



Reviewer's Guide: XenDesktop 7

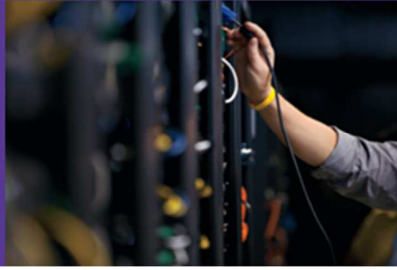
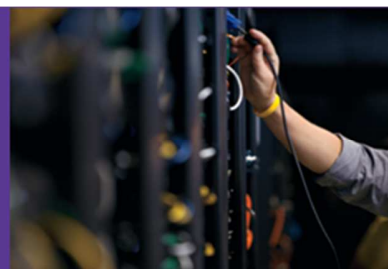


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Introduction

The Reviewer's Guide is designed to help you quickly install and configure XenDesktop 7 for evaluation. It guides you through a XenDesktop 7 deployment scenario to help you better understand how the applications and desktop delivery capabilities work in the new generation, unified FlexCast management architecture. The instructions in this section are meant to provide you with an evaluation method to the three common use cases: hosted-shared desktops, hosted-shared apps and VDI desktops.

The assumptions for target audience of this document are:

- intermediate level of technical skills
- familiar with previous versions of XenApp and XenDesktop
- knowledge of virtual machine management and Windows server infrastructure.

At the end of this guide, reviewer will be able to deliver applications and desktops using XenDesktop 7 and access those resources using Citrix StoreFront and Receiver.

Important: Please follow the instructions in the Reviewer's Guide for XenDesktop 7 in the order they are presented. The Reviewer's Guide for XenDesktop 7 experience is designed to build from topic to topic using Administrative practices; skipping steps may therefore affect the desired outcome.

The guide will highlight the following new features in XenDesktop 7:

1. FlexCast Management Architecture (FMA)
2. Intuitive Workflows
3. Support for Windows 8/ Windows Server 2012
4. Realtime Configuration Validation
5. Director Dashboard
6. HDX Mobility end-user enhancements

For a more in-depth evaluation or more details on the release, please see the Administrator's Guide

What is XenDesktop 7?

At Citrix Synergy 2013 in Anaheim, Mark [introduced](#) the Project Avalon – Excalibur as XenDesktop 7. This reimagining of application and desktop virtualization for the mobile and cloud era has been available in Tech Preview since Synergy Europe 2012, and countless usability enhancements and real-world customer feedback since then have gone into its released form. Transforming apps and desktops delivery, XenDesktop 7 allows customers to select, configure and scale more mobile use cases more quickly, easily and economically than ever before. Click here for the [Keynote video](#)

One of the major changes you will find in this release is the concept of a unified architecture and management for XenApp and XenDesktop. Unlike previous deployments requiring separate infrastructure for XenApp and XenDesktop, the unification of the architecture enables administrators to

design and deploy a single delivery infrastructure for delivering applications (formerly, XenApp) and desktops (XenDesktop).

So what does this mean to existing XenDesktop and XenApp customers?

XenDesktop 7 includes a new App edition, to complement the existing VDI, Enterprise and Platinum editions. The new XenDesktop App edition is designed for customers interested in delivering applications today, and want the flexibility to expand to the full FlexCast model at a later time. The unified FlexCast management architecture makes it simple for customers to upgrade from the App edition to XenDesktop Enterprise or Platinum. They are ready to deliver virtual desktops to their hosted-app users – without having to set up any parallel infrastructure or management consoles.

As a benefit of Subscription Advantage, XenApp customers with Enterprise and Platinum licenses are entitled to the XenDesktop App edition. This [blog](#) has more details on the new features.

Here's an overview of the unified infrastructure components:

- **Citrix Receiver.** Receiver provides users with self-service access to resources published on XenDesktop servers. Receiver combines ease of deployment and use, and offers quick, secure access to hosted applications, desktops, and data. Receiver also provides on-demand access to Windows, Web, and Software as a Service (SaaS) applications.
- **Citrix StoreFront.** StoreFront authenticates users to XenDesktop 7 sites and manages stores of desktops and applications that users access using Citrix Receiver.
- **Citrix Studio.** Studio enables you to configure and manage your XenDesktop deployment. Studio provides various wizards to guide you through the process of setting up your environment, creating your desktops, and assigning desktops to users.
- **Citrix Director.** Director is a Web-based tool that enables IT support and help desk teams to monitor the performance of the XenDesktop environment over time, troubleshoot issues before they become system-critical, and perform support tasks for end users.
- **Delivery Controller.** The Delivery Controller is responsible for distributing applications and desktops, managing user access, and optimizing connections to applications. For redundancy purposes, a site should have at least two delivery controllers.
- **Server OS Machines.** VMs or physical machines based on Windows Server operating system used for delivering applications or hosted shared desktops to users.
- **Desktop OS Machines.** VMs or physical machines based on Windows Desktop operating system used for delivering personalized desktops to users or applications from desktop operating systems.
- **Virtual Delivery Agent.** The Virtual Delivery Agent has to be installed on the virtual or physical machines (server or desktop OS'es) to which your users will be connecting for applications and desktops. It enables the machines to register with the Delivery Controllers and manages the HDX connection between the machines and Citrix Receiver.

Getting Started

Part 1: Download the software

Please visit www.citrix.com/tryxendesktop to download the trial software. The software is available as an ISO file that can be burned on a DVD or mounted on a virtual disk drive. For this evaluation, we assume the reviewer will perform the necessary steps to put the ISO on a DVD.

XenDesktop 7 comes with a 30-day license for 10-users out of the box. This is sufficient for purpose of this evaluation, and no separate licensing is required. Citrix also offers a free 90-day, 99-user evaluation license of XenDesktop 7.

This guide is developed using Microsoft Hyper-V Server 2012 as the hypervisor. Microsoft offers a free [technical overview course](#) on leveraging Hyper-V for virtualization tasks.

Part 2: Network design

The Reviewer's Guide for XenDesktop 7 leads you through a detailed scenario to a planned outcome. Each of the tasks contained here build toward that outcome. Once you have concluded this series of exercises, you will have an environment on which you can explore XenDesktop 7's full features and scalability. Not every component, feature, or configuration is addressed here.

The instructions in this section are meant to provide you with an evaluation method. For convenience in evaluating, components are installed on fewer servers¹ than are recommended for a production environment. An **Active Directory** infrastructure with DNS and DHCP services is required (for this evaluation, we recommend an isolated active directory and DHCP for the test environment.)

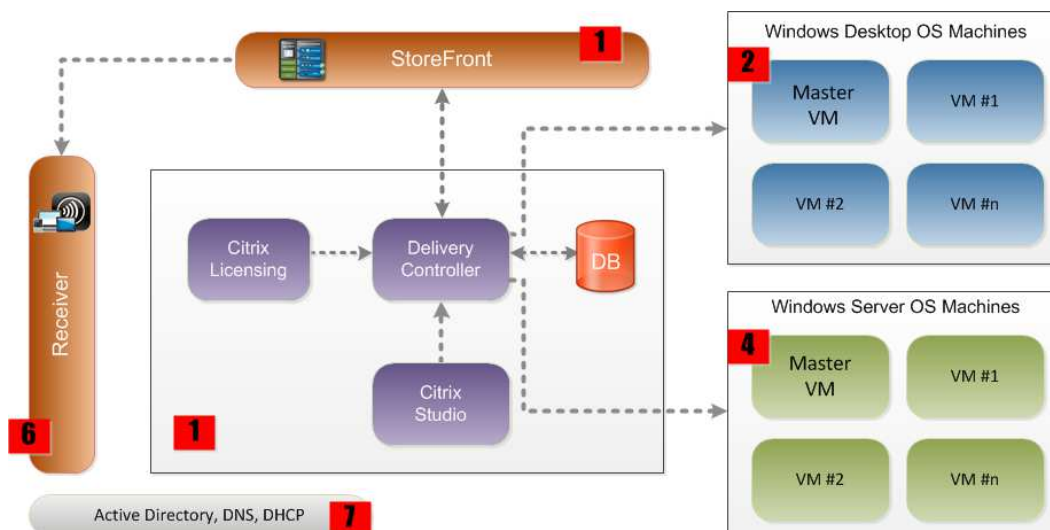


Figure 1 Simplified network design for XenDesktop 7 evaluation

¹ The inset numbers in Figure 1 correspond to the virtual machines listed in Table 1

Part 3: Prerequisites

We shall perform installation and step-by-step configuration of XenDesktop 7, running through the 3-step wizard to perform initial configuration. The installation (excluding the pre-requisites listed below), configuration, and delivery of the three use cases is expected to take around 3-4 hours.

Before we begin, please complete these prerequisite tasks.

1. Create a group *CitrixEval* in the active directory. Add users (*user1*, *user2*, etc.) to the *CitrixEval* group. These accounts must have local administrator privileges and be domain administrators in the Active Directory.
2. Create the virtual environment using your hypervisor of choice. XenDesktop 7 is fully supported on Microsoft Hyper-V Server 2012, VMware vSphere 5.1, and Citrix XenServer 6.2. This guide was created using **Microsoft Hyper-V Server 2012**. Please refer to vendor documentation for setting up the hypervisor in your environment for desktop virtualization.
3. You need a VM template for each operating system under test: Windows 7, Windows 8, Windows Server 2008 R2, and Windows Server 2012. Create virtual machine templates as follows: define the VM specifications (say, 2 vCPU, 2GB RAM, 24GB vDisk for Desktops and 2 vCPU, 4GB RAM, 24GB vDisk for Servers). Assign a single network interface to all VMs. Install the operating system and activate. Convert to template. (Full details may be found in hypervisor vendor documentation)
4. If using Hyper-V with System Center Virtual Machine Manager (SCVMM), it is a pre-requisite to have the SCVMM Console installed on the same machine as the delivery Controller.

Here's the list² of VMs we require for the setup, as seen in Figure 1.

Table 1 Virtual Machine assignments

1	Windows Server 2012	Citrix Studio, Director, StoreFront, SQL Database, and License server
2	Windows 8	Windows 8 master image
3	Windows 7 SP1	Windows 7 master image
4	Windows Server 2012	Windows Server 2012 master image
5	Windows Server 2008 R2 SP1	Windows 2008 R2 master image
6	Windows 7 SP1	End-point client with Citrix Receiver
7	Windows Server 2008 R2 SP1	(Optional) Either create new Active Directory domain and run DNS and DHCP services, or reuse existing
8-12	--	Auto-created VMs by Machine Creation Services (MCS)

² VM #3 and #5 are optional for evaluation purpose because the process to create and deliver desktop OS (Windows 8 or Windows 7) and server OS (Windows Server 2012 or Windows Server 2008R2) is similar across the operating system versions.

Using these templates, create VM's 1 through 7 as per Table 1. Take *snapshot* of the “clean state” for each VM before installing any software other than the operating system (helpful if you ever wish to go back to square one). Join all VMs to Active Directory domain. Using these VMs to create base image is explained later, in *Step 1.1: Creating the master image*

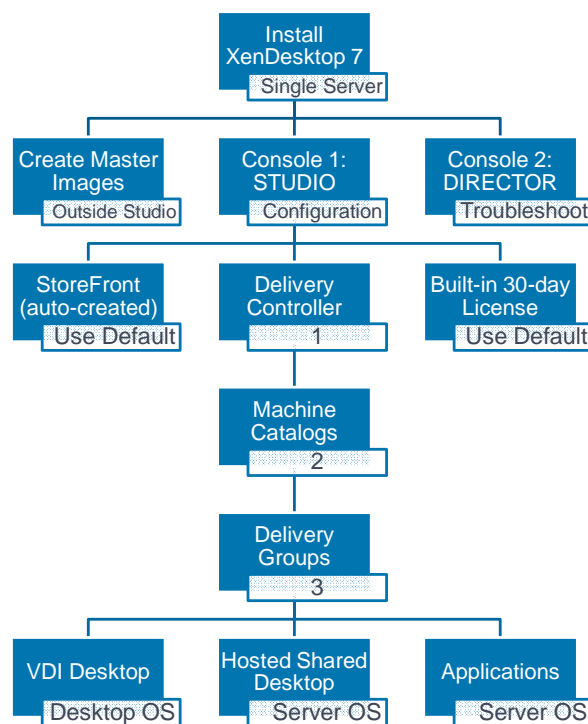
Tip: All virtual machines for this evaluation may be run on a single physical server. This guide was built using server hardware that had 8 CPU cores and 64GB RAM. In production, please follow best-practices around separation of components and redundancy.

Part 4: Activity scenario

The example scenario is to deliver two VDI desktops, one hosted shared desktop, and two sets of applications.

1. One desktop with Windows 7 operating system (aka VDI Desktop)
2. One desktop with Windows 8 operating system (aka VDI Desktop)
3. One desktop based on Windows Server 2012 operating system (aka Hosted Shared Desktop)
4. Two Microsoft applications (Wordpad, Calculator) published from Windows Server 2008 R2
5. Two Microsoft applications (Notepad, Paint) published from Windows Server 2012

During this evaluation, our server-side activity flowchart will look something like this.



After we download and install the software, getting to your published desktops and apps is a 3-step process, driven through a user-friendly wizard in **Citrix Studio**. There is only one task that need to be performed outside of the wizard-based Studio console, and that is creation of the **master images**. This involves setting up Windows machines with the required OS and other applications, then installing Citrix **Virtual Delivery Agent** on them to enable communication with the controller.

The FlexCast management architecture offers multiple ways of delivering desktops and apps to your users. In this guide, we shall see two examples under step-3 (Creating delivery groups). Throughout the document, we will highlight some of the key new technologies that are highly anticipated by the Citrix community, such as the Intelligent Configuration Validation, Inline Context-Aware Help, or the ability to deliver latest Microsoft technologies (viz. Windows 8/ Windows Server 2012/ Hyper-V).

At the end-point, we will launch **Citrix Receiver** from a client device and connect to the virtual desktop infrastructure to review the experience as an end-user. During this time, we will use the second console in XenDesktop 7, called Director, to view real-time session information and analytics. **Citrix Director** is a web-based console that offers a context-aware dashboard to empower the IT help desk and Citrix specialists to quickly identify and resolve issues before they negatively impact end user. Director now integrates with NetScaler performance monitoring engine (HDX Insight) to provide end-to-end visibility: from network-layer all the way up to the application layer.

Please visit <http://www.citrix.com/products/xendesktop/whats-new.html> for more details.

Tip: [Register here](#) for **Introduction to XenDesktop 7**, a free, two-hour online course will help guide learners through desktop and app virtualization terminology, and provides new and existing customers with an understanding of architecture, components, key solution scenarios and use cases, whether adopting or transitioning to XenDesktop 7 app and desktop solutions.

Learn about XenDesktop 7 in
a free online training course.


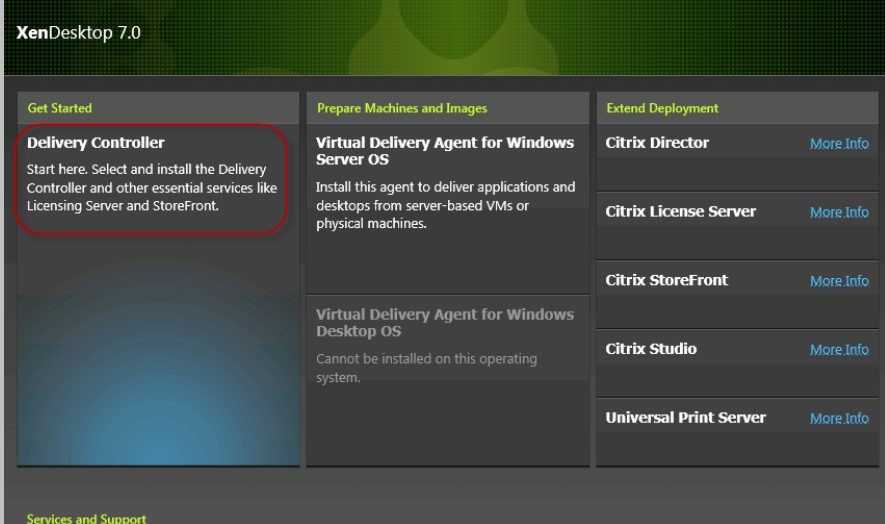
Register now ▶

Step 1: Installation

We assume that pre-requisites (previous section) are in place, and the software has been downloaded to a DVD (or mounted on a virtual DVD). Also, create VM1 and install Windows Server 2012 (as per Table 1), and add the computer to active directory domain. This chapter describes the process for installing various components³ of XenDesktop 7 and first-run of the Delivery Studio.

Install the core components on VM1

VM1 is the Windows Server 2012 that will host the core components of XenDesktop 7.

#	Screen capture	Instructions
1	 The screenshot shows the XenDesktop 7.0 'The Avalon Platform' welcome screen. It features a dark green background with the product name and a tagline: 'Deliver applications and desktops to any user, anywhere, on any device.' Below this, there are three bullet points: 'Flexible application and desktop delivery', 'Centralized management and security', and 'Optimized for deployments of any size'. At the bottom, there are 'Start' and 'Cancel' buttons.	<p>Insert the XenDesktop 7 DVD into VM1 and launch the Autorun Wizard. Click Start on the Welcome screen to enter the <i>Installation Wizard</i>.</p> <p>✓ A <u>fresh installation</u> of the Operating System, updated with latest patches before starting the evaluation, will provide the best results. Avoid installing any unrelated software on these test VMs.</p>
2	 The screenshot shows the 'XenDesktop 7.0' installation wizard. It has a dark green header. Below the header, there are three main sections: 'Get Started', 'Prepare Machines and Images', and 'Extend Deployment'. The 'Get Started' section is highlighted with a red box and contains the 'Delivery Controller' option, which is described as 'Start here. Select and install the Delivery Controller and other essential services like Licensing Server and StoreFront.' The 'Prepare Machines and Images' section has two options: 'Virtual Delivery Agent for Windows Server OS' and 'Virtual Delivery Agent for Windows Desktop OS'. The 'Extend Deployment' section lists several components: 'Citrix Director', 'Citrix License Server', 'Citrix StoreFront', 'Citrix Studio', and 'Universal Print Server', each with a 'More Info' link. At the bottom, there is a 'Services and Support' link.	<p>Select the Delivery Controller under <i>Core Components</i>.</p> <p>✓ The Installation Wizard automatically detects the Operating System and displays only <i>compatible</i> installation options.</p> <p>The Wizard UI has been redesigned with helpful descriptions for the different installation options.</p>

³ Note: As a thumb rule, we will select the default option for most configuration settings. Where a different option is recommended, or there is interesting information to help you perform a better evaluation, such comments are indicated with a ✓ sign.

