



Windows Virtual PC Tips

Microsoft Corporation

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Abstract

Windows Virtual PC is a new optional component for Windows® 7. This document provides some additional insight into Windows Virtual PC and provides some useful tips to help make your experience better.

This is a preliminary document and may be changed substantially prior to final commercial release of the software described herein.

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Info for existing users of Microsoft Virtual PC 2007 and earlier

► **These are the new features in Windows Virtual PC:**

- Windows Virtual PC is supported only on Windows 7 host.
- USB 2.0 support in virtual machines ("VM").
- Windows XP Mode - Virtualized applications running in a VM run seamlessly on Windows 7 desktop as if they were native Windows 7.
- Auto publishing of virtualized applications running in a VM to Windows 7.
- Multithreading- Each VM runs in its own thread.
- Support for higher resolution, support for Direct X in Windows 7 & Windows Vista VMs.
- Integrated with Windows 7 Explorer shell and Super Bar features.
- Simplified UI.
- Support for DEP/NX in VMs.
- Support for EPT/NPT for VMs.

Following is NOT supported:

- Snapshots
- 64 bit guests
- Drag and drop
- Non-Windows OS

► **Supported Host and Guest Operating Systems and Windows XP Mode**

	Windows 7 Ultimate, Windows 7 Enterprise	Windows 7 Professional	Windows 7 Home Basic, Home Premium	Windows Server 2008 R2	Vista Business	Vista Enterprise, Ultimate	Windows XP SP3 Professional
Host OS: VPC installs on the both 32 and 64 bit of -	Yes	Yes	Yes	No	No	No	No
<u>Windows XP Mode</u> Is available for the following Host OS	Yes	Yes	No	No	No	No	No

Guest OS: VPC supports 32 bit Guest OS of -	Yes	Yes	Yes	No	Yes	Yes	Yes
<u>Integration Feature:</u> Available on the following Guest OS -	Yes	Yes	No	No	Yes	Yes	Yes

► **Compatibility of VHDs**

- **Virtual PC 2007 VHDs**

Virtual PC 2007 VHDs will work with Windows Virtual PC provided you: (1) uninstall the Additions for VPC 2007; and (2) install WINDOWS VIRTUAL PC integration components.

Steps:

Create a new VM using VPC 2007 VHD (or you may use the VPC2007 VMC and VHD files). Start the VM in Windows Virtual PC.
Install/upgrade the Integration Components ([ICs](#)).

Using Windows Virtual PC VHD in VPC 2007 will work after uninstalling the ICs.

- **Hyper -V VHDs**

Windows Virtual PC VHD will work in Hyper-V after uninstalling the Integration components (ICs). Uninstall the ICs before moving the Windows Virtual PC VHD to Hyper-V.

However, a VHD created in Hyper-v cannot be used to create a virtual machine in Windows Virtual PC (or VPC 2007) due to an incompatible Hardware Abstraction Layer ("HAL"). (For more details see <http://blogs.technet.com/jhoward/archive/2008/02/28/are-vhds-compatible-between-hyper-v-and-virtual-server-and-virtual-pc.aspx>)

► **Where are Additions and VPC console?**

- In Windows Virtual PC, "Additions" are now called "Integration Components" (see more details on ICs). This is only a terminology change.

Note: Other terminology changes: Save is now Hibernate; Restore is now Resume.

- The VPC console is now integrated into Windows Explorer shell as a known folder 'Virtual Machines'. This known folder displays a list of VMs registered by their VPC service and their state (e.g., running/powered off etc.).

Set up and Install

▶ **Special Hardware requirement**

- Windows Virtual PC requires a CPU with the Intel® Virtualization Technology or AMD-V® feature turned on (enabled in the BIOS). Most modern systems ship with virtualization extensions disabled in the BIOS. You must enable these extensions, and the instructions to enable virtualization differ depending on the hardware vendor. AMD's virtualization is referred to as AMD-V®; Intel's virtualization is called Intel® VT. In addition you need to disable [TXT](#) (Trusted execution technology in BIOS).
 - After you enable the virtualization extensions, you must do a hard reboot (i.e., fully power down the computer and then start it again).
 - *Further information on how to detect and enable processor virtualization extensions may be found here:* <http://blogs.msdn.com/taylorb/archive/2008/06/19/hyper-v-will-my-computer-run-hyper-v-detecting-intel-vt-and-amd-v.aspx>.
 - *Background-* http://en.wikipedia.org/wiki/X86_virtualization.

▶ **How to enable processor virtualization extension**

- This is done in the system BIOS. Because each OEM has a different BIOS layout, there are no standard steps to enable processor virtualization extensions in the BIOS ; it is vendor-specific.

