



# **TC-V150**

**VDI Cloud Computing Terminal**

## **Installation and Setup Guide**

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XTENDLAN VDI solution is achieved by running desktop virtualization software vPoint together with Virtualization software like VirtualBox. It does not require any third party VDI software or GPU hardware configuration, but only needs XTENDLAN-VDI protocol, which is part of XTENDLAN VDI solution. Now users can experience perfect, smoothest desktop virtualization with the help of XTENDLAN TC-V150, a cloud terminal with only 5W power consumption.

## 1 Configuration requirements on Host PC (or Server) hardware

The configuration of hardware of Host PC (Server), which is going to host virtual machines designated for XTENDLAN VDI solution, needs to support 64bit operating systems and VT (Virtualization Technology). The size of RAM is decided by the numbers of virtual machines to be created on the Host PC (Server). For a 10 virtual machines host, if 512Mb to 1024Mb memory is going to be assigned for each virtual machine, an amount of 8Gb to 12Gb RAM in total shall be installed on the Host PC (Server). SSD (Solid State Drive) is recommended for faster storage if the number of virtual machines to be created is above 5. SSD will house both the 64bit operation system and virtual machines for higher performance.

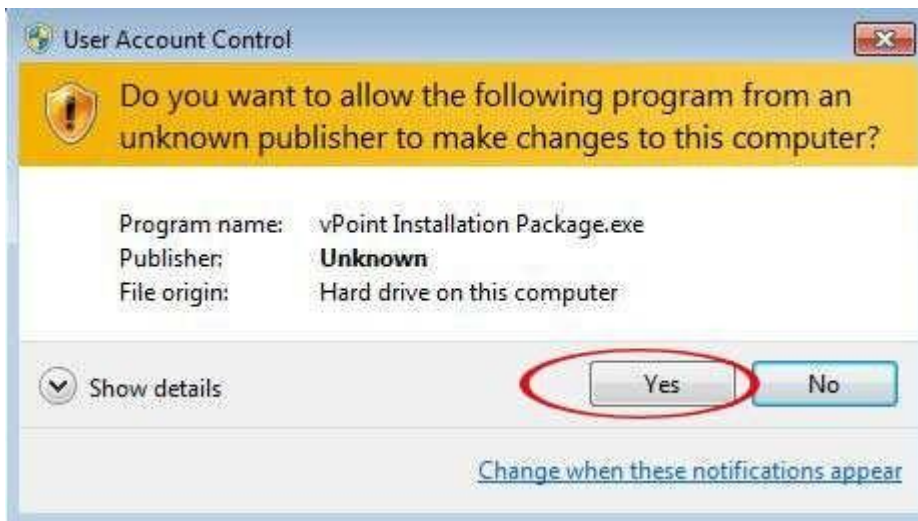
## 2 The installation of vPoint 1.0.0.2 version

Before installing vPoint, 64bit operation system (like 64bit version of Windows 7 or Windows 2008R2) shall have been already installed on the Host PC (Server).

Go to the location where vPoint Installation Package resides, double click it. See Picture 1:

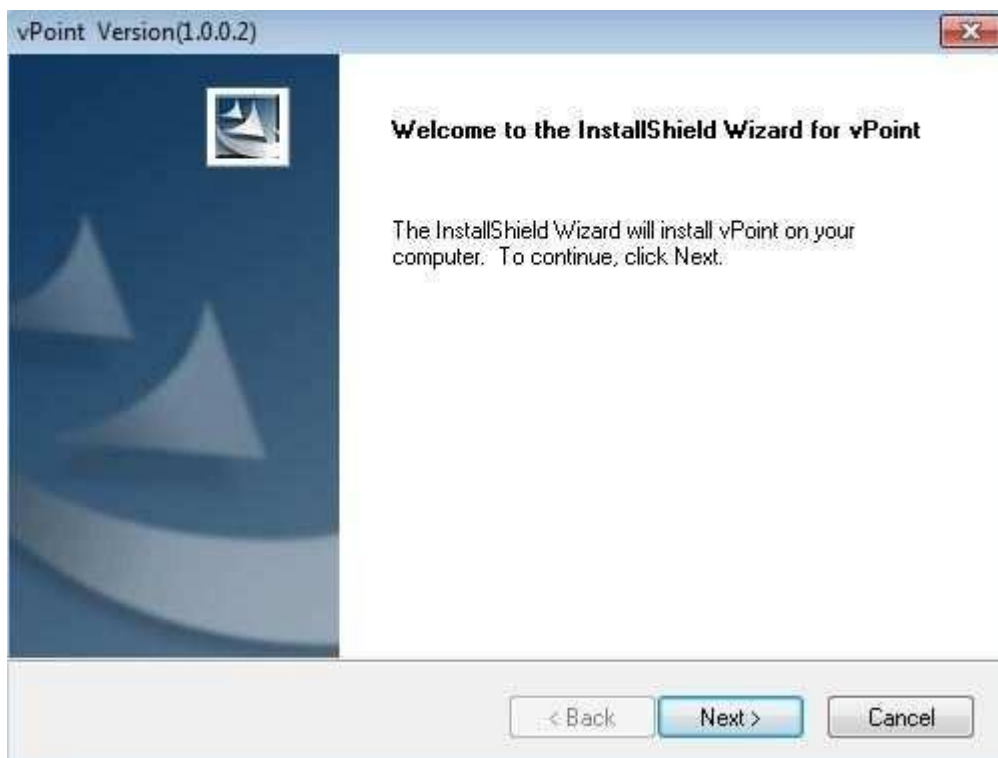


In the popping up “User Account Control”, choose “Yes”. See Picture 2:



2

Click “Next”, Picture 3:



3

Choose Destination Location. We can use the default. Picture 4:



4

When "Oracle VM VirtualBox 4.0.12 Setup" pops up, click "Next" to continue. Picture 5:

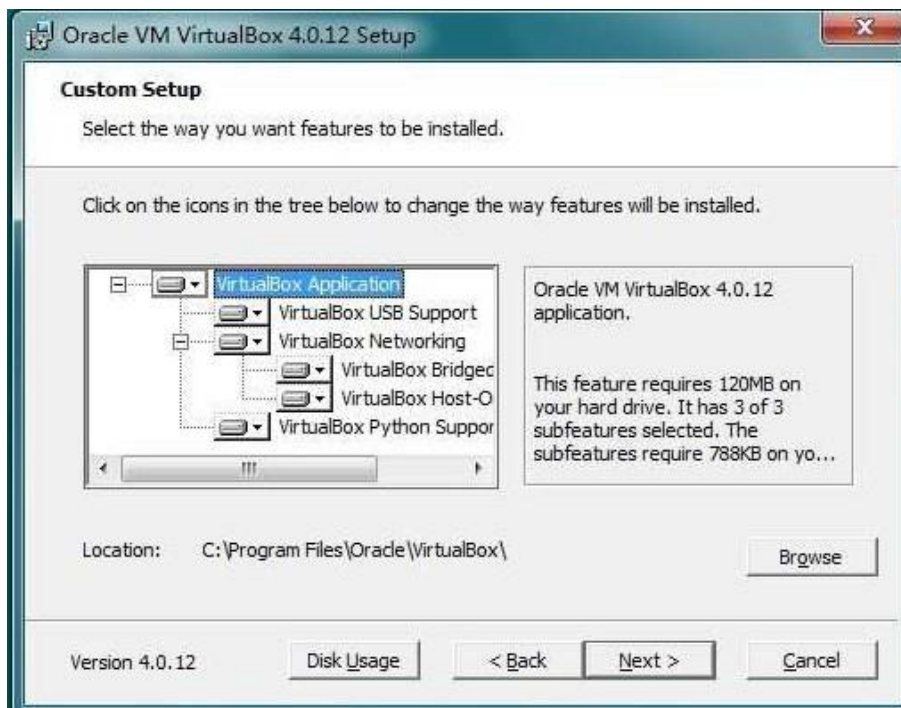


5

Please NOTE: vPoint supports only VirtualBox 4.0.12, please do not use other lower version, or upgrade it

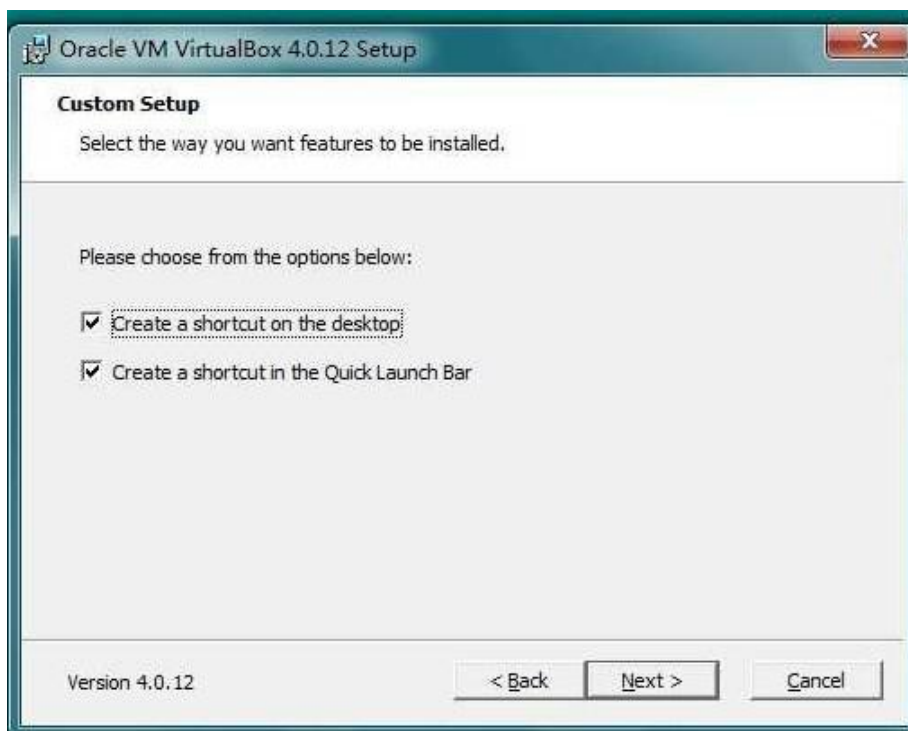
to higher version.

Settings of Virtual Box installation: just use default settings. Click “Next” to continue. Picture 6:



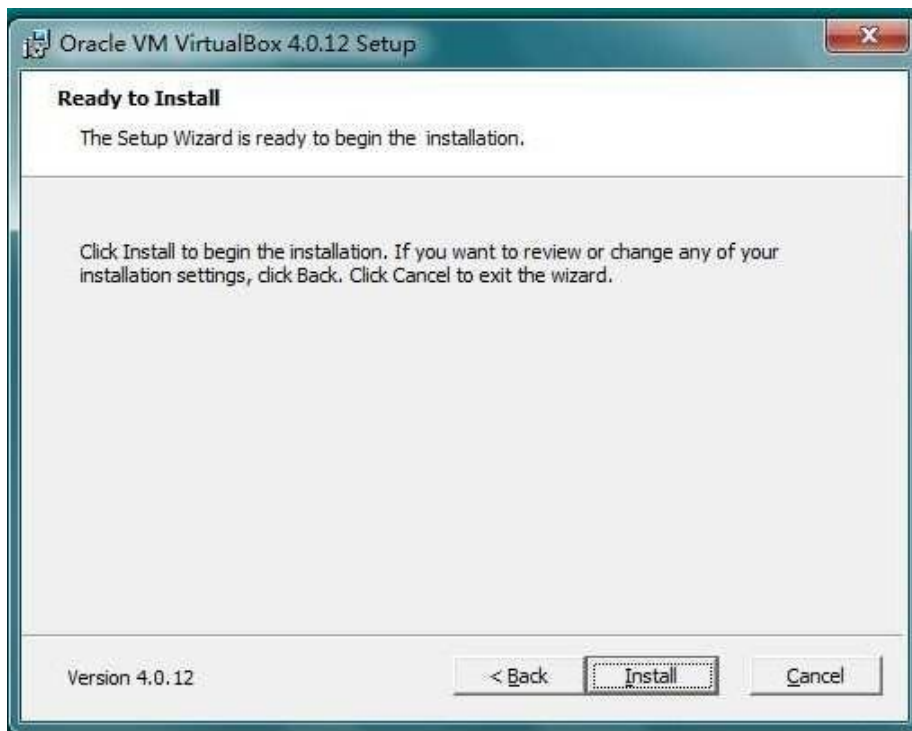
6

Also using defaults. Click “Next”. Picture 7:



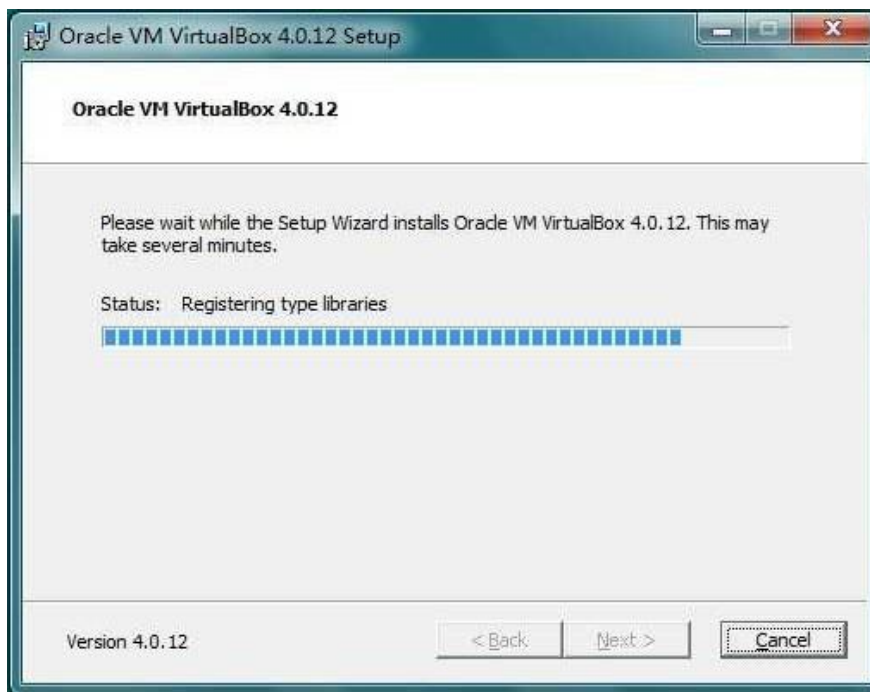
7

Click "Install", the installation of VirtualBox will start. Picture 8:



8

Installing.... Picture 9:



9

Uncheck “Start Oracle VM VirtualBox 4.0.12 after installation”, then click “Finish”.



10

Wait till vPoint installation completes, then click “Finish” to restart the computer. Picture 11:



11



After system reboot, you can see “vPoint Management Center” and “VirtualBox” shortcuts on desktop.  
See Picture 12:



12

Attention: vPoint Currently only support this version (4.0.12) of virtualbox packed in vPoint Installation Package. Do not upgrade it to any higher version!

#### FIREWALL Settings:

To prevent Windows Firewall blocking the data transmitting between the host and TC-V150 terminals, we need to make some settings in the firewall.

