IBM®

T02

VMWare Disaster Recovery using Veritas Backup Exec Intelligent Disaster Recovery

James Lenaburg

IBM *@server* xSeries
Technical Conference

Aug. 9 - 13, 2004

Chicago, IL

VMWare Disaster Recovery using
Veritas Backup Exec Intelligent Disaster Recovery

Agenda

- What is the idea behind this?

- The Proof of Concept

What is the idea behind this?

- Using this method would allow a business to not require physically duplicate hardware at the disaster recovery site, but instead use Virtual Machines to provide duplicate recovery hardware, thus significantly reducing the cost and size of the disaster recovery site.

- For example, using IDR on a daily basis, to create tapes for 12 physical x335 servers, could be used to build/recover 12 virtual machines running on perhaps a single x445 8 or 16 way machine, with acceptable performance until the physical servers could be replaced.

The Proof of Concept

This proof of concept will be performed in the following environment:
Veritas Backup Exec Server installed on an x440 running Windows 2003 Enterprise
Physical servers consisting of two x335s running Windows 2003 Standard
Disaster Recovery Site server consisting of an x440 running VMWare ESX 2.1
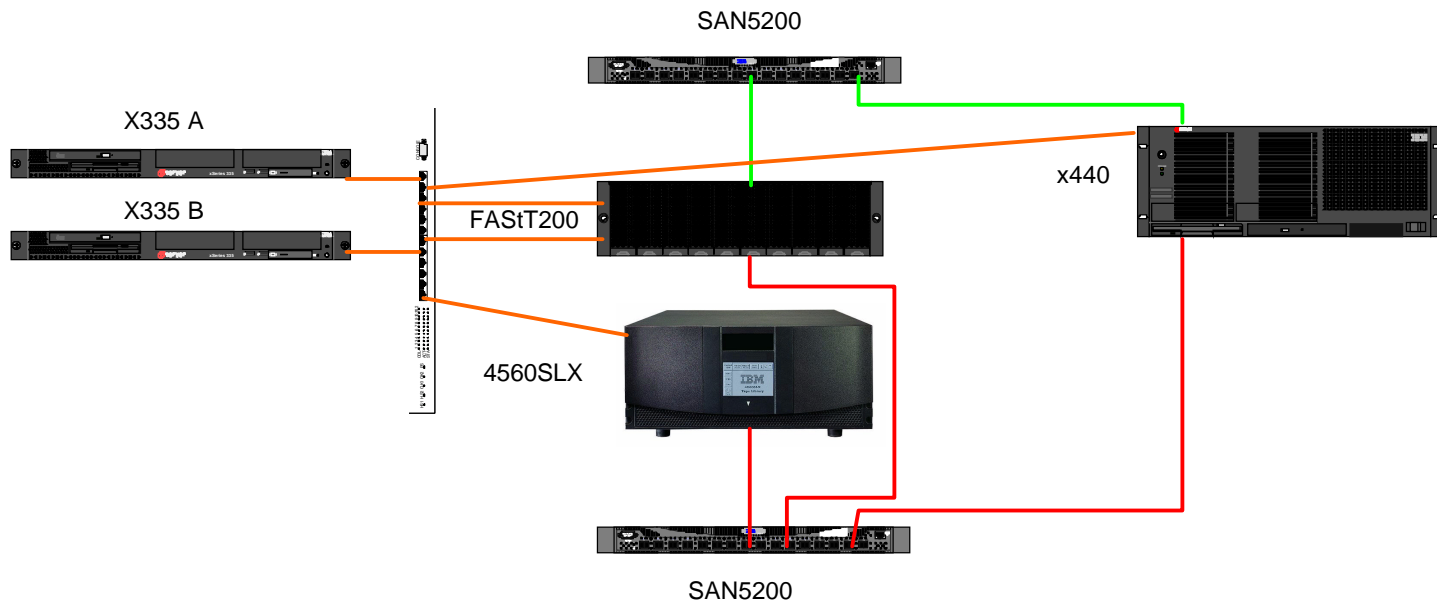
Setting up the Backup Server

- The x440 was loaded using ServerGuide 7.2.03 and Windows 2003 Enterprise. All Windows updates were applied. Veritas Backup Exec 9.1 was installed from CD with SAN Shared Storage option, Library Expansion Option, and Intelligent Disaster Recovery options chosen. Then the latest patches and driver level updates were applied.

Setting up the x335s

- The x335s were loaded with ServerGuide 7.2.03 and Windows 2003 Standard. All Windows updates were applied. Veritas Backup Exec 9.1 Remote Agent was installed from CD.

- To facilitate testing, we created only a 4GB System partition for Windows. We used the rest of the disk for a D: drive and put the swap file on that drive.

Backup Exec Remote Agent Install

Tips

- Install using cmd line tool, not GUI

- RAN32 directory is in this path on the CD:
  C:\VeritasBE91.4691.1\WINNT\INSTALL\RANT32

- Copy RANT32 install directory to local drive

- Run setupaa.cmd

- Check to see that the service is beagent service is running.

Creating the Intelligent Disaster Recovery Image

- To create the IDR image, a full backup of the physical system to be protected, and later restored to a VMWare Virtual machine, must be performed.

- After the full backup is successfully performed, you are ready to create the Intelligent Disaster Recovery image and burn it to a CD.   Here are the screen by screen steps involved in doing this:

Creating the Intelligent Disaster Recovery Image
