# AMD MxGPU and Citrix

## XenServer for XenDesktop and XenApp Deployments

## Deployment Guide v3.0

This guide describes host and VM configuration procedures to enable AMD MxGPU hardware-based GPU virtualization using the PCIe SR-IOV protocol.

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*NOTE: Versions 1.x and 2.x of this document were referred to as the "AMD MxGPU and Citrix XenServer/XenDesktop Deployment Guide."*

# Table of Contents

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XenServer for XenDesktop and XenApp Deployments v3.0

# Overview

This *Deployment Guide* describes configuring Citrix® XenServer®, XenDesktop®, and XenApp® to use AMD Multiuser GPU (MxGPU) technology, which allows system administrators to deploy and manage graphics-accelerated virtual machines using the AMD FirePro™ S7100X, S7150, and S7150 x2 family of products in MxGPU mode. MxGPU technology uses the Single Root I/O Virtualization (SR-IOV) PCIe® virtualization standard to create up to 16 virtual MxGPUs per physical GPU. These MxGPUs can then be automatically or manually assigned to virtual machines on the Citrix host.

# Hardware and Software Requirements

The following requirements must be met in order to enable MxGPU virtualization:

- **Host/Server:** Please see the Citrix® XenServer® Hardware Compatibility List for an up-to-date list of MxGPU-certified servers. Each server must have the following minimum configuration:

  - **Graphics Adapter:** AMD FirePro™ S7100X, S7150, or S7150 x2.

  - **CPU:** One or more Intel VT or AMD-V 64-bit x86-based CPU(s).

  - **System memory:** 32 GB (minimum; 1 TB maximum). The number of guest VMs and individual use cases will determine the optimum amount of RAM needed.

  - **Storage:** 500 GB (minimum). The number of guest VMs and individual use cases will determine the optimum type(s) and amount of storage needed.

  - **Network adapter:** Gigabit Ethernet (GbE) and up.

  - **BIOS:** Enable IOMMU (AMD CPUs) or VT-d (Intel CPUs), SR-IOV, ARI, memory mapping above 4 GB, MMIO High Size (if available), and UEFI boot. Please refer to your BIOS documentation for instructions on enabling these options.

    *Note: Some platforms support additional virtualization options. For example, the AMD Kaveri APU includes an ARI (Alternative Reroute Interface). Please refer to your platform documentation for information and instructions.*

  - **Software:** The host/server must have both Citrix XenServer 7.4 or later and Citrix XenDesktop 7.15 or later.

- **Client:** Any of the following client devices can be used to access virtual machines that have been configured on the host/server:

  - Zero client (up to 4 connectors) with standard mouse, keyboard, and monitor.

  - Thin client with standard mouse, keyboard, and monitor running Microsoft® Windows® Embedded OS.

  - Laptop/desktop with standard mouse, keyboard, and monitor running with Microsoft Windows 7 or later.

- **Administrator System:** The system used for administrative functions must be configured as follows:

  - **OS:** Microsoft Windows® 10, Microsoft Windows® 7, Microsoft Windows® Server 2016, or Microsoft Windows® Server 2008 R2 (64-bit).

  - **Browser:** Microsoft Internet Explorer® 11+, Microsoft Edge™, Google Chrome™, or Mozilla Firefox®.

- **Guest VM resources:** The following table lists some recommended resource allocations for guest VMs depending on user needs:

| User Type/Performance | vCPU cores | System memory (GB) | # of enabled MxGPUs | Frame buffer size (MB)[1] |
|---|---|---|---|---|
| Workstation (High-performance) | 4 | 8 | 2 | 3840 |
| Power (Professional) | 2 | 4 | 4 | 1920 |
| Knowledge (Enhanced) | 2 | 3 | 8 | 960 |
|  | 2 | 3 | 10 | 768 |
| Task (Standard) | 1 | 2 | 16 | 480 |
| *Note: All guest memory must be locked/reserved.* | | | | |
| *1. Amount of memory available to each VF.* | | | | |

- **Guest VM configuration:** Each guest VM must be configured as follows:

  - **OS:** Microsoft Windows® 10, Microsoft Windows® 7, Microsoft Windows® Server 2016, or Microsoft Windows® Server 2008 R2 (64-bit).

  - **AMD Drivers:** Use the latest guest OS driver.

  - **Citrix XenDesktop or XenApp VDA:** Version 7.15 or later.

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# XenServer MxGPU Setup

Configuring Citrix XenServer for MxGPU virtualization is a straightforward procedure. First, enable platform SR-IOV by installing an MxGPU GIM host driver on the XenServer host. Next, assign virtualized MxGPU resources to the virtual machine. Finally, log in to that virtual machine to verify and complete setup and personalization, such as screen resolution or multiple monitors.

# Prerequisites

The following prerequisites must be met before configuring MxGPU on a XenServer host:

- The host meets all of the applicable requirements listed in "Hardware and Software Requirements" on page 2, including BIOS configuration.

- Citrix XenServer has been installed on the host (server).

- Citrix XenCenter® has been installed on the management system.

- All required Citrix licenses have been installed.

- One or more virtual machine(s) meeting all of the applicable requirements in "Hardware and Software Requirements" on page 2 have been created on the host, and both an operating system and Citrix XenServer Tools have been installed on the virtual machine(s).

> *Note: When creating the VM, you can select either **None** or any available GPU when prompted to assign a virtual GPU.*

# Enabling Platform SR-IOV

Unleashing the full power of AMD MxGPU virtualization requires enabling additional virtualization capabilities in the server BIOS beyond IOMMU or VT-d. This is done by installing an MxGPU GIM host driver (.iso) on the XenServer host.

## Step 1: MxGPU GIM Host Driver Installation
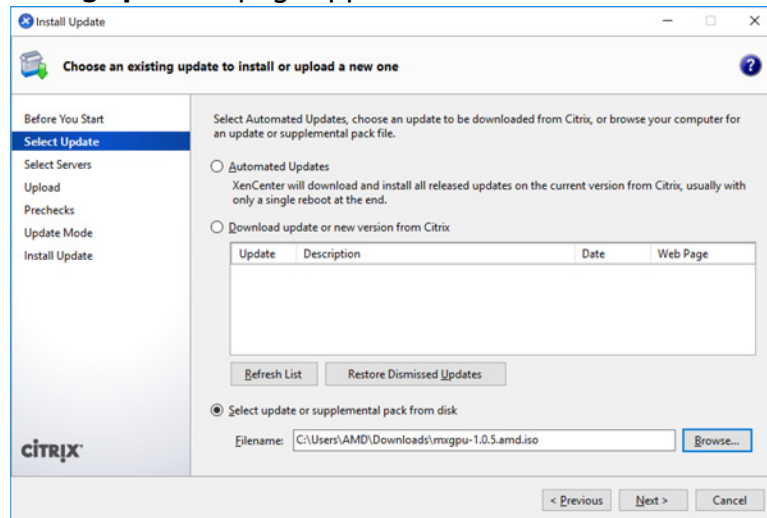
To install the MxGPU GIM host driver:

1. Download the host driver `mxgpu-<version>.amd.iso`, where `<version>` is the version number of the host driver, such as `1.0.5`. Place this file in a known location that can be accessed by XenCenter.

2. Launch XenCenter, and then connect to the host.

3. Select **Tools>Install Update**.
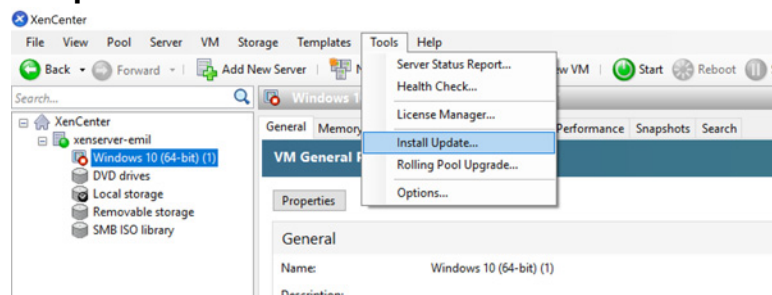


The **Install Update** window appears with the **Before You Start** page displayed.

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4. Read the information on this window, verify that you have followed all of the procedures, and then click **Next**.

   The **Choose an existing update...** page appears.



5. Click the **Browse** button, and then navigate to the directory where you placed the MxGPU GIM host driver.

6. Select the MxGPU GIM host driver, and then click **Next**.

   The **Select the servers...** page appears.
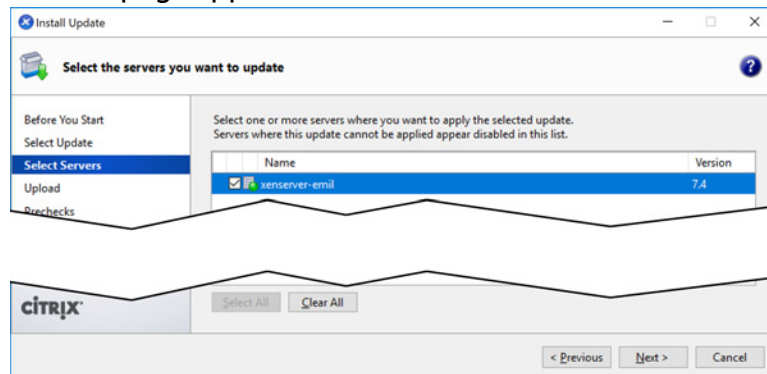


7. Select the XenServer host or pool to which you would like to apply the host driver, and then click **Next**.

   The **Upload** page appears and displays the status of the upload. An error message will appear if there is not enough space.

The **Perform update prechecks...** page appears once the upload is complete.
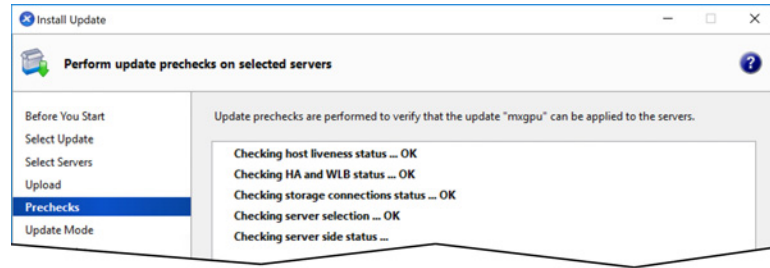


8.  XenCenter performs a series of prechecks to determine whether the MxGPU GIM host driver can be applied onto the selected servers and displays the results. If needed, follow the on-screen recommendations to resolve any update prechecks that have failed, and then click **Next** to continue.

    The **Update Mode** page appears.

9.  Check the **Allow XenCenter to carry out the post-update tasks...** option, and then click I**nstall update**.

    The **Install Update** window displays a progress bar and status messages as the installation proceeds.