#	Screen capture	Instructions			
	<div><div><div>XenDesktop 7.0</div><div><div>✓ Licensing Agreement</div><div>Core Components</div><div>Features</div><div>Firewall</div><div>Summary</div><div>Install</div><div>Finish</div></div></div><div><div>Core Components</div><div>For scale and performance reasons, it is recommended that Director and the License Server be installed on separate servers.</div><div><div>Location: C:\Program Files\Citrix</div><div>Change...</div></div><div><div><div><input checked="" type="checkbox"/></div><div>Component (Select all)</div></div><div><div><input checked="" type="checkbox"/></div><div><div>Delivery Controller</div><div>Distributes applications and desktops, manages user access, and optimizes connections.</div></div></div><div><div><input checked="" type="checkbox"/></div><div><div>Studio</div><div>Create, configure, and manage infrastructure components, applications, and desktops.</div></div></div><div><div><input checked="" type="checkbox"/></div><div><div>Director</div><div>Monitor performance and troubleshoot problems.</div></div></div><div><div><input checked="" type="checkbox"/></div><div><div>License Server</div><div>Manages product licenses.</div></div></div><div><div><input checked="" type="checkbox"/></div><div><div>StoreFront</div><div>Provides authentication and resource delivery services for Citrix Receiver, enabling you to create centralized enterprise stores to deliver applications, desktops, and other resources to users on any device, anywhere.</div></div></div></div><div><div>Back</div><div>Next</div><div>Cancel</div></div></div></div> <div><div>For the purpose of this evaluation, we will install all the core components on a single server. Accept the default values and click Next</div><div>✓ In a production environment, it is best practice to install the core components on separate and multiple servers for high availability and resource scaling. See the <i>XenDesktop 7 Administrator Guide</i> for more details.</div></div> <tr><td></td><td><div><div><div>XenDesktop 7.0</div><div><div>✓ Licensing Agreement</div><div>✓ Core Components</div><div>Features</div><div>Firewall</div><div>Summary</div><div>Install</div><div>Finish</div></div></div><div><div>Features</div><div><div><input checked="" type="checkbox"/></div><div>Feature (Select all)</div></div><div><div><input checked="" type="checkbox"/></div><div><div>Install Microsoft SQL Server 2012 Express</div><div>This is an optional component. 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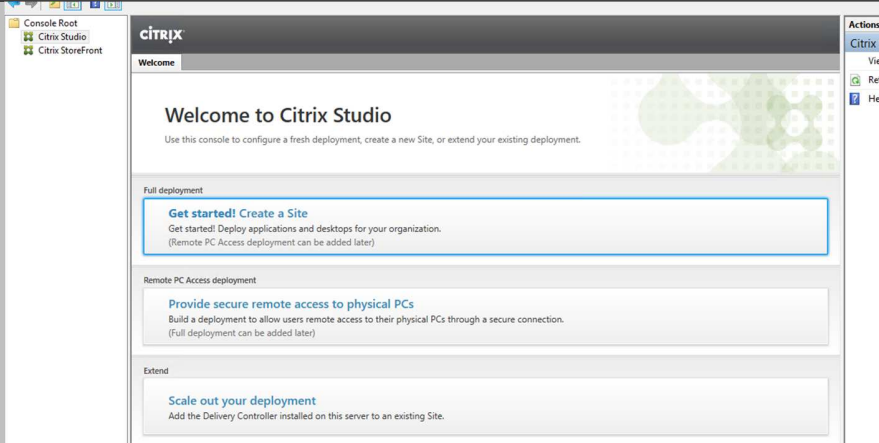
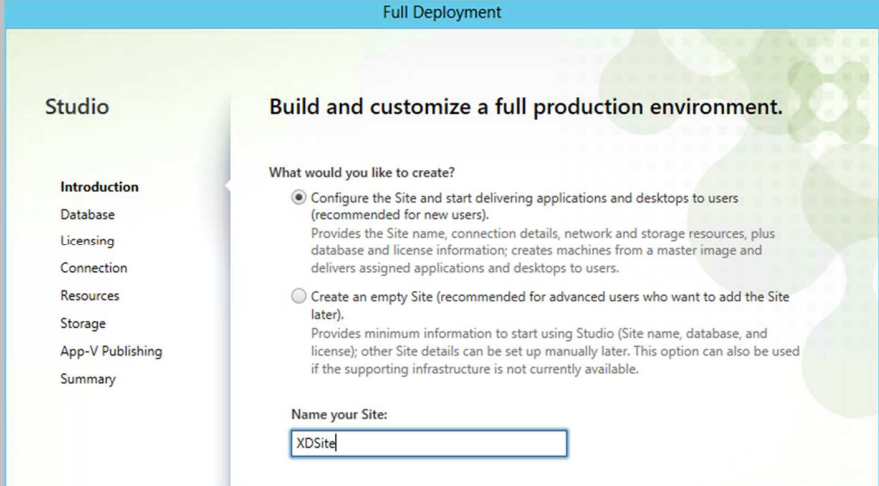
#	Screen capture	Instructions
	<p>XenDesktop 7.0</p> <ul style="list-style-type: none"> ✓ Licensing Agreement ✓ Core Components ✓ Features ✓ Firewall Summary Install Finish <p>Summary</p> <p>Review the prerequisites and confirm the components you want to install.</p> <div> <p>Installation directory</p> <p>C:\Program Files\Citrix</p> <p>Prerequisites</p> <ul style="list-style-type: none"> Microsoft SQL Server 2012 Express Microsoft Visual x64 C++ 2008 Runtime Microsoft Internet Information Services Windows Remote Assistance Feature <p>Core Components</p> <ul style="list-style-type: none"> Delivery Controller Studio Director License Server StoreFront <p>Features</p> <ul style="list-style-type: none"> Install Windows Remote Assistance <p>Firewall</p> </div> <p>Back Install Cancel</p>	<p>That's all the information the Wizard needs to install the core components. Verify the information for accuracy, and click Install</p>
	<p>XenDesktop 7.0</p> <ul style="list-style-type: none"> ✓ Licensing Agreement ✓ Core Components ✓ Features ✓ Firewall ✓ Summary ✓ Install Finish <p>Finish Installation</p> <p>The installation completed successfully. ✓ Success</p> <div> <p>Prerequisites</p> <ul style="list-style-type: none"> ✓ Microsoft SQL Server 2012 Express Installed ✓ Microsoft Visual x64 C++ 2008 Runtime Installed ✓ Microsoft Internet Information Services Installed ✓ Windows Remote Assistance Feature Installed <p>Core Components</p> <ul style="list-style-type: none"> ✓ Delivery Controller Installed ✓ Studio Installed ✓ Director Installed ✓ License Server Installed ✓ StoreFront Installed <p>Post Install</p> <ul style="list-style-type: none"> ✓ Component Initialization Initialized </div> <p><input checked="" type="checkbox"/> Launch Studio</p> <p>Back Finish</p>	<p>All the components are installed automatically, including any missing prerequisites. The process takes about 20 minutes.</p> <p>You may opt to <i>Launch Studio</i> when you click Finish.</p> <p>✓ Citrix Studio is the unified management console that replaces Delivery Service Controller (from XenApp) and Desktop Studio (from XenDesktop). We will configure it in the next section.</p>

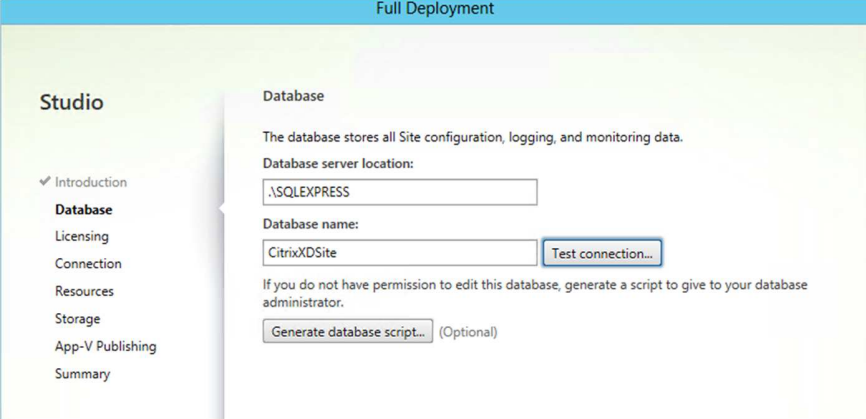
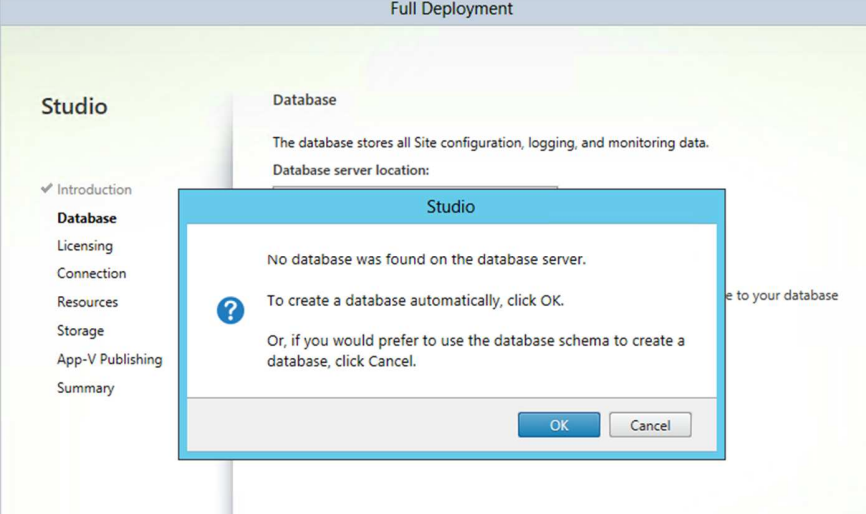
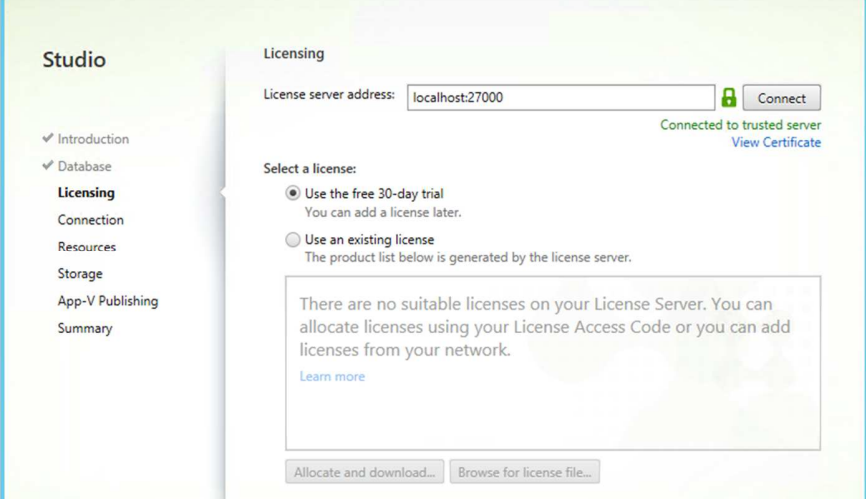
First run of Citrix Studio

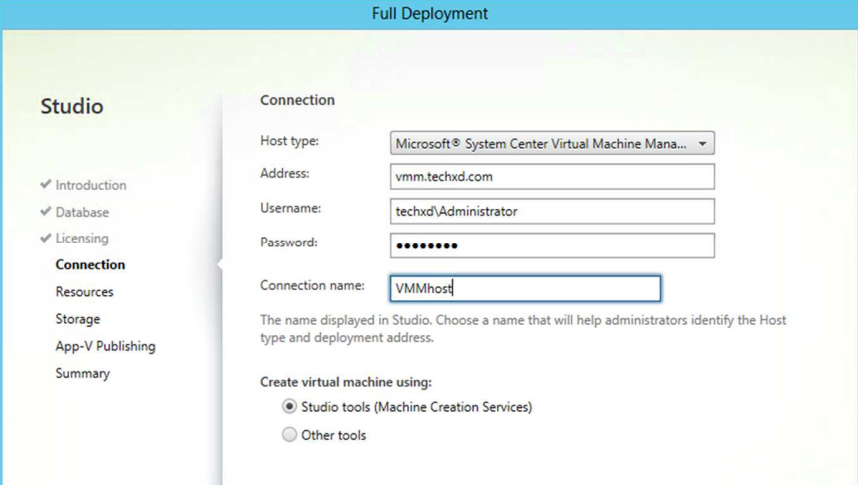
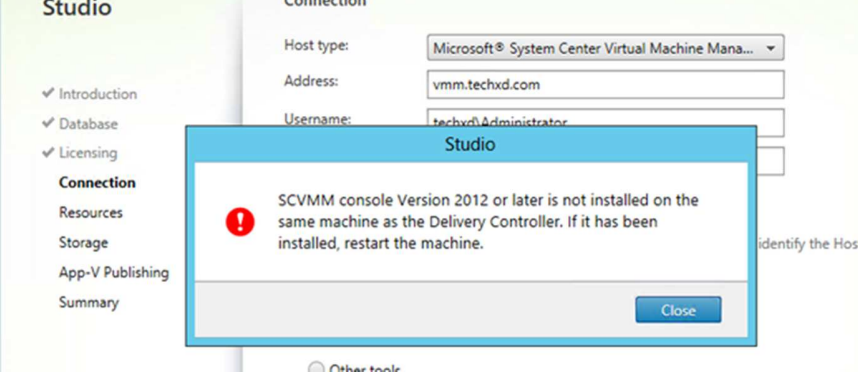
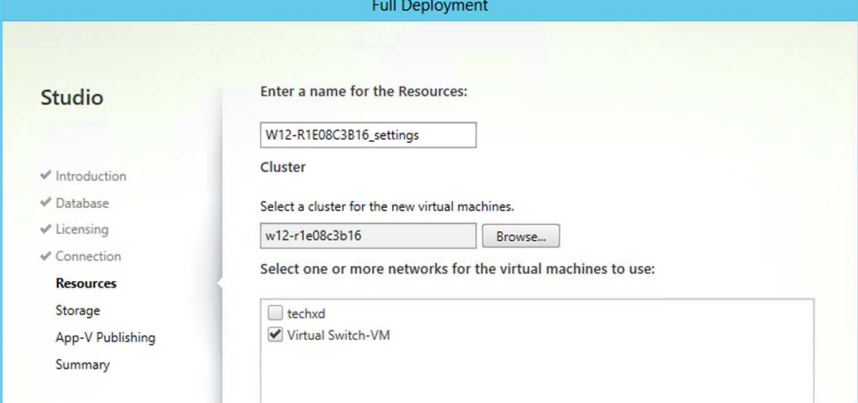
The first run wizard of the Citrix Studio helps you quickly build a new site, create pool of desktops and servers (machine catalog), and assign users to those desktops and applications (delivery groups).

Alternatively, you can enable Remote PC Access to physical machines and add the virtualized deployment later, or add this controller to an existing deployment. These latter steps are not in scope of this guide.

On subsequent runs, individual wizards may be invoked from the Studio console to accomplish any of the same tasks, such as creating machine catalog or assigning users to a delivery group.

#	Screen capture	Instructions
		<p>Select the Full Deployment wizard on the first-run welcome screen.</p> <p>This wizard creates the initial configuration, database tables, and site environment.</p> <p>Select the <i>Full Deploy</i> option for this evaluation, and click Start</p>
		<p>The first step is to create a site, which is the container for everything else we do today.</p> <p>Advanced users can create an empty site, and then configure the remaining components later.</p> <p>For this example, select the <i>default option</i>, give a name</p> <p>Click Next</p>

		<p>Provide the database details to store configuration and logging information.</p> <p>If using bundled SQL Express, the default address is “.\SQLEXPRESS”.</p> <p>Configuration user should be a domain administrator.</p> <p>Provide a name for the Database and click Next</p>
		<p>At the prompt to create a database automatically, click OK to continue</p>
		<p>Accept the default licensing selection for a 30-day free trial. Click Next</p> <p>✓ If you have a separate license server and wish to use existing XenDesktop 7 licenses, you would make that selection at this time.</p>

		<p>Provide connection details for the hypervisor that will host virtual machines created by MCS (Machine Creation Services)</p> <p>✓ This guide uses <i>Microsoft Hyper-V Server 2012</i> but all major hypervisors are supported.</p>
		<p>✓ It is a pre-requisite to have the SCVMM Console installed on the same machine as the delivery Controller.</p> <p>If you get this error, please follow SCVMM guide to complete the installation and return to this wizard</p>
		<p>Select the server (or Hyper-V cluster) and network interface that all the virtual machines should use.</p> <p>✓ For the evaluation, we recommend using one and the same network interface for all VMs.</p> <p>Click Next</p>

Studio

Introduction

Database

Licensing

Connection

Resources

Storage

App-V Publishing

Summary

Storage

Select one or more storage devices for the new virtual machines:

Name

☒ Local storage on w12-r1e08c3b16.techxd.com

Personal vDisk storage (Desktop OS only): [Learn more](#)

☒ Use same storage for virtual machines and Personal vDisk

☐ Use different storage for Personal vDisk

Select different storage...

(None selected)

The last step is to specify the storage for the VMs.

In case of Hyper-V, **local** storage is the default selection. Use **local storage**

If **shared** storage is available, you may select that option.

Leave the other options **default** and click **Next**

Full Deployment

Studio

Introduction

Database

Licensing

Connection

Resources

Storage

App-V Publishing

Summary

App-V Publishing

Do you want to add an App-V publishing server to this deployment?

☒ No

☐ Yes

App-V management server:

http://MyManagementServer.example.com:81

App-V publishing server:

http://MyPublishingServer.example.com:82

Test connection...

XenDesktop 7 provides streamed apps with integrated App-V publishing in a few simple steps.

