-2284
  Symptom: If you override the **AgentInstallationSource** parameter with a different source in the **Install Citrix MPSF Agent** or the **Check Installation Prerequisites for Citrix MPSF Agent**, the task might fail with a "Management server not found" error message. This error might occur if the PowerShell version is version 2 or earlier.
  Workaround: Install Citrix Management Pack for StoreFront Agent manually on the StoreFront server instead of using

the tasks, or upgrade PowerShell to version 3 or later.

Fixed issues

None

Upgrading

Note: Product versions earlier than 1.5 were released under the name Comtrade Management Pack for Citrix StoreFront.

Upgrade is available only from versions 1.4 and later. During the upgrade process, the included management packs of the earlier product version are automatically upgraded; their prior removal is not required. Your management pack customization is preserved.

For upgrade instructions, see Upgrading in Install and Configure.

System requirements

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Before installing the Citrix SCOM Management Pack for StoreFront, make sure that your environment meets the requirements listed in this section.

Software requirements

The Citrix SCOM Management Pack for StoreFront requires a supported version of the following products that it integrates with:

● Citrix StoreFront
● Microsoft System Center Operations Manager

Note: Make sure that Microsoft .NET Framework 4.5.2 or later is available on the StoreFront computer.

Supported versions of Citrix StoreFront

Citrix SCOM Management Pack for StoreFront is compatible with the following Citrix StoreFront versions:

Product version	Supported
Citrix StoreFront 3.12	✔
Citrix StoreFront 3.11	✔
Citrix StoreFront 3.9	✔
Citrix StoreFront 3.8	✔
Citrix StoreFront 3.7	✔
Citrix StoreFront 3.6	✔
Citrix StoreFront 3.5	✔
Citrix StoreFront 3.0.1 LTSR	✔
Citrix StoreFront 2.6	✔
Citrix StoreFront 2.5	✔

Citrix StoreFront 2.1	✔
Citrix StoreFront 2.0	✔

Supported versions of SCOM

The product is compatible with the following SCOM versions:

Microsoft System Center Operations Manager version	Supported
Microsoft System Center Operations Manager 2016	✔
Microsoft System Center Operations Manager 2012 R2	✔
Microsoft System Center Operations Manager 2012[1]	✔

[1]This entry covers the following configurations: base release, base release + SP1 (Service Pack 1).

Language support

The product can be deployed and operates correctly in environments where regional settings are configured to use any of the following languages:

Language	Language code	Supported
English	en	✔
Spanish	es	✔

Performance overview

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Generally speaking, Citrix SCOM Management Pack for StoreFront consists of two parts:

- The part installed on the SCOM management server
- Citrix SCOM Management Pack for StoreFront Agent

The SCOM management server-side part

This part is a collection of management packs that include discoveries, monitors, rules, and tasks. From the compute and memory perspective, this part does not significantly add to the basic resource requirements of SCOM management server itself. It is also not resource-intensive in terms of storage requirements of the SCOM reporting data warehouse database. For these reasons, there are no special considerations related to the SCOM management-server part when monitoring larger Citrix StoreFront (**StoreFront**) environments.

Citrix SCOM Management Pack for StoreFront Agent

Performance and resource consumption of Citrix SCOM Management Pack for StoreFront Agent primarily depends on the size of your StoreFront environment, specifically on the number of configured stores. In contrast, they are not influenced by the number of configured StoreFront servers.

Configuration specifications

All figures in this document are valid for environments that:

- Are monitored with the specified product version of Citrix SCOM Management Pack for StoreFront
- Match the documented configuration specifications for StoreFront and SCOM
- Use the default configuration of management packs in terms of which rules and monitors are enabled (this applies to management packs included in the Citrix SCOM Management Pack for StoreFront and management packs bundled with SCOM)
- Use the default configuration of SCOM management server and SCOM agents, without fine-tuning or any special adjustments.

Note: Factors such as different hardware specifications and condition of your environment may cause divergence of your observed values from the documented values.

Validated Citrix SCOM Management Pack for StoreFront version

Validation of the product was performed with the product version listed in the following table.

Product version
Citrix SCOM Management Pack for StoreFront 1.7

Citrix StoreFront configuration

The lab set-up in which the Citrix SCOM Management Pack for StoreFront was validated consisted of two StoreFront servers with identical configuration specifications.

Computer: **StoreFront server**	
Specification item	**Value**
Compute	four virtual CPUs; CPU clock speed of 2.67 GHz
Memory	8 GB of RAM
Software version	Citrix StoreFront 3.6

Citrix XenApp and XenDesktop configuration

The lab set-up used for validation initially comprised thee Citrix XenApp and XenDesktop Delivery Controllers (with identical configuration specifications) assigned to each store. Measurements were repeated in an environment with three Delivery Controllers assigned to each store.

Microsoft System Center Operations Manager configuration specification

With this configuration, the SCOM database and data warehouse server is deployed outside the SCOM management server.

Computer: **SCOM management server**	
Specification item	**Value**
Compute	four virtual CPUs; CPU clock speed of 2.67 GHz
Memory	8 GB of RAM
Software version	Microsoft System Center Operations Manager 2012 R2

Computer: **SCOM database and data warehouse server**	
Specification item	**Value**
Compute	four virtual CPUs; CPU clock speed of 2.67 GHz
Memory	16 GB of RAM

Software version	Microsoft SQL Server 2014

Monitoring ability

The following table does *not* list the extreme limits; it lists the lab set-up in which Citrix SCOM Management Pack for StoreFront was successfully validated with the specified StoreFront, XenApp and XenDesktop, and SCOM configurations.

Maximum number of monitored items

Item	Value
Stores	40
XenApp and XenDesktop Delivery Controllers per store	3

Average resource consumption

Measuring was performed on different validation sets. Windows Performance Monitor was used as the measuring tool. During validation, StoreFront stores were gradually added to the monitored environment.

Average consumption on a StoreFront server

Item	Value for each test set			
	10 stores	**20 stores**	**30 stores**	**40 stores**
MPSFAgent CPU usage[1]	0.05%	0.24%	1.04%	2.24%
HealthService CPU usage	0.00%	0.01%	0.01%	0.02%
MPSFAgent memory usage	155 MB	157 MB	164 MB	168 MB
HealthService memory usage	16 MB	19 MB	18 MB	23 MB

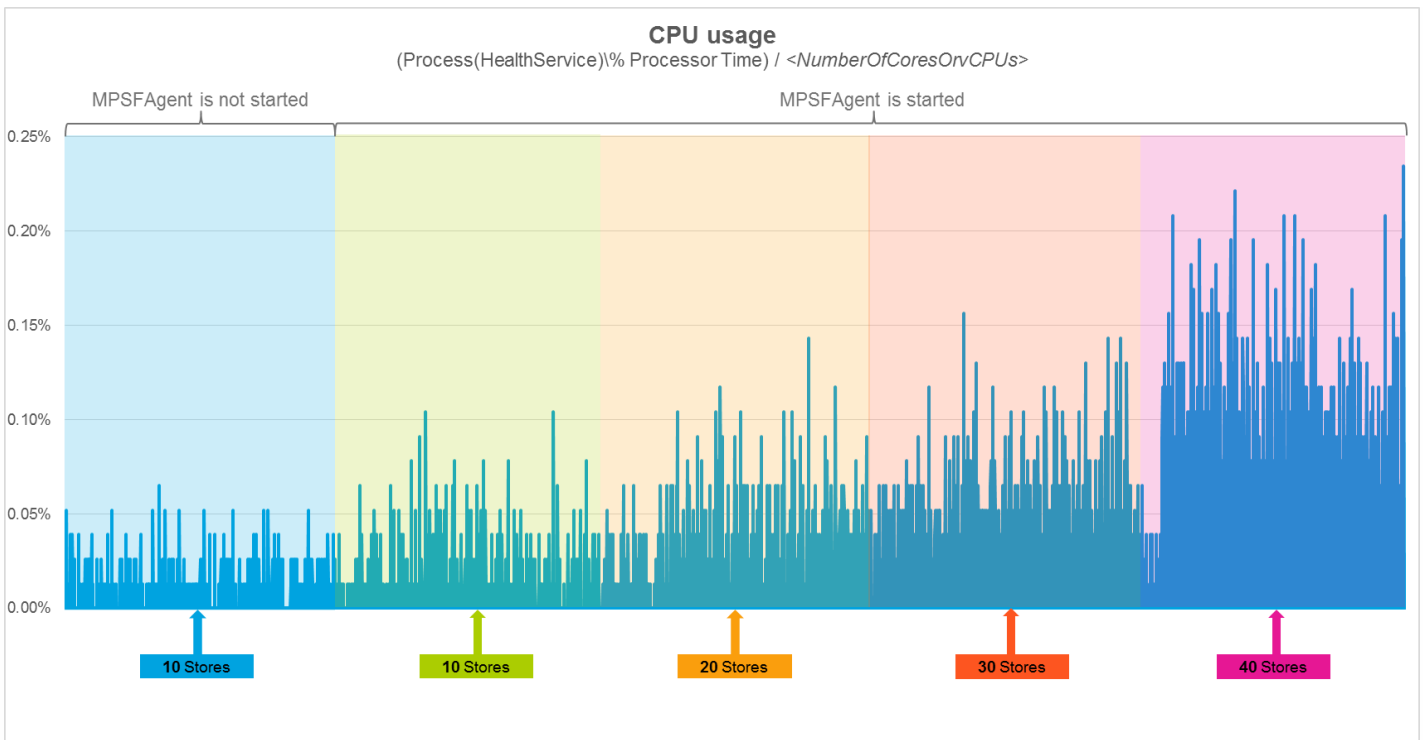[1]CPU usage is calculated based on the *% Processor Time* counter and the number of processor cores or virtual CPUs.

Validation tests indicated that increase in the number of Delivery Controllers per store had negligible effect on CPU usage of the MPSFAgent service. Regardless of this change, spikes in both CPU usage and memory usage occurred.

The following figure shows the CPU usage of *MPSFAgent* through time, measured in four different validation sets.

CPU usage
(Process(ComTrade,MP,StoreFront,Service)\% Processor Time) / *<NumberOfCoresOrvCPUs>*
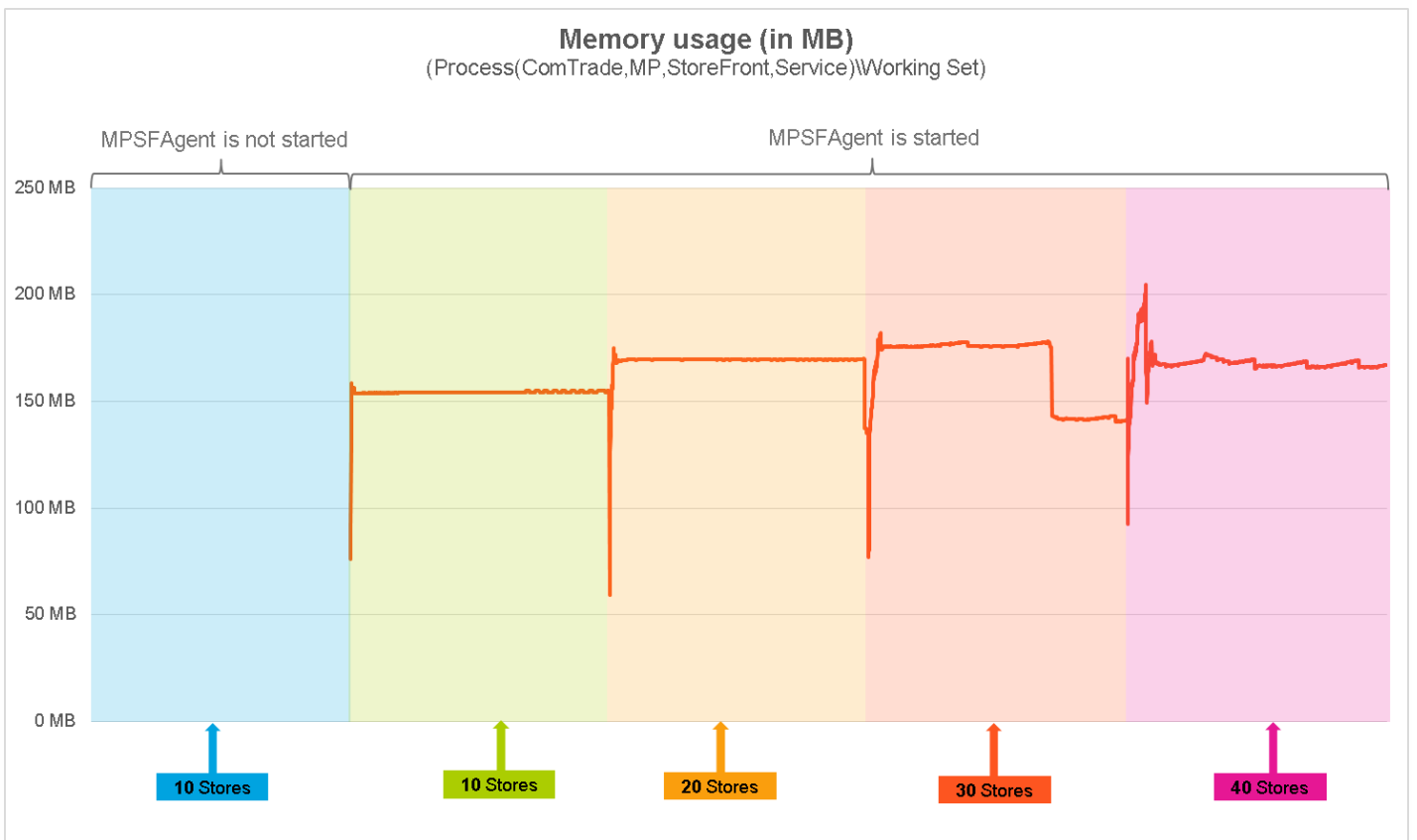
In the figure above, spikes can be seen. As measured in the first, second, third, and fourth validation set, they lasted 1.5, 8.5, 27.5, and 55.5 minutes, respectively. The spikes occurred immediately after the product was deployed and the *MPSFAgent* service was started for the first time.

The following figure shows the CPU usage of *HealthService* through time, measured in four different validation sets.

