Windows Virtual PC Evaluation Guide

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Abstract

Windows® Virtual PC is a new optional component for the Windows 7 operating system that you can use to evaluate and migrate to Windows 7 while maintaining compatibility with applications that run on older versions of Windows. This document describes how to try out some of the key features of Windows Virtual PC, including how to set up Windows XP mode.

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Windows Virtual PC Evaluation Guide

Windows® Virtual PC is a new optional component that you can use to evaluate and migrate to the Windows® 7 operating system while maintaining compatibility with applications that run on older versions of Windows. This component is available as a downloadable update package for Windows 7.

If you run Windows XP and want to maintain compatibility with applications that run on that operating system, Windows Virtual PC provides an easy way for you to do this. You can use Windows XP mode to access a virtualized instance of Windows XP that is ready for you to customize with your own applications. You can even use Windows XP mode and Windows 7to run applications seamlessly in Windows 7 when the applications are actually installed in Windows XP. Windows XP mode is available for the 32-bit and 64-bit editions of Windows 7 Professional, Windows 7 Enterprise, and Windows 7 Ultimate.

You also can use Windows Virtual PC to run other versions of 32-bit Windows operating systems, while also running Windows 7. For information about the operating systems that are supported for use with Windows Virtual PC, see the <u>Windows Virtual PC product page</u> (http://go.microsoft.com/fwlink/?LinkId=148103).

This guide shows you both options – setting up Windows XP mode and setting up a different operating system. Both options use virtual machines provide the environment to run the operating system. Windows XP mode is the faster option because it requires fewer steps. After your test environment is set up, you can try out some of the other key features of Windows Virtual PC. These include sharing of physical resources such as USB devices, printers, and hard drives.

Before you begin

Windows Virtual PC is distributed as a downloadable update, which means that you must download and install the update before you can install Windows Virtual PC as an optional component. Windows Virtual PC requires the release candidate of Windows 7 and hardware-assisted virtualization. The virtualization support is available in processors that include a virtualization option—specifically processors with Intel Virtualization Technology (Intel VT) or AMD Virtualization (AMD-V) technology. The settings for hardware-assisted virtualization are available in the BIOS. However, the names of the settings may differ from the names identified above. For more information about whether a specific processor model supports hardware-assisted virtualization, check with the manufacturer of the computer. If you modify the BIOS, we recommend that you turn off the power to the computer and then turn it back on. Restarting the computer may not apply the changes.

Before you try to install Windows Virtual PC, review these requirements to determine whether your computer can run Windows Virtual PC. You also should review the list of operating systems that are supported to run in a virtual machine. For more information about the requirements and

supported operating systems, see the <u>Windows Virtual PC product page</u> (http://go.microsoft.com/fwlink/?LinkId=148103).

Virtual Windows XP is a related downloadable feature that you can use with Windows Virtual PC. To use Windows XP mode as described in this guide, you will need to download the Virtual Windows XP package. This package is used to set up the environment that is required for Windows XP mode.

To obtain the downloadable packages for Windows Virtual PC and Virtual Windows XP, see the <u>Windows Virtual PC product page</u> (http://go.microsoft.com/fwlink/?LinkId=148103).

Set up your test environment

This section describes how to install Windows Virtual PC and set up the virtual machine. Additional configuration or hardware that may be required to test a specific scenario is described within the scenario.

Install Windows Virtual PC

This section explains how to install Windows Virtual PC.

To install Windows Virtual PC

- 1. Install the update package:
 - a. Double-click the file, Windows6.1-KB958559-*plaftform*.msu, where *platform* is either x86 or x64.
 - b. Review the end-user license agreement and accept it to install the update.
 - c. To complete the installation, restart the computer.
- 2. After the installation is finished, Windows Virtual PC is available from the Start menu.

After you install Windows Virtual PC, you need to set up a virtual machine. You can either use the Virtual Windows XP feature, or create your own virtual machine. If you plan to use Windows XP, you should download and use the Virtual Windows XP update package, as explained in "Before You Begin," earlier in this guide.

About integration components

Integration components make it easier to use a virtual machine by improving the interaction between physical resources and a virtual machine environment. These are installed automatically when you set up Windows XP mode. For other operating systems, you install them separately after you set up the operating system. Integration components provide access to the following resources:

• **Clipboard**. You can cut, copy, and paste data between the host operating system and the guest operating system. For example, you can copy a URL from the browser in a guest operating system, and paste it to a browser in the host operating system.