10. Click **Finish** to close the **Install Update** window.

11. Select the host, and then click **Connect** to connect to that host.
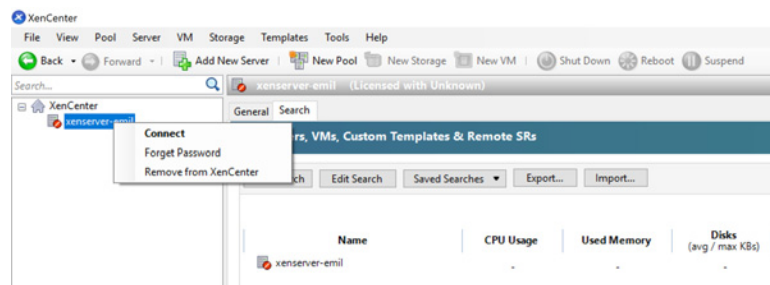


12. Open the **GPU** tab associated with the target host, and then click **Edit**.

    The **<GPU>** window appears, where **<GPU>** is the AMD GPU type, such as T**onga XT GL (FirePro S7150) (1GPU)**. This window displays the MxGPU configurations that will be subsequently exposed for assignment to guest VMs.
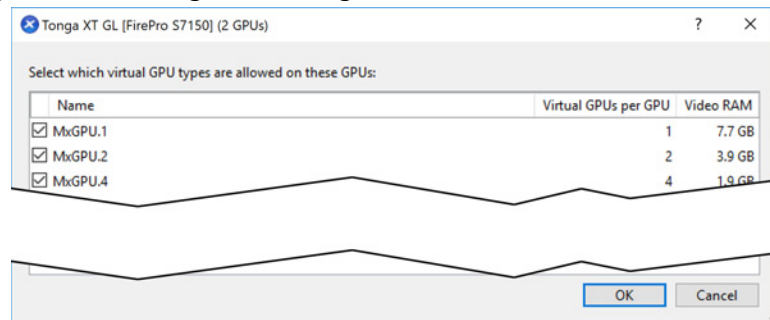
# Step 2: Finishing MxGPU Setup

To finish setting up MxGPU virtualization:

1.  Create a virtual machine.

2.  Verify that the virtual machine you are configuring is shut down, and then either:

    -   Right-click the virtual machine and then select **Properties**.

    -   Click the **Properties** button in the **General** tab.

    The **<Virtual Machine> Properties** window appears, where **<Virtual Machine>** is the name of the selected virtual machine.

3.  In the left pane of the **<Virtual Machine> Properties** window, select **GPU** in the left pane, and then use the **GPU type** pull-down menu to select the desired Multiuser GPU (MxGPU) option.
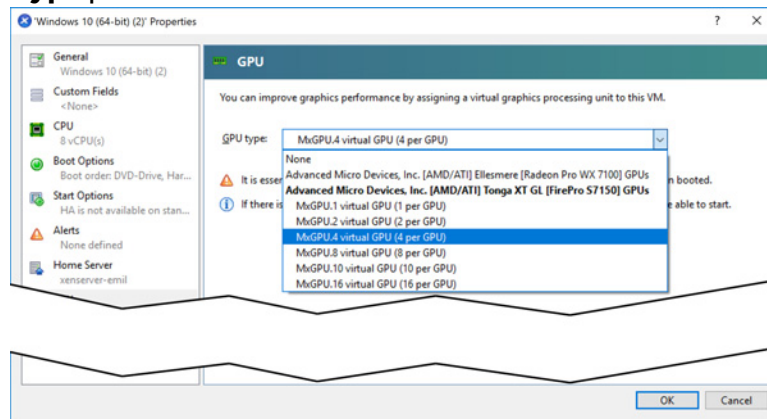


*Note: Only one virtual GPU can be assigned to VM at a time.*

When configuring the MxGPU option, smaller "per GPU" numbers indicate fewer virtual GPUs per physical GPU, which provides higher performance, and vice-versa. The following table provides some general recommended MxGPU options based on user type:

| User Type/Performance | vCPU cores | System memory (GB) | # of enabled MxGPUs | Frame buffer size (MB)[1] |
|---|---|---|---|---|
| Workstation (High-performance) | 4 | 8 | 2 | 3840 |
| Power (Professional) | 2 | 4 | 4 | 1920 |
| Knowledge (Enhanced) | 2 | 3 | 8 | 960 |
| | 2 | 3 | 10 | 768 |
| Task (Standard) | 1 | 2 | 16 | 480 |
| Note: All guest memory must be locked/reserved. 1. Amount of memory available to each VF. | | | | |

4. Select the desired MxGPU option, and then click **OK**.

5. Start the virtual machine.

6. Once the virtual machine has booted, access Device Manager and note the new graphics adapter. You may now complete setting up the virtualized environment, such as screen resolution or adding/configuring multiple monitors.

*Note: Use Microsoft Remote Desktop Connection to install the guest Radeon Pro™ Software Enterprise Edition driver on the guest VM.*

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# XenDesktop Setup

This chapter provides step-by-step instructions for setting up the Citrix Delivery Controller for deploying desktops and applications with XenDesktop or XenApp. A physical or virtual Windows Server machine is required to serve as the Delivery Controller. Then, install the Virtual Delivery Agent (VDA) on the target virtual machines, and install Citrix Receiver™ on a client (remote) system.

# Step 1: Installing the VDA on a Guest VM

To install the Virtual Delivery Agent (VDA) on a guest virtual machine:

1.  Log in to the virtual machine.

    *Note: Be sure to check for and install the latest Windows updates before continuing.*

2.  Either copy the Citrix Virtual Delivery Agent (VDA) standalone package (.iso) to the virtual machine, or map a network location that contains the package.

3.  Mount the .iso and then execute `autoselect.exe`.

    The following splash screen appears.

    

4.  Click the **Start** button in either the **XenDesktop** or **XenApp** section.

    The following screen appears.

    

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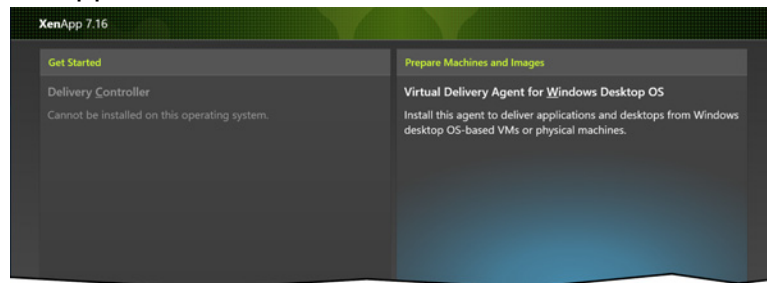
5. Select **Virtual Delivery Agent for Windows Desktop OS**.

   The **Environment** page appears.
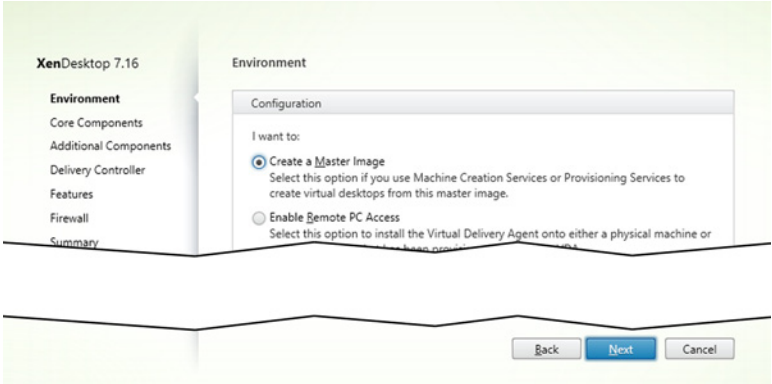
   

6. Check the **Create a Master Image** radio button for Machine Creation Services, and then click **Next**.

   The **Core Components** page appears.
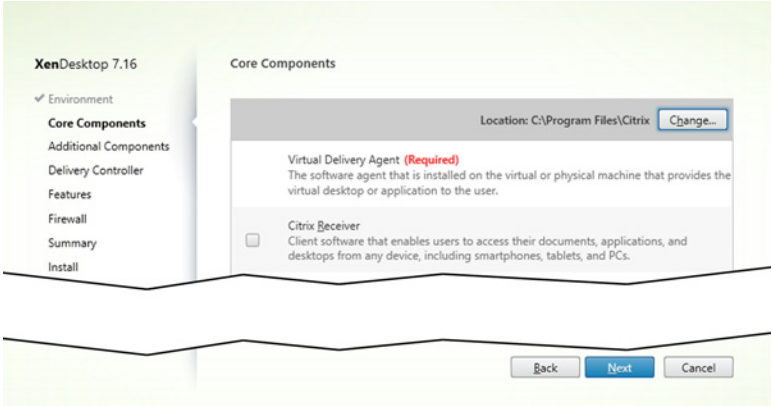
7. If needed, click the **Change...** button to change the VDA installation location. You may also clear the **Citrix Receiver** checkbox because you are working on a target machine. Click **Next** to proceed once you have finished making any changes.

   The **Additional Components** page appears.
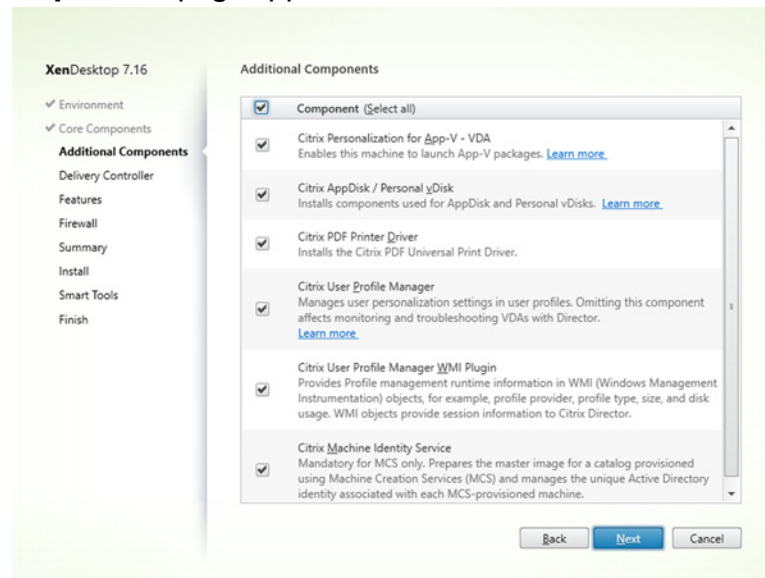


8. If you plan to use Machine Creation Services (MCS), then check the **Citrix Machine Identity Service** checkbox. You may also check any additional checkbox(es) to install any other necessary component(s). Click **Next** to proceed once you have finished specifying the needed additional component(s).