CPU usage
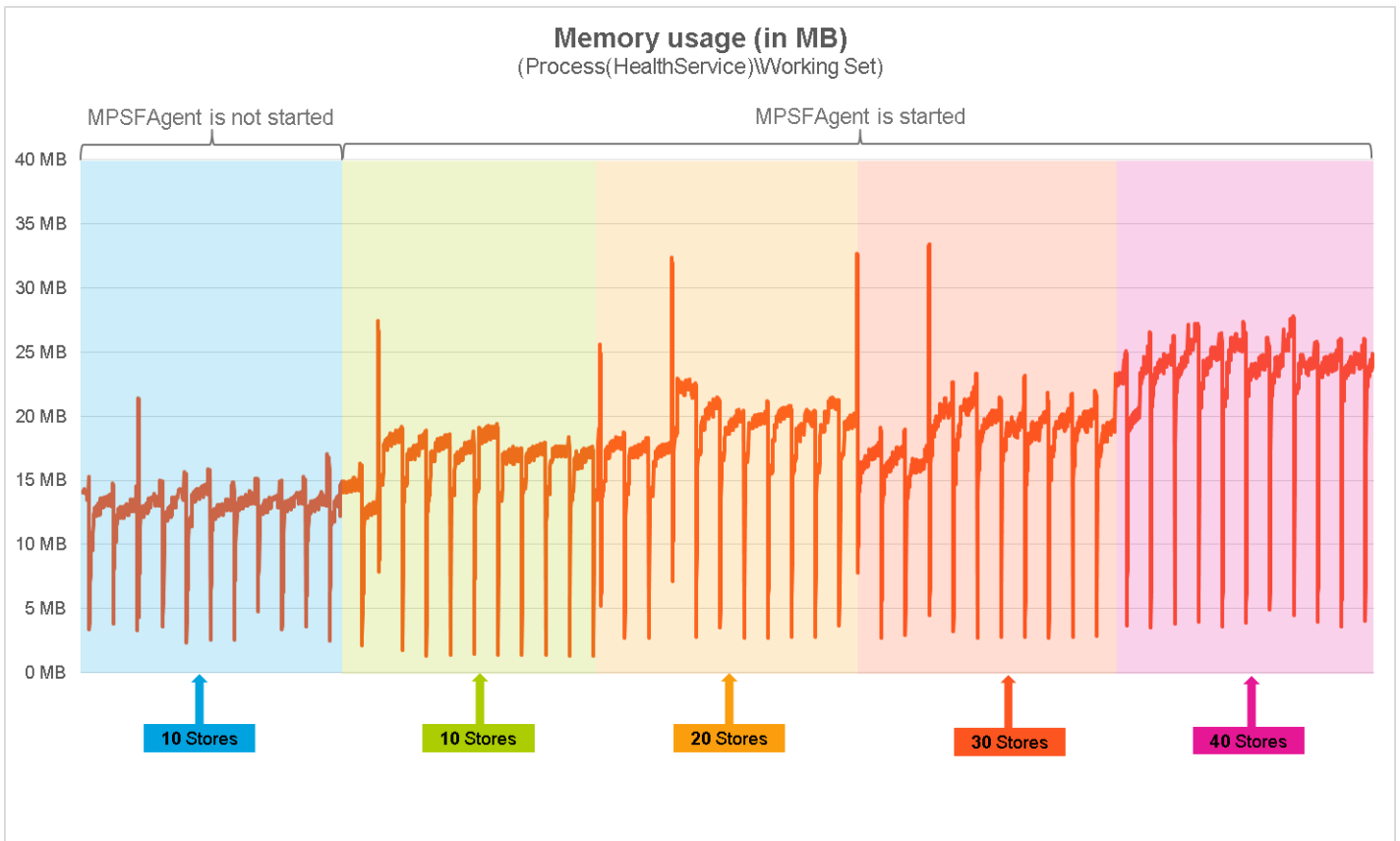(Process(HealthService)\% Processor Time) / *<NumberOfCoresOrvCPUs>*

As the figure above shows, addition of stores does not significantly influence the CPU usage of the SCOM agent (Operations Manager Agent, Microsoft Monitoring Agent).

The following figure shows the memory usage of *MPSFAgent* through time, measured in four different validation sets.

Memory usage (in MB)
(Process(ComTrade,MP,StoreFront,Service)\Working Set)

As the figure above shows, on the StoreFront server there should be approximately 200 MB of physical memory available for the needs of the *MPSFAgent* service.

The following figure depicts the memory usage of *HealthService* through time, measured in four different validation sets.

Memory usage (in MB)
(Process(HealthService)\Working Set)

As the figure above shows, on the StoreFront server, there should be approximately 35 MB of physical memory available for the needs of the *HealthService* service.

Detailed analysis of the sampled data reveals that the Citrix SCOM Management Pack for StoreFront has no significant impact on the compute and memory requirements for the StoreFront server. It also confirms that adding stores to the environment does not degrade the performance of Citrix SCOM Management Pack for StoreFront. There are prolonged periods of high CPU usage in environments with 30 or 40 configured stores. However, such spikes occur only once after the first start of Citrix SCOM Management Pack for StoreFront Agent.

Install and configure

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

Preparing for the installation

Before installing the Citrix SCOM Management Pack for StoreFront, make sure the following prerequisites are fulfilled:

- Your environment meets the software requirements. For software requirements, see System Requirements.
- A computer is chosen on which a SCOM management server resides and where the server side of the Citrix SCOM Management Pack for StoreFront will be installed. This computer is referred to as **SCOM management server**.
- SCOM agent is installed on all the computers that host StoreFront, and these computers are configured as **agent-managed computers** in the SCOM management group.
- A probing user account for actively monitoring the StoreFront computers is chosen. This must be a domain user account.
- With stores configured to allow access by authenticated users only, the Username and password method is configured as the authentication method (the authentication service uses explicit authentication). For more information, see the Create and configure the authentication service webpage.

Installing the product on the SCOM management server

The server-side part of the Citrix SCOM Management Pack for StoreFront must be installed on the SCOM management server.

To install the Citrix SCOM Management Pack for StoreFront on the SCOM management server, do the following:

1. Log on to the management server. Use a user account that has local administrative privileges and SCOM administrative privileges.
2. In Windows Explorer, locate the *Citrix_SCOM_Management_Pack_for_StoreFront_<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, read the end user license agreement carefully. If you accept the terms of the agreement, click **Next**.
6. In the Destination Folder page, define the Citrix SCOM Management Pack for StoreFront installation folder. Citrix recommends that you install Citrix SCOM Management Pack for StoreFront 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 sub-steps:
   1. Click **Change**.
   2. In the Browse For Folder dialog box, browse to a desired installation folder, select it, and click **OK**.
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 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**. Else, 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. 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:

- Citrix SCOM Management Pack for Provisioning Services
- Citrix SCOM Management Pack for ShareFile
- Citrix SCOM Management Pack for Web Interface
- Citrix SCOM Management Pack for XenApp and XenDesktop
- Citrix SCOM Management Pack for XenApp
- Citrix SCOM Management Pack for XenMobile

To configure access to the shared folder for agent installation, do the following:

1. Log on to the SCOM management server. 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 Citrix SCOM Management Pack for StoreFront 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 on 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

To verify that the Citrix SCOM Management Pack for StoreFront installation on the management server is correct, do the following:

1. Log on to the management server.
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 StoreFront
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   COPY

```
net share | findstr -i CitrixMPShare
```

output   COPY

```
CitrixMPShare %ProgramData%\Citrix\CitrixMPShare
```

command   COPY

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

```
output                                                         COPY

  The command completed successfully
```
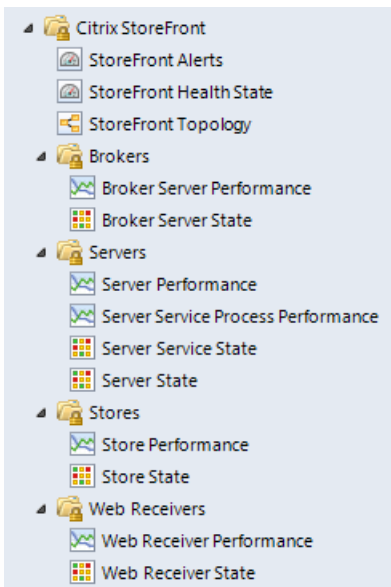
```
command                                                        COPY

  dir \\<ManagementServerHostName>\CitrixMPShare
```

```
output                                                         COPY

  <FolderContents>
```

In these instances, *%ProgramData%* refers to the actual value of this operating system variable. *<ManagementServerHostName>* is the name of the SCOM management server. *<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 Citrix SCOM Management Pack for StoreFront 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.

7. In the **Administration** view, expand **Administration** > **Management Packs** and click I**nstalled 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 StoreFront	1.12.91.0
Citrix Management Pack Library	1.0.38.0

Configuring SCOM agent to act as proxy on StoreFront computers

SCOM agent on each computer where StoreFront 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.

To configure the SCOM agent instances to act as proxy agents, do the following:

1. Launch the SCOM Operations console and connect to the management server.
2. In the **Administration** view, expand **Device Management**, and then click **Agent Managed**.
3. For each StoreFront computer, follow the steps:
    1. Right-click the host name, and select **Properties**.
    2. Click the **Security** tab.
    3. Select the **Allow this agent to act as proxy and discover managed objects on other computers** option.
    4. Click **OK**.

Configuring encryption password

The encryption password is required to generate a key that is used to encrypt the configuration data. Set the encryption password on the first run of the **StoreFront MP Configuration** tool**.**
To set the encryption password:

1. Log on to the management server. 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. Select **StoreFront MP Configuration.**
4. Go to the **Configuration encryption** tab.
5. Click **Set**.
6. In the dialog for inserting the password, type the password and click **Set**.

Note: Setting the encryption password is a prerequisite to saving the configuration data. If the encryption password is not set, the configuration tool automatically starts on the Configuration encryption tab.

Figure Configuration encryption tab of the Citrix Management Pack Configuration tool

The encryption password must be shared with the Citrix SCOM Management Pack for StoreFront Agent to be used to decrypt the configuration data. To share the encryption password, while running the **Install Citrix MPSF Agent** task, override the **Encryption password** parameter with the password you set in Step 3. See the Installing the product on the StoreFront computers section.

To update the encryption password:

1. In the StoreFront MP Configuration tool, go to the **Configuration encryption** tab.
2. Click **Update**.
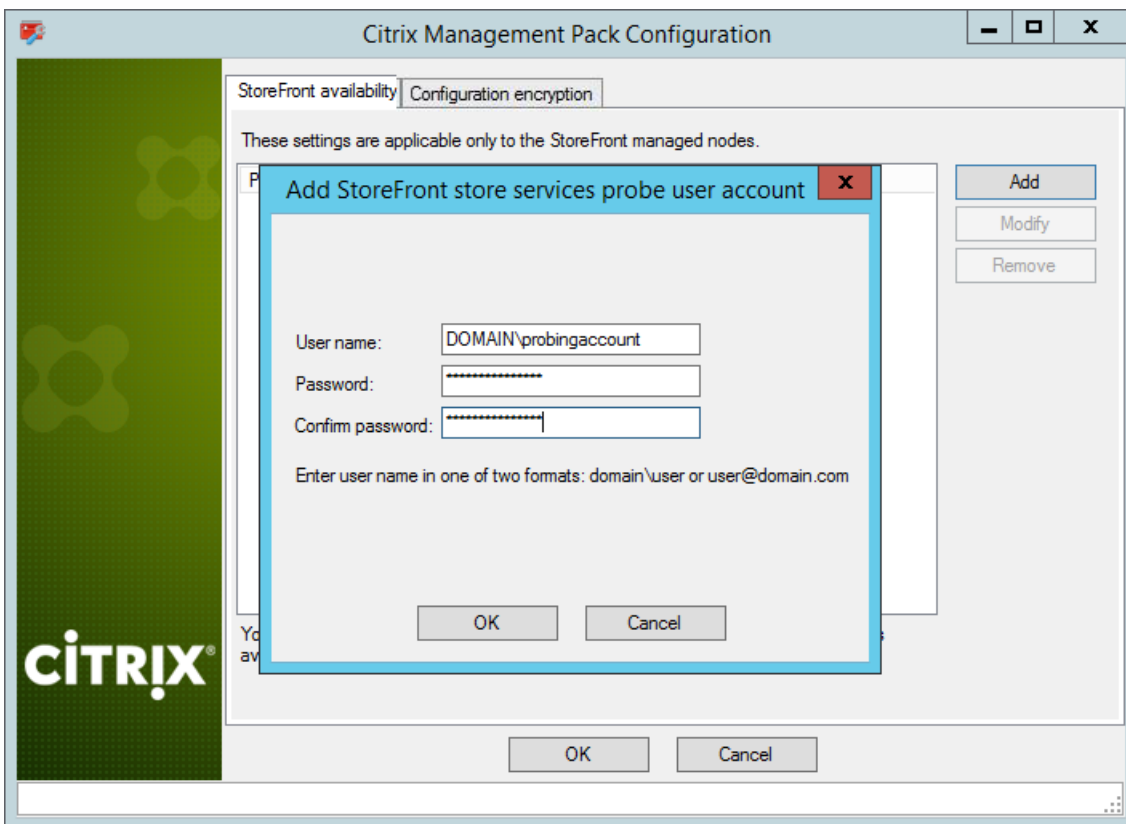3. In the dialog for inserting the password, type the password and click **Update**.

If you update or set the encryption password after the agent is installed, run the **Update Configuration on Citrix MPSF Agent** task. Override the **Encryption password** parameter in these tasks with the updated password.

Setting up probing user accounts for StoreFront availability

For monitoring the StoreFront store services availability, setting up an account that will be used for probing is required.

To set up a probing user account, do the following:

1. Choose an appropriate probing user account for actively monitoring the StoreFront agent-managed computers. The user account does not require administrative privileges, but must have logon rights on the store. Citrix recommends that you use a dedicated user account.
2. Log on to the management server. Use a user account that has local administrative privileges.
3. Go to **Start** > **All apps** > **Citrix** (actions of this step may differ on operating systems earlier than Windows Server 2016).
4. Click **StoreFront MP Configuration**.
5. In the Citrix Management Pack Configuration window, in the StoreFront availability tab, click **Add**.
6. In the Add StoreFront store services probe user account dialog box, type the following data in the respective text boxes:
   - Properties of the probing user account:
     - User name
     - Password

7. Click **OK**.

8. *Optional.* To modify the user name or password for a probing user account configuration, click Modify. In the Modify StoreFront store services probe user account dialog box, modify the data as required, and then click **OK**.

