Citrix Connector 3.1

May 02, 2016

About this release

May 02, 2016

What's New

- Support for XenApp and XenDesktop 7.7 and XenApp and XenDesktop 7.8
- Upgrade support for SCCM 2016: Customers who have upgraded to SCCM 2016 can use Citrix Connector 3.1 with SCCM 2016.

Known Issues

- Connector 3.1 Custom Collection Implementation: Performing an SCCM R2 SP1 upgrade on Connector 7.5 introduced a Device Collection Mismatch error in the Connector Service. As a work around, Microsoft issued a temporary hotfix. An SCCM hotfix is required: https://support.microsoft.com/en-us/kb/3074246
  - Connector 3.1 is required to upgrade the previous SCCM versions to SCCM 1511 or above.
  - Connector 3.1 modifies the existing collections to be rooted under Custom Collection rather than the Device collection so the SCCM pre-requisite checks can pass during an upgrade.
  - For the collection migration to succeed Connector 3.1 grants connector service user required administrative permissions on the All Custom Resources. This additional permissions can be verified by navigating into the security settings under Administration tab from the SCCM Console.
- The Connector does not support publishing applications to administrative folders in XenApp and XenDesktop 7.6. Otherwise, Connector 3.1 is fully compatible with XenApp and XenDesktop 7.6.
  After the Connector publishes an application to a Citrix Delivery Site, moving it in Citrix Studio to a different administrative folder prevents the Connector from maintaining the desired state of the publication and any changes made to the publication through Configuration Manager will fail. The Connector publishing task throws an exception for that publication only. To work around this issue, do not use Studio to move an application after the Connector publishes it. [#500630]

- The Connector configuration wizard might not complete if the Configuration Manager site includes multiple SMS Providers and not all of them are available. To work around this issue, repair or remove the unavailable SMS Providers. [#316]
- The Configuration Manager console is unable to load a deployment technology that is not registered with it. As a result, the console crashes during the following operations when the console extensions for the Connector 3.1 and the XenApp 6.5 Connector are used in the same deployment:
  - When you choose the Create Deployment Type command for an application that has a deployment type created with the other Connector console extension. [#56]
  - When you select a deployment type created with the other Connector console extension. [#184]
  To work around these issues, install the missing console extension.

- When using the Connector console extension on a machine that does not have the Connector service installed, opening the Properties dialog box for an entry in the Citrix Application Publications list results in an error. To work around this issue: [#586]
  1. Go to Application Management > Applications, select an application that has the Citrix XenApp and XenDesktop deployment type, and select the Deployment Types tab. Notice that the Technology Title field is blank for the Citrix

deployment type.

2. Double-click the Citrix deployment type entry. After about ten seconds Configuration Manager loads the properties. You can then open the Properties dialog box for publications.

- The orchestration task does not complete and the Citrix.ConfigMgr.OrchestrationTask log includes the entry "System.Management.ManagementException: Quota violation". To work around this issue, quadruple the memory limits, as described in WMI Error: 0x8004106C Description: Quota violation, while running WMI queries. [#705]

- In the Update machine wizard on the Rollout Strategy page, the statement "Select this option if you are using the Citrix Connector for System Center Configuration Manager" does not apply to all cases. If you are using MCS for Server OS machine catalogs, use Studio to orchestrate the update of image clones.

- A VDA that is installed with the command-line option /servervdi has an IsMasterImage property of false unless the option /masterimage is also specified. As a result, the Connector does not include the related catalog in the Designate Update Device list. To work around this issue, reinstall the VDA, making sure to include the command line option /masterimage. [#489771]

- An application remains published after you use the Studio **Rollback machine update** command to revert to the previous version of a master image. To work around this issue, disable the application until the machines are compliant or remove the publication from Configuration Manager, which will remove it from Studio. Be aware that those actions will make the application unavailable to all users. [#635]

- When changes are made to the properties of a Citrix publication from two Configuration Manager consoles at the same time, only one set of changes is saved. [#314]

- In a failover configuration with Delivery Controller, such as Connector 1 pointed to Delivery Controller A and Connector 2 pointed to Delivery Controller B: If Delivery Controller A is shutdown, Connector 1 will not fail over to Delivery Controller B. To work around this issue, manually stop the Connector 1 service so that operations fail over to Connector 2 and Delivery Controller B. [#711]

- After you uninstall the Connector component "Citrix Group Policy Management" from the Delivery Controller, Studio crashes if you click the Policies node in Studio. To work around this issue, reinstall the Citrix Policies plug-in from the XenApp and XenDesktop installation media. [#661]

Core concepts

This section summarizes the XenApp and XenDesktop infrastructure concepts which are essential to understanding how Citrix Connector works and how it differs from XenApp 6.5 Connector.

Supported versions of XenApp and XenDesktop use a combination of machine catalogs and Delivery Groups to organize resources. XenApp 6.5 uses folders and worker groups to organize applications and servers.

Machine catalogs

Machine catalogs are a collection of machines that share the same configuration, including operating system, applications, or desktop mode.

- Desktop OS machine catalogs are used to deliver applications from Windows desktop operating systems or to deliver generic or personalized desktops to users.
- Server OS machine catalogs are used to deliver applications or desktops to users.
- Remote PC Access machine catalogs are used to provide users remote access to their physical desktops.
  While the Connector synchronizes Remote PC Access machine catalogs, it does not orchestrate application or update installation for them.
  Note: The Remote PC Access Wake on LAN feature requires Configuration Manager. For information, refer to Microsoft System Center Configuration Manager and Remote PC Access Wake on LAN.

The Connector synchronizes each machine catalog into Configuration Manager as a device collection so you can deploy applications to them.

The machines in a machine catalog are the XenApp or XenDesktop workers, also referred to as session machines. For Provisioning Services and Machine Creation Services (MCS), machine catalogs include the VMs for the master images and the machine clones.

Delivery Groups

Delivery Groups define the applications and virtual desktops that a set of users can access. Delivery Groups also control which machine catalogs provide applications and desktops to users. The relationship between machine catalog types and Delivery Groups is described in the documentation for XenApp and XenDesktop.

The Connector synchronizes each Delivery Group into Configuration Manager as a user collection.

The following figure shows how the machine catalogs and Delivery Groups managed by XenApp and XenDesktop relate to Configuration Manager when used with the Connector.
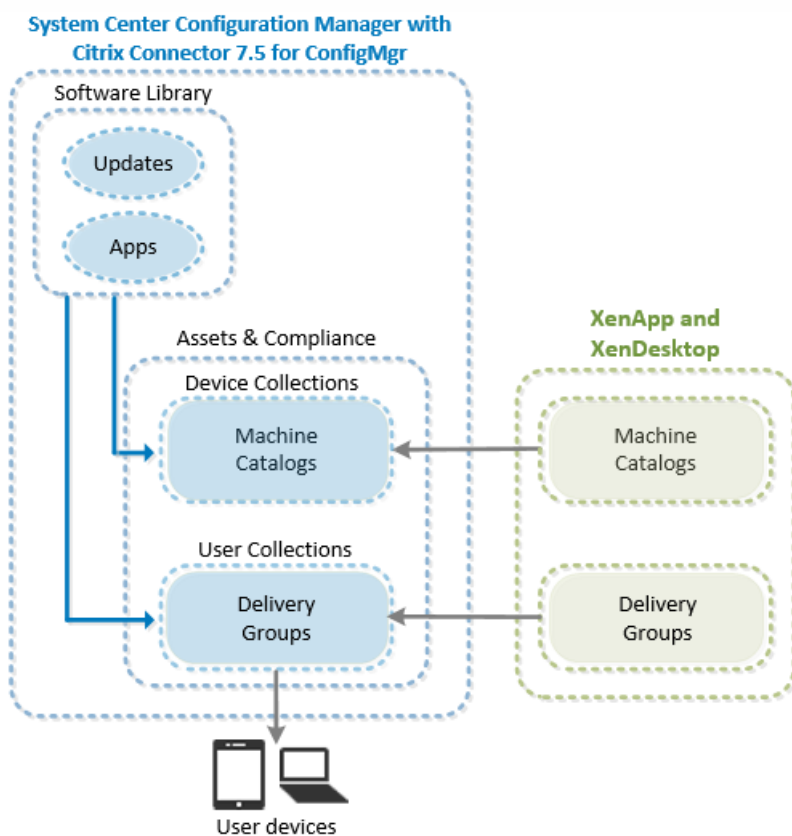
Master image management

XenApp and XenDesktop provide centralized image management, enabling you to manage a single master image and provision from it many session machines, also referred to as machine clones.
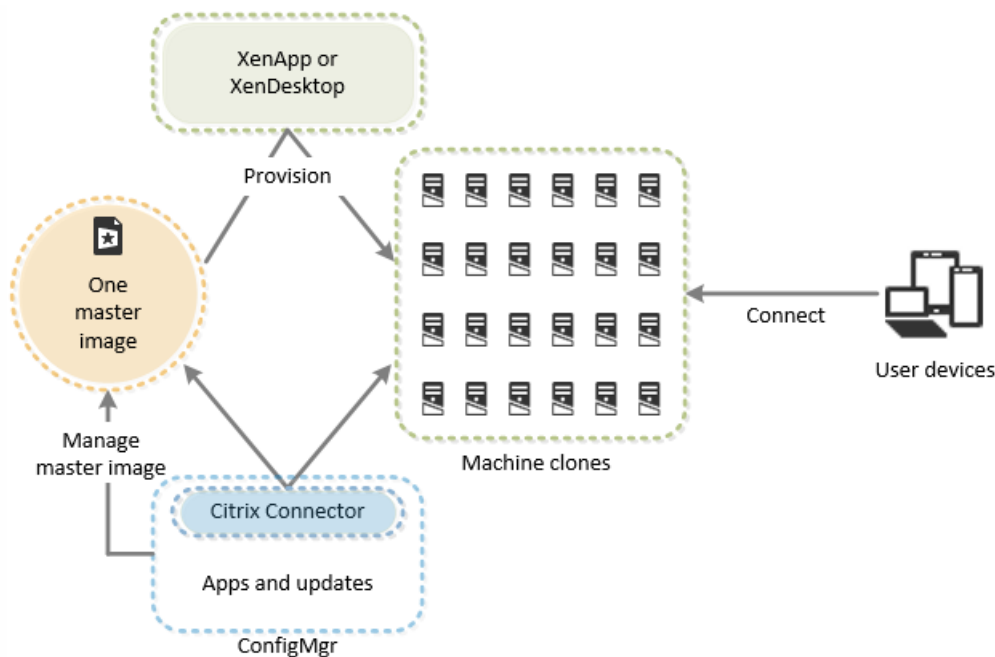
A master image is a virtual hard disk that contains the OS. A master image is used by a provisioning technology to create the machines that provide applications and desktops to your users. Depending on the provisioning technology used, the master image can also be used to create a machine to host applications and desktops.

A Citrix administrator selects a provisioning method when creating a machine catalog in XenApp or XenDesktop. The Connector supports each of these methods.

- **MCS —** Uses a master image within your environment to manage virtual machines, enabling you to manage and update target devices through one master image.
- **Provisioning Services —** Allows computers to be provisioned and re-provisioned in real-time from a single shared-disk image. The desktops and applications are delivered from a Provisioning Services vDisk that is imaged from a master target device, enabling you to leverage the processing power of physical hardware or virtual machines. The Connector supports multiple master VMs, each provisioned with a different set of applications for various Delivery Groups.
- **Manual provisioning —** Manages and delivers desktops and applications that you have already migrated to VMs in the data center. You can manage target devices (session machines) on an individual basis or collectively using Configuration Manager. When you add clone machines to a machine catalog, Configuration Manager automatically deploys applications to them. As a result, Citrix administrators only have to manage software patches and OS updates.
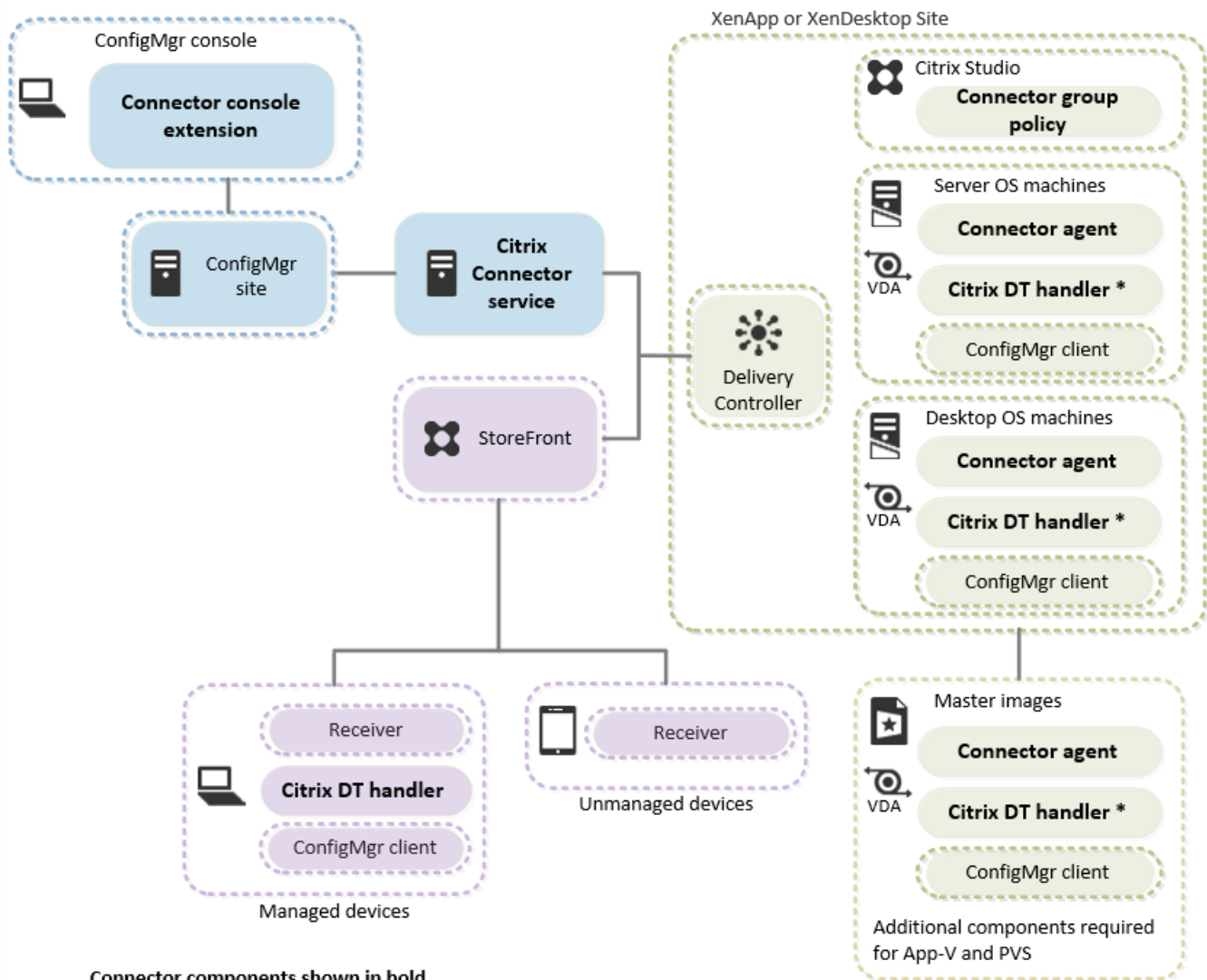
The following diagram shows the relationships between provisioned assets, Configuration Manager, and XenApp or XenDesktop.
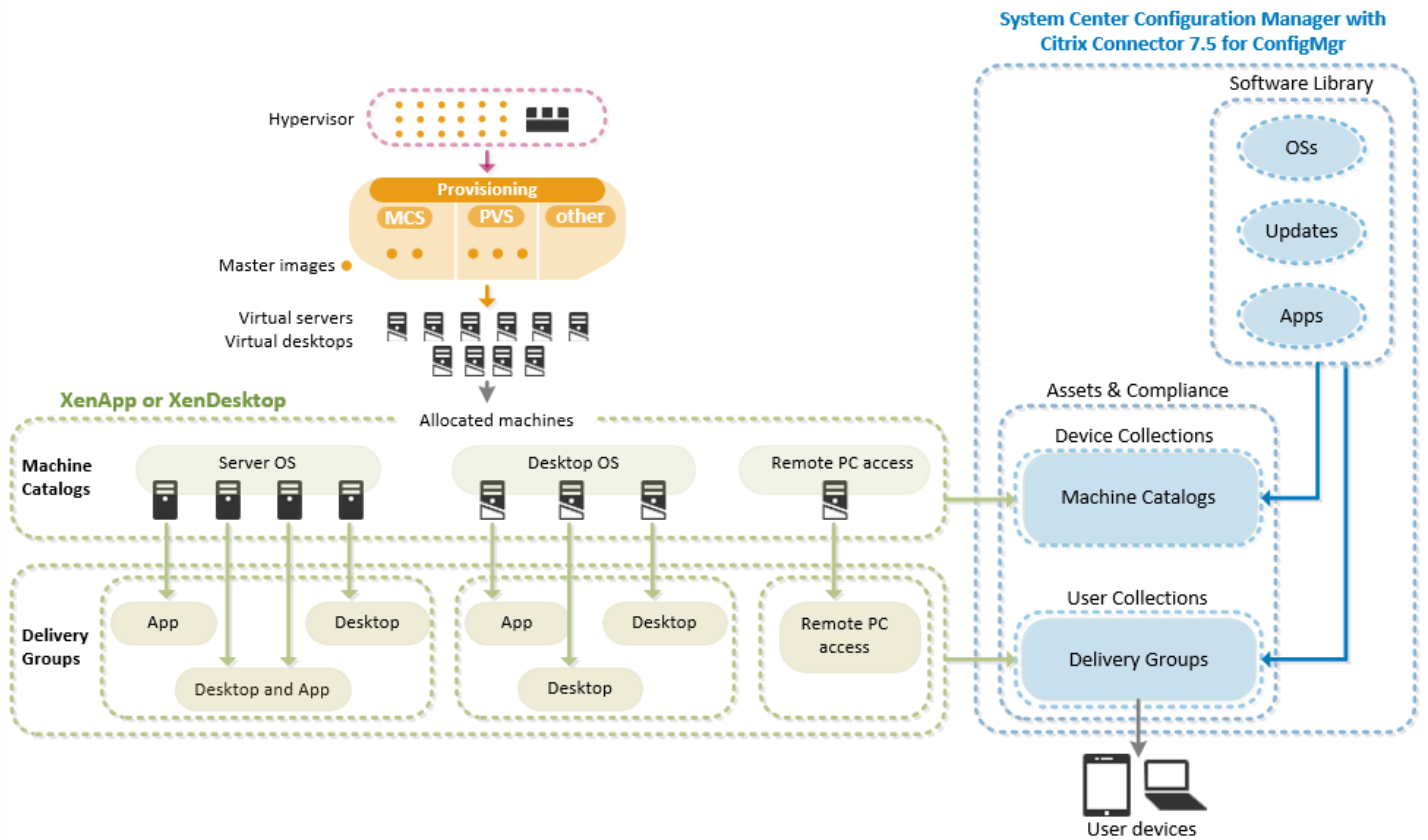
Important: In Configuration Manager, the Connector uses an update device to represent a master image. Before deploying applications to most machine catalog types managed by MCS or Provisioning Services, you choose an update device to receive the deployment.

Citrix Connector components

The following diagram shows the components used in a Citrix Connector solution. The topics in this section describe each component.

XenApp or XenDesktop Site

ConfigMgr console
- Connector console extension
- ConfigMgr site
- Citrix Connector service
- StoreFront
- Delivery Controller

Citrix Studio
- **Connector group policy**

Server OS machines
- **Connector agent**
- VDA — **Citrix DT handler ***
- ConfigMgr client

Desktop OS machines
- **Connector agent**
- VDA — **Citrix DT handler ***
- ConfigMgr client

Managed devices
- Receiver
- **Citrix DT handler**
- ConfigMgr client

Unmanaged devices
- Receiver

Master images
- **Connector agent**
- VDA — **Citrix DT handler ***
- ConfigMgr client

Additional components required for App-V and PVS

Connector components shown in bold.

* Citrix DT handler is required only if using the ConfigMgr Application Catalog or Software Center to deploy applications.

Citrix Connector service

Citrix Connector service is the bridge between a XenApp or XenDesktop (Citrix) Delivery Site and Configuration Manager. The Connector service:

- Synchronizes XenApp or XenDesktop machine catalogs with device collections.
- Synchronizes XenApp or XenDesktop Delivery Groups with user collections.
- Orchestrates software installation to device collections.
- Publishes applications to users in Delivery Groups.
- Deploys the Citrix XenApp and XenDesktop deployment type to users in user collections.
- Ensures that applications are not published until all required machines have the application successfully installed by Configuration Manager.
- Provides high availability when more than one Connector service is installed.

Configuration Manager console extension

The Configuration Manager console extension enables the Configuration Manager console to work seamlessly with

supported versions of XenApp and XenDesktop. The Connector adds items to the Configuration Manager console such as:

- A Citrix Delivery Sites node under Assets and Compliance > Device Collections. This node includes Citrix machine catalogs.
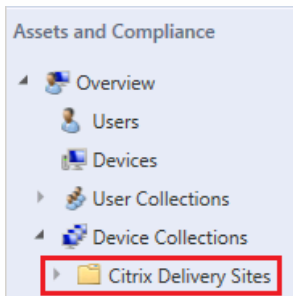

The Connector also adds a Citrix Delivery Sites node under Assets and Compliance > User Collections. That node includes Citrix Delivery Groups.