For example:

Steps for Lenovo laptop (X61) :

- To Enter BIOS - Press ThinkVantage button then F1.
- Go to Config -> CPU-> Intel (R) Virtualization Technology –Set it to enabled
- Save Exit
- Shut down the laptop by pressing the power button (**Do NOT miss this step**)

Steps for HP Compaq (Model dc7700):

- To Enter BIOS Press F10
- Select Language
- Go to Security->OS security-> Enter

- From Pop up dialog Select Intel Virtualization Technology-> Enable (Ensure to enable it if it is Disabled)
- Press F10 to Accept.
- Save changes and Exit
- Shut down the computer by pressing the power button (Do NOT miss this step)

Note: Sometimes users will get an error message that processor virtualization is not enabled despite enabling processor virtualization in the BIOS and completely powering-down the system. This is a known issue with trusted execution technology (TXT) and virtualization. Microsoft is working with Intel to understand and resolve this issue. As a workaround, Microsoft recommends that customers turn-off trusted execution when enabling processor virtualization.

► **Installation of Integration Components (ICs)**

- “Integration Components” run inside the guest VM and communicate directly with the operating system on the host computer thereby enabling smoother user interaction.

Integration Components are set of binaries that improve the VM experience. For example , you can move the mouse from between guest and host applications; it also enables features like drive sharing, printer redirection, clipboard sharing and smart card sharing.

This enables users to:

- Cut-copy-paste the text/files/folders from the virtual application or from the virtual machine desktop or the virtual application to any other application on host computer.
 - Access the host drives from the virtual application or from the virtual machine desktop while saving / opening the files.
 - Use the “My Documents” and “My Desktop” folders from the guest in virtual applications.
 - Print any document from a virtual application using the host/guest default printers.
 - Share a smart card between the host and guest.
 - Access the USB mass storage device/smart card/ phones/ cameras attached to Windows 7 computer from a virtual application.
- **To install Integration Components in your Guest Operating System**
 - Start the VM and log in.
 - Click on “Install Integration Components” (or *Upgrade Integration Components*) button seen in the VM Window toolbar under Tools.
 - Follow the instructions /any messages and restart the Guest OS.

Note: Virtual Window XP VM comes with the ICs preinstalled.

► **Installation over earlier version of VPC**

- Though you can install Windows Virtual PC over VPC 2007, both cannot run concurrently on Windows 7. To run VPC2007 on Windows 7, you need to uninstall Windows Virtual PC, or you can also turn off Windows Virtual PC. In Control Panel, click the “Programs and Features” icon, then click “Turn Windows features on or off” in the left hand pane, and then un-check the box under “Windows Virtual PC.” Uninstall means you will have to re-download the MSU installer and run it again (if you have not saved a copy of the Windows Virtual PC download).

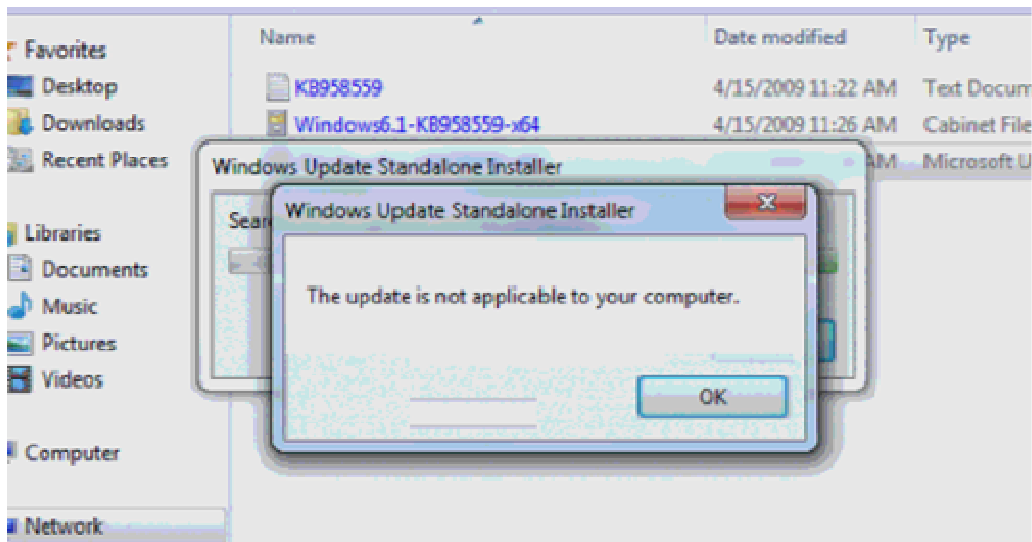
► **Impact of upgrading Windows 7 and Windows Virtual PC versions**

- Direct upgrade to a newer version Windows Virtual PC is not possible. For upgrade you are required to uninstall the current version of Windows Virtual PC. To upgrade:
 - Start->Run: appwiz.cpl
 - Click on 'View Installed Updates'
 - Uninstall 'Virtual PC (KB958559)'
 - Restart as requested
 - Now launch the new VPC 7 installation package (MSU)
- If you upgrade Windows 7, the Windows Virtual PC binaries will be deleted. You can reinstall Windows Virtual PC after the Windows 7 upgrade is complete. The upgrade will not delete the data files E.g. VHD.