9. *Optional.* To remove a probing user account configuration, click **Remove** and then click **Yes**.

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

Note: If you modify user name or password for a probing user account configuration when the Citrix SCOM Management Pack for StoreFront Agent is already installed on the StoreFront computes, run the *Update Configuration on Citrix MPSF Agent* task from the SCOM Operations console to refresh the local configuration data.

Installing the product on the StoreFront computers

On the StoreFront computers, only the Citrix SCOM Management Pack for StoreFront Agent must be installed.

To install the Management Pack agent on a StoreFront 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 **StoreFront Computers**.
3. In the StoreFront Computers pane, select a StoreFront computer from the StoreFront Computers list.
4. In the Tasks pane, expand **StoreFront Computer Role Tasks**, and then click **Install Citrix MPSF Agent**.
5. In the Run Task - Install Citrix MPSF Agent dialog box, adjust the task parameters as follows:
   - **UpgradeAgent**: This option, when set to *true*, causes uninstallation of the existing Citrix SCOM Management Pack for StoreFront Agent from the agent-managed computer before the current version is installed. Before such uninstallation, SCOM agent must be put into maintenance mode.
     Default value: *false*
   - **IgnorePrereqCheck**: You may not alter this option.
     Default value: *false*
   - **Encryption password:** Override this parameter with the encryption password you set in Step 3 of the Configuring encryption password section.
     Default value: (empty)
   - **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 the Citrix SCOM Management Pack for XenApp and XenDesktop 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 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 where the Citrix SCOM Management Pack for XenApp and XenDesktop is installed.
     - If the agent-managed computer does not have access to the *CitrixMPShare* shared folder on the management server, 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.
   - **AgentInstallationDestination**: This option defines the Management Pack agent's program installation folder on the agent-managed computer. If no value is specified, the Management Pack agent is installed to the *%ProgramFiles%\Citrix\StoreFront MP Agent* folder.
     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 StoreFront 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 MPSF Agent* task to pinpoint the problematic prerequisite.
   Tip: The Agent installation task can be run for multiple selected StoreFront computers.

Verifying the installation and configuration on the StoreFront computers

To verify that the Management Pack agent installation and configuration on a StoreFront 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 click **StoreFront Computers**.
3. In the StoreFront Computers pane, select the StoreFront computer (on which StoreFront Management Pack Agent was just installed) from the StoreFront Computers list.
4. In the Tasks pane, expand **Actions**, and then click **Check Requirements and Configuration for Citrix MPSF Agent**.
5. Observe the output the task generates. If all checks are denoted successful, the installation and configuration on the StoreFront computer are correct.

Uninstallation

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

Uninstalling the product from the StoreFront computers

To uninstall Citrix SCOM Management Pack for StoreFront Agent from a StoreFront 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 **StoreFront Computers**.
3. In the StoreFront Computers pane, select a StoreFront computer from the StoreFront Computers list.
4. In the Tasks pane, expand **Actions**, and then click **Uninstall Citrix MPSF Agent**.
5. In the Run Task - Uninstall Citrix MPSF Agent dialog box, click **Run** to invoke the uninstallation process.
6. Repeat steps 3 to 5 for each additional StoreFront computer.

Tip: The Agent uninstallation task can be run for multiple selected StoreFront 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 the Citrix SCOM Management Pack for StoreFront, 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 StoreFront Management Pack.
4. For each such dependent management pack (except for *Microsoft.SystemCenter.SecureReferenceOverride*), follow the steps:
   1. Right-click it and then click **Delete**.
   2. 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 Citrix SCOM Management Pack for StoreFront, 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:
    1. 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.
    2. 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.
    3. Export the *Microsoft.SystemCenter.SecureReferenceOverride* management pack.
    4. Make a copy of the file you exported the management pack to.
    5. 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.
    6. Import back the altered *Microsoft.SystemCenter.SecureReferenceOverride* management pack from the modified file.
4. In the results pane, right-click **Citrix Management Pack for StoreFront**, 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. Check if other Citrix SCOM Management Pack products are installed on the management server. If none of them is installed, repeat steps 4 and 5 with **Citrix Management Pack Library**.

Uninstalling the product from the SCOM management server

To uninstall Citrix SCOM Management Pack for StoreFront from the SCOM management server, do the following:

1. Log on to the management server. 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 StoreFront** 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\StoreFront MP* folder.
   Caution: This action permanently deletes the Agent configuration data. You will be unable to reuse it at a later time.
9. Check if other Citrix SCOM Management Pack products are installed on the management server. If none of them is installed, follow the steps:
    1. Stop sharing the *CitrixMPShare* shared folder.
    2. Delete the *%ProgramData%\Citrix\CitrixMPShare* folder.
    3. Using an operating system administrative tool, delete the local *CitrixMPShareUsers* user group.

Upgrading

To upgrade Citrix SCOM Management Pack for StoreFront from an earlier version, do the following:

1. Prepare your environment for installation of the new product version. For information, see Preparing for the installation.

2. Install the product (its server-side part) on the SCOM management server. For instructions, see Installing the product on the SCOM management server.
   Note: Installation process upgrades the product while preserving local configuration data.
3. Verify the installation of the product (its server-side part) on the SCOM management server. For instructions, see Verifying the installation on the SCOM management server.
4. (this step is applicable only to upgrade from version 1.4) On the SCOM management server, move the mpsf_config.dat file from the %ProgramData%\ComTrade\MPShare\StoreFront MP folder to the %ProgramData%\Citrix\CitrixMPShare\StoreFront MP folder.
5. (this step is applicable only to upgrade from version 1.4) Configure access to the shared folder for agent installation. For instructions, see Configuring access to the shared folder for agent installation.
6. Install the product (its agent-side part) on the StoreFront computers. For instructions, see Installing the product on the StoreFront computers.
   Important In the Run Task - Install Citrix MPSF Agent dialog box, set the UpgradeAgent task parameter to true.

7. Verify the installation and configuration of the product (its agent-side part) on the StoreFront computers. For instructions, see Verifying the installation and configuration on the StoreFront computers.

Optimize

Aug 14, 2017

For a complete list of the monitors and rules available in Citrix SCOM Management Pack for StoreFront, see the Reference Guide.

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 StoreFront manually, do the following:

1. Log on to the management server.
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 dialog box, 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.StoreFront.mp*
8. Click **Install**.

Customizing sealed management packs

Customization of the sealed management packs that StoreFront Management Pack provides is similar to the default SCOM management pack customization.

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

Citrix SCOM Management Pack 1.11 for StoreFront

Aug 14, 2017

Citrix SCOM Management Pack for StoreFront 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 StoreFront (**StoreFront**) infrastructure.

With the Citrix SCOM Management Pack for StoreFront, you can improve the StoreFront infrastructure availability and health. If any important part of Citrix environment that StoreFront relies on is not available, the user will not be able to use its resources at all or will be using them with a degraded performance. The Citrix SCOM Management Pack for StoreFront actively monitors the availability of StoreFront and its core components.
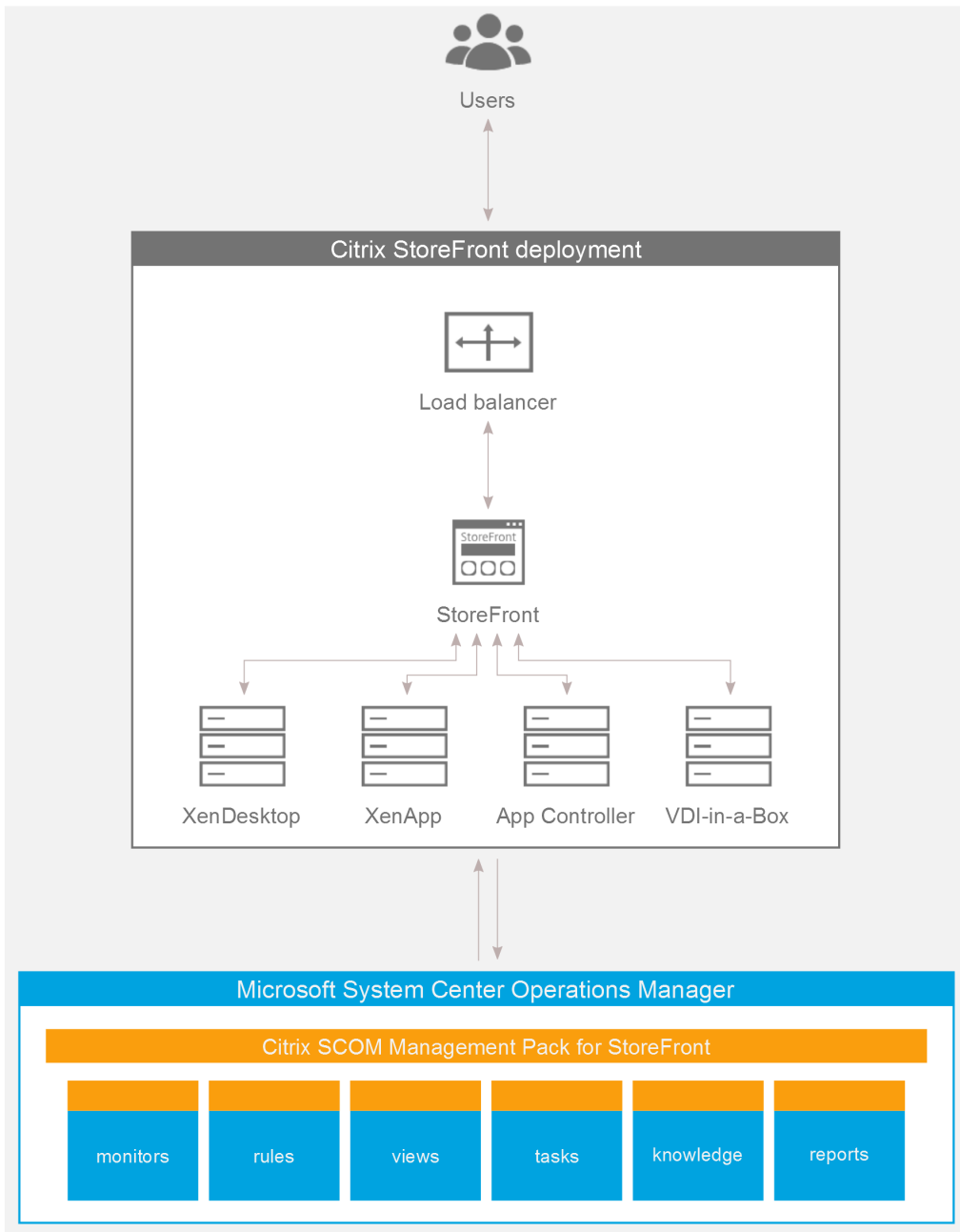
The Citrix SCOM Management Pack for StoreFront fully integrates topology, health, and performance data into SCOM, providing an end-to-end operations overview across the entire StoreFront estate, and enabling delivery of effective business service management.

The Citrix SCOM Management Pack for StoreFront covers the following key scenarios:

- StoreFront environment discovery and its presentation in a topology view
- StoreFront Services probing for each discovered store and measuring response times
- Web page availability and load time monitoring
- Controller connection probing
- StoreFront Services monitoring

Architecture

The following diagram shows how StoreFront Management Pack connects to the SCOM management platform and the StoreFront estate.

Users

Citrix StoreFront deployment

Load balancer

StoreFront

XenDesktop   XenApp   App Controller   VDI-in-a-Box

Microsoft System Center Operations Manager

Citrix SCOM Management Pack for StoreFront

| monitors | rules | views | tasks | knowledge | reports |

What's new

Aug 14, 2017

Citrix SCOM Management Pack 1.11 for StoreFront introduces the following new or enhanced features:

- **Support for Citrix StoreFront.** Citrix SCOM Management Pack for StoreFront now supports StoreFront version 3.11.

- **Enhanced handling of configuration data.** Configuration data handling is now improved; it is encrypted using a user-supplied key for improved security. For more information, see Configure encryption password in Install and configure.

- **TLS 1.2 support**. Citrix SCOM Management Pack for StoreFront is enhanced to monitor Citrix StoreFront servers that have TLS (Transport Layer Security) protocol version 1.2 enabled.

Known issues

The following is a list of known issues in this product version.

- **Issue ID**: SCOM-1200
  Symptom: After installing the Citrix SCOM Management Pack for StoreFront, the states of correctly operating StoreFront computers are shown as Healthy only after the second discovery interval; until then the states are shown as Not monitored. After the second discovery interval, all objects get discovered. Restarting the SCOM agent does not resolve the issue.
  Action: None. There is no workaround available.

- **Issue ID**: n/a
  Symptom: For a monitored Citrix StoreFront server where StoreFront software version 2.0 or 2.1 is installed, the following notification is sent:
  The "StoreFront MP" service on computer " status is not operational.
  Agent Error: 'Workflow ID: agent-service-info-discovery
  Status: successful
  Error Message:
  Workflow ID: server-discovery
  Status: failed
  Error Message: The PS object does not have an 'IsAnonymous' property'.
  Operations Manager Health Explorer shows a healthy state for this server. If you run the **Check Requirements and Configuration** task for the server, it completes without errors.
  Action: Upgrade your Citrix StoreFront software to version 2.5 or later.

- **Issue ID**: SCOM-217 (4285)
  Symptom: Store service probe fails and reports the No request token choices available or There is no ExplicitForms protocol in request token choices or the location is not provided error.
  This product version supports only the explicit method (user name and password) of the store service authentication.
  Action: Enable the explicit authentication method for the authentication service. For this purpose, create a new user account that has logon permission on the store. The user account does not need administrative privileges. Enter credentials of the user account using the Citrix Management Pack Configuration tool of Citrix SCOM Management Pack for StoreFront. For instructions, see Setting up probing user accounts for StoreFront availability in Install and Configure.