- **Hard drives**. This feature makes all the drives on the host available to the virtual machine. You can easily access all host data from within the virtual machine.
 - 📝 Note

Host hard drives are listed in the guest by using the computer name of the host operating system. For example, on a host computer named WindowTest, the C drive would be listed in the guest operating system as 'C on WindowsTest'.

- **Printers**. This feature makes it possible to use the same printers in a virtual machine that you can use on the host. To share printers, when Windows XP is the guest operating system, you must also install the printer drivers. For more information, see "Scenario 2: Print from a virtual machine," later in this guide.
- **USB devices**. Printers, storage devices and smart card readers are automatically shared with virtual machines. Other types of supported USB devices are supported by redirecting them to the virtual machine. For more information, see "To use a USB device in a virtual machine," later in this guide.

Integration components also make it possible for you to move the mouse seamlessly between the desktops of the host operating system and the guest operating system.

Option 1: Set up Windows XP mode

If you want to use Windows XP as a guest operating system, we recommend that you use the Virtual Windows XP downloadable package. When you use this package with Windows Virtual PC, it automatically creates a virtual machine with a version of Windows XP installed on the virtual hard disk. This option is faster than creating your own virtual machine. When you use this option, you won't have to obtain installation media. All you need is to do is download the package that applies to your version of the operating system (either 32-bit or 64-bit) and run through a quick setup wizard. To obtain the downloadable package for Virtual Windows XP, see the Windows Virtual PC product page (http://go.microsoft.com/fwlink/?LinkId=148103).

To set up Windows XP mode

1.

Note

We recommend that you avoid canceling the Windows Virtual XP set up and should complete it in one session.

Double-click VirtualWindowsXP.msi

- 2. The Virtual Windows XP wizard opens. Proceed through the pages of the wizard to complete the installation. To complete the setup without interruption, leave the option checked to let the wizard start Virtual Windows XP when setup is complete.
- 3. When the virtual machine starts for the first time, the Virtual Windows XP license agreement appears. To use Virtual Windows XP, you must accept the license agreement. Click **Next** to continue.

- 4. Create a password for the "User" account. This is a required account with administrator privileges that the wizard creates automatically. It is the default account used to run Windows XP mode. If you don't want to enter the password each time you start Windows XP mode, check **Remember credentials** to store the password. Otherwise, write down the password and store it in a secure location.
- 5. Choose whether to configure Virtual Windows XP for automatic updates. Click Next.
- 6. After Windows Virtual PC configures Virtual Windows XP, the virtual machine is ready to use to test the scenarios.

😍 Important

Do not remove it unless you no longer want to use it. If you remove the package, the Windows XP mode feature will be unusable and you may lose data. Removing the package deletes the virtual machine, as well as removes access to the data that was stored in the virtual machine.

After you set up Windows XP mode, you may want to create additional user accounts to access this feature. If you do this, you must add the accounts to the Remote Desktop User or Administrators group. The accounts can be domain or local computer user accounts.

Option 2: Create your own virtual machine

Choose this option if you do not want to use Windows XP as the guest operating system. This option shows you how to create a virtual machine and install the guest operating system that you want to run in the virtual machine. For information about which Windows operating systems you can run, see the <u>Windows Virtual PC product page</u>

(http://go.microsoft.com/fwlink/?LinkId=148103).

To create the virtual machine, you use the Create a Virtual Machine wizard. The wizard helps you configure a virtual machine with the basic settings, which you can customize according to how you want to use the virtual machine. For example, you will specify an amount of memory for the virtual machine to use. Deciding the appropriate amount of memory for a virtual machine is like deciding how much memory to add to a physical computer. You should provide the virtual machine with enough memory to run the operating systems as well as all applications that you want to be able to run at the same time.

You also should consider the method you will use to install the guest operating system, so you can configure the virtual machine appropriately. For example, if you plan to use a network-based installation server, leave the networking option set to use the computer's connection. If you want to use a physical CD or DVD, simply insert it in the drive after you create the virtual machine.

If you are installing a guest operating system that is one of the supported operating systems, you should install the integration components after you install the operating system. Instructions for installing the integration components are included in the following procedure. For more information about which operating systems are supported, see the <u>Windows Virtual PC product</u> page (http://go.microsoft.com/fwlink/?LinkId=148103).