Note: Windows Virtual PC will not run on the Windows 7 Beta build, you need to install it on a Windows RC build (Build 7100 or above).

► **While installing I see this error message “The update is not applicable to your Computer” Why am I receiving this message?**

- You will get this message if you try to install the 32 bit version of Windows Virtual PC on a 64 bit version of Windows 7 or vice versa. You must install the correct version (x86 or x64 version) of Windows Virtual PC that corresponds with your installed version of Windows 7 (x86 or x64 version).



► Uninstalling Widows Virtual PC

Windows Virtual PC is installed as an update to Windows 7. If you need to uninstall the update, the steps are:

- Control panel-> Programs and features-> View installed updates.
- Look for Window Virtual PC and right click on it to select Uninstall.

Windows XP Mode

► What is Windows XP Mode?

- Windows XP Mode is a pre-activated copy of Windows XP SP3 in VHD file format. For licensed users of Windows 7 Professional, Ultimate or Enterprise editions, Virtual Windows XP makes it easier for users to adopt Windows Virtual PC as a solution for application compatibility. To make the user experience easier, a “sysprepped” and compressed Windows XP SP3 VHD is available from the Download Center at www.microsoft.com. The VHD simplifies installation and setup of Windows XP Mode with minimum user intervention.
- When you set up Windows XP Mode for the first time, the default user name for the Windows XP virtual machine is “USER” (without quotes). The password is specified by the user during Windows XP Mode setup. This user is the only member of the admin group. **The Administrator account is disabled by default.**
- If you forget your password, your cannot recover your password. You will have to re-setup (i.e., reinstall) the Windows XP VM by deleting the existing Windows XP VM. This will most likely result in losing all data stored in the current Windows XP VM.

- If there is more than one user on the host computer, then each user will have a separate Windows XP VM. However, there is only one parent VHD for all users. Each user will have a separate diff disk and a separate Windows XP VM.

▶ **Windows XP VM takes space from system drive**

- The Windows XP VM takes space from the system drive because the default path for VM and VHD creation is set to the system drive. The Windows XP VM uses:
 - A parent VHD which is copied to Program Files/Virtual Windows XP – this path can be changed by user at time of Windows XP VM installation.
 - A diff disk which gets created at %LOCALAPPDATA%\Microsoft\Windows Virtual PC\Virtual Machines.” This cannot be changed at time of installation but the user can move the diff disk to another location after setup.
 - Diff disk can be moved just as you would move any VHD file. A user can move the VHD to any desired location and update the new location in VM settings.

▶ **Patching Windows XP VM with latest updates**

- The Windows XP VM relies on the Windows Update service for Windows XP to obtain updates. To ensure that the Windows XP VM receives updates, both the host computer running Windows 7 and the Windows XP VM must be connected to the Internet; and the Windows Update service must be appropriately configured in the Windows XP VM (the user should opt-in to receive Automatic Updates).

Virtual Application

▶ **Virtual application publishing**

- “Virtual application” as used here refers to an application installed within a VM that can run in a seamless way as if the application were installed on the host computer’s operating system. The user would not necessarily be aware of the existence of underlying VM on which the application is running.
- Links to the virtual application get published to the start menu of Windows 7. Files residing on Windows 7 host computer get associated with these remote applications.
- The published Virtual applications are sometimes referred to as “RAIL-ed” applications. RAIL stands for “remote application integrated locally.”
- The user can publish many applications in a VM. The launching of the first virtual application in a VM takes longer due to the time needed to start and login to the VM.

This is a one-time delay observed for the first virtual application for a given VM. Launching of subsequent applications in the VM should be much faster as the VM is already up and running in the background.

- A password is required for starting a VM or launching a virtual application. The VM communicates with host over a TS connection with host and this connection requires a password. The user can save the credentials to avoid re prompting for credentials.
- Applications which come “in the box” with the Windows operating system (e.g., Calculator, Notepad, etc.) are not published as these are already available in the host computer’s operating system. However, applications that users expressly install in guest OS are published.
- Some published applications do not work as expected in RAIL mode. For example, the Google Talk close button on VM window does not work.

▶ **How do I publish Internet Explorer 6 (in Windows XP VM) to my Windows 7 start menu?**

- Internet Explorer 6 (“IE6”) is installed in a per-user profile. Windows Virtual PC publishes only applications that are installed in the All-User profile. Follow the steps below to publish IE6 to your Windows 7 start menu:
 - On the virtual machine desktop, open the command prompt.
 - On the command prompt, execute:
 - *Copy “%USERPROFILE%\Start Menu\Programs\Internet Explorer.lnk”*
“%ALLUSERSPROFILE%\Start Menu\Programs”
 - One (1) file should get copied.
 - Wait for a few seconds and verify that IE6 is now published on the host (Windows 7) computer.
 - Log-off and close the virtual machine window.
 - You can now use IE6 from your Windows 7 start menu.