For this evaluation, accept **default** option and click **Next**

Studio

Introduction

Database

Licensing

Connection

Resources

Storage

App-V Publishing

Summary

Summary

Site name:

XDSite

Database server:

.\SQLEXPRESS

Database name:

CitrixXDSite

License server:

localhost:27000

Connection name:

VMMhost

Connection type:

Microsoft® System Center Virtual Machine Manager

Connection address:

vmm.techxd.com

Create Virtual Machines with:

Studio tools (Machine Creation Services)

Network:

Virtual Switch-VM

Virtual Machine storage:

Local storage on w12-r1e08c3b16.techxd.com

Personal vDisk storage:

Use same storage as Virtual Machines

App-V:

Not configured

Back

Finish

Cancel

Verify the settings on the Summary page and click **Finish** to complete the configuration.

✓ Before moving to Step 2 of the first run Wizard, we must perform some tasks outside the Studio workflow.

We do that in Step 1.1, and return to Studio in Step 2

Step 1.1: Creating the master image

Before we move on to step 2 of the Wizard and configure Desktops or Apps, it is necessary to create the master images that will be used by Machine Creation Services (MCS) to create further VMs. This is also known as a Golden Image or a Base Image.

XenDesktop 7 creates a default store in Citrix StoreFront; once Delivery Groups are created, the environment is available for access without any additional steps unless you wish to customize the store. The StoreFront configuration is available via the Studio console as well as its own standalone console.

Install Delivery Agent on the Master Image (Desktop OS)

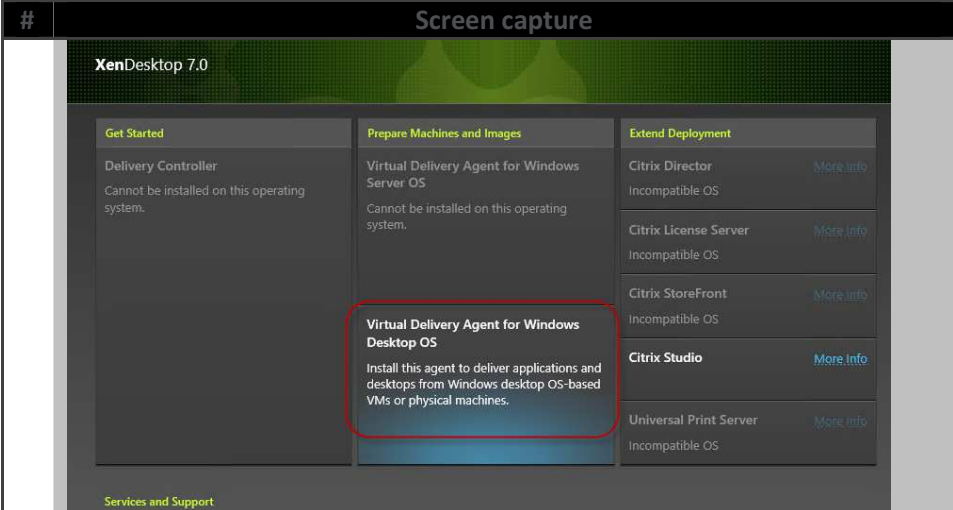
In the section on *Getting Started*, one prerequisite is to create the virtual machine (VM) templates. This means you define the VM (vCPU, RAM, Disk space), install the operating system (OS), install the apps, and make any configurations you want to be part of your user's desktops.

Your account must have local administrator privileges and be a domain administrator in the Active Directory.


Use a client OS template to create VM for desktop delivery master image, as follows:

- Freshly installed Windows 8 or Windows 7 OS
- Joined to the domain and activated
- DHCP assignment for IP address to cloned VMs

Note: You may choose to repeat the process, once for Windows 8 and another time for Windows 7, if you want to deliver both types of desktops. The instructions remain the same.

#	Screen capture	Instructions
		<p>Insert the XenDesktop 7 DVD in VM2 (Table 1, Windows 8 client meeting pre-requisites above) and launch the Installation Wizard.</p> <p>It automatically detects the OS type and shows relevant options.</p> <p>Select Virtual Delivery Agent for Windows Desktop OS and click Next</p>

#	Screen capture	Instructions
	<div> <div> XenDesktop 7.0 Environment HDX 3D Pro Core Components Delivery Controller Features Firewall Summary Install </div> <div> Environment Configuration I want to: <input checked="" type="radio"/> Create a Master Image Select this option if you use Machine Creation Services or Provisioning Services to create virtual desktops from this master image. <input type="radio"/> Enable Remote PC Access Select this option to install the Virtual Delivery Agent onto either a physical machine or a virtual machine that has been provisioned without the VDA. </div> </div>	<p>Accept the default selection and click Next.</p> <p>We select the first option (default value), because we will create cloned VMs using this master image.</p>
	<div> <div> XenDesktop 7.0 ✓ Environment HDX 3D Pro Core Components Delivery Controller Features Firewall Summary Install </div> <div> HDX 3D Pro HDX 3D Pro optimizes the performance of graphics-intensive programs and media-rich applications. Configuration Install the Virtual Delivery Agent (VDA) for HDX 3D Pro? <input checked="" type="radio"/> No, install the standard VDA Recommended for most desktops, including those enabled with Microsoft RemoteFX. <input type="radio"/> Yes, install the VDA for HDX 3D Pro Recommended if the machine will access a graphics processor for 3D rendering. </div> </div>	<p>Accept the default selection and click Next.</p> <p>We skip the HDX 3D Pro VDA for purpose of this guide.</p>
	<div> <div> XenDesktop 7.0 ✓ Environment ✓ HDX 3D Pro Core Components Delivery Controller Features Firewall Summary Install Finish </div> <div> Core Components Location: C:\Program Files\Citrix Change... Virtual Delivery Agent (Required) The software agent that is installed on the virtual or physical machine that provides the virtual desktop or application to the user. <input checked="" type="checkbox"/> Citrix Receiver Client software that enables users to access their documents, applications, and desktops from any device, including smartphones, tablets, and PCs. </div> </div>	<p>Accept default, click Next.</p> <p>Virtual Delivery Agent allows this desktop to communicate with the broker (Controller) and the end user (Receiver).</p> <p>Citrix Receiver on master image is optional</p>
	<div> <div> XenDesktop 7.0 ✓ Environment ✓ Core Components Delivery Controller Features Firewall Summary Install Finish </div> <div> Delivery Controller Configuration How do you want to enter the locations of your Delivery Controllers? Do it manually ddc3017.tmelab.com Edit Delete Controller address: Example: controller1.domain.com Test connection: Add </div> </div>	<p>Enter the complete hostname (FQDN) for the Controller address. Click Add, and Next</p> <p>✓ Notice how the new intelligent configuration validation feature confirms accuracy of controller details, saving time later.</p>

#	Screen capture	Instructions															
	<p>XenDesktop 7.0</p> <ul style="list-style-type: none"> ✓ Environment ✓ HDX 3D Pro ✓ Core Components ✓ Delivery Controller Features Firewall Summary Install Finish <p>Features</p> <div> <input type="checkbox"/> Feature (Select all) <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Optimize performance Optimize desktop settings. Learn more <input checked="" type="checkbox"/> Use Windows Remote Assistance Enable Windows Remote Assistance and open TCP port 3389. Learn more <input checked="" type="checkbox"/> Use Real-Time Audio Transport for audio Uses UDP ports 16500 - 16509. Learn more <input type="checkbox"/> Personal vDisk Enable Personal vDisk for the Virtual Delivery Agent. Learn more </div>	<p>Accept the default selection and click Next.</p> <p>This installs all the necessary components for the Delivery Agent.</p>															
	<p>XenDesktop 7.0</p> <ul style="list-style-type: none"> ✓ Environment ✓ HDX 3D Pro ✓ Core Components ✓ Delivery Controller ✓ Features Firewall Summary Install Finish <p>Firewall</p> <p>The default ports are listed below. Printable version</p> <table> <thead> <tr> <th>Controller Communications</th><th>Remote Assistance</th><th>Real Time Audio</th></tr> </thead> <tbody> <tr> <td>80 TCP</td><td>3389 TCP</td><td>16500 - 16509 UDP</td></tr> <tr> <td>1494 TCP</td><td></td><td></td></tr> <tr> <td>2598 TCP</td><td></td><td></td></tr> <tr> <td>8008 TCP</td><td></td><td></td></tr> </tbody> </table>	Controller Communications	Remote Assistance	Real Time Audio	80 TCP	3389 TCP	16500 - 16509 UDP	1494 TCP			2598 TCP			8008 TCP			<p>Accept the default selection and click Next.</p> <p>Windows Firewall is configured automatically. For this exercise, manually disable any non-Windows Firewall or security apps.</p>
Controller Communications	Remote Assistance	Real Time Audio															
80 TCP	3389 TCP	16500 - 16509 UDP															
1494 TCP																	
2598 TCP																	
8008 TCP																	
	<p>XenDesktop 7.0</p> <ul style="list-style-type: none"> ✓ Environment ✓ HDX 3D Pro ✓ Core Components ✓ Delivery Controller ✓ Features ✓ Firewall Summary Install Finish <p>Summary</p> <p>Review the prerequisites and confirm the components you want to install. ⓘ Restart required</p> <div> <p>Installation directory</p> <p>C:\Program Files\Citrix</p> <p>Prerequisites</p> <p>Microsoft Visual x86 C++ 2005 Runtime Microsoft Visual x64 C++ 2005 Runtime Microsoft Visual x64 C++ 2008 Runtime Microsoft Visual x86 C++ 2008 Runtime Microsoft Visual x64 C++ 2010 Runtime Microsoft Visual x86 C++ 2010 Runtime</p> <p>Core Components</p> <p>Virtual Delivery Agent Citrix Receiver</p> <p>Delivery Controllers</p> <p>ddc.techwd.com</p> <p>Features</p> <p>Optimize performance</p> </div> <p>Back Install Cancel</p>	<p>Click Install to start the installation.</p> <p>The machine needs to reboot after some of the components have been installed.</p> <p>The installation continues automatically after reboot.</p>															
		<p>Please wait while the machine configures Windows and reboots.</p> <p>Do not turn off the computer.</p>															

#	Screen capture	Instructions
		<p>Installation continues automatically after reboot.</p> <p>After installation <u>succeeds</u>, do the following:</p> <ol style="list-style-type: none"> 1. <i>Restart</i> the machine 2. <i>Shut</i> down the machine

Install Delivery Agent on the Master Image (Server OS)

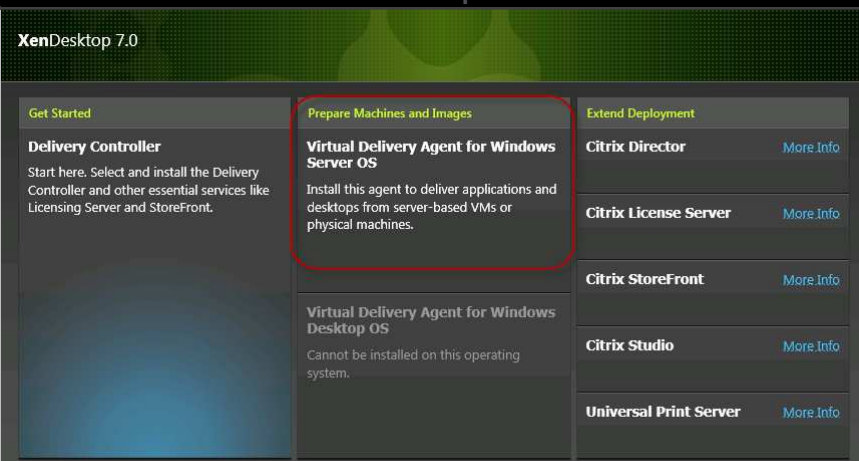
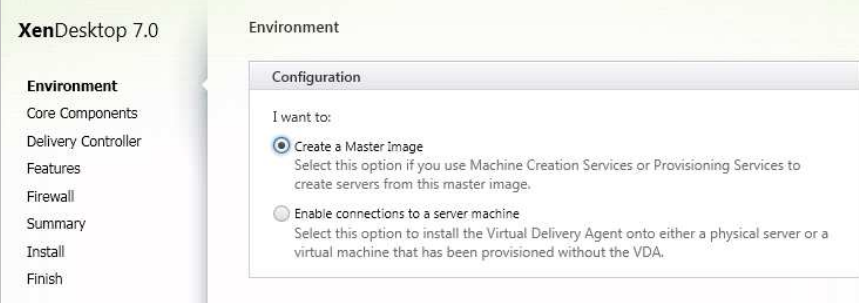
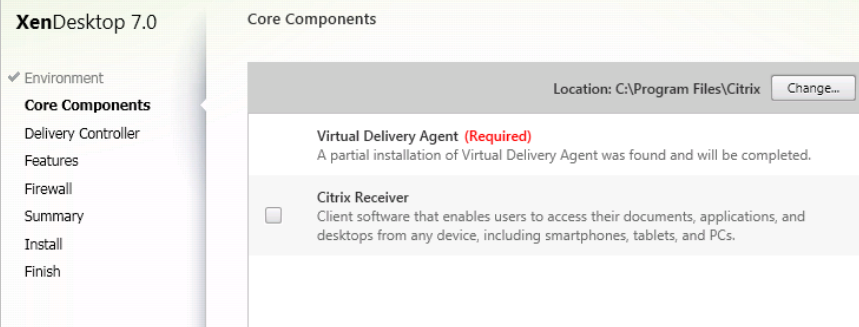
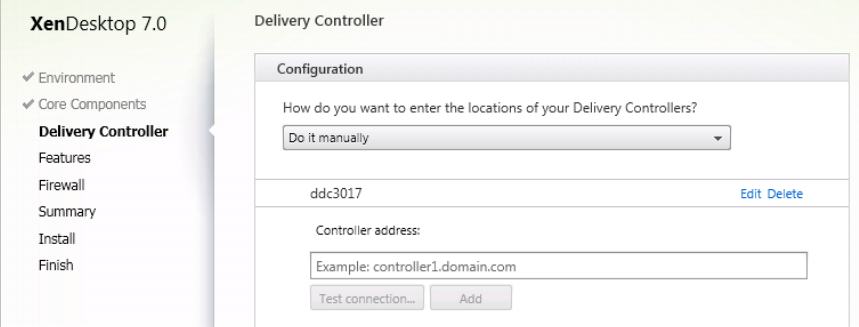
Before we publish applications or hosted-shared desktops, we must prepare a Windows Server with the necessary applications installed. The Delivery Agent is installed on this server to create a Master Image. Depending on the end-user requirements, you install the Delivery Agent in one of two modes: to deliver applications from the server itself (no replication) or to be replicated (by MCS) into server VMs that deliver apps.

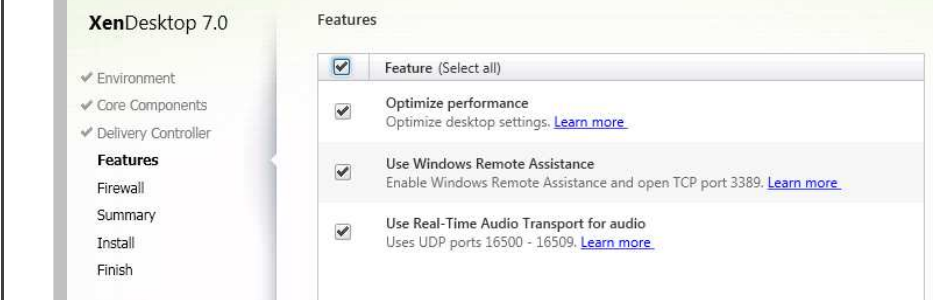
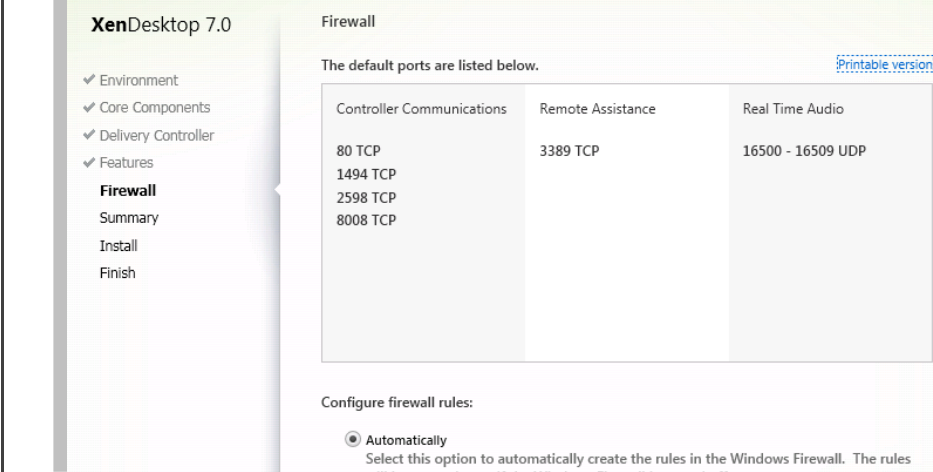
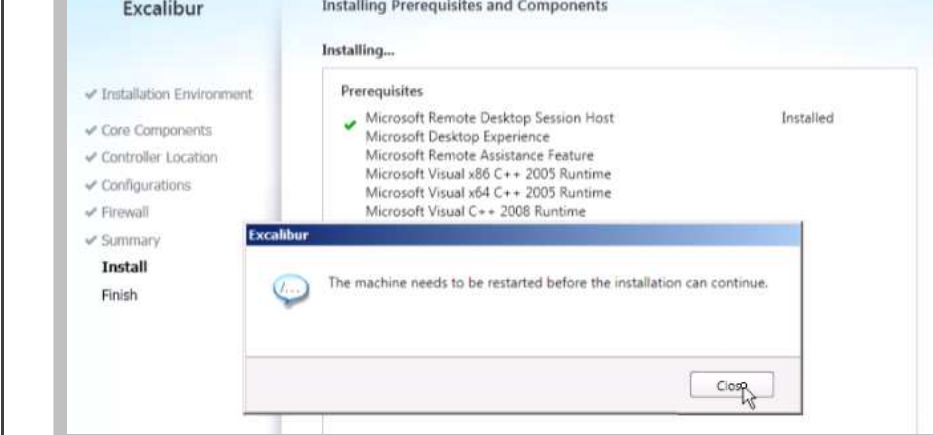

Your account must have local administrator privileges and be a domain administrator in the Active Directory.


