

Citrix XenDesktop™ Evaluation Scenarios

Guidelines for conducting comparisons of desktop virtualization solutions

Evaluating XenDesktop 3 Feature Pack 1

Citrix XenDesktop offers a flexible, powerful system for delivering desktops centrally. There are many capabilities for both end users and IT that make it the clear choice for desktop virtualization. This document provides several different test scenarios for customers to try in order to experience the advantages of using Citrix XenDesktop.

If you have not already done so, please use the following document to install a XenDesktop evaluation environment. You will need an environment that minimally includes the equivalent of a XenDesktop Advanced Edition solution, including the Desktop Delivery Controller, Provisioning services and virtualization infrastructure (i.e., XenServer). To help you install a suitable environment, we suggest you follow the instructions provided in the “Citrix XenDesktop 3 Evaluator’s Guide” [here](#).

Some of the testing objectives involve comparing a variety of WAN connectivity scenarios. If you do not have a WAN simulation product, follow these instructions to download free trial software for use in these scenarios:

- 1) Download Shunra VE SMB Edition Free Trial [here](#).
- 2) Install Shunra client on the endpoint device that will be used to access the virtual desktops
- 3) Configure Shunra to the suggested network settings for each test scenario below that involves a WAN simulation

User Experience

Performance for Remote Users

Objective: Test the responsiveness of hosted virtual desktops on a LAN-based connection and repeat the same test scenarios on a WAN-simulated connection. Compare the results with other VDI solutions.

Methodology: Log in to a virtual desktop and launch an office productivity application like Microsoft PowerPoint™. Insert a photo image or other clip art object, and try resizing, moving it around the screen, rotating it, etc.

- 1) Perform the above test on a LAN connection first.
- 2) Next, test the performance of the virtual desktop over a WAN connection scenario by configuring network simulation software, such as Shunra. Set bandwidth to ≤ 1544 Kbps, .4% packet loss, and latency ≥ 50 ms.

Result: As compared to other VDI products, XenDesktop offers the best WAN experience as a result of Citrix HDX technologies.

Media Rich Content

Objective: Test the responsiveness, quality, and scalability impact of viewing videos through hosted virtual desktops.

Methodology: View Windows Media Player-based video formats, such as a high definition WMV, through a hosted virtual desktop.

- 1) From the hosted virtual desktop, download sample HD videos from Microsoft [here](#) and play the videos using Windows Media Player.
- 2) Using Windows Task Manager, observe the CPU resources consumed in the hosted virtual desktop as compared to the CPU resources used by the endpoint device.

Result: Audio and video delivered with Citrix HDX MediaStream technology performs equally well on a hosted virtual desktop as it does on a local workstation. The local CPU provides the resources needed to render the videos, offloading this workload from the servers hosting the virtual desktops. This increases the scalability of the desktop hosting infrastructure by conserving processing power.

Adobe Flash Content

Objective: Test the responsiveness and quality of viewing Adobe Flash content, videos and Flex apps, through a hosted virtual desktop.

Methodology: With an internet web browser via a hosted virtual desktop, view Adobe Flash videos and Flex applications.

- 1) Install the necessary HDX MediaStream for Flash software and Adobe Flash Player in the hosted virtual desktop(s) and at the endpoint. Download the “trial release” software for HDX MediaStream [here](#). Download the Adobe Flash Player [here](#).
- 2) Using an internet browser within a virtual desktop, view Flash videos from websites such as www.youtube.com and www.hulu.com. Be sure to test with a high resolution and enable the videos for full screen viewing.
- 3) Using an internet browser within a virtual desktop, view various websites that support Adobe Flex. Here are a few websites to test: [example1](#), [example2](#), [example3](#)

Result: With HDX MediaStream for Flash, audio and video performance is excellent due to local rendering of the content. Over a LAN connection, users will notice no difference between their virtual desktop and a traditional PC in terms of performance.

USB Device Compatibility

Objective: Test the compatibility of various USB devices through a hosted virtual desktop.

Methodology: Plug-in various types of USB devices into the endpoint device to test compatibility and usability.

- 1) Enable USB support. Refer to page 95 of the XenDesktop Administrator’s Guide for instructions. Download the guide [here](#).

- 2) While connected to a hosted virtual desktop, plug in USB device(s) such as a Windows Mobile device, iPhone, scanner, mp3 player, etc. Please be aware that the software (i.e. iTunes) required for each device will need to be installed in the hosted virtual desktop

Result: With HDX Plug-n-Play technology, USB devices enabled perform the same in a hosted virtual desktop as they do on a local workstation.

User Device Roaming

Objective: Test how convenient it is to roam from one endpoint device to another while using a hosted virtual desktop.

Methodology: With the first endpoint device, access a hosted virtual desktop and then on a second device access the same desktop using the same account credentials.

- 1) Access a hosted virtual desktop from the first endpoint device.
- 2) Open a couple of applications.
- 3) Disconnect from the desktop.
- 4) Reconnect to the same hosted virtual desktop from the second endpoint device, using the same Active Directory user account, and observe the state of the resumed virtual desktop session.
- 5) Test the usability of roaming from one device to another.

Result: XenDesktop's SmoothRoaming feature enables users to switch from one endpoint device to another while preserving the state of the desktop and applications. Work can resume at the same point it was left.

Multiple Monitors

Objective: Test the compatibility of multiple monitors with hosted virtual desktops.

Methodology: With multiple monitors (up to eight of the same resolution, in a rectangular configuration) connected to the endpoint device, establish a connection to a hosted virtual desktop.

- 1) Physically connect up to eight monitors to an endpoint device and connect to a hosted virtual desktop for testing.

Result: Multiple monitors are compatible with XenDesktop provided hosted virtual desktops.

