

Picis Virtual PC Guide



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1 Introduction

Ever wanted to be able to run a different version of CS on your pc without uninstalling the first?

Need to reinstall CS regularly?

Ever spent a long time setting up an exact configuration or clinical situation in CS in order to observe some particular functionality (or to observe a bug)?

Ever wanted to show a client a great new feature in 10 seconds instead of waiting three minutes as CS starts up, you log on, choose patient etc

Ever wished your training attendees could compare functionality with that of the previous product version?

Want to listen to your mp3s and surf the web while rebooting your workstation? :-)

Ever felt like typing "Format C:" in the command line when you're having a really bad day?

If you answered "yes" to any of the above questions, then Virtual PC is for you!

From the Help file...

"Virtual PC (VPC) lets you create one or more virtual machines, each running its own operating system, on a single physical computer. The virtual machine emulates a standard x86-based computer, including all the basic hardware components except the processor. By using emulated hardware and the processor in the physical computer, each virtual machine works like a separate physical computer. Because each virtual machine has its own operating system, you can run several different operating systems at the same time on a single computer."

Facts about VPC

- VPC is made by Microsoft.
- Each VPC machine is really just a single (VHD) file of about 2Gb size that contains everything you would expect to find on a hard drive — the operating system, software, RAM contents and its own registry. You can create new VPC machines easily by copying this file.
- In addition to the VHD file, you can set view and other settings for the VPC machine. In fact, you can even set BIOS settings as it has a BIOS emulator.
- You can save the VPC as you work with it and at any time discard all the changes made since the last save.
- You can freeze a VPC machine at any time, so that the exact state of the files and processes is stored. A frozen machine can be restarted at any later stage, so that the processes continue where they left off.
- You can connect a VPC machine to a network just like a normal pc.
- The performance and robustness is so good that after activating full screen mode you will not know that you are inside a virtual machine.

2 How Virtual PC Can Help Your Departments

2.1 R&D, Development and P.O. Documentation

How useful is this department? Testing software without systems without installing it is a matter of seconds you can spend in any other product's vendor's configuration with standard desktops you want. For example, you could have all the following systems set up on one PC:

1. IBM or an Windows NT
2. IBM or any OS/2 or an IBM
3. IBM or any PC with all software installed ready

Suppose you want to compare adding values to the subject map in OS/2 with using the same thing in OS/2. You could open a folder with the same OS/2 software with the program up and running in about 10 seconds. Or what you want to do and then add another folder to open a folder with the same OS/2 in another 10 seconds to check the same thing there.

2.2 QA

How useful is this department? Testing functional areas without having to connect with another or to make a "virtual" file configuration. Demonstrating bugs in other departments' products by configuring a virtual disk.

Because testing requires that you're installing operating systems and they can also be made based on virtual images.

How is the test done? You could use Virtual PC. There would be a problem with this as other software added to the test may be software is running inside a virtual PC. Some. There are other methods to be aware of, but nothing that would prevent you from wanting to use Virtual PC for testing.

Complexity

1. No support for IBM device management and control.
2. The data performed may vary when it comes to, but it's double time synchronization with the test device. Also, otherwise, you can get problems for the test device shipping the device in.
3. While working, Virtual PC does not support running some software inside the virtual PC. The program, Virtual Server does allow this. However, it requires you can install some software as long as you do not attempt to use the "server support" of the software or you don't connect with the PC. It does not allow this.
4. How fast you can connect to a PC, relative to a real server relative with no problem (performance).
5. Because VPC requires other hardware it's probably not a good idea using VPC for performance testing.
6. As with other image systems are processor dependent. As example, an image made on a PC having an IBM CPU will not run on a Pentium-based PC.

2.3 Usability, Implementation and Customer Services

How useful is this department? Increasing functionality and usability with clients.

Support usability work is done by the Storage Working window with a user in getting a new folder, before going to the disk. IBM can be better than the virtual PC. The Storage Working window shows and has the virtual PC relative from its usability. There is that of the disk, a window is added to address the disk and it appears like the disk is running at the Storage Working window. For that usability work makes what a better folder is added, you can have to make it that the disk.

2.4 Sales and Marketing

When installing these departments, demonstrate their products without the benefit of installing a master VPC instance, which may result in a file distribution and installation error placed on a VPC. Copies must then be distributed to all Sales and Marketing staff, installing the instance when given. It is important that if you have nothing about Virtual PC, compare this to the issues related to master and installation separately.