Fixed issues

The following issue is fixed in this product version:

- **Issue ID**: SCOM-1698
  Symptom: The Citrix SCOM Management Pack for StoreFront Agent might not get upgraded during an upgrade invoked either locally on the StoreFront computer or remotely from the SCOM Operations console. The upgrade process initially removes the *Citrix MPSF Agent* service. However, the previously installed agent package is not replaced and the earlier program version remains registered with the operating system.

Upgrading

Note: Product versions earlier than 1.5 were released under the name Comtrade Management Pack for Citrix StoreFront.

Upgrade is available only from versions 1.4 and later. During the upgrade process, the included management packs of the earlier product version are automatically upgraded; their prior removal is not required. Your management pack customization is preserved.

For upgrade instructions, see Upgrading in Install and Configure.

System requirements

Aug 14, 2017

Before installing the Citrix SCOM Management Pack for StoreFront, make sure that your environment meets the requirements listed in this section.

Software requirements

The Citrix SCOM Management Pack for StoreFront requires a supported version of the following products that it integrates with:

- Citrix StoreFront
- Microsoft System Center Operations Manager

Note: Make sure that Microsoft .NET Framework 4.5.2 or later is available on the StoreFront computer.

Supported versions of Citrix StoreFront

Citrix SCOM Management Pack for StoreFront is compatible with the following Citrix StoreFront versions:

Product version	Supported
Citrix StoreFront 3.11	✔
Citrix StoreFront 3.9	✔
Citrix StoreFront 3.8	✔
Citrix StoreFront 3.7	✔
Citrix StoreFront 3.6	✔
Citrix StoreFront 3.5	✔
Citrix StoreFront 3.0.1 LTSR	✔
Citrix StoreFront 2.6	✔
Citrix StoreFront 2.5	✔
Citrix StoreFront 2.1	✔

Citrix StoreFront 2.0	✔

Supported versions of SCOM

The product is compatible with the following SCOM versions:

Microsoft System Center Operations Manager version	Supported
Microsoft System Center Operations Manager 2016	✔
Microsoft System Center Operations Manager 2012 R2	✔
Microsoft System Center Operations Manager 2012[1]	✔

[1]This entry covers the following configurations: base release, base release + SP1 (Service Pack 1).

Language support

The product can be deployed and operates correctly in environments where regional settings are configured to use any of the following languages:

Language	Language code	Supported
English	en	✔
Spanish	es	✔

Performance overview

Aug 14, 2017

Generally speaking, Citrix SCOM Management Pack for StoreFront consists of two parts:

- The part installed on the SCOM management server
- Citrix SCOM Management Pack for StoreFront Agent

The SCOM management server-side part

This part is a collection of management packs that include discoveries, monitors, rules, and tasks. From the compute and memory perspective, this part does not significantly add to the basic resource requirements of SCOM management server itself. It is also not resource-intensive in terms of storage requirements of the SCOM reporting data warehouse database. For these reasons, there are no special considerations related to the SCOM management-server part when monitoring larger Citrix StoreFront (**StoreFront**) environments.

Citrix SCOM Management Pack for StoreFront Agent

Performance and resource consumption of Citrix SCOM Management Pack for StoreFront Agent primarily depends on the size of your StoreFront environment, specifically on the number of configured stores. In contrast, they are not influenced by the number of configured StoreFront servers.

Configuration specifications

All figures in this document are valid for environments that:

- Are monitored with the specified product version of Citrix SCOM Management Pack for StoreFront
- Match the documented configuration specifications for StoreFront and SCOM
- Use the default configuration of management packs in terms of which rules and monitors are enabled (this applies to management packs included in the Citrix SCOM Management Pack for StoreFront and management packs bundled with SCOM)
- Use the default configuration of SCOM management server and SCOM agents, without fine-tuning or any special adjustments.

Note: Factors such as different hardware specifications and condition of your environment may cause divergence of your observed values from the documented values.

Validated Citrix SCOM Management Pack for StoreFront version

Validation of the product was performed with the product version listed in the following table.

Product version
Citrix SCOM Management Pack for StoreFront 1.7

Citrix StoreFront configuration

The lab set-up in which the Citrix SCOM Management Pack for StoreFront was validated consisted of two StoreFront servers with identical configuration specifications.

Computer: **StoreFront server**	
Specification item	**Value**
Compute	four virtual CPUs; CPU clock speed of 2.67 GHz
Memory	8 GB of RAM
Software version	Citrix StoreFront 3.6

Citrix XenApp and XenDesktop configuration

The lab set-up used for validation initially comprised thee Citrix XenApp and XenDesktop Delivery Controllers (with identical configuration specifications) assigned to each store. Measurements were repeated in an environment with three Delivery Controllers assigned to each store.

Microsoft System Center Operations Manager configuration specification

With this configuration, the SCOM database and data warehouse server is deployed outside the SCOM management server.

Computer: **SCOM management server**	
Specification item	**Value**
Compute	four virtual CPUs; CPU clock speed of 2.67 GHz
Memory	8 GB of RAM
Software version	Microsoft System Center Operations Manager 2012 R2

Computer: **SCOM database and data warehouse server**	
Specification item	**Value**
Compute	four virtual CPUs; CPU clock speed of 2.67 GHz
Memory	16 GB of RAM

Software version	Microsoft SQL Server 2014

Monitoring ability

The following table does *not* list the extreme limits; it lists the lab set-up in which Citrix SCOM Management Pack for StoreFront was successfully validated with the specified StoreFront, XenApp and XenDesktop, and SCOM configurations.

Maximum number of monitored items

Item	Value
Stores	40
XenApp and XenDesktop Delivery Controllers per store	3

Average resource consumption

Measuring was performed on different validation sets. Windows Performance Monitor was used as the measuring tool. During validation, StoreFront stores were gradually added to the monitored environment.

Average consumption on a StoreFront server

Item	Value for each test set			
	10 stores	20 stores	30 stores	40 stores
MPSFAgent CPU usage[1]	0.05%	0.24%	1.04%	2.24%
HealthService CPU usage	0.00%	0.01%	0.01%	0.02%
MPSFAgent memory usage	155 MB	157 MB	164 MB	168 MB
HealthService memory usage	16 MB	19 MB	18 MB	23 MB

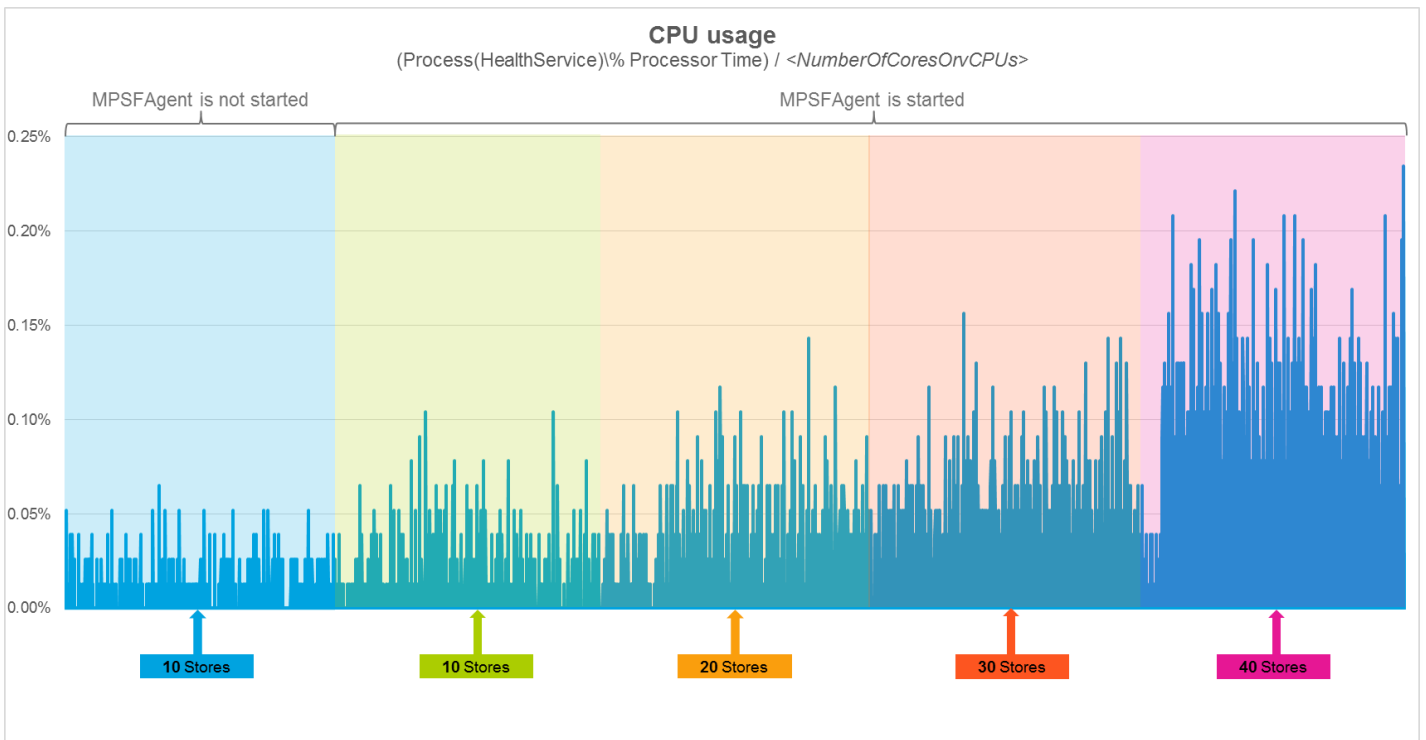[1]CPU usage is calculated based on the *% Processor Time* counter and the number of processor cores or virtual CPUs.

Validation tests indicated that increase in the number of Delivery Controllers per store had negligible effect on CPU usage of the MPSFAgent service. Regardless of this change, spikes in both CPU usage and memory usage occurred.

The following figure shows the CPU usage of *MPSFAgent* through time, measured in four different validation sets.

CPU usage
(Process(ComTrade,MP,StoreFront,Service)\% Processor Time) / *<NumberOfCoresOrvCPUs>*

MPSFAgent is not started   MPSFAgent is started

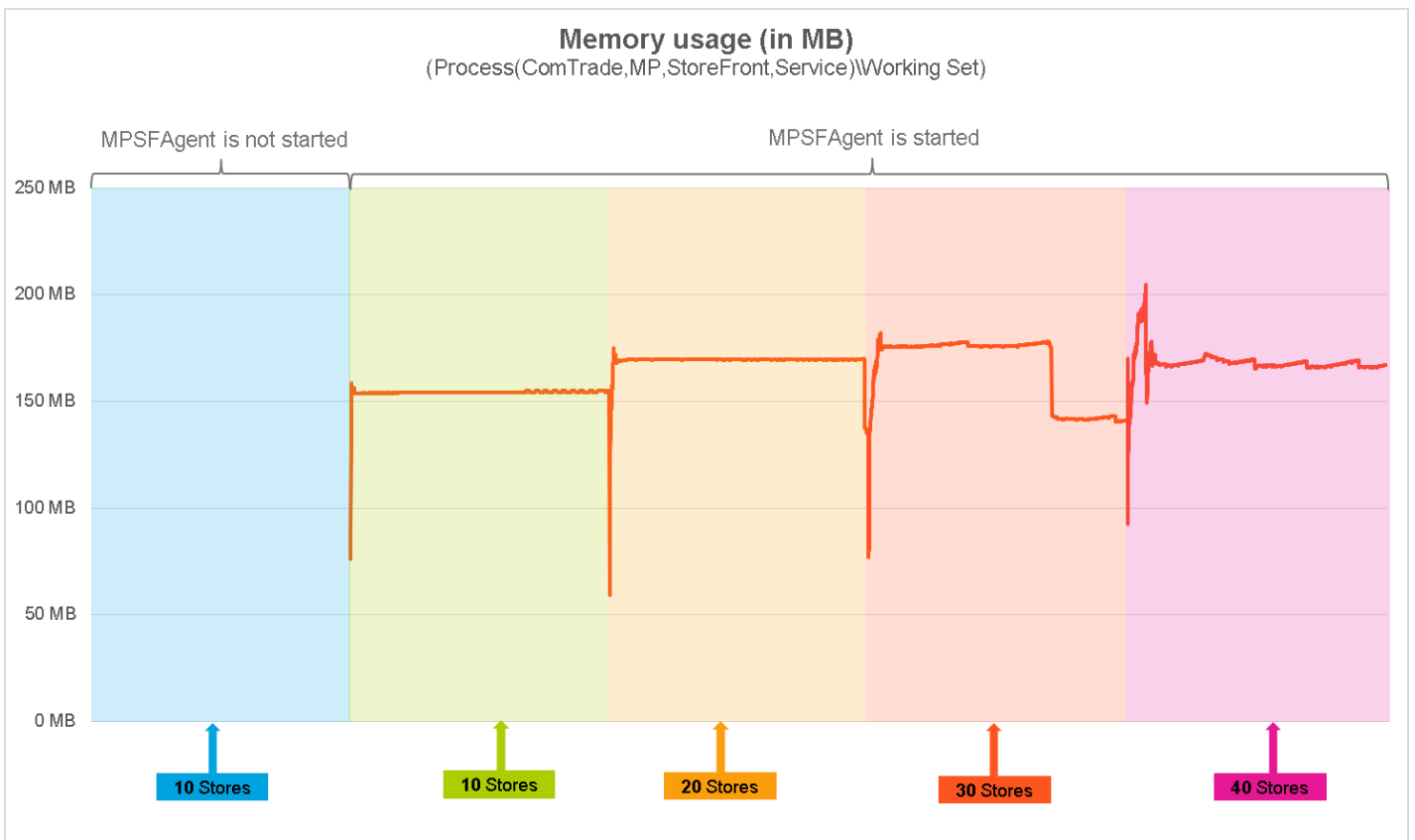10 Stores   10 Stores   20 Stores   30 Stores   40 Stores

In the figure above, spikes can be seen. As measured in the first, second, third, and fourth validation set, they lasted 1.5, 8.5, 27.5, and 55.5 minutes, respectively. The spikes occurred immediately after the product was deployed and the *MPSFAgent* service was started for the first time.

The following figure shows the CPU usage of *HealthService* through time, measured in four different validation sets.