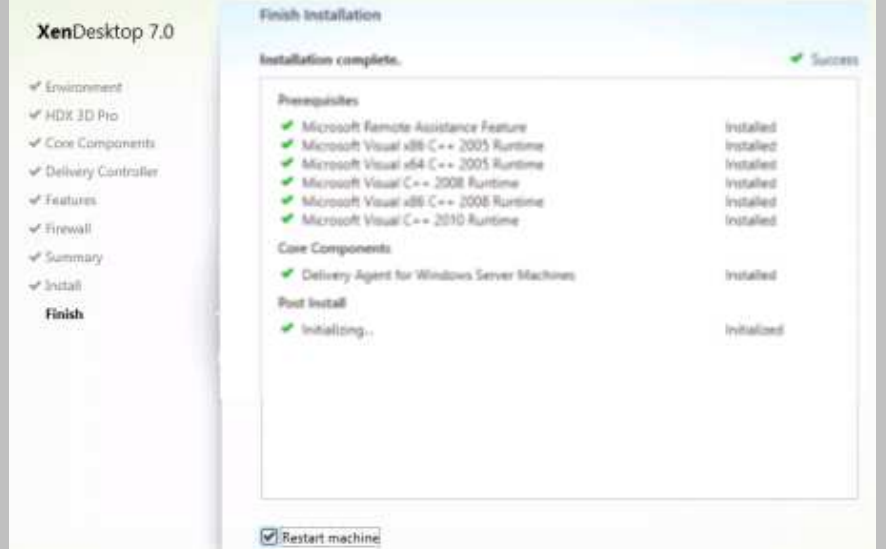
Use a Server OS template to create VM for application delivery master image, as follows:

- Freshly installed Windows Server 2008 R2 SP1 or Windows Server 2012
- Joined to the domain and activated
- DHCP assignment for IP address to cloned VMs

Note: You may choose to repeat the process, once for Windows Server 2012 and again for Windows Server 2008 R2, if you want to deliver apps from both platforms. The instructions remain the same.

#	Screen capture	Instructions
		<p>Insert the XenDesktop 7 DVD into VM4 and launch the Virtual Delivery Agent <i>Installation Wizard</i>.</p>
		<p>Accept the default selection and click Next.</p> <p>We select the first option (default value), because we will create MCS-cloned VMs using this master image.</p>
		<p>Accept the default selection and click Next.</p> <p>Installing Citrix Receiver on master image is optional. You may deselect, since this server will only publish apps</p>
		<p>Select Manually and enter the hostname (FQDN) for the Delivery controller. Click Add and Next</p> <p>✓ Notice how the new intelligent configuration validation feature confirms accuracy of controller details and saves us time later.</p>

#	Screen capture	Instructions
		<p>Accept the default selection and click Next.</p> <p>This installs all the necessary components for the Delivery Agent.</p>
		<p>Accept the default selection and click Next.</p> <p>Windows Firewall is configured automatically. For this exercise, manually disable any non-Windows Firewall or security apps.</p>
		<p>Click Install to start the installation.</p> <p>The machine needs to reboot after some of the components have been installed.</p> <p>The installation continues automatically after reboot.</p>
		<p>Please wait while the machine configures Windows and reboots.</p> <p>Do not turn off the computer.</p>

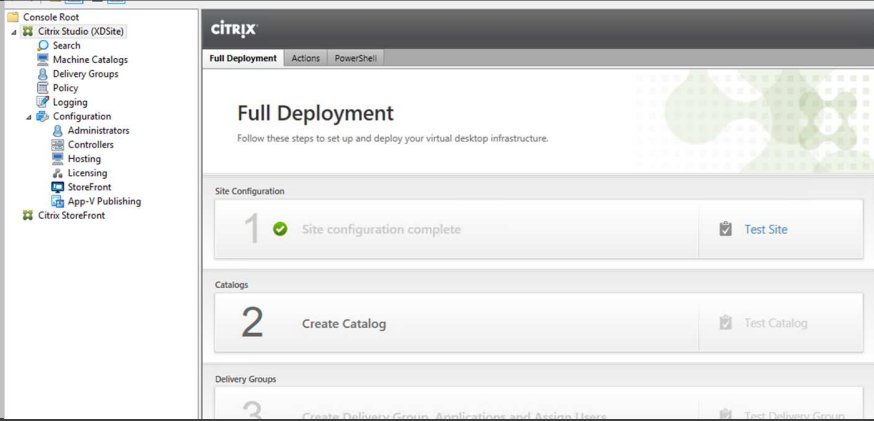
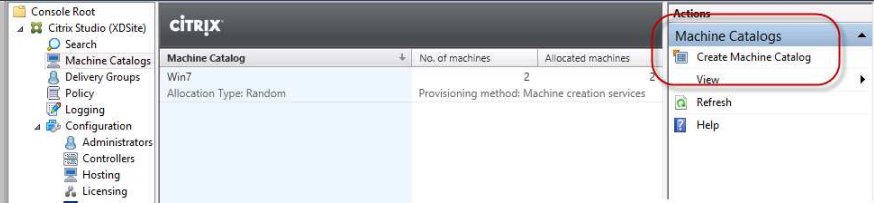
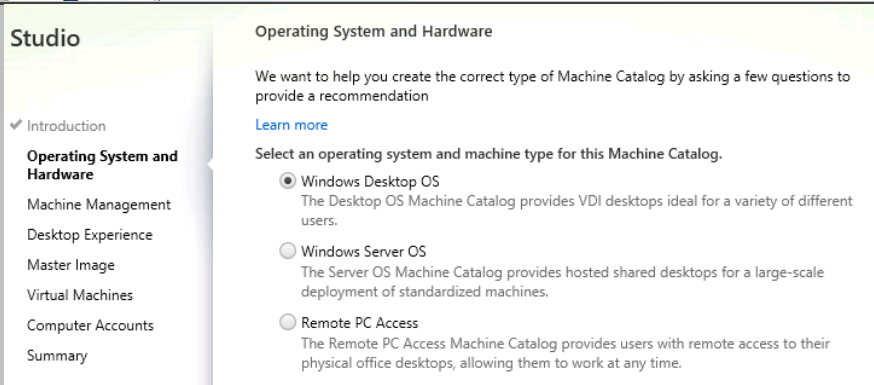
#	Screen capture	Instructions																								
	 <p>The screenshot shows a Windows Security dialog box titled "Would you like to install this device software?". It displays the name "Citrix Systems, Inc. Network Protocol" and the publisher "Citrix Systems, Inc.". A checkbox labeled "Always trust software from 'Citrix Systems, Inc.'" is checked. The "Install" button is highlighted. In the background, the Citrix installation wizard is visible, showing the "Prerequisites" section with a list of installed components.</p>	<p>Installation continues automatically after reboot.</p> <p>At some point, Windows security may ask you to confirm device driver installation. Check the box Always trust software from Citrix Systems Inc and click Install</p>																								
	 <p>The screenshot shows the "Finish Installation" window for XenDesktop 7.0. The window indicates "Installation complete." and "Success". It lists the following components and their status:</p> <table><tr><th>Component</th><th>Status</th></tr><tr><td>Prerequisites</td><td></td></tr><tr><td>Microsoft Remote Assistance Feature</td><td>Installed</td></tr><tr><td>Microsoft Visual x86 C++ 2005 Runtime</td><td>Installed</td></tr><tr><td>Microsoft Visual x64 C++ 2005 Runtime</td><td>Installed</td></tr><tr><td>Microsoft Visual C++ 2008 Runtime</td><td>Installed</td></tr><tr><td>Microsoft Visual x86 C++ 2008 Runtime</td><td>Installed</td></tr><tr><td>Microsoft Visual C++ 2010 Runtime</td><td>Installed</td></tr><tr><td>Core Components</td><td></td></tr><tr><td>Delivery Agent for Windows Server Machines</td><td>Installed</td></tr><tr><td>Post Install</td><td></td></tr><tr><td>Initializing..</td><td>Initialized</td></tr></table> <p>At the bottom, there is a checkbox labeled "Restart machine" which is checked.</p>	Component	Status	Prerequisites		Microsoft Remote Assistance Feature	Installed	Microsoft Visual x86 C++ 2005 Runtime	Installed	Microsoft Visual x64 C++ 2005 Runtime	Installed	Microsoft Visual C++ 2008 Runtime	Installed	Microsoft Visual x86 C++ 2008 Runtime	Installed	Microsoft Visual C++ 2010 Runtime	Installed	Core Components		Delivery Agent for Windows Server Machines	Installed	Post Install		Initializing..	Initialized	<p>After installation succeeds, do the following:</p> <ol style="list-style-type: none">1. <i>Restart</i> the machine2. <i>Shut</i> down the machine
Component	Status																									
Prerequisites																										
Microsoft Remote Assistance Feature	Installed																									
Microsoft Visual x86 C++ 2005 Runtime	Installed																									
Microsoft Visual x64 C++ 2005 Runtime	Installed																									
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Microsoft Visual C++ 2010 Runtime	Installed																									
Core Components																										
Delivery Agent for Windows Server Machines	Installed																									
Post Install																										
Initializing..	Initialized																									

Step 2: Creating the machine catalog

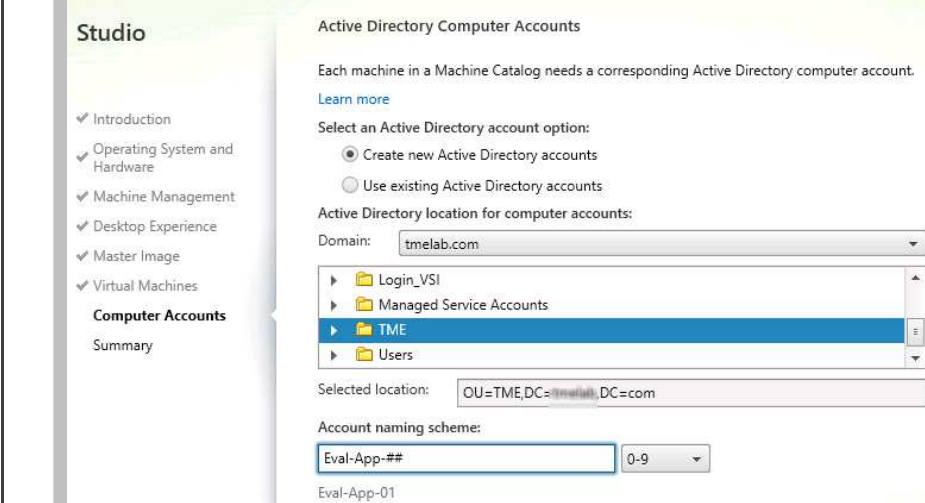
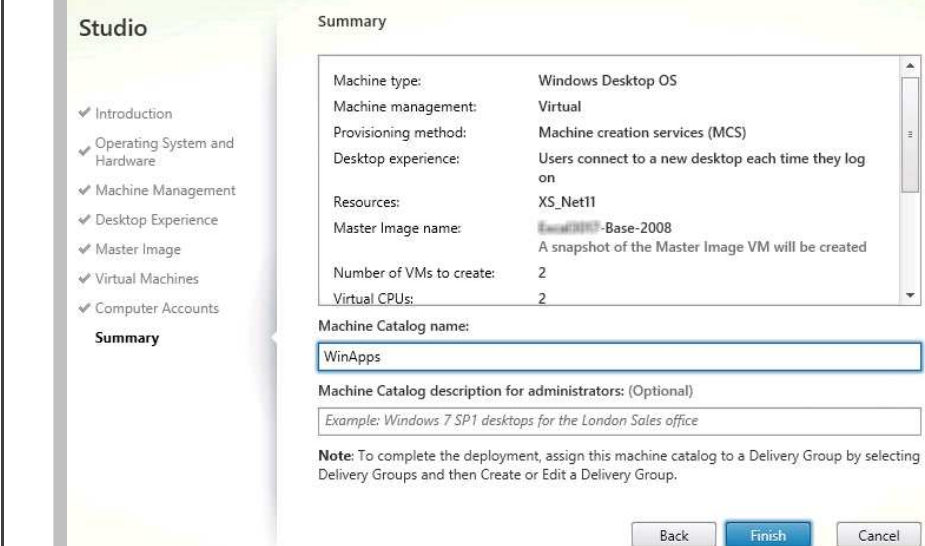
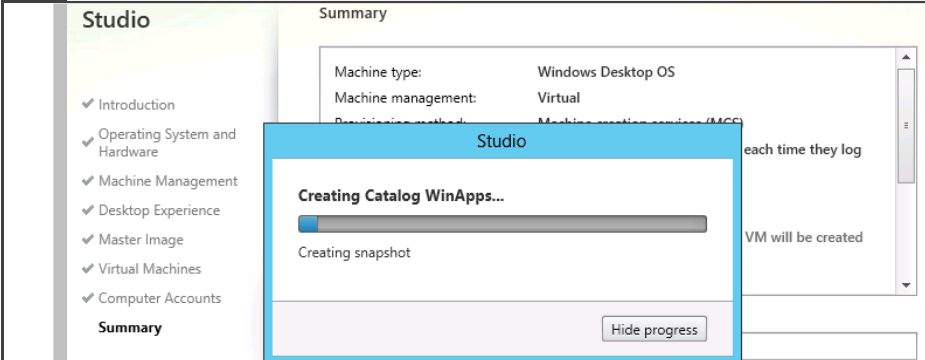
Create Machine Catalogs

Collections of desktops or physical computers are managed as a single entity called a machine catalog. To deliver desktops and applications to users, the *machine administrator* creates a catalog of machines and the *assignment administrator* allocates machines from the machine catalog to users by creating delivery groups.

Your account must have local administrator privileges and be a Domain Administrator in the Active Directory.

#	Screen capture	Instructions
		<p>Now that the master image is ready, we can return to complete Step 2 of the First Run wizard</p> <p>Click Create Catalog</p>
		<p>✓ If First Run wizard is no longer available, use Create Machine Catalog wizard to launch the workflow.</p>
		<p>If you wish to deliver <i>server hosted desktops</i> or <i>apps</i>, select Windows Server OS.</p> <p>If you wish to deliver <i>VDI desktops</i>, select Windows Desktop OS.</p> <p>Click Next</p>

#	Screen capture	Instructions
	<div> <div> Studio <ul style="list-style-type: none"> Introduction Operating System and Hardware Machine Management Desktop Experience Master Image Virtual Machines Computer Accounts Summary </div> <div> Machine Management <p>As part of creating a Machine Catalog, the way you plan to provision machines influences the recommended Machine Catalog type.</p> Learn more <p>This infrastructure will be built using:</p> <p><input checked="" type="radio"/> Virtual machines</p> <p><input type="radio"/> Physical hardware</p> <p>Desktop images are managed using:</p> <p><input checked="" type="radio"/> Machine Creation Services (MCS)</p> <p><input type="radio"/> Provisioning Services (PVS)</p> <p><input type="radio"/> Another service or technology</p> <p>I will manage my desktop images with something other than Citrix technology. I have existing Master Images already prepared.</p> </div> </div>	<p>Accept Virtual Machines and Machine Creation Services (MCS), which are the default selections, and click Next.</p>
	<div> <div> Studio <ul style="list-style-type: none"> Introduction Operating System and Hardware Machine Management Desktop Experience Master Image Virtual Machines Computer Accounts Summary </div> <div> Desktop Experience <p>Consider the tasks your users perform and then decide which desktop experience would be best.</p> <p>Which desktop experience do you want users to have?</p> <p><input checked="" type="radio"/> I want users to connect to a new (random) desktop each time they log on.</p> <p><input type="radio"/> I want users to connect to the same (static) desktop each time they log on.</p> <p>Do you want to save any changes that the user makes to the desktop?</p> <p><input checked="" type="radio"/> Yes, save changes on a separate Personal vDisk.</p> <p><input type="radio"/> Yes, create a dedicated virtual machine and save changes on the local disk.</p> <p><input type="radio"/> No, discard all changes and clear virtual desktops when the user logs off.</p> <p>If configured, folder redirection will not be affected.</p> </div> </div>	<p>Select the first option to deliver 'random' desktops from a pool of desktops.</p> <p>Click Next</p> <p>✓ This step is not applicable for application delivery catalogs</p>
	<div> <div> Studio <ul style="list-style-type: none"> Introduction Operating System and Hardware Machine Management Desktop Experience Master Image Virtual Machines Computer Accounts Summary </div> <div> Master Image <p>Select a Host and corresponding Virtual Machine or snapshot from the list to create a Master Image.</p> <p>Select a Resource:</p> <p>XS_Net11</p> <p>Select a snapshot (or a Virtual Machine):</p> <ul style="list-style-type: none"> Excal- Base - Win7 Excal- Base - Win8 Excal- Base - XenApp (2008) Excal2017 - Win8Base Excal2017 - Base-2008 Excal2017 - Base-Win7 Excal2017 - Base - Win2012 Excal2017 - Base - Win7 Excal2017 - bld 73 <p><input type="checkbox"/> The Master Image is built using Windows XP or Windows Vista</p> <p>You should also select this option if the snapshot or Master Image is running Windows 7 with VDA 5.6.</p> </div> </div>	<p>Now we select the Base Image that we created previously, by navigating down the tree to the virtual machine of the master image created in Step 1.1</p>
	<div> <div> Studio <ul style="list-style-type: none"> Introduction Operating System and Hardware Machine Management Desktop Experience Master Image Virtual Machines Computer Accounts </div> <div> Virtual Machines <p>Number of virtual machines needed:</p> <p>2</p> <p>Configure your machines:</p> <p>Name: Excal2017 - Base-2008</p> <p>Virtual CPUs: 2</p> <p>Memory (MB): 4096</p> <p>Hard disk (GB): 24</p> </div> </div>	<p>Select how many cloned VMs are needed in the pool.</p> <p>Leave everything else at default and click Next</p>

#	Screen capture	Instructions
		<p>Select the Computer OU to place the newly created VMs.</p> <p>Provide an account naming scheme, say Win8-## (where MCS replaces ## with VM sequence number)</p> <p>Leave everything else default and click Next</p>
		<p>Provide a name for the catalog, and optionally, a description to identify the type of machines in this catalog</p> <p>Click Finish to start the machine creation process</p>
		<p>Machine Catalog creation takes about 15-25 minutes depending on the number of machines and type of underlying hardware.</p> <p>Dashboard Action pane shows the task status. Wait for task to complete before creating delivery groups.</p>

To create machine catalog based on Server OS (for hosted shared desktops and applications), follow the same steps above making suitable selection for Server OS. Create two machines, one for testing application delivery and another for hosted-shared desktops.