   The **Delivery Controller** page appears.
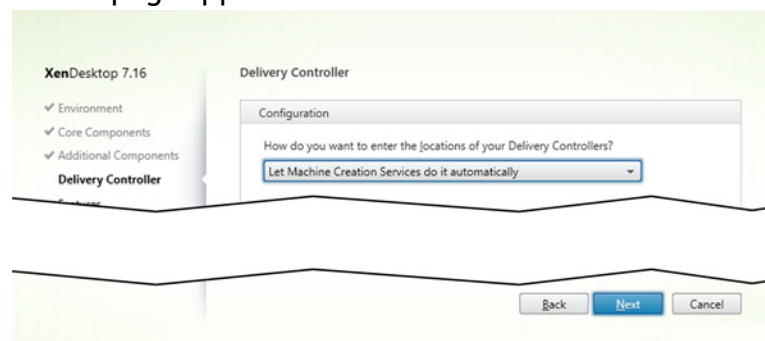


9. Use the **How do you want...** pull-down menu to select **Let Machine Creation Services do it automatically**, and then click **Next** to proceed.

   The **Features** page appears.

10. Keep the default selections, and then click **Next**.

    The **Firewall** page appears.

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11. Check the **Automatically** radio button, and then click **Next**.

    A **Summary** page appears.

12. Verify all of the selected options, and then click **Install** to continue. A popup will display installation progress.

    The **Call Home** page appears after the installation completes.

13. Make the appropriate selection for your needs, and then click **Finish**.

    The virtual machine will restart.

14. Log in to the virtual machine.

15. If needed, download the AMD guest OS drivers to the virtual machine.

# Step 2: Installing Citrix Studio for XenDesktop/XenApp Deployments

To install Citrix XenDesktop:

1. Either create a guest virtual machine or configure a separate physical machine, and then install Windows Server.

2. Configure the virtual machine as follows:

    - If necessary, join the server to a domain.

    - Add yourself as an administrator.

3. Reboot the virtual machine, and then log in to the machine or domain, as appropriate.

4. Either copy the Citrix Virtual Delivery Agent (VDA) standalone package (.iso) to the virtual machine, or map a network location that contains the package.

5. Mount the .iso and then execute `autoselect.exe`.

   The following splash screen appears.

   Deliver applications and desktops to any user, anywhere, on any device.

   • Hybrid cloud, cloud and enterprise provisioning
   • Centralized and flexible management

   Manage your delivery according to your needs:

   **XenApp** Deliver applications     Start

   **XenDesktop** Deliver applications and desktops     Start

   Cancel

6. Either:

   - Click the **Start** button in the **XenDesktop** section to install Citrix XenDesktop.

   - Click the **Start** button in the **XenApp** section to install Citrix XenApp.

   A screen with a series of options appears.

   **XenApp 7.16**

   | Get Started | Prepare Machines and Images |
   |---|---|
   | **Delivery Controller** | **Virtual Delivery Agent for Windows Server OS** |
   | Start here. Select and install the Delivery Controller and other essential services like License Server and StoreFront. | Install this agent to deliver applications and desktops from server-based VMs or physical machines. |
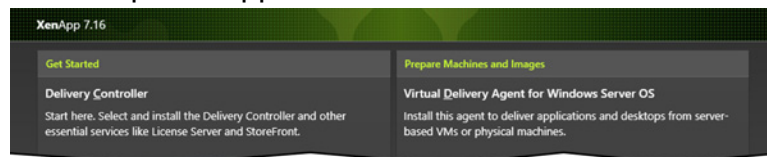
7. In the **Getting Started** section on the left side of the screen, click **Delivery Controller**.

   A pop-up window appears.

8. Select **Yes**.

   The **Software License Agreement** page appears.

9.  Check the **I have read, understood, and accept...** radio button, and then click **Next**.

    The **Core Components** page appears.
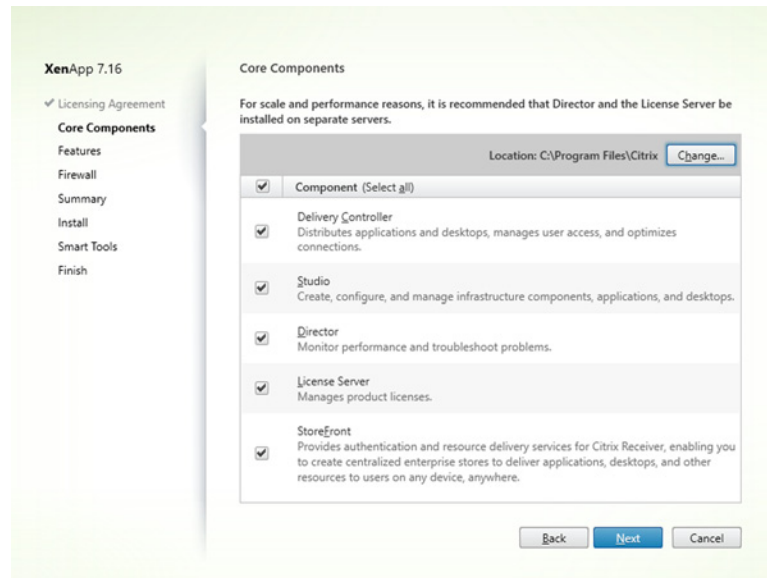


10. Make sure that all components are selected, and then click **Next**.

    The **Features** page appears.
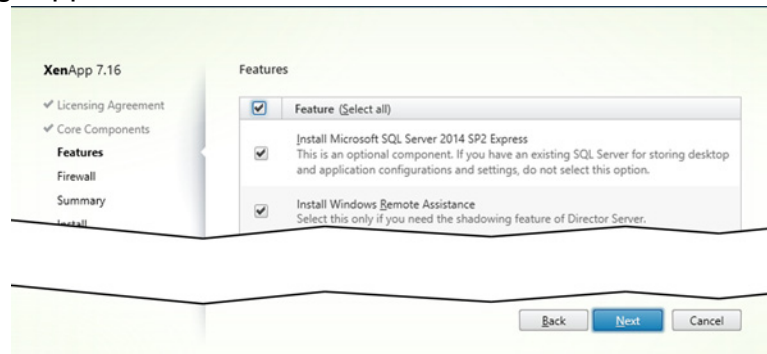
11. Make sure that all features are selected, and then click **Next**.

The **Firewall** page appears.
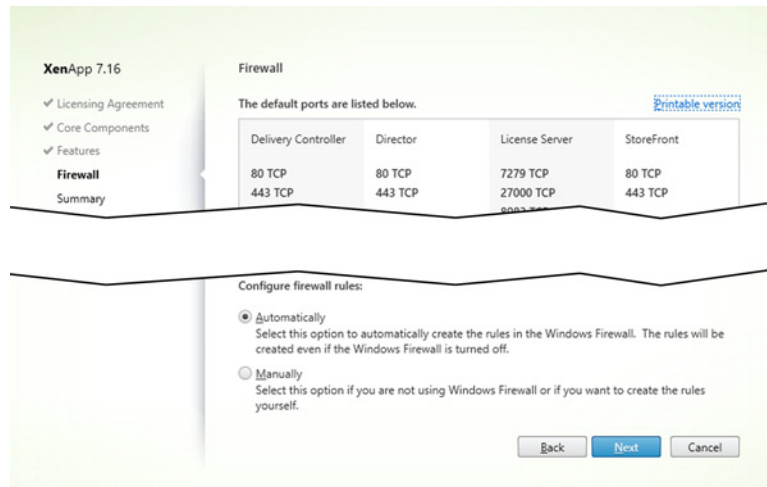


12. Check the **Automatically** radio button, and then click **Next**.

A **Summary** page appears.
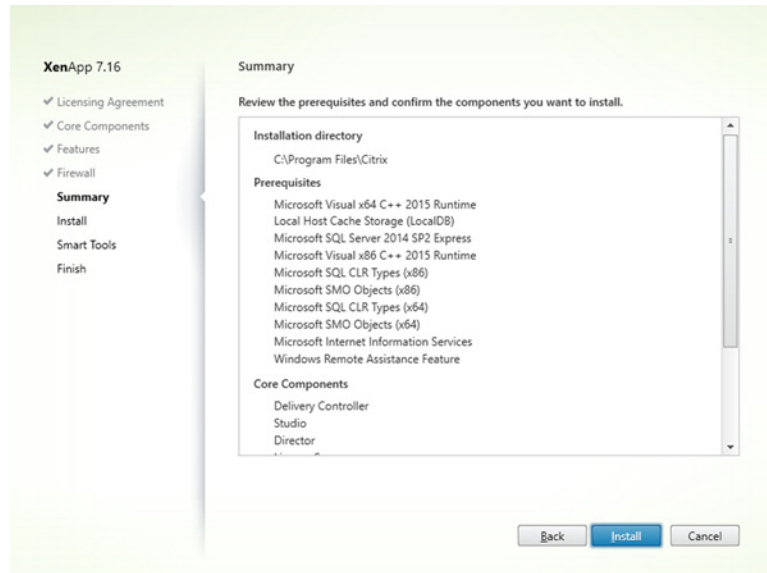
12. Click **Install** to continue.

   The system installs the necessary files/components. The virtual machine may reboot several times during this process.
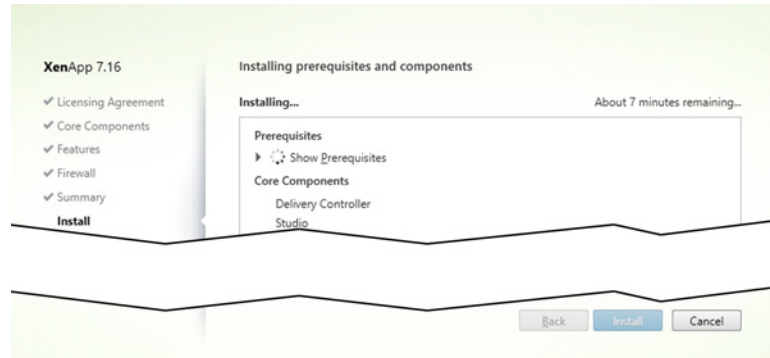


13. A **Call Home** page may appear. Make the appropriate selection for your needs, and then click **Next**.

   The **Finish Installation** page appears.