CPU usage
(Process(HealthService)\% Processor Time) / *<NumberOfCoresOrvCPUs>*
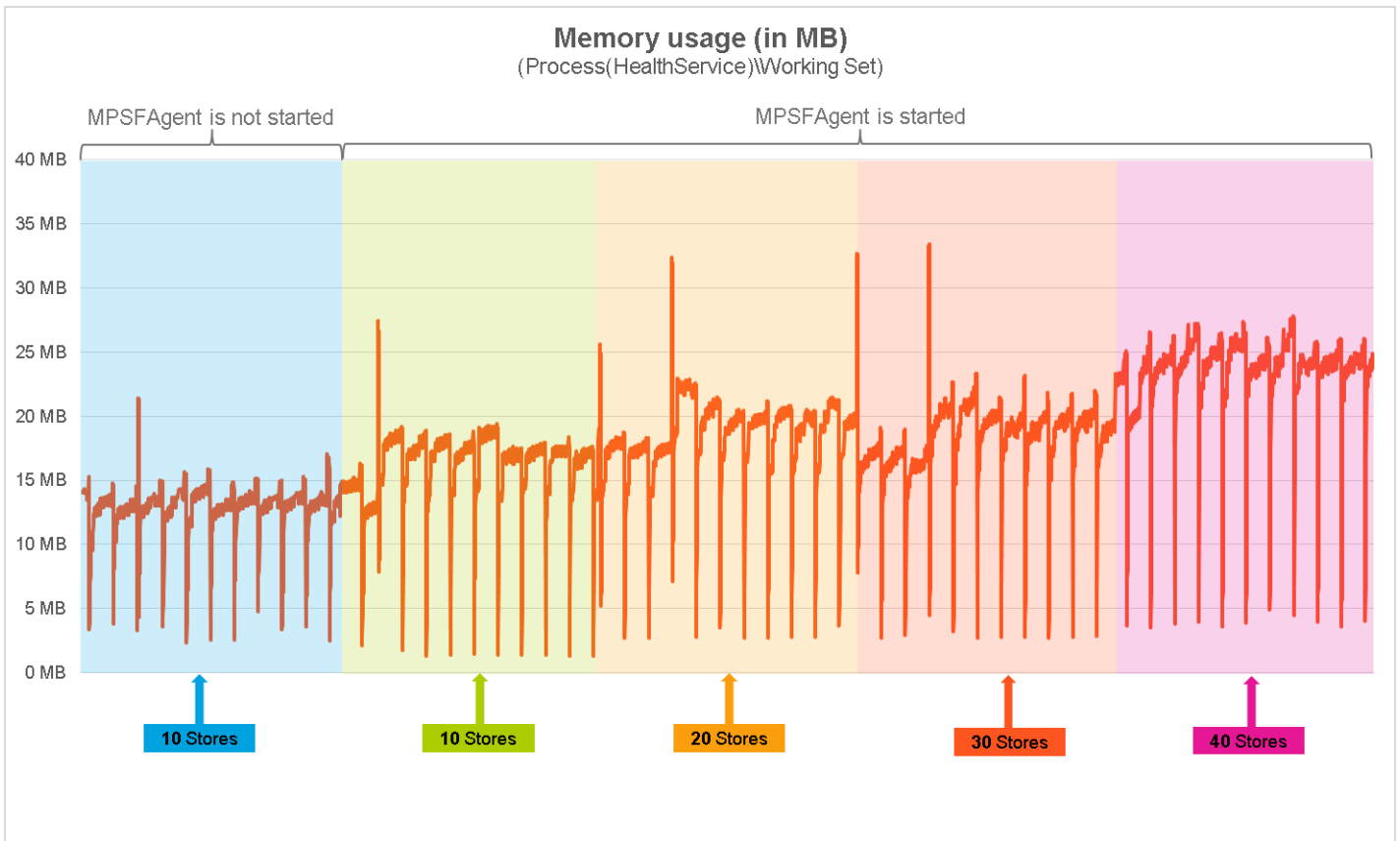
As the figure above shows, addition of stores does not significantly influence the CPU usage of the SCOM agent (Operations Manager Agent, Microsoft Monitoring Agent).

The following figure shows the memory usage of *MPSFAgent* through time, measured in four different validation sets.

Memory usage (in MB)
(Process(ComTrade,MP,StoreFront,Service)\Working Set)

As the figure above shows, on the StoreFront server there should be approximately 200 MB of physical memory available for the needs of the *MPSFAgent* service.

The following figure depicts the memory usage of *HealthService* through time, measured in four different validation sets.

As the figure above shows, on the StoreFront server, there should be approximately 35 MB of physical memory available for the needs of the *HealthService* service.

Detailed analysis of the sampled data reveals that the Citrix SCOM Management Pack for StoreFront has no significant impact on the compute and memory requirements for the StoreFront server. It also confirms that adding stores to the environment does not degrade the performance of Citrix SCOM Management Pack for StoreFront. There are prolonged periods of high CPU usage in environments with 30 or 40 configured stores. However, such spikes occur only once after the first start of Citrix SCOM Management Pack for StoreFront Agent.

Install and configure

Aug 14, 2017

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

Preparing for the installation

Before installing the Citrix SCOM Management Pack for StoreFront, make sure the following prerequisites are fulfilled:

- Your environment meets the software requirements. For software requirements, see System Requirements.
- A computer is chosen on which a SCOM management server resides and where the server side of the Citrix SCOM Management Pack for StoreFront will be installed. This computer is referred to as **SCOM management server**.
- SCOM agent is installed on all the computers that host StoreFront, and these computers are configured as **agent-managed computers** in the SCOM management group.
- A probing user account for actively monitoring the StoreFront computers is chosen. This must be a domain user account.
- With stores configured to allow access by authenticated users only, the Username and password method is configured as the authentication method (the authentication service uses explicit authentication). For more information, see the Create and configure the authentication service webpage.

Installing the product on the SCOM management server

The server-side part of the Citrix SCOM Management Pack for StoreFront must be installed on the SCOM management server.

To install the Citrix SCOM Management Pack for StoreFront on the SCOM management server, do the following:

1. Log on to the management server. Use a user account that has local administrative privileges and SCOM administrative privileges.
2. In Windows Explorer, locate the *Citrix_SCOM_Management_Pack_for_StoreFront_<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, read the end user license agreement carefully. If you accept the terms of the agreement, click **Next**.
6. In the Destination Folder page, define the Citrix SCOM Management Pack for StoreFront installation folder. Citrix recommends that you install Citrix SCOM Management Pack for StoreFront 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 sub-steps:
   1. Click **Change**.
   2. In the Browse For Folder dialog box, browse to a desired installation folder, select it, and click **OK**.
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 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**. Else, 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. 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:

- Citrix SCOM Management Pack for Provisioning Services
- Citrix SCOM Management Pack for ShareFile
- Citrix SCOM Management Pack for Web Interface
- Citrix SCOM Management Pack for XenApp and XenDesktop
- Citrix SCOM Management Pack for XenApp
- Citrix SCOM Management Pack for XenMobile

To configure access to the shared folder for agent installation, do the following:

1. Log on to the SCOM management server. 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 Citrix SCOM Management Pack for StoreFront 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 on 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

To verify that the Citrix SCOM Management Pack for StoreFront installation on the management server is correct, do the following:

1. Log on to the management server.
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 StoreFront
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	COPY

```
net share | findstr -i CitrixMPShare
```

output	COPY

```
CitrixMPShare %ProgramData%\Citrix\CitrixMPShare
```

command	COPY

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

```
output                                                                    COPY

  The command completed successfully
```
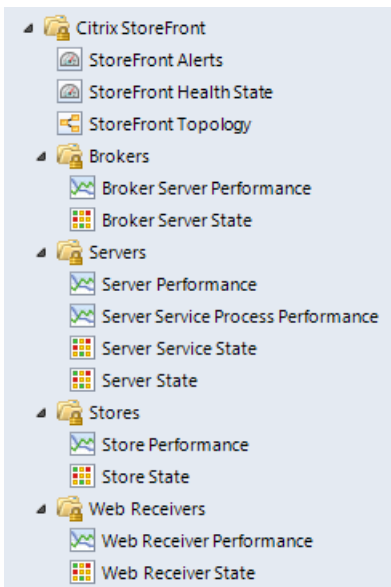
```
command                                                                   COPY

  dir \\<ManagementServerHostName>\CitrixMPShare
```

```
output                                                                    COPY

  <FolderContents>
```

In these instances, *%ProgramData%* refers to the actual value of this operating system variable. *<ManagementServerHostName>* is the name of the SCOM management server. *<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 Citrix SCOM Management Pack for StoreFront 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.

7. In the **Administration** view, expand **Administration** > **Management Packs** and click I**nstalled 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 StoreFront	1.11.21.0
Citrix Management Pack Library	1.0.32.0

Configuring SCOM agent to act as proxy on StoreFront computers

SCOM agent on each computer where StoreFront 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.

To configure the SCOM agent instances to act as proxy agents, do the following:

1. Launch the SCOM Operations console and connect to the management server.
2. In the **Administration** view, expand **Device Management**, and then click **Agent Managed**.
3. For each StoreFront computer, follow the steps:
    1. Right-click the host name, and select **Properties**.
    2. Click the **Security** tab.
    3. Select the **Allow this agent to act as proxy and discover managed objects on other computers** option.
    4. Click **OK**.

Configuring encryption password

The encryption password is required to generate a key that is used to encrypt the configuration data. Set the encryption password on the first run of the **StoreFront MP Configuration** tool**.**
To set the encryption password:

1. Log on to the management server. 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. Select **StoreFront MP Configuration.**
4. Go to the **Configuration encryption** tab.
5. Click **Set**.
6. In the dialog for inserting the password, type the password and click **Set**.

Note: Setting the encryption password is a prerequisite to saving the configuration data. If the encryption password is not set, the configuration tool automatically starts on the Configuration encryption tab.

Figure Configuration encryption tab of the Citrix Management Pack Configuration tool

The encryption password must be shared with the Citrix SCOM Management Pack for StoreFront Agent to be used to decrypt the configuration data. To share the encryption password, while running the **Install Citrix MPSF Agent** task, override the **Encryption password** parameter with the password you set in Step 3. See the Installing the product on the StoreFront computers section.

To update the encryption password:

1. In the StoreFront MP Configuration tool, go to the **Configuration encryption** tab.
2. Click **Update**.
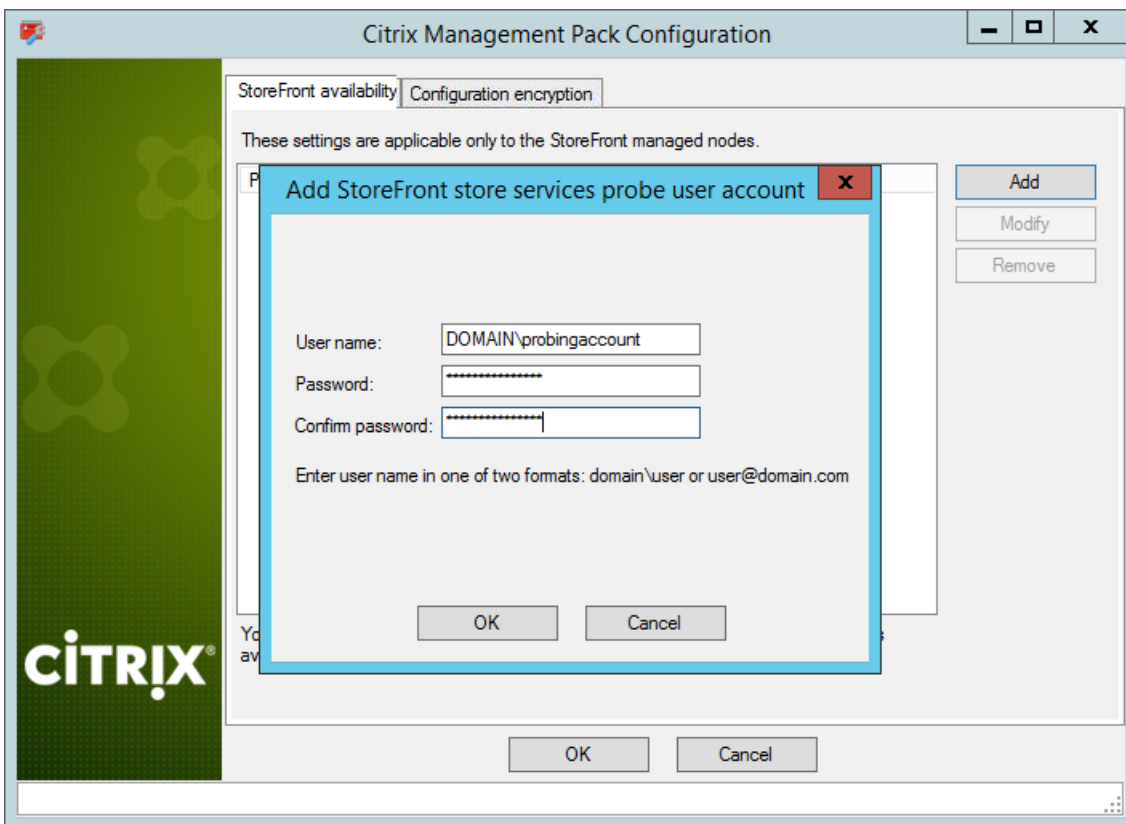3. In the dialog for inserting the password, type the password and click **Update**.

If you update or set the encryption password after the agent is installed, run the **Update Configuration on Citrix MPSF Agent** task. Override the **Encryption password** parameter in these tasks with the updated password.

Setting up probing user accounts for StoreFront availability

For monitoring the StoreFront store services availability, setting up an account that will be used for probing is required.

To set up a probing user account, do the following:

1. Choose an appropriate probing user account for actively monitoring the StoreFront agent-managed computers. The user account does not require administrative privileges, but must have logon rights on the store. Citrix recommends that you use a dedicated user account.
2. Log on to the management server. Use a user account that has local administrative privileges.
3. Go to **Start** > **All apps** > **Citrix** (actions of this step may differ on operating systems earlier than Windows Server 2016).
4. Click **StoreFront MP Configuration**.
5. In the Citrix Management Pack Configuration window, in the StoreFront availability tab, click **Add**.
6. In the Add StoreFront store services probe user account dialog box, type the following data in the respective text boxes:
   - Properties of the probing user account:
     - User name
     - Password

7. Click **OK**.
8. *Optional.* To modify the user name or password for a probing user account configuration, click Modify. In the Modify StoreFront store services probe user account dialog box, modify the data as required, and then click **OK**.
9. *Optional.* To remove a probing user account configuration, click **Remove** and then click **Yes**.
10. Click **OK** to apply the configuration changes and close the window.