▶ **I see a “close desktop” dialog when I launch a virtual application. Why?**

- This occurs if the virtual machine is running and you also launch a virtual application from the host computer at same time. The virtual machine window and the virtual application window are mutually exclusive and will not be visible at same time.

▶ **Virtual Application is not getting published. What could be the reason?**

- Check for the following:
 - Integration Components are installed/updated (Use Tools menu).
 - The “Auto Publish” setting is enabled in VM Settings.
 - Does the application install under %ALLUSERSPROFILE%\Start Menu\Programs\files under All Users – if not; Seamless App Publishing will not work. To publish it you can manually copy a shortcut to the application to ‘All User’ profile. To do so bring up ‘All User’ folder;
 - For Windows XP, right click Start button->Open All users.

- In Windows Vista and Windows 7, right click All Programs->Open All users. Now create a short cut for the application that you would like to publish to the guest.
 - If the application is listed in exclude list, it will not get published. To get the application published you need to remove it from this list. The exclude list is stored at following location:
[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Virtual Machine\VPCVAppExcludeList]

Note: Some installers do not install applications over RDP. In such cases, you can disable ICs in order to install the application.

► **I cannot talk (voice) to a person using Microsoft Office Communicator. Why? OR How does bidirectional audio works in Windows Virtual PC?**

- This is because voice recording and voice transmission is not supported in Windows XP and Windows Vista virtual machines. However the user may switch off audio redirection in ICs enabled mode by setting Audio_redirect to False in virtual machine setting file.

Open the VMC file and go to section <ui_options> and manually add the line given below:

(Note: making changes to VMC is normally not recommended as any inadvertent addition or removal can render the VM unusable.)

<audio_redirect type= "boolean">false</ audio_redirect> to the file and save the VMC file.

<ui_options>

```
<onclose_showmessage type="boolean">false</onclose_showmessage>
<onclose_defaultaction type="string">save</onclose_defaultaction>
<vxp_setup_complete type="boolean">true</vxp_setup_complete>
<guest_rail_enabled type="boolean">true</guest_rail_enabled>
<window_xpos type="integer">142</window_xpos>
<window_ypos type="integer">57</window_ypos>
<full_screen type="boolean">false</full_screen>
<resolution_height type="integer">768</resolution_height>
<resolution_width type="integer">1024</resolution_width>
<audio_redirect type= "boolean">false</ audio_redirect>
```

</ui_options>

► **I am using a RAIL-ed Microsoft Office Outlook (or other e-mail application) and I receive a PDF as attachment in the e-mail. I have Adobe® Reader® (or Adobe**

Acrobat®) on my host computer but the attached PDF fails to discover the associated program. Why?

- This happens because the applications installed on the Windows 7 host computer do not get associated with files in the guest virtual machine operating system. **For this file association to work, you will need to install Adobe Acrobat (or Adobe Reader) in the guest VM.**

Publishing applications in Windows XP & Windows Vista VMs created by Users

- A If you want to publish applications in VMs that you have created, you need to:
- Install /update Integration components
 - Restart your virtual machine
 - Ensure Auto publish setting is enabled
 - Ensure that RAIL QFE is installed in Windows XP and Windows Vista virtual machines. In Windows 7 VM and in Virtual Windows XP (provided by Microsoft) this step is not required. You can install RAIL binaries from **<Give path for downloading /installing the RDP>**
 - Install the application in the guest operating system. (Ensure it is in All user profile, else create application short cut in All user profile.)

Networking in VMs

Network options available in VM

In virtual machine settings, you can specify up to four (4) emulated network adapters. You can assign each emulated adapter card to any network card installed on the physical computer. The various adapter options are:

- Not connected: With this option, networking is not available in VM.
- Internal Network: This option provides networking between VMs only.
- Shared Networking (NAT): This is a virtual NAT (network address translation) that allows the virtual machine to leverage the external TCP/IP network connected to the Windows 7 host. This is very useful if you are regularly moving your computer between different network configurations. However, NAT performance is not as good as that of Bridged mode.
- Network Adapter on host: (Note-This option appears as Name of adapter in the drop down). This is also known as Bridged mode. When this option is selected, the virtual machine is connected directly to the selected network connection of the Windows 7 host. The virtual machine will appear and behave like a separate physical computer on the same network. If your system has wireless adapter, its name will appear in dropdown list.

Note: Virtual Windows XP VM uses NAT mode as default setting because most users use broadband/ dialup at home and are not expected to have separate IP for guest VM and will make use of Host computer IP.

▶ **Connecting to VPN from Virtual machine**

- Yes you can access VPN in guest VM. If the Network setting is set to use Shared Networking (NAT), it should take care of connection to Intranet or internet provided your host computer is connected to network.

▶ **I am unable to connect to Enterprise domain. What should I do?**

- In case your VM is configured to use NAT it should take care of connection to Intranet or internet provided your host computer is connected to a network. In case your VM is configured to external (any Host NIC other than wireless) you can access the corpnet or Enterprise domain just as would do for any physical computer.