14. Make sure that the **Launch Studio** checkbox is selected, and then click **Finish**.
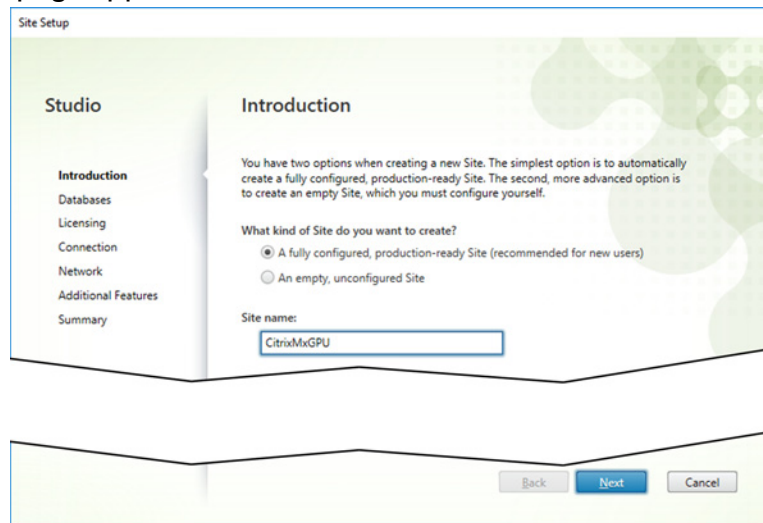
   *Note: If you do not check the **Launch Studio** checkbox, then you will need to launch Citrix Studio after the installation complete.*

# Step 3: Configuring Citrix Studio for XenDesktop Deployments

To configure Citrix Studio to deliver desktops using XenDesktop:

1. After Citrix Studio launches, click **Deliver applications and desktops to your users**.

   The **Introduction** page appears.

2.  Check the **A fully configured…** radio button, add a name in the **Site** name field, and then click **Next**.

> *Note: A site name is the name given to a product deployment. It comprises the Delivery Controllers and the other core components, VDAs, virtual resource connections (if used), plus the machine catalogs and Delivery Groups that you create and manage.*

The **Databases** page appears.



3.  Check the **Create and setup databases from Studio** radio button, and then click **Next**.

The **Site Setup** page appears.

4.  Enter the license server address and then click **Connect**.

A **Certification Authentication** popup appears.

5.  In the popup, select **Connect me**, and then click **Confirm**.

    The system connects to the specified licensing server, and then displays the **Licensing** page.



6.  Check the **Use an existing license** and **Citrix XenDesktop Platinum** radio buttons, and then click **Next**.

    The **Connection** page appears.



7.  Select the following:

    -   **Connection type:** Citrix XenServer.

    -   **Connection address:** IP address of the XenServer host.

    -   **Username:** Your domain (if any) and username, such as `amd/johndoe`.

-     **Password:** Your password.

-     **Connection name:** Enter a name for this connection.

-     **Create virtual machines using:** Check the **Other tools** radio button.

8. Click **Next**.

   A **Certificate Authentication** window appears.

9. Check the **Trust certificate** checkbox, and then click **OK**.

   The **Additional Features** page appears.

10. Leave all options blank, and then click **Next**.

    The **Summary** page appears.

11. Review the summary to ensure that all parameters are correctly configured, and then click **Finish**.

    The system will configure Citrix Studio using the parameters you provided in Steps 1-10, above, and then return to the **Site Setup** window with the **Configuration** option checked.

# Step 4: Assigning GPU Resources

To assign GPU resources for virtual machines:

1. Open Citrix Studio, and then select **Configuration>Hosting>Add Connection and Resources**.
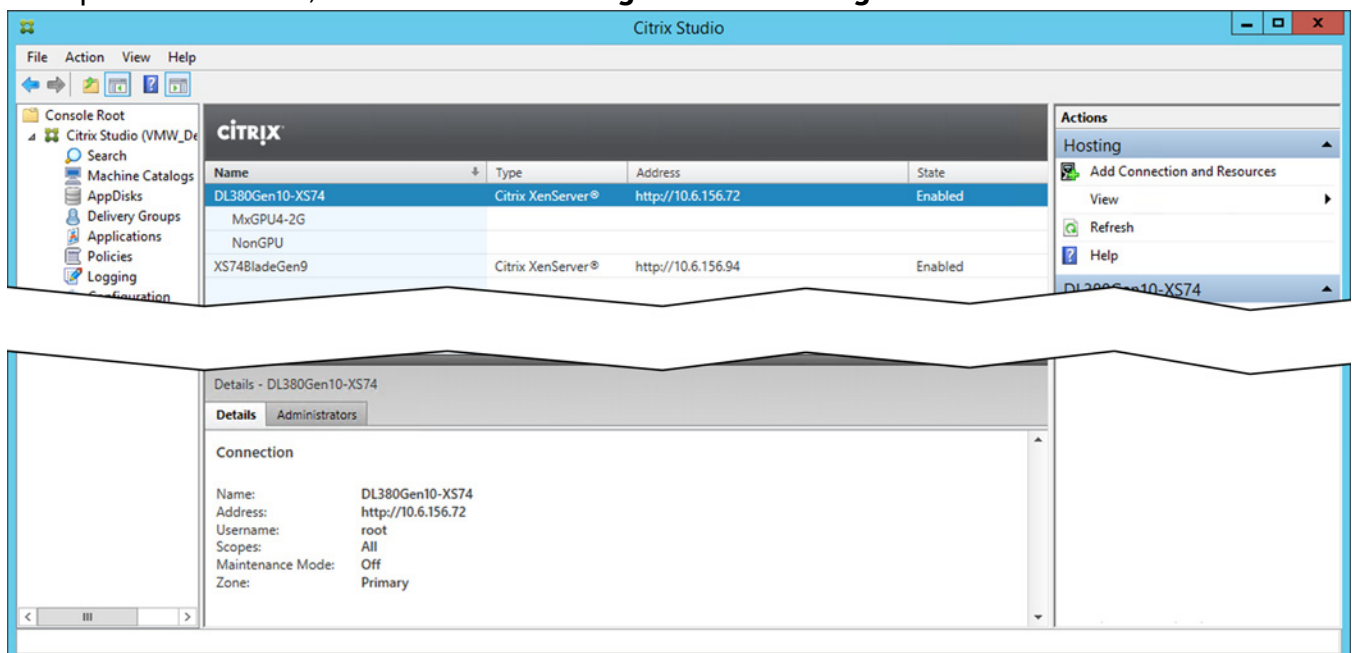
The **Connection** page appears.
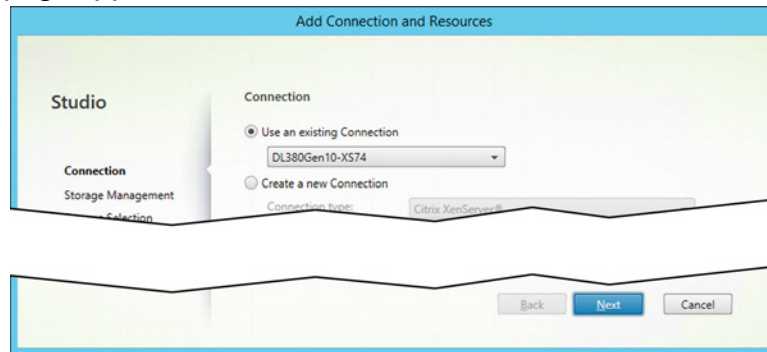


2. Check the **Use an existing Connection** checkbox, use the pull-down menu to select the connection to use, and then click **Next**.

The **Storage Management** page appears.
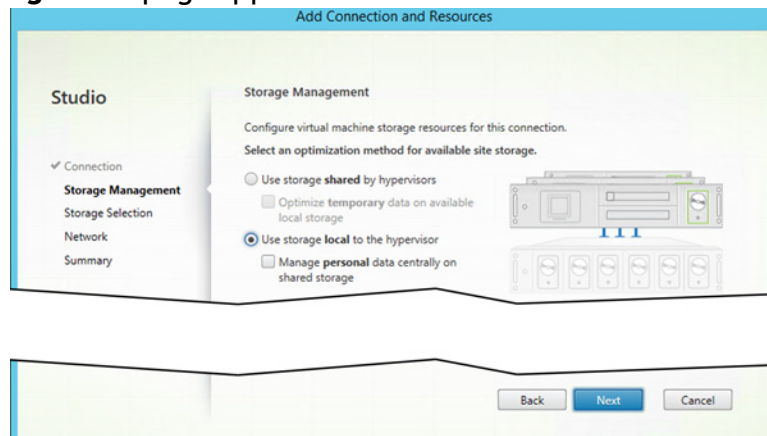


3. Check the **Use storage local to the hypervisor** radio button, and then click **Next**.

The **Storage Selection** page appears.
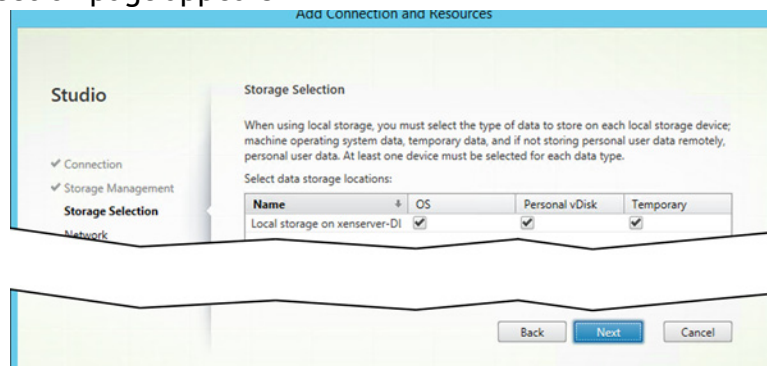
4. Select the type(s) of data to store on the local storage device by checking the appropriate checkbox(es), and then click **Next**.

   The **Network** page appears.
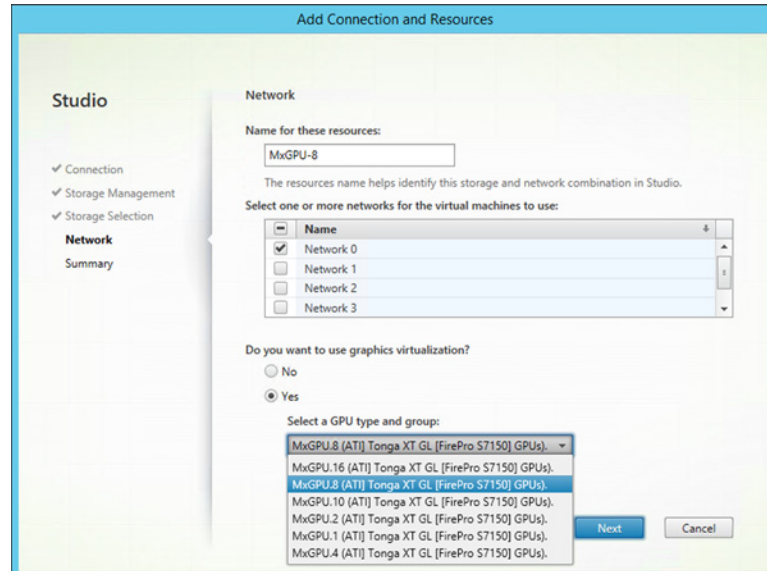


5. Select the following:

   - Enter a name for the GPU resources in the **Name for these resources** field.