- A Citrix Application Publications node under Software Library > Application Management. Items in this node are published across all Citrix Delivery Sites.
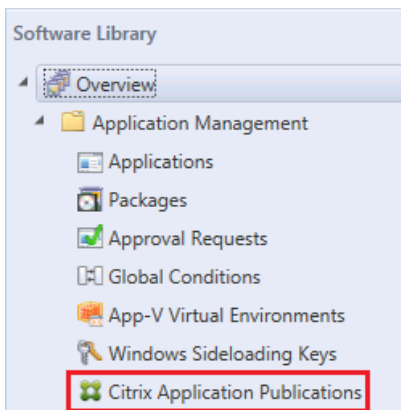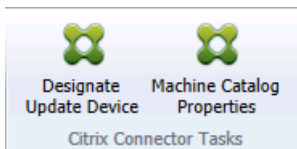

- A Citrix-specific deployment type, named Citrix XenApp and XenDesktop, which is required only to deploy Citrix hosted applications to the Configuration Manager Application Catalog or Software Center on devices managed by Configuration Manager.
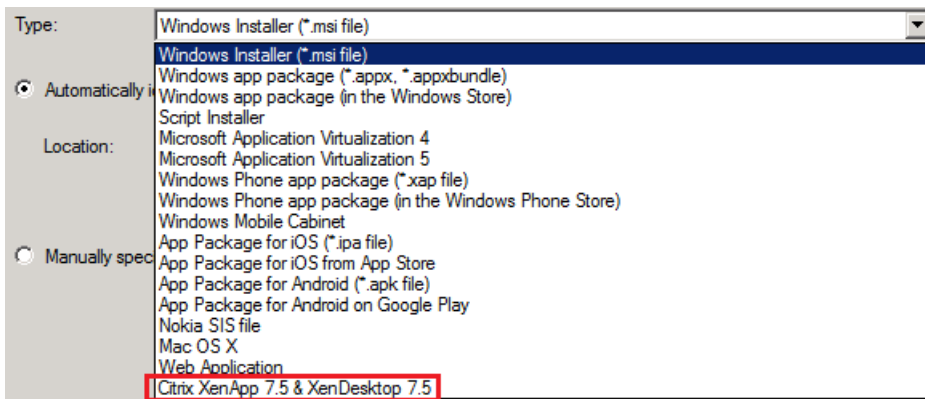
- Two commands on the Configuration Manager ribbon that appear when you select a machine catalog in a device collection.

Citrix Connector agent

The Citrix Connector agent runs on Desktop OS and Server OS machines that are members of Citrix machine catalogs. The Connector agent handles application and software update installation by coordinating with the Configuration Manager idle policy feature. The Connector agent also orchestrates deployments for Server OS machines that are managed by Provisioning Services or manually.

Citrix deployment handler

The Citrix deployment handler is an optional component that is required only to deploy Citrix hosted applications to the Configuration Manager Application Catalog or Software Center on devices managed by Configuration Manager. In that scenario the Citrix XenApp and XenDesktop deployment type must have the highest priority.

Important: The Citrix deployment handler is not required to publish applications to Receiver.
The Citrix deployment handler works with the Configuration Manager client as follows:

- If an application has the Citrix XenApp and XenDesktop deployment type as the highest priority, the Citrix deployment handler adds to the Windows Start screen or menu an icon that launches the Citrix hosted application. To users, those applications appear and operate like locally installed applications.
- If an application does not have the Citrix XenApp and XenDesktop deployment type, or that deployment type does not have the highest priority, Configuration Manager handles the deployment.

Citrix policies

Citrix policies configure how the Connector agent handles items such as advanced warning messages and forced logoff

messages for Server OS machine catalogs that are managed by Provisioning Services or manually. There is also a policy that configures the Connector agent maintenance frequency.

All Connector policies have default settings. Be sure to review the defaults to verify that they are appropriate for your environment. For setting descriptions and defaults, see Connector for Configuration Manager Policy Settings.

XenApp or XenDesktop VDA

The XenApp or XenDesktop VDA communicates with Delivery Controllers that manage user connections. The VDA enables Connector to obtain information about an image, such as its provisioning type, whether it is a master image, and whether the OS image is out of date.

Provisioning Services Agent

Provisioning Services allows computers to be provisioned and re-provisioned in real-time from a single shared-disk image. The Connector agent running on a production vDisk image detects when a new vDisk image is available and delivers the new image during the next maintenance window. The Provisioning Services agent is required only for shared images and must be installed on the master vDisk image.

Citrix Receiver and StoreFront

On devices that are not managed by Configuration Manager, users access virtual desktops and applications in Receiver from stores managed by StoreFront. The Connector works with Receiver on all user devices supported by XenApp or XenDesktop. The Connector also works with the Web Interface version supported by XenApp or XenDesktop.

On devices that are managed by Configuration Manager, users can access applications from the Configuration Manager Application Catalog and Software Center. Although users will not see Receiver in this scenario, the Connector requires StoreFront use with Receiver on managed devices. StoreFront provides application icons to Configuration Manager Application Catalog and Software Center.

System requirements

Sep 27, 2017

Before installing the Connector, verify that your configuration meets these requirements.

XenApp or XenDesktop (Platinum edition only)

Supported releases:

- XenApp 7.15
- XenApp 7.14
- XenApp 7.13
- XenApp 7.12
- XenApp 7.11
- XenApp 7.8
- XenApp 7.7
- XenApp 7.6
- XenApp 7.5
- XenDesktop 7.15
- XenDesktop 7.14
- XenDesktop 7.13
- XenDesktop 7.12
- XenDesktop 7.11
- XenDesktop 7.8
- XenDesktop 7.7
- XenDesktop 7.6
- XenDesktop 7.5
- XenDesktop 7.1

Microsoft System Center 2012 Configuration Manager

Supported releases:

- System Center 1511, 1602, 1606, 1610, 1702 and 1706
- System Center 2012 R2 SP1 Configuration Manager*
- System Center 2012 R2 Configuration Manager
- System Center 2012 SP2 Configuration Manager*
- System Center 2012 SP1 Configuration Manager

* Requires application of Microsoft hotfix. See https://support.microsoft.com/en-us/kb/3074246 for more information.

Citrix Connector service

Supported operating systems:

- Windows Server 2016
- Windows Server 2012 R2 Editions
- Windows Server 2008 R2 Editions

Requirements:

- 50 MB of disk space for installation and up to another 50 MB for logging

- Connectivity to a Citrix Delivery Controller
- Connectivity to the Configuration Manager site server
- .NET Framework 3.5 SP1 and .NET Framework 4.5.2, 4.5.1, or 4.5

Citrix deployment handler

Requires one of the following clients installed:

- System Center 1511 Configuration Manager client
- System Center 2012 Configuration Manager R2 client
- System Center 2012 Configuration Manager SP1 client

Supported operating systems:

- Windows Server 2106
- Windows Server 2012 R2 Editions
- Windows Server 2008 R2 Editions
- Windows 10
- Windows 8.1
- Windows 8
- Windows 7 SP1

Connector agent

Supported operating systems:

- Windows Server 2106
- Windows Server 2012 R2 Editions
- Windows Server 2008 R2 Editions
- Windows 10
- Windows 8.1
- Windows 8
- Windows 7 SP1

Configuration Manager console extension

Supported releases:

- System Center 1511, 1602, 1606, 1610, 1702 and 1706
- System Center 2012 R2 SP1 Configuration Manager
- System Center 2012 R2 Configuration Manager
- System Center 2012 SP2 Configuration Manager
- System Center 2012 SP1 Configuration Manager
- System Center 2012 Configuration Manager R2 console
- System Center 2012 Configuration Manager SP1 console

Supported operating systems:

- Windows Server 2016
- Windows Server 2012 R2 Editions
- Windows Server 2008 R2 Editions

- Windows 10
- Windows 8.1
- Windows 8
- Windows 7 SP1

Requirements:

- 50 MB of disk space for installation and up to another 50 MB for logging
- Connectivity to a Citrix Delivery Controller
- Connectivity to the Configuration Manager site server
- .NET Framework 3.5 SP1 and .NET Framework 4.5.2, 4.5.1, or 4.5

System Center 2012 Configuration Manager R2 console App-V Client

Supported releases:

- App-V Client for Remote Desktop Services, version 5.0 SP2
- App-V Client for Remote Desktop Services, version 5.0 SP1
- App-V Client for Remote Desktop Services, version 4.6.1 SP1

Active Directory

- All components must be in the same domain or in domains that trust each other. This includes the XenApp or XenDesktop infrastructure, the Configuration Manager infrastructure, the Connector service machine, StoreFront, and VMs containing master images.
- User devices must be on the same Active Directory domain as the StoreFront stores. If unmanaged user devices point directly to a XenApp or XenDesktop server, they do not have to be domain joined.

Unmanaged user devices

An unmanaged device is a device without the Configuration Manager client installed. Unmanaged devices include mobile devices, home PCs, and Macs.

Requirements:

- Any Citrix Receiver compatible with supported versions of XenApp or XenDesktop

The Connector supports the same Receiver configurations as XenApp or Desktop, including StoreFront or Web Interface.

Managed user devices

Devices with the Configuration Manager client installed are managed devices. Managed devices must be domain joined.

Requirements:

- Configuration Manager client
- Citrix deployment handler
- Citrix Receiver for Windows 4.9
- Citrix Receiver for Windows 4.8
- Citrix Receiver for Windows 4.7
- Citrix Receiver for Windows 4.6
- Citrix Receiver for Windows 4.5

- Citrix Receiver for Windows 4.4
- Citrix Receiver for Windows 4.3
- Citrix Receiver for Windows 4.2
- Citrix Receiver for Windows 4.1
- Citrix Receiver for Windows 4.0
  Required for Windows Start screen and menu integration. Users will not see the Receiver interface. This feature is not supported by the Enterprise edition of Receiver.

- StoreFront 3.11
- StoreFront 3.5
- StoreFront 3.9
- StoreFront 3.8
- Storefront 3.7
- StoreFront 3.6
- StoreFront 3.5
- StoreFront 3.0
- StoreFront 2.5
- StoreFront 2.1
  Required for integration with the Application Catalog and Software Center.

For more information, refer to Configure Windows Start screen or menu integration.

StoreFront aggregated resources

Requirements:

- StoreFront 3.11
- StoreFront 3.9
- StoreFront 3.8
- Storefront 3.7
- StoreFront 3.6
- StoreFront 3.5
- StoreFront 3.0
- StoreFront 2.5
- Storefront 2.1
- Receiver for Windows 4.9
- Receiver for Windows 4.8
- Receiver for Windows 4.7
- Receiver for Windows 4.6
- Receiver for Windows 4.5
- Receiver for Windows 4.4
- Receiver for Windows 4.3
- Receiver for Windows 4.2
- Receiver for Windows 4.1
- Receiver for Windows 4.0
- XenApp or XenDesktop configured to publish applications from multiple Delivery Sites to a single store

For more information about StoreFront resource aggregation, refer to StoreFront high availability and multi-site configuration.

Technical overview

May 02, 2016

Citrix Connector 3.1 provides a bridge between Microsoft System Center Configuration Manager and XenApp or XenDesktop, enabling you to extend the use of Configuration Manager to your Citrix environments. Connector 3.1 is compatible with XenApp 7.5, 7.6, 7.7, and 7.8 and XenDesktop 7.1, 7.5, 7.6, 7.7, and 7.8.

With Citrix Connector, you can unify day-to-day operations across the physical environments you manage with Configuration Manager and the virtual environments you manage with XenApp or XenDesktop. The Connector:

- Provides a single location where you can define and manage user access to all applications.
- Extends the deployment capabilities of Configuration Manager to enable the delivery of any application to any user, on virtually any device.
- Adds value to XenApp or XenDesktop by using Configuration Manager policies to automate application and software update installation.
- Provides automated and consistent installation of software across one or more Citrix Delivery Sites.

The Citrix Connector documentation is intended for administrators who are familiar with Microsoft System Center Configuration Manager 2012 and the compatible versions of XenApp or XenDesktop.

In addition to this product documentation, you can refer to the Citrix Connector forum.

Strategies and best practices

Device collections and machine catalogs

The Connector provides a clear mapping between your XenApp and XenDesktop machine catalogs and Configuration Manager device collections. In addition, as you prepare a deployment, the Connector provides assistance through Configuration Manager console messages and the Machine Catalog Properties so you can correctly target application installation and updates.

If you are not familiar with the machine catalogs in your Citrix environment, determine which catalogs are the correct targets for particular application and update deployments. The following table can help you determine the machine catalog to target based on the following characteristics:

- The machine catalog, desktop, and allocation type
  - Desktop OS machine catalogs are used to deliver generic or personalized desktops to users or to deliver applications from desktop operating systems. Each machine hosts one user session. A random allocation means that users connect to a new desktop each time they log on. A static allocation means that users connect to the same desktop each time they log on.
  - Server OS machine catalogs are used to deliver applications or hosted shared desktops to users. Each machine can host multiple user sessions. Server OS machines always provide randomly allocated desktops to users.
- How user data will be handled
  The user data on a randomly allocated desktop is discarded when a user logs off. The user data on a statically allocated desktop can be stored on the local disk or on a Citrix Personal vDisk (PvD).

- Which component notifies users before a pending application installation

As indicated in the following table, the component that manages deployment varies based on the provisioning method and the machine catalog type.

When the Connector orchestrates application installation, it notifies users before the next maintenance window to ensure that no users are logged in when the software is being installed. That feature is based on the idle policy, which does not apply if user data is saved on a local disk. For more information, refer to Deployment orchestration.

| Provisioning method	Machine catalog type	Desktop type	Allocation type	User data handling	Notifications managed by
MCS	Desktop OS	Generic	Random	Discarded	Studio
		Personalized	Static	Saved on PvD	Studio
		Generic		Discarded	Studio
		Personalized		Saved on local disk	Studio
	Server OS	Hosted shared	Random	Discarded	Studio
Provisioning Services	Desktop OS	Generic	Random	Discarded	Not applicable
		Personalized	Static	Saved on PvD	Not applicable
	Server OS	Hosted shared	Random	Discarded	Connector
Manual	Desktop OS	Personalized	Random or Static	Saved on local disk	Configuration Manager
	Server OS	Hosted shared	Random	Discarded	Connector

How user data is handled generally determines where you install software and updates:

- If user data is stored on the local disk, you install an application on the local storage attached to each XenApp or XenDesktop worker.
- If user data is discarded or stored on a PvD, you install an application on an update device. An update device represents a VM with a master image used with MCS or Provisioning Services. The Connector identifies VMs with the XenApp or XenDesktop VDA as master images.

For information about application deployment, click a link in the preceding table, in the Provisioning method column.

The Connector provides for each machine catalog a summary of its characteristics, including information about how to handle the catalog. To view that information, navigate to Device Collections > Citrix Delivery Sites > Catalog, right-click a catalog in the list, and choose Machine Catalog Properties. Click a property to view its description.
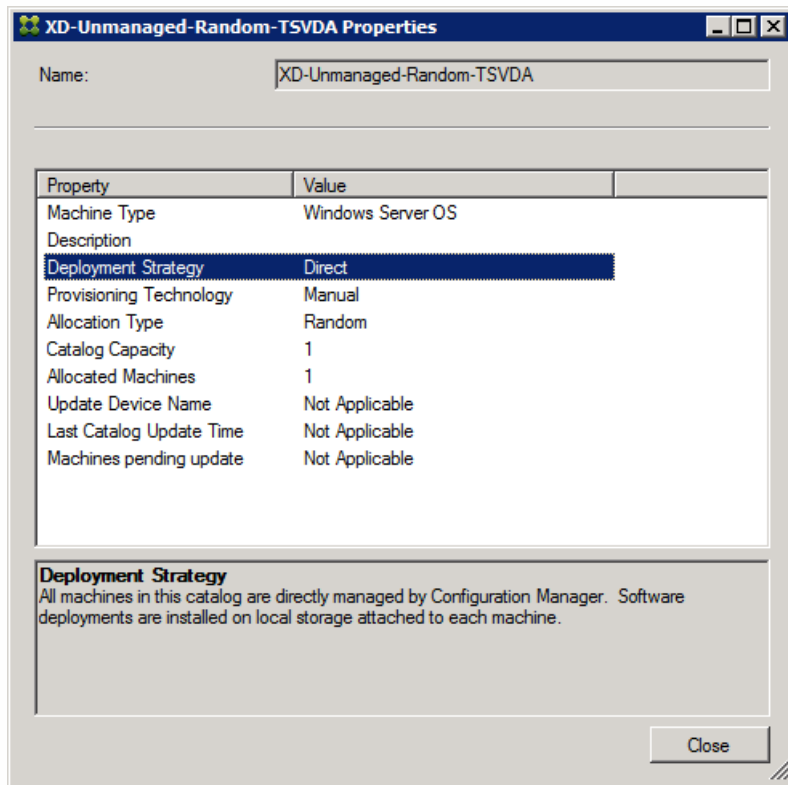
Device collection maintenance

When considering whether to edit or delete a device collection created by the Connector, be aware that:

- Citrix recommends that you edit device collections only if you need to change a custom maintenance window specified in the Citrix Connector Configuration wizard.
  Changes to other device collection properties might adversely impact Connector operations.

- Configuration Manager will allow you to manually delete a device collection created by the Connector. However, the Connector synchronization task will restore the device collection and the machines in it. After that, you must designate the update device again.

Application deployment types

The Connector supports the MSI, App-V, and Script deployment types built in to Configuration Manager. The Connector also provides a Citrix-specific deployment type, named Citrix XenApp and XenDesktop, which is required only to deploy Citrix hosted applications to the Configuration Manager Application Catalog or Software Center on devices managed by Configuration Manager.

When choosing a deployment type, consider the following:

- Whether you use an MSI or App-V deployment type depends on your requirements and preference. The choice does not impact Connector operation.
- The Connector requires the Script deployment type to publish an application that is already on a server image, such as Internet Explorer. In that case, you would create a Script deployment type that references Internet Explorer on the server and then reference the Script deployment type to publish Internet Explorer. The steps in Create a Script-based application use Internet Explorer as an example.

For information about creating deployment packages and software update groups, refer to the Microsoft TechNet documentation for System Center Configuration Manager.

MCS image management

The Connector enables you to target applications to MCS based machine catalogs that have a single master image and many machine clones based on the master image. The Connector integration with MCS incorporates the tasks that you normally perform during provisioning setup and configuration.

Create a script-based application

As you review the following diagram, consider how the provisioning setup and configuration tasks will fit into your workflow. For example, if administrators for both Configuration Manager and XenApp or XenDesktop will be involved the following process, determine how those teams will coordinate their efforts.
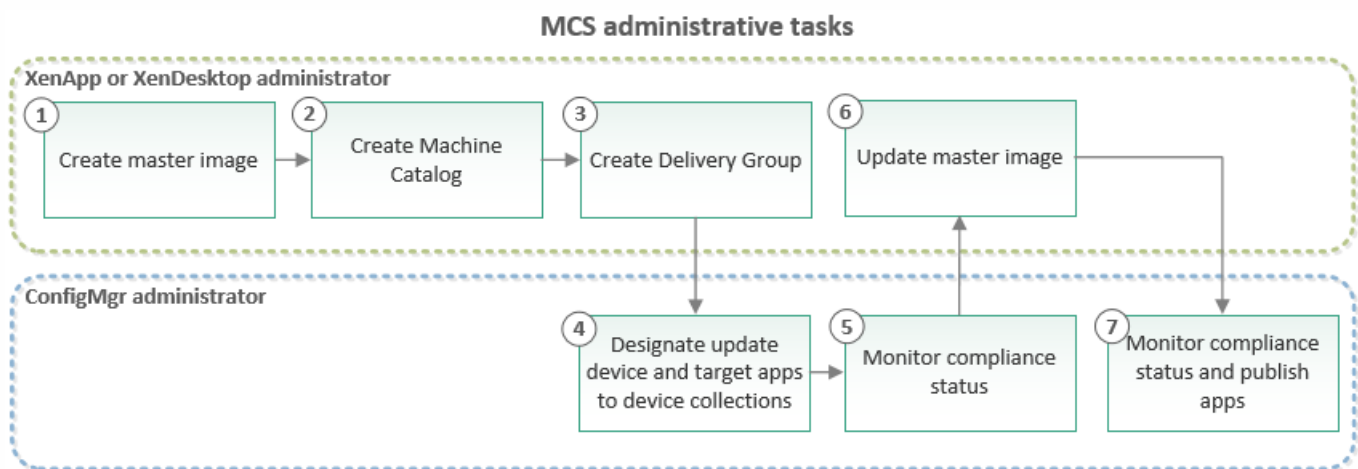
Steps 1 - 3: After a master image is created, a Citrix administrator uses Studio to create a Machine Catalog and Delivery Group.

Step 4: After the Connector synchronizes Configuration Manager with XenApp or XenDesktop, a Configuration Manager administrator designates an update device for the master image and then deploys applications.

Step 5: A Configuration Manager administrator monitors compliance status to ensure that the application deployment is complete.

Step 6: A Citrix administrator uses Studio to update the machine catalog, which applies the updates to the master image.

Step 7: A Configuration Manager administrator monitors compliance status to ensure that deployment to machine clones is complete. Applications are then ready for publishing.

Note: Steps 4 - 7 are performed repeatedly over the life of the machine catalog.

Provisioning services image management

The Connector enables you to target applications to Provisioning Services based machine catalogs that have a single master image, known as a vDisk, and many machine clones based on that vDisk. The Connector integration with Provisioning Services incorporates the tasks that you normally perform during provisioning setup and configuration.