Step 3: Publish desktops and applications

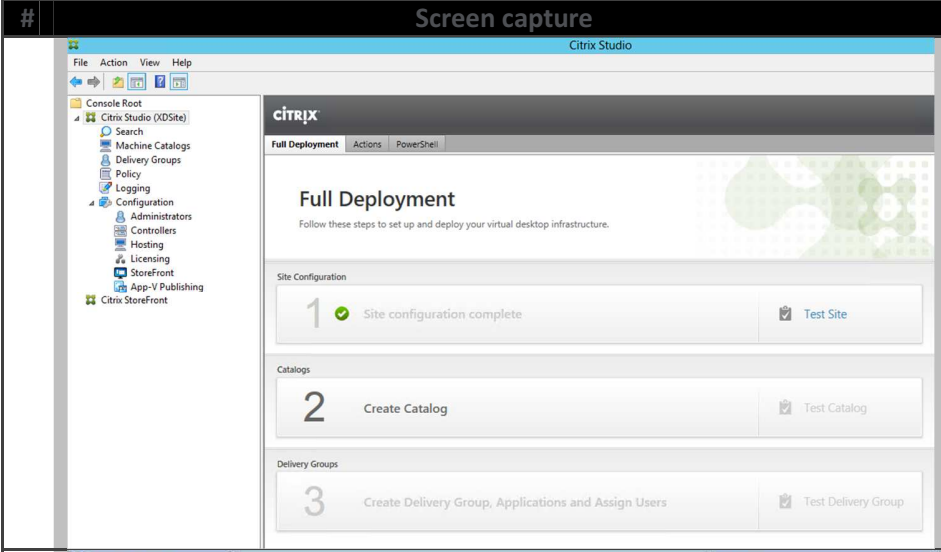
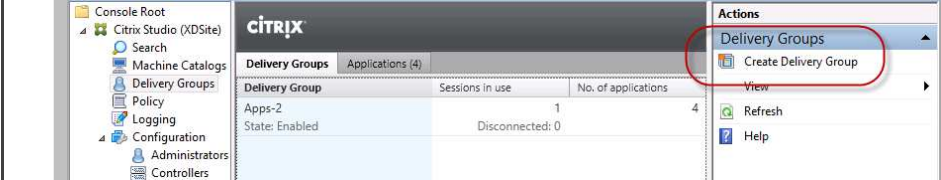
While the workflow to publish desktops and applications is more or less similar, for simplicity we will look at these separately.

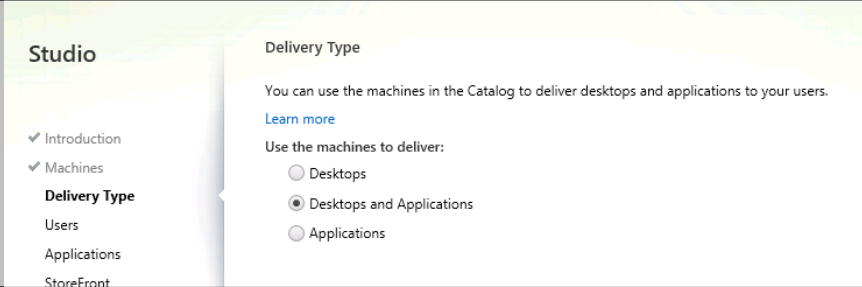
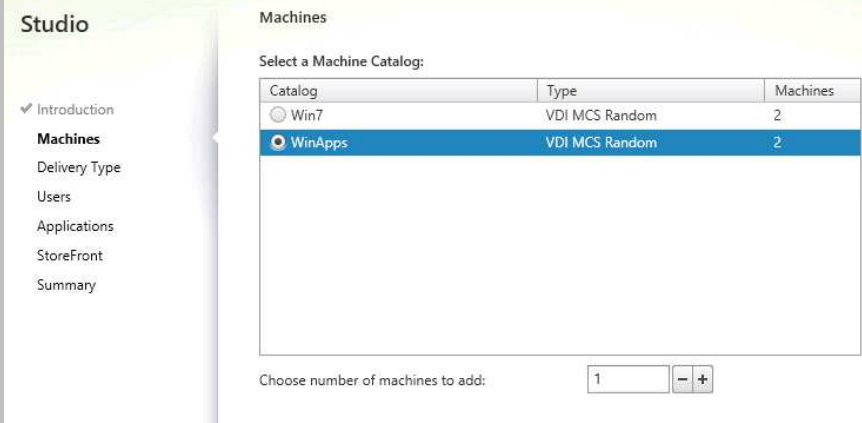
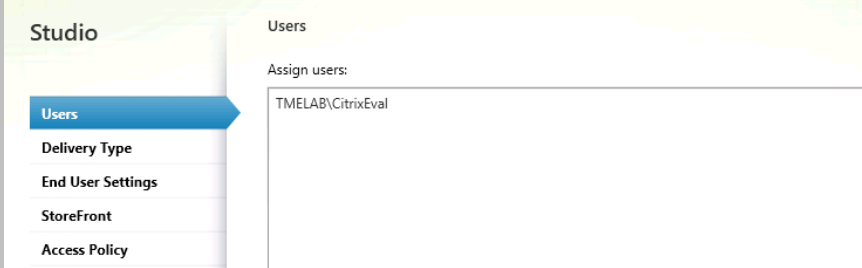
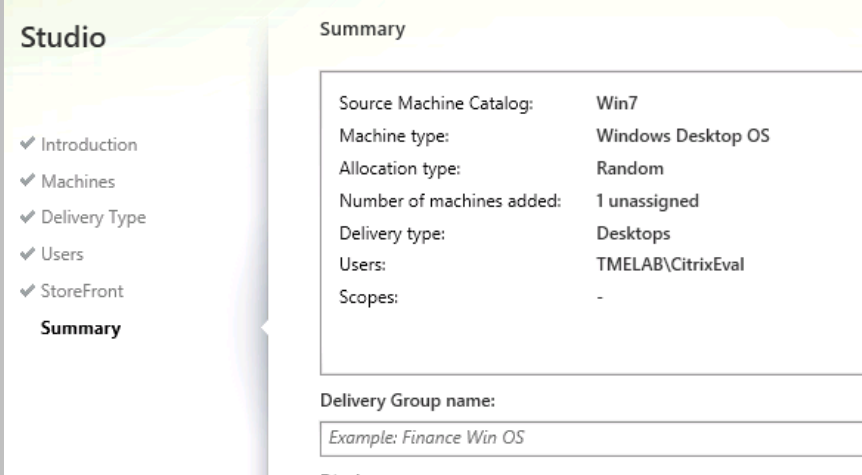
To publish applications in a unified infrastructure, you create and add applications in Studio to make them available to delivery group users. Using Studio, you will first have to configure a site, create and specify machine catalogs, and then create delivery groups within those machine catalogs. Delivery groups are then used to determine which users will have access to the applications you decide to publish.

For more details on how application publishing has evolved with XenDesktop 7 release, please see *Important Information for XenApp Administrators* in the Administrator's Guide.

Create Desktop OS Delivery Groups (VDI)

The first delivery group we create is for VDI desktops, using desktop OS. Create a new Windows 8 machine catalog using the snapshot created in *Step 1.1* as the Base Image. Follow the steps in *Step 2: Create Machine Catalogs*, selecting **Windows Desktop OS** as the machine type.

#	Screen capture	Instructions
		Step 3 in the First Run wizard is to create Delivery Groups. Click #3, Create a Delivery Group, Applications and assign users
		✓ If First Run wizard is no longer available, use Create Delivery Group wizard to launch the workflow from Studio.

#	Screen capture	Instructions
		<p>Select the Delivery type for this group: Desktops only, Apps only, or both.</p> <p>For this step, we select “Desktops and Applications” and click Next</p>
		<p>Select the Desktop machine catalog, described as VDI MCS Random in the table. The Wizard displays the total number of machines available in each catalog.</p> <p>Click to add the number of machines you want in the group. In this evaluation, we only add 1 machine.</p>
		<p>Assign the user group from Active Directory with permission to use the machines in this group, i.e. <i>CitrixEval</i>.</p>
		<p>The last part is to enter a display name (the label shown in Citrix Receiver) and a delivery group name (more descriptive, to identify the group in management console).</p> <p>In this example, we use a simple Display Name “Win8”, since we are serving Windows® 8 desktops.</p>

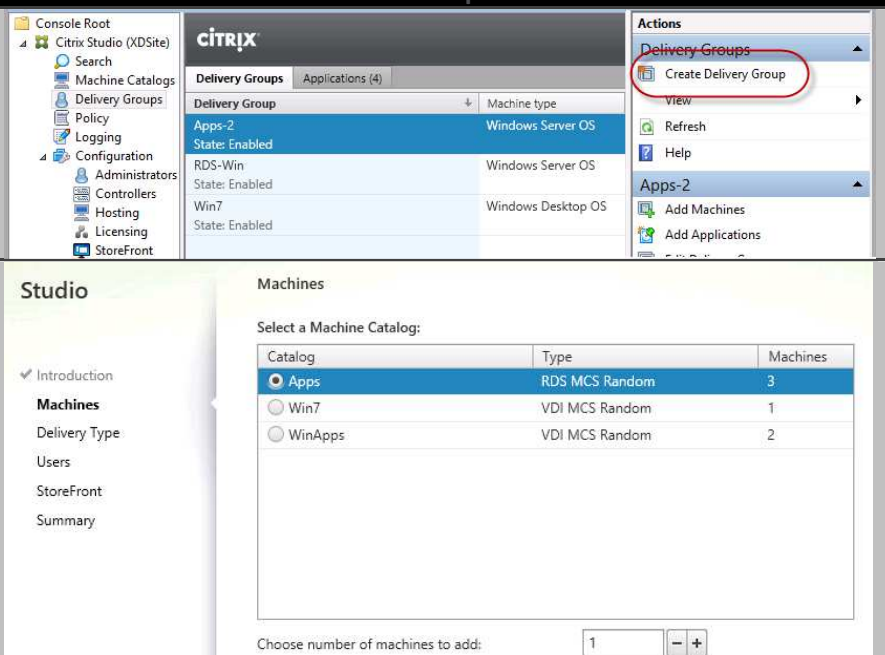
#	Screen capture	Instructions
	<div><div><div>Console Root</div><div>Citrix Studio (XDSite)</div><div>Search</div><div>Machine Catalogs</div><div>Delivery Groups</div><div>Policy</div><div>Logging</div><div>Configuration</div><div>Administrators</div><div>Controllers</div><div>Hosting</div></div><div><div><div><div><div><div><div></div><div></div><div></div></div><div><div></div></div><div><div></div></div></div><div><div></div></div><div><div></div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><div><div></div></div><di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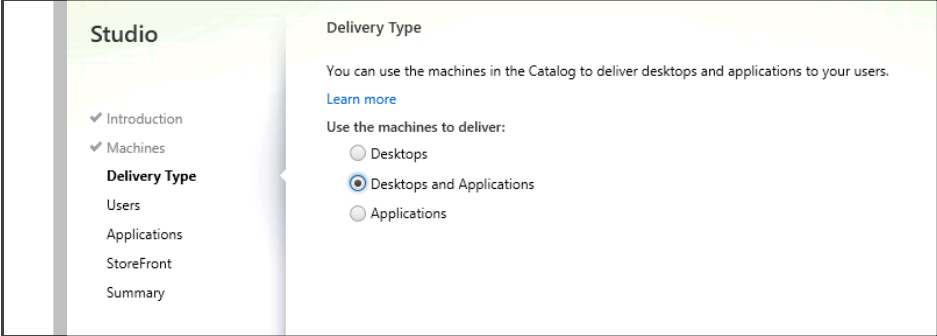
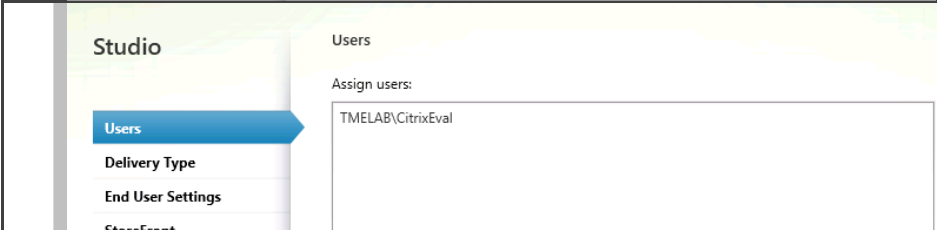
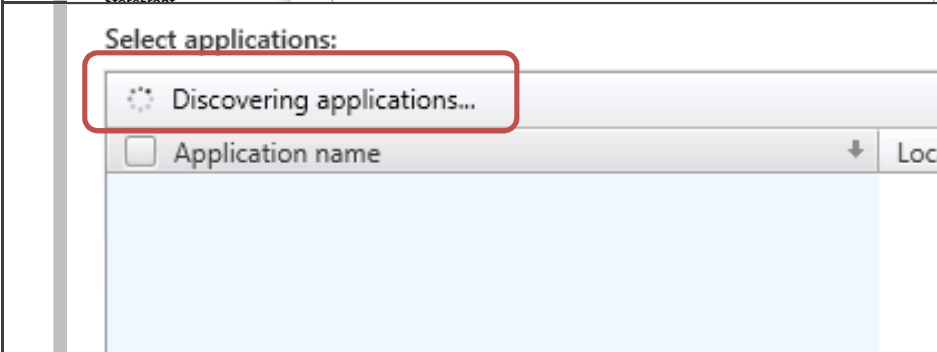
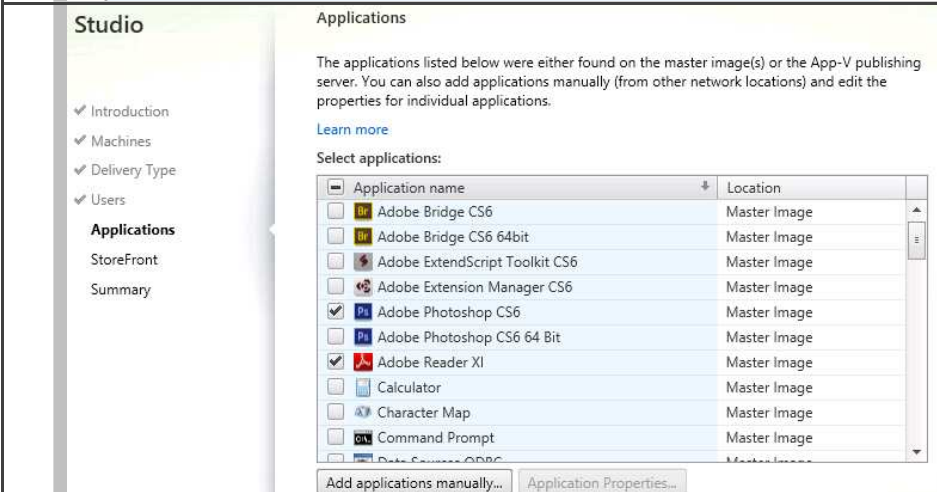
Create Server OS Delivery Groups (Hosted Shared)

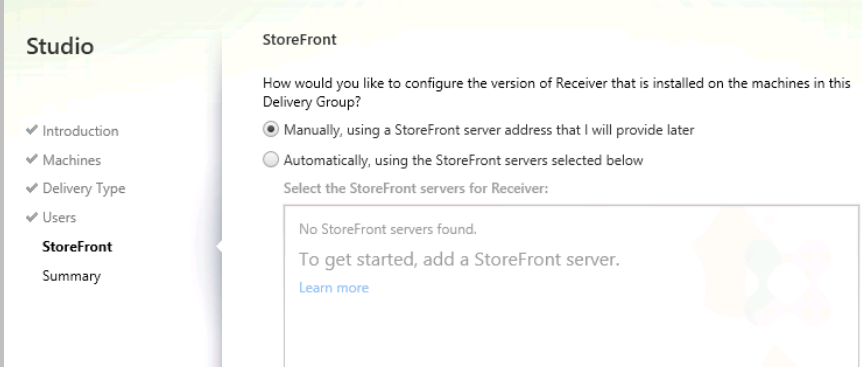
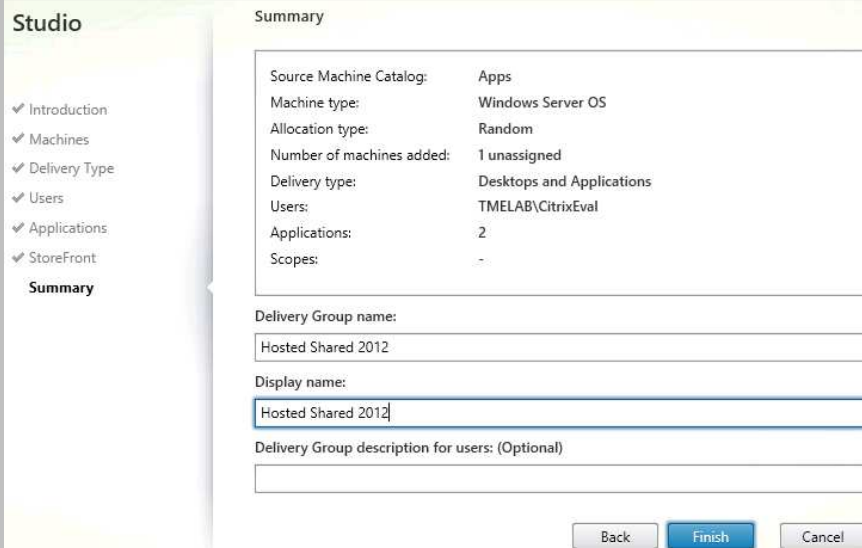
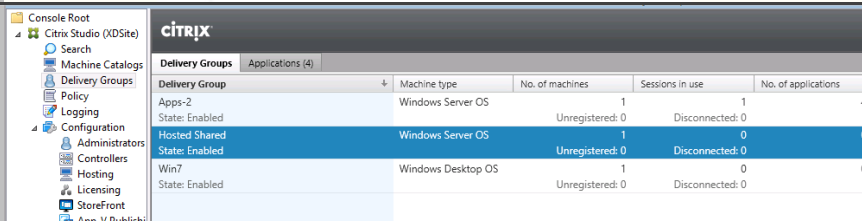
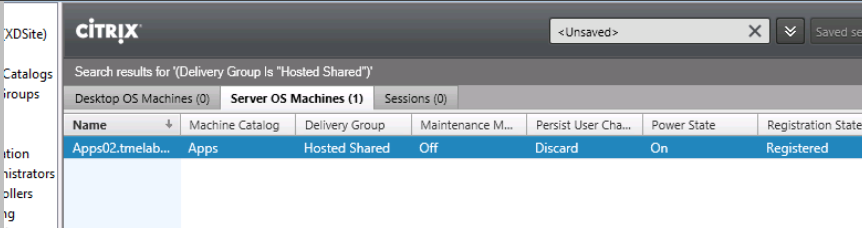
Delivery groups based on Server OS can deliver both hosted-shared desktops as well as applications.