To create your own virtual machine

- 1. Open the Virtual Machines folder. From the **Start** menu, click **Virtual Machines**. If the menu item is not visible, click **All Programs**, click **Windows Virtual PC**, and then click **Virtual Machines**.
- 2. The Virtual Machines folder opens in Windows Explorer. From the menu bar, click **Create** virtual machine.

📝 Note

The Virtual Machines folder provides details about all the virtual machines created by the current user, as well as access to the tools for creating and modifying virtual machines and virtual hard disks.

- 3. The Create a Virtual Machine wizard opens. Proceed through the pages of the wizard, choosing the options that are appropriate for the way you will install the guest operating system.
- 4. After the wizard finishes, the virtual machine appears in the file list in the Virtual Machine folder.
- 5. Install the guest operating system. To use a network-based installation server, skip to the next step. To use a CD or DVD, insert it into the drive and then skip to the next step. To use an .iso file, do the following:
 - a. Right-click the virtual machine in the file list, and then click **Settings**.
 - b. In the left pane, click **DVD Drive**. In the right pane, choose **Open an ISO image**. Click **OK**.
- Start the virtual machine. In the file list, select the virtual machine and click **Open**.
 Windows Virtual PC opens and displays the video output of the virtual machine. The virtual machine searches for bootable media. Setup begins after bootable media is found.
- 7. After the installation is complete, install integration components. From the Tools menu of the virtual machine window, click **Install Integration Components**. If the installation does not start after a few seconds, click the desktop of the virtual machine and then open the CD drive of the virtual machine. Double-click the IntegrationComponents.msi file.
- 8. Proceed through the pages of the wizard to install the integration components.
- 9. Restart the virtual machine. From the Action menu of the virtual machine window, click **Restart**.

Closing a virtual machine

Before you test the scenarios, you may want to familiarize yourself with how to close a virtual machine. When you close a virtual machine, it can be hibernated, shut down, or turned off. When a virtual machine is opened from hibernation, it does not go through the boot sequence, so it is available for use faster than if it was turned off or shut down.

📝 Note

When you open a virtual machine, Windows Virtual PC provides it with memory and processor resources. The length of time it takes to open a virtual machine depends in part on the way in which it was closed at the end of the last session. The length of time is also affected by the amount of memory assigned to the virtual machine.

By default, clicking the Close button (the 'x') on the virtual machine window hibernates a virtual machine. You can change this behavior by modifying the virtual machine settings.

To change the default close option

- 1. Do one of the following:
 - In the Virtual Machines folder, right-click the name of the virtual machine, and then click **Settings**.
 - From the virtual machine window, click the **Tools** menu, and then click **Settings**.
- 2. In left pane of the Settings window, click Close.
- 3. In right pane, either select an option under **Automatically close with the following option**, or select **Prompt for action** to be able to choose the action each time the virtual machine is closed.
- 4. Click **OK** to save the change.

To shut down a virtual machine

- 1. From the virtual machine window, click **Ctrl+Alt+Del**. Or, you can press the CTRL+ALT+END key sequence.
- 2. In the window that appears in the guest operating system, click Shut down.
- 3. The operating system will go through the shutdown sequence, and the resources will be released from the virtual machine.

📝 Note

If you want to use an application installed in a virtual machine from the desktop of the host operating system, the virtual machine must be closed.

Scenario 1: Use a virtual machine application on the host

If you are running Windows XP or Windows Vista® on a virtual machine, you can access an application directly from the desktop of the host operating system when the application is installed in the virtual machine. This makes it possible for you to run Windows 7 on the host and use existing applications while avoiding problems that can occur when applications are not compatible with a newer operating system.

Business productivity applications that run on Windows XP are appropriate for this testing this scenario. However, Windows Virtual PC does not support applications that require bidirectional sound or 3D graphics, which means that consumer applications such as games are not appropriate for this scenario.

Important

If you are not using Windows XP mode, you must an install an update to test this scenario. For more information, see <u>Update for Windows XP SP3 to Enable Seamless</u> <u>Applications Using Microsoft Windows Virtual PC</u> (http://go.microsoft.com/fwlink/?LinkId=140339) and <u>Update for Windows Vista to Enable</u> <u>Seamless Applications Using Microsoft Windows Virtual PC</u> (http://go.microsoft.com/fwlink/?LinkId=140340).