As you review the following diagram, consider how the provisioning setup and configuration will fit into your workflow. For example, if administrators for Configuration Manager, XenApp or XenDesktop, and Provisioning Services will be involved the following process, determine how those teams will coordinate their efforts.
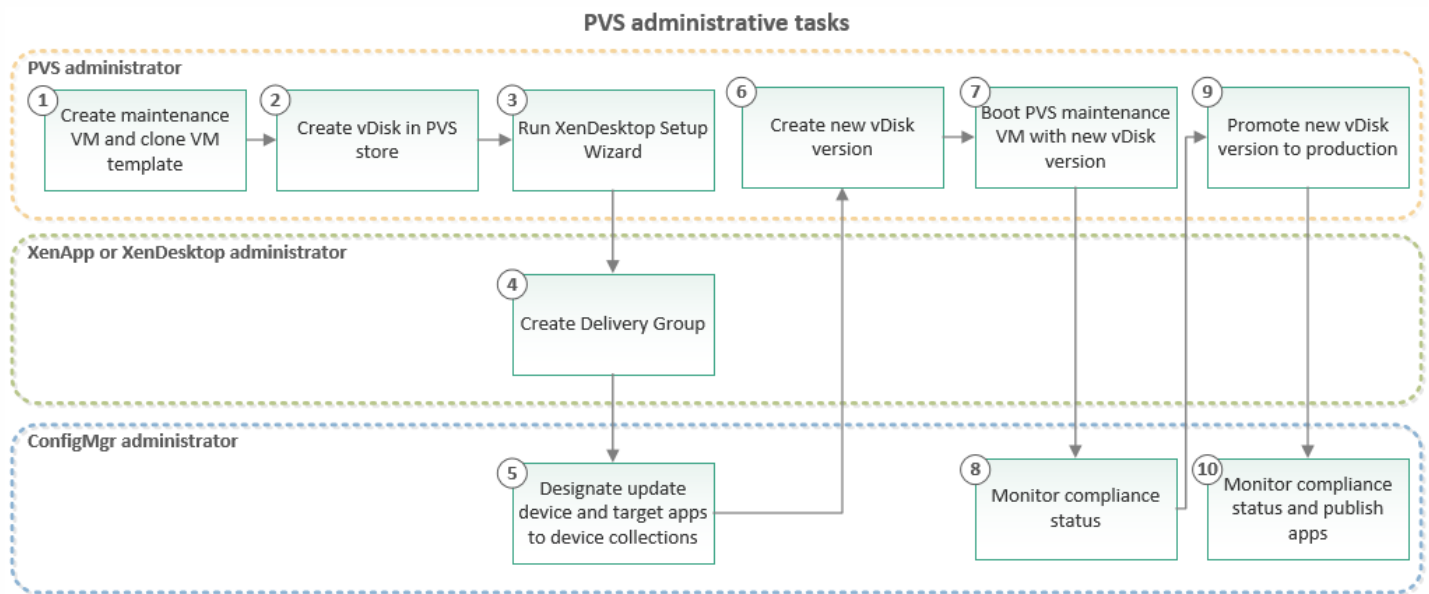
Steps 1 - 3: A Citrix administrator uses Provisioning Services to create maintenance and clone VM templates, create a vDisk, and then run the XenDesktop Setup Wizard. That wizard deploys virtual desktops to VMs and adds the virtual desktops to a machine catalog.

Step 4: A Citrix administrator uses Studio to create a Delivery Group.

Step 5: A Configuration Manager administrator designates an update device for the master image and then deploys applications.

Steps 6 - 7: A Citrix administrator uses Provisioning Services to create a new vDisk version and then boots the maintenance VM with the new vDisk version.

Step 8: A Configuration Manager administrator monitors compliance status to ensure that the application deployment is complete.

Step 9: A Citrix administrator uses Provisioning Services to promote the new vDisk version to production.

Step 10: A Configuration Manager administrator monitors compliance status to ensure that deployment to machine clones is complete. Applications are then ready for publishing.

Note: Steps 5 - 10 are performed repeatedly over the life of the machine catalog.

Deployment orchestration

Deployment orchestration refers to how updates to machine catalogs are rolled out, including when they occur and the user experience. The provisioning method and OS type of a machine catalog determines which product handles the orchestration, as shown in the following table.

Provisioning method	OS type	Product handling orchestration tasks		
Deployment to master image	Deployment to clones	Notifications		
Machine Creation Services	Desktop OS or Server OS	Connector	Studio	Studio
Provisioning Services	Desktop OS	Connector	Provisioning Services	Not applicable
	Server OS	Connector	Connector	Connector

For manually managed Desktop OS (VDI) machines, Configuration Manager handles deployment orchestration. Deploying an application to VDI machines makes it available to users.

For manually managed Server OS (hosted shared) machines, the Connector handles deployment orchestration. Applications are available for publishing to users after all specified machines are updated.

The remainder of this section discusses how the Connector orchestrates deployment. To minimize disruptions to user sessions, the Connector:

- Deploys applications to device collections during a customizable maintenance window.
- Works with the Configuration Manager idle policy feature to defer and trigger application installation.
- Notifies users about pending installations, according to Connector policies.

Maintenance windows

You can configure maintenance windows in Configuration Manager and in the Connector configuration wizard. If no maintenance window is defined, Configuration Manager uses a 24x7 maintenance window.

If you specify a maintenance window in the Connector configuration wizard, the Connector assigns a maintenance window named Citrix Service Window to all device collections when they are first created. You can later add, edit, or delete maintenance windows in the Maintenance Windows tab of the device collection Properties.
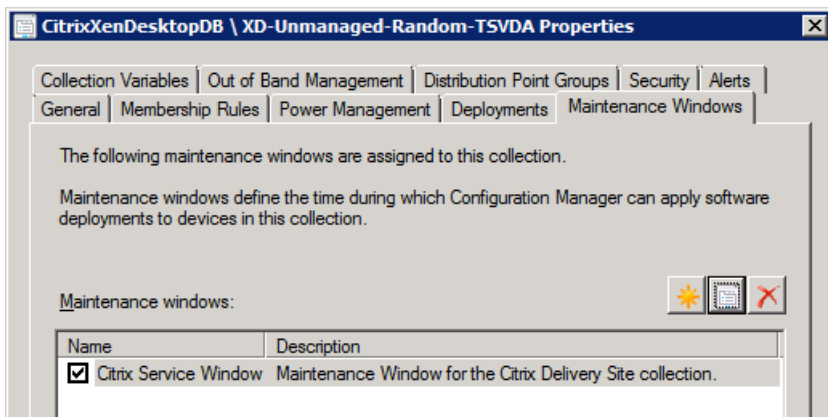
During a maintenance window, Citrix Connector orchestrates:

- Installation of software and updates.
- Application deployment to master images (managed by MCS or Provisioning Services).
- For Provisioning Services managed Server OS machines, the restart of cloned session machines so they can receive changes made to the update device for the master image.
- Deployment to manually managed Server OS machines.
  Note: For manually provisioned machines, the Connector does not install MSI applications if there are connected user sessions. The Connector installs App-V applications regardless of user session status.

Configuration Manager idle policy

The Connector works with the Configuration Manager idle policy feature to defer and trigger application installation for pooled desktops managed by MCS or Provisioning Services. In those scenarios, user data is not stored on the VM.

The Connector enables the Configuration Manager idle policy feature by adding a Citrix XenDesktop Client Settings item in Administration > Client Settings. That item includes the Additional software manages the deployment of applications and software updates property.

With the idle policy enabled, the Connector orchestrates application installation:

- The Connector drains the systems and notifies users before the next maintenance window to ensure that no users are logged in when the software is being installed.
- The Connector forces user log offs after the deployment deadline passes.

User notifications

The Connector policies control user notifications about pending installations for Server OS machine catalogs managed by Provisioning Services or manually. For information about the default settings, refer to Connector for Configuration Manager Policy Settings.

Note: As indicated in the table at the start of this topic, the Connector does not orchestrate deployment for all machine catalog types. For example, Studio manages user notifications for machine catalogs managed by MCS.

To ensure that the Connector policy settings are tuned for your environment, review them in Studio. The policies include how far in advance users are notified about pending installation and updates, the interval between subsequent notifications, and the message title and text.

For forced logoff situations, the policies include the grace period between a notification about a forced logoff and that action, as well as the message title and text. The following timeline, from the start of the maintenance window through scheduled maintenance, indicates the advance warning time period, the advance warning frequency interval, and the force logoff grace period.
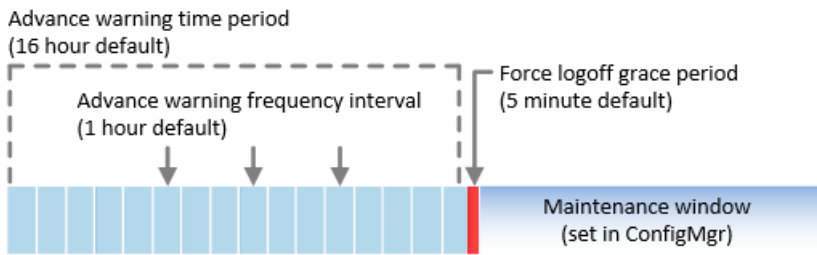

Be sure to review whether the default policy settings are appropriate for your environment. If you choose a custom maintenance window when you configure the Connector, the default start and stop times (1:00 a.m. to 4:00 a.m.) and the default advance warning time period (16 hours) mean that a user notification is sent at 9:00 a.m. You might wish to change those settings to improve the user experience.

Application publishing

The Connector enables you to publish applications to user devices. While you can use the Connector to manage master images for desktops, you cannot use it to publish desktops to users.

The following diagram shows the application publishing process.
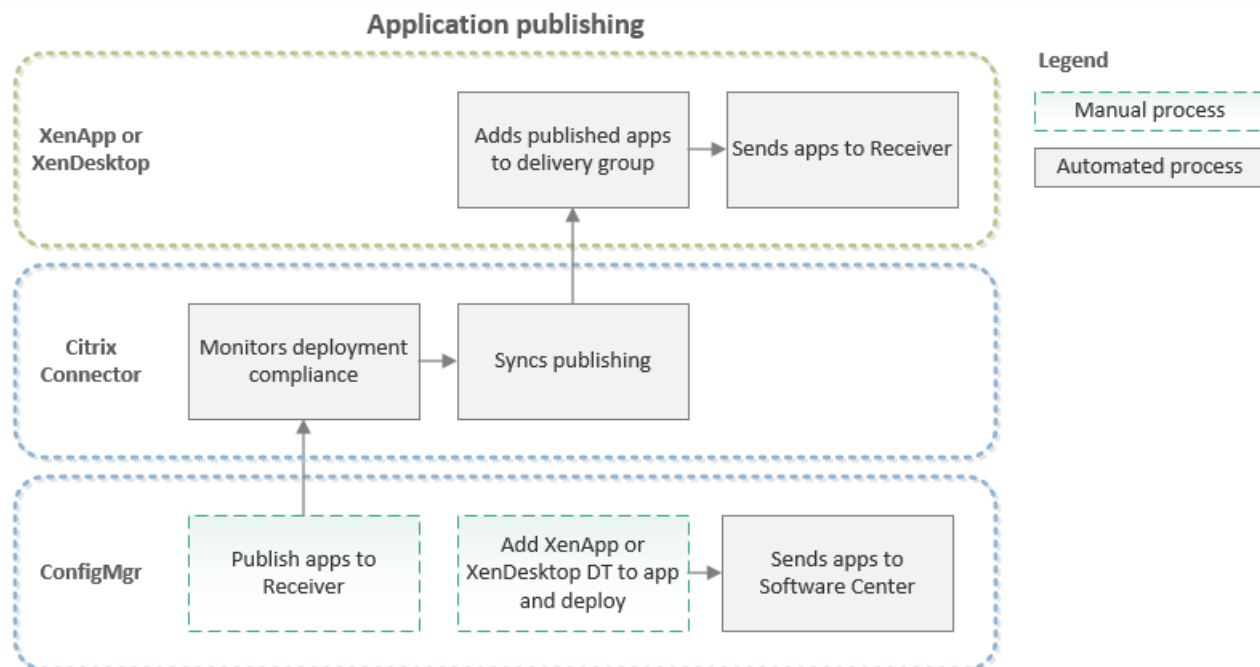
Application publishing and the user experience

Before you begin publishing applications to user devices, consider the type of user devices you want to target and how the applications should appear on those devices. Your answers to the following questions will guide your choices when setting up application publishing.

- Do you plan to use Configuration Manager Application Catalog or Software Center to deliver Citrix hosted applications and desktops to users?
  - No. Use the Citrix Publishing Wizard to publish applications to Citrix Receiver on all user devices supported by XenApp or XenDesktop. In this scenario, the Citrix deployment type is not needed.
  - Yes. To make applications available to the Configuration Manager Application Catalog or Software Center on managed user devices, each user device must have the Configuration Manager client and you must use the Citrix deployment type.
- How should an application appear to the user?
  - What icon do you want to appear in Receiver and in the Windows Start screen or menu?
    For MSI and App-V applications, Connector defaults to the icon specified in the deployment type. For script-based applications, Connector defaults to the Citrix Application icon.

  - Do you want to specify an application category in Receiver so the application appears in a particular folder?
  - Do you want to add an application shortcut to the user desktop?
  - Do you want the application to be visible to all users in the Delivery Group or to a subset of those users?
  When you publish an application, you specify these settings in the Citrix Publishing Wizard. The Connector publishing task resets the options in Studio with the choices specified in the Citrix Publishing Wizard.

Deployments with XenApp 6.5 Connector

Note: The XenApp 6.5 Connector supports only SCCM 2012 SP1 and SCCM 2012 R2. The XenApp 6.5 Connector does not support SCCM 2012 R2 SP1, SCCM 1511 or SCCM 1611.
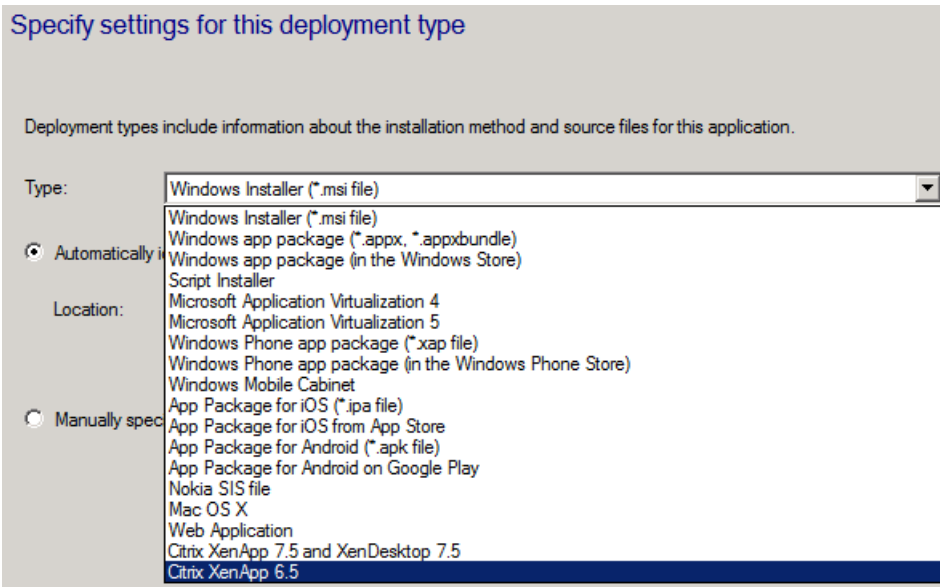
A Mixed environment with Citrix Connector and XenApp Connector enables you to:

- View a unified list of hosted applications from XenApp 6.5 farms and XenApp or XenDesktop Delivery Sites.
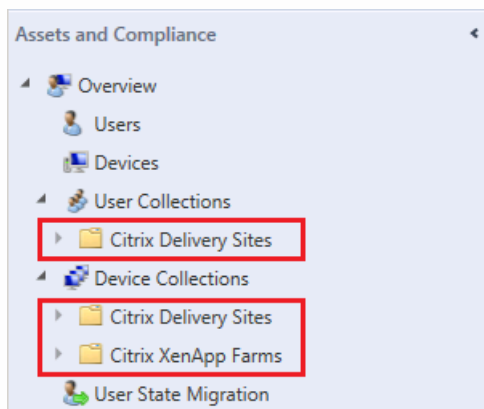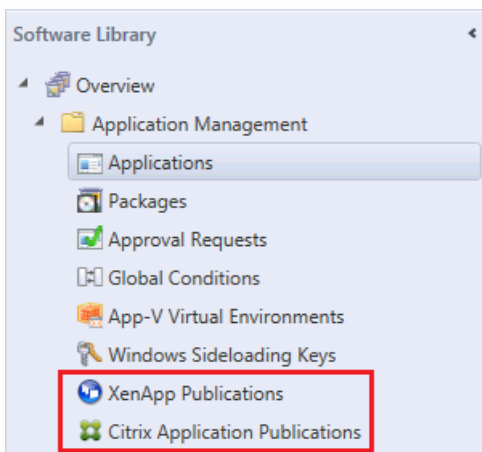

- Deploy applications to the mixed environment.

- Publish applications to the mixed environment.

To see a unified list of applications from XenApp 6.5 and XenApp 7.5, 7.6, 7.7 or 7.8 or XenDesktop 7.1, 7.5, 7.6, 7.7 or 7.8. Receiver users must connect to StoreFront. Receiver users who connect to a particular XenApp or XenDesktop server will see only the applications published by that server.

Follow these best practices when using Citrix Connector 3.1 with XenApp 6.5 Connector:

- Ensure that the console extension for XenApp 6.5 Connector and Citrix Connector 3.1 are both installed. The Configuration Manager console is unable to load a deployment technology that is not registered with it. You can install the two console extensions in any order.
- If you plan to make applications available to the Configuration Manager Application Catalog or Software Center on managed devices, the Citrix XenApp and XenDesktop deployment type and Citrix Receiver are required for support of StoreFront application aggregation.

- A deployment that uses the Citrix XenApp 6.5 deployment type must include the global condition "Existential of Citrix XenApp Server Version Not Equal to 0". For more information, refer to the topics under Deploy applications and software updates to XenApp servers.
- Before uninstalling either Connector, review Uninstall the Connector.

Administrator roles and responsibilities

This topic summarizes the roles and Connector-related responsibilities for administrators who manage Active Directory, System Center Configuration Manager, and Citrix products. The size and structure of your organization determines whether one or several administrators handle the responsibilities.

- Active Directory administrator
  Active Directory administrator responsibilities include the management of user accounts and their permissions, computer accounts, and security groups.

  An Active Directory administrator must create a service account for Connector.

- Configuration Manager administrator
  Configuration Manager administrator responsibilities include the management of applications, asset inventory, client desktop software, OS updates, and client device compliance. A Configuration Manager administrator uses the Configuration Manager console to:

  - Set configuration values necessary for timely updates
  - Add and remove systems
  - Create and delete collections
  - Deploy applications
  - Publish applications
  - Verify that deployed applications and desktops work, OSs are patched, and any security vulnerabilities are addressed
  - Monitor compliance status and progress

  A Configuration Manager administrator uses the Citrix Connector configuration wizard to:

  - Enter credentials for the Connector service account
  - Specify the Citrix Delivery Controller and the Configuration Manager site server
  - Create a maintenance window for a XenApp or XenDesktop Site collection
- Citrix administrator
  Citrix administrator responsibilities include the management of host connections, machine catalogs, and Delivery Groups. The capacity and infrastructure planning by a Citrix administrator includes the number of virtual desktops needed and which desktops and applications are provided to Delivery Groups.

  A Citrix administrator uses Citrix Studio to:

  - Build machine catalogs from the virtualization infrastructure, MCS, Provisioning Services, and physical machines
  - Manage base images and install software
  - Create Delivery Groups
  - Deliver applications, desktops, and machines; manage the associated sessions
  - Orchestrate deployment to machine clones in MCS-based machine catalogs
  - Manage the Citrix infrastructure

  A Citrix administrator uses the Provisioning Services console to:

  - Create vDisks

- Use the XenDesktop Setup Wizard to deploy virtual desktops to VMs and to add the virtual desktops to a machine catalog
- Promote new vDisk versions to production
- Orchestrate deployment to Desktop OS machine catalogs managed by Provisioning Services

Plan

May 02, 2016

You can start with a basic proof-of-concept deployment for Citrix Connector and then scale it for the following:

- High availability
- Mixed environments of XenApp 6.5 and XenApp 7.5, 7.6, 7.7 or 7.8; mixed environments of XenApp 6.5 and XenDesktop 7.1, 7.5, 7.6, 7.7, or 7.8
- Multiple XenApp 6.5 farms and XenApp 7.5, 7.6, 7.7, or 7.8 or XenDesktop 7.1, 7.5, 7.6, 7.7, or 7.8 Delivery Sites
- Multiple geographies
- Combinations of those deployments

The same components are used for all deployment types. Be sure to review system requirements before starting a deployment.