Administration and Management

Rapid Creation of Virtual Desktops

Objective: Create several hosted virtual desktops to test the ease of initial ramp-up and ongoing manageability of a VDI solution.

Methodology: With the XenDesktop Setup Wizard, create multiple hosted virtual desktops and then add more desktops to the same desktop group.

- 1) Refer to Task 9 on page 46 of the XenDesktop 3 Evaluator's Guide for step-by-step instructions. Download the guide [here](#).
- 2) Using the XenDesktop Setup Wizard, create a new desktop group and multiple (depending on hardware capacity) hosted virtual desktops.
- 3) Using the XenDesktop Setup Wizard, create additional hosted virtual desktops and add to the same desktop group as formed in the previous step.

Result: Hosted virtual desktops are easily and rapidly created using the XenDesktop Setup Wizard. Future growth isn't a problem as the Setup Wizard offers the ability to add desktops to an existing desktop group.

Open Architecture Support for Multiple Virtualization Platforms

Objective: Manage multiple desktop groups that are hosted on different types of hypervisor platforms.

Methodology: Create multiple desktop groups on the DDC using different types of hypervisor platforms.

- 1) Refer to page 55 of the XenDesktop 3 Evaluator's Guide for step-by-step instructions. Download the guide [here](#).
- 2) Setup multiple types VM hosting infrastructures. Choose any combination of XenServer, Microsoft's Hyper-V, and/or VMware's VI3.
- 3) Using the Access Management Console (AMC) on the DDC, create multiple desktop groups and correspond each one to a VM hosting infrastructure.
- 4) Test the manageability of administrating each desktop group and their respective hypervisor platform.

Result: XenDesktop is an open platform that can fully conform to whatever hypervisor product is chosen. Manageability is consistent regardless of the hypervisor platform is implemented.

Heterogeneous Endpoint Device Support

Objective: Connect to hosted virtual desktops with various types of endpoint devices using different combinations of hardware and operating systems to test ubiquitous access with endpoint diversification.

Methodology: Configure the endpoint devices with the necessary client software and access a hosted virtual desktop using multiple types of endpoint devices.

- 1) Prepare your endpoint device for connectivity to XenDesktop.
 - a. Download the Citrix Desktop Receiver software.
Windows: [Download here](#)
Mac: [Download here](#)
Other platforms: [Download here](#)
 - b. Install the Desktop Receiver on the respective platform and using an internet browser, connect to the appropriate website for connecting to a hosted virtual desktop.
- 2) Login and test the usability of the hosted virtual desktop on each platform. This includes responsiveness, USB devices, printing, multiple monitors, and overall ease of use.

Result: XenDesktop offers a consistent user experience regardless of the endpoint device chosen.

Idle Desktops and “Instant On” Access

Objective: Configure an Idle Pool using the XenDesktop Desktop Delivery Controller (DDC) to test hosted virtual desktop manageability and login to test the user experience.

Methodology: With the DDC, configure an idle desktop group and connect to a hosted virtual desktop.

- 1) Refer to page 48 of the XenDesktop 3 Evaluator’s Guide for step-by-step instructions. Download the guide [here](#).
- 2) Create at least two hosted virtual desktops.
- 3) Using the Access Management Console (AMC) on the DDC, modify the properties of a pooled desktop group and configure the idle pool to support at least one idle desktop.
- 4) With the hypervisor management console (XenCenter) open, connect to a hosted virtual desktop. In XenCenter, you will see the second hosted virtual desktop automatically starting to ensure that there is always the required number of idle desktops.

Result: The XenDesktop idle desktop feature offers the best of both worlds – instant access to hosted virtual desktops for the users, and simple, dynamic allocation of powered-on idle desktops for IT administrators.

Centralized, Single Image Management

Objective: Manage multiple hosted virtual desktops using a single desktop image. Test the usability of the hosted virtual desktops and ease of management.

Methodology: Using the Provisioning Services feature of XenDesktop, stream a desktop operating system (e.g. Windows XP, Vista, or Windows 7) to virtual machines.

- 1) Refer to the XenDesktop 3 Evaluator's Guide for step-by-step instructions. Download the guide [here](#).
- 2) Select the desired desktop OS and create a Provisioning Services vDisk image using a virtual machine (VM). See page 28 of the guide.
- 3) Stream the vDisk image in standard image mode from the Provisioning Server to at least two VMs. See page 46 of the guide.
- 4) Test the overall performance of the hosted virtual desktops and restart the VMs to return the hosted virtual desktops to a pristine state.
- 5) Update the vDisk with an OS update or service pack to test managing the centrally controlled master image. Refer to page 108 of the Provisioning Services 5 Administrator's Guide. Download the guide [here](#).

Result: Managing hosted virtual desktops using Provisioning Services offers centralized control of the desktop image(s) while saving on storage expenses.

Desktop Streaming to Endpoint Devices

Objective: Stream a desktop operating system to an endpoint device. Test the usability of the desktop and ease of management.

Methodology: Using Provisioning Services, stream a desktop operating system (e.g. Windows XP, Vista, or Windows 7) to a physical endpoint device.

- 1) Select the desired desktop OS and create a Provisioning Services vDisk image using any physical device that supports network booting.
- 2) Stream the vDisk image in standard image mode from the Provisioning Server to the endpoint device using a LAN connection.
- 3) Test the overall performance of the desktop and restart the device to return to a pristine state.
- 4) Update the vDisk with an OS update or service pack to test managing the centrally controlled image.

Result: Streaming desktop operating systems using Provisioning Services offers the power of local execution and security while maintaining centralized control of the desktop image. This is a unique feature for XenDesktop that offers multiple desktop delivery options based on user and IT requirements.