   - Select the network(s) that the virtual machines will use by checking the appropriate checkbox(es).

   - Check the **Yes** radio button under **Do you want to use graphics virtualization?**

   - Use the pull-down menu to select the GPU type and group.

6.  Click **Next**.

    The **Summary** page appears.
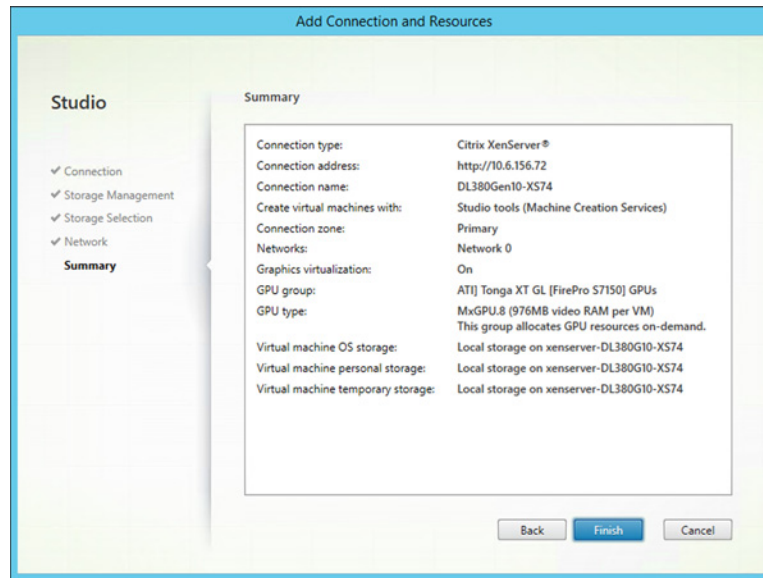


7.  Click **Finish** to complete this phase of the setup.

# Step 5: Configuring a Machine Catalog

After assigning the GPU resources, the next step is to set up machines for desktops, applications, or remote access. To do this:

1.  Open Citrix Studio, and then select **Machine Catalogs>Create Machine Catalog**.
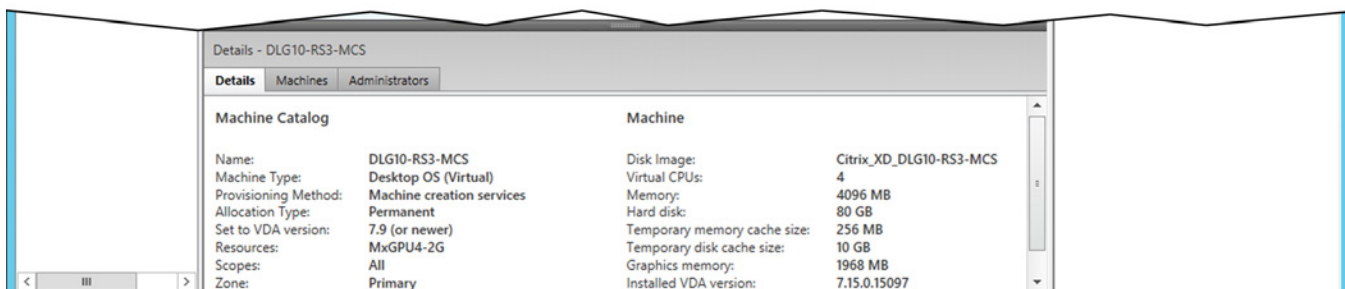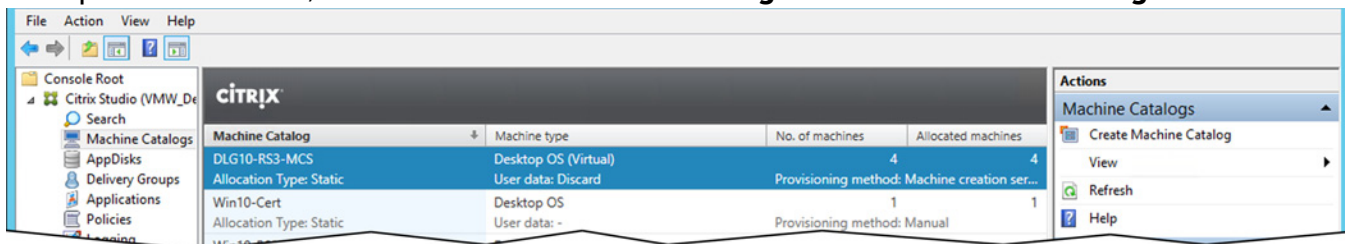
2.  Select the operating system type to use for the new machine catalog (**Server OS**, **Desktop OS**, or **Remote PC Access**).

    The **Machine Management** page appears.
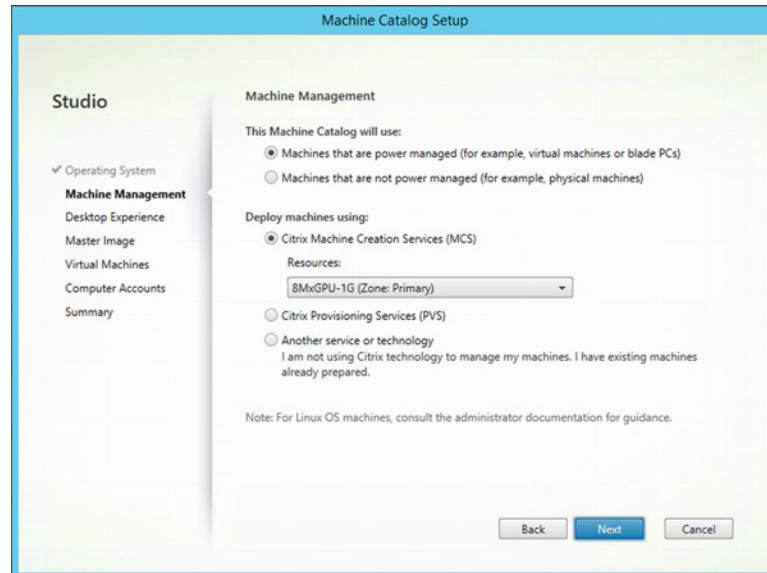


3.  Select the following:

    -   Check the **Machines that are power managed…** radio button.

    -   Check the **Citrix Machine Creation Services (MCS)** radio button.

    -   Use the **Resources** pull-down menu to select the GPU resources that you assigned in "Step 3: Assigning GPU Resources" on page 23.

4.  Click **Next** to continue.

> *Note: For PVS deployments, refer to the Citrix guide.*

The **Desktop Experience** page appears.
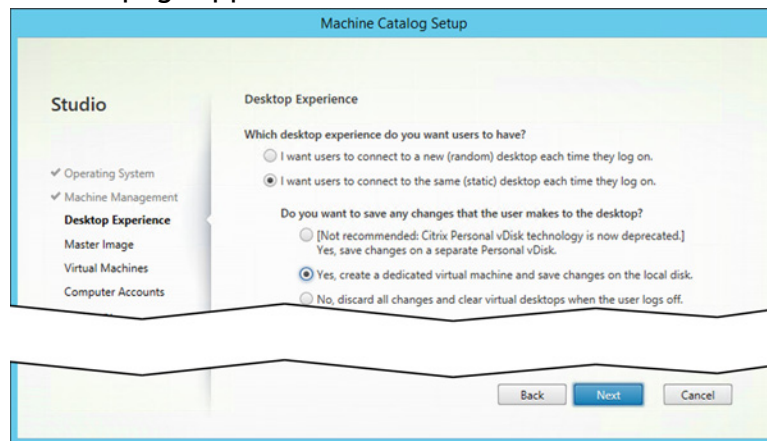


5.  Check the appropriate radio button to define the type of desktop that users will access (random or static), as follows:

    -   Selecting **random** means that users will be assigned to a random virtual desktop when they log in.

    -   Selecting **static** means that each user will always be assigned to the same virtual desktop. If you select this option, then check the appropriate radio button to determine whether user changes will be saved to the local disk or discarded.

6.  Click **Next** to proceed.

The **Master Image** page appears.



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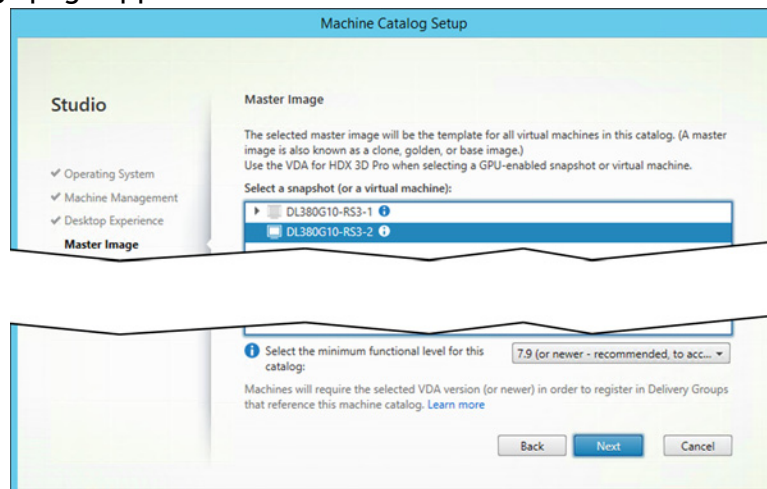
7. Select the master image that you want to use for all of the virtual machines in this catalog, and then click **Next**.

   The **Network Card**s page appears.

8. Select the Network Interface Card (NIC) to use for the virtual machines in this catalog, and then click **Next**.

   The **Virtual Machines** page appears.



9. Select the following options:

   - Number of virtual machines to create.

   - Total amount of RAM to assign to each virtual machine, in MB.

   - Cache RAM to use, in MB.