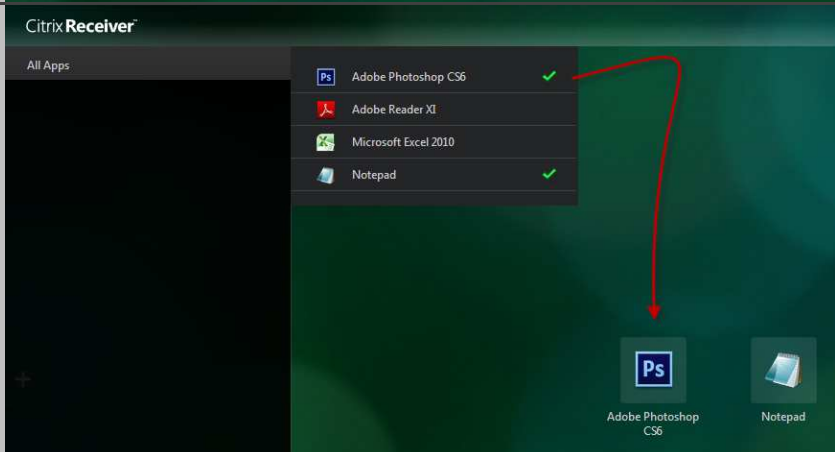
Create a new Windows Server 2012 machine catalog using the snapshot created in *Step 1.1* as the Base Image. Follow the steps in *Step 2: Create Machine Catalogs*, selecting **Windows Server OS** as the machine type this time.

Once the catalog is created, come back here to create application delivery group.

#	Screen capture	Instructions												
	 <table border="1"> <thead> <tr> <th>Catalog</th><th>Type</th><th>Machines</th></tr> </thead> <tbody> <tr> <td><input checked="" type="radio"/> Apps</td><td>RDS MCS Random</td><td>3</td></tr> <tr> <td><input type="radio"/> Win7</td><td>VDI MCS Random</td><td>1</td></tr> <tr> <td><input type="radio"/> WinApps</td><td>VDI MCS Random</td><td>2</td></tr> </tbody> </table>	Catalog	Type	Machines	<input checked="" type="radio"/> Apps	RDS MCS Random	3	<input type="radio"/> Win7	VDI MCS Random	1	<input type="radio"/> WinApps	VDI MCS Random	2	<p>The First Run wizard may no longer be available. Go to Studio > Delivery Groups > Actions (on right pane) > Create Delivery Group to launch the workflow.</p> <p>Select the Server machine catalog, described as RDS MCS Random in the table. The Wizard displays the total number of machines available in each catalog.</p> <p>Click to add the number of machines you want in the group. In this example, we only add 1 machine.</p>
Catalog	Type	Machines												
<input checked="" type="radio"/> Apps	RDS MCS Random	3												
<input type="radio"/> Win7	VDI MCS Random	1												
<input type="radio"/> WinApps	VDI MCS Random	2												

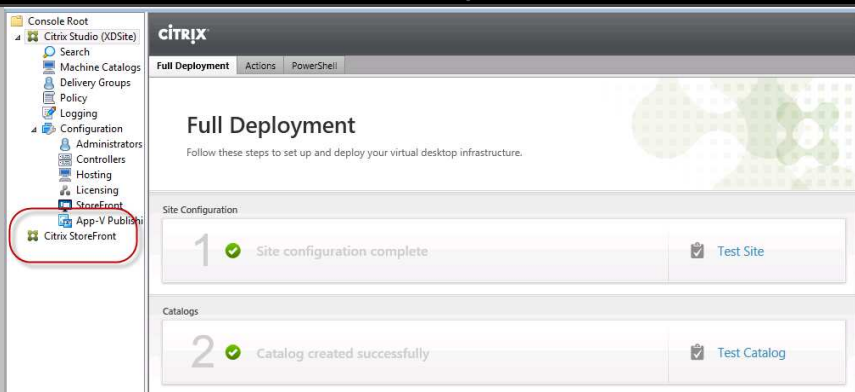
#	Screen capture	Instructions
		<p>Select Desktops and Applications as delivery type.</p> <p>✓ This will allow unified delivery of both desktops and apps from the same server OS.</p>
		<p>Assign the user group from Active Directory with permission to use the machines in this group.</p> <p>Select <i>CitrixEval</i>, click Next</p>
		<p>The wizard now lists all applications on the given machine catalog that can be published. The Discovery process may take a few minutes.</p> <p>You can also add applications manually if needed.</p>
		<p>XenDesktop 7 offers bulk publishing of apps, saving time and making it simple.</p> <p>Select the apps you wish to publish, and click Next</p> <p>✓ If App-V publishing server is set up, the apps would be listed as “App-V” under <i>Location</i>. For this guide, we continue without App-V.</p>

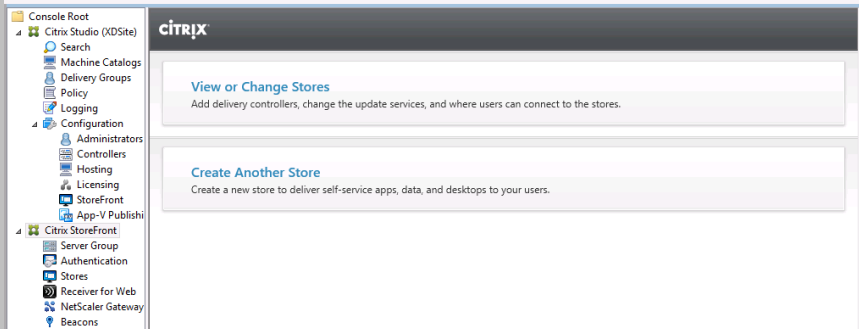
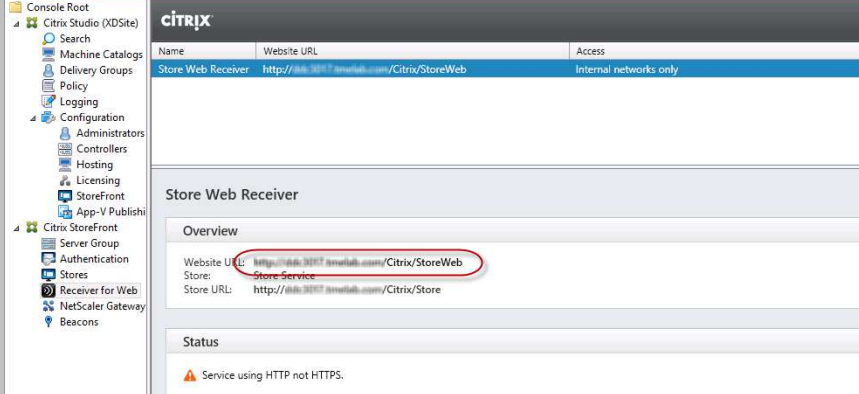

#	Screen capture	Instructions
		Click Next on the StoreFront configuration, accept defaults. StoreFront site is automatically created.
		<p>The last part is to enter a display name (the label shown in Citrix Receiver) and a delivery group name (more descriptive, to identify the group in management console).</p> <p>In this example, we use a simple Display Name <i>"Hosted Shared 2012"</i>, since we are serving hosted-shared desktops based on Windows Server 2012.</p>
		The Delivery Group is created in a couple of minutes. Double Click the group name to view details
		The VM is turned on and registers with the controller. Registration State changes to <i>Registered</i>

#	Screen capture	Instructions
		In <i>Step 5</i> we see how to use Citrix Receiver to launch apps and desktops. The newly created hosted-shared desktop will be available in Receiver, alongside the VDI desktops.
		<p>The apps published in the same Delivery Group, using a common unified console, are also available in Citrix Receiver.</p> <p>✓ In XenDesktop 7, you get single-click bulk app publishing. No need to repeat the task of providing application details for each app, one by one.</p>

Step 4: Configuring the StoreFront Server

Citrix StoreFront is the next generation of Web Interface, and enables self-service provisioning of desktops and applications, among a host of new functionality. Storefront authenticates users and manages the store of desktops and applications. In this evaluation, Storefront runs on the same server as the Controller (VM1).

#	Screen capture	Instructions
		<p>Citrix StoreFront management console is now integrated with Studio</p> <p>✓ StoreFront console is also available standalone.</p>

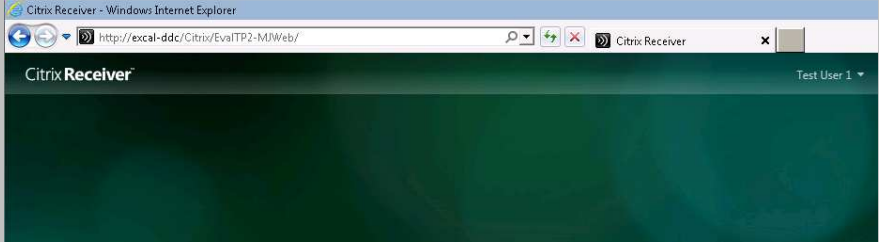
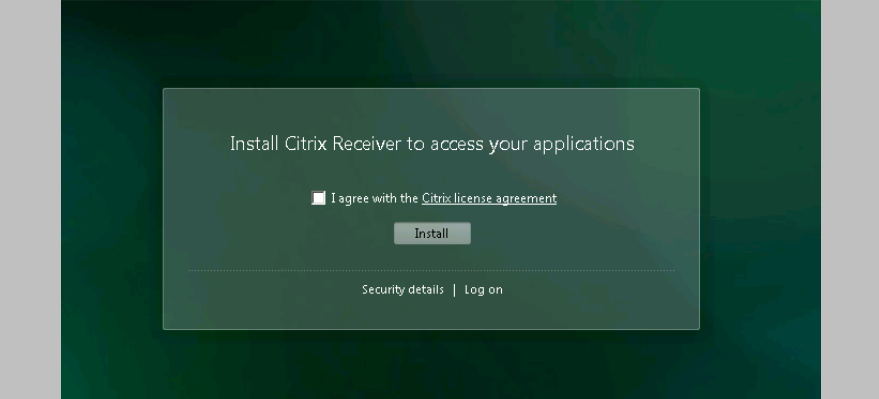
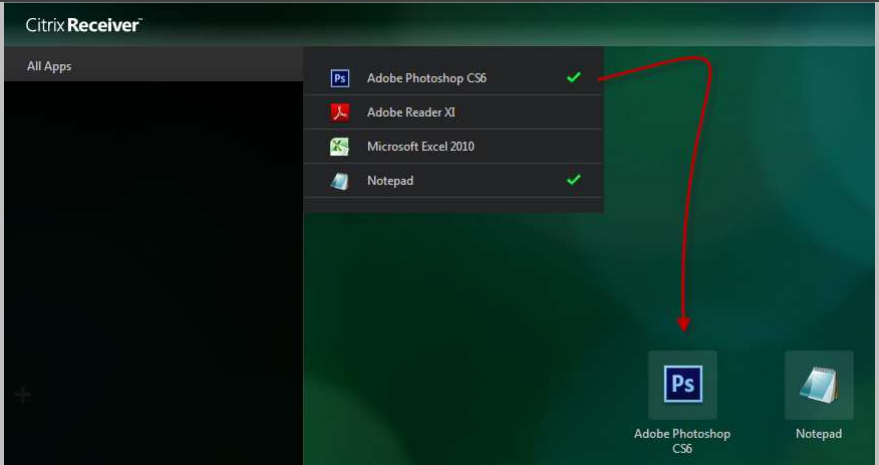
#	Screen capture	Instructions
		<p>XenDesktop 7 comes with a default store that is available once the first Delivery Group is created.</p> <p>Web store is in the form: <a href="http://<servername>/Citrix/StoreWeb">http://<servername>/Citrix/StoreWeb</p>
		<p>For evaluations, the auto-created store quickly allows access to the environment. No further configuration needed after the Delivery Groups are set up.</p> <p>✓ Please refer admin guide if you wish to create a custom StoreFront site.</p>
		<p>StoreFront console is also available standalone</p> <p>✓ As a best practice, StoreFront services can be installed on a separate server from Delivery controller. For this evaluation, we install everything at one time on same server.</p>

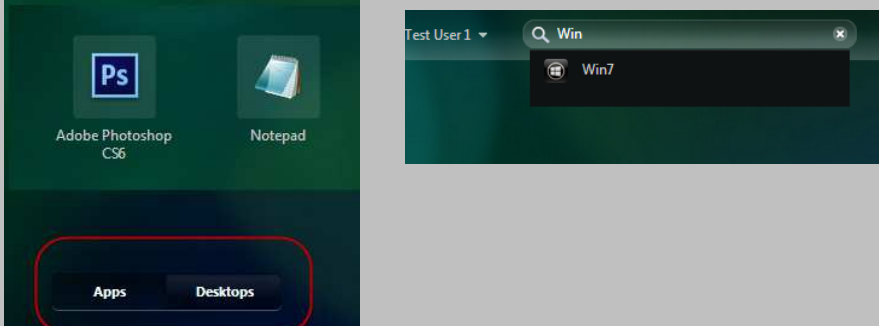

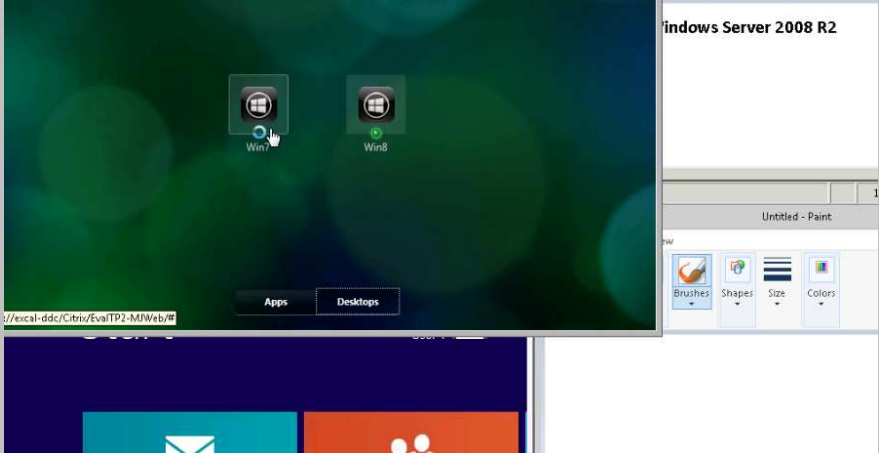
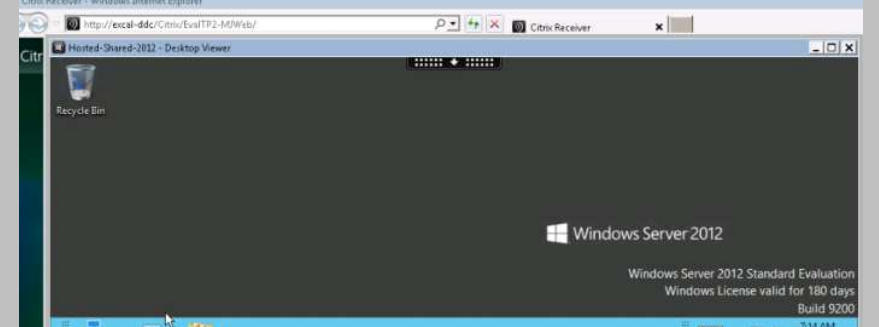
Step 5: End-user session launch with Citrix Receiver

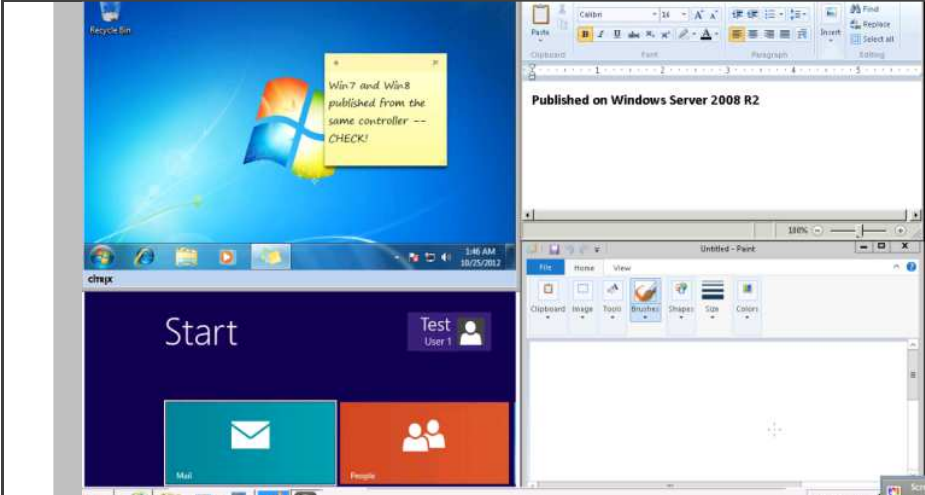
We now use VM #6 (from Table 1) to launch the desktops and apps on a client and evaluate the end-user experience.

Exercise 1: Self-service desktops and apps on Windows client

Citrix Receiver is the unified access client to access applications and desktops from StoreFront. With a user account, you will access those applications and desktops.


#	Screen capture	Instructions
		On a client machine, Windows 7 in this case, open a browser and go to the default Storefront URL <a href="http://<yourservername>/Citrix/StoreWeb">http://<yourservername>/Citrix/StoreWeb
		If Citrix Receiver is not already installed on the client, you are prompted to install it. Accept the EULA, Click Install and follow the installation process. Return to the login page once it is installed.
		Login as a domain user. Click the + sign at the left edge of the screen, and click All Apps to see list of available apps. Click a few apps and add them to your self-service portal.