Note: If you modify user name or password for a probing user account configuration when the Citrix SCOM Management Pack for StoreFront Agent is already installed on the StoreFront computes, run the *Update Configuration on Citrix MPSF Agent* task from the SCOM Operations console to refresh the local configuration data.

Installing the product on the StoreFront computers

On the StoreFront computers, only the Citrix SCOM Management Pack for StoreFront Agent must be installed.

To install the Management Pack agent on a StoreFront 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 **StoreFront Computers**.
3. In the StoreFront Computers pane, select a StoreFront computer from the StoreFront Computers list.
4. In the Tasks pane, expand **StoreFront Computer Role Tasks**, and then click **Install Citrix MPSF Agent**.
5. In the Run Task - Install Citrix MPSF Agent dialog box, adjust the task parameters as follows:
   - **UpgradeAgent**: This option, when set to *true*, causes uninstallation of the existing Citrix SCOM Management Pack for StoreFront Agent from the agent-managed computer before the current version is installed. Before such uninstallation, SCOM agent must be put into maintenance mode.
     Default value: *false*
   - **IgnorePrereqCheck**: You may not alter this option.
     Default value: *false*
   - **Encryption password:** Override this parameter with the encryption password you set in Step 3 of the Configuring encryption password section.
     Default value: (empty)
   - **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 the Citrix SCOM Management Pack for XenApp and XenDesktop 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 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 where the Citrix SCOM Management Pack for XenApp and XenDesktop is installed.
     - If the agent-managed computer does not have access to the *CitrixMPShare* shared folder on the management server, 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.
   - **AgentInstallationDestination**: This option defines the Management Pack agent's program installation folder on the agent-managed computer. If no value is specified, the Management Pack agent is installed to the *%ProgramFiles%\Citrix\StoreFront MP Agent* folder.
     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 StoreFront 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 MPSF Agent* task to pinpoint the problematic prerequisite.
   Tip: The Agent installation task can be run for multiple selected StoreFront computers.

Verifying the installation and configuration on the StoreFront computers

To verify that the Management Pack agent installation and configuration on a StoreFront 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 click **StoreFront Computers**.
3. In the StoreFront Computers pane, select the StoreFront computer (on which StoreFront Management Pack Agent was just installed) from the StoreFront Computers list.
4. In the Tasks pane, expand **Actions**, and then click **Check Requirements and Configuration for Citrix MPSF Agent**.
5. Observe the output the task generates. If all checks are denoted successful, the installation and configuration on the StoreFront computer are correct.

Uninstallation

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

Uninstalling the product from the StoreFront computers

To uninstall Citrix SCOM Management Pack for StoreFront Agent from a StoreFront 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 **StoreFront Computers**.
3. In the StoreFront Computers pane, select a StoreFront computer from the StoreFront Computers list.
4. In the Tasks pane, expand **Actions**, and then click **Uninstall Citrix MPSF Agent**.
5. In the Run Task - Uninstall Citrix MPSF Agent dialog box, click **Run** to invoke the uninstallation process.
6. Repeat steps 3 to 5 for each additional StoreFront computer.

Tip: The Agent uninstallation task can be run for multiple selected StoreFront 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 the Citrix SCOM Management Pack for StoreFront, 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 StoreFront Management Pack.
4. For each such dependent management pack (except for *Microsoft.SystemCenter.SecureReferenceOverride*), follow the steps:
   1. Right-click it and then click **Delete**.
   2. 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 Citrix SCOM Management Pack for StoreFront, 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:

   1. 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.
   2. 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.
   3. Export the *Microsoft.SystemCenter.SecureReferenceOverride* management pack.
   4. Make a copy of the file you exported the management pack to.
   5. 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.
   6. Import back the altered *Microsoft.SystemCenter.SecureReferenceOverride* management pack from the modified file.
4. In the results pane, right-click **Citrix Management Pack for StoreFront**, 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. Check if other Citrix SCOM Management Pack products are installed on the management server. If none of them is installed, repeat steps 4 and 5 with **Citrix Management Pack Library**.

Uninstalling the product from the SCOM management server

To uninstall Citrix SCOM Management Pack for StoreFront from the SCOM management server, do the following:

1. Log on to the management server. 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 StoreFront** 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\StoreFront MP* folder.
   Caution: This action permanently deletes the Agent configuration data. You will be unable to reuse it at a later time.
9. Check if other Citrix SCOM Management Pack products are installed on the management server. If none of them is installed, follow the steps:

   1. Stop sharing the *CitrixMPShare* shared folder.
   2. Delete the *%ProgramData%\Citrix\CitrixMPShare* folder.
   3. Using an operating system administrative tool, delete the local *CitrixMPShareUsers* user group.

Upgrading

To upgrade Citrix SCOM Management Pack for StoreFront from an earlier version, do the following:

1. Prepare your environment for installation of the new product version. For information, see Preparing for the installation.

2. Install the product (its server-side part) on the SCOM management server. For instructions, see Installing the product on the SCOM management server.
   Note: Installation process upgrades the product while preserving local configuration data.
3. Verify the installation of the product (its server-side part) on the SCOM management server. For instructions, see Verifying the installation on the SCOM management server.
4. (this step is applicable only to upgrade from version 1.4) On the SCOM management server, move the mpsf_config.dat file from the %ProgramData%\ComTrade\MPShare\StoreFront MP folder to the %ProgramData%\Citrix\CitrixMPShare\StoreFront MP folder.
5. (this step is applicable only to upgrade from version 1.4) Configure access to the shared folder for agent installation. For instructions, see Configuring access to the shared folder for agent installation.
6. Install the product (its agent-side part) on the StoreFront computers. For instructions, see Installing the product on the StoreFront computers.
   Important In the Run Task - Install Citrix MPSF Agent dialog box, set the UpgradeAgent task parameter to true.

7. Verify the installation and configuration of the product (its agent-side part) on the StoreFront computers. For instructions, see Verifying the installation and configuration on the StoreFront computers.

Optimize

Aug 14, 2017

For a complete list of the monitors and rules available in Citrix SCOM Management Pack for StoreFront, see the Reference Guide.

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 StoreFront manually, do the following:

1. Log on to the management server.
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 dialog box, 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.StoreFront.mp*
8. Click **Install**.

Customizing sealed management packs

Customization of the sealed management packs that StoreFront Management Pack provides is similar to the default SCOM management pack customization.

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

Citrix SCOM Management Pack 1.9 for StoreFront

Aug 14, 2017

Citrix SCOM Management Pack for StoreFront 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 StoreFront (**StoreFront**) infrastructure.

With the Citrix SCOM Management Pack for StoreFront, you can improve the StoreFront infrastructure availability and health. If any important part of Citrix environment that StoreFront relies on is not available, the user will not be able to use its resources at all or will be using them with a degraded performance. The Citrix SCOM Management Pack for StoreFront actively monitors the availability of StoreFront and its core components.
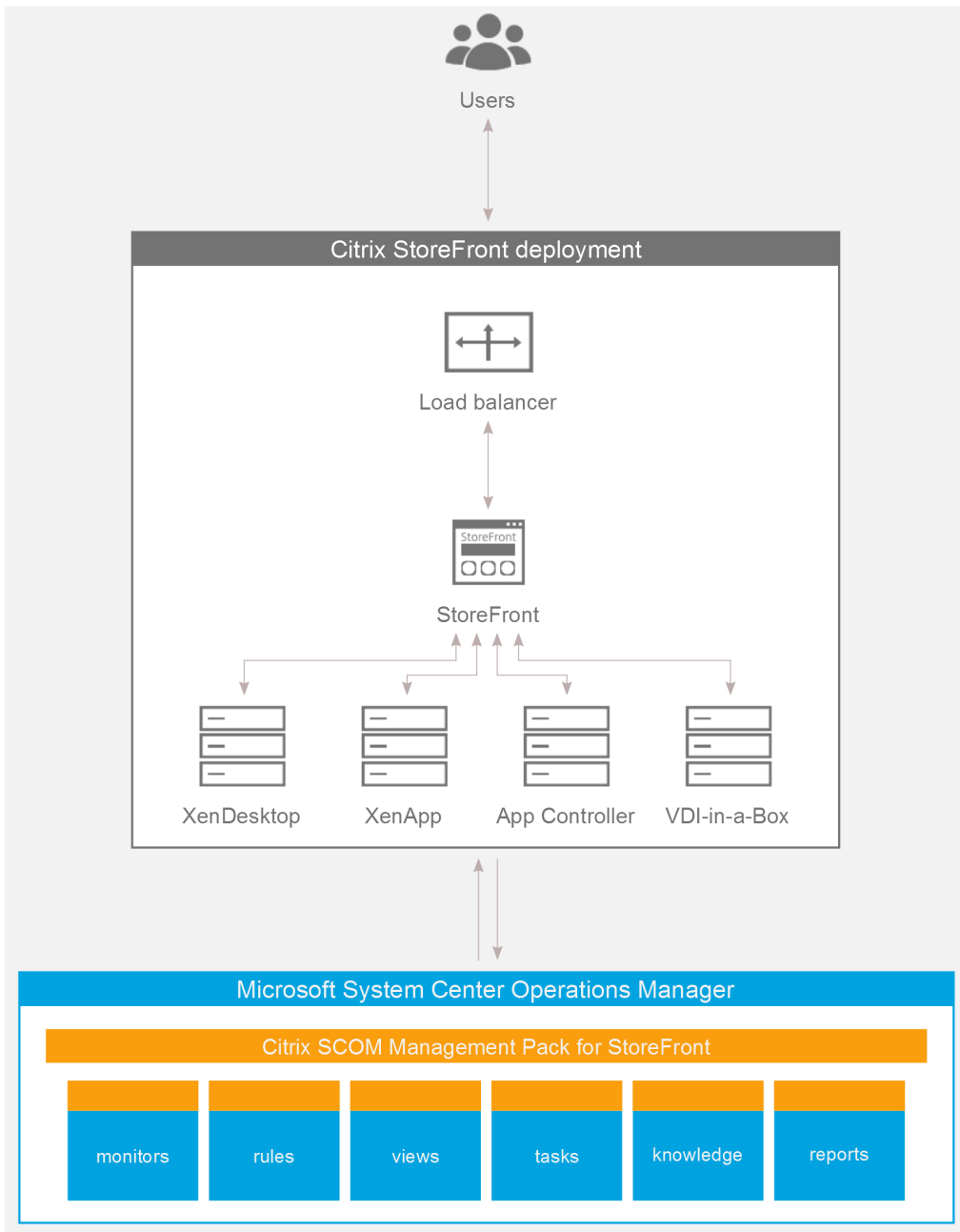
The Citrix SCOM Management Pack for StoreFront fully integrates topology, health, and performance data into SCOM, providing an end-to-end operations overview across the entire StoreFront estate, and enabling delivery of effective business service management.

The Citrix SCOM Management Pack for StoreFront covers the following key scenarios:

- StoreFront environment discovery and its presentation in a topology view
- StoreFront Services probing for each discovered store and measuring response times
- Web page availability and load time monitoring
- Controller connection probing
- StoreFront Services monitoring

Architecture

The following diagram shows how StoreFront Management Pack connects to the SCOM management platform and the StoreFront estate.

Users

Citrix StoreFront deployment

Load balancer

StoreFront

XenDesktop XenApp App Controller VDI-in-a-Box

Microsoft System Center Operations Manager

Citrix SCOM Management Pack for StoreFront

| monitors | rules | views | tasks | knowledge | reports |

What's new

Aug 14, 2017

Citrix SCOM Management Pack 1.9 for StoreFront introduces the following new or enhanced features:

- **Documentation in HTML format.** The documentation for the Citrix SCOM Management Pack 1.9 for StoreFront is available in HTML format. To access the documentation of earlier versions, see Citrix SCOM Management Pack for StoreFront.

- **Support for Citrix StoreFront 3.9.** Citrix SCOM Management Pack for StoreFront supports StoreFront version 3.9.

Known issues

The following is a list of known issues in this product version.

- **Issue ID**: SCOM-1200
  Symptom: After installing the Citrix SCOM Management Pack for StoreFront, the states of correctly operating StoreFront computers are shown as Healthy only after the second discovery interval; until then the states are shown as Not monitored. After the second discovery interval, all objects get discovered. Restarting the SCOM agent does not resolve the issue.
  Action: None. There is no workaround available.

- **Issue ID**: n/a
  Symptom: For a monitored Citrix StoreFront server where StoreFront software version 2.0 or 2.1 is installed, the following notification is sent:
  The "StoreFront MP" service on computer " status is not operational.
  Agent Error: 'Workflow ID: agent-service-info-discovery
  Status: successful
  Error Message:
  Workflow ID: server-discovery
  Status: failed
  Error Message: The PS object does not have an 'IsAnonymous' property'.
  Operations Manager Health Explorer shows a healthy state for this server. If you run the **Check Requirements and Configuration** task for the server, it completes without errors.
  Action: Upgrade your Citrix StoreFront software to version 2.5 or later.

- **Issue ID**: SCOM-217 (4285)
  Symptom: Store service probe fails and reports the *No request token choices available* or *There is no Explicit Forms protocol in request token choices or the location is not provided* error.
  This product version supports only the explicit method (user name and password) of the store service authentication.
  Action: Enable the explicit authentication method for the authentication service. For this purpose, create a new user account that has logon permission on the store. The user account does not need administrative privileges. Enter credentials of the user account using the Citrix Management Pack Configuration tool of Citrix SCOM Management Pack for StoreFront. For instructions, see Setting up probing user accounts for StoreFront availability in Install and Configure.

Fixed issues

None

Upgrading

Note: Product versions earlier than 1.5 were released under the name Comtrade Management Pack for Citrix StoreFront.

Upgrade is available only from versions 1.4 and later. During the upgrade process, the included management packs of the earlier product version are automatically upgraded; their prior removal is not required. Your management pack customization is preserved.

For upgrade instructions, see Upgrading in Install and Configure.