   - Disk cache size, in MB.
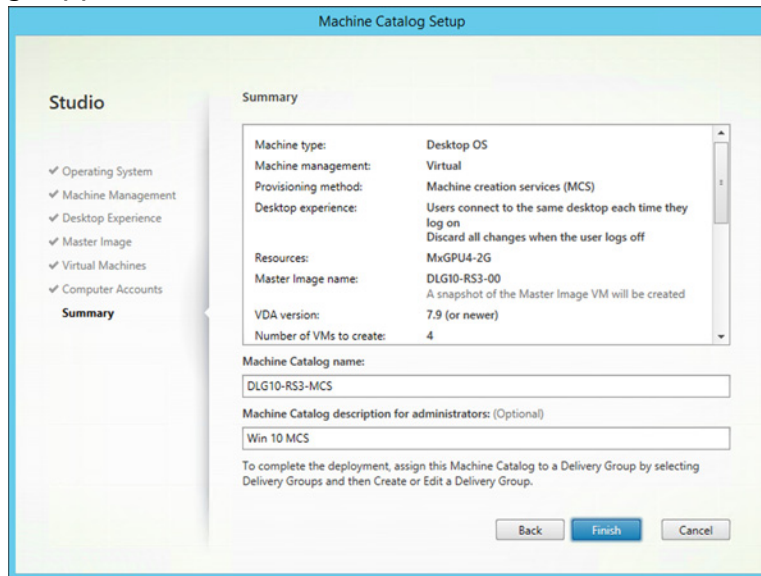
10. Click **Next** to proceed.

The **Computer Accounts** page appears.
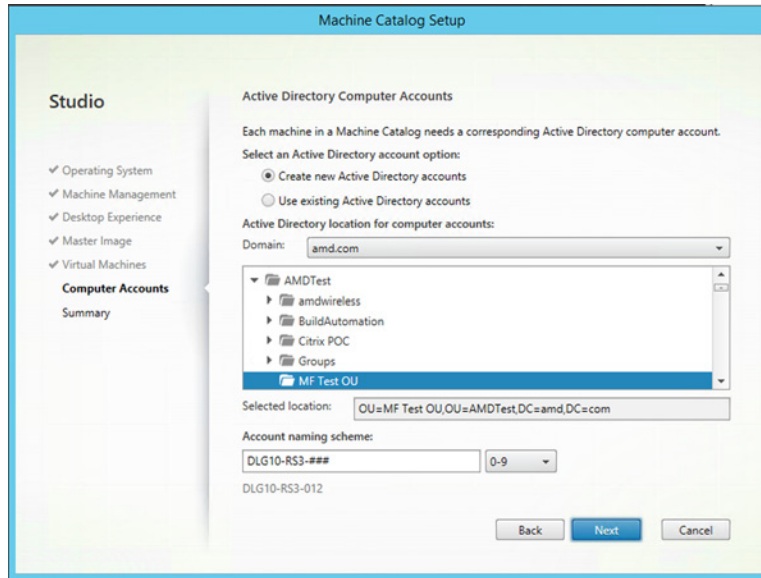


11. Select the appropriate **Active Directory options** and the correct OU, and then change the **Account naming scheme**. Adding ### will automatically number the virtual machines.
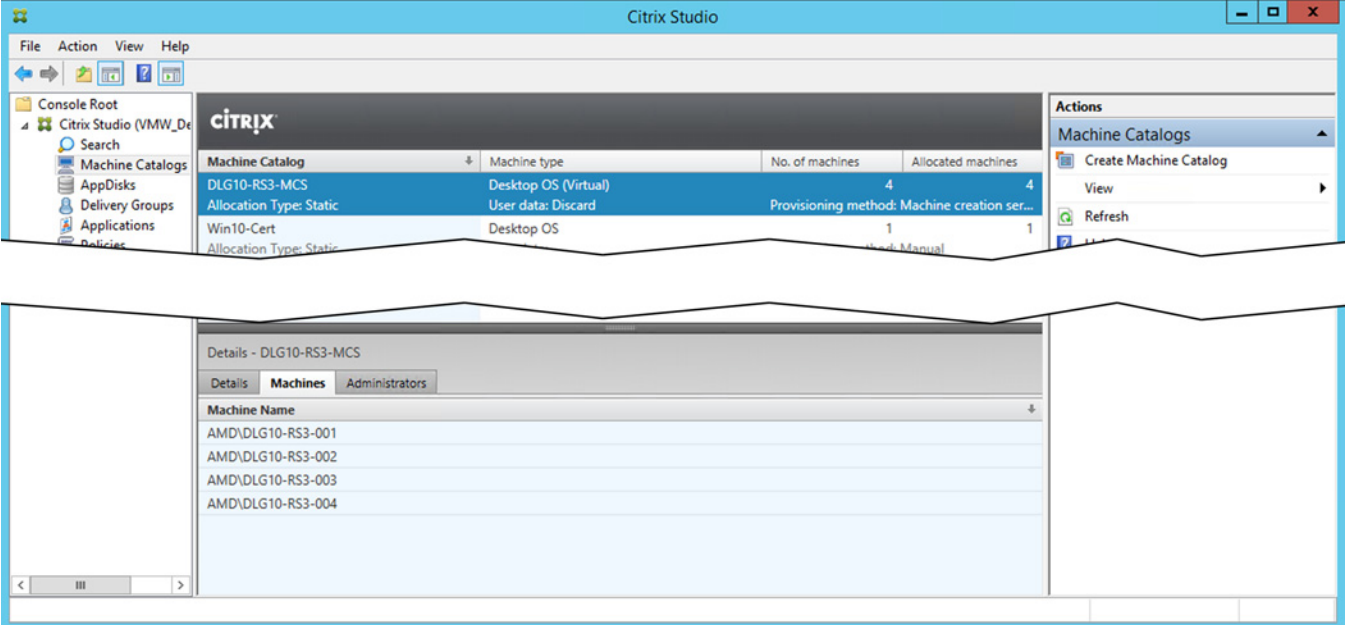
12. Click **Next** to proceed.

The **Summary** page appears.

13. Enter a name for the machine catalog in the **Machine Catalog name** field and a description for the machine catalog in the **Machine Catalog** description field, and then click **Finish**.

Studio will create the new machine catalog and then display the new machine catalog once the process is completed.



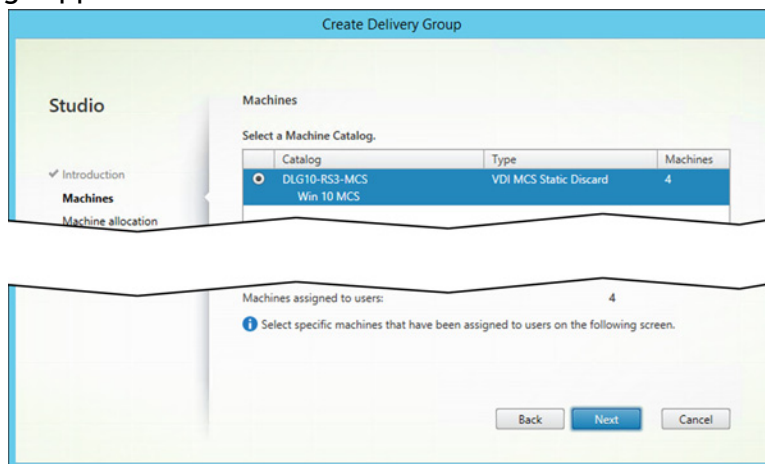# Step 6: Setting up Delivery Groups

After configuring the basic options and machine catalog, the next step is to set up delivery groups that will allow you to assign desktops and applications to users. To do this:

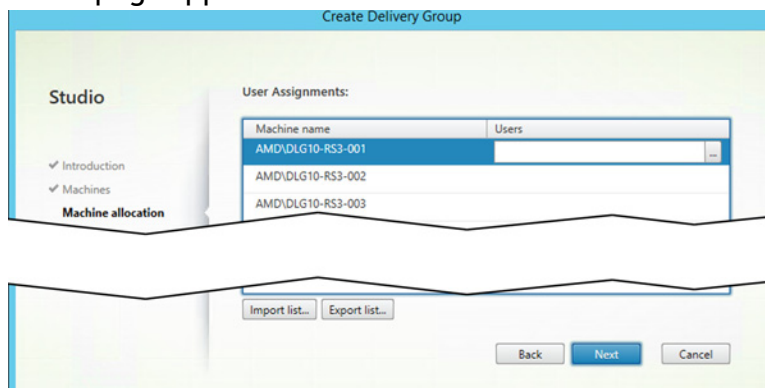1. Open Citrix Studio, and then select **Delivery Groups>Create Delivery Group**.
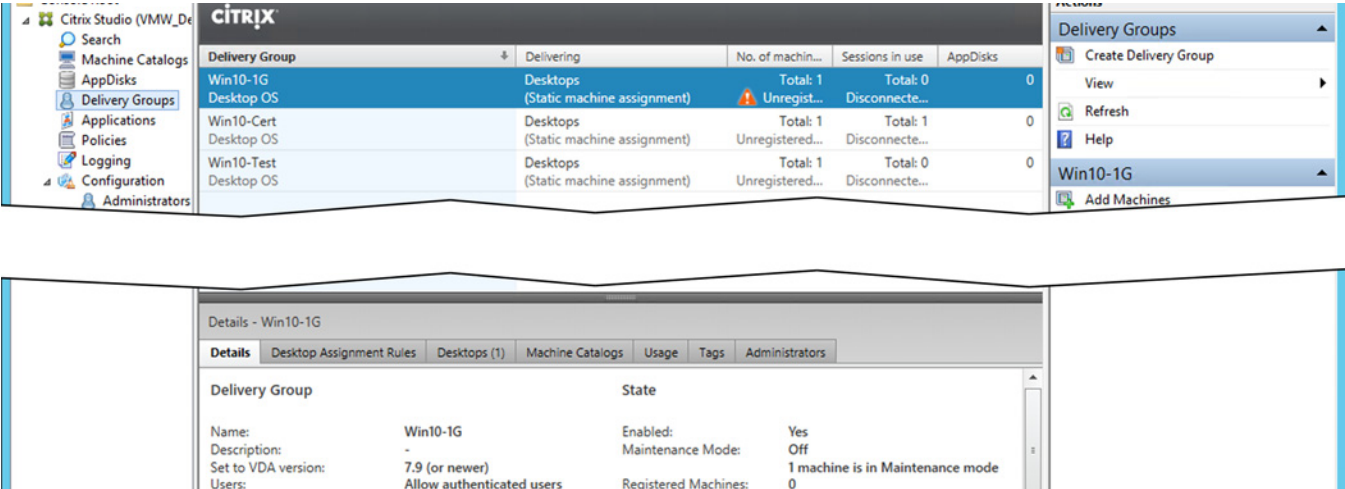
2. Click **Next** on the **Introduction** page.

   The **Machines** page appears.



3. Select the machine catalog that has no assignment, and then click **Next**.

   The **User Assignments** page appears.



4. Select each listed virtual machine, and then use the pull-down menu to assign a user to that VM. Click **Next** to proceed.

   The **Device Type** page appears.