Go to “Control Panel”, then “All Control Panel Items”, “Windows Firewall”. Choose “Allow a program or feature through Windows Firewall”:



13

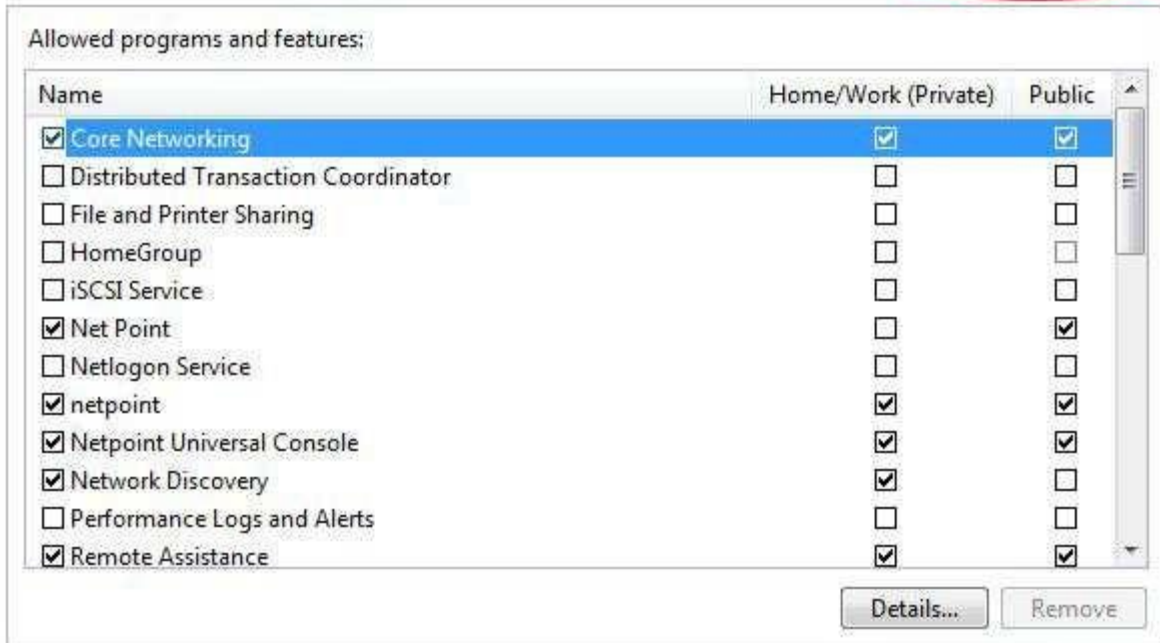
Click “Change settings”, then “Allow another program”

## Allow programs to communicate through Windows Firewall

To add, change, or remove allowed programs and ports, click Change settings.

What are the risks of allowing a program to communicate?

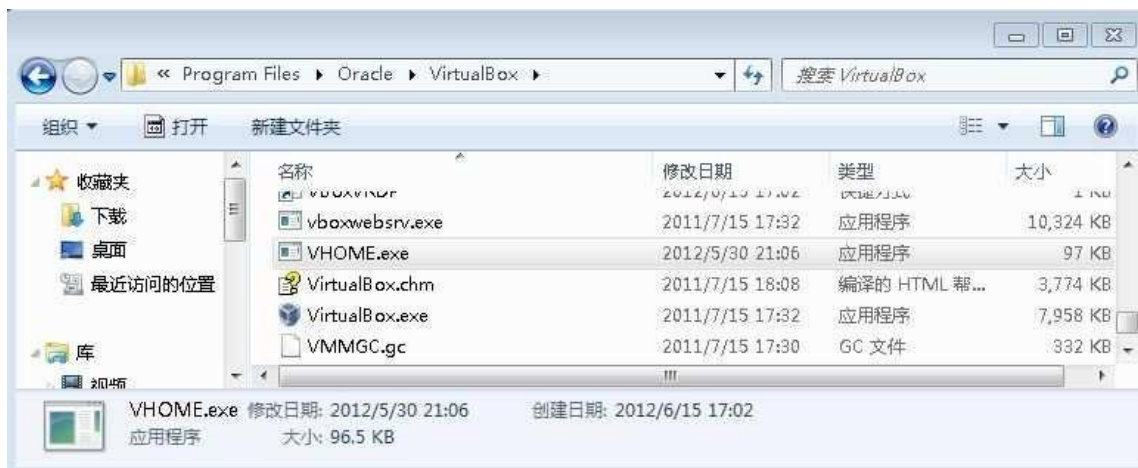
[Change settings](#)



[Allow another program...](#)

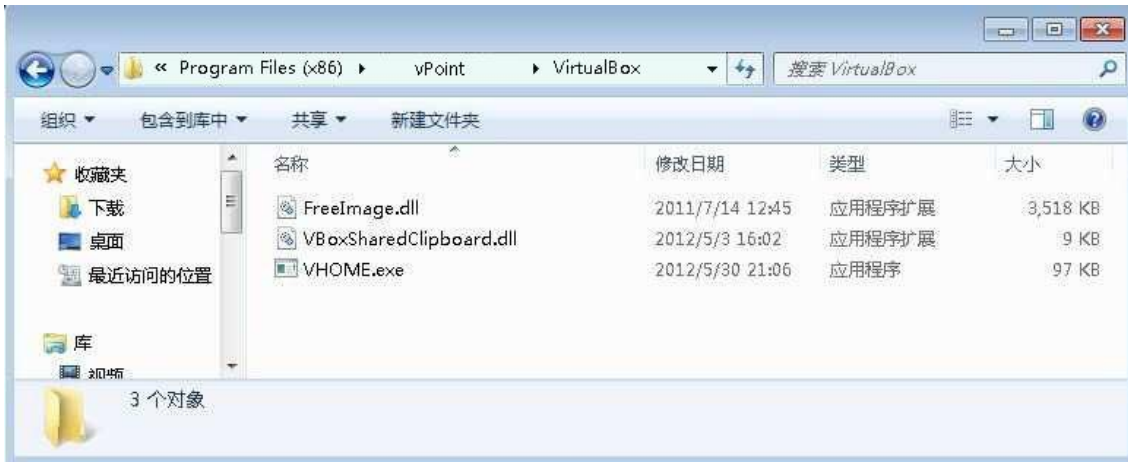
14

The program is VHOME.EXE in two locations:



C:\Program Files\Oracle\VirtualBox\VHOME.exe

15



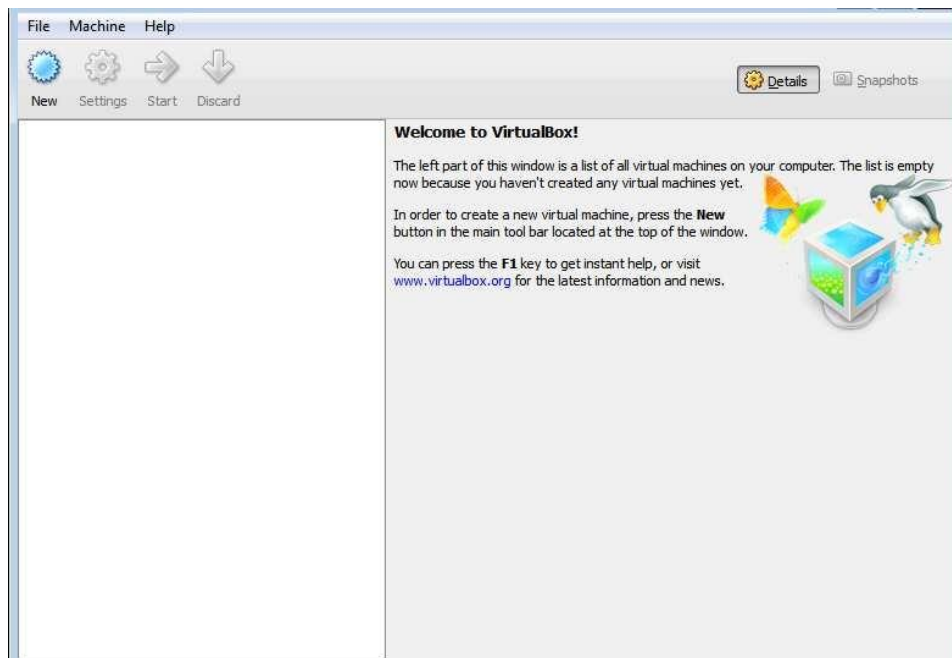
C:\Program Files (x86)\vPoint\VirtualBox\VHOME.exe

16

### 3 Hot to create virtual machines

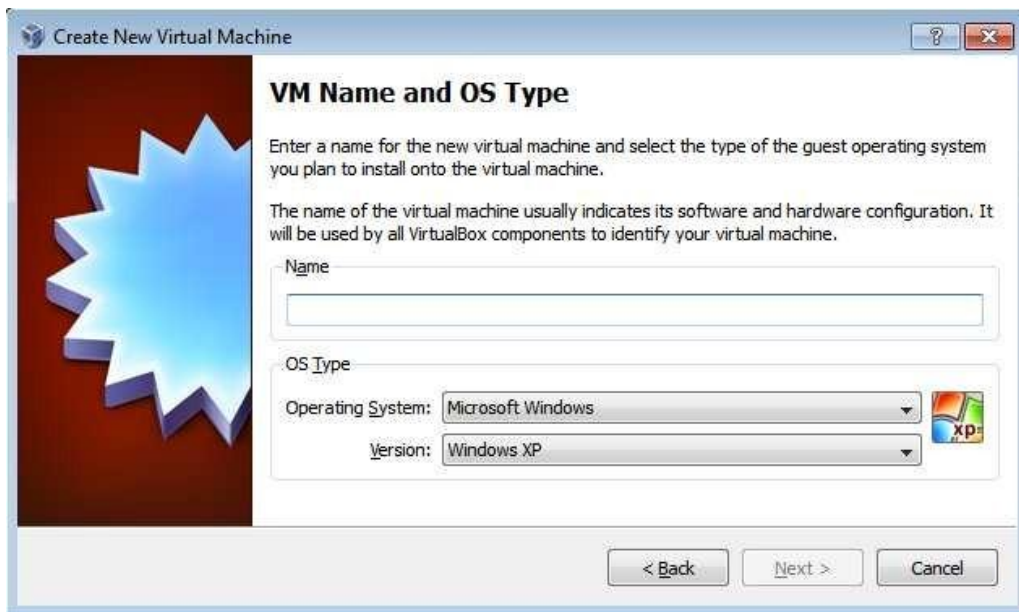
Now let's move on to next step: creating virtual machines. The operation system of virtual machines could be Windows, Linux, Mac, or actually any system supported by VirtualBox. You can choose the right one as you need. You can create multiple copies of same system on the Host PC (Server), say 5 copies of Windows XP intended for 5 users. Or you can also create virtual machines of different operation systems on the Host PC (server), say 1 copy of Windows XP, 1 Windows 7, 1 Ubuntu, etc.

Click the VirtualBox shortcut on desktop to open it. Then click "New" to start the guide. Picture 17:



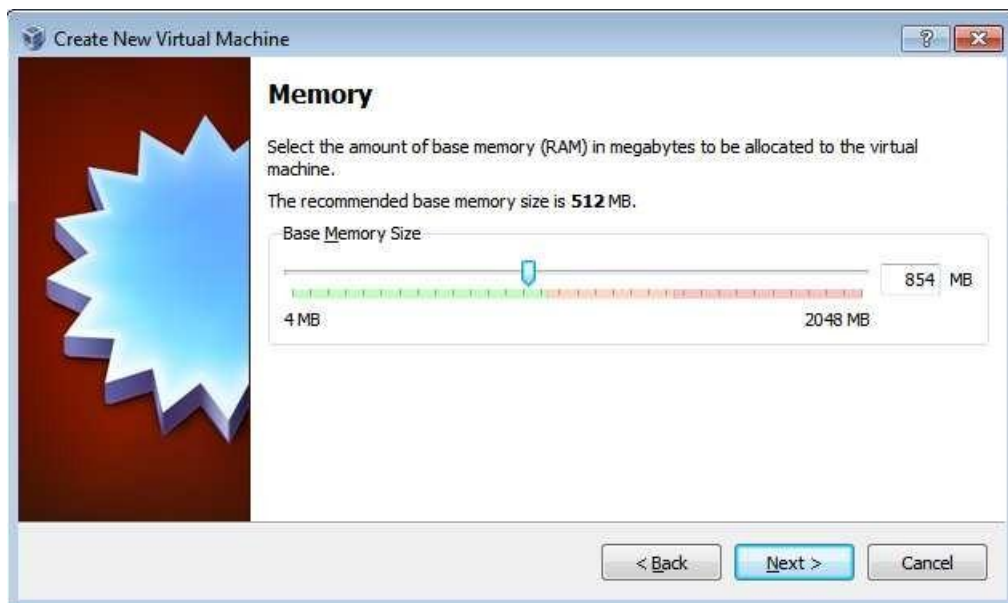
17

Name the virtual machine, and choose the right operation system. Picture 18:



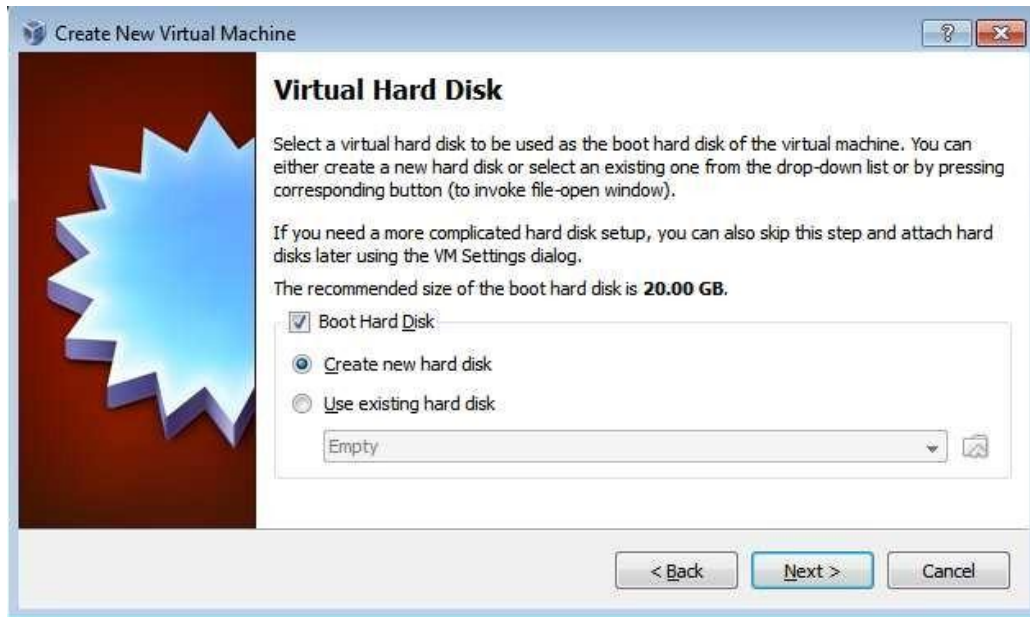
18

Set the size of virtual machine RAM. Picture 19:



19

Create hard disk for the virtual machine. When creating system drive, “Boot Hard Disk” option needs to be checked. Choose “Create new hard disk”, and then click “next”. Picture 20:



20

Click “Next” to continue. Picture 21:



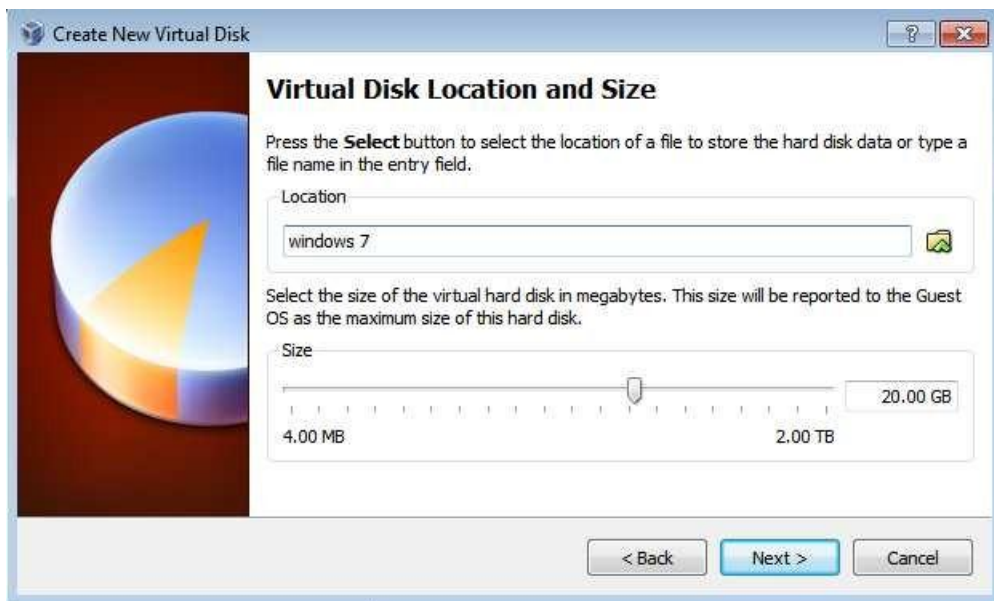
21

Choose Storage Type. Picture 22:



22

Set the size of hard disk. 5G or above is recommended. Picture 23:



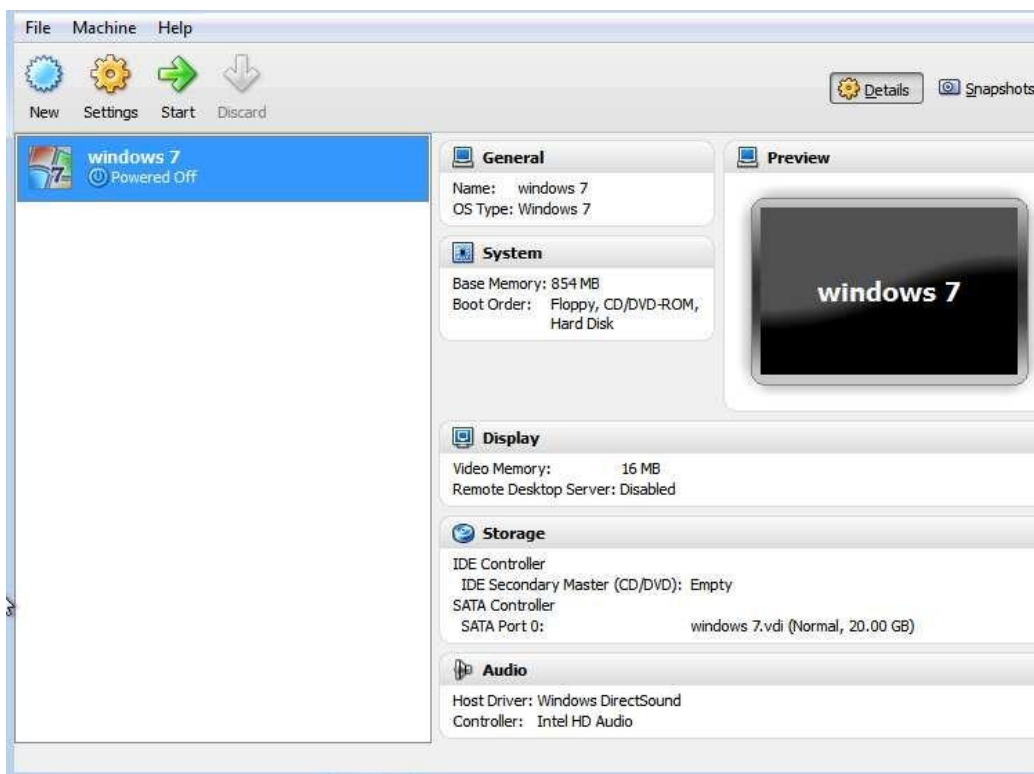
23

Check the Summary. Click "Finish". Picture 24:



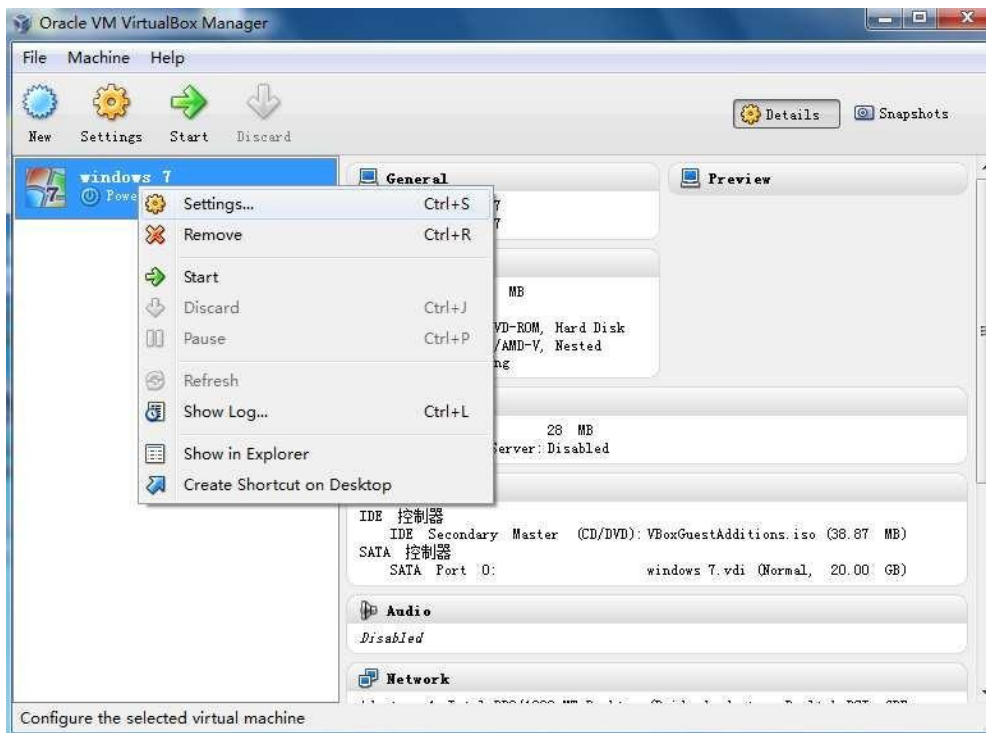
24

Now, we can see a virtual machine in the list. Picture 25:



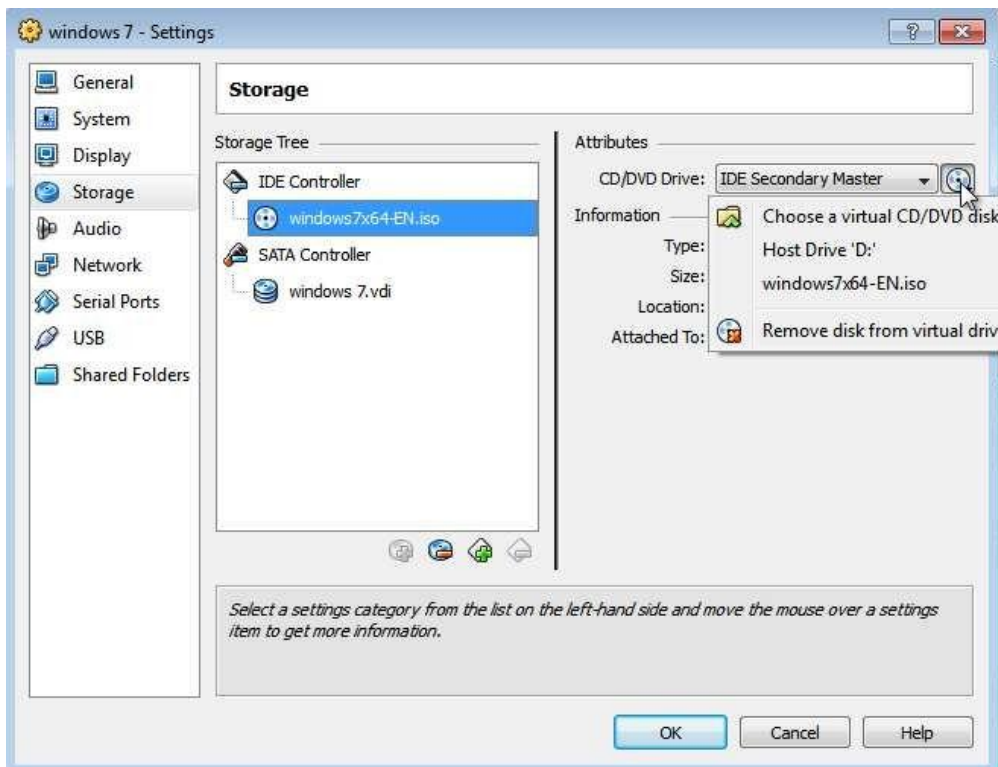
25

Now, we need to change settings of the virtual machine. Click “Settings”, picture 26:



26

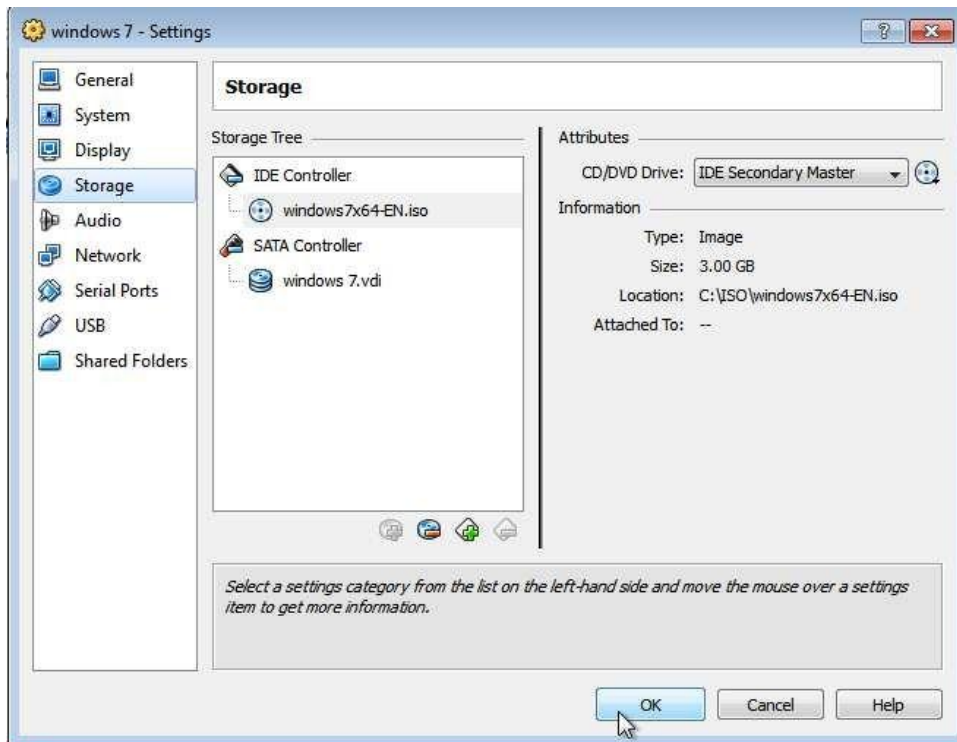
Click “Storage” on the left, then click “CD drive” in the “Storage Tree”. In the “Attributes”, choose a system ISO image for installing the operation system. Picture 27:



27

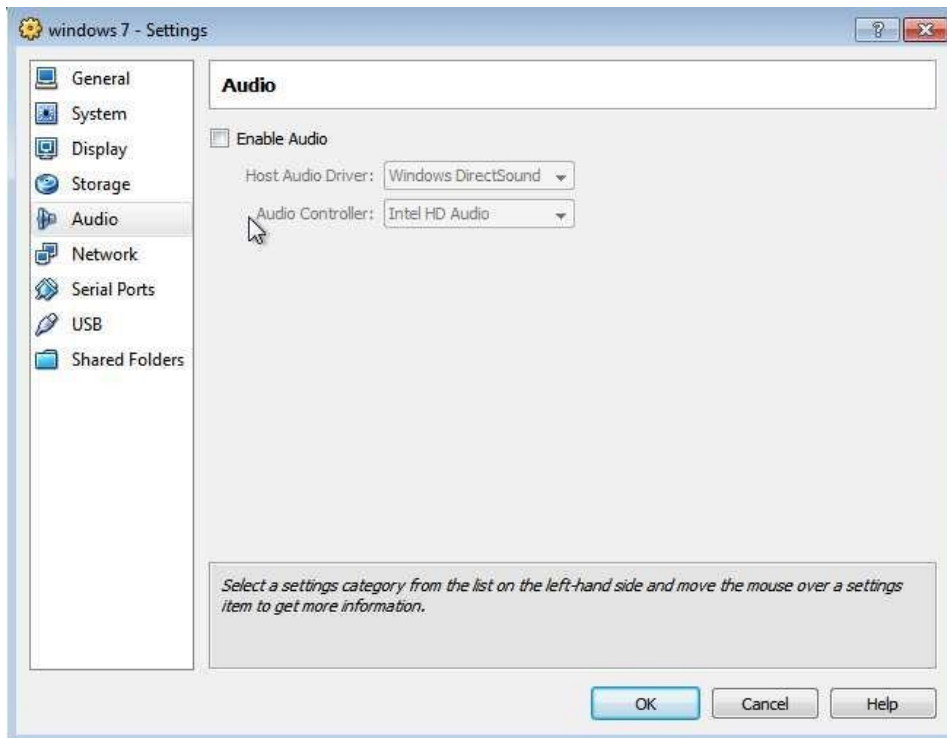


Click "OK". You can see the ISO image is successfully loaded into to the CD drive. Picture 28:



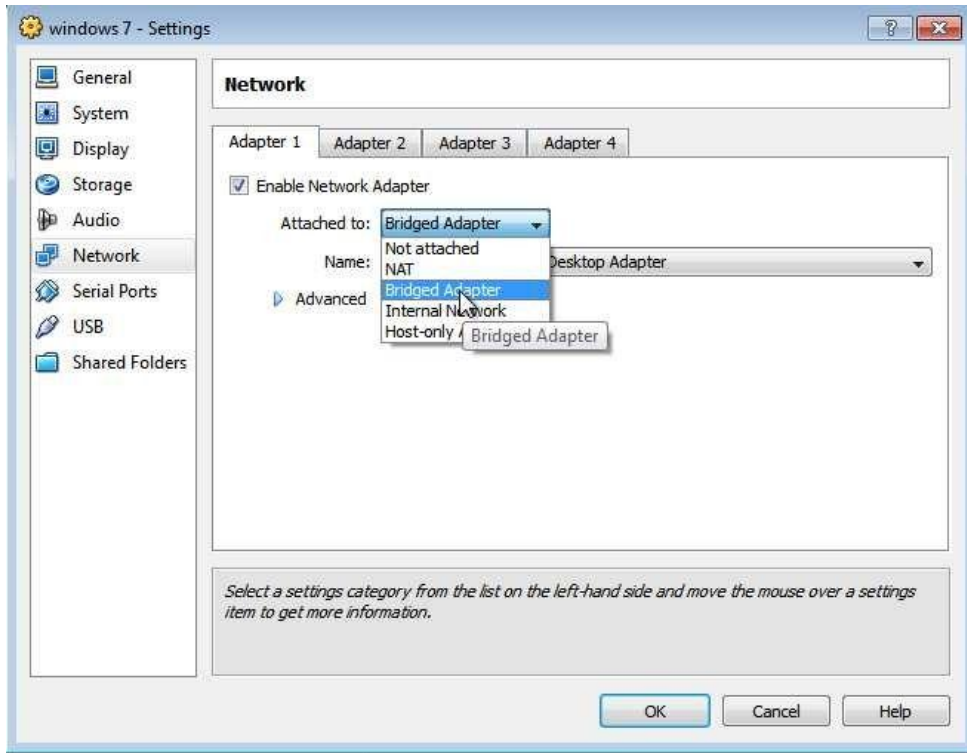
28

Next step, choose "Audio", uncheck "Enable Audio". We will install TC-V150 its own audio device, so no need to enable audio device here. See picture 29:



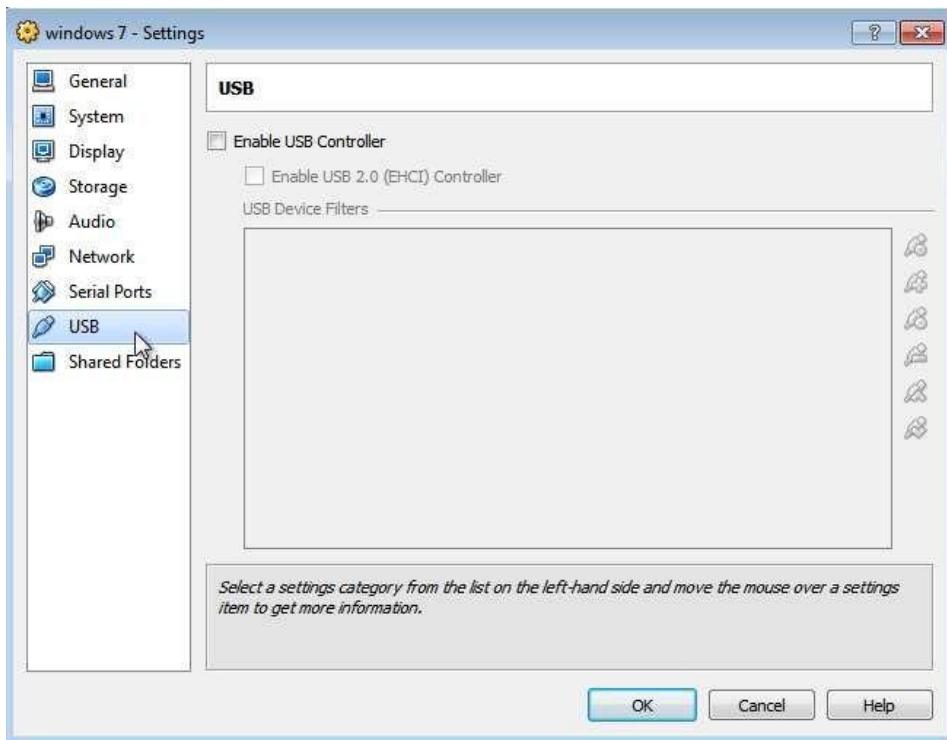
29

Then go to “Network”, choose “Bridged Adapter” for the virtual machine. Picture 30:



30

And also in the “USB” option, uncheck “Enable USB Controller”. Finally, click “OK” to finish. See picture 31:

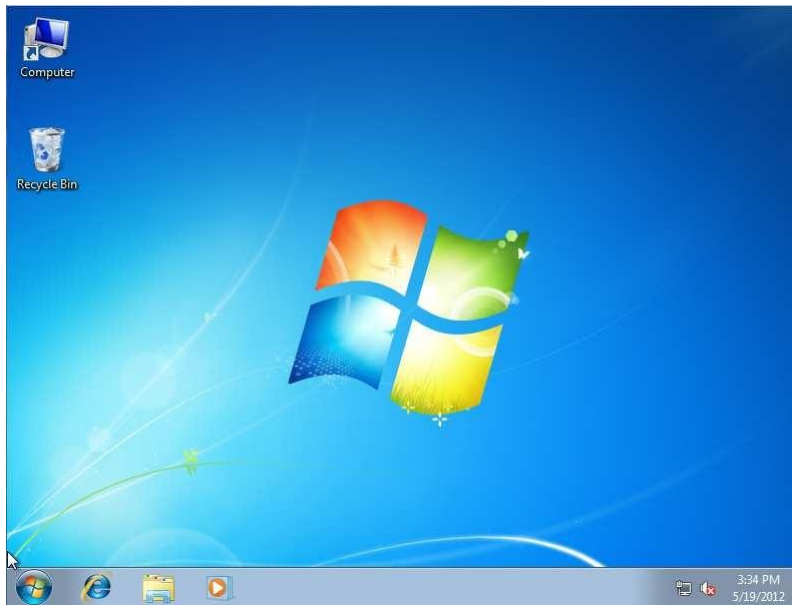


31

Now, we can start the virtual machine and begin the installation of operation system. The installation process is just the same as you were installing it on physical PC (Server).

### Install Guest Additions:

Guest Additions need to be installed to the virtual machine to function higher performance. Start the virtual machine we have just finished installing operation system. See picture 32:



32

Click “Devices”, then choose “Install Guest Additions”. See picture 33:



33

Click "Run VBoxWindowsAdditions.exe" in the popup window. See picture 34:



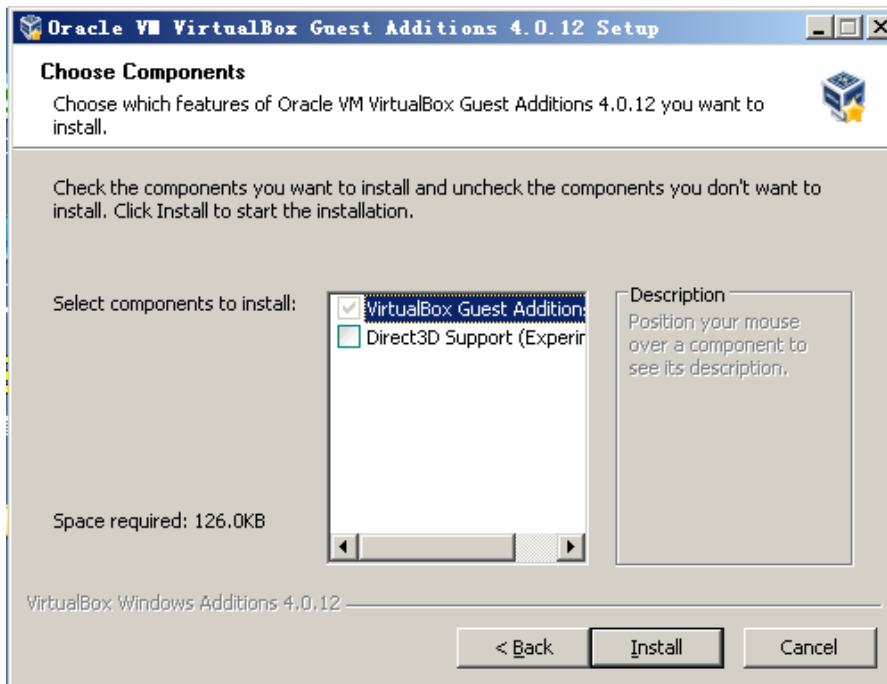
34

Click "Next". Picture 35:



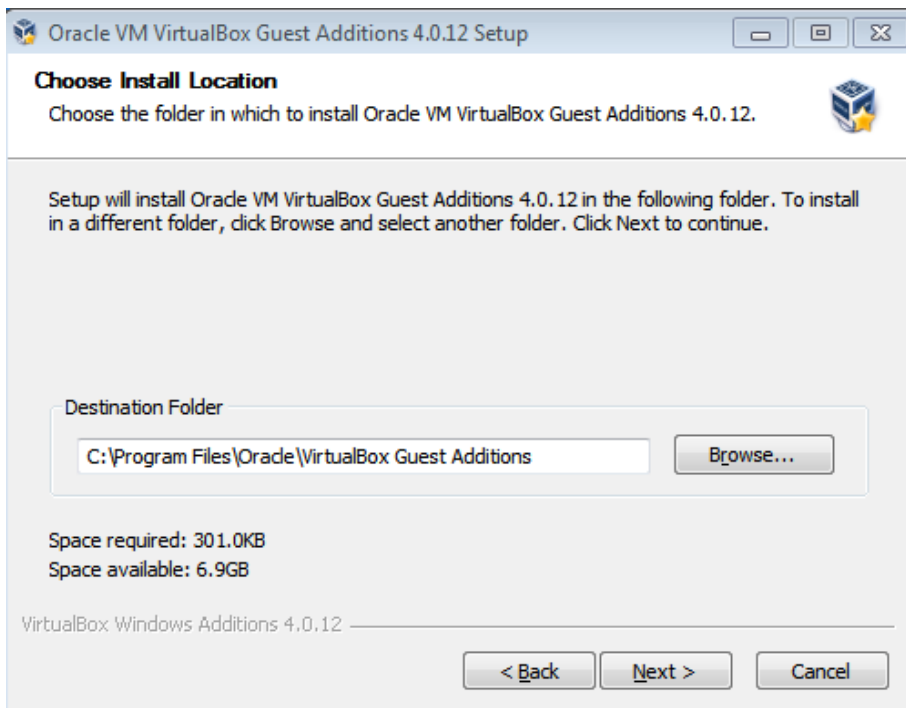
35

Do not check "Direct3D Support". Picture 36



36

Choose an install location. Default is OK. Picture 37:



37

When the installation complete, click “Finish” to reboot the virtual machine. Picture 38:

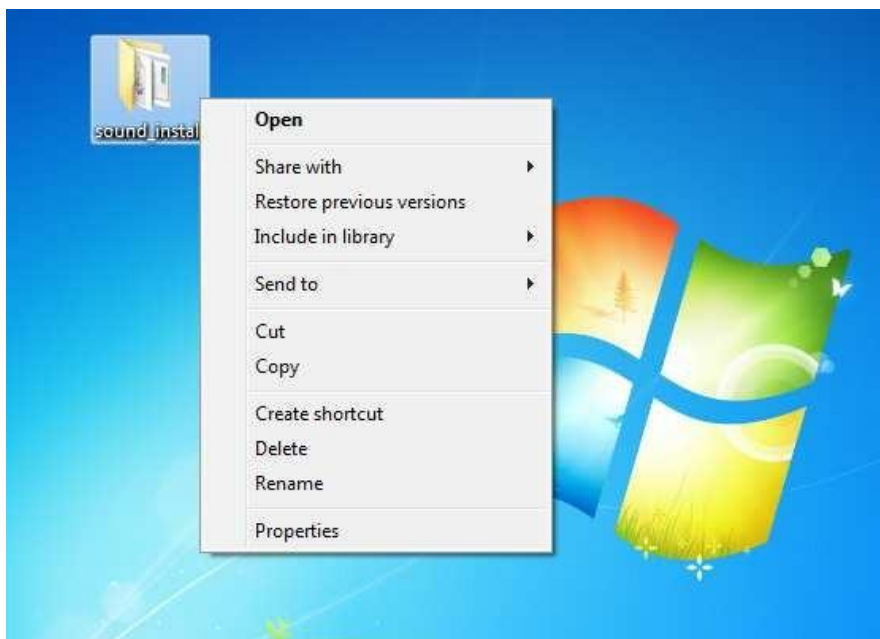


38

Now, we will install TC-V150 Audio Device to the virtual machine.

Start the virtual machine and log into the system. Open “vPointGuestInstallationPackage” and then double click “install” to run the installation (you can get “vPointGuestInstallationPackage” from XtendLan CD or download from our website. Here is the

Link <ftp://ftp.asm.cz/XtendLan/TC-V150/Software> ). See picture 39& 40:

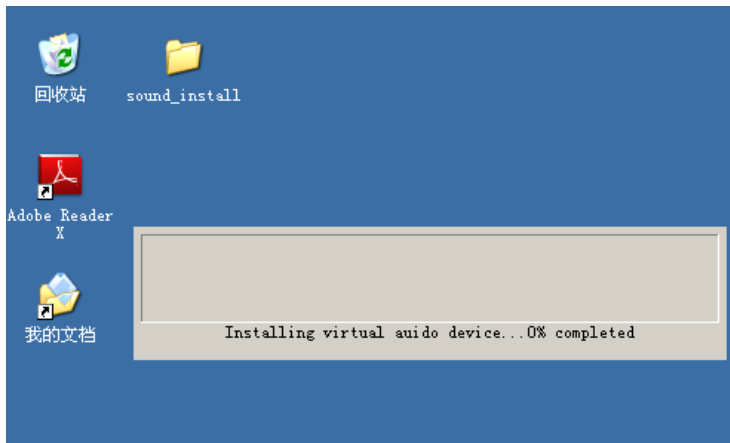


39

Name	Date modified	Type	Size
install	5/17/2012 5:38 PM	Shortcut	1 KB
muinshlp.dll	1/20/2010 6:00 AM	Application extens...	44 KB
npaudio	1/29/2012 9:15 PM	Setup Information	6 KB
rminst_only_one_device	4/11/2010 8:04 AM	Application	23 KB
VP_AUDIO.sys	2/29/2012 9:08 PM	System file	22 KB

40

TC-V150 Audio is installing. Picture 41:



41

Click "Continue Anyway" when the following pops up. See picture 42:



42

When the installation is finished, you can see a vPoint audio device in Device Manger. Now reboot the virtual machine.

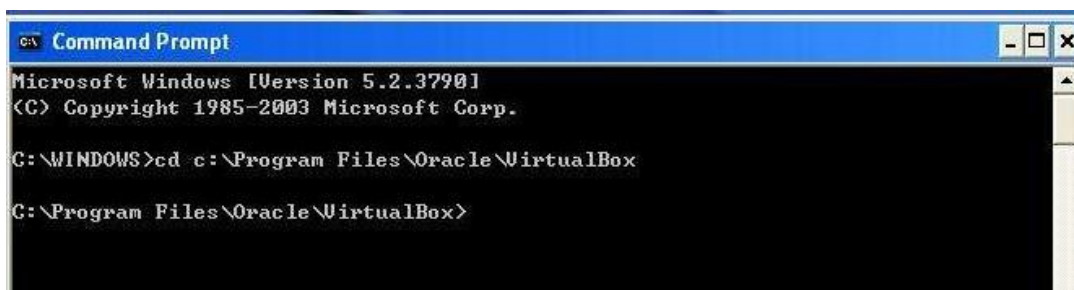
More often, we will be using more than 1 copy of same Operation System, say windows 2003, on the Host PC (server). One quick way to have multiple copies of Windows 2003 is to clone it. When you have finished installing Windows 2003 and necessary configuration, we can move on to clone it.