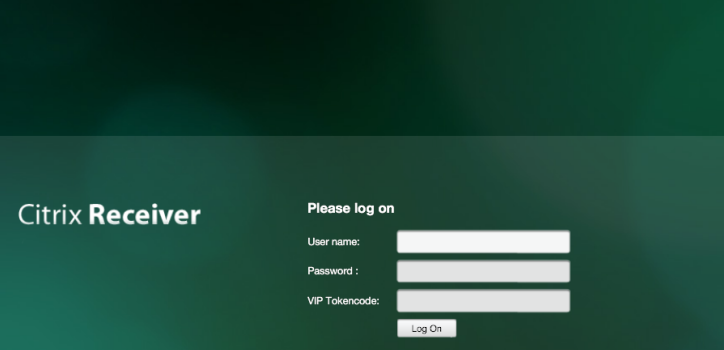
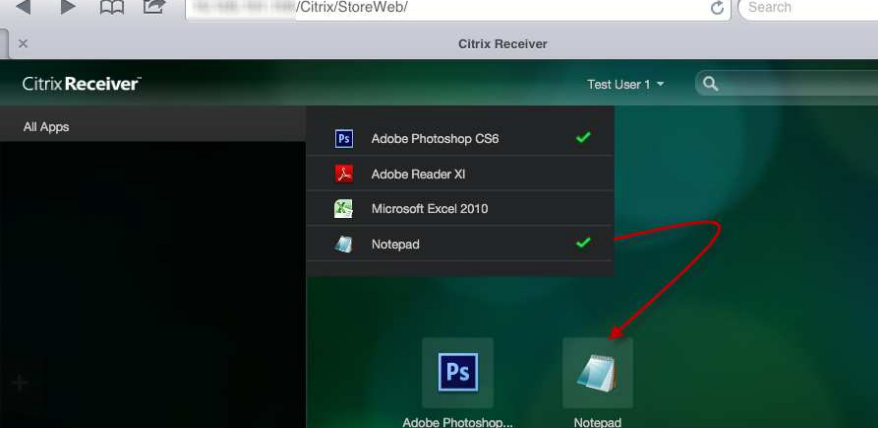
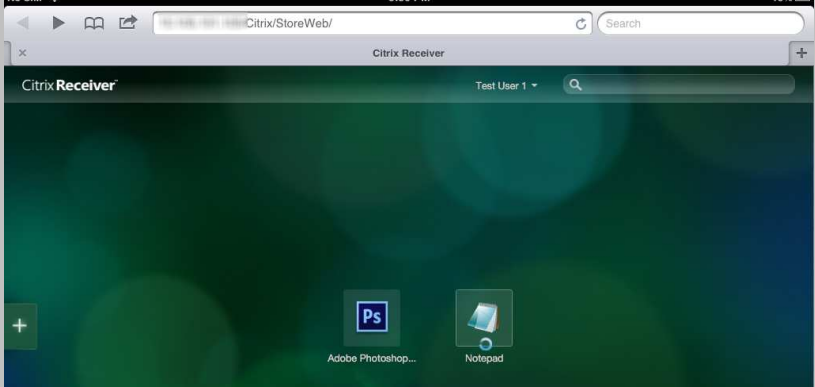

#	Screen capture	Instructions
		<p>You can switch between your list of Apps and list of Desktops using the selection bar at the bottom of the screen.</p> <p>You can search for an app or desktop by name, using the Search bar on top.</p>
		<p>XenDesktop 7 allows you to provision and access hosted shared desktops and VDI desktops at the same time as hosted applications.</p> <p>In this example, <i>Win7</i> and <i>Win8</i> are VDI desktops, while <i>Hosted Shared 2012</i> is Server based, as the name suggests.</p>
		<p>XenDesktop 7 allows you to create hosted-shared applications from Windows Server 2012, in addition to Windows Server 2008R2</p> <p>Follow the steps in this guide to create different machine catalogs using a Windows Server 2008R2 base image and a Windows Server 2012 base image.</p>
		<p>When you click the <i>Hosted Shared 2012</i> desktop icon, the desktop is a Windows Server 2012 desktop (as seen in this picture).</p>

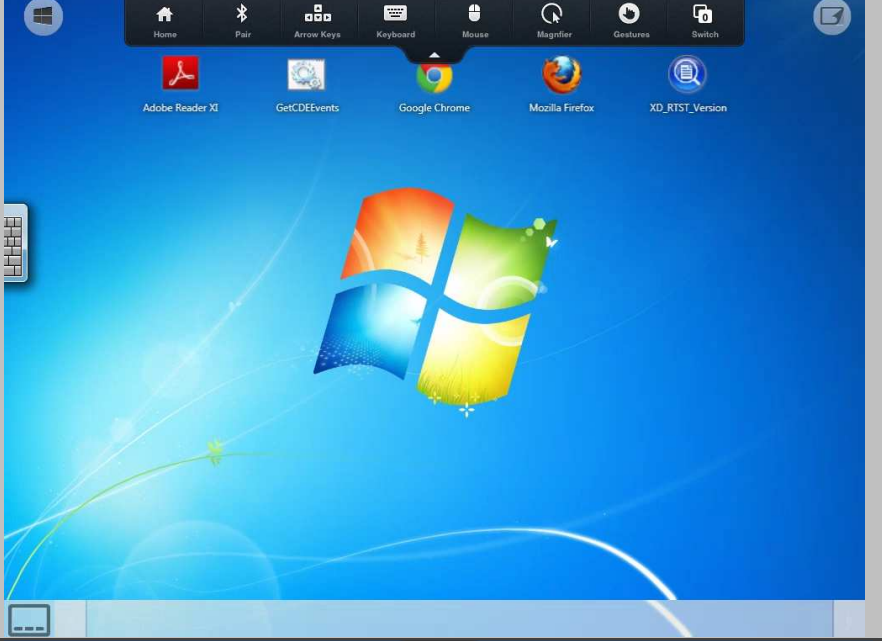
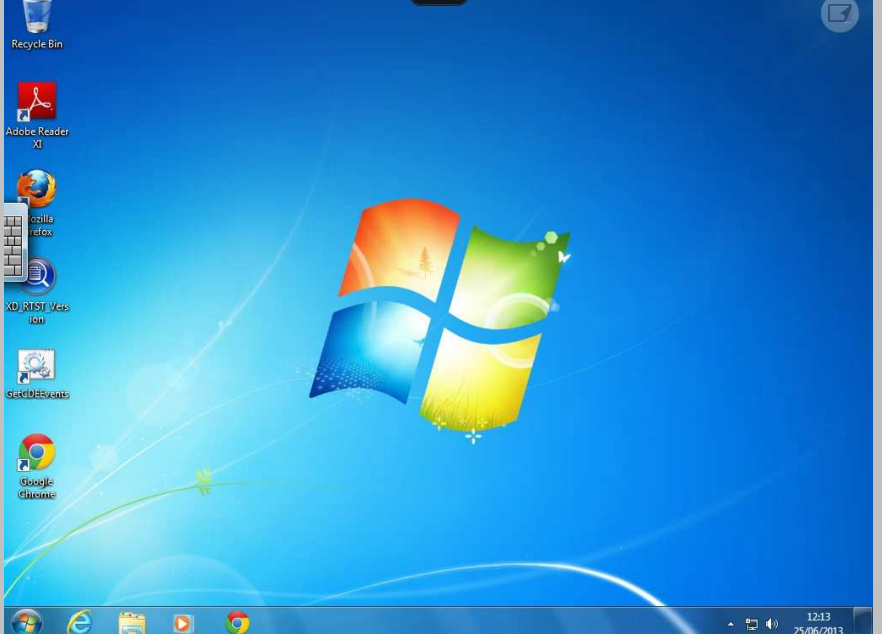
#	Screen capture	Instructions
		<p>This is a screenshot of the following virtual resources delivered by XenDesktop 7 (clockwise, from top left):</p> <ol style="list-style-type: none"> 1) Windows 7 desktop 2) App from Windows Server 2008 R2 3) App from Windows Server 2012 4) Windows 8 desktop

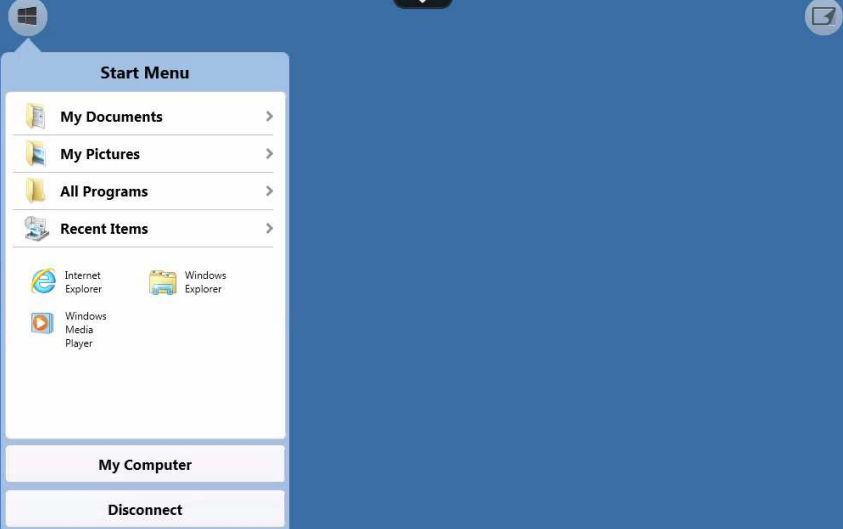
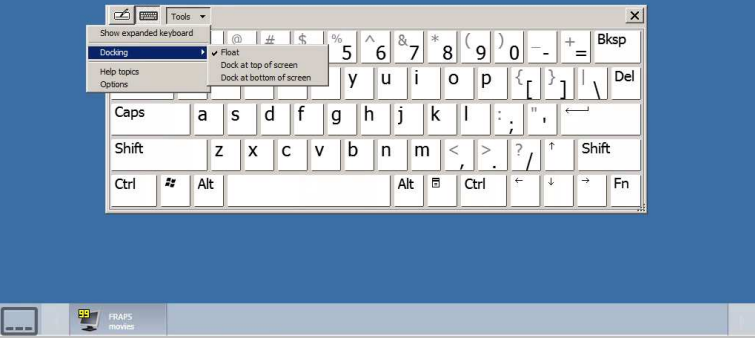
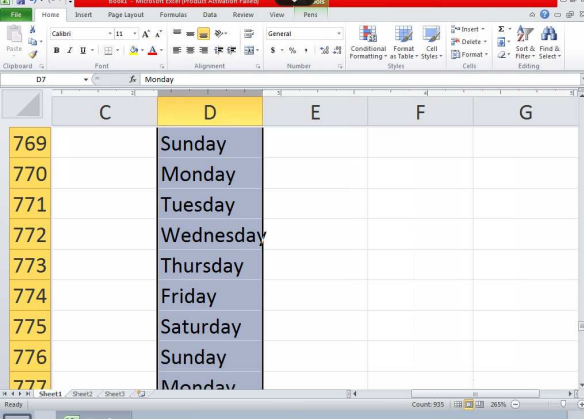
Exercise 2: Using desktops and apps on mobile device (HDX Mobile)

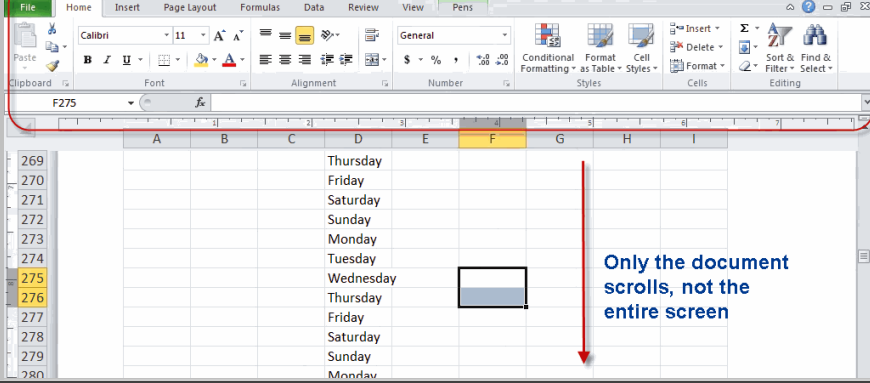
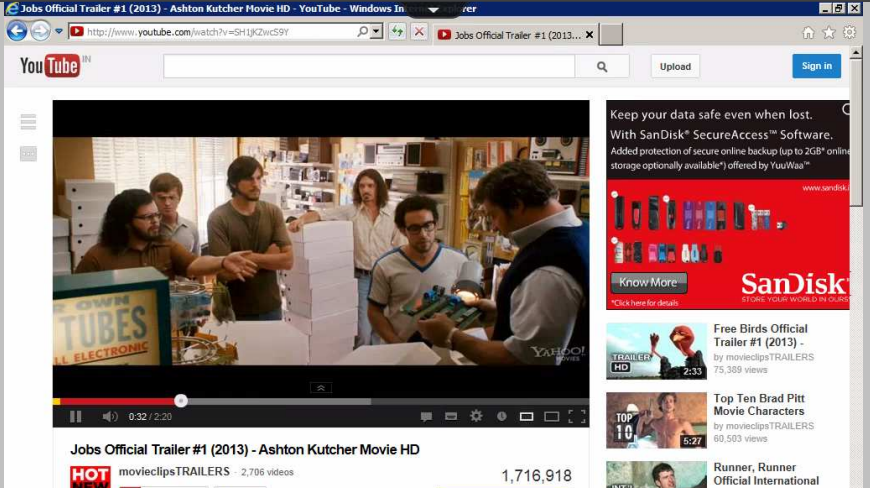
One of the main themes running through XenDesktop 7 is the mobilization of Windows apps, with a native-touch experience and high performance. We call this HDX Mobile. Try the beautiful Receiver user-interface from a touch-enabled mobile device for yourself. In this example, we used an iPad Mini

#	Screen capture	Instructions
		<p>Got to the app store from your iOS device (or Play store on Android or to the Windows store), and download Citrix Receiver</p>

#	Screen capture	Instructions
	 <p>The screenshot shows the Citrix Receiver login interface. It has a dark green background with the 'Citrix Receiver' logo on the left. On the right, there is a 'Please log on' section with three input fields for 'User name:', 'Password:', and 'VIP Tokencode:', followed by a 'Log On' button.</p>	<p>Once the Receiver is installed, open the following URL on the iPad.</p> <p><a href="http://<yourservername>/Citrix/StoreWeb">http://<yourservername>/Citrix/StoreWeb</p> <p>This returns the login page.</p>
	 <p>The screenshot shows the Citrix Receiver app selection screen. On the left, there is a sidebar with 'All Apps' and a '+ sign' button. The main area displays a list of apps: Adobe Photoshop CS6, Adobe Reader XI, Microsoft Excel 2010, and Notepad. Below the list, there are icons for 'Adobe Photoshop...' and 'Notepad'. A red arrow points from the 'Notepad' icon in the list to the 'Notepad' icon at the bottom.</p>	<p>Login as a user from <i>CitrixEval</i> group created earlier. Click the + sign at the left edge of the screen, and click All Apps to see list of available apps.</p> <p>Click a few apps and add them to your self-service portal.</p>
	 <p>The screenshot shows the Citrix Receiver app selection screen on an iPad. The interface is similar to the previous one, but the sidebar is collapsed, and the '+ sign' button is visible at the bottom left. The app icons for 'Adobe Photoshop...' and 'Notepad' are still present.</p>	<p>Notice the common look and feel of the Citrix Receiver across different platforms such as iOS or Windows.</p> <p>This is very important to increase adoption and letting users switch seamlessly between their devices, almost without noticing the switch</p>
	 <p>The screenshot shows the Citrix Receiver desktop view. It features three desktop icons: 'Apps-2', 'RDS-Win', and 'Win7'. At the bottom, there is a red-bordered button with 'Apps' and 'Desktops' tabs.</p>	<p>Same as the previous exercise with Windows, easy as a button at the bottom to toggle between apps and data is.</p> <p>You can search for an app or desktop by name, using the Search bar on top.</p>

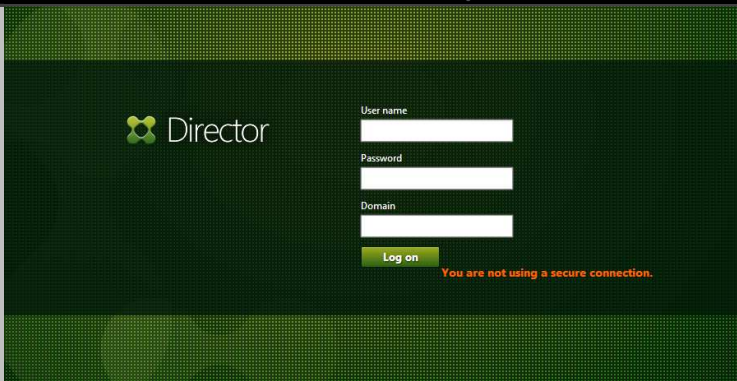
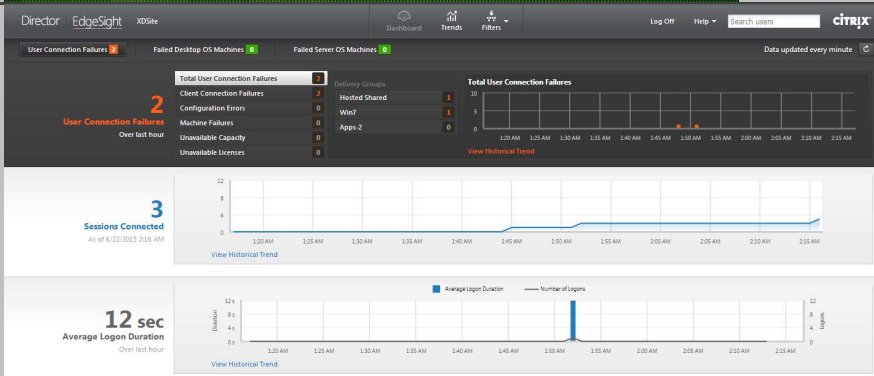
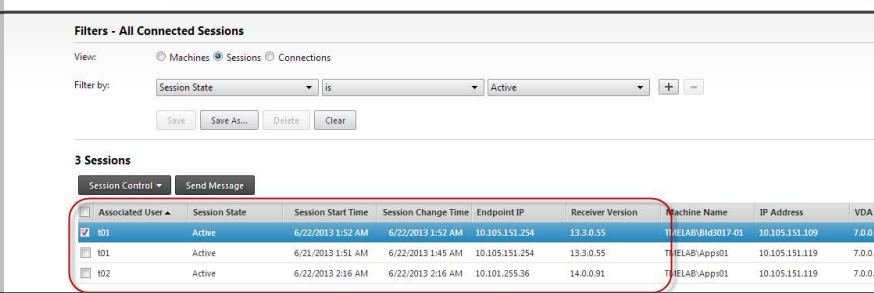
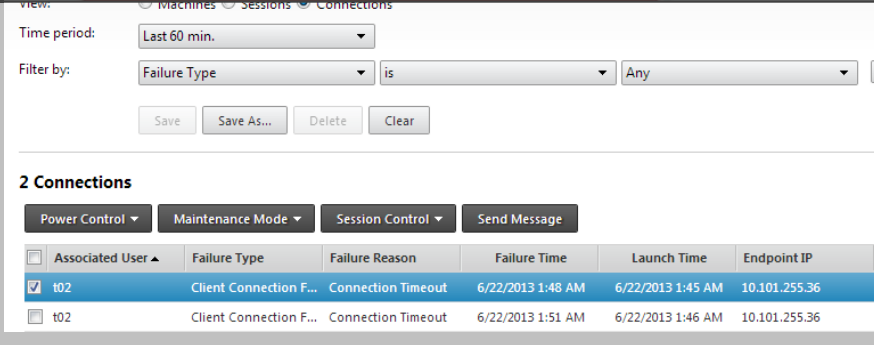
#	Screen capture	Instructions
		<p>Notice the default desktop is mobile-optimized interface for Windows 7. Receiver detects the platform and automatically re-formats the Windows UI to match the native mobile UI.</p> <p>This theme is more suitable for touch-based input.</p> <p>Toggle between Windows UI and Native UI using the icon at top-right corner</p>
		<p>Toggle between Windows UI and Native UI using the icon at top-right corner</p> <p>This visual shows the same desktop (delivered to iPad) in Windows theme</p>