5. Check the appropriate radio button to select the type of virtual machines to deliver (Desktops or Applications), and then click **Next**. If you are using XenApp, you will need to create an Application Delivery Group.
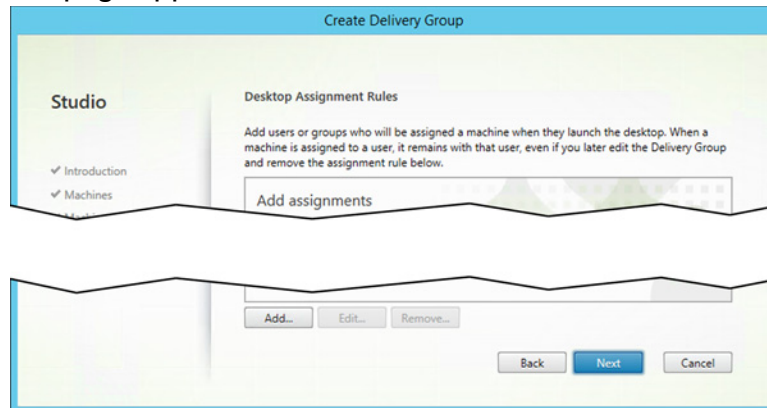
The **Users** page appears.
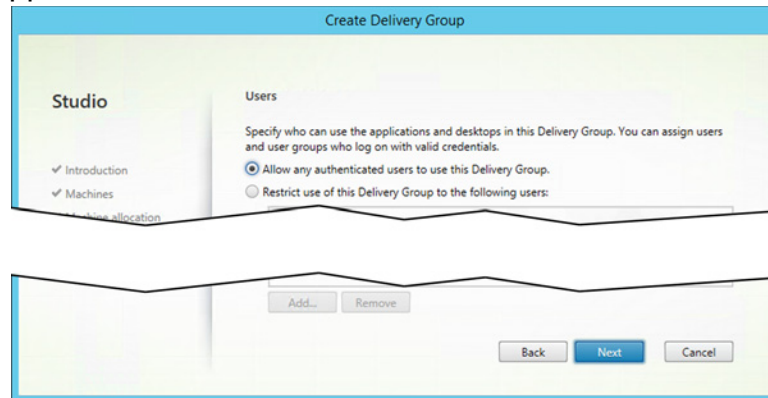


6. Proceed as follows:

   - If you want to allow any authenticated user to access this delivery group, then check the **Allow any authenticated users...** radio button.

   - If you want to restrict access to this delivery group to only certain users, then check the **Restrict use of this Delivery Group...** radio button to open the **Select Users or Groups** popup, and then configure the authorized users. Be sure to click the **Check Names** button after each user/group you enter; a line appears under the name if it is valid.

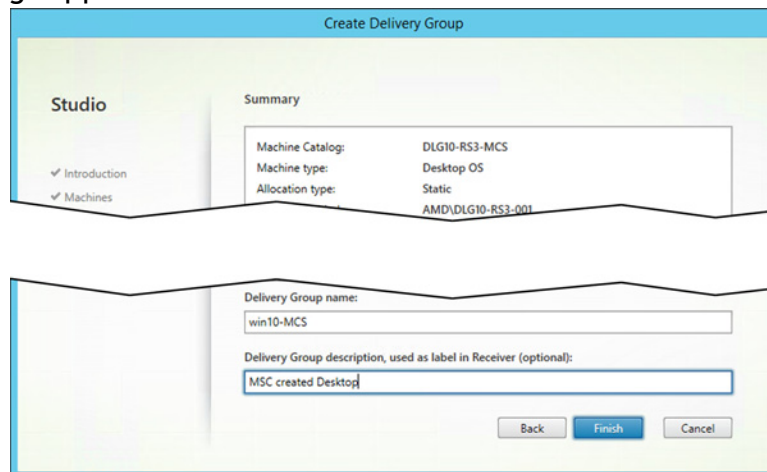7. Click **Next** to proceed.

   Depending on your **Delivery Type** selection, either:

   - The **Desktop Assignment Rules** page appears.
   - The **Applications** page appears.



8. Assign users and/or groups to a machine, and then click **Next**.

   The **Summary** page appears.



9. Enter a name for the delivery group in the **Delivery Group name** field and a description for the delivery group in the **Delivery Group description** field, and then click **Finish**.

The appropriate user(s) can now log in and use the assigned virtual machine(s).
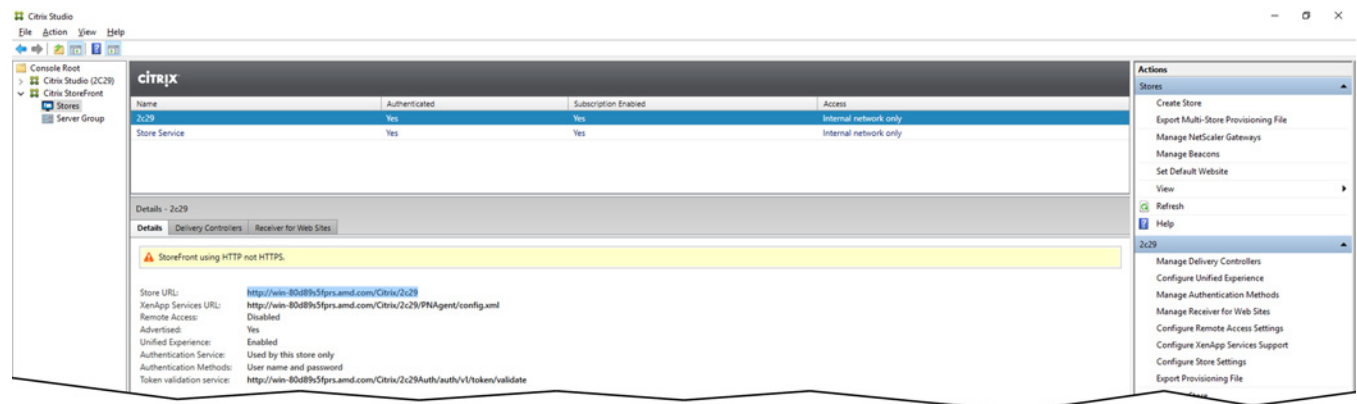
# Step 7: Verifying the XenDesktop Address

To verify the XenDesktop address:

1. In Citrix Studio, select **Citrix Storefront**, and then select **View or Change Stores**.
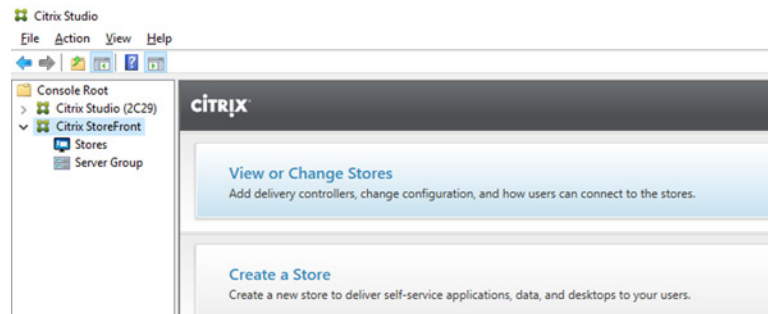


2. Select the **Details** tab, and then note the **Store URL** entry.



3. Open a web browser, and then navigate to the store URL. You will get a prompt to install Citrix Receiver, if Citrix Receiver is not installed. You should be able to access a remote desktop using your username and password.

# Step 8: Configuring Citrix Studio for XenApp Deployments

Configuring Citrix Studio for XenApp deployments requires the following:

1. Creating an application group.

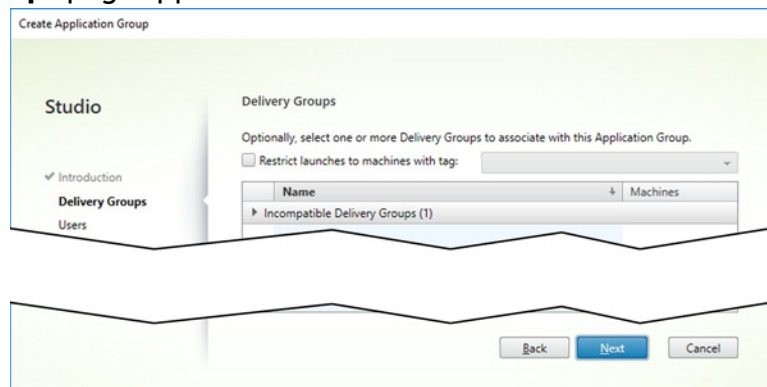2. Configuring Citrix Studio to deliver applications.

## Create an Application Group

To create an application group:

1. Select **Applications>Create Application Group**, and then click **Next** on the **Getting started...** page.
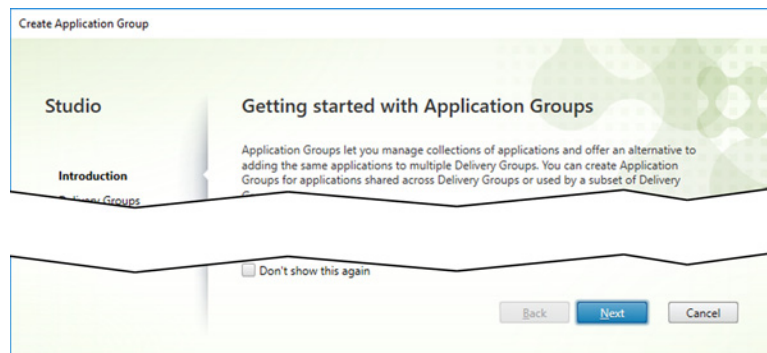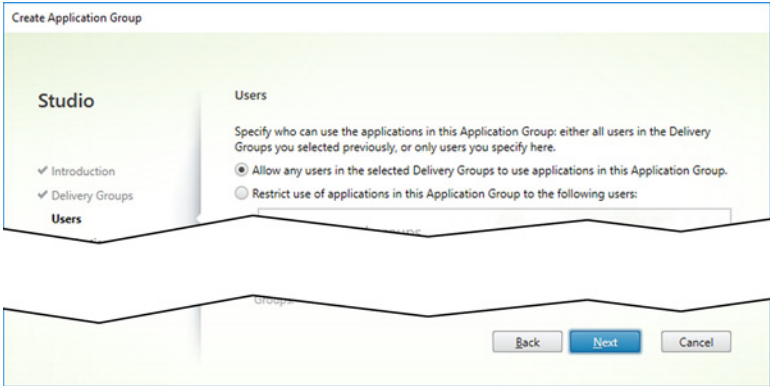


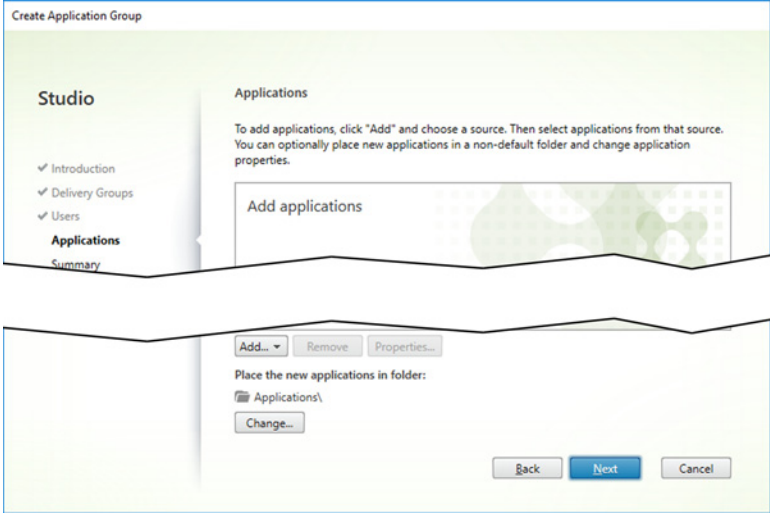The **Delivery Groups** page appears.