Proof of concept

The following proof-of-concept deployment diagram includes one Configuration Manager site, one Citrix Connector service machine, and one Citrix Delivery Site. For a non-production environment, the Citrix Connector service can reside on a separate VM, as shown, or on the Configuration Manager site server.
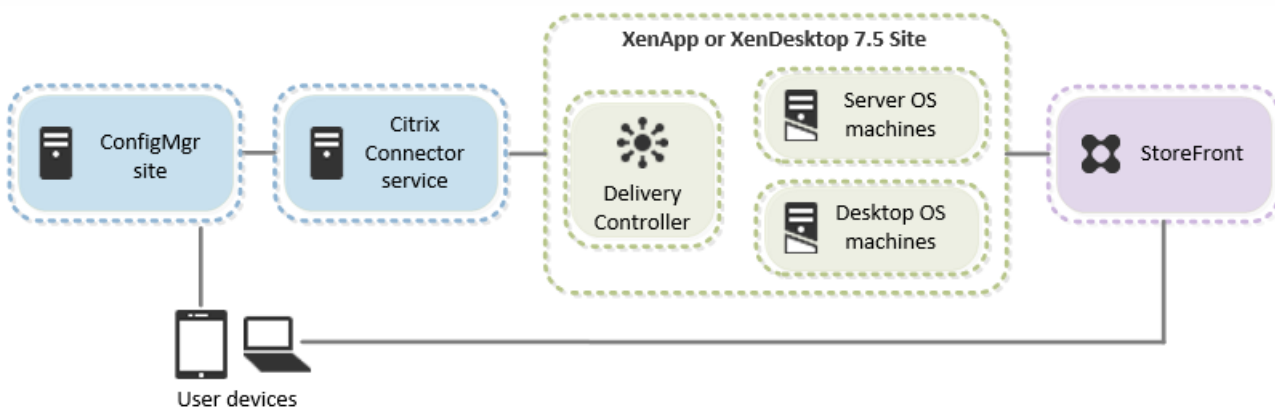
The Citrix Connector service communicates with the Configuration Manager SMS Provider and the Citrix Delivery Controller.

For a step-by-step guide through the entire process, from installation to deploying and publishing an application, refer to the Citrix Connector 7.5 Proof-of-Concept Deployment Guide.

Mixed environment with Citrix Connector and XenApp Connector

Your deployment can include both Citrix Connector 7.5 and XenApp Connector 6.5 in either of the following mixed environments:

- XenApp 6.5 and XenApp 7.5, 7.6, 7.7 or 7.8
- XenApp 6.5 and XenDesktop 7.1, 7.5, 7.6, 7.7 or 7.8

In a mixed environment, Citrix Connector displays a unified list of hosted applications from XenApp 6.5 farms and XenApp or XenDesktop Delivery Sites. You can configure maintenance windows for the mixed environment and deploy and publish applications from both environments.

Note: The XenApp 6.5 Connector supports only SCCM 2012 SP1 and SCCM 2012 R2. The XenApp 6.5 Connector does not support SCCM 2012 R2 SP1, SCCM 1511 or SCCM 1611.

The installers for Citrix Connector components will assist you in installing the correct combination of components in a mixed environment. For example, if you attempt to install the Connector 3.1 agent on a machine that has the XenApp 6.5 Connector agent, the installer will let you know that action is invalid and prevent the installation.

The following deployment diagram shows a mixed environment with one XenApp or XenDesktop Delivery Site and one XenApp 6.5 farm. One Citrix Connector service machine and one XenApp Connector service machine point to a single Configuration Manager site.

The two Connectors can reside on the same or separate VMs.

For a production environment we recommend that you do not install the Connector service on the Configuration Manager site server.
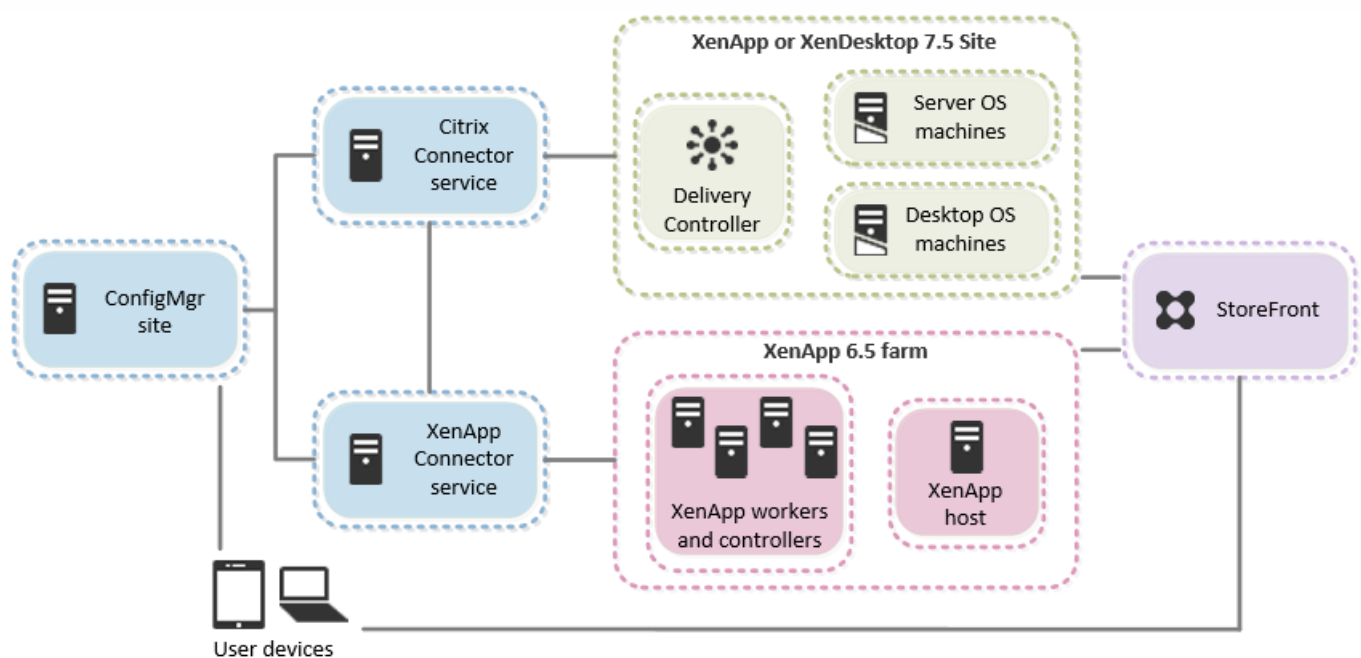
The Citrix Connector service and XenApp Connector service communicate with the Configuration Manager SMS Provider. The Citrix Connector service communicates with the Citrix Delivery Controller. The XenApp Connector service communicates with a XenApp host, which must be a Controller and not a worker machine.

Mixed environment with high availability

The Connector high availability feature provides a reliable fault tolerance mechanism to ensure service continuity during disruptions in infrastructure components such as software, hardware, network, and power.

A high availability deployment includes multiple Connector service machines. The Connector optionally uses an active/passive model for high availability: Only one Connector service operates at a time per XenApp or XenDesktop Delivery Site, thus minimizing resource usage while ensuring operation continuity. If the active Connector service becomes inoperable, another Connector service automatically takes its place. Adding Connector service machines does not increase capacity, so a high availability deployment is recommended regardless of the size of your operation.

Active instance and related information are stored in the Configuration Manager database for persistence.

The following deployment diagram shows a mixed environment with one XenApp or XenDesktop Delivery Site and one XenApp 6.5 farm. Two Citrix Connector service machines and two XenApp Connector service machines provide high availability for their respective Delivery Site and farm.

The two Connectors can reside on the same or separate VMs. For a production environment we recommend that you do not install the Connector service on the Configuration Manager site server.
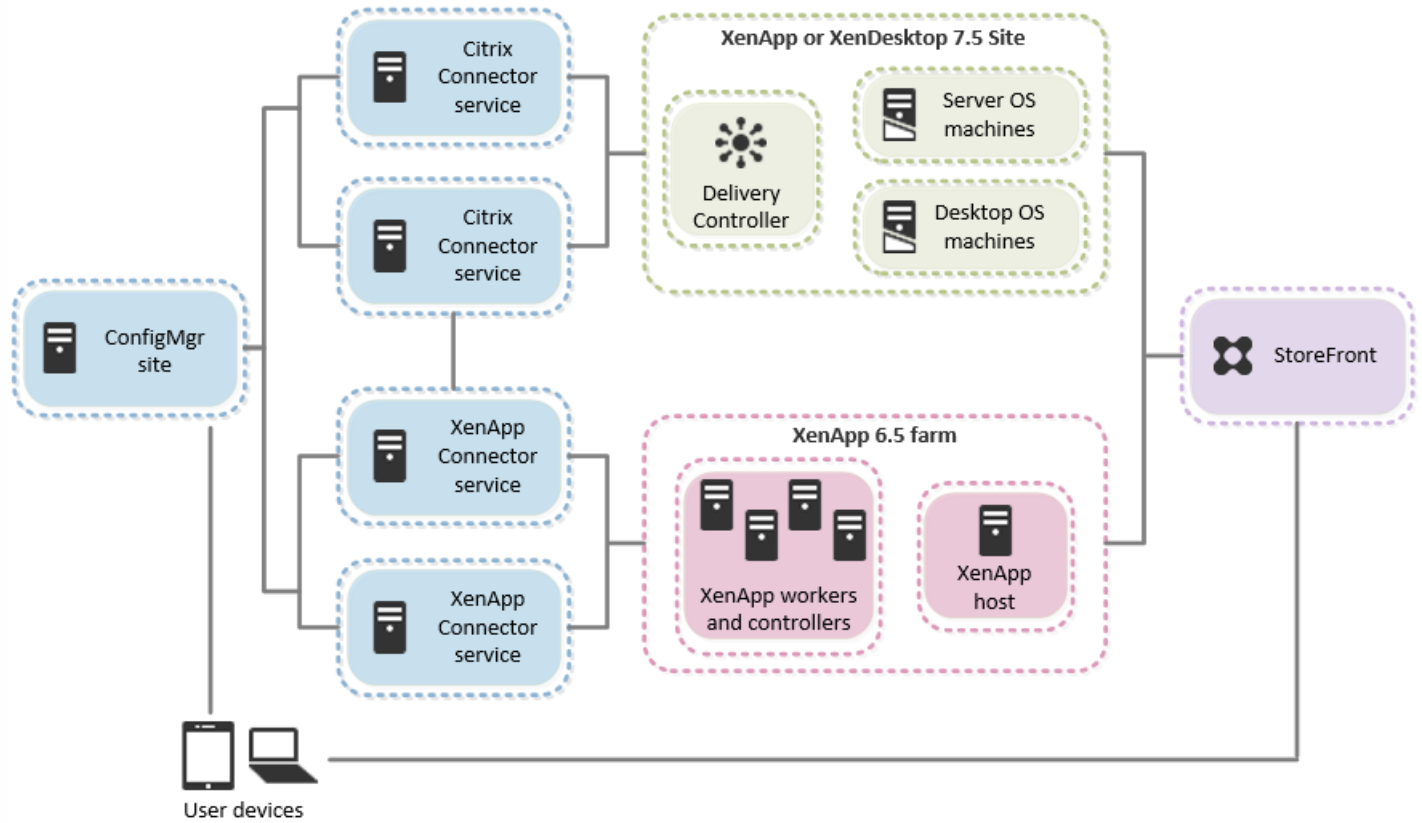
The Citrix Connector service and XenApp Connector service communicate with the Configuration Manager SMS Provider. Any number of Connector services can point to a Configuration Manager site server. Different Connector services can point to different SMS Providers per Configuration Manager site to improve fault tolerance by avoiding a single point of failure on the Configuration Manager side.

The Configuration Manager site database is also used to store the High Availability table, which contains information about which Connector service is currently active for a given Delivery Site or farm.

The Citrix Connector service communicates with the Citrix Delivery Controller. The XenApp Connector service communicates with a XenApp host, which must be a Controller and not a worker machine. For a Delivery Site with multiple Delivery Controllers, pointing multiple Connectors to one Delivery Controller does not provide high availability if the Delivery Controller becomes unavailable. Thus, be sure to use at least one Connector service per Delivery Controller.

Enterprise environment

The simplest way to use Citrix Connector to manage multiple Citrix Delivery Sites is to set up one or more Connector service machines for each of those Sites. You configure each Connector service independently as if the Site it points to is the only

one in the enterprise. Citrix Connector automatically handles the existence of the other Citrix Delivery Sites and operates without conflict.

In all other respects, the following deployment diagram has the same setup as a mixed environment with high availability.
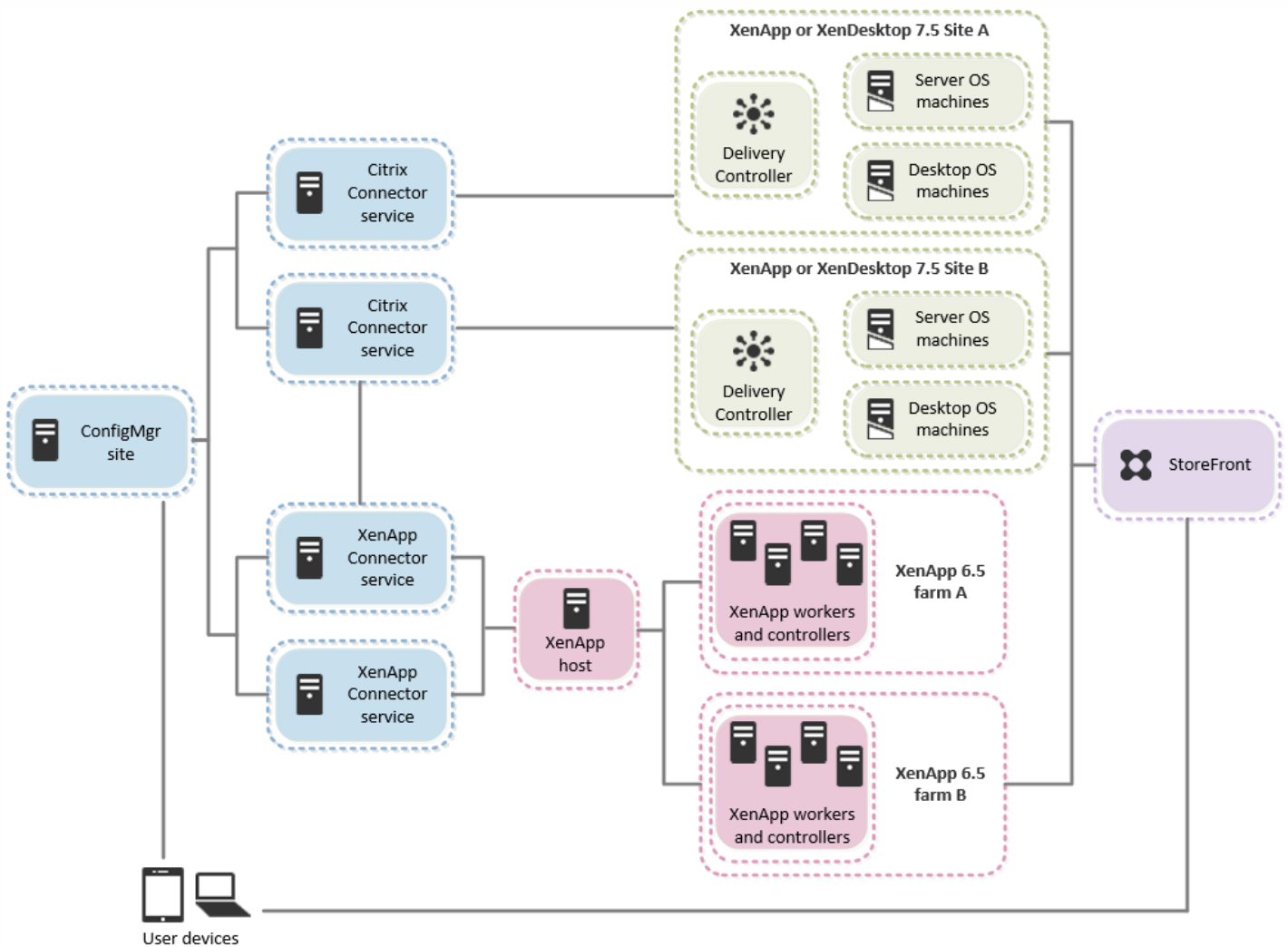
Multiple geographic locations

The following example deployment shows a large multi-geography site hierarchy that uses a Configuration Manager Central Administration Site (CAS) with three Primary Sites (Americas, Europe, and Asia).
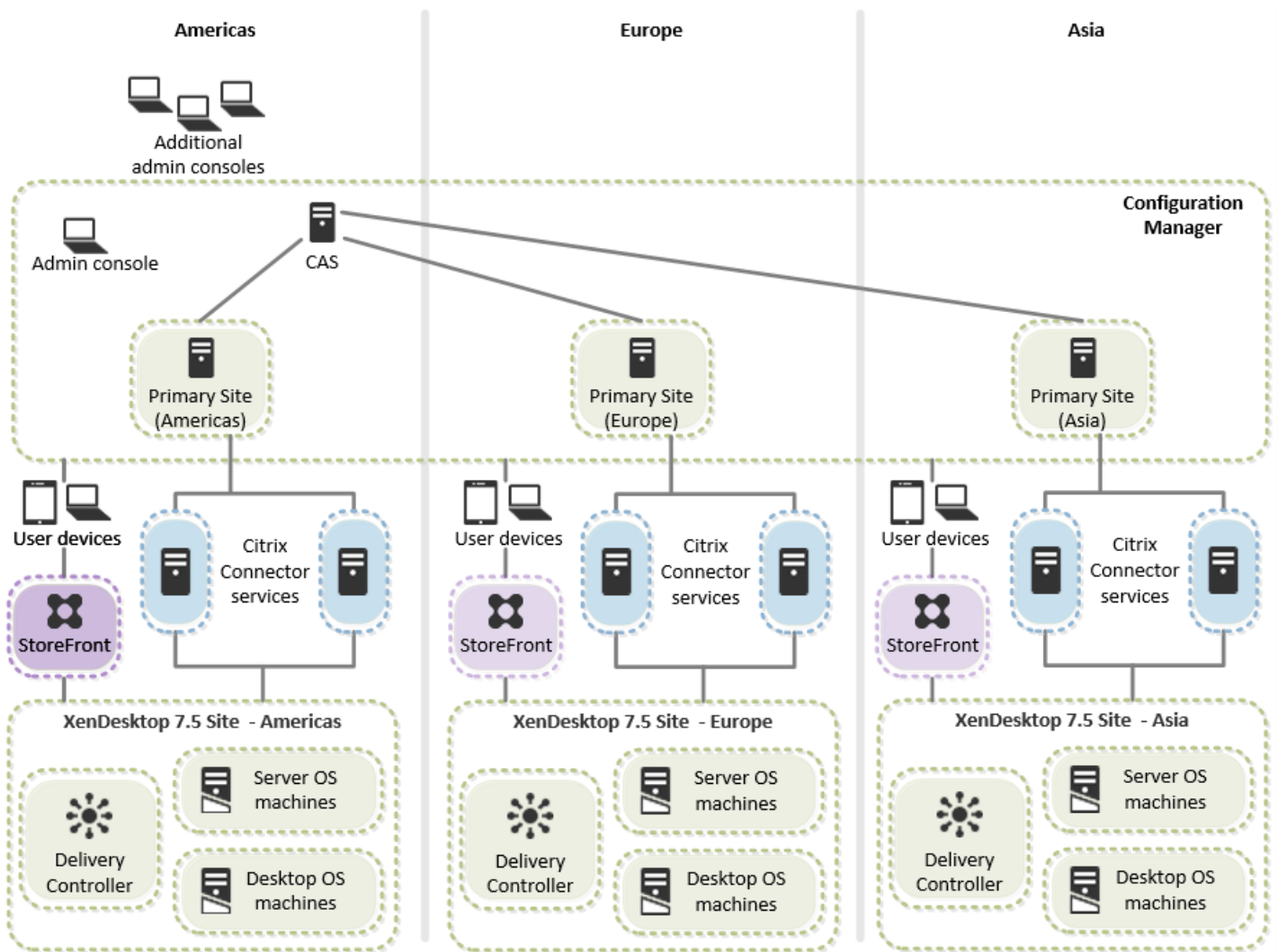
When planning the deployment of Citrix Connector within a given Configuration Manager topology:

- Always place the various Citrix Connector service machines in close network proximity to the Citrix Delivery Sites and the Configuration Manager site servers.
- Allow Configuration Manager to handle inter-site communication, replication, slow links, and so on.
- When possible, avoid long distance communications between the Citrix Connector service and the machines it communicates with.