Please check the following if things do not work:

1. Specify fully qualified domain name in the domain text box.
2. Your computer name is unique or else you will get duplicate name exists error. Once you change it, it requires a reboot and then only you can join the computer to domain.
3. Username/password is correct.
4. If the above steps did not help, please wait for some time and then try again as the server may not be available for some time.

▶ **When to use NAT mode**

- When there is a shortage of IP address, or there is a need to hide VM from external network, or want to connect using WWAN or want to use the network accessible through VPN connection.

▶ **How to get network connectivity in VM if I have WWAN device connected to host?**

- This requires network option in VM to be configured to NAT.
- Go to Tools->Settings->Networking and Choose "Shared Networking (NAT)" for the first adapter. You can dial up on your WWAN device in Windows 7 and browse the web from the guest.

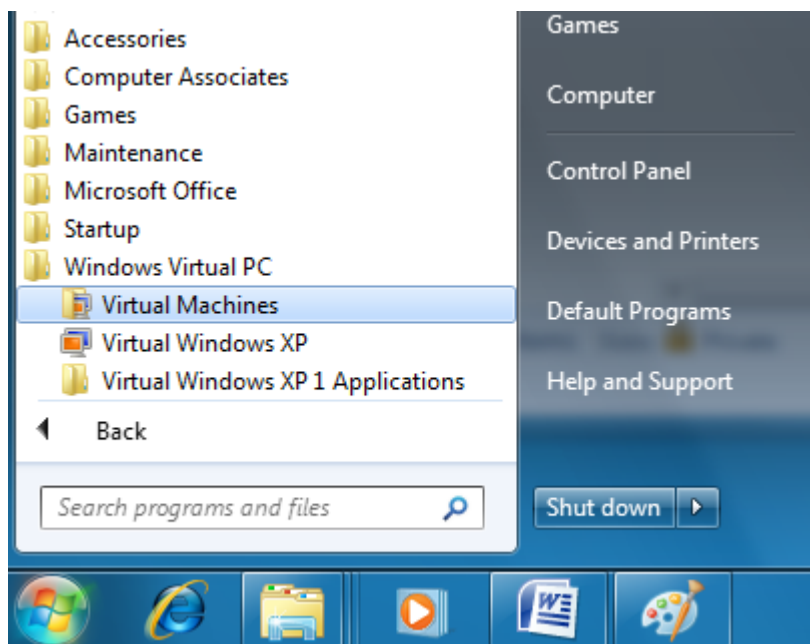
▶ **Is IP assigned to NAT VM configurable?**

- No. DHCP has not been made available for configuration. Also, static IP cannot be assigned to NAT VM.