To share a virtual machine application with the host

- 1. Open the virtual machine, if it is not already running. From the Virtual Machine folder, right-click the name of the virtual machine and click **Open**.
- Install the application. For example, to install the application from a CD or DVD drive, insert the media in the drive. If the Autorun window appears in the host operating system, close the window. In the guest operating system, navigate to the DVD drive and start the setup.
- 3. After the installation completes, log off from the guest operating system and close the virtual machine.
- 4. Open the application from the host operating system. From the Windows 7 Start menu, click **All Programs**, click **Windows Virtual PC**, and then click the name of the application, below the name of the virtual machine.
- 5. After a few seconds, the application opens. If you minimize the application, it appears on the task bar of the host operating system as a minimized virtual machine.
- You can use the application just as if it were installed directly on the host operating system. One way to test this is to save a file. Choose the Save option, and the application will list the storage locations available on the host.

Scenario 2: Use a USB device in a virtual machine

Windows Virtual PC supports the use of USB 2.0 devices, either by sharing the device or by redirecting the device to the virtual machine. The method you use depends on which type of USB device you want to use. When integration components are installed in the guest operating system, storage devices and smart card readers are automatically shared with virtual machines on a physical computer. No additional steps are required to use these types of USB devices.

For other types of devices, you can use them by using redirection. For example, you can redirect the following types of USB devices:

• Digital cameras

- USB CD writer/reader
- MP3 players
- Phone/PDA/mobile device
- WebCam/video camera
- Wireless network adapters

To redirect a USB device to a virtual machine

- 1. Attach the device to the physical computer and turn on the device.
- 2. From the virtual machine window, click USB and then click Attachdevice name.
- 3. Windows looks for and tries to install the device driver in the guest operating system. You can install the driver from the internet or from a CD.
- 4. After the driver is installed, you can use the USB device from within the virtual machine the same way as you would on a physical computer. However, USB devices that are connected using these steps are not shared, so they must be released from one operating system to be available for use on the other operating system.
- To make the USB device available on the host operating system, release it from the virtual machine. From the virtual machine window, click USB and then click Release device name.

Scenario 3: Print from a virtual machine

There are several methods you can use to make a printer available to a virtual machine. The methods you can use are affected by whether a printer driver is available for Windows 7 and whether the printer is a local USB printer or a network printer.

To share a local USB printer

1.

📝 Note

This method is appropriate when the printer driver is available for both the Windows 7 host operating system and the guest operating system. You only need to complete these steps once per virtual machine. This procedure assumes you have verified that the printer is working in the host operating system.

Make sure the printer is turned on and that the printer driver is available for installation. For example, you can install the driver from the internet or from a CD.

Redirect the printer to the virtual machine. From the virtual machine window, click **USB** and then click **Attach***device name*.

- 2. Install the printer driver in the guest operating system. You can install the driver from the internet or from a CD.
- 3. Release the printer from the virtual machine. From the virtual machine window, click USB

and then click Releasedevice name.

- 4. Restart the virtual machine. From the virtual machine window, click **Action** and then click **Restart**.
- 5. Navigate to the virtual machine desktop, and log on if necessary. (You will be logged in automatically if you saved the credentials.)
- 6. The printer will be available for use in both the host operating system and the guest operating system.

To configure a network printer for a virtual machine

1. Navigate to the virtual machine desktop, and log on if necessary. (You will be logged in automatically if you saved the credentials.)

📝 Note

The following steps are general, so the names of the buttons may differ from what is shown.

- 2. Open Control Panel, and then open Printers.
- 3. Click Add Printer. The Add Printer Wizard opens.
- 4. On the Local or Network Printer page, select the network printer option and complete the wizard.

If you are running Windows XP as the guest operating system, you must manually install the printer driver for each printer you want to use. The following steps describe this process.

To install a printer driver in Windows XP

- 1. Click Start, and then click Printers and Faxes.
- 2. Under Printer Tasks, click Add a printer. The Add Printer Wizard opens.
- 3. On the Local or Network Printer page, select Local printer attached to this computer and clear Automatically detect and install my Plug and Play printer.
- 4. On the Select a Printer Port page, click the drop-down control and select one of the TS *number* ports and click **Next**.
- 5. On the Install Printer Software page, select **Windows Update** or **Have Disk** and complete the wizard.

To print from a virtual machine

- 1. Navigate to the virtual machine desktop, and log on if necessary. (You will be logged in automatically if you saved the credentials.)
- 2. Do one of the following:
 - From the desktop of the virtual machine, right-click a file and click **Print**.
 - Open any application that includes a print option, and then use the print command.
- 3. All printers available to the virtual machine are listed. Select a printer, and then click OK.