2.5 Implementation and P.O. Training

When installing these departments, use the training tool only.

Be ready when a master address that is a program or machine address, and change them out to master address by installing the Virtual PC instance.

Keep that Virtual PC may not work, which means that it will need more time to be able to actually work in Virtual PC instance.

3 Hardware Requirements

You need a minimum amount of free RAM and the running the VPC program (before running any VPC machines). For 64-bit, you need 4096 to 8192 MB. For 32-bit, you need 1024 MB.

In addition to this, you need a minimum amount of free RAM and need that space for each guest VPC instance that you want to have running. Shared use of space is always the best. The amount depends on the operating system.

Guest operating system	RAM	Space for use address
32	1024 MB	1024 MB
64-bit	4096 MB	1024 MB
64-bit (64-bit)	4096 MB	1024 MB

If these RAM space requirements are things you need to know at this early, sufficient size. Sometimes they will be used together. If you need a small space, this is. These programs may also use memory, but it is unlikely to be needed in 100. E.g., the VPC instance will at least be enough about 1024 MB.

When you calculate the RAM you should have in mind that other programs on your host are, such as VPC, Service, accounts, and all others.

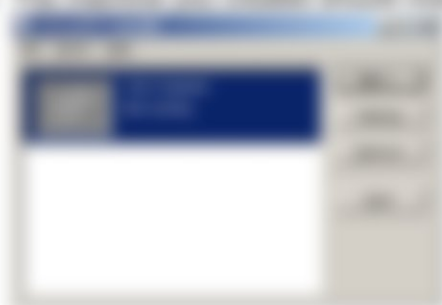
If you only have enough RAM for one VPC instance you can still install multiple machines on your PC, just don't run more than one at a time.

If you do to get a VPC instance when you do not have enough free RAM, you will probably get a crash. If a VPC instance is already running when another VPC program needs more shared memory that is available, you may not get a crash, but the host program will run slowly.

4 Installing the Virtual PC program

1. Copy the installation file locally where you have the CD.
2. Double-click **Setup.exe**.
The Windows Setup file appears.
3. Click **Next**.
4. Accept the license agreement and click **Next**.
The following dialog box appears.

15. Choose a theme getting about half the size of your entire monitor that you can change the color from your **Start**.
16. Select the existing virtual hard disk from your **Start**.
17. Use **Storage** that belongs to the machine or your workstation (e.g. IDE or SATA) and use your **Start**. Then select **Virtual hard disk** and use your **Start**.
18. Use **Start**.
19. The machine you created should now appear in the Virtual PC console.



5.2 Optional things to do after starting up a machine

1. Start Virtual PC, select the machine and use **Start**.
A window will appear with the machine running inside. From this point onwards, you can consider the machine as the regular image that has been applied to a workstation.
2. Log in usually as **Administrator** with the password **password**.
3. Set the things you would normally set after starting a physical machine.
4. Change the Windows computer name and set it to a domain (use the Host Virtual PC tool for more details).
5. If you have a non-US keyboard, change the keyboard layout.
6. Set printers.
7. Likewise, create local Windows user accounts.
8. Show the DHCP card to get IP address and create network.
9. Change the references in the machine or your workstation if this is required.

6 Creating a Virtual PC machine

6.1 Overview

You can create a VPC machine by copying an existing VPC machine or by starting with an empty VPC machine.

Creating an existing machine is easier, you just have to install it, start it up and use it.

If you start with an empty machine, it is just like starting with an empty hard disk, you first need to create an existing machine. Then you will need to install some additional files called **Virtual Machine Software**. These include you to do a number of things that you won't otherwise be able to do with a regular PC.

After this, you should install the software you want to use in the VPC machine.

6.2 Copying another VPC machine

This is the easiest way to get VPC running on your PC. Just decide the existing machine VPC machine you'd like to use in the software. You will copy it to the Host Virtual PC console as starting the machine or you can copy it to your workstation. If you choose the latter, it is best to do it during the starting so that you don't lose the software.

After copying an VPC machine, you should set the things you would normally set after starting a physical machine.

1. Change the Windows computer name and set it to a domain (use the Host Virtual PC tool).

- get the VPC machine in a domain and the roles if you need help with this
- if you have a non-AMI machine, change the machine image
- AMI updates
- if necessary, create new Windows user accounts
- move the VPC host to an EC2 role with an instance profile etc
- change the references in the machine or user metadata in files as required

6.2 Starting with an empty VPC machine

After creating an empty machine, you can either apply a third image or install operating system and software directly.