Click “start” > “All Programs” > “Accessories”, then right click “Command Prompt”, choose “Run as Administrator”. See picture 43:



43

Run “CD C:\Program Files\Oracle\VirtualBox”, Picture 44:

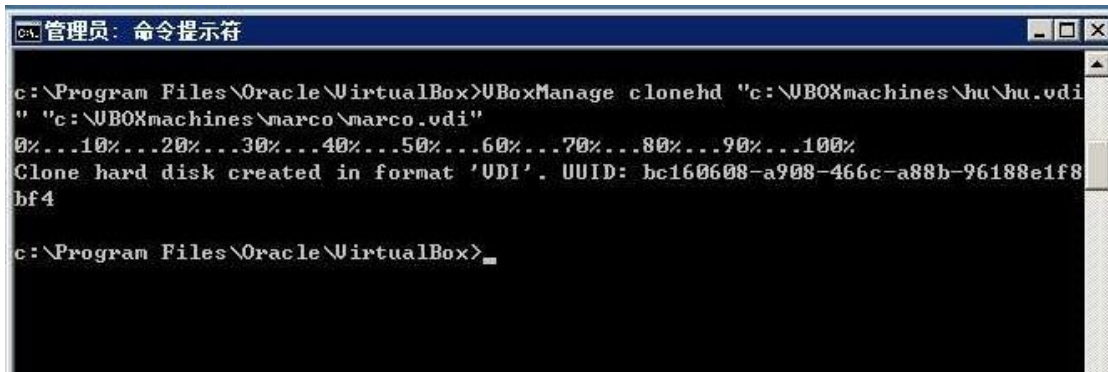


44

Run “VBoxManage clonehd” to do the clone work. Here is the format: VBoxManage clonedhd “path and name of source file” “name and destination of target file”. We assume the virtual disk file of Windows 2003 is in



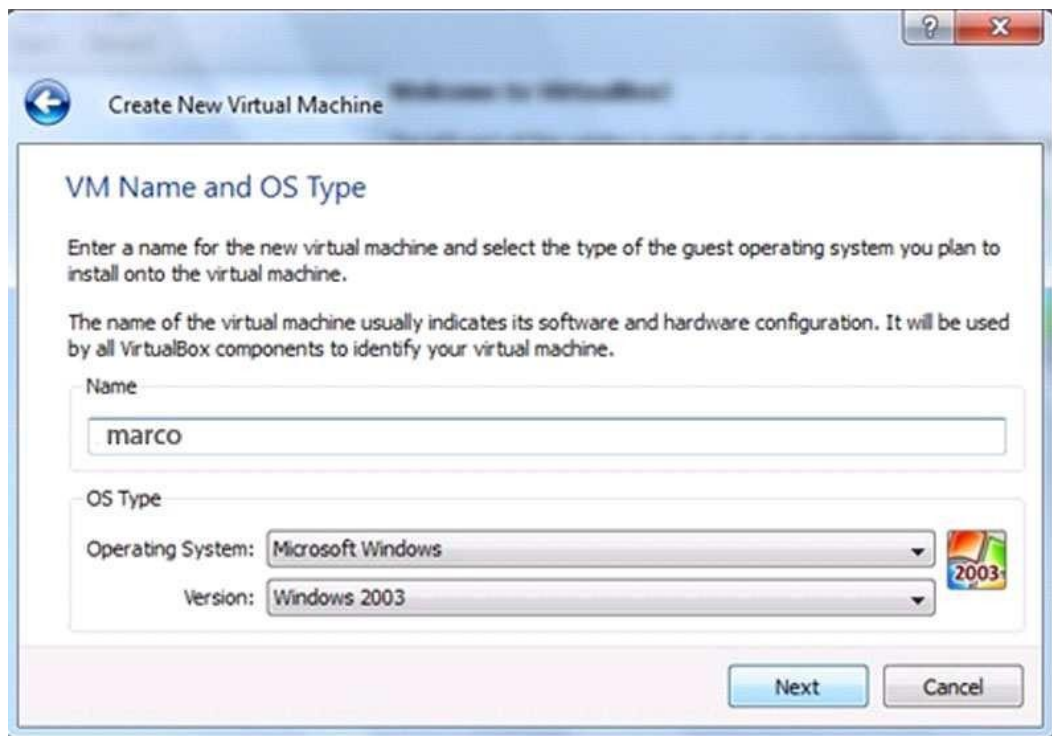
this location: "C:\VBOXmachines\hu\hu.vdi", and "hu.vdi" is the file name. Destination is "C:\VBOXmachines\marco\marco.vdi". Here is the full command: VBoxManage clonehd "C:\VBOXmachines\hu\hu.vdi" "C:\VBOXmachines\marco\marco.vdi". See Picture 44:



44

Note: if you have chosen to use default when installing VirtualBox, you can find the virtual disk files of virtual machines at this location: C:\Documents and Settings\Administrator\VirtualBox VMs\.

When the clone is done, we need go back to "Oracle VM VirtualBox Manager". Click "New", type name "marco" (or nay name you want) for this machine, and then choose "windows 2003". See picture 45:

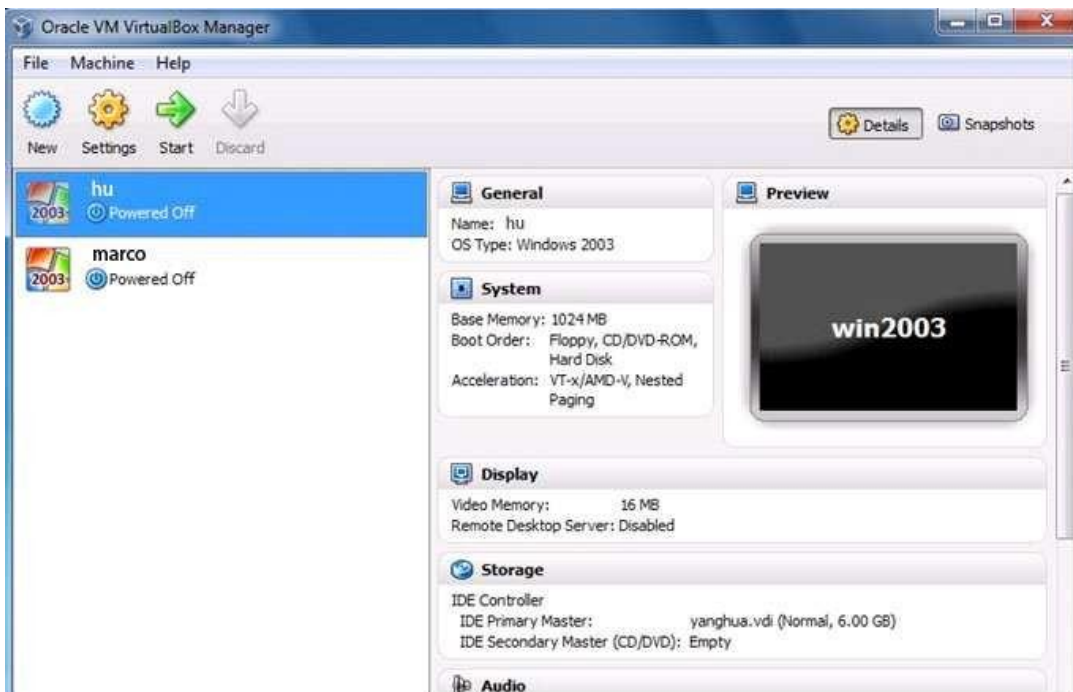


45

Choose “Use existing hard disk”, open the archive and find the location of the virtual disk we have just cloned. Then click “OK” to save. Virtual machine with name “marco” will appear in the list. See picture 46 and 47:



46



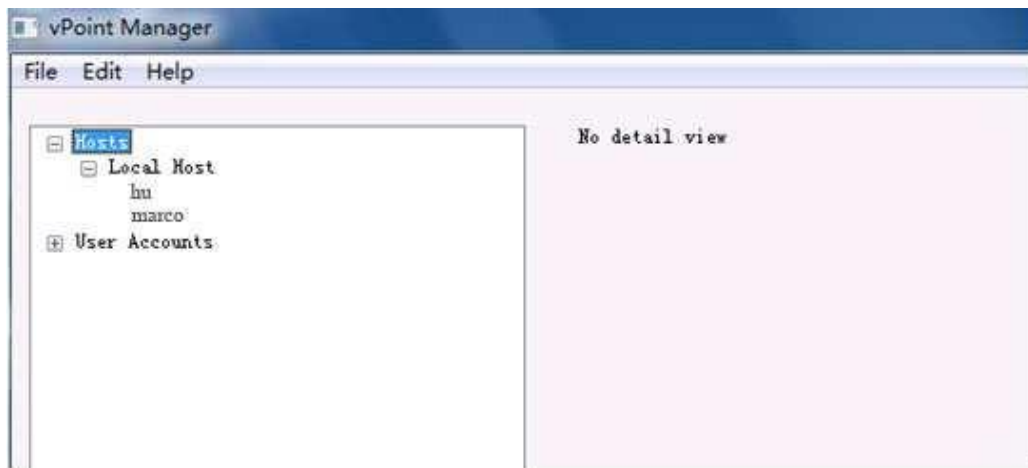
47

Now we have finished the clone of virtual machine.

## 4 The Setting Up of Accounts

vPoint Management Center is the User Account management console for TC-V150. We can use it to set up user accounts and assign virtual machines to the users.

Double click the shortcut of “vPoint Management Center” on desktop to open the management console. See picture 48:



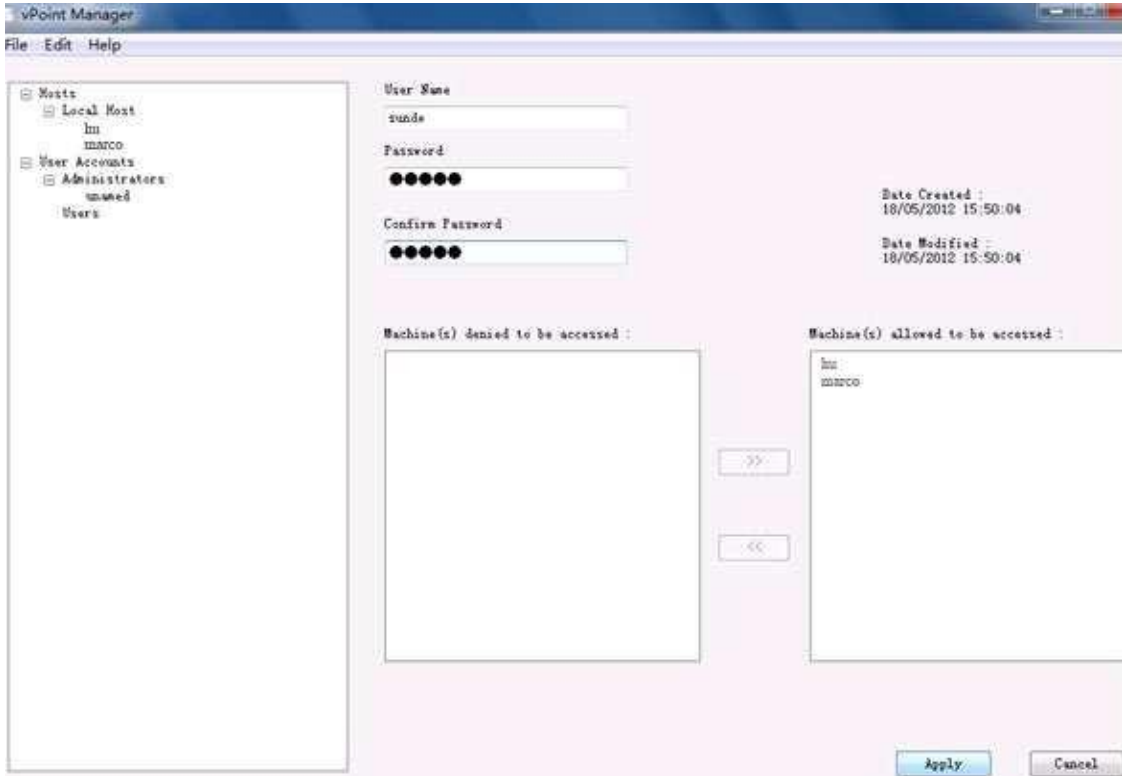
48

“Hosts” shows a list of Host PCs (Servers). “Local Host”, which is in the list, is the Host PC we have been operating. Here we can see 2 virtual machines shown in the list with names “hu” and “marco”.

“User Accounts” lists all the user accounts. There are two types of user account: one is Administrator, the other is normal user who will be using TC-V150 terminal to log onto virtual machines. The first step is to set up an Administrator type account, who will have the right of accessing all the virtual machines created on the Host PC (Server). Right click on “Administrators”, choose “new”. Now you can see there is account name “unnamed” in the list. Click it, and then do the rename operation and code setting up in the right. Here we change the name to “XtendLan”. When password is set, click “Apply” to take effect. See picture 49& 50.

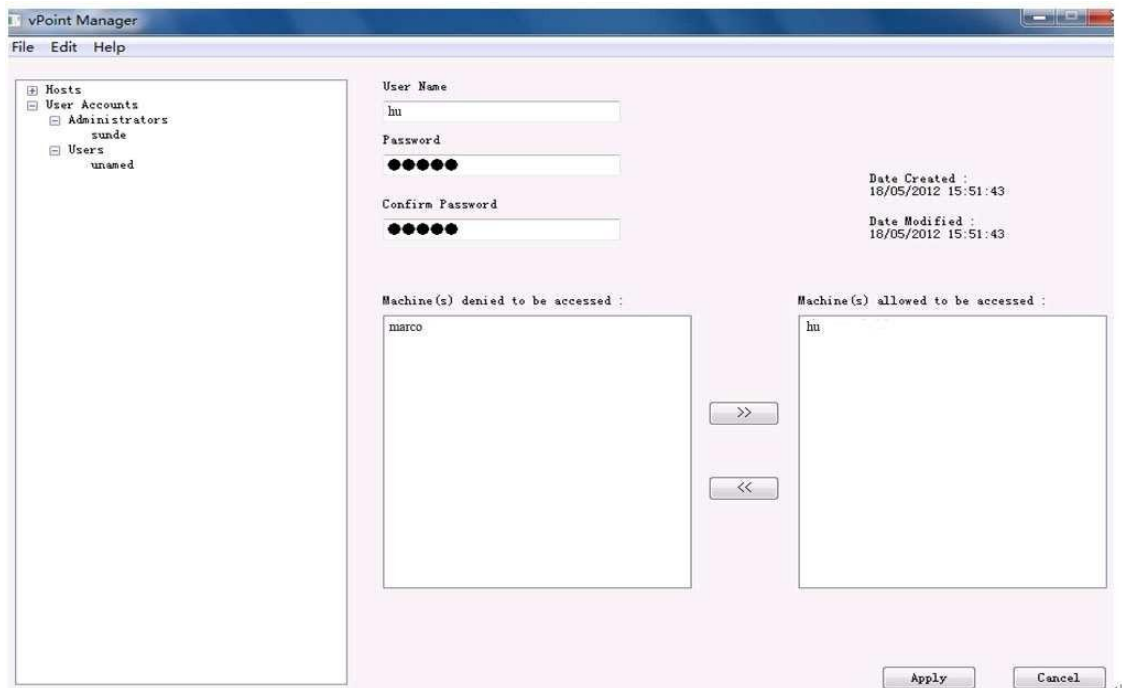


49

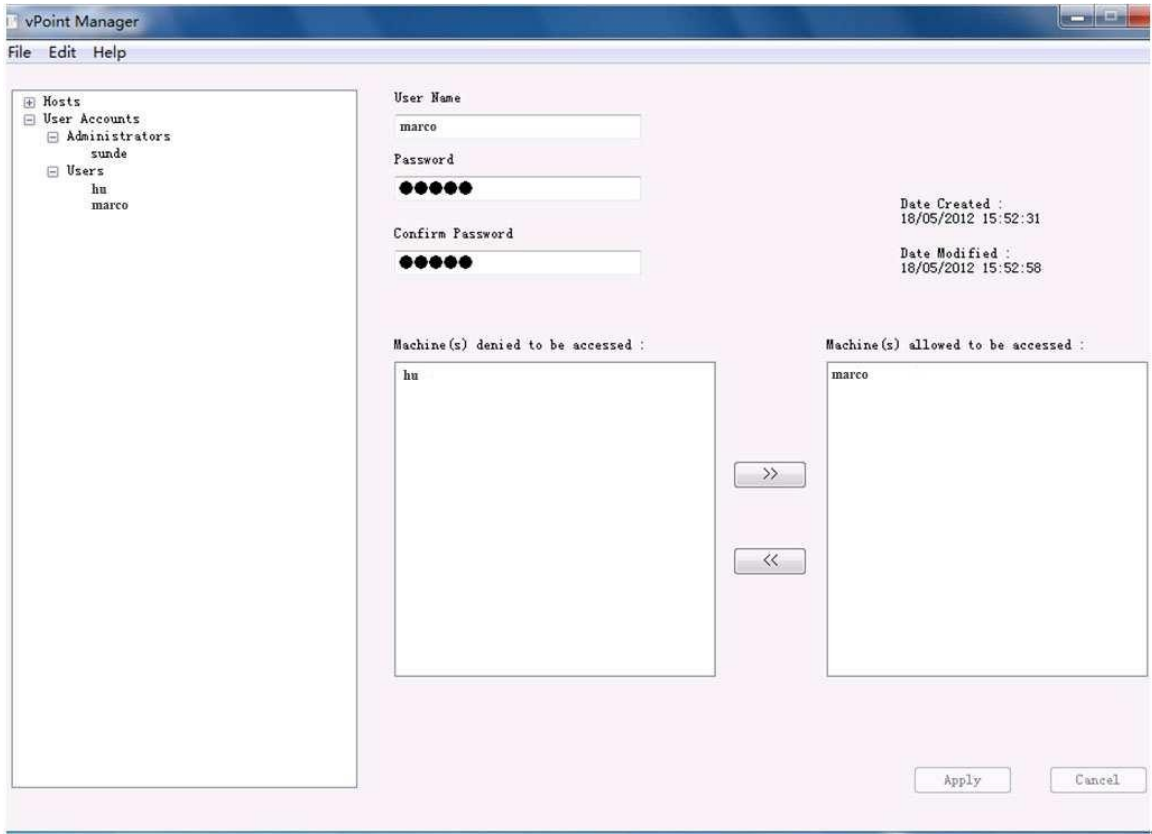


50

Now we will create two User accounts: “hu” and “marco”, and assign the two virtual machines to them. You can see “hu” is assigned to user hu, and “marco” is assigned to user marco. The steps are the same as the way we just created “XtendLan”. Picture 51 and 52:



51

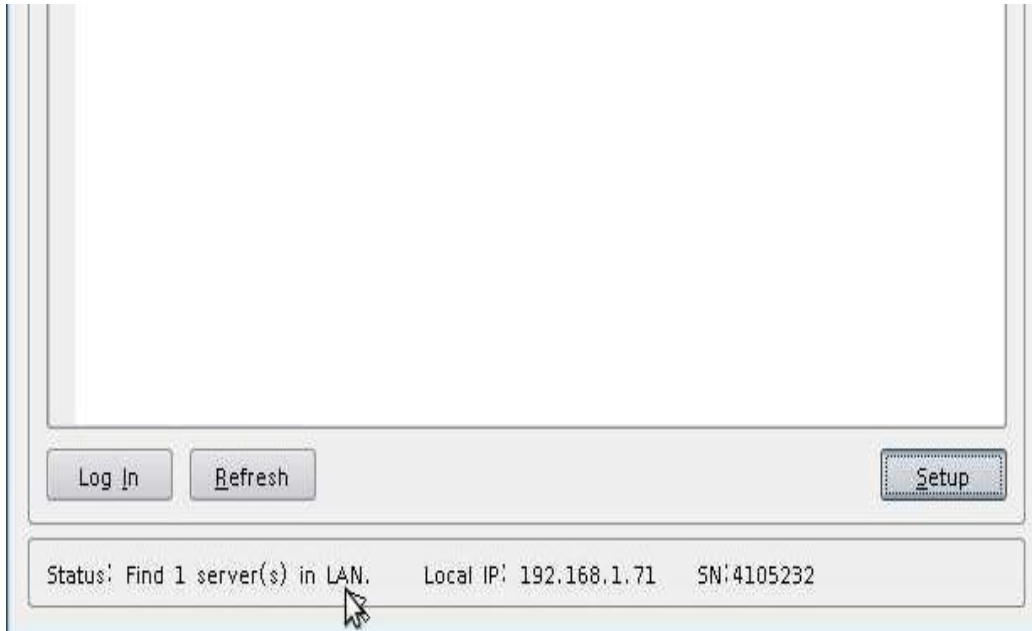


52

As shown in picture , “Machines denied to be accessed” lists the virtual machines the user has not right to access. We need to choose one virtual machine from the list and use “>>” to move it to “Machines allowed to be accessed”. Click “Apply” to take effect. When this is done, the chosen virtual machine is assigned to this user. The above picture shows “marco” is assigned to user marco. Of cause, you can assign more than 1 virtual machines to one user.

## 5 Setting Up of TC-V150 Terminal

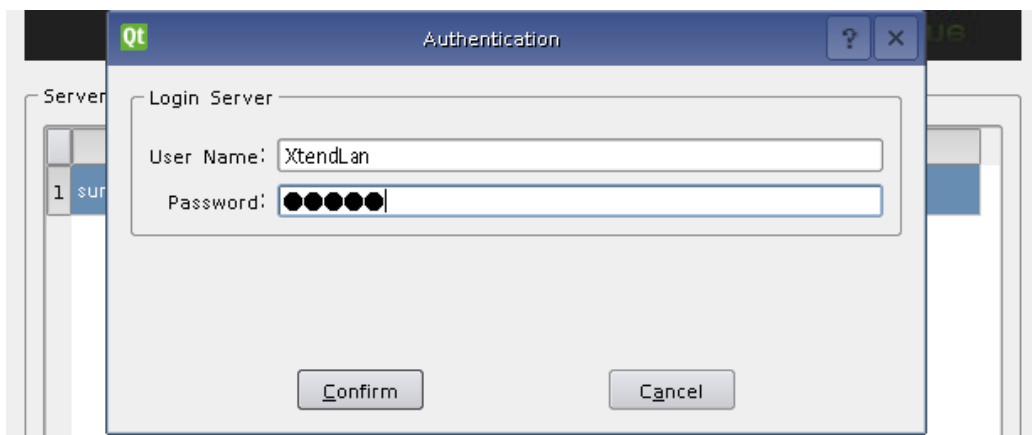
Please make sure that you have connected monitor, keyboard, mouse, and Ethernet cable to TC-V150 Terminal before you power on TC-V150. "Server List" will show up when TC-V150 is powered on and initialized. See picture 53:



53

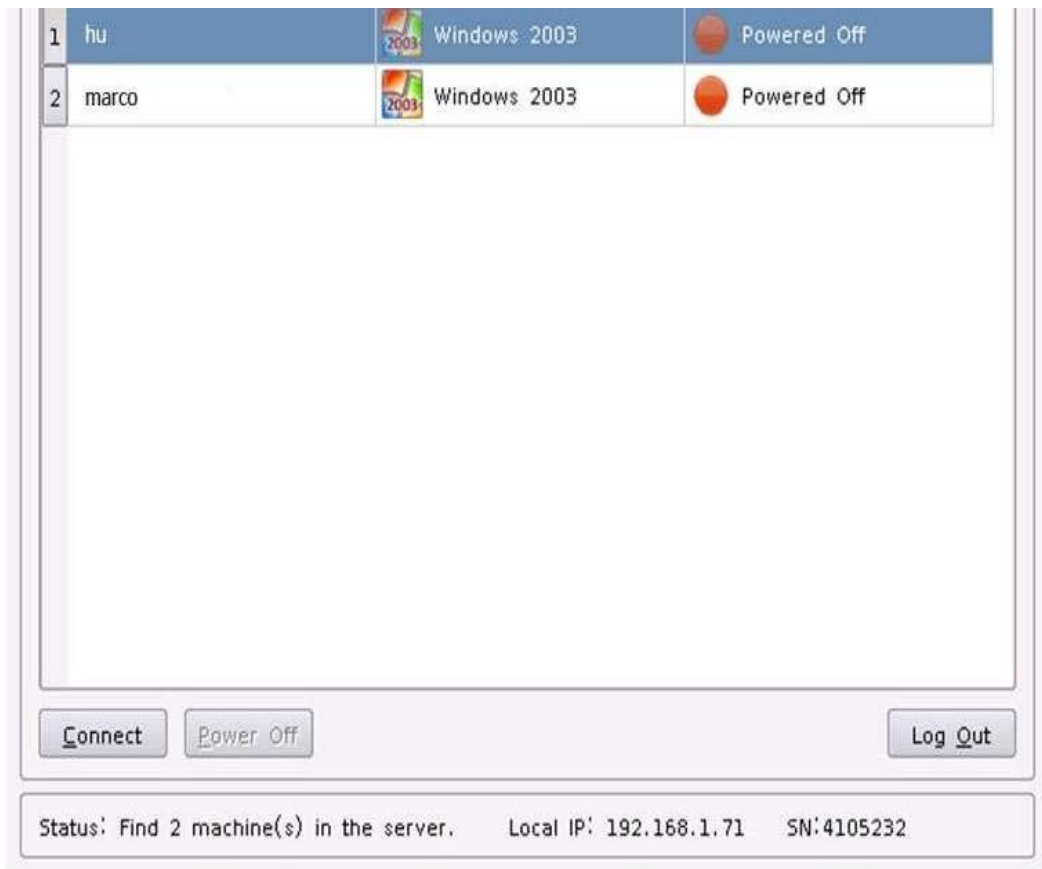
Server with name "XtendLan-PC" as shown in the list is the Host PC (Server) on which we have installed TC-V150Server. Choose it and click "Log In".

Enter "User Name" and "Password" and then press "Confirm". See picture 54:



54

The coming up new window show all the virtual machines which have been assign to user "XtendLan".  
Picture 55:



55

Choose one virtual machine from the list and then click "Connect". You will now be connected to this virtual machine. If its original status is "Power Off", a "Connect" click will automatically start the virtual machine.

Picture below shows the “Setup” page of TC-V150. You can press “Setup” button as shown in Picture 53 to come to this page.

Setup

Local IP:

Use Dynamic IP Address

Use Static IP Address:

IP Address:  .  .  .

Subnet Mask:  .  .  .

Gateway:  .  .  .

Monitor Settings:

Screen Resolution: 1440x900

Set Language:

Language Selection: English

English

Chinese(PRC)

Server IP:

Search Servers in Lan

Server IP / Name

IP / Name:

Local Terminal Setup Protection:

Enable Password Protection

Password:

Comfirm:

Log On

User Name:

Password:

Firmware Version

Kernel Version: DA01KN20120517

Program Version:

Update Firmware

Save

Cancel

56

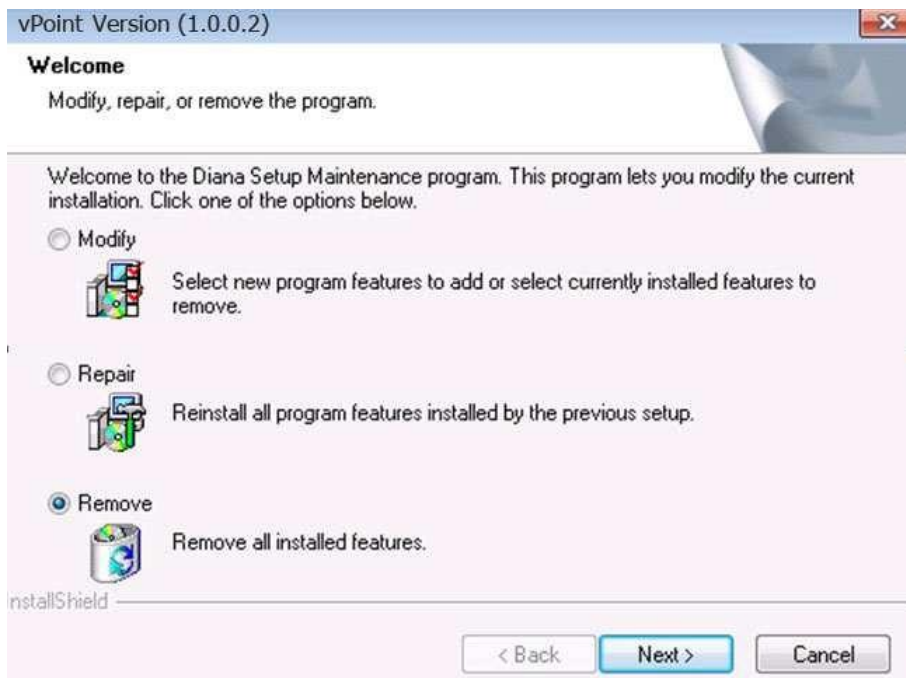
Here users can set up the way TC-V150 getting its IP address, screen resolution, language, Server IP, etc.



## 6 How to uninstall vPoint 1.0.0.2

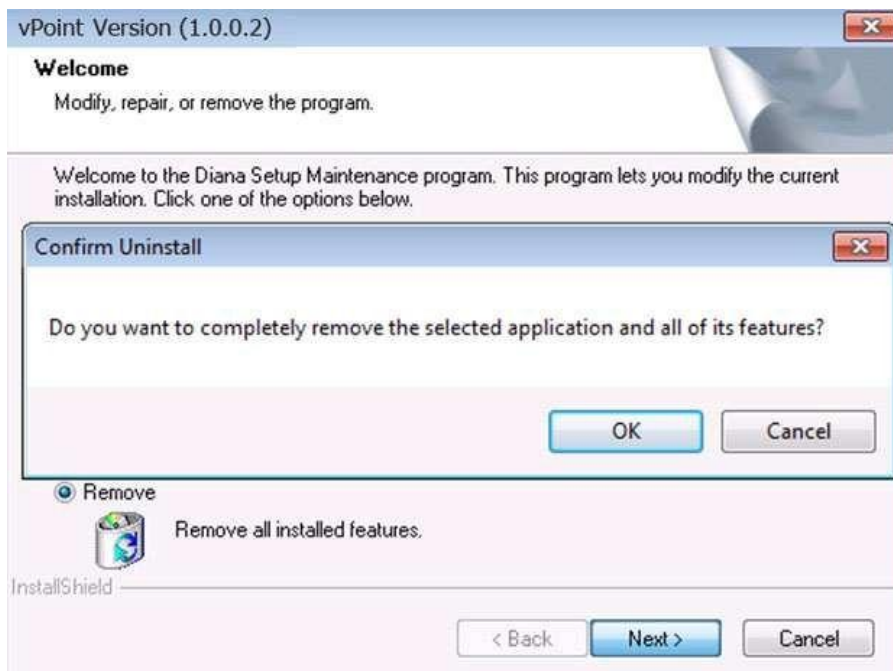
There are two ways to uninstall vPoint. One is to run vPoint Installation Package and when the following window pops up, choose “Remove” to uninstall vPoint. The other way is to go to “Control Panel”, and then “Programs”. From the program list, find “vPoint” and click on it.

When it starts, choose “Remove”, then click “Next”. Picture 57:



57

Click “OK” to confirm uninstall.



58

Uninstalling process will begin. VirtualBox will also be removed. Click "Next" to continue. Picture 59:



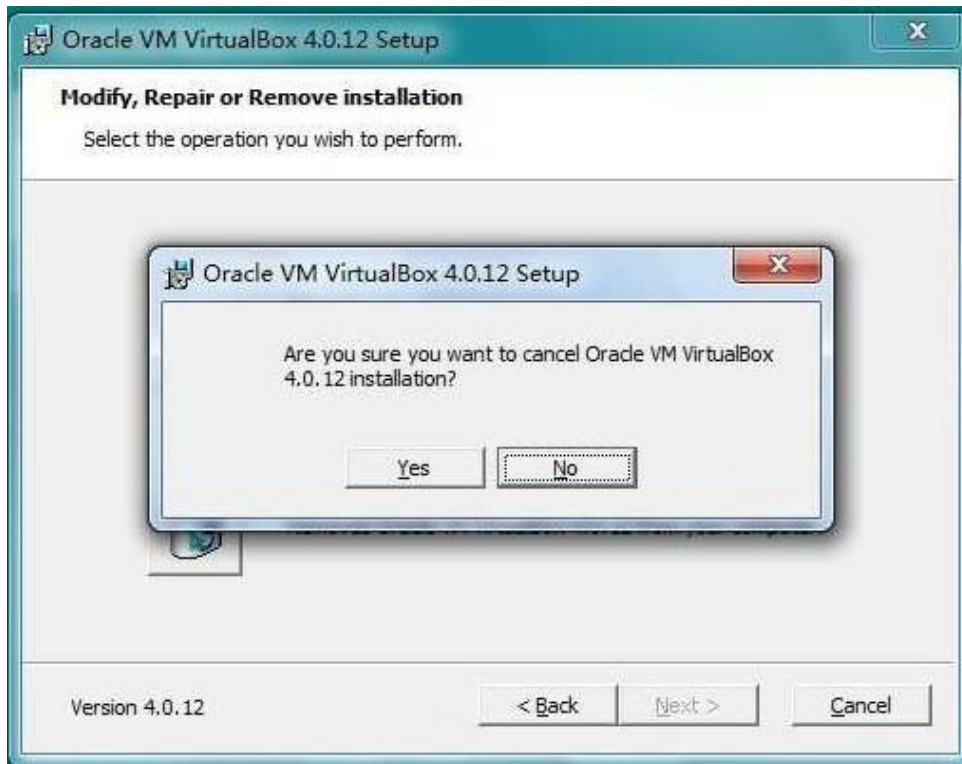
59

Choose "Remove"



60

Choose "Yes". Picture 61:



61

Uninstall of VirtualBox is ongoing



62

When uninstall of VirtualBox finishes, a pop up will show asking if you want to restart the machine. Please click “No” as vPoint uninstall does not finish yet. Picture 63:



63

Continue with the un-installation of TC-V150Server. When it finishes, click “OK” to restart computer. Picture 64:

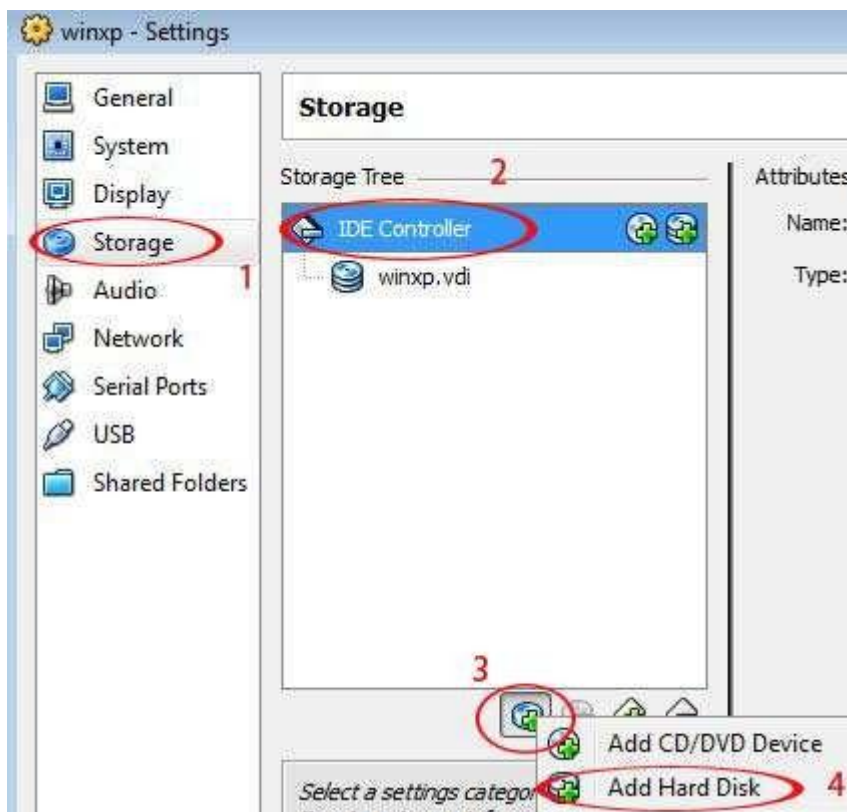


64

## Appendix 1: Add more virtual hard drives to virtual machine

In production environment, we may need more storage space (more often hard drives) to store user data. In the previous steps, we have set up one virtual hard drive for the virtual machine, which has been used by the operation system (drive C). So, adding more storage space means we need to add at least one more virtual hard drive to this virtual machine so that we can have storage space for user data. To store user data in a different virtual hard drive instead of drive C is also a safety measure to protect the user data from damages as caused by system failure or a snapshot restoring operation.

Click on the virtual machine for which you going to add virtual hard drive, then “Settings”, “storage”, “IDE controller”, See picture 65:



65

Choose “Create new disk”, Picture 66:



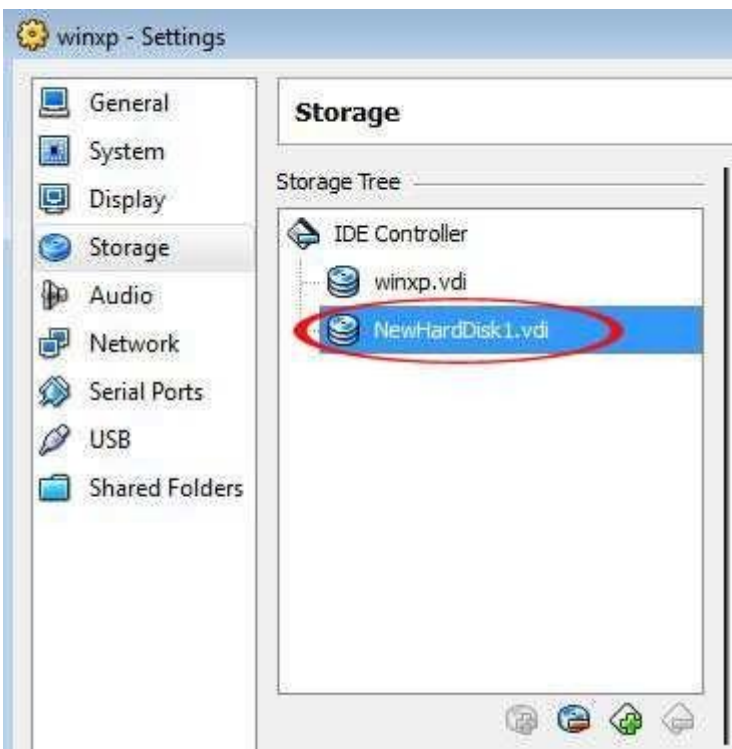
66

Follow the Wizard to complete the process. Picture 67:



67

When it is done, you can see a new hard drive is attached to the IDE Controller. Picture 68:



68

After all these have been done, we still need to log onto the virtual machine to activate the newly added virtual hard drive. Here are the steps:

Start the virtual machine with newly added virtual hard drive. Click “Start”, “All Programs”, “Administrative tools”, then “Computer management”. See picture 69:



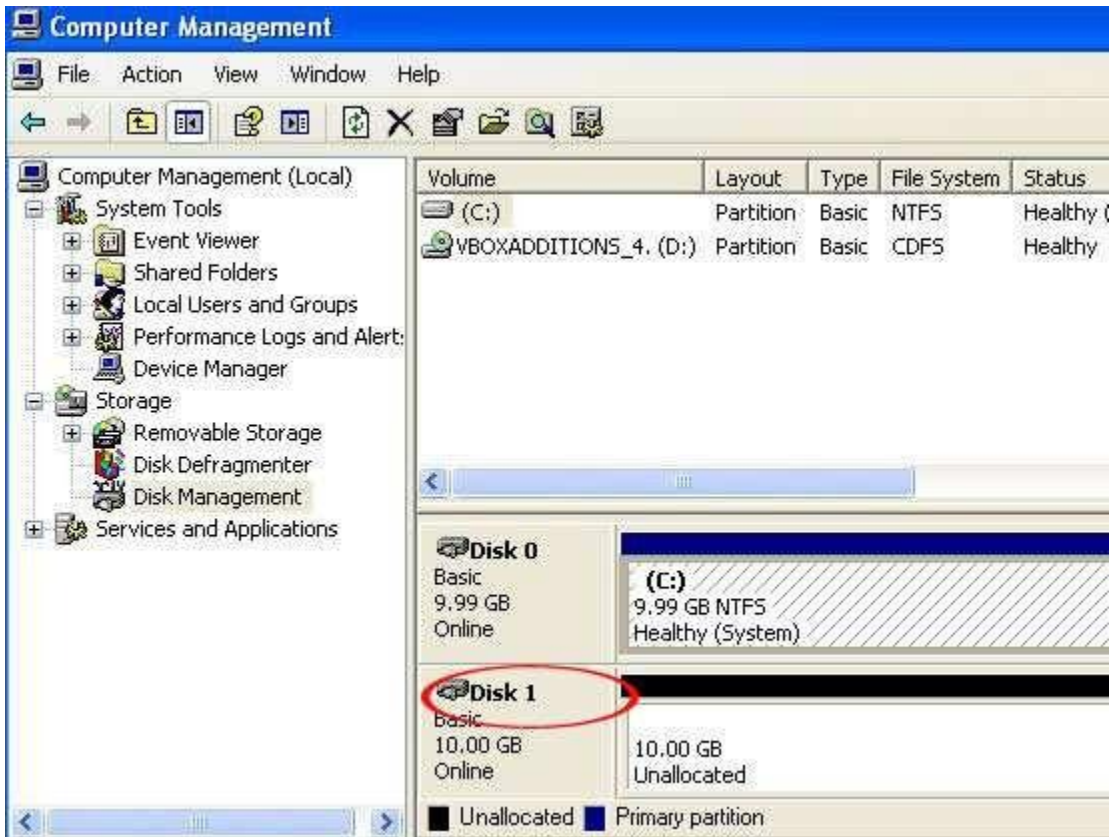
69

In the popup window, choose “Disk Management”. A new window called “Initialize and Convert Disk Wizard” will pop up. Follow the Wizard to complete the process.



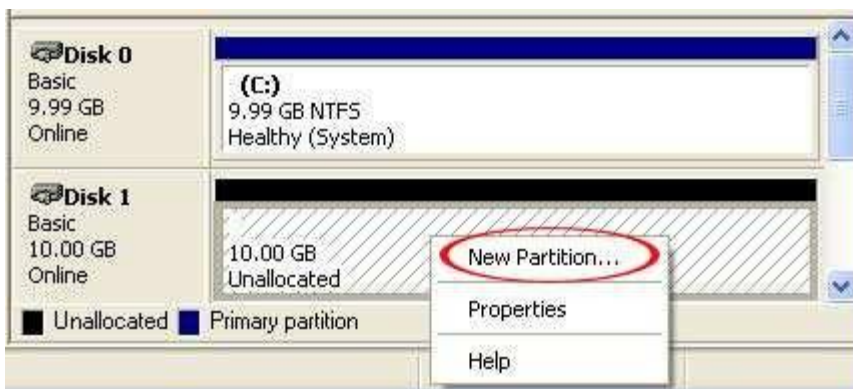
70

When it is done, a new disk "Disk 1" will appear in the drive list. The status is "Unallocated".



71

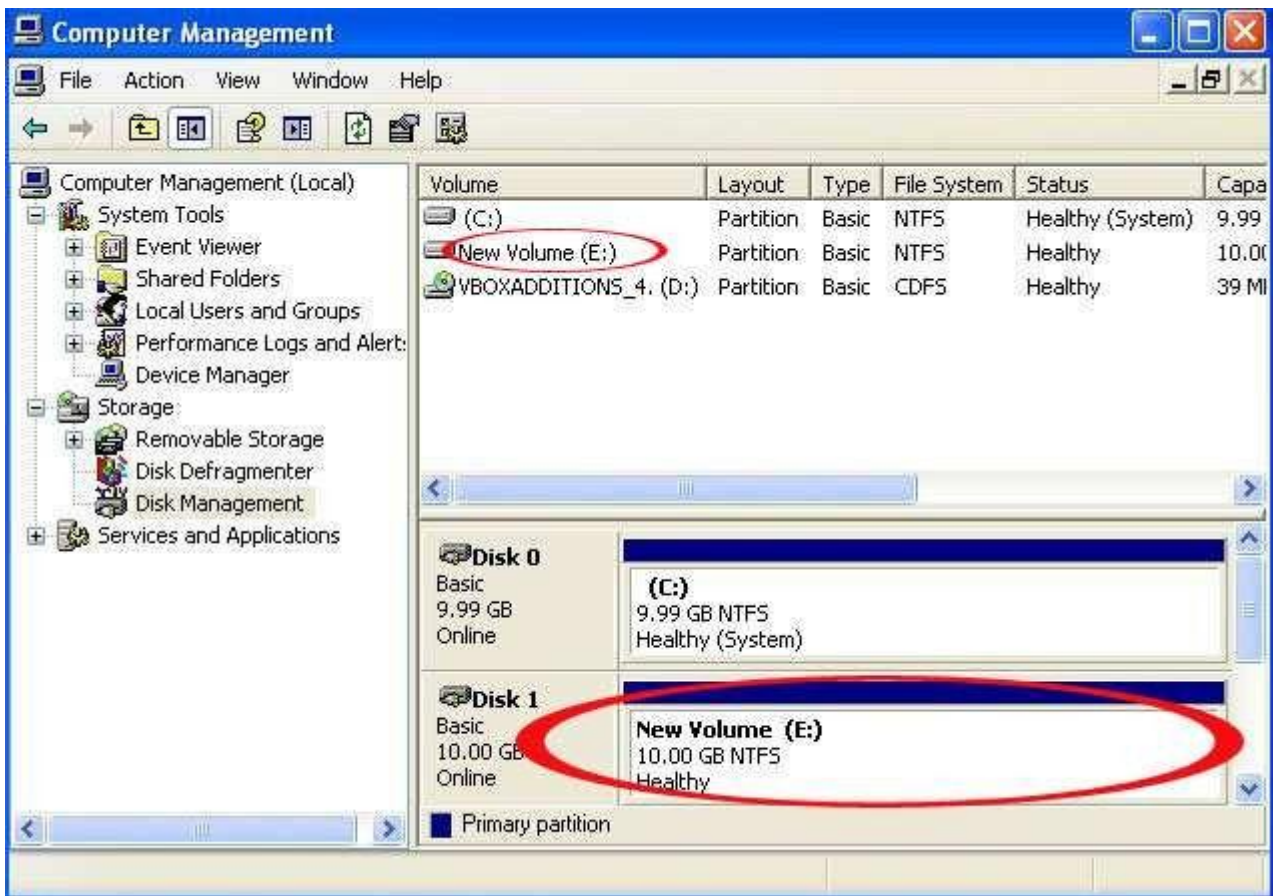
Right click this new drive, and then choose "New partition". Follow the Wizard to complete the process.



72



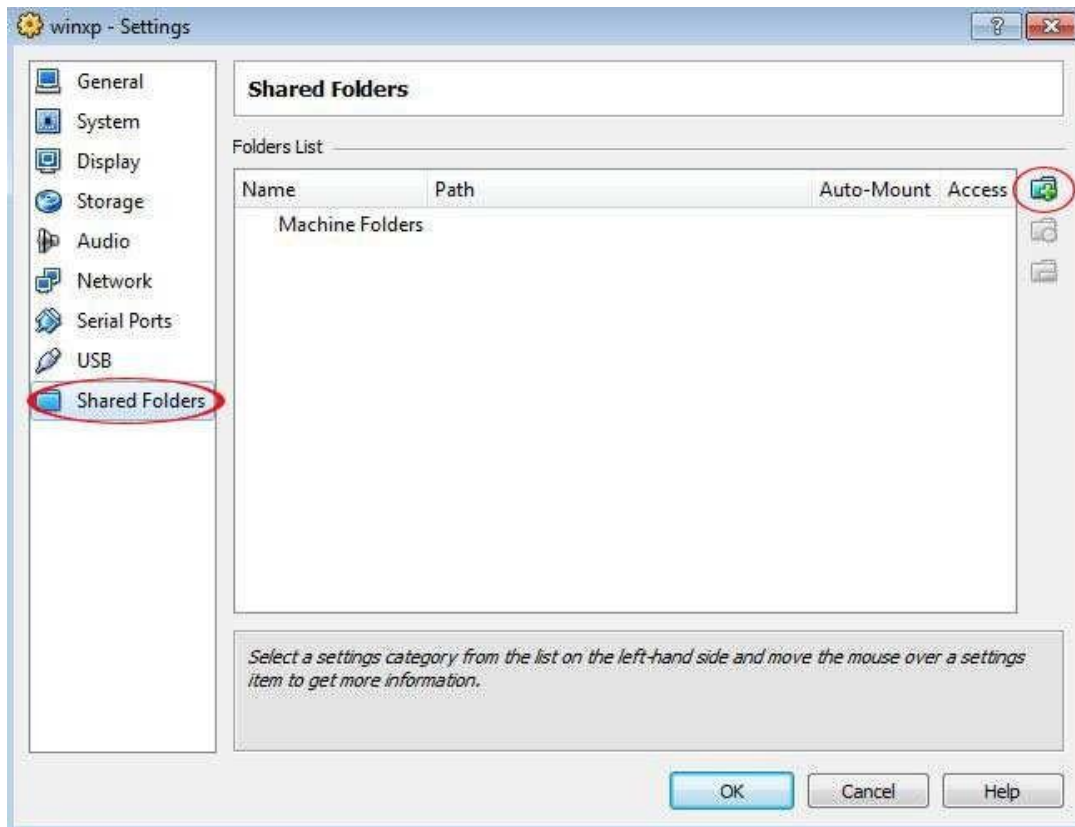
When it is done, "Disk 1" will be activated and formatted. You can see a "New Volume (E:)" is available now.