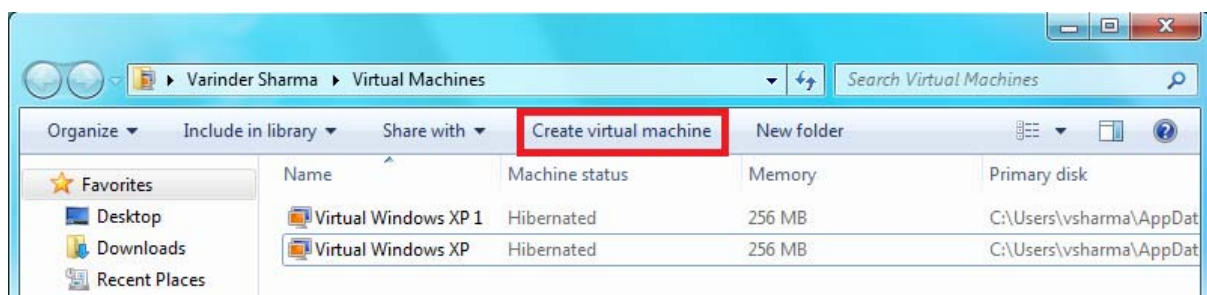
VM Creation & Management

▶ Create a Virtual Machine using an existing VHD

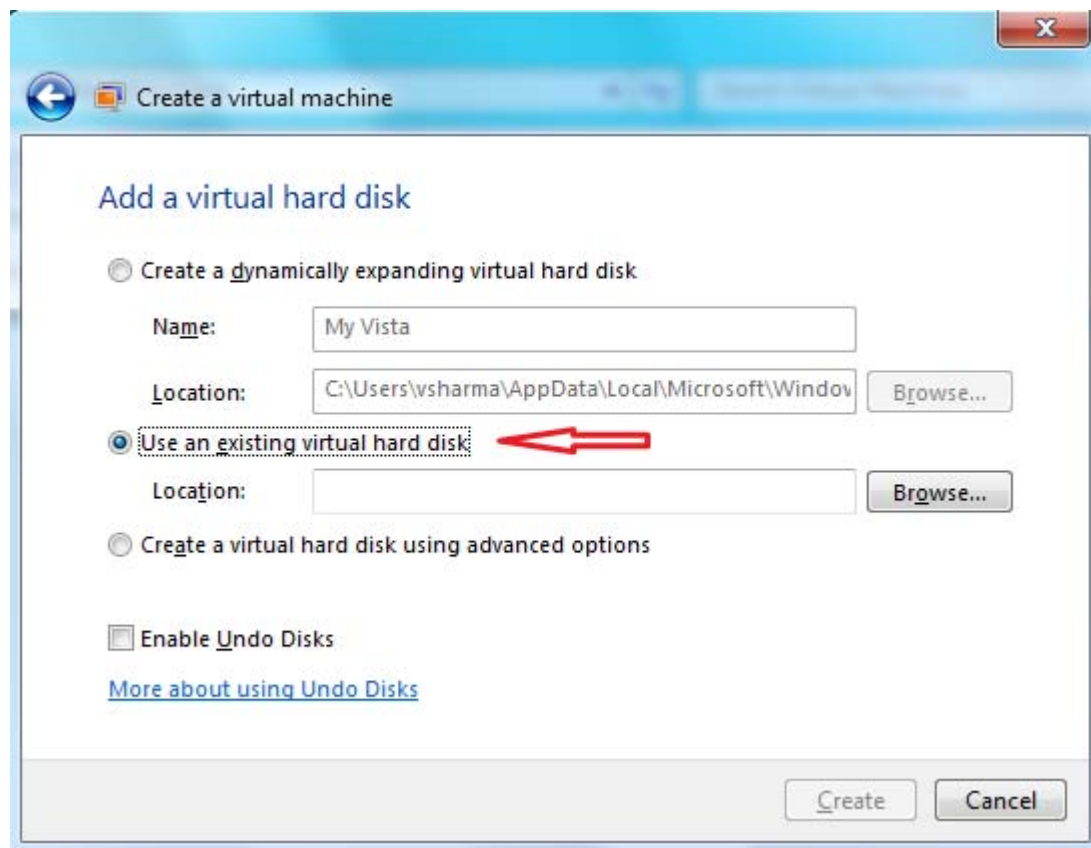
- Steps are:
 - Go to Start->All Programs->Windows Virtual PC->Virtual Machines.



- Click on 'Create virtual machine' command bar button to launch the virtual machine creation wizard.



- Follow the instructions in the VM creation Wizard



- On the third page title "Add a virtual hard disk" choose the existing VHD file.
- After the virtual machine is created, you can start the virtual machines from the virtual machines folder.

► **In newly created VM, mouse is sluggish and I cannot click outside my VM window.**

- To release the mouse from the Guest VM, use the Ctrl+Shift+Left key combination. To improve the keyboard/mouse experience, install/upgrade Integration Components (earlier called Additions) in the VM.

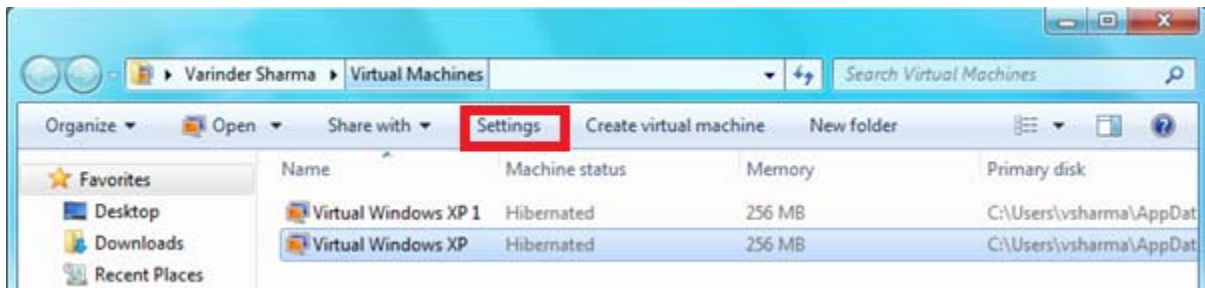
► **What is the default path for VMC (virtual machine settings file) and VHD files?**

- The default location of VMC and VHD files is "LOCALAPPDATA%\Microsoft\Windows Virtual PC\Virtual Machines".

► **Change Settings of the Virtual Machine**

- Go to Start->All Programs->Windows Virtual PC->Virtual Machines.
- Choose the VM for which you want to change the settings.
- Click the button titled 'Setting' from the Menu bar.

- Or Right click the selected VM and choose context menu item “Settings’



- When VM is running you can also invoke the settings dialog from a virtual machine desktop using the menu, select: Tools-> Settings.

➤ Change the RAM allotted to virtual machine

- VM RAM allocation can be changed from VM settings only when VM is powered off. Select the VM and then go to VM setting either by right clicking the VM or from menu item





➤ Restart option is missing from Start menu in VM. How do I restart?


- Click on the Action on menu bar and select Restart from the drop down

➤ Entering Pre-Boot environment (BIOS screen/network boot)

- Click on the Tools on menu bar and select ‘Disable Integration Features’ from the drop down.
- Next time when VM reboots hit ‘Del’ key to go to BIOS setup.