Secondary sites, not shown in the diagram, are managed by their parent Primary Site and therefore by the Citrix Connector service(s) on or pointing to their respective Primary Site. Installing Citrix Connector on Secondary Site machines serves no purpose and is not recommended.
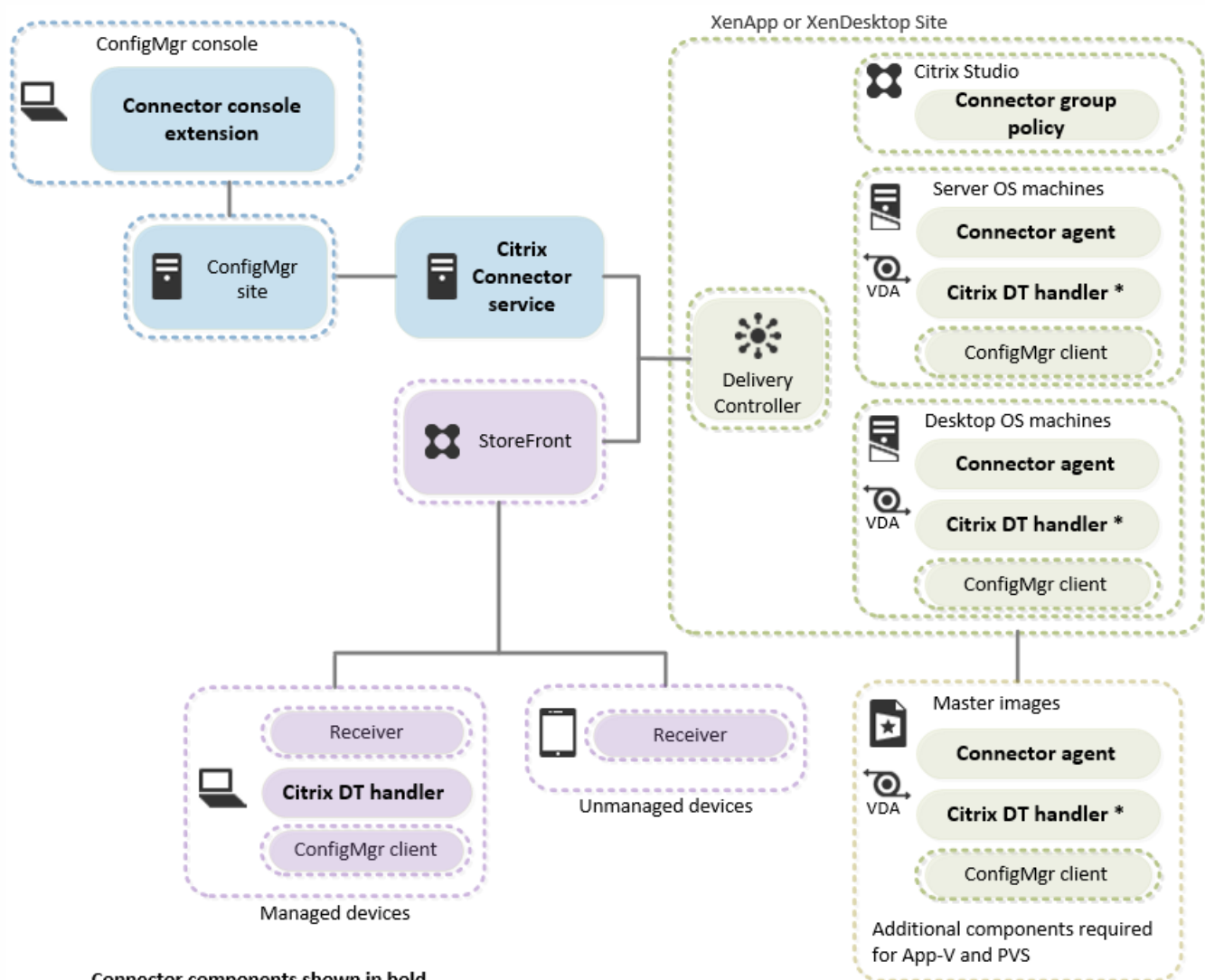
Install Citrix Connector

May 02, 2016

Follow this sequence to install and set up Citrix Connector:
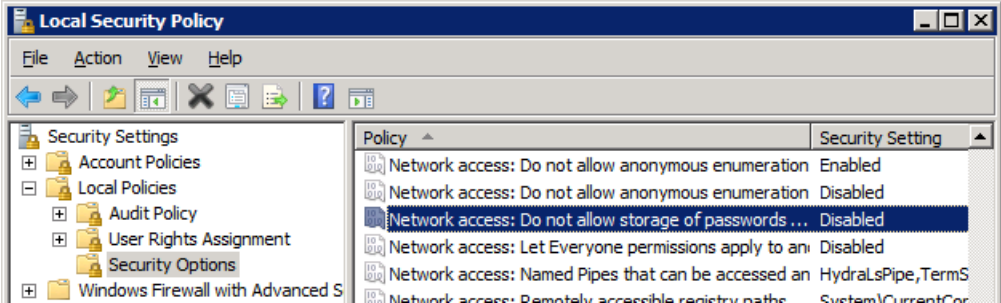
1. Prepare for installation.
2. Install the Citrix Connector service and console extension.
3. Configure the Connector.
4. Install components on master images or session machines.
5. Install Connector policies.
6. Install components on user devices.

The following diagram summarizes where you install components.

Connector components shown in bold.

* Citrix DT handler is required only if using the ConfigMgr Application Catalog or Software Center to deploy applications.

Prepare for installation

Before you install Citrix Connector, prepare your environment as follows.

	Description
●	If you recently completed first-time setup of Configuration Manager, XenApp, or XenDesktop environments, verify that you can successfully deploy applications from Configuration Manager, publish them in Citrix Studio, and view them in Receiver.
	● Review topics in the Plan your deployment section. ● For supported platforms, refer to System requirements.
	Identify where to install the Configuration Manager console extension. You must install it on each server or workstation that has the Microsoft System Center 2012 Configuration Manager console installed. You can install the console extension on the same server as the Connector service.
	Decide where to install the Connector service: ● Either on its own dedicated VM (domain joined) or on the Configuration Manager site server. For a production environment we recommend that you install the Connector service on a dedicated VM. ● For Citrix environments with multiple sites, install the Connector on a dedicated VM in each site and point it to the appropriate Citrix Delivery Controller. Point each Connector to the same Configuration Manager site server. ● To use the Connector with XenApp 6.5 Connector, you can install the two Connectors on the same or different VMs.
	The Connector installer will install .NET 4.5.2 for you if the .NET version is below 4.5. However, installing a supported version of .NET before installing the Connector will speed the Connector installation and enable you to avoid restarting the server and the Connector installer if it is on a different machine. Refer to system requirements for supported .NET versions.
	In the policies of the computer where you will install the Connector service, ensure that the Do not allow storage of passwords and credentials for network authentication option is disabled. That setting is disabled by default. ![Local Security Policy window showing Security Options with "Network access: Do not allow storage of passwords..." set to Disabled]
	Create the service account that will run the Connector service. The Connector service account must: ● Have the Full Administrator role with the All scope for the XenApp or XenDesktop site

	Description
○	• Be a local administrator on the Citrix Delivery Controller, the SMS Provider for the Configuration Manager 2012 site, and the machine where the Connector service will be installed • Have "Log on as a service" rights on the computer where the Connector is installed The installation wizard prompts you to configure this.
	• In Configuration Manager, have all permissions on these object classes: 　• Application 　• Client Agent Settings 　• Collection 　• Configuration Item 　• Distribution Point 　• Global Condition 　• Software Update The built-in security role Full Administrator has permissions on all object classes. If you are using a different security role, verify that the permissions are sufficient. To view or edit those permissions, open the Configuration Manager console and go to Administration > Security.
	Check the MaxMemoryPerShellMB setting on each Delivery Controller. The Connector requires that Citrix Delivery Controllers have a PowerShell memory limit of at least 1024 MB. The default maximum PowerShell memory per shell on Windows Server 2008 R2 does not meet the requirement. The Connector cannot operate with an insufficient memory limit. To configure the MaxMemoryPerShellMB setting on the Delivery Controller, start PowerShell with administrator privileges and then run: Winrm set winrm/config/winrs '@{MaxMemoryPerShellMB="1024"}' Tip: You can also run that command from a cmd.exe window. Omit the single quotation marks. To view the current MaxMemoryPerShellMB value: 1. Set the working location to the Shell folder: 　Set-Location wsman:\localhost\Shell 2. View child items: 　Get-ChildItem
	[Download the Citrix Connector package](#) (CitrixConnector_7.5_ConfigMgr.exe) and extract its contents. 📁 Citrix Receiver extensions 📁 Citrix Studio extensions 📁 Citrix VDA extensions ❖ CitrixConnectorConfigMgr2012

Install the Citrix Connector service and console extension

For proof-of-concept or other small deployments you can install the Connector service and console extension on the same

Configuration Manager server. For production deployments, install the Connector service on a separate server and install the console extension on each server or workstation that has the Configuration Manager console. For more information about deployment scenarios, refer to Plan your deployment.

Install the Connector service and console extension

1. Make sure that your environment meets the system requirements and then prepare the server where you are installing the Connector.
2. Run the Connector installer: CitrixConnectorConfigMgr.exe.
3. Follow the instructions in the installation wizard.
   If you are installing the Connector on a machine that has the Configuration Manager console, the Configuration Manager Console Extension check box is selected by default.

The Connector Configuration wizard starts when the installation is complete.

To run the Configuration wizard at any time, choose Citrix Connector 3.1 Config Wizard from the Start screen or menu. The Connector will not function until you complete the wizard.

Install the Connector console extension on additional machines

Install the Connector console extension on each server or workstation that has the Configuration Manager console.
1. If the Configuration Manager console is open, close it.
2. Run the Connector installer: CitrixConnectorConfigMgr.exe.
3. Follow the instructions in the installation wizard.
   Clear the check box for Citrix Connector Service and select the check box for Configuration Manager Console Extension.

The Connector Configuration wizard starts when the installation is complete.

To run the Configuration wizard at any time, choose Citrix Connector 3.1 Config Wizard from the Start screen or menu. The Connector will not function until you complete the wizard.

Configure the Connector

The Connector Configuration wizard opens after you install the Connector. To run the Configuration wizard at any time, choose Citrix Connector 3.1 Config Wizard from the Start screen or menu.

Information needed to configure the Connector:
- Credentials for the Connector service account used to run the Connector service.
- The fully-qualified domain name (FQDN) for the Delivery Controller. The FQDN must include all levels (such as hostname.subdomain.domain).
  The Delivery Controller must be running the Citrix PowerShell SDK.

- The Delivery Controller Remote PowerShell Port, if the default port (5985) is not used.
- The FQDN for the Configuration Manager Site Server.

The Configuration wizard includes on-screen instructions that guide you through the steps. Also be aware of the following:
- The first-time you run the Configuration wizard, the Software Installation Maintenance Window page prompts you to select a maintenance window option. After that, if there is at least one maintenance window defined, the page shows a view-only list of all maintenance windows created by this wizard and the Configuration Manager console.
  To change or add maintenance windows after initial configuration, use the Configuration Manager console.

- To optionally change Connector task intervals, click Advanced Settings on the Settings Summary page. The Connector installation folder contains shortcuts that you can use to run the tasks as needed.

After you complete the wizard, the Connector synchronizes Configuration Manager with XenApp or XenDesktop.

We recommend that you export the configuration to a file that you can use for backup and recovery. For information, refer to Back up and recover.

Install components on master images or session machines

Use the steps in this topic to install components on the following items:
- Master images created for use with MCS or Provisioning Services
  Master images must be prepared as described in the XenApp and XenDesktop topic Prepare a master image. Additional setup is required to prepare Provisioning Services images for the Connector. For more information, refer to Using Provisioning Services with Citrix Connector 7.5 for Configuration Manager.

- Manually provisioned XenApp or XenDesktop session machines (workers)

Install the following components:
- Configuration Manager client. The Configuration Manager client coordinates with the Connector during application and software installation and updates.
- Citrix Connector agent. The Connector agent handles application and software installation and updates.
- Optional: Citrix deployment handler. The Citrix deployment handler is required only to deploy Citrix published applications to the Configuration Manager Application Catalog or Software Center on devices managed by Configuration Manager. The Citrix deployment handler is not needed to publish applications to Receiver on user devices.
- Additional components for App-V and Provisioning Services, noted in the following steps.

1. Using the Configuration Manager console, install the Configuration Manager client on master images or manually provisioned session machines. Click Assets and Compliance > Devices, select the devices, right-click, and choose Install Client. This operation can take a while and must complete before you can perform step 3.
   Tip: To manually install the client, log on to the VM for the master image or session machine, navigate to \\ConfigMgr site server\SMS_Site Code\Client and run the installer, CCMSetup.exe.
   For more information about installing the Configuration Manager client, refer to Determine the Client Installation Method to Use for Windows Computers in Configuration Manager in the Microsoft TechNet documentation.

2. Install the Connector Agent using one of the following installers from the extracted Connector package:
   - Citrix VDA extensions\CitrixConnectorAgent_x64.msi
   - Citrix VDA extensions\ CitrixConnectorAgent_x86.msi
   If you are installing the agent on a non-server OS and the WMI-In rule is not open in the Windows firewall, the installer prompts for permission to open it. The Connector configures the rule for the Domain network location.

   To configure the rule manually: In the Windows Firewall window, click Inbound Rules, scroll to Windows Management Instrumentation (WMI-In), right-click that rule, and then choose Enable Rule. That rule enables Connector to verify whether a device is a master image.

3. Install the Connector deployment handler using one of the following installers from the extracted Connector package:
   - Citrix Receiver extensions\CitrixDTHandler_x64.msi
   - Citrix Receiver extensions\CitrixDTHandler_x86.msi
4. To verify installation, search for the components in Programs and Features.
5. If you use App-V, install the App-V Client for Remote Desktop Services on Server OS images and session machines.

6. For Provisioning Services, install the Provisioning Services agent on any vDisk images that will be shared.
7. After you test a proof-of-concept installation, Citrix recommends that you use Configuration Manager to deploy the Connector components. For command options, see Install Connector components unattended.

Install Connector policies

The Connector notifies users about pending installations for certain types of machine catalogs. The Connector for Configuration Manager policies enable you to change the defaults for those notifications, including how far in advance to start them, their frequency, and the notification text.

Although installing the Connector policy component is optional, you will likely need to change the default settings. We recommend that you review the defaults to determine if changes are needed for your environment. For a description of the settings and their defaults, refer to Connector for Configuration Manager policy settings.

The installer is in the extracted Connector package:
- Citrix Studio Extensions\CitrixGroupPolicyManagement_x64.msi
- Citrix Studio Extensions\CitrixGroupPolicyManagement_x86.msi

Install the policy component on the Delivery Controller. When installation completes, you are prompted to click Finish. The component installed is Citrix Group Policy Management 2.3.0.0.

To update the settings: In Citrix Studio, click Policy and then Edit Policy. From the All Settings menu, choose Connector for Configuration Manager.

Install components on user devices

Unmanaged user devices

The only requirement for unmanaged devices is a version of Receiver supported by XenApp 7.5, 7.6, 7.7, 7.8 or XenDesktop 7.1, 7.5, 7.6, 7.7 or 7.8.

Managed user devices

A managed device is one with the Configuration Manager client installed. If your users will obtain Citrix hosted applications from the Configuration Manager Application Catalog or Software Center on managed devices, install the following components:
- Configuration Manager client. The Configuration Manager client coordinates with the Connector during application and software installation and updates.
- Citrix Receiver for Windows. Receiver works in the background with StoreFront to provide application icons to the user device. Users do not interact with Receiver. This feature is not available for the Enterprise edition of Receiver.
- Citrix deployment handler. The Citrix deployment handler coordinates publishing to the Configuration Manager Application Catalog and Software Center.

1. Using the Configuration Manager console, install the Configuration Manager client. Click Assets and Compliance > Devices, select the devices, right-click, and choose Install Client. This operation can take a while and must complete before you can perform step 3.
   Tip: To manually install the client, log on to the VM for the master image or session machine, navigate to \\ConfigMgr site server\SMS_Site Code\Client and run the installer, CCMSetup.exe.
   For more information about installing the Configuration Manager client, refer to Determine the Client Installation Method to Use for Windows Computers in Configuration Manager in the Microsoft TechNet documentation.

2. Install Citrix Receiver for Windows.
   - For a list of supported Receivers and their authentication requirements, refer to System requirements.
   - Configure Receiver to use pass-through authentication on user devices. (Pass-through authentication is also referred to as single sign-on authentication.)
   For information, refer to the /includeSSON command-line parameter description in the Receiver for Windows documentation.

   - Install Receiver per-machine and in the all users mode on all machines.
3. Install the Connector deployment handler using one of the following installers from the extracted Connector package:
   - Citrix Receiver extensions\CitrixDTHandler_x64.msi
   - Citrix Receiver extensions\CitrixDTHandler_x86.msi

   After you test a proof-of-concept installation, you can use Configuration Manager to deploy this component. For command line options, see Install Connector components unattended, next.

4. To verify installation, search for the components in Programs and Features.

Install Connector components unattended

Connector agent command line options

The installer is in the extracted Connector package in the folder Citrix VDA extensions.

Action:	Command:
Get help on all options	CitrixConnectorAgent_x64[86].msi /help
Silently install the agent and open the WMI-IN rule in the Windows firewall	CitrixConnectorAgent_x64[86].msi /openfwport /quiet
Uninstall the agent	CitrixConnectorAgent_x64[86].msi /uninstall

Citrix deployment handler command line options

The installer is in the extracted Connector package in the folder Citrix Receiver extensions.

Action:	Command:
Get help on all options	CitrixDTHandler_x64[86].msi /help
Silently install the handler	CitrixDTHandler_x64[86].msi /quiet
Uninstall the handler	CitrixDTHandler_x64[86].msi /uninstall

Upgrade

May 02, 2016

You can use XenApp 6.5 Connector (SP2) side-by-side with Citrix Connector 3.1. The XenApp 6.5 Connector deployment handler is the only XenApp 6.5 Connector component that you can upgrade to the Connector 3.1 version. You can use the Connector 3.1 deployment handler for both XenApp 6.5 and XenApp 7.5, 7.6, 7.7, 7.8 or XenDesktop 7.1, 7.5, 7.6, 7.7 or 7.8 deployments.

Create applications

May 02, 2016

Important: Unless otherwise indicated, the Connector does not require changes to the default settings.
Applications already in Configuration Manager

If you already created MSI or Script applications in Configuration Manager, be aware that the deployment type used to install or update those applications must use the Install behavior option Install for system if resource is device, otherwise install for user. That option ensures that an application will work if it is deployed to a device collection or user collection.

Use the Install for system option only if you know that the application will always be deployed on a device and you do not want users to run the application. For example, use this option for system components. An application that is installed for a system will not work on a user collection.

The Install behavior setting appears in the MSI and Script deployment type properties on the User Experience tab.

Create an MSI or App-V application

The following steps describe the minimum, required settings to enable an application to work with the Connector. Unless otherwise indicated, the Connector does not require changes to the default settings.

If you already created MSI applications in Configuration Manager, be aware that the deployment type used to install or update those applications must use the Install behavior option Install for system if resource is device, otherwise install for user. That option ensures that an application will work if it is deployed to a device collection or user collection.

Use the Install for system option only if you know that the application will always be deployed on a device and you do not want users to run the application. For example, use this option for system components. An application that is installed for a system will not work on a user collection.

The Install behavior setting appears in the MSI deployment type properties on the User Experience tab.

1. In the Configuration Manager console, expand Software Library > Application Management and then click Applications.
2. On the Home tab, click Create Application. The Create Application Wizard opens.
3. On the General page:
   1. From Type, choose one of the following application deployment types:
      - Windows Installer (.msi file)
      - Microsoft Application Virtualization 4
      - Microsoft Application Virtualization 5
   2. Specify the Location.
4. If you chose Windows installer (.msi file):
   1. Click through to the General Information page. For Install behavior, choose **Install for system if resource is device, otherwise install for user** unless you are installing a system component.
   2. Click through the remainder of the wizard.
5. If you chose App-V, click through the remainder of the wizard.

You can now deploy the application.

Create a script-based application

The following steps describe the minimum, required settings to enable an application to work with the Connector. Unless

otherwise indicated, the Connector does not require changes to the default settings.

The following steps use Internet Explorer as an example.

If you already created Script applications in Configuration Manager, be aware that the deployment type used to install or update those applications must use the Install behavior option Install for system if resource is device, otherwise install for user. That option ensures that an application will work if it is deployed to a device collection or user collection.

Use the Install for system option only if you know that the application will always be deployed on a device and you do not want users to run the application. For example, use this option for system components. An application that is installed for a system will not work on a user collection.

The Install behavior setting appears in the Script deployment type properties on the User Experience tab.

1. In the Configuration Manager console, expand Software Library> Application Management and then click Applications.
2. On the **Home** tab, click Create Application.
   The Create Application Wizard opens.

3. On the General page: Click Manually specify the application information and then click Next.
4. Complete the General Information and Application Catalog pages per your requirements.
   Take note of the application name that you enter on the General Information page. You must enter the name again in step 7.

5. On the Deployment Types page, click Add.
   The Create Deployment Type Wizard appears.

6. On the General page: For Type, choose Script Installer and then click Next.
7. On the General Information page: Enter the same Name that you entered in step 4.
8. On the Content page:
   1. Configuration Manager requires the Content location, although the Connector does not need it. Enter a valid system path such as \\localhost\c$.
   2. Configuration Manager requires the Installation program, although the Connector does not need it. Enter a placeholder such as dummy.txt.
9. On the Detection Method page: Specify how the XenApp or XenDesktop deployment type will find the application:
   1. Click Add Clause and keep the default Setting Type of File System.
   2. Across from Path, click Browse, navigate to the folder that contains the application executable, select that file, and then click OK.
      For example, for Internet Explorer, the path is %ProgramFiles(x86)%\\Internet Explorer\iexplore.exe. Configuration Manager fills in the Type, Path, and File or folder name.
10. On the User Experience page:
    - For Installation behavior, choose Install for system if resource is a device, otherwise install for user unless you are installing a system component.
    - For Logon requirement, choose Whether or not a user is logged on.
11. Click through the rest of the Create Deployment Type Wizard and the Create Application Wizard.

You can now deploy the application.

Create a Citrix Receiver application

If your users will access applications from Receiver on managed user devices, you can use Configuration Manager to deploy

Receiver, as follows.

1. In the Configuration Manager console, expand Software Library> Application Management and then click Applications.
2. On the **Home** tab, click Create Application.

   The Create Application Wizard opens.

3. On the General page: Click Manually specify the application information and then click Next.
4. Complete the General Information and Application Catalog pages per your requirements.

   Take note of the application name that you enter on the General Information page. For example, you might enter "Citrix Receiver". You will need to enter the name again in step 7.

5. On the Deployment Types page, click Add.

   The Create Deployment Type Wizard appears.

6. On the General page: For Type, choose Script Installer and then click Next.
7. On the General Information page: Enter the same Name that you entered in step 4.
8. On the Content page:
   1. Across from Content location, click Browse and navigate to the shared folder where CitrixReceiver.exe is located.
   2. Across from Installation program, click Browse, navigate to CitrixReceiver.exe, select it, click Open, and then enter /silent.