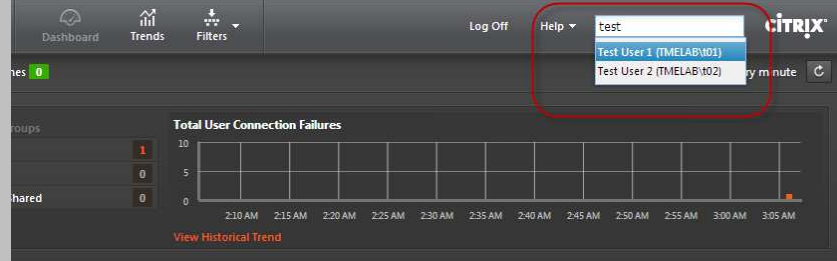
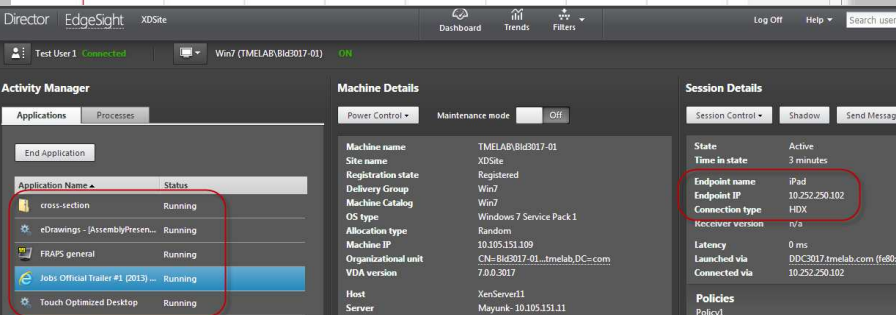
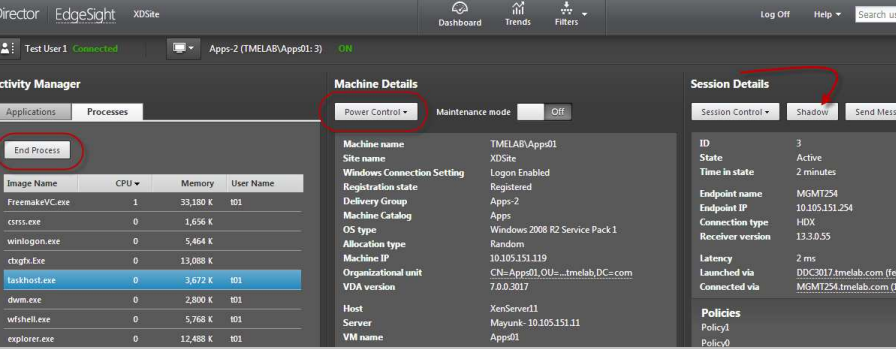
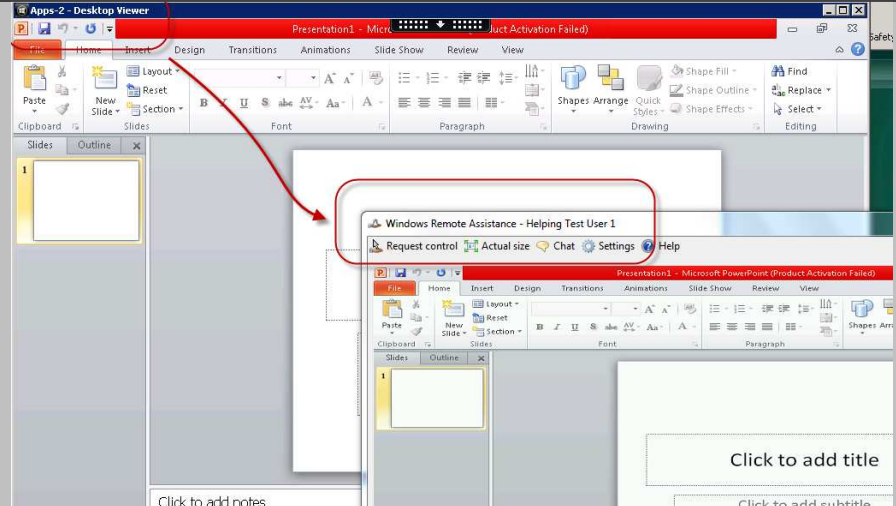
#	Screen capture	Instructions
		<p>The Start button on top-left corner gives you access to all your programs and documents.</p> <p>Again, notice how Start Menu is reformatted to make selections easy with a “fat finger”, yet remains intuitive</p> <p>✓ Receiver mobile UI is designed for zero learning curve.</p>
		<p>The virtual pop-up keyboard can be invoked whenever there is a text input.</p> <p>A miniature keyboard trigger floats near the left edge of screen, and near any text field. Touch to expand.</p> <p>✓ This behavior is configurable</p>
		<p>Some other tasks to enjoy the HDX Mobile features:</p> <p>Open an Excel sheet and notice that a pinch-zoom action only zooms the document—not the entire screen. Menu items on top remain at regular zoom level.</p>

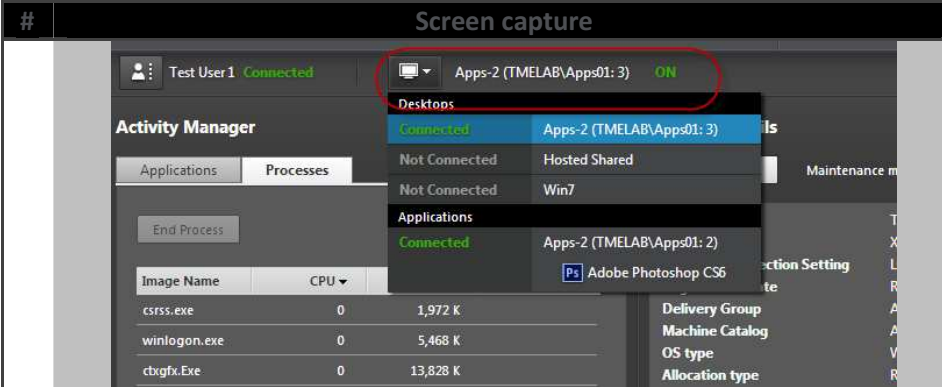
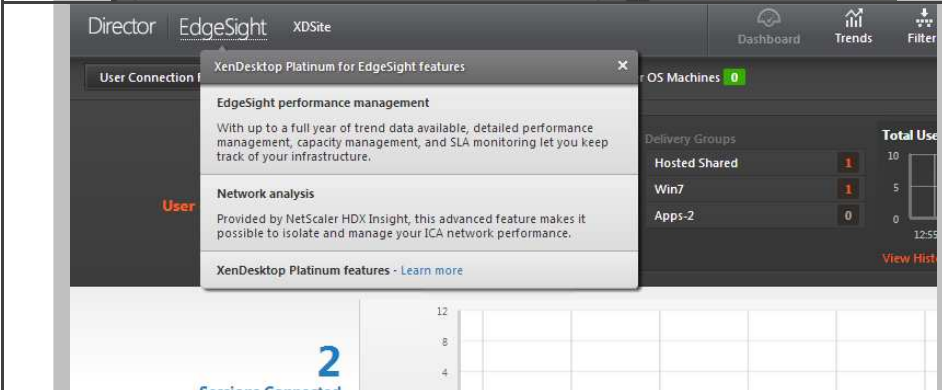
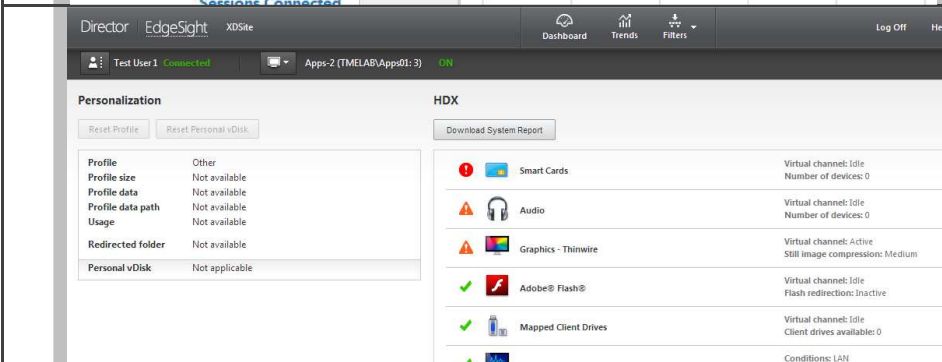
#	Screen capture	Instructions
	 <p>Only the document scrolls, not the entire screen</p>	<p>Similarly, notice that only pages of the document scroll– not the entire screen. Menu items on top remain visible at all times.</p> <p>✓ XenDesktop 7 transmits native touch commands, rather than converting them to mouse clicks</p>
	 <p>Watch Flash-based Youtube videos on the iPad.</p>	<p>Experience smooth HD motion, sync sound, and uninterrupted playback during events such as screen rotate, sleep-wake-up, pause-play, or full-screen.</p> <p>✓ XenDesktop 7 is optimized for video playback on low bandwidth such as 3G/4G</p>

Step 6: Operations helpdesk and monitoring with Director

Director is completely redesigned for XenDesktop 7, intended for use by operations helpdesk and Citrix specialists. It provides great detail about user sessions and helps to quickly identify and resolve issues before they negatively impact end-user performance.

#	Screen capture	Instructions
		Access the Director console with this easy URL: <a href="http://<yourservername>/Director">http://<yourservername>/Director ✓ Director console can also be accessed from the Start Menu of the server
		This is a snapshot of the Dashboard. It clearly shows relevant information, such as the connected sessions, failed sessions, average logon time, and so on.
		Click through on the dashboard to drill down into details of the parameter such as connection or session details, type of delivery group, etc.
		Failure reason, client version, server group, end-user IP, etc. help IT admin resolve any issues. Troubleshooting tasks such as Power or session control can be performed without leaving this console.

#	Screen capture	Instructions
	 <p>The screenshot shows the Citrix Director dashboard. At the top, there's a navigation bar with 'Dashboard', 'Trends', and 'Filters'. Below this, a 'Total User Connection Failures' chart is visible. A red box highlights the 'Help' dropdown menu, which contains 'Test User 1 (TMELAB101)' and 'Test User 2 (TMELAB102)'.</p>	If a particular user calls in to the helpdesk, quickly bring up their details on screen using the search facility
	 <p>This screenshot shows the 'User on an iPad' screen. It displays 'Activity Manager' with a list of running applications: 'cross-section', 'eDrawings - AssemblyPresen...', 'IRAPS general', 'Jobs Official Trailer #1 (2013)', and 'Touch Optimized Desktop'. The 'Machine Details' section shows information about the device (TMELAB/Bld3017-01). The 'Session Details' section shows the session is active, with an endpoint name of 'iPad' and an endpoint IP of '10.252.250.102'.</p>	The details screen shows what type of device is used for the connection. User is logged in from an iPad, in this example. On the left, it lists running apps on the virtual desktop.
	 <p>This screenshot shows the 'User on a Windows client' screen. It displays 'Activity Manager' with a list of running processes: 'FreeMakeVC.exe', 'csrss.exe', 'winlogon.exe', 'ctgrht.exe', 'taskhost.exe', 'dwm.exe', 'wshshell.exe', and 'explorer.exe'. The 'Machine Details' section shows information about the machine (TMELAB/Apps01). The 'Session Details' section shows the session is active, with an endpoint name of 'MGMT254' and an endpoint IP of '10.105.151.254'. A red box highlights the 'Power Control' button in the 'Machine Details' section.</p>	Another example of detailed user information on the machine, the session, and also the processes running on the VM. IT staff can kill a rogue process, logoff a session, and do other tasks from here.
	 <p>This screenshot shows the 'Apps - Desktop Viewer' screen. It displays a Microsoft PowerPoint presentation. A red box highlights the 'Windows Remote Assistance - Helping Test User 1' window, which shows options to 'Request control', 'Actual size', 'Chat', 'Settings', and 'Help'.</p>	Once the user accepts the remote assistance prompt, IT can shadow the user session to help troubleshoot any end-point issues

#	Screen capture	Instructions
	 <p>The screenshot shows the XenDesktop Director interface. At the top, there's a header with 'Test User1 Connected' and a dropdown menu for 'Apps-2 (TMELAB\Apps01: 3)' which is currently 'ON'. Below this is the 'Activity Manager' section with tabs for 'Applications' and 'Processes'. The 'Processes' tab is active, showing a table of running processes: csrss.exe (CPU 0, 1,972 K), winlogon.exe (CPU 0, 5,468 K), and ctgfigfx.Exe (CPU 0, 13,828 K). A dropdown menu is open for 'Apps-2 (TMELAB\Apps01: 3)', showing options for 'Desktops' (Connected, Not Connected) and 'Applications' (Connected, Not Connected). The 'Connected' options are highlighted in blue.</p>	<p>The drop-down on the user details page shows the various delivery groups entitled for the user, and connection status.</p> <p>Filter capabilities allow IT to focus on the relevant information.</p>
	 <p>The screenshot shows the XenDesktop Director interface with the 'EdgeSight' window open. The window title is 'XenDesktop Platinum for EdgeSight features'. It contains sections for 'EdgeSight performance management' (describing trend data, capacity management, and SLA monitoring), 'Network analysis' (describing NetScaler HDX Insight), and 'XenDesktop Platinum features' with a 'Learn more' link. The background shows the 'Director' interface with 'OS Machines' and 'Delivery Groups' sections.</p>	<p>XenDesktop Platinum activates EdgeSight features for Director, such as historical analysis, modeling and trending.</p> <p>NetScaler Platinum activates HDX Insight to diagnose and improve ICA network performance</p>
	 <p>The screenshot shows the XenDesktop Director interface with the 'Personalization' and 'HDX' sections. The 'Personalization' section on the left has a table with fields like 'Profile', 'Profile size', 'Profile data', 'Profile data path', 'Usage', 'Redirected folder', and 'Personal vDisk'. The 'HDX' section on the right has a 'Download System Report' button and a list of components with their status: Smart Cards (Virtual channel: Idle, Number of devices: 0), Audio (Virtual channel: Idle, Number of devices: 0), Graphics - Thinwire (Virtual channel: Active, Still image compression: Medium), Adobe® Flash® (Virtual channel: Idle, Flash redirection: Inactive), Mapped Client Drives (Virtual channel: Idle, Client drives available: 0), and Network (Conditions: LAN).</p>	<p>This discussion explores only a fraction of visibility offered by the new Director.</p> <p>Feel free to explore different pages full of goodies such as integrated HDX Monitor, personalization statistics, and so on.</p>

Conclusion

This concludes your evaluation of XenDesktop 7 release.

Through this process, we learnt how to install a basic deployment of XenDesktop 7, configure a Studio site and create machine catalogs. Using delivery groups, we provisioned both Apps and Desktops from a single unified console, including full support for Windows 8 with high level of interactivity and graphics. We enjoyed the enhancements in HDX Mobile that provided a rich and native user-experience on mobile devices such as iOS and Android, including HD video and Windows menus optimized for touch. Finally, we experienced the powerful monitoring, troubleshooting, and analytical features of Director that make it very simple to manage day-to-day operations of a large-scale virtualized desktop environment while also providing great statistics for long term modeling and trending of the usage.

This guide helped you gain familiarity with the powerful feature set in XenDesktop 7, and see how a basic deployment works. With XenDesktop 7, Citrix offers a full featured 90-day evaluation license for 99-users. This provides sufficient time and scalability to perform in-depth pilot of features such as Rich Graphics using GPU cards, Windows media multicast support, HTML5 client-less Receiver, configuration logging, delegated administration, App-V integration, ShareFile integration, NetScaler integration for Network insight, and much more.

Note that this is a simplified guide intended for a quick evaluation of the product features, using a narrow scope of work. For more advanced use-cases and deep-dive into the new features, please visit www.citrix.com/tryxendesktop to download a copy of the evaluation license, then follow the guides available on Citrix [eDocs](#), Citrix [Forums](#), [Citrix TV](#), and various community pages to experience all the components and features available with this release.

About the author

Mayunk Jain is a Technical Marketing Manager with the desktop and application virtualization group at Citrix. His responsibilities include competitive intelligence and creation of technical collateral such as product demos, performance benchmarks, and white papers. Based in the Bangalore (India) innovation center, he is keenly involved in training and business development activities within APAC and EMEA.

Please contact him by [email](#) or [twitter](#) ([@SitRightonCloud](#)) if you have any comments or feedback on this document, or require assistance with your evaluation.

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