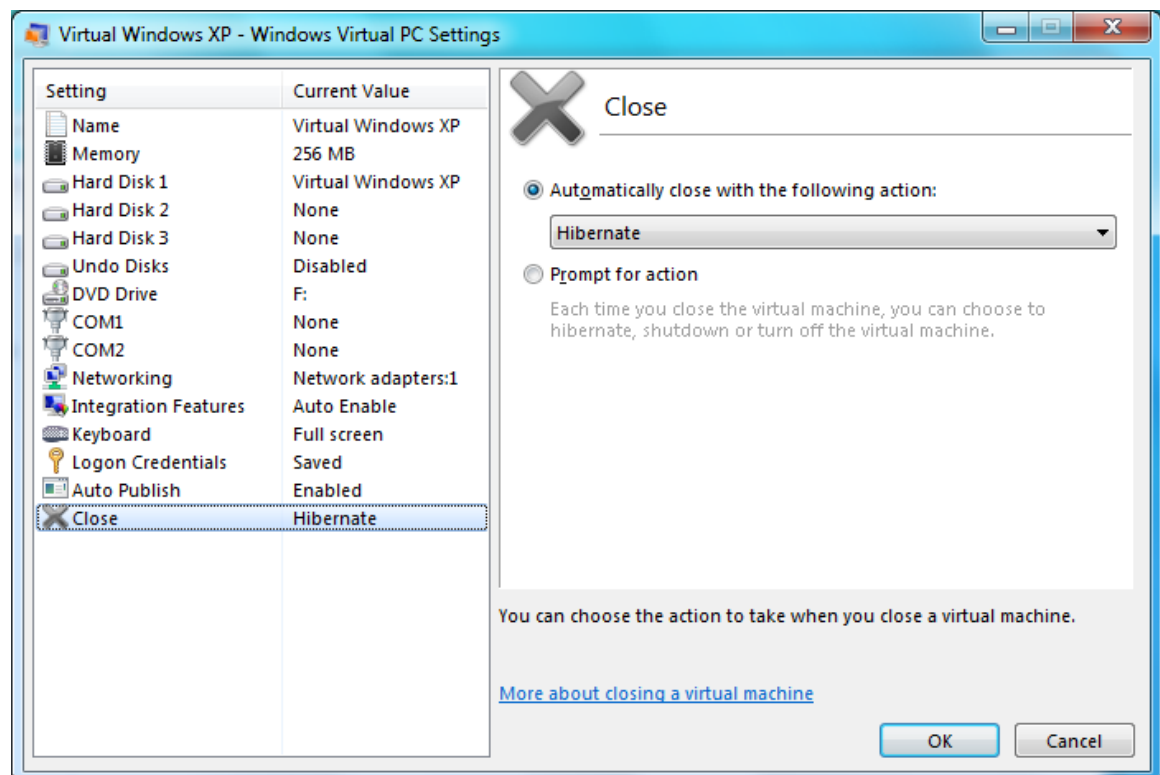
➤ Shutdown down a VM

- The default action of hitting on the  button on the VM window will per the “Close” setting defined in VM settings. For Virtual Windows XP VM it is Hibernate (which means save the current state of VM).
- Clicking Close from Action menu item will have the same effect as action of hitting on the  button on the VM window
- You can change the default behavior of VM on hitting  button on the VM window from VM settings. OR you can configure the VM settings to ‘Prompt for action’, in which case user will choose one of following choices every time user hits  button on the VM window
 - Hibernate (saves the current state of VM. Next startup of VM will not go through the boot sequence)
 - Shutdown (Shuts down the VM. Next startup of VM will go through boot sequence)

- Turn off (This is like pulling out the power plug)
- Thus, in order to shutdown a VM, user can either set the default behavior to shut down the VM or set the VM setting to “Prompt for action” and then choose shut down option from the drop down menu, when user hits  button on the VM window.

Note:

1. *This VM setting can be changed even when VM is running. VM is not required to be in powered off state.*
2. *Another way to shut down a VM is to select Ctrl+Alt+Del from VM window menu, you will see a task manager dialog. Click on Shut down button.*
3. *Hibernate is not the native Windows hibernate. VPC does not support hibernation in guest OS.*



➤ **PXE installation of OS in a VM**

- Any VM which is created is bound to the host NIC (1 wired and 1 wireless if available). So, when you boot your VM, you will be able to PXE install an OS in the guest by contacting the server

- But this cannot be done if the Network setting in the VM is configured to Shared Networking (NAT). This is because DHCP request from NAT VM is intercepted and served by internal built in DHCP server. And this does not reach the DHCP of the PXE server.

▶ **I noticed that I am unable to resize or go to full screen in a Windows XP VM. Why?**

- This happens if Fast user switching (FUS) is enabled in Windows XP VMs that are not joined to a domain. Please ensure that FUS is disabled in non-domain –joined Windows XP VMs. Steps to do so are:
 - Log on to the computer as an administrator.
 - Click Start, click Control Panel, and then click User Accounts.
 - Click Change the way users log on or off.
 - If it is not already selected, click to select the Use the Welcome screen check box.