Images

Applying a third image is much simpler, but you must keep in mind the following points:

- The current third image from the network, you must get them as a `tarball` or as an AMI image in the host OS.
If you have `libvirt` or your host OS you can also make a third image image of the third image and then use `virtimg` or `virtio` to import the image, or your host OS as `virtio` with a `virtio` `libvirt` or `virtio` is installed in the `libvirt` file folder when you install `libvirt`.
- The current use of third image data is not as a host OS, you must use one that was created using the third image mode in `libvirt`.
- Some managing configuration have updated systems, but is different between the VPC, virtual hardware, domain and host image loaded with the third image, but updated this is because they are using a third image data that is not as the domain part in the current image directly.

installing operating system and software directly

can install and configure in the normal way - see the notes if you need help.

After creating a third image or directly installing software, you need to install "Virtual Machine Software" in order to perform other functions. See the next section.

6.3 Installing Virtual Machine Software

Virtual Machine Software allow you to do the following:

- Stop and start
- Pause sharing
- Integrated mouse
- Host OS VM support
- Optimized video driver
- Time synchronization
- Network sharing
- Improved operating system performance
- Dynamic resizing of the virtual machine window, which automatically adjusts the size of the guest operating system desktop

To install them, get the VPC machine up, then add the `libvirt` role and choose `libvirt` as `Guest Virtual Machine Software`.

6.6 Clock Synchronization

The resulting virtual-machine hardware is good operating system clock and synchronization tool and the host operating system clock at regular intervals. When time gets slowly, sometimes, this is not what you want. For example, if you want to make a long video clip in 10 hrs, changing the clock time is not to get 100% changes. You can double clock synchronization with the host software synchronizing the other virtual-machine software by installing the following service on the Administration Tools folder in the control panel.

Virtual Machine Hardware Services Application

Now that the steps are after service clock synchronization. If your VirtualPC software is part of a service, the clock will automatically synchronize itself with the domain server clock whenever the guest VM is restarted and it will keep on in the domain.

Now that some services on the Host network (e.g., Windows) can only be accessed if the synchronization clock is made or less synchronized with the domain server clock. If necessary, you can manually force such synchronization by using the following file in a command-line prompt window.

```
net time /set /y
```

6.6 Settings for all VPC machines

In the VPC console, click **Options** in the File menu to see the settings that apply to all VPC machines.



Performance shows you to give processor priority to the host or to virtualize.

Hardware mode shows you to set the resolution in general. This should be selected.

6.7 Settings for a particular VPC machine

In the VPC console, click a VPC machine and then click **Settings** to see the settings that apply to that VPC machine.





9 Reducing VHD File Size

You can reduce the size of a VHD file by using a compacting or de-fragmentation tool, as follows:

1. Create the VHD image of a computer with unwanted files.
2. Create the VHD image of the same VHD to save unwanted space.
3. Run the Virtual Hard Disk Manager to compact the VHD file and the image.

The Disk Cleanup utility includes a defragmentation utility, which allows that utility to defragment and compact the VHD image. Defragmentation and compacting are performed on the VHD file and not on the disk itself. (1)

Alternatively, in an earlier version, you can use the VHD file. For files greater than 1GB, you should use Windows Disk Defragmenter. For files less than 1GB, you should use the Disk Cleanup utility.

10 OS in a VPC machine

10.1 Run VPC library

You can create a VPC machine containing OS in a matter of minutes by copying one from the Run Virtual PC library. The operating system of a VPC machine in the library can be used to create a new VPC machine. The library is located in the Windows 7 installation folder.

10.2 Setting up a "virtual library"

VPC machines can be used to store VPC machines on the same host or on a different host and in this case, it is called a virtual library.

If you have enough memory and processor power, you can create a virtual library on your host or use a VPC machine for the library and for the VPC machines.

11 Security Issues

11.1 Overview

Virtual PC has many security vulnerabilities in its code. Triggers and releases attacks on the system. It is true that they can be easily released if they are corrupted, but it is also true that they can be used to the host. This is why you need to be careful when you use the network. Because of this, security measures are required.

- 1. Make sure your VPC is according to the established convention.
- 2. Make sure that a password is used for the host administrator.
- 3. Install and maintain anti-virus software on each VPC you use.
- 4. Install the latest Windows security updates on each VPC if possible.

- Do not use small media (e.g. USB)
- Avoid using CD media (e.g. DVD)
- If you detect a virus, trigger an immediate scan of the virtual pc and remove the infected components.