System requirements

Aug 14, 2017

Before installing the Citrix SCOM Management Pack for StoreFront, make sure that your environment meets the requirements listed in this section.

Software requirements

The Citrix SCOM Management Pack for StoreFront requires a supported version of the following products that it integrates with:

- Citrix StoreFront
- Microsoft System Center Operations Manager

Supported versions of Citrix StoreFront

Citrix SCOM Management Pack for StoreFront is compatible with the following Citrix StoreFront versions:

Product version	Supported
Citrix StoreFront 3.9	✔
Citrix StoreFront 3.8	✔
Citrix StoreFront 3.7	✔
Citrix StoreFront 3.6	✔
Citrix StoreFront 3.5	✔
Citrix StoreFront 3.0.1 LTSR	✔
Citrix StoreFront 2.6	✔
Citrix StoreFront 2.5	✔
Citrix StoreFront 2.1	✔
Citrix StoreFront 2.0	✔

Supported versions of SCOM

The product is compatible with the following SCOM versions:

Microsoft System Center Operations Manager version	Supported
Microsoft System Center Operations Manager 2016	✔
Microsoft System Center Operations Manager 2012 R2	✔
Microsoft System Center Operations Manager 2012[1]	✔

[1]This entry covers the following configurations: base release, base release + SP1 (Service Pack 1).

Language support

The product can be deployed and operates correctly in environments where regional settings are configured to use any of the following languages:

Language	Language code	Supported
English	en	✔
Spanish	es	✔

Performance overview

Aug 14, 2017

Generally speaking, Citrix SCOM Management Pack for StoreFront consists of two parts:

- The part installed on the SCOM management server
- Citrix SCOM Management Pack for StoreFront Agent

The SCOM management server-side part

This part is a collection of management packs that include discoveries, monitors, rules, and tasks. From the compute and memory perspective, this part does not significantly add to the basic resource requirements of SCOM management server itself. It is also not resource-intensive in terms of storage requirements of the SCOM reporting data warehouse database. For these reasons, there are no special considerations related to the SCOM management-server part when monitoring larger Citrix StoreFront (**StoreFront**) environments.

Citrix SCOM Management Pack for StoreFront Agent

Performance and resource consumption of Citrix SCOM Management Pack for StoreFront Agent primarily depends on the size of your StoreFront environment, specifically on the number of configured stores. In contrast, they are not influenced by the number of configured StoreFront servers.

Configuration specifications

All figures in this document are valid for environments that:

- Are monitored with the specified product version of Citrix SCOM Management Pack for StoreFront
- Match the documented configuration specifications for StoreFront and SCOM
- Use the default configuration of management packs in terms of which rules and monitors are enabled (this applies to management packs included in the Citrix SCOM Management Pack for StoreFront and management packs bundled with SCOM)
- Use the default configuration of SCOM management server and SCOM agents, without fine-tuning or any special adjustments.

Note: Factors such as different hardware specifications and condition of your environment may cause divergence of your observed values from the documented values.

Validated Citrix SCOM Management Pack for StoreFront version

Validation of the product was performed with the product version listed in the following table.

Product version
Citrix SCOM Management Pack for StoreFront 1.7

Citrix StoreFront configuration

The lab set-up in which the Citrix SCOM Management Pack for StoreFront was validated consisted of two StoreFront servers with identical configuration specifications.

Computer: **StoreFront server**	
Specification item	**Value**
Compute	four virtual CPUs; CPU clock speed of 2.67 GHz
Memory	8 GB of RAM
Software version	Citrix StoreFront 3.6

Citrix XenApp and XenDesktop configuration

The lab set-up used for validation initially comprised thee Citrix XenApp and XenDesktop Delivery Controllers (with identical configuration specifications) assigned to each store. Measurements were repeated in an environment with three Delivery Controllers assigned to each store.

Microsoft System Center Operations Manager configuration specification

With this configuration, the SCOM database and data warehouse server is deployed outside the SCOM management server.

Computer: **SCOM management server**	
Specification item	**Value**
Compute	four virtual CPUs; CPU clock speed of 2.67 GHz
Memory	8 GB of RAM
Software version	Microsoft System Center Operations Manager 2012 R2

Computer: **SCOM database and data warehouse server**	
Specification item	**Value**
Compute	four virtual CPUs; CPU clock speed of 2.67 GHz
Memory	16 GB of RAM

Software version	Microsoft SQL Server 2014

Monitoring ability

The following table does *not* list the extreme limits; it lists the lab set-up in which Citrix SCOM Management Pack for StoreFront was successfully validated with the specified StoreFront, XenApp and XenDesktop, and SCOM configurations.

Maximum number of monitored items

Item	Value
Stores	40
XenApp and XenDesktop Delivery Controllers per store	3

Average resource consumption

Measuring was performed on different validation sets. Windows Performance Monitor was used as the measuring tool. During validation, StoreFront stores were gradually added to the monitored environment.

Average consumption on a StoreFront server

Item	Value for each test set			
	10 stores	**20 stores**	**30 stores**	**40 stores**
MPSFAgent CPU usage[1]	0.05%	0.24%	1.04%	2.24%
HealthService CPU usage	0.00%	0.01%	0.01%	0.02%
MPSFAgent memory usage	155 MB	157 MB	164 MB	168 MB
HealthService memory usage	16 MB	19 MB	18 MB	23 MB

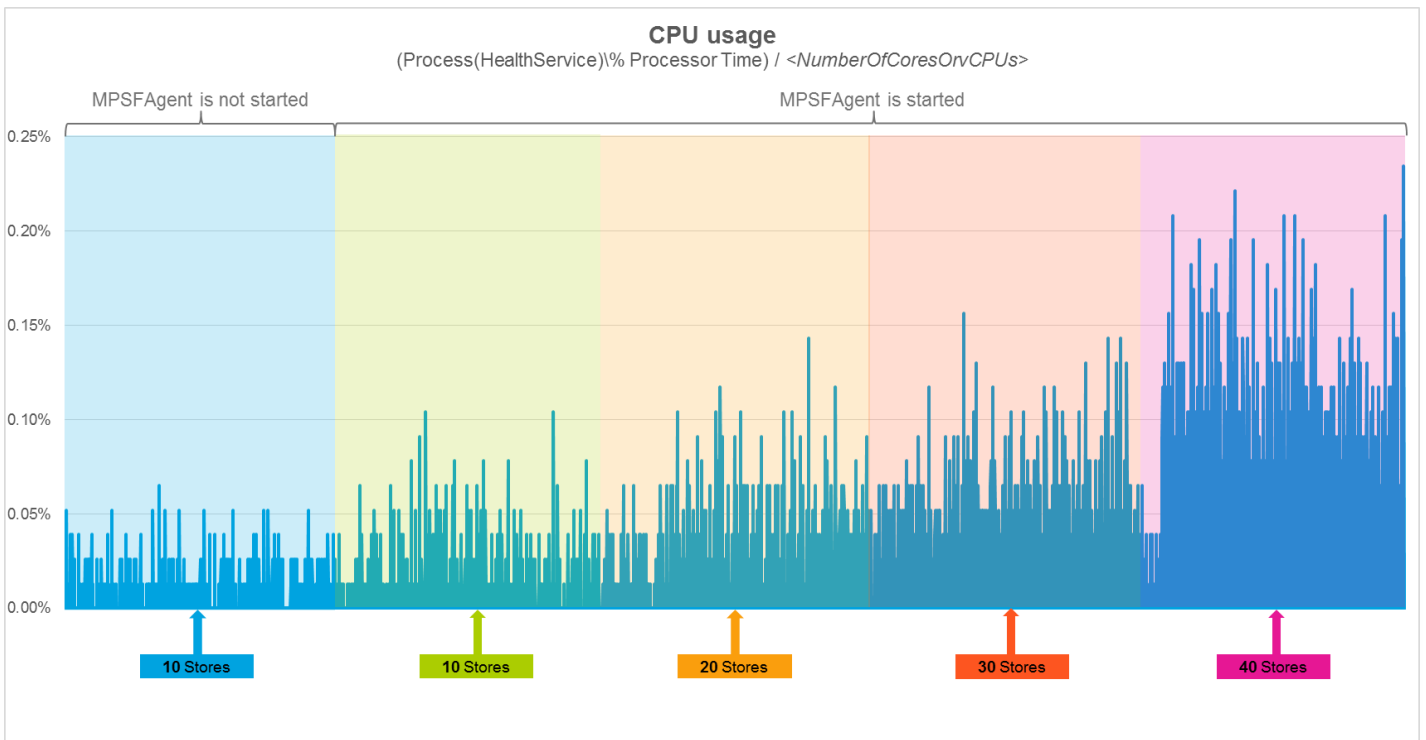[1]CPU usage is calculated based on the *% Processor Time* counter and the number of processor cores or virtual CPUs.

Validation tests indicated that increase in the number of Delivery Controllers per store had negligible effect on CPU usage of the MPSFAgent service. Regardless of this change, spikes in both CPU usage and memory usage occurred.

The following figure shows the CPU usage of *MPSFAgent* through time, measured in four different validation sets.

CPU usage
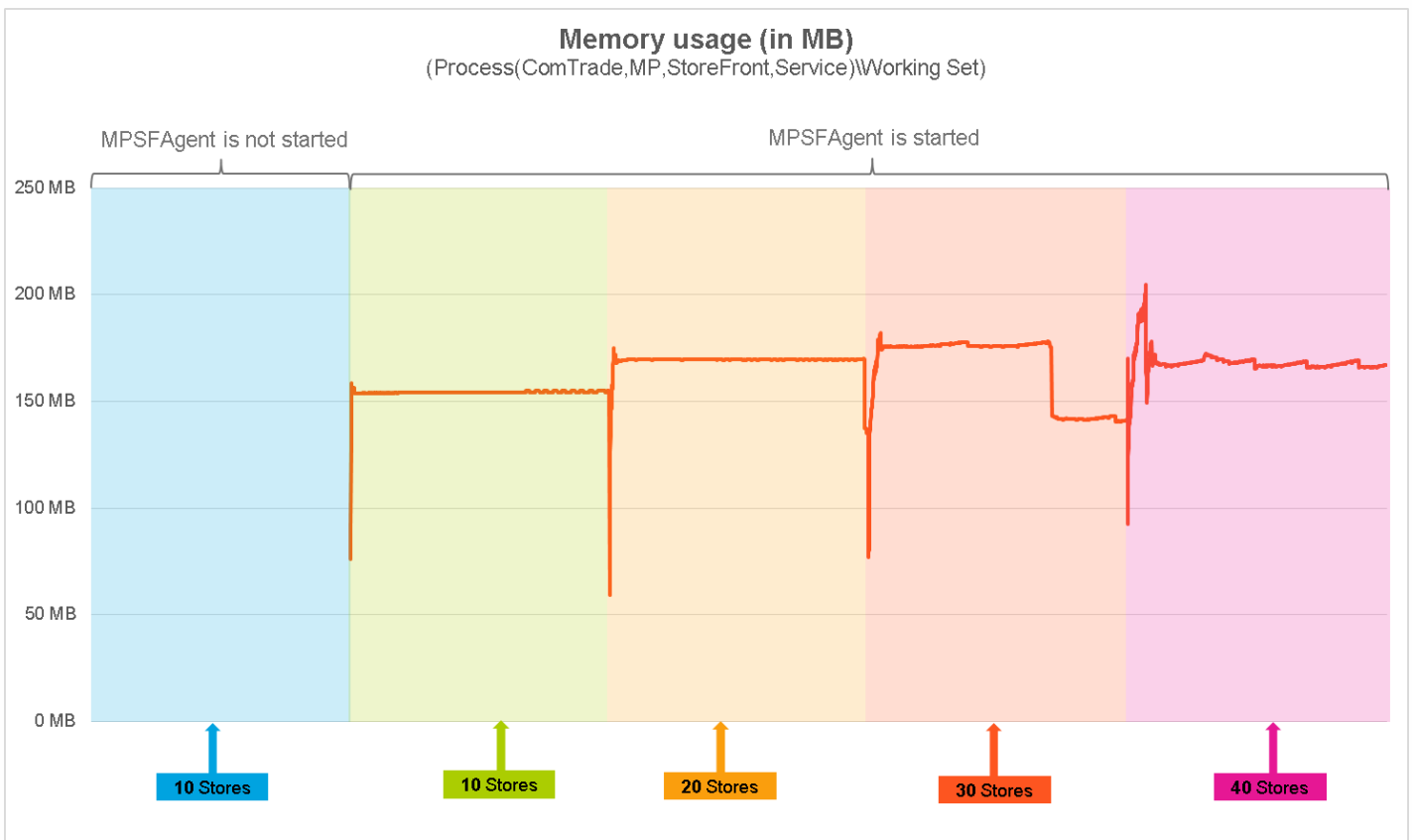(Process(ComTrade,MP,StoreFront,Service)\% Processor Time) / *<NumberOfCoresOrvCPUs>*

In the figure above, spikes can be seen. As measured in the first, second, third, and fourth validation set, they lasted 1.5, 8.5, 27.5, and 55.5 minutes, respectively. The spikes occurred immediately after the product was deployed and the *MPSFAgent* service was started for the first time.

The following figure shows the CPU usage of *HealthService* through time, measured in four different validation sets.

CPU usage
(Process(HealthService)\% Processor Time) / *<NumberOfCoresOrvCPUs>*

As the figure above shows, addition of stores does not significantly influence the CPU usage of the SCOM agent (Operations Manager Agent, Microsoft Monitoring Agent).

The following figure shows the memory usage of *MPSFAgent* through time, measured in four different validation sets.

Memory usage (in MB)
(Process(ComTrade,MP,StoreFront,Service)\Working Set)

As the figure above shows, on the StoreFront server there should be approximately 200 MB of physical memory available for the needs of the *MPSFAgent* service.

The following figure depicts the memory usage of *HealthService* through time, measured in four different validation sets.

As the figure above shows, on the StoreFront server, there should be approximately 35 MB of physical memory available for the needs of the *HealthService* service.

Detailed analysis of the sampled data reveals that the Citrix SCOM Management Pack for StoreFront has no significant impact on the compute and memory requirements for the StoreFront server. It also confirms that adding stores to the environment does not degrade the performance of Citrix SCOM Management Pack for StoreFront. There are prolonged periods of high CPU usage in environments with 30 or 40 configured stores. However, such spikes occur only once after the first start of Citrix SCOM Management Pack for StoreFront Agent.