NOTE: *The Use Fast User Switching check box is unavailable until you click to select the Use the Welcome screen check box.*

 - Uncheck the Use Fast User Switching check box, and then click Apply Options. Quit the User Accounts tool.

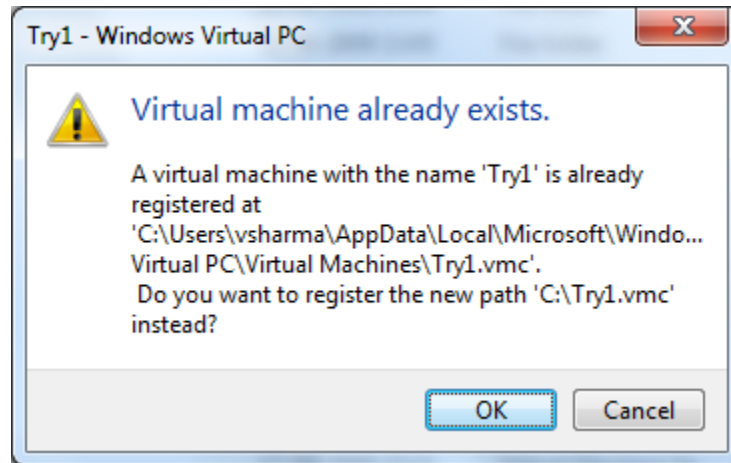
▶ **Renaming a VM**

- A VM can be renamed after it is shutdown. You cannot rename a running/hibernated VM. Each VM has a VMC and VMCX file associated with it. If you try to rename a VMC file while VM is running you will get an error saying “File is in Use”. If you try to rename a VM from the virtual machines folder, you will not get any error, but the changes you make will be discarded and the name will revert back to original name.
- Please note if you rename .VMC file when VM is in not running, you must start the VM using .VMC file and not using the .VMCX file as .VMCX file is not aware that the corresponding .VMC file is changed.
- VM also has a VHD file which represents the virtual hard disk of the VM. This file again cannot be renamed while VM is running. If VM is powered down and you rename the VHD, you need to update the VHD file name in the VM setting for the respective virtual machine.

▶ **Moving a VMC, VHD or VMCX file**

- If you move VMC and VHD to same location then their relative path remains same and double clicking the VMC will point to correct VHD file.

- If you move only VMC then relatively path between the two will change, in this case VMC will use the absolute path to locate the VHD file.
- Please note: when you move the VMC file and double click it, you get the error message "Virtual machine already exists" as shown below. This is because in the VMCX file the VM is still 'registered' with old path. To 'register with new path click Ok else click Cancel.



- If you move the VMCX file only and try to start the VM by double clicking it you get an error "Could not register the virtual machine" as VMCX file is meant only for creating an entry into known folder – Virtual machines in Windows Explorer.
- If you move the .VHD file to new location, you need to update the VHD location in the VM Settings. Otherwise, the VM will not be able to find the VHD file.

► Deleting a VMC, VMCX or VHD file

- A Yes, you can delete any of these files like any other file. However, the caveats are as under.
- If you delete VMCX file, you will not see the VM listed in Virtual machine known folder. However, your VMC and VHD files are intact and if you double click VMC file the VMCX file will get recreated.
 - If you delete VMC file, then double clicking VMCX file will recreate VMC file using the backup of VMC file. If you delete both, VMC and its backup file then double clicking VMCX file will remove VMCX file as well.
 - If you deleted VHD file, double clicking VMC or VMCX file will result in error stating that VM could not be started as one of its VHD could not be located.

► Why do I need to provide my logon credentials when I resize VM window?

- Virtual PC uses an RDP connection to the virtual machine to enable integration components. Resizing the virtual machine desktop requires this connection to be re-established, which requires entry of the log on credentials. You can choose to save the credentials to avoid further prompts.

▶ **I have added a non-admin user to the VM. But the new user cannot login in to the VM. Why?**

- In order to login into the VM, and use integration features, user has to be a member of the “Remote Desktop Users” group on the guest OS. An Administrator user has access anyways and need not be part of the “Remote Desktop Users” group. However, if the user is non-admin, he/she has to be member of “Remote Desktop Users” group on the guest OS.

▶ **Adding additional disks in VM**

- For this you need to: Shutdown the VM (Note: - default close behavior of Windows XP VM is set to Hibernate. Change the 'Close' VM setting to 'Send message' to choose Shutdown option in the dropdown).
- Using VM setting, add a new virtual hard disk for one of the free slot.
- After doing so, start the VM and bring up the disk management utility. Run > diskmgmt.msc
- You will see the new VHD. Assign a drive letter and create a volume (do the formatting as you would do when you connect a new physical drive to computer).
- Now you are all set to use the new virtual disk.