## Appendix II Add “Shared Folders” to the virtual machine

In production environment, we may need to have a storage space where all users (virtual machines) can access files which are shared among all the users (or group of users). In the VDI solution, we can achieve this by creating a “shared folder” in the host PC (Server) hard drive and then share it among the users (or group of users).

In the settings page of virtual machine, click on “Shared Folders”, then click on the Add symbol. Picture 74:



74

Choose the location:

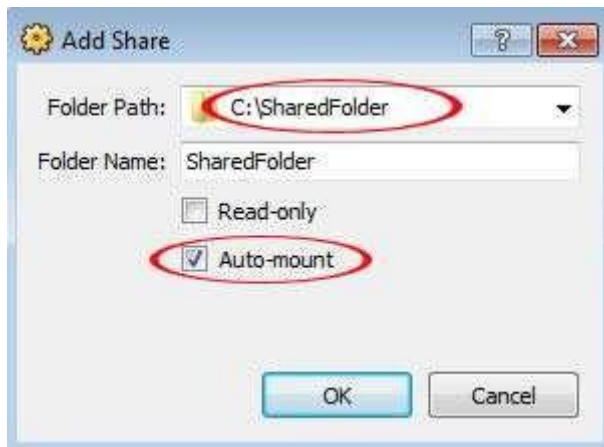


75



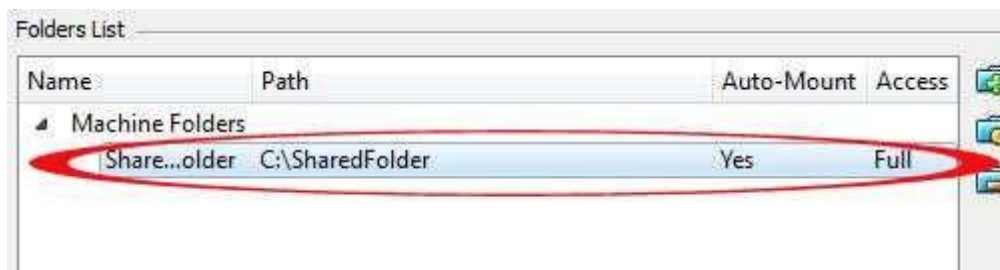
76

Choose "Auto-mount". Then click "OK" to finish.



77

We can see in the "Folders List", the folder we've just chosen is shown. See picture 78:



78

Start the virtual machine, we can see “SharedFolder on 'vboxsrv' (F:)” as Network Drives. Picture 79:



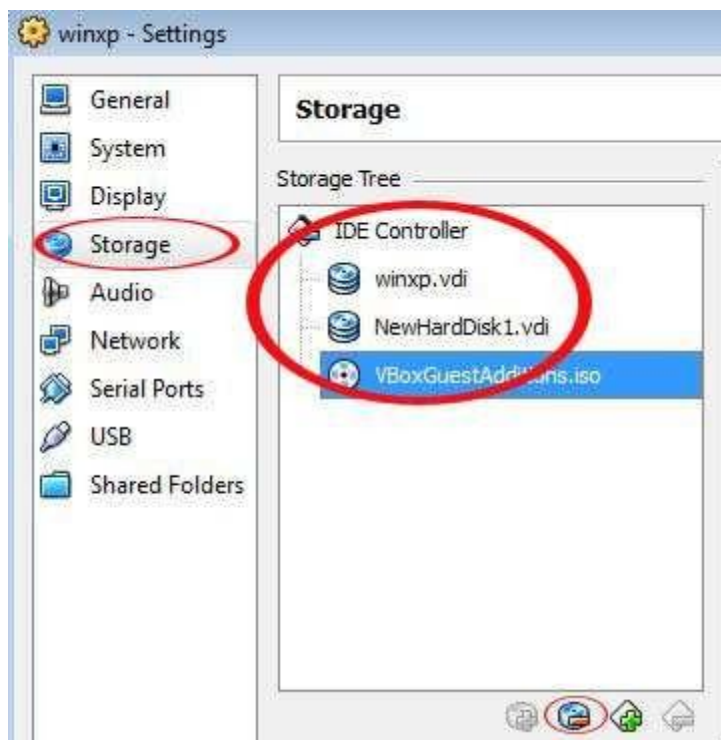
79

### Appendix III Take Snapshots and restore Snapshots of Virtual Machines:

Operation Systems like Windows may suffer from various kinds of problems like system failure or virus affection. VirtualBox has a backup function called “Snapshot”. We can take a snapshot when we have installed all the programs and have done all the configurations.

Since VirtualBox will take snapshot for the whole machines (including all hard drives), we need remove all the Virtual Drive except Drive C (system drive) before taking snapshot—we do not want the other drives with user data to be affected by the snapshot.

Go to the Settings of virtual machines, click on “Storage”, remove all the drives except the system drive “winxp.vdi”. See picture 80 & 81:

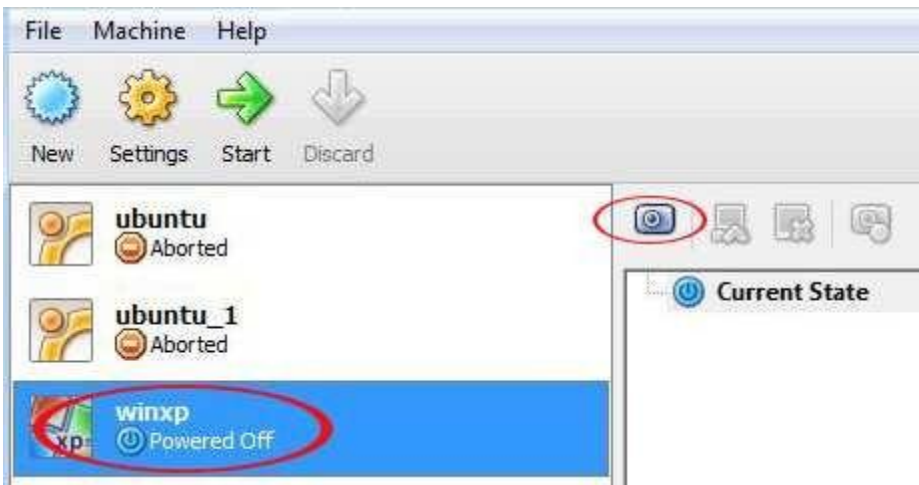


80



81

Then go back to VirtualBox Manager, choose the virtual machines that we are going to take snapshot of. Click on the “Camera” button:

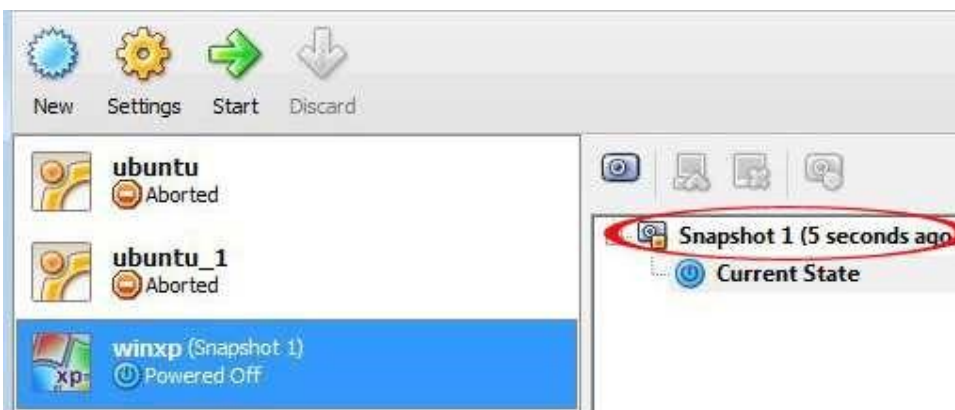


82

The popup window shows Snapshot Name and you can also input some words as Snapshot Description. Click “OK” to finish. Now you can see “Snapshot 1” in the list. Picture 83 & 84:



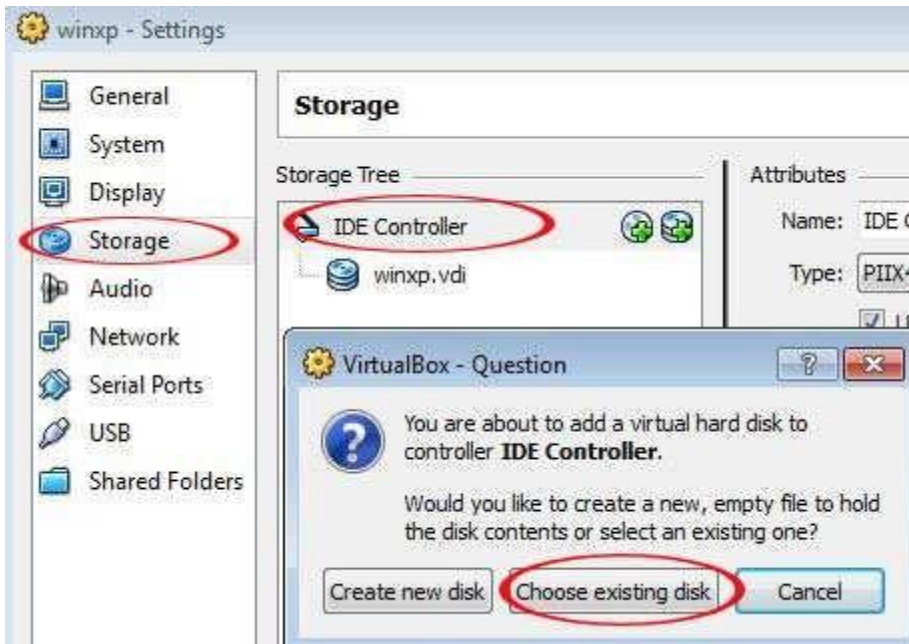
83



84

After the Snapshot is done, we need to add back the removed virtual drive.

Just like the way we add Drive D (data drive) to the virtual machines, we need to go to the “Settings”, and then “Storage”. Here we need to click “Choose existing disk”. Picture 85:



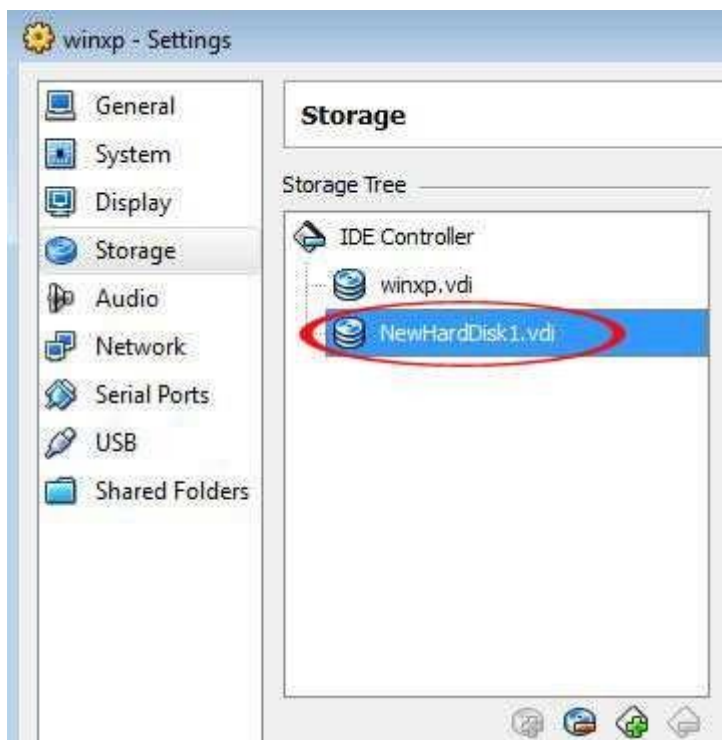
85

Go to the folder, and add the virtual drive we have removed earlier:



86

Now you can see the virtual drive is back:



87

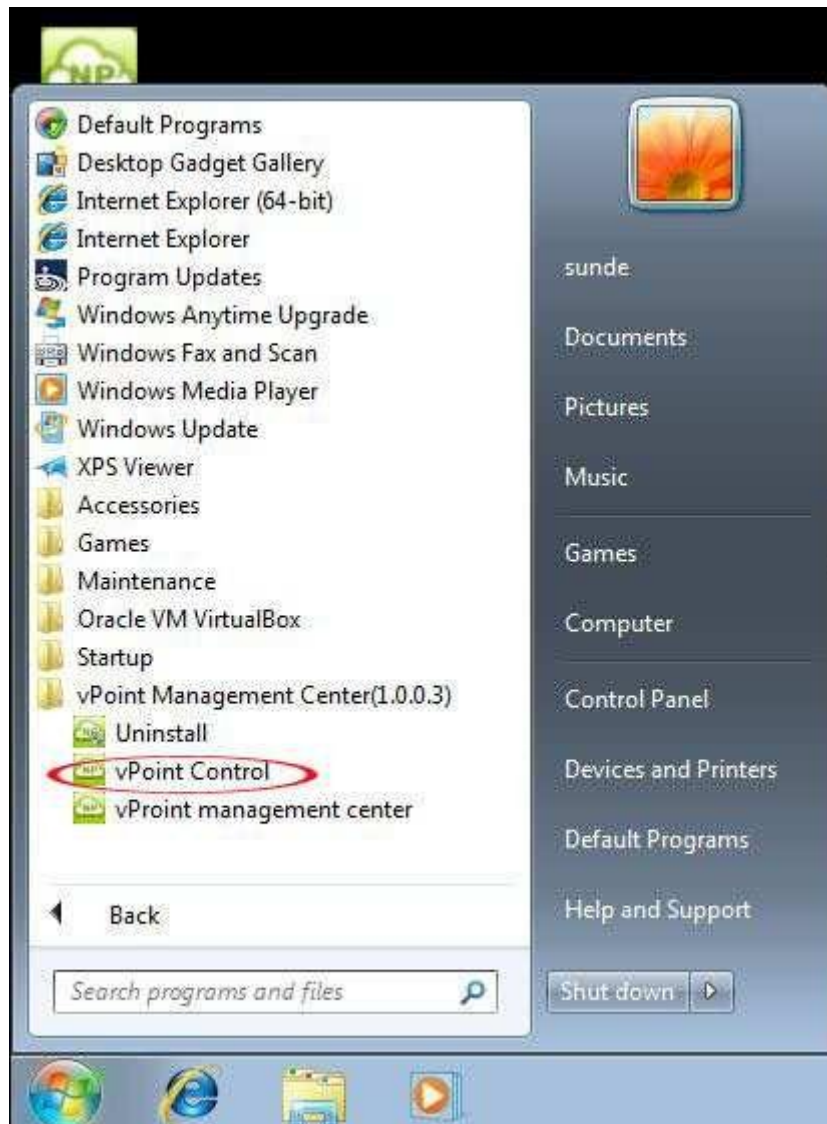
When the virtual machines suffer a system failure or corruption, we can restore the snapshot. Remember, a newly restored virtual machine is of settings without data drive (often drive D). So we need add back the data drive. Just follow the steps above to accomplish this.



## Appendix IV Use “vPoint Control” to stop the running of vPoint or to restart the running of vPoint

vPoint will start running automatically when the host is powered on and will take control of all the virtual machines which have been created and configured by VirtualBox manager. At this time, if we want to edit the settings of a certain virtual machine in VirtualBox Manager, we need to have VirtualBox Manager take back the control of virtual machines. We can use “vPoint Control” function to achieve this.

You can find vPoint Control in “vPoint Management Center” in “All Programs”.



Click on “Stop vPoint”:



89

A warning pops up.



90

Make sure that it is OK to stop all virtual machines, and then click “OK” to confirm! A few seconds later, VirtualBox Manager will take back the control of all virtual machines.

When we have finished change settings of virtual machines, click on “Run vPoint” to start vPoint.



91