Install and configure

Aug 14, 2017

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

Preparing for the installation

Before installing the Citrix SCOM Management Pack for StoreFront, make sure the following prerequisites are fulfilled:

- Your environment meets the software requirements. For software requirements, see System Requirements.
- A computer is chosen on which a SCOM management server resides and where the server side of the Citrix SCOM Management Pack for StoreFront will be installed. This computer is referred to as **SCOM management server**.
- SCOM agent is installed on all the computers that host StoreFront, and these computers are configured as **agent-managed computers** in the SCOM management group.
- A probing user account for actively monitoring the StoreFront computers is chosen. This must be a domain user account.
- With stores configured to allow access by authenticated users only, the Username and password method is configured as the authentication method (the authentication service uses explicit authentication). For more information, see the Create and configure the authentication service webpage.

Installing the product on the SCOM management server

The server-side part of the Citrix SCOM Management Pack for StoreFront must be installed on the SCOM management server.

To install the Citrix SCOM Management Pack for StoreFront on the SCOM management server, do the following:

1. Log on to the management server. Use a user account that has local administrative privileges and SCOM administrative privileges.
2. In Windows Explorer, locate the *Citrix_SCOM_Management_Pack_for_StoreFront_<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, read the end user license agreement carefully. If you accept the terms of the agreement, click **Next**.
6. In the Destination Folder page, define the Citrix SCOM Management Pack for StoreFront installation folder. Citrix recommends that you install Citrix SCOM Management Pack for StoreFront 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 sub-steps:
   1. Click **Change**.
   2. In the Browse For Folder dialog box, browse to a desired installation folder, select it, and click **OK**.
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 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**. Else, 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. 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:

- Citrix SCOM Management Pack for Provisioning Services
- Citrix SCOM Management Pack for ShareFile
- Citrix SCOM Management Pack for Web Interface
- Citrix SCOM Management Pack for XenApp and XenDesktop
- Citrix SCOM Management Pack for XenApp
- Citrix SCOM Management Pack for XenMobile

To configure access to the shared folder for agent installation, do the following:

1. Log on to the SCOM management server. 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 Citrix SCOM Management Pack for StoreFront 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 on 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

To verify that the Citrix SCOM Management Pack for StoreFront installation on the management server is correct, do the following:

1. Log on to the management server.
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 StoreFront
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	COPY

```
net share | findstr -i CitrixMPShare
```

output	COPY

```
CitrixMPShare %ProgramData%\Citrix\CitrixMPShare
```

command	COPY

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

```
output                                                                    COPY

  The command completed successfully
```
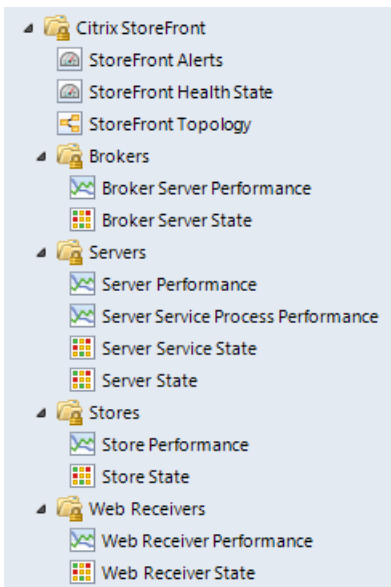
```
command                                                                   COPY

  dir \\<ManagementServerHostName>\CitrixMPShare
```

```
output                                                                    COPY

  <FolderContents>
```

In these instances, *%ProgramData%* refers to the actual value of this operating system variable. *<ManagementServerHostName>* is the name of the SCOM management server. *<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 Citrix SCOM Management Pack for StoreFront 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.

7. In the **Administration** view, expand **Administration** > **Management Packs** and click I**nstalled 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 StoreFront	1.9.13.0
Citrix Management Pack Library	1.0.18.0

Configuring SCOM agent to act as proxy on StoreFront computers

SCOM agent on each computer where StoreFront 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.

To configure the SCOM agent instances to act as proxy agents, do the following:

1. Launch the SCOM Operations console and connect to the management server.
2. In the **Administration** view, expand **Device Management**, and then click **Agent Managed**.
3. For each StoreFront computer, follow the steps:
   1. Right-click the host name, and select **Properties**.
   2. Click the **Security** tab.
   3. Select the **Allow this agent to act as proxy and discover managed objects on other computers** option.
   4. Click **OK**.

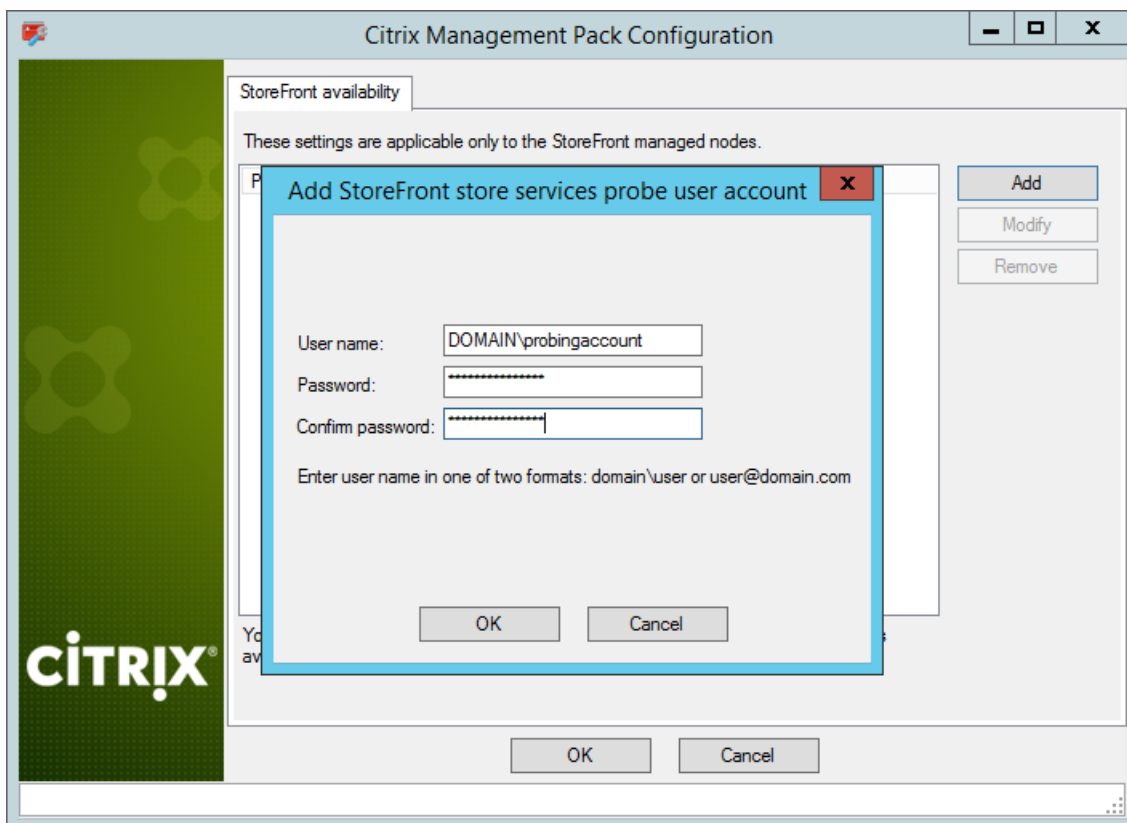Setting up probing user accounts for StoreFront availability

For monitoring the StoreFront store services availability, setting up an account that will be used for probing is required.

To set up a probing user account, do the following:

1. Choose an appropriate probing user account for actively monitoring the StoreFront agent-managed computers. The

user account does not require administrative privileges, but must have logon rights on the store. Citrix recommends that you use a dedicated user account.

2. Log on to the management server. Use a user account that has local administrative privileges.
3. Go to **Start** > **All apps** > **Citrix** (actions of this step may differ on operating systems earlier than Windows Server 2016).
4. Click **StoreFront MP Configuration**.
5. In the Citrix Management Pack Configuration window, in the StoreFront availability tab, click **Add**.
6. In the Add StoreFront store services probe user account dialog box, type the following data in the respective text boxes:
   - Properties of the probing user account:
     - User name
     - Password

7. Click **OK**.
8. *Optional*. To modify the user name or password for a probing user account configuration, click Modify. In the Modify StoreFront store services probe user account dialog box, modify the data as required, and then click **OK**.
9. *Optional*. To remove a probing user account configuration, click **Remove** and then click **Yes**.
10. Click **OK** to apply the configuration changes and close the window.

Note: If you modify user name or password for a probing user account configuration when the Citrix SCOM Management Pack for StoreFront Agent is already installed on the StoreFront computes, run the *Update Configuration on Citrix MPSF Agent* task from the SCOM Operations console to refresh the local configuration data.

Installing the product on the StoreFront computers

On the StoreFront computers, only the Citrix SCOM Management Pack for StoreFront Agent must be installed.

To install the Management Pack agent on a StoreFront 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 **StoreFront Computers**.
3. In the StoreFront Computers pane, select a StoreFront computer from the StoreFront Computers list.
4. In the Tasks pane, expand **StoreFront Computer Role Tasks**, and then click **Install Citrix MPSF Agent**.
5. In the Run Task - Install Citrix MPSF Agent dialog box, adjust the task parameters as follows:
   - **UpgradeAgent**: This option, when set to *true*, causes uninstallation of the existing Citrix SCOM Management Pack for StoreFront Agent from the agent-managed computer before the current version is installed. Before such uninstallation, SCOM agent must be put into maintenance mode.
     Default value: *false*
   - **IgnorePrereqCheck**: 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 the Citrix SCOM Management Pack for XenApp and XenDesktop 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 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 where the Citrix SCOM Management Pack for XenApp and XenDesktop is installed.
     - If the agent-managed computer does not have access to the *CitrixMPShare* shared folder on the management server, 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.
   - **AgentInstallationDestination**: This option defines the Management Pack agent's program installation folder on the agent-managed computer. If no value is specified, the Management Pack agent is installed to the *%ProgramFiles%\Citrix\StoreFront MP Agent* folder.
     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 StoreFront 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 MPSF Agent* task to pinpoint the problematic prerequisite.
   Tip: The Agent installation task can be run for multiple selected StoreFront computers.

Verifying the installation and configuration on the StoreFront computers

To verify that the Management Pack agent installation and configuration on a StoreFront 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 click **StoreFront Computers**.
3. In the StoreFront Computers pane, select the StoreFront computer (on which StoreFront Management Pack Agent was just installed) from the StoreFront Computers list.
4. In the Tasks pane, expand **Actions**, and then click **Check Requirements and Configuration for Citrix MPSF Agent**.

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

Uninstallation

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

Uninstalling the product from the StoreFront computers

To uninstall Citrix SCOM Management Pack for StoreFront Agent from a StoreFront 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 **StoreFront Computers**.
3. In the StoreFront Computers pane, select a StoreFront computer from the StoreFront Computers list.
4. In the Tasks pane, expand **Actions**, and then click **Uninstall Citrix MPSF Agent**.
5. In the Run Task - Uninstall Citrix MPSF Agent dialog box, click **Run** to invoke the uninstallation process.
6. Repeat steps 3 to 5 for each additional StoreFront computer.

Tip: The Agent uninstallation task can be run for multiple selected StoreFront 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 the Citrix SCOM Management Pack for StoreFront, 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 StoreFront Management Pack.
4. For each such dependent management pack (except for *Microsoft.SystemCenter.SecureReferenceOverride*), follow the steps:
   1. Right-click it and then click **Delete**.
   2. 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 Citrix SCOM Management Pack for StoreFront, 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:
   1. 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.

2. 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.

3. Export the *Microsoft.SystemCenter.SecureReferenceOverride* management pack.

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

5. 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.

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

4. In the results pane, right-click **Citrix Management Pack for StoreFront**, 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. Check if other Citrix SCOM Management Pack products are installed on the management server. If none of them is installed, repeat steps 4 and 5 with **Citrix Management Pack Library**.

Uninstalling the product from the SCOM management server

To uninstall Citrix SCOM Management Pack for StoreFront from the SCOM management server, do the following:

1. Log on to the management server. 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 StoreFront** 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\StoreFront MP* folder.

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

9. Check if other Citrix SCOM Management Pack products are installed on the management server. If none of them is installed, follow the steps:

   1. Stop sharing the *CitrixMPShare* shared folder.

   2. Delete the *%ProgramData%\Citrix\CitrixMPShare* folder.

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

Upgrading

To upgrade Citrix SCOM Management Pack for StoreFront from an earlier version, do the following:

1. Prepare your environment for installation of the new product version. For information, see Preparing for the installation.

2. Install the product (its server-side part) on the SCOM management server. For instructions, see Installing the product on the SCOM management server.

   Note: Installation process upgrades the product while preserving local configuration data.

3. Verify the installation of the product (its server-side part) on the SCOM management server. For instructions, see Verifying the installation on the SCOM management server.

4. (this step is applicable only to upgrade from version 1.4) On the SCOM management server, move the mpsf_config.dat file from the %ProgramData%\ComTrade\MPShare\StoreFront MP folder to the %ProgramData%\Citrix\CitrixMPShare\StoreFront MP folder.
5. (this step is applicable only to upgrade from version 1.4) Configure access to the shared folder for agent installation. For instructions, see Configuring access to the shared folder for agent installation.
6. Install the product (its agent-side part) on the StoreFront computers. For instructions, see Installing the product on the StoreFront computers.
   Important In the Run Task - Install Citrix MPSF Agent dialog box, set the UpgradeAgent task parameter to true.

7. Verify the installation and configuration of the product (its agent-side part) on the StoreFront computers. For instructions, see Verifying the installation and configuration on the StoreFront computers.

Optimize

HTML   Citrix SCOM Management Pack for StoreFront Reference Guide
A complete list of the monitors and rules available in Citrix SCOM Management Pack for StoreFront.

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 StoreFront manually, do the following:

1. Log on to the management server.
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 dialog box, 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.StoreFront.mp*
8. Click **Install**.

Customizing sealed management packs

Customization of the sealed management packs that StoreFront Management Pack provides is similar to the default SCOM management pack customization.

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