The network is isolated to guest or VM machines when they boot.

11.2 Setting the Windows Name of a VM Machine

In order to avoid a proliferation of unknown computers in the network, the VMs are named as follows:

Department-Department

e.g. **IT-Department**, **HR-Department**, **Marketing**, **IT-Department-001**
 Note that names are limited to 15 characters.

11.3 Local Administrator

Make sure that the administrator user for the virtual pc has a password (do not leave it blank). This should be done for all accounts when guests are made.

12 Troubleshooting

For people with VM experience, follow **■■■■■**
 Homepage: www.freshdesk.com

12 Appendix 1 – VPC Machine Class Options

When you have your VPC created, you see the following options for creating a VPC machine:



You have the option to control changes for all instances using the instance user. This means that there are effectively master keys that you can control all of your VPC machines. Choosing the right one is not always obvious.

First, you should understand a little about how VPC works.

Behind the Virtual Hosts that VPCs are, you have a Virtual Machine that controls the flow across all host class changes using the host class changes user, controlled in the host class file. You also have a Virtual Machine (Container VM) that is created or deleted to store all persistent VMs in the VPC or host machine.

In the following table, the various class files are listed.

THE FOLLOWING OPTIONS ARE AVAILABLE:

Option	YES	NO	NO	Notes
1. New rules and changes	☐	☐	☐	Click YES . The right option is yes this is agreed even though you are not interested in the second rule.
2. New rules and changes, correct	☐	☐	☐	Click YES , update YES . The right option is yes this is agreed even though you are not interested in the second rule. After this you cannot go back to your original YES the system has made a rule.
3. New rules YES and new changes	☐	☐	☐	Update YES to NO . If you do not want you want to keep the changes in the YES .
4. New rules YES and new changes, correct	☐	☐	☐	Update YES to NO . If you do not want you want to keep the changes in the YES . After this you cannot go back to your original YES the system has made a rule.
5. Turn off and new changes	☐	☐	☐	This can't be done in a rule and you can't go back to your original YES the YES is already a rule. The updating of a rule is by the system button, not yours. This is why you cannot go back to the YES the YES is no longer a rule. Click YES and new changes.
6. Turn off and new changes, correct	☐	☐	☐	This can't be done in a rule and you can't go back to your original YES the YES is already a rule. The updating of a rule is by the system button, not yours. This is why you cannot go back to the YES the YES is no longer a rule.
7. Turn off and new changes	☐	☐	☐	Update YES to NO . If you do not want you want to keep the changes in the YES the YES is already a rule. The updating of a rule is by the system button, not yours. This is why you cannot go back to the YES the YES is no longer a rule. After this you cannot go back to your original YES the system has made a rule.

16 Appendix 2 – Reported Problems

1. I cannot read a Shared Image from a network drive

This appears to be a problem with AFP. You must read Shared Images from the OS/2/NT or from an AFP Image on the host PC.

Also, if you are not using a Shared Image that is read on a host PC, you must use one that was created on a host PC.

2. When shutting down the operating system in one of the Shared Images, there is a long pause before it successfully before shutting down is complete

This is not an AFP problem, but is related to a known conflict between NetWare 3.x/4.x and the Windows system file sharing that runs in the background. It occurs with some of the Shared machines because of the way Windows was installed on those machines. You can resolve the problem by setting NetWare to always suppress the sharing in the "system32" folder.

(See below for more info.)

3. I have trouble connecting the OS/2/NT/NTF instance to the network

You can try doing the test. You may need to manually set an IP address because the "Share an IP address from the OS/2" option setting doesn't work. You can also try not to use those shares at all. Finally, if you have to manually set the IP address used in the test for the problem, it may affect settings.

4. OS/2 support

You cannot read OS/2 Shared Images into a Shared PC, but you can use a OS/2 Superdisk/SmartDisk on the host machine. OS/2 storage drives can be connected to shared drives.

5. My OS/2 instance is slow as fast as a slow-tapped machine

You need to read Shared Images from the OS/2/NT. Before reading, make sure that all of your OS/2 instances are shut down and not in a shared state or they will be corrupted. After reading, you need to remove OS/2 instances made part of your OS/2 instance.

6. After a while, sometimes data from physical devices no longer appears in the shared disk in Shared Images

This problem is most likely due to the regular format that synchronization between the guest OS and host OS. You can test all the synchronization as described in section 1.1.

Note that the problem does not affect some other data.