      Installation program should contain this: "CitrixReceiver.exe" /silent

      Important: You must specify other Citrix Receiver command line options to ensure it works properly in your environment. For guidance, consult with an administrator who handles Receiver at your site.
9. On the Detection Method page: Specify how the XenApp or XenDesktop deployment type will find Receiver.exe:
   1. Click Add Clause and keep the default Setting Type of File System.
   2. For Type, choose Folder.
   3. In Path, enter: %ProgramFiles(x86)%\Citrix
   4. In File or folder name, enter: ICA Client
10. On the User Experience page:
    - For Installation behavior, choose Install for system.
    - For Logon requirement, choose Whether or not a user is logged on.
11. Click through the rest of the Create Deployment Type Wizard and the Create Application Wizard.

You can now deploy Receiver to a device collection.

Deploy applications to machine catalogs

May 02, 2016

The Connector enables you to use Configuration Manager to deploy software to Citrix environments in the same way that you do for physical environments.

Important: The topics in this section assume that you have created applications in Configuration Manager and created machine catalogs and delivery groups in XenApp or XenDesktop.
Deployment steps vary based on provisioning method:

- Machine Creation Services
- Provisioning Services
- Manually managed

Machine catalogs managed by Machine Creation Services (MCS)

To deploy applications to machines managed by MCS, you create each application using a base deployment type of MSI, App-V, or Script, and then deploy the applications to device collections containing update devices and machine clones.

The following table describes where you target deployments based on how user data is handled and whether a deployment is intended for all users. The Connector uses an update device in Configuration Manager to represent a VM with a master image.

OS type	User data handling	Deploy to:
Desktop OS	Discarded	Device collection containing an update device
	On PvD	- Device collection containing an update device, if deployment is intended for all users - User collection, if deployment is optional
	On local disk	Device collection
Server OS	Discarded	Device collection containing an udpate device

The following table indicates whether the Connector or MCS handles various orchestration tasks. Applications are available for publishing to users after all specified clone machines are updated. For more information about deployment orchestration, refer to Deployment orchestration.

Provisioning method	OS type	Product handling orchestration tasks

		Deployment to master image	Deployment to clones	Notifications
Machine Creation Services	Desktop OS or Server OS	Connector	Studio	Studio

Tip: The Connector provides a summary of machine catalog characteristics, including information about how to handle the catalog. To view that information, navigate to Device Collections > Citrix Delivery Sites > Catalog, right-click a catalog in the list, and choose Machine Catalog Properties.

Prepare for application deployment

To deploy applications to machine catalogs managed by MCS, you work with both Configuration Manager and Citrix Studio. The following diagram and discussion describe the MCS setup process.
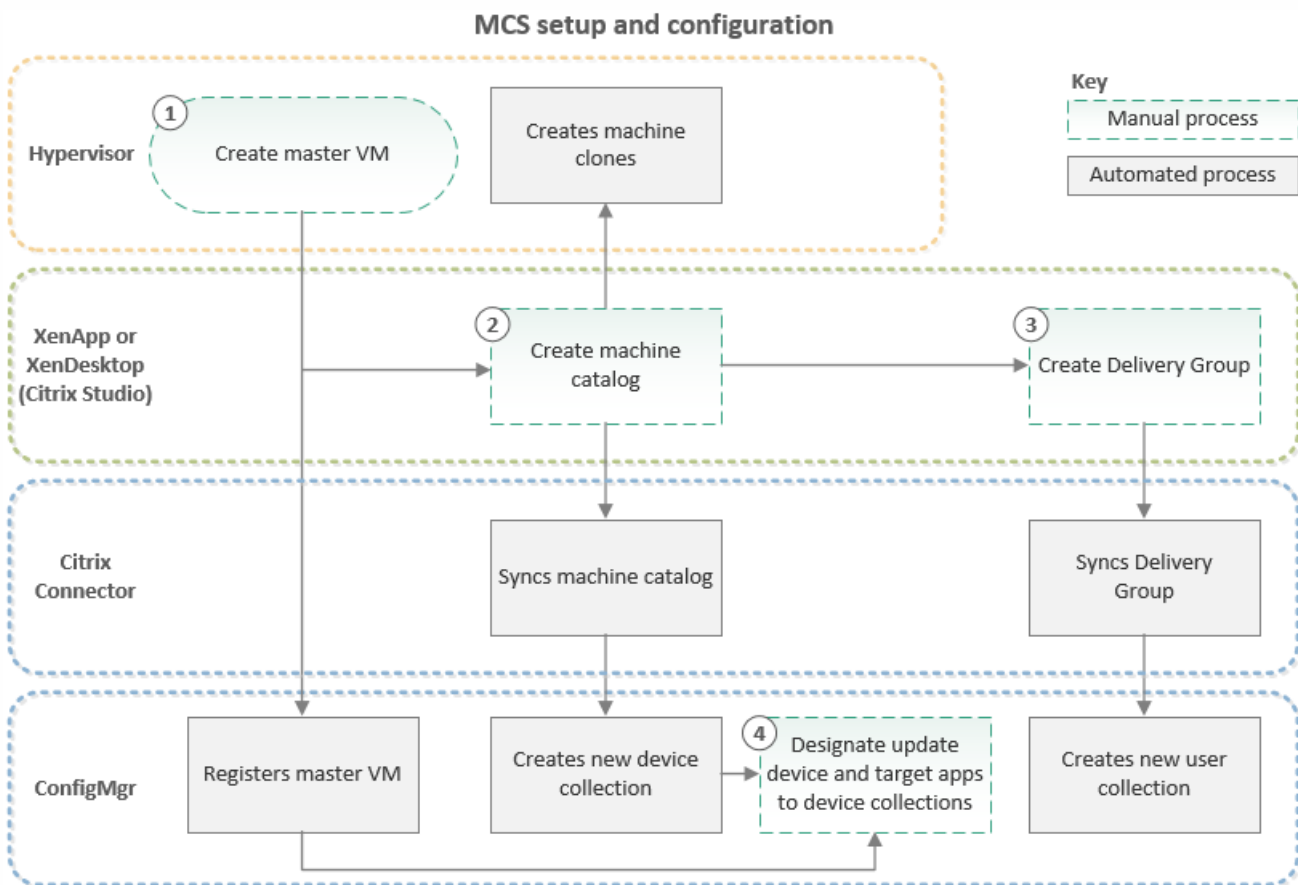
The Connector integration with MCS incorporates the tasks that you normally perform during provisioning setup and configuration (steps 1 through 3 in the diagram) and synchronizes provisioned assets with Configuration Manager.

- Step 1: Create a master image as you normally would, using the guidelines in Prepare a master image.
- Steps 2 - 3: Use Citrix Studio to create a machine catalog and Delivery Group.
- Step 4: After the Connector synchronizes Configuration Manager with XenApp or XenDesktop, use Configuration Manager to designate an update device for the master image and then deploy applications.

- If the provisioned machines discard user data or store user data on a PvD, you first designate the update device containing the master image and then deploy.
- If the provisioned machines store data on a local device, you proceed with the deployment.

Deploy applications to Desktop OS or Server OS session machines managed by an update device

Use the following steps to target application installation to a device collection containing an update device for:

- Server OS (hosted shared) or Desktop OS (VDI) session machines that discard user data
- Desktop OS (VDI) session machines that store user data on a PvD
  Important: When user data is stored on a PvD, you target deployment to a device collection containing an update device if the application deployment is intended for all users. If the application is not intended for all users, deploy it to a user collection instead. If a user chooses to install the application, it is installed on the user's personal vDisk.

For your reference, a workflow diagram follows the steps.

1. Choose an update device:
   1. In the Configuration Manager console, expand Assets and Compliance > Device Collections > Citrix Delivery Sites > Catalog, right-click the catalog name, and then choose Designate Update Device.
      Tip: If the Connector displays a message to let you know this device collection does not require an update device, deploy the application.

      A list of all devices that have the Citrix VDA installed and configured as a master image appears. If the list is empty, either the VDA is not installed on any devices managed by Configuration Manager or Configuration Manager has not performed a hardware inventory on VDAs configured as a master image. You can search for the update device by name.

   2. Select the machine name and then click Verify and Select. After the machine is verified, click OK.
      Tip: If Configuration Manager cannot contact the machine, an error message displays and you have the choice of continuing or canceling. For more information, refer to Troubleshoot issues.

      The update device is added to the device collection, increasing the member count by one.

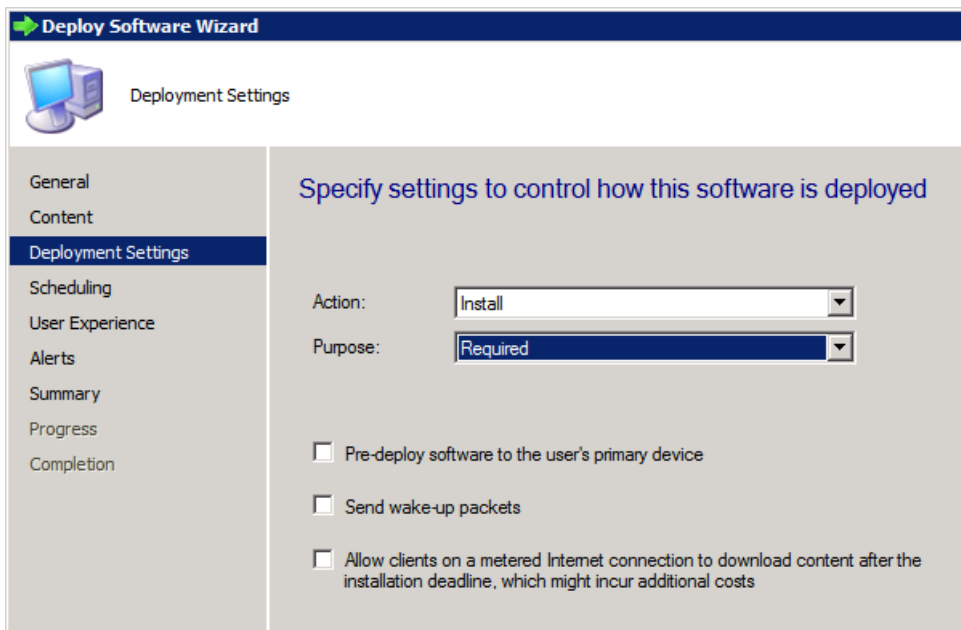2. To deploy the application, select the catalog name and then click Home > Deploy > Application.
   The Deploy Software Wizard appears.

3. On the General page: Across from Software, click Browse and then select the application you want to deploy.
   Do not change the Collection.

4. On the Content page, choose a distribution point for MSI or App-V applications. For Script based applications the application is already on the host and there is nothing to distribute, so just click Next.
5. On the Deployment Settings page: For Purpose, choose Required so that Configuration Manager forces the application to install.
   Important: If you do not choose Required, Configuration Manager will not deploy the application to the device collection containing the Citrix machine catalog.

- On the Scheduling page: Specify a date and time that the application should be available and an installation deadline. The schedule defaults to as soon as possible.

For information about scheduling deployments, refer to Microsoft TechNet documentation for System Center 2012 Configuration Manager.

- Follow the on-screen instructions to complete the wizard.

Green check marks on the Completion page indicate that the application is scheduled for deployment.

- Verify that the application deployed to the update device:

1. In the Configuration Manager console, click Monitoring > Deployments, right-click the application, and then choose View Status.

   If the application deployed, a green success item appears and, under Asset Details, the name of the update device appears.

2. If the application has not deployed, wait a while and then click Run Summarization.

   Caution: Do not continue until the View Status screen reports a successful deployment for the update device.

   After the application deploys, the In Progress tab lists the clones of the image, with a status of "Waiting For Orchestration."

- To update the machine catalog with the update device, perform these steps in Citrix Studio or let your XenApp or XenDesktop administrator know that the machine catalog is ready to be updated.

1. In Citrix Studio, click Machine Catalogs, right-click the machine catalog that you chose in step 1, and then click Update Machines.
2. Select the Delivery Group and then click Next.
3. On the Master Image page, select the master image and then click Next.
4. On the Rollout Strategy page, specify the update timing and how you want Studio to notify users.

   If you are using MCS for Server OS machine catalogs, the option On next shutdown (not right now) will not cause the Connector to reboot the machines. Instead, choose how you want Studio to handle notifications.

5. Click Next, click Finish, and then observe the progress bar on the machine catalog name.

The progress bar indicates that MCS is taking a snapshot of the update device. This process can take a while. Do not continue until the green progress bar disappears.

- To verify that all clones in the machine catalog are updated: In the Configuration Manager console, clickMonitoring > Deployments, right-click the application, and then choose View Status.
  If the application deployed, a green success item appears and, under Asset Details, the names of the update device and machine clones appear.

- You can now publish the application. The Connector delays publication until all active machines in the Delivery Group report compliance. Active machines are those that are online and not in XenApp or XenDesktop maintenance mode.

MCS image maintenance
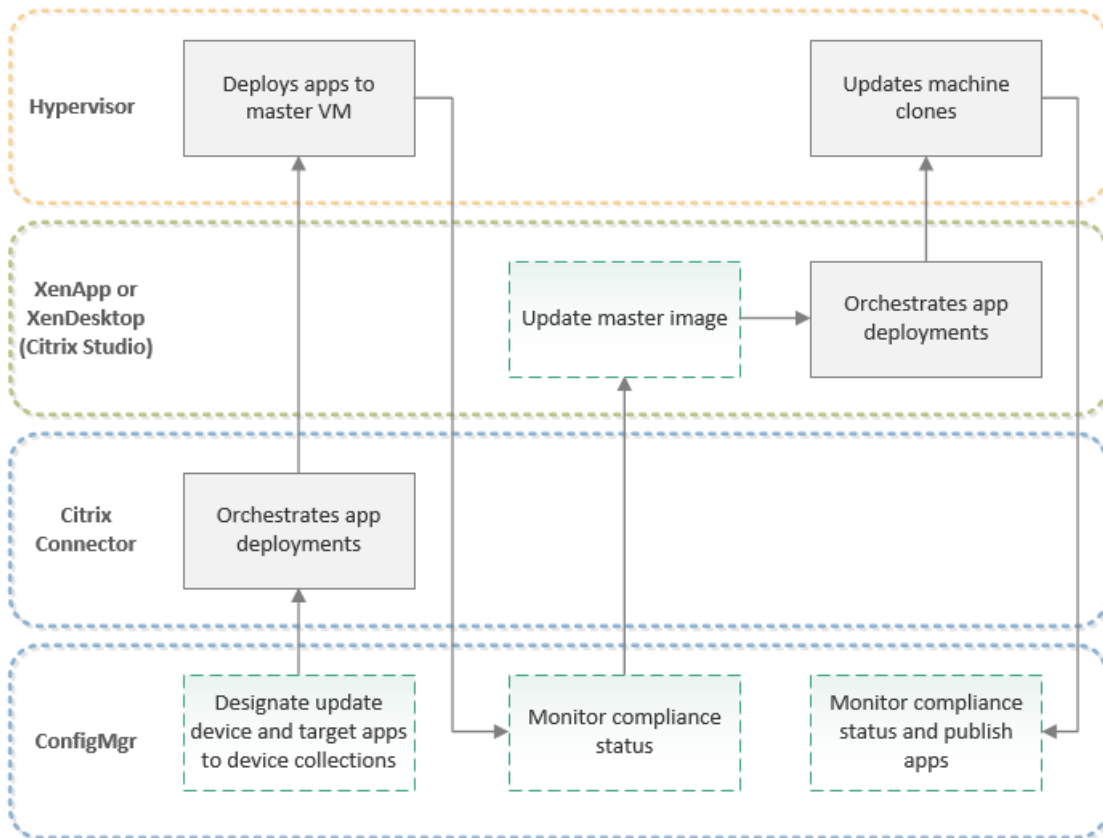
Deploy applications to Desktop OS session machines that store user data on a local disk

Use this procedure to target application installation to statically allocated Desktop OS (VDI) session machines that store user data on a local disk. You manage these machines exactly as you manage physical machines: There are no special requirements for the Connector. These steps are provided for convenience.

1. In the Configuration Manager console, expand Assets and Compliance > Device Collections > Citrix Delivery Sites > Catalog, click the catalog name, and then click Home > Deploy > Application.
   The Deploy Software Wizard appears.

2. On the General page: Across from Software, click Browse and then select the application you want to deploy.
   Do not change the Collection.

3. On the Content page, choose a distribution point for MSI or App-V applications. For Script based applications the application is already on the host and there is nothing to distribute, so just click Next.

4. On the Deployment Settings page, make sure that the three check boxes are cleared.

5. On the Scheduling page: Specify a date and time that the application should be available and an installation deadline. The schedule defaults to as soon as possible.
For information about scheduling deployments, refer to Microsoft TechNet documentation for System Center Configuration Manager.

6. Follow the on-screen instructions to complete the wizard.
Green check marks on the Completion page indicate that the application is scheduled for deployment.

7. Monitor the deployment to determine when a desktop hosted application is ready for publishing.

Machine catalogs managed by Provisioning Services (PVS)

To deploy applications to machines managed by Provisioning Services, you create each application using a base deployment type of MSI, App-V, or Script, and then deploy the applications to device collections containing update devices and machine clones.

The following table describes where you target deployments based on how user data is handled and whether a deployment is intended for all users. In Configuration Manager, the Connector uses an update device to represent a VM with a master image.

OS type	User data handling	Deploy to:
Desktop OS or Server OS	Discarded	Device collection containing an update device
Desktop OS	On PvD	• Device collection containing an update device, if deployment is intended for all users • User collection, if deployment is optional

The following table indicates whether the Connector or Provisioning Services handles various orchestration tasks. Applications are available for publishing to users after all specified clone machines are updated. For more information about deployment orchestration, refer to Deployment orchestration.

Provisioning method	OS type	Product handling orchestration tasks		
		Deployment to master image	Deployment to clones	Notifications
Provisioning Services	Desktop OS	Connector	Provisioning Services	Not applicable
	Server OS	Connector	Connector	Connector

Tip: The Connector provides a summary of machine catalog characteristics, including information about how to handle the

catalog. To view that information, navigate to Device Collections > Citrix Delivery Sites > Catalog, right-click a catalog in the list, and choose Machine Catalog Properties.

Prepare for application deployment

To deploy applications to machine catalogs managed by Provisioning Services, you work with Configuration Manager, XenApp or XenDesktop, and Provisioning Services. The following diagram and discussion describe the Provisioning Services setup process.
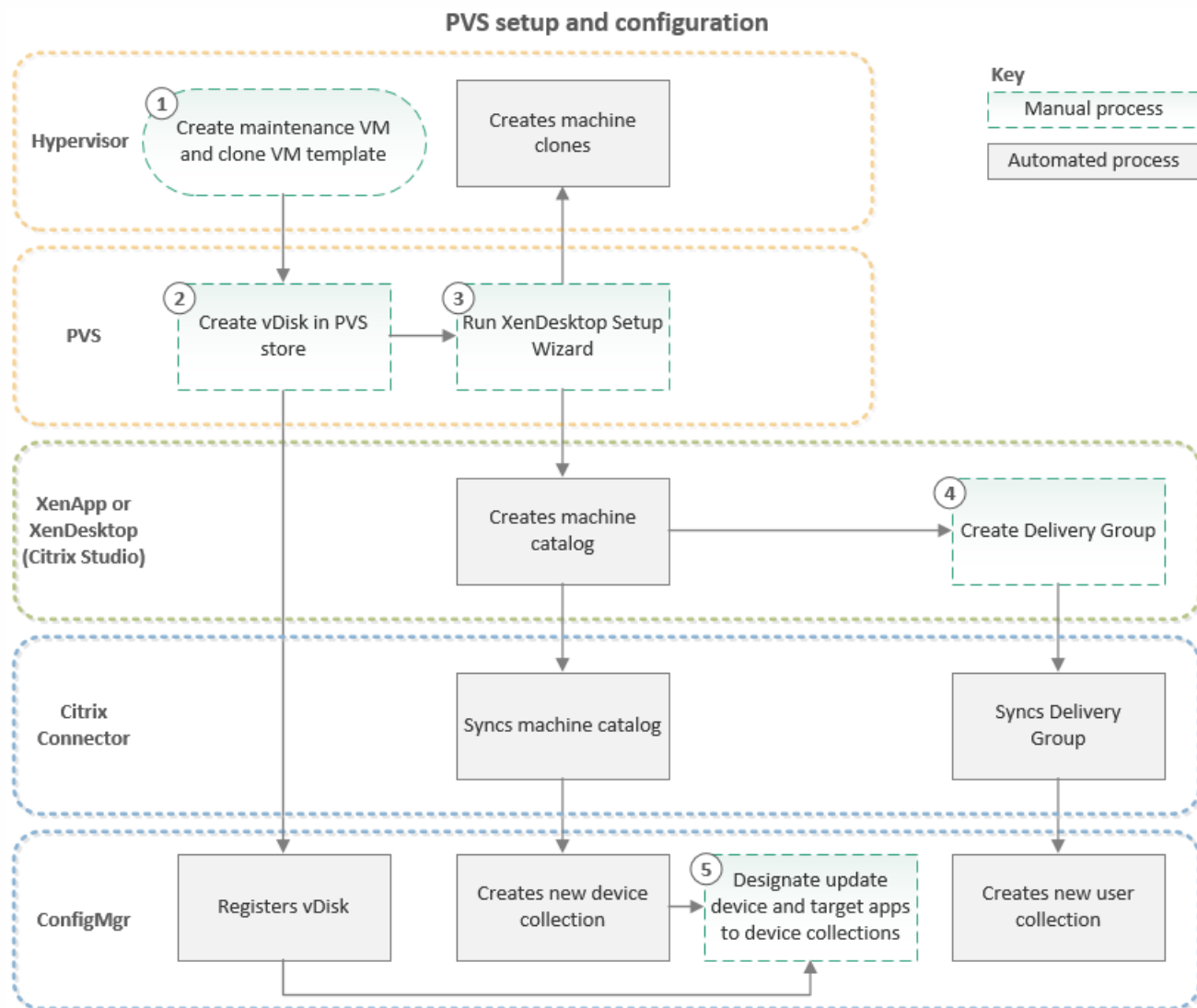
The Connector integration with Provisioning Services incorporates the tasks that you normally perform during provisioning setup and configuration (steps 1 through 4 in the diagram) and synchronizes provisioned assets with Configuration Manager.