2. Select a Delivery Group, if applicable.

   The **Users** page appears.



3. Add the appropriate user(s), and then click **Next**.

   The **Applications** page appears.

4. Select the applications to provision by either choosing applications from the **Start** menu and/or manually specifying the path to an application. Please refer to your Citrix documentation for additional instructions. Click **Next** when you have finished.

   The **Summary** page appears.



5. Name the Application Group, and then click **Finish**.

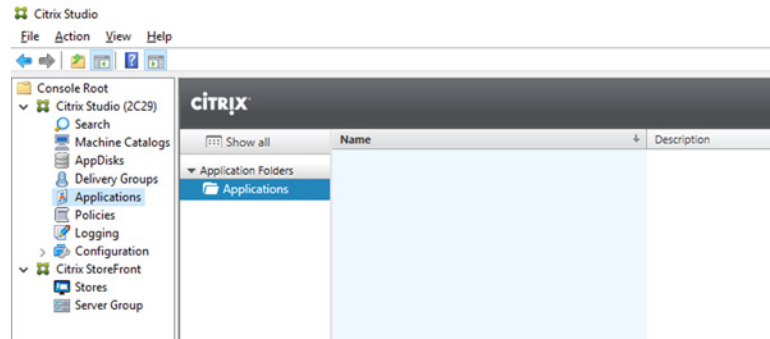You will now see your application group.



Continue to configure Citrix Studio to deliver applications.

# Configure Citrix Studio to Deliver Applications

To configure Citrix Studio to deliver applications using XenApp:
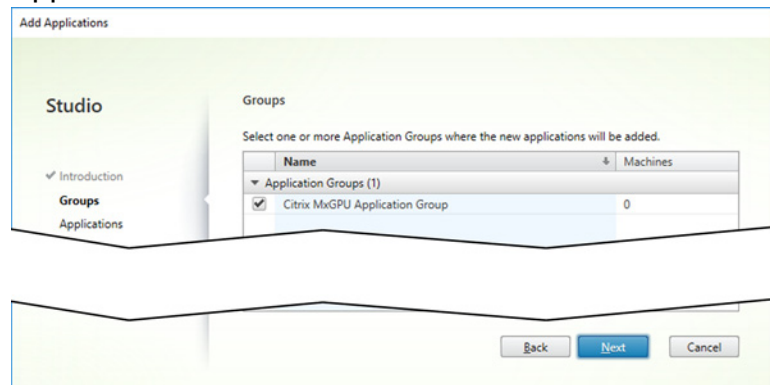
1. In Citrix Studio, select **Applications>Add Application**.

   The **Add Applications** window appears with the **Introduction** page displayed.
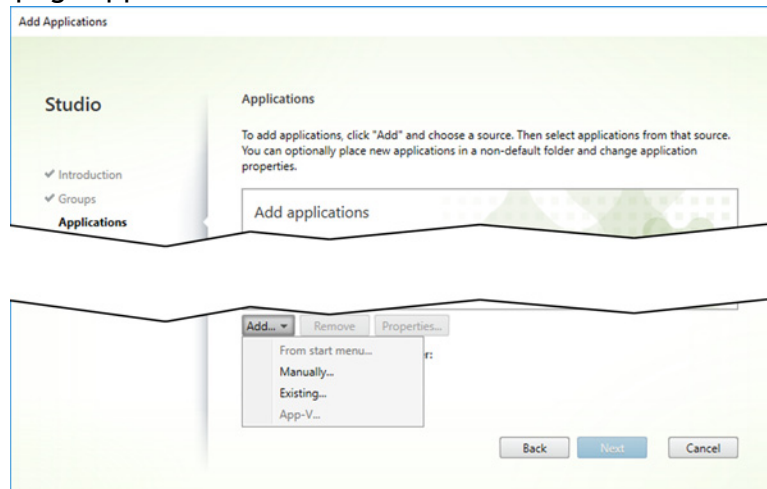


2. Accept the default options, and then click **Next** to proceed.

   The **Groups** page appears.

3. Add a new delivery group and/or select one or more existing group(s), as appropriate, and then click **Next**.

   The **Applications** page appears.



4. Select the applications to provision by choosing applications from the **Start** menu and/or by manually specifying the path to an application. Please refer to your Citrix documentation for additional instructions. Click **Next** when you have finished.

   The **Summary** page appears.

5. Review the configuration, and then click **Finish**.

# Remote Connection Setup

This chapter describes how to install Citrix Receiver on the client device, and then guides you through connecting to an MxGPU-enabled virtual machine. Installing Citrix Receiver is a one-time process; for subsequent connections, simply open a web browser to the Store URL, log in, and connect to an available virtual machine.

# Step 1: Install Citrix Receiver

> *Note: This is a one-time procedure. Once Citrix Receiver is installed on the client device, you can simply connect remotely to the virtual machine as described in "Step 2: Connect to the Virtual Machine" on page 45.*

To install Citrix Receiver:

1.  Log in to the client device.

2.  Open a web browser and navigate to the Citrix StoreFront URL.

> *Note: You can view the Citrix StoreFront URL by opening Citrix Studio, selecting* **Citrix Storefront>View or Change Stores***, and then noting the* **Store URL***.*

A **Receiver** page appears. Select **I agree**, and then click **Install**.

3.  One or more warning popup(s) may appear. If this happens, click **Run** or **Yes**, as appropriate.

    The **Welcome to Citrix Receiver** window appears.



4.  Click **Start**.

5.  The **License Agreement** window appears. Check the I **accept the license agreement** checkbox, and then click **Install**.

    A progress bar appears while Citrix Receiver installs on your system.

6.  The **Installation Successful** window appears when the installation is complete. Click **Finish**.

7.  Return to the web browser, and then click **Continue**.



Citrix Receiver is now installed on the client system.

# Step 2: Connect to the Virtual Machine

To remotely connect to the virtual machine from the client system:

1.  On the client system, open a web browser and navigate to the **Citrix StoreFront** page for your organization.

    *Note: You can view the Citrix StoreFront URL by opening Citrix Studio, selecting **Citrix Storefront > View or Change Stores**, and then noting the **Store URL**.*
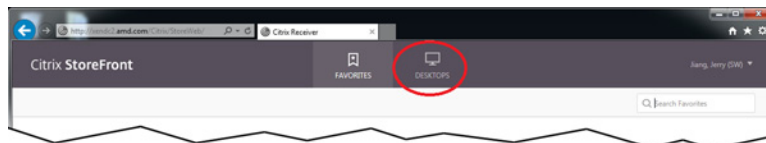
    The **Citrix StoreFront** page appears.
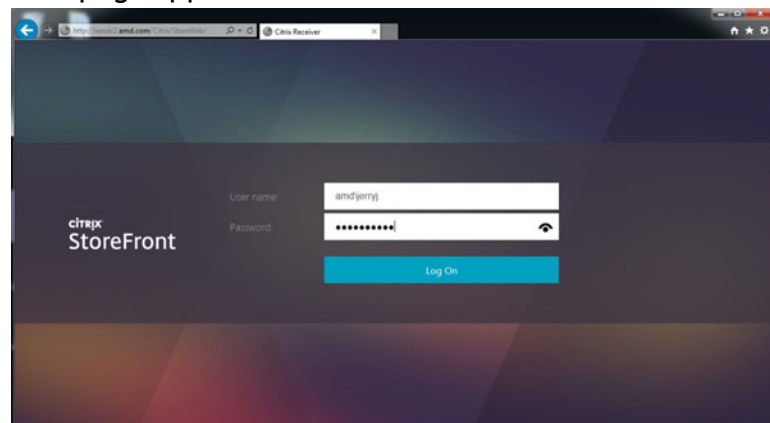


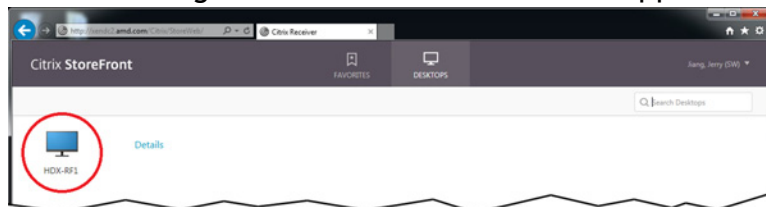2.  Enter your username and password, and then click **Log On**.

# XenDesktop

To access a full Windows Desktop delivered by XenDesktop:

1.  The **StoreFront** page appears after you log in to the StoreFront. Click the **Desktop** button in the toolbar.

2.  Click the virtual machine that you want to connect to. If a warning appears, click **Allow**.

Citrix Receiver connects to the selected virtual machine and displays the virtual machine desktop in the window. Please refer to your Citrix documentation for information about Citrix Receiver.
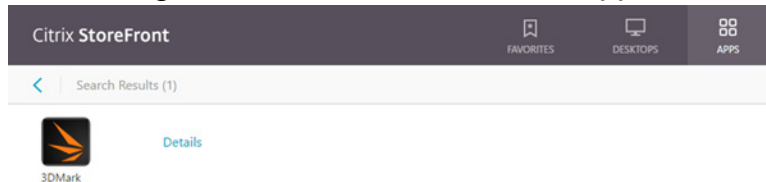
# XenApp

To access applications without a desktop delivered by Citrix XenApp:

1.  The **StoreFront** page appears after you log in to the StoreFront. Click the **Apps** button in the toolbar.

The available applications registered with this Storeweb will appear.

2.  Click the application that you want to launch. If a warning appears, click **Allow**.

Citrix Receiver launches the selected application. Please refer to your Citrix documentation for information about Citrix Receiver.

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# XenServer for XenDesktop and XenApp Deployments

## Deployment Guide v3.0

**AMD**