- Steps 1 - 3: A Citrix administrator uses Provisioning Services to create maintenance and clone VM templates, create a vDisk, and then run the XenDesktop Setup Wizard to deploy virtual desktops to VMs and to add the virtual desktops to a machine catalog. For more information about the tasks performed in the Provisioning Services console, refer to Using

- Step 4: A Citrix Studio administrator creates a Delivery Group.
- Step 5: A Configuration Manager administrator designates an update device for the master image and then deploys applications.

Deploy applications to an update device

Use the following steps to target application installation to a device collection containing an update device for:

- Server OS (hosted shared) or Desktop OS (VDI) session machines that discard user data
- Desktop OS (VDI) session machines that store user data on a PvD
  Important: When user data is stored on a PvD, you target deployment to a device collection containing an update device if the application deployment is intended for all users. If the application is not intended for all users, deploy it to user collections instead. If a user chooses to install the application, it is installed on the user's personal vDisk.

For your reference, a workflow diagram follows the steps.

1. Choose an update device:
   1. In the Configuration Manager console, expand Assets and Compliance > Device Collections > Citrix Delivery Sites > Catalog, right-click the catalog name, and then choose Designate Update Device.
      A list of all devices that have the Citrix VDA installed and configured as a master image appears. If the list is empty, either the VDA is not installed on any devices managed by Configuration Manager or Configuration Manager has not performed a hardware inventory on VDAs configured as a master image.

   2. Select the machine name and then click Verify and Select. After the machine is verified, click OK.
      Tip: If Configuration Manager cannot contact the machine, an error message displays and you have the choice of continuing or canceling. For more information, refer to Troubleshoot issues.

      The update device is added to the device collection, increasing the member count by one.

2. To deploy the application, select the catalog name and then click Home > Deploy > Application.
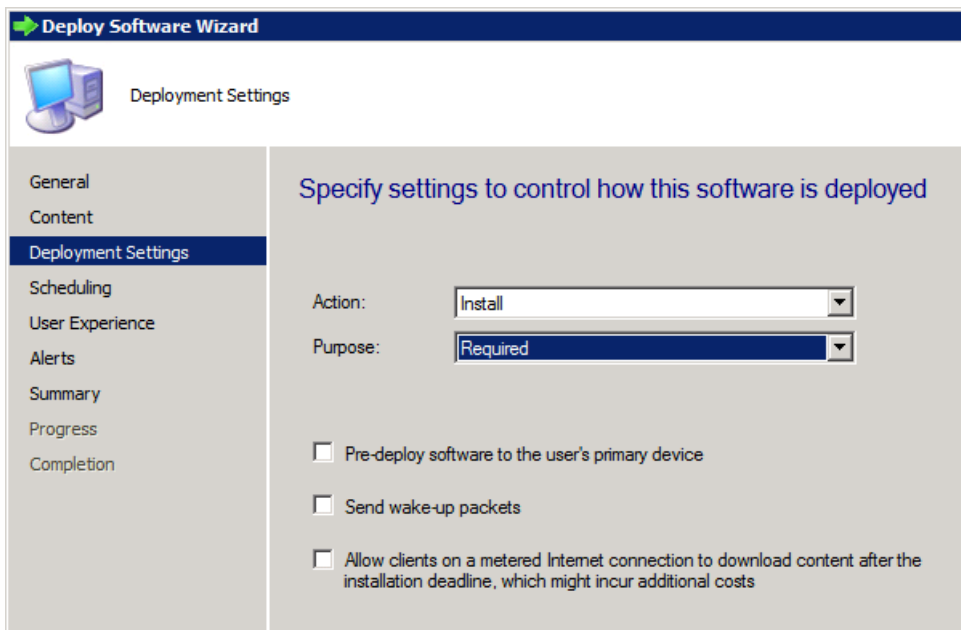   The Deploy Software Wizard appears.

3. On the General page: Across from Software, click Browse and then select the application you want to deploy.
   Do not change the Collection.

4. On the Content page, choose a distribution point for MSI or App-V applications. For Script based applications the application is already on the host and there is nothing to distribute, so just click Next.
5. On the Deployment Settings page: For Purpose, choose Required so that Configuration Manager forces the application to install.
   Important: If you do not choose Required, Configuration Manager will not deploy the application to the device collection containing the Citrix machine catalog.

- On the Scheduling page: Specify a date and time that the application should be available and an installation deadline. The schedule defaults to as soon as possible.

For information about scheduling deployments, refer to Microsoft TechNet documentation for System Center 2012 Configuration Manager.

- Follow the on-screen instructions to complete the wizard.

Green check marks on the Completion page indicate that the application is scheduled for deployment.

- Manage the vDisk image:
1. In Provisioning Services, create the new vDisk version.
2. In your hypervisor, boot the Provisioning Services maintenance VM with the new vDisk version.
   For more information, see Updating vDisks and Versioned vDisk Upgrade.

- Verify that the application deployed to the update device:
1. In the Configuration Manager console, click Monitoring > Deployments, right-click the application, and then choose View Status.
   If the application deployed, a green success item appears and, under Asset Details, the name of the update device appears.

2. If the application has not deployed, wait a while and then click Run Summarization.
   Caution: Do not continue until the View Status screen reports a successful deployment for the update device.

   After the application deploys, the In Progress tab lists the clones of the image, with a status of "Waiting For Orchestration."

- In the Provisioning Services console, promote the new vDisk version to production.

For more information, refer to "Promote the new vDisk version to production" in Using Provisioning Services with Citrix Connector 7.5 for Configuration Manager.

The Connector then orchestrates the installation of applications and updates on the update device for both Server OS and Desktop OS machines. The Connector orchestrates the reboot of Server OS clones after the vDisk is promoted to

production. Use the Provisioning Services console to reboot PVS Desktop OS clones after the vDisk is promoted to production.

- To verify that all clones in the machine catalog are updated: In the Configuration Manager console, click Monitoring > Deployments, right-click the application, and then choose View Status.
If the application deployed, a green success item appears and, under Asset Details, the names of the update device and machine clones appear.

- You can now publish the application. The Connector delays publication until all active machines in the Delivery Group report compliance. Active machines are those that are online and not in XenApp or XenDesktop maintenance mode.

PVS image maintenance
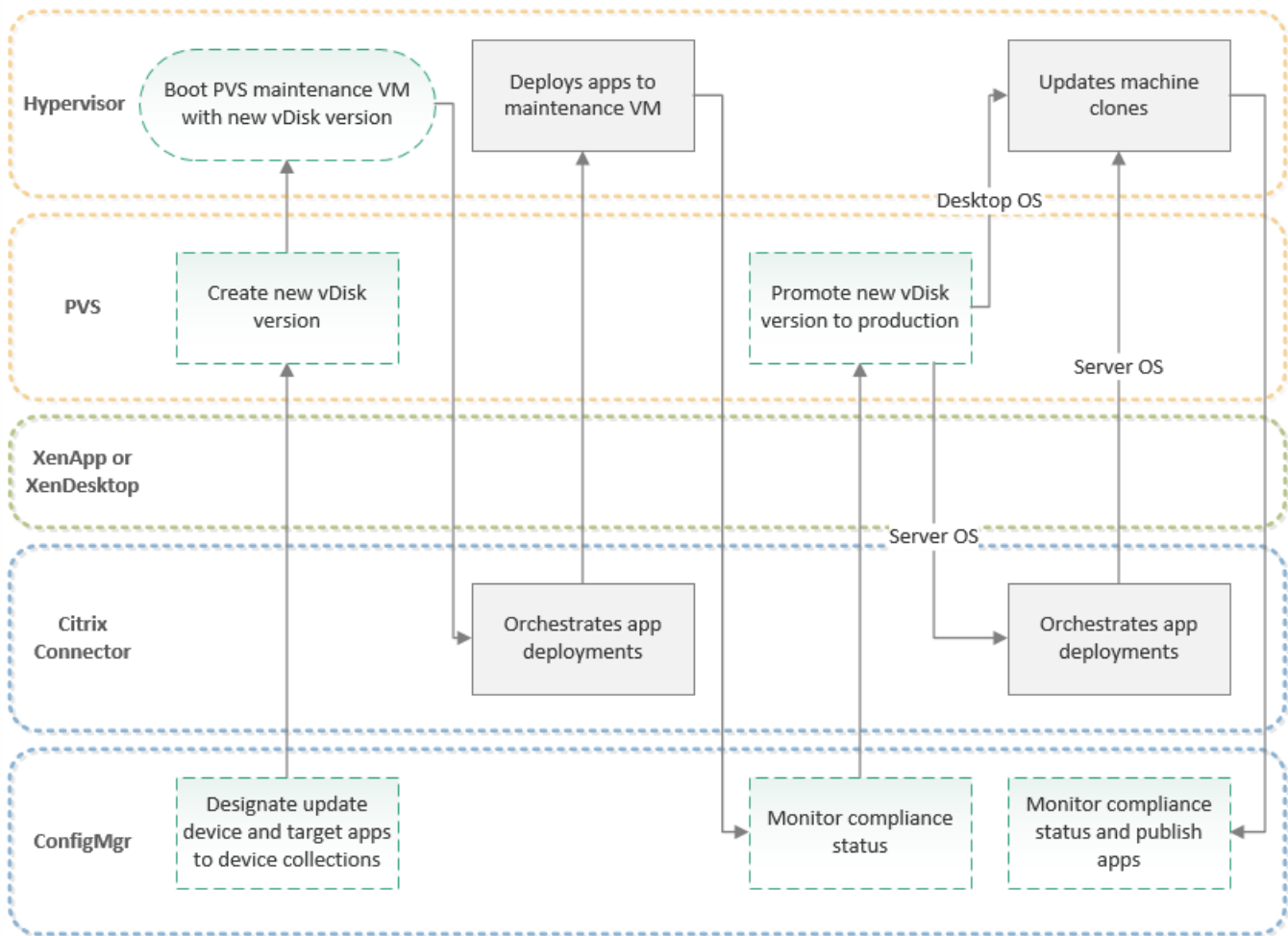
Machine catalogs managed manually

To deploy applications to manually provisioned machines, you create each application using a base deployment type of MSI, App-V, or Script, and then deploy the applications to device collections.
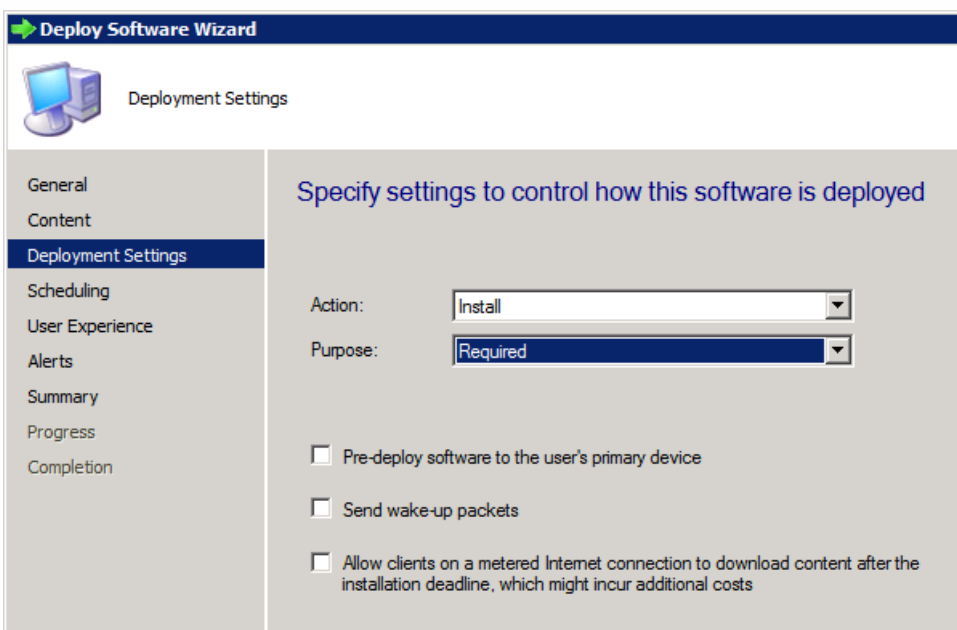
Use the following steps to:

- Target application installation to manually provisioned Server OS (hosted shared) session machines
- Target application installation to manually provisioned Desktop OS (VDI) session machines

Tip: The Connector provides a summary of machine catalog characteristics, including information about how to handle the

catalog. To view that information, navigate to Device Collections > Citrix Delivery Sites > Catalog, right-click a catalog in the list, and choose Machine Catalog Properties.

1. In the Configuration Manager console, expand Assets and Compliance > Device Collections > Citrix Delivery Sites > Catalog, click the catalog name, and then click Home > Deploy > Application.
   The Deploy Software Wizard appears.

2. On the General page: Across from Software, click Browse and then select the application you want to deploy.
   Do not change the Collection.

3. On the Content page, choose a distribution point for MSI or App-V applications. For Script based applications the application is already on the host and there is nothing to distribute, so just click Next.

4. On the Deployment Settings page: For Purpose, choose Required so that Configuration Manager forces the application to install.
   Important: If you do not choose Required, Configuration Manager will not deploy the application to the device collection containing the Citrix machine catalog.

5. On the Scheduling page: Specify a date and time that the application should be available and an installation deadline. The schedule defaults to as soon as possible.
   For information about scheduling deployments, refer to Microsoft TechNet documentation for System Center 2012 Configuration Manager.

6. Follow the on-screen instructions to complete the wizard.
   Green check marks on the Completion page indicate that the application is scheduled for deployment.

7. Monitor the deployment to determine when the application is deployed.

Publish applications

May 02, 2016

The Connector enables you to easily publish applications to Receiver on any user device supported by XenApp or XenDesktop. The Connector does not require the Citrix deployment type for such publications and provides a wizard that steps you through the setup.

If, however, you want to deploy Citrix hosted applications to the Configuration Manager Application Catalog or Software Center, you must add the Citrix XenApp and XenDesktop deployment type to the publication.

You can set Configuration Manager policies to determine how an application is delivered to the user. Suppose that you deploy an application with three deployment types (MSI, App-V and the Citrix XenApp and XenDesktop deployment type) and then publish the application to a user collection that contains the Delivery Group. Configuration Manager processes the deployment types according to their priority order.

In addition, you can create requirement rules for deployment types. For example, you might create requirement rules to specify that the device used to launch an application determines the application version that opens. If the user makes the request from:

- Their office computer, the MSI version opens.
- A shared device, the App-V version opens.
- A device co-located at a partner facility, the XenDesktop version opens to ensure no data remains on the partner device.

Another example: Suppose that you set the global condition "if not users primary PC" on the Citrix XenApp and XenDesktop deployment type. As a result, if a user is logged on to a shared kiosk machine, the Adobe Reader icon on the desktop launches a XenDesktop version of Adobe. If the user is logged on to their primary PC, the Adobe Reader icon on the desktop launches an MSI installed version of Adobe Reader.

For information about requirement rules and global conditions, refer to the Microsoft TechNet documentation for System Center Configuration Manager.

Publish applications to Receiver

After you deploy an application you can immediately perform the steps in this topic. The Connector delays publishing until the application is fully deployed to all active machines in the associated machine catalogs. Active machines are those that are online and not in XenApp or XenDesktop maintenance mode.

If an application is not fully deployed, the Citrix Application Publishing Wizard alerts you during its pre-flight checks.

1. In the Configuration Manager console, expand Software Library > Application Management.
2. Right-click Citrix Application Publications.
3. Choose Create Publication.
   The Citrix Application Publishing Wizard opens.

4. On the Application page, click Browse and select the application you want to publish. The list contains only the applications with one or more of these deployment types: MSI, App-V, or Script.
5. Review the Introduction page to see if there are any steps you need to take before proceeding.
6. If the Pre-flight Checks page includes any red icons you must resolve each issue and then click Re-run Pre-flight Checks.
   Tip: To expand the description of a pre-flight check, click its status icon.

If a pre-flight check indicates that the application is not fully deployed, you can complete these steps. The Connector delays publishing until the application is fully deployed to all active machines in the associated machine catalogs.

7. On the Delivery Groups page, select a group.
8. On the General page, change the publication name if needed.
9. On the Location page, accept the defaults unless you need to change them for your environment.
10. On the Desktop Integration page, specify the user experience:
    Important: The settings on this page override those specified in Studio.
    - To change the application icon that displays in Receiver or in the Windows Start screen or menu, click Change icon.
    - To organize the shortcuts in subfolders in the Windows Start screen or menu, specify a folder path in Application category.
    - To add an application shortcut to Windows desktops, click the related check box.
11. On the Visibility page, specify whether to show the application to a subset of users and then click Finish.
    By default, applications in Receiver are visible to all users in a Delivery Group.

12. To check publication status: Right-click the publication, choose Properties, and review the status on the General page.

After you complete the wizard, you can edit the properties of the publication: In the Configuration Manager console, right-click the publication and then choose Properties.

Verify the publication

To see the published application in Citrix Receiver:

- Log on to a device that is in the Delivery Group where you published the application and then log on to Receiver.

To view the published application in Citrix Studio:

1. Log on to the Citrix Delivery Controller and then open Studio.
2. In the Studio console, click Delivery Groups and then click the Applications tab.
   The Connector-published application should appear in the list. The application name is prefixed with ConfigMgr_ and the description includes KEYWORDS:ConfigMgr, which is used by StoreFront to prevent the application from appearing in Receiver on managed devices. The Connector also adds the tag ConfigMgr12 to the application metadata in Studio.

Deploy Citrix hosted applications to managed devices

Use this procedure to deploy Citrix hosted applications to the Configuration Manager Application Catalog or Software Center on devices managed by Configuration Manager. Users can also access the applications from any supported Citrix Receiver.

1. In the Configuration Manager console, expand Software Library> Application Management and then click Applications.
2. Add the Citrix XenApp and XenDesktop deployment type to the application: Right-click the application, choose Create Deployment Type, and complete the Create Deployment Type Wizard:
   1. On the General page: For Type, choose Citrix XenApp and XenDesktop.
   2. On the General Information page: Specify a Name for the application.
   3. On the Publishing page: Click the New or Add button, and then click through the remainder of the Create Deployment Type wizard.
3. Give the Citrix XenApp and XenDesktop deployment type the highest priority to enable application delivery through the Application Catalog or Software Center:
   Tip: You can also use global conditions or requirements to control how deployment types are used.
   1. With the application still selected in the application list, click the Deployment Types tab.

2. Right-click the Citrix publication you just created and then choose Increase Priority. Repeat as needed until that publication has a Priority of 1.
4. Deploy the application to a delivery site in a user collection:
    1. In the application list, right-click the application and select Deploy.
    2. Across from Collection, click Browse, select the collection under User Collections > Citrix Delivery Sites > site > Delivery Groups, and then click OK and Next.
    3. On the Content page: Choose a distribution point.
    4. On the Deployment Settings page: For Action, choose Install. For Purpose, choose Available.

       The Available setting means that the application will be available in the Application Catalog and Software Center, where users can select it for installation. After the user installs the application, the Citrix deployment handler adds the application to the Windows Start screen or menu.

       The Required setting forces the application to install in the Application Catalog and Software Center. The Citrix deployment handler adds the application to the Windows Start screen or menu.

       For more information, including the requirements for Start screen or menu integration, refer to Configure Windows Start screen or menu integration.

    5. On the Summary page: To make the application immediately available, click Next. Otherwise, specify a schedule.
    6. Click through the remainder of the wizard.
5. Verify the deployment:
    1. Log on to a managed user device and then open Configuration Manager Software Center.
    2. In the Available Software tab, select the application and then click Install. The application icon appears on the Start screen or menu.
    3. Verify that the application starts.

Configure Windows Start screen or menu integration

When you use the Citrix deployment type to publish an application to managed devices, the Connector interacts with Receiver in the background to add an application shortcut to the Windows Start screen or menu. That occurs only if the Configuration Manager agent determines that the Citrix deployment type is best for the application and the following requirements are met:

- The standard edition of Receiver for Windows 4.1, 4.0, or 3.4 is installed.
  The Enterprise version of Receiver is not supported for Start screen or menu integration.

- Receiver is installed with the Enable_SSON property set to Yes (the default value).
- User devices and the StoreFront server (version 2.5 or 2.1) are configured as follows to support single sign-on:
    - The user is a domain user (not a local machine user).
    - The user device is on the same Active Directory domain as the Storefront stores.
    - Pass-through authentication is configured on the Storefront server.
    - The StoreFront server URL is in the Internet Explorer Trusted Zone.
    - If the store service uses HTTPS, the certificate and trust chain are correctly configured for the server being used.
- Optional: To organize applications into categories on the Start menu, Receiver has the Registry entry UseCategoryAsStartMenuPath.

If those requirements are met, the Citrix deployment handler subscribes the application and places it on the Start screen or menu after these actions:

- The user installs an application deployed as "available" from the Configuration Manager Application Catalog or Software

Center.
- Configuration Manager automatically installs an application deployed as "required."

Change how installation and uninstallation is reported

Updated: 2014-06-21

Applications installed from the Configuration Manager Application Catalog or Software Center are reported by the Connector deployment handler as installed.

Applications subscribed to by a Receiver user (and thus installed on the local computer) are reported by the Connector deployment handler, by default, as installed in the Application Catalog even if the application was not installed by Configuration Manager. With this behavior, an administrator can determine from Configuration Manager reporting that the computer is out of compliance. This default is controlled on the Windows user device by the registry key ReportSubscribedAppsAsConfigMgrInstalled.

In the case of an application that is installed by Receiver but not by Configuration Manager, that registry key affects installation and uninstallation as follows:

- If ReportSubscribedAppsAsConfigMgrInstalled is True and the user tries to uninstall the application from the Application Catalog, the Application Catalog reports to the user that the uninstallation attempt failed. The user must unsubscribe the application from Receiver or use Windows Add/Remove Programs to uninstall it.
- If ReportSubscribedAppsAsConfigMgrInstalled is False and the user installs the application from the Application Catalog, the Application Catalog reports to the user that the installation attempt succeeded. The application was, however, already installed on the computer. If the user then uses the Application Catalog to uninstall the application, it remains available in Receiver. In this scenario the user actions in Application Catalog are correctly reported.
  If ReportSubscribedAppsAsConfigMgrInstalled is False, applications subscribed to by a Receiver user (and thus installed on the local computer) are reported as not installed in the Application Catalog, if the application was also not installed by Configuration Manager.

The registry locations are:

HKLM\SOFTWARE\Citrix\Dazzle

HKCU\SOFTWARE[\Wow6432Node]\Citrix\Dazzle

Note: Applications delivered from older clients that support legacy Web Interface XenApp Services sites are not included in Configuration Manager reporting.

Streamline the deployment of mandatory applications published with the Citrix deployment type

Updated: 2014-06-21

In an environment that includes mandatory deployments to a user collection, a user in that collection can experience about a 90-second delay (for about 20 applications) during each log on while the Citrix hosted applications deploy to the user's desktop.

A best practice to reduce this overhead is to use roaming profiles for the user collection experiencing delays. Although a first-time user will experience the delay, applications will be available almost immediately for subsequent logons.

1. Specify the share location to store a user's roaming profile: You need elevated domain privileges to perform this task.
   1. From within Active Directory Users and Computers, search for the user account and open RoamingUser Properties.
   2. Select the Profile tab and specify the location of the share where the user's roaming profile is to be stored in Profile

path:

\\ServerName\ShareName\UserID

The users must have read/write access to this share. The user's account profile will be stored in a folder contained in the share you specified.

2. Configure Citrix Receiver to also use this network share to store its information so that it will be available from any machine the user logs into:
    1. In the Windows Registry Editor, browse to HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\Dazzle.
    2. If the entry Local does not exist, create it: Right-click Dazzle, select New > String Value, enter a Value name of Local, and enter the Value data: %APPDATA%\Citrix\selfservice\local
3. Restart Citrix Receiver and log on the user.

Back up and recover

May 02, 2016

After you configure the Connector service, we recommend that you export the configuration to a file that you can use for backup and recovery.

To export a configuration file

The Connector Configuration wizard is in:

%ProgramFiles%\Citrix\Connector for ConfigMgr\Config Wizard

Action:	Command:
Get help on all options	Citrix.ConfigMgr.ConfigWizard.exe /help
Export a file named ConfigurationData.xml to the current directory	Citrix.ConfigMgr.ConfigWizard.exe /E[xportFile]
Export a file named ConfigDataToday.xml to the current directory	Citrix.ConfigMgr.ConfigWizard.exe /E[xportFile]=ConfigDataToday.xml
Export a file named ConfigDataToday.xml to C:\	Citrix.ConfigMgr.ConfigWizard.exe /E[xportFile]=C:\ConfigDataToday.xml

After you export the file, use a text editor to specify the service account password in the Credentials element:

<Credentials UserName="Connector_Service_Account" Password="" />
Except for the service account password, unspecified settings use default values during an installation.

To import a Connector configuration file

The Connector Configuration wizard is in:

%ProgramFiles%\Citrix\Connector for ConfigMgr\Config Wizard

Action:	Command:
Import and apply a configuration file with the default name and location	Citrix.ConfigMgr.ConfigWizard.exe /I[mportFile] /A[pply]
Import and apply a	Citrix.ConfigMgr.ConfigWizard.exe /I[mportFile]=D:\ConfigDataToday.xml /A[pply]

Action: renamed configuration file	**Command:**

Uninstall the Connector

May 02, 2016

To uninstall the Connector service or console extension, remove it from Programs and Features or use the following command-line:

%ProgramFiles%\Citrix\Connector for ConfigMgr\Config Wizard\Citrix.ConfigMgr.ConfigWizard.exe /U[ninstall]

In the Uninstall Options dialog box, indicate how to handle the uninstallation:

- I am upgrading or plan to re-install — Removes product binaries only.
- I want to uninstall permanently — Removes product binaries, components under Cleanup to perform, the Program Files > Citrix > Connector for ConfigMgr folder, and Connector-related items from the Configuration Manager console interface.
- Let me make selections manually — Removes product binaries and enables you to choose the components to remove. Your Connector configuration is retained.

What happens when you uninstall Connector

- Publications added to Studio by the Connector remain in Studio after you uninstall the Connector service.
- The Remove Citrix Connector deployment type technology option removes the Citrix deployment type from the Configuration Manager site. As a result, Configuration Manager no longer manages any publications that had the Citrix deployment type.
- Uninstalling the XenApp and XenDesktop deployment type does not remove the XenApp 6.5 deployment type.
- Uninstalling the Connector for a particular site does not impact Connector-related data on other Configuration Manager sites.

Monitor and troubleshoot

May 02, 2016

If you are new to System Center Configuration Manager, be aware that Configuration Manager operations typically take a while and few operations occur immediately. For example:

- Application deployment can take an hour or more.
- By default, the Configuration Manager client runs the following operations once a week: Hardware and software inventory, software metering, software updates, and software deployments.
- By default, the Configuration Manager client checks for new applications and software updates every hour.

Caution: Although you can change Configuration Manager client defaults, make sure that you understand the implications of any changes. For example, increasing the frequency of some operations can result in endpoints running out of memory. Be sure to test all changes in a non-production environment.

To view Configuration Manager client settings, go to Administration > Client Settings.

The Connector synchronization, orchestration, and publishing tasks run on the schedule specified in the Connector configuration wizard Advanced Properties. You can also manually run the Connector tasks from the Start screen or menu.
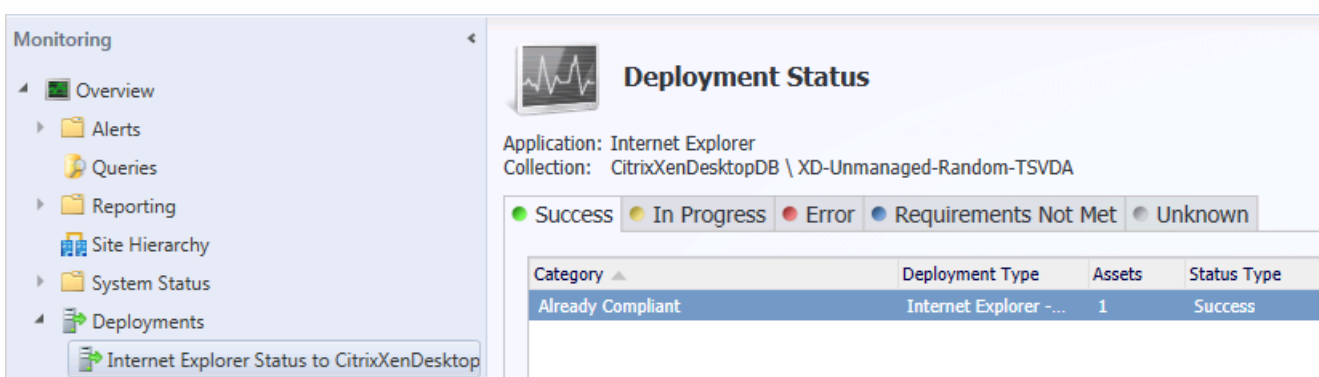
This section provides information to help you:

- Monitor application deployment and publishing
- Use Configuration Manager and Connector log files to troubleshoot a variety of issues
- Troubleshoot issues related to operational speed and incorrect setup

Monitor application deployment

After you deploy an application, monitor its progress as follows:

1. In the Configuration Manager console, click Monitoring > Deployments, right-click the application, and then choose View Status.

   If the deployment is not yet successful, check the other tabs for status information.

2. To force a status update for the deployment, click Run Summarization, wait awhile, and then click Refresh.
   After the application deploys, the In Progress tab lists the clones of managed images, with a status of "Waiting For Orchestration."

This information is also available from the Application Compliance Report in Monitoring > Reporting > Reports > Software Distribution - Application Monitoring.

Monitor application publishing

After you publish an application, monitor its progress in the Properties dialog box for the publication as described in the following steps. This table describes the publishing status messages and how to resolve publishing issues.

Publishing status message	Resolution
App is scheduled for publishing to Citrix Delivery Site name. The Citrix Connector will update this status message after processing the application publishing request.	The publishing task has not yet run. If this message remains after the publishing task should have completed, verify that the VDA is configured correctly on the session machines.
App did not publish to Citrix Delivery Site name Reason: The Citrix Connector will publish the application only when all active XenApp or XenDesktop workers that are not in maintenance mode report to Configuration Manager that the application is successfully deployed.	Ensure that the application is successfully deployed to all targeted XenApp or XenDesktop workers. When deploying to an image-managed catalog (MCS or Provisioning Services), use Citrix Studio to update the catalog with the new image after the application is successfully deployed to the designated update device.
App did not publish to Citrix Delivery Site name Reason: The application is no longer published to a Delivery Group.	Ensure that the application is published to a Delivery Group. Check whether any Delivery Groups to which this publication was previously targeted were subsequently deleted.
App did not publish to Citrix Delivery Site name Reason: Another publication with the same administrator-facing name already exists in the Citrix Delivery Site name.	Use the XenApp 7.5 and XenDesktop 7.5 Publishing Wizard in the Configuration Manager console to give the new application publication a unique name, or use Citrix Studio to give the existing application publication a unique name.
App did not publish to the Citrix Delivery Site name because the Site does not include the targeted Delivery Groups.	The application was published to multiple Delivery Sites and this site does not include the targeted Delivery Groups. The application was not published to the site, as expected. Select other sites for their publishing status.
The publishing task encountered an error when trying to publish App to Citrix Delivery Site name. Reason: Generic or unknown failure.	To troubleshoot the issue, look at the log on the server where the Connector Service is installed. By default, the log files are located at %ProgramFiles%\Citrix\Connector for ConfigMgr\Connector Service\Logs\.

1. In the Configuration Manager console, expand Application Management and then click Citrix Application Publications.
2. Right-click the application you published and review the messages in the Publishing status area of the Properties dialog box.
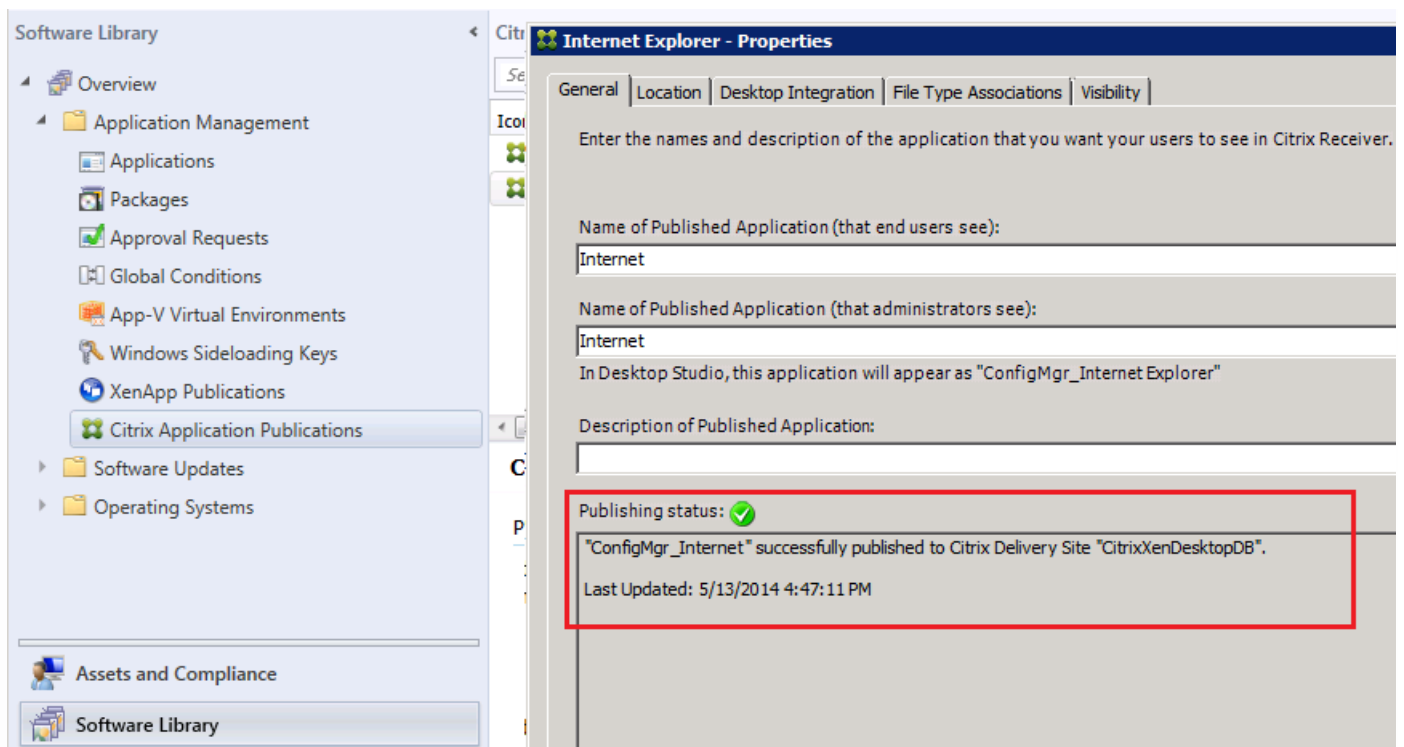
Configure Connector logging

The Connector creates log files for the following:

- Connector service, Connector agent, and Citrix deployment handler installation
- Connector service tasks, including orchestration, publishing, and synchronization
  Log files are updated as the tasks run.

The Connector extends the tracing capabilities provided by Configuration Manager by using standard .NET listeners and registering a CDF module. You can use CDFMonitor, the Configuration Manager log viewer tool CMTrace (in C:\Program Files\Microsoft Configuration Manager\tools), or other third-party tools to view trace information. For detailed information about CDFMonitor, refer to CDFMonitor.

Log files are named as follows:

- ComponentName.CreationTimeStamp.log. For example, log files for the component Citrix.ConfigMgr.PublishingTask.exe are named Citrix.ConfigMgr.PublishingTask.CreationTimeStamp.log.
- CDF modules use the naming convention ConfigMgr_ModuleName.

Configuration files are located under the Connector installation folder: %ProgramFiles%\Citrix\Connector for ConfigMgr\component\ComponentName.exe.config

To specify logging features, update the following properties in the configuration files:

Property	Description
baseFilename	Default log file name
enabled	Whether a listener is enabled

Property	Description
	By default the SMS Provider listener is enabled and the CDF listener is disabled.
appendMode	For an existing log file, whether to append log messages or overwrite the file
sizeLimit	Maximum file size, in MBs
trailCount	Number of time stamped files to retain

Use log files to troubleshoot

The following table lists the Configuration Manager and Connector log files that can help you troubleshoot a variety of issues.

The default installPath to Connector log files is %ProgramFiles%\Citrix\Connector for ConfigMgr.

Issue	Log file
Configuration Manager console operation	C:\Program Files(x86)\Microsoft Configuration Manager\AdminConsole\AdminUILog\SMSAdminUI
Connector Configuration	installPath\Config Wizard\Logs\Citrix.ConfigMgr.ConfigWizard
Connector task scheduling	installPath\Connector Service\Logs\Citrix.ConfigMgr.XenDesktopConnector
Synchronization with XenApp or XenDesktop	installPath\Connector Service\Logs\Citrix.ConfigMgr.SynchronizationTask
Application deployments	installPath\Connector Service\Logs\Citrix.ConfigMgr.OrchestrationTask
Application publishing	installPath\Connector Service\Logs\Citrix.PublishingTask
On master images and session machines: Group policies; maintenance windows; deployment status	installPath\Connector Agent\Logs\Citrix.ConfigMgr.XenDesktopAgent
On master images, session machines, and user devices: Application detection; installation and uninstallation of publications	installPath\DT Handler\Logs\Citrix.ConfigMgr.XenDesktopDTHandler C:\Windows\CCM\Logs\AppDiscovery C:\Windows\CCM\Logs\AppEnforce
On user devices: Hardware and software inventory	C:\Windows\CCM\Logs\InventoryAgent.log
Machine catalog properties, publishing wizard,	C:\Program Files(x86)\Microsoft Configuration

Issue	Log file
and other functionality provided by the Connector console extension	Manager\AdminConsole\AdminUILog\Citrix.ConfigMgr.XenDesktopDT

For more information about Configuration Manager logging, refer to:

Technical Reference for Log Files in Configuration Manager

Configuring Reporting in Configuration Manager

Troubleshoot issues

Issue	Description and resolution
The Citrix Delivery Sites folder is missing from Device Collections	The Connector console extension is not installed or configured.
After installing the Connector, the synchronization task takes a while and the CPU load on the SQL host increases	A machine catalog with more than 1000 machines increases the CPU load as the Connector synchronizes Configuration Manager with the Citrix Delivery Controller.
Connector tasks do not run	The Connector service must be able to run with the user credentials specified in the Connector configuration wizard. • Verify that the computer on which the Connector service is installed allows storage of passwords and credentials for network authentication. • Verify that the computer policy Do not allow storage of passwords and credentials for network authentication is disabled.
Machines are missing from the Assets and Compliance > Devices list	Configuration Manager has not discovered the device. If machine clones are missing from the Devices list, you can force the discovery of new machines by running the AD System Discovery in Configuration Manager: 1. Navigate to Administration > Hierarchy Configuration > Discovery Methods. 2. Right-click Active Directory System Discovery and then choose Run Full Discovery Now. If master images are missing from the Devices list: 1. Log on to the VM containing the master image. 2. In the Control Panel open Configuration Manager. 3. Click the Actions tab, select Hardware Inventory Cycle, and then click Run Now.
Machine catalogs or Delivery Groups are missing from the Configuration Manager console	Changes to XenApp or XenDesktop machine catalogs and Delivery Groups do not appear in Configuration Manager until the Connector synchronization task runs. To update device collections and user collections, run the Citrix Connector 7.5 Synchronization Task located in Citrix > Citrix Connector 7.5 for Configuration Manager under All Programs or Apps. Refresh the Configuration Manager console to view the synchronized items.

Issue	Description and resolution
The Machine Catalog count property does not match the device collection member count property	These two count properties will not match if provisioned machine clones have not yet booted or if Configuration Manager has not completed synchronizing the device collection.
The virtual desktop properties for a session machine does not include all values	If some properties are missing, verify that the machine is assigned to a Delivery Group. If all properties are missing, review the hardware inventory log (C:\Windows\CCM\Logs\InventoryAgent.log) to discover why the Citrix WMI properties of the VDA are not populated in Configuration Manager.
Although a particular machine is in a machine catalog in Studio, it does not appear in the machine catalog collection in the Configuration Manager console	In the Configuration Manager console, verify that the machine is listed in Assets and Compliance > Devices and that the Configuration Manager client is installed and active on the machine. The Connector synchronization task log may contain additional helpful information, such as the log message: Not adding XenApp/XenDesktop Worker machine name to collection machine catalog collection name because it is currently not in the "All Systems" collection.
After choosing a device or user collection in the Deploy Software Wizard, this message appears: The selected collection name does not contain any members	If you chose a device collection, the message indicates that there are no machines assigned to the machine catalog. If you chose a user collection, the message indicates that there are no users assigned to the Delivery Group. Use Studio to complete the configuration.
In the Deployment Status page, the Requirements Not Met tab includes the requirement Existential of Citrix XenApp Server Version Not Equal to 0	This status indicates that you used a deployment type that includes a Requirement with the global condition named Citrix XenApp Server Version. That global condition forces the application to install on the XenApp 6.5 farm and so is not valid for deployment to a Citrix Delivery Site. Edit the deployment type for the application to remove the XenApp-specific global condition.
The Designate Update Device verification does not complete because Configuration Manager cannot contact the device	If Configuration Manager cannot contact the device, it displays an error message and prompts you to continue with designating the device as a master image or canceling. If you choose to continue, be aware that you must fix the issue preventing communication between Configuration Manager and the device before the Connector can orchestrate deployments. Verify that the WMI-In rule is enabled in Windows firewall and that the master image VM is running. Also check for other networking issues.
The compliance status for a deployment has remained as "Waiting For Orchestration" for a long time	The status "Waiting for Orchestration" appears for machines that are in idle policy mode and have not rebooted. The following situations can result in a stalled or failed orchestration: • An application is deployed to an MCS or Provisioning Services managed machine catalog without first designating an update device for the catalog. For more

Issue	Description and resolution
	information, refer to Deploy applications to machine catalogs. ● Machine clones are powered off. The Configuration Manager client cannot obtain status information from a machine that is powered off. Use Studio to power on MCS managed machine clones.
The Publication Wizard pre-flight check indicates that an application is not deployed to a machine catalog device collection although Configuration Manager reports 100% compliance or The Connector synchronization task log consistently shows an exception following three "Loaded: PowerShell snapin/module" messages tagged with Component "SynchronizationWorkerXD"	On Windows Server 2008 R2, the default maximum PowerShell memory per shell is 150 MB. The Connector requires at least 1024 MB of memory per shell to synchronize with the Delivery Controller. Configure the MaxMemoryPerShellMB setting as described in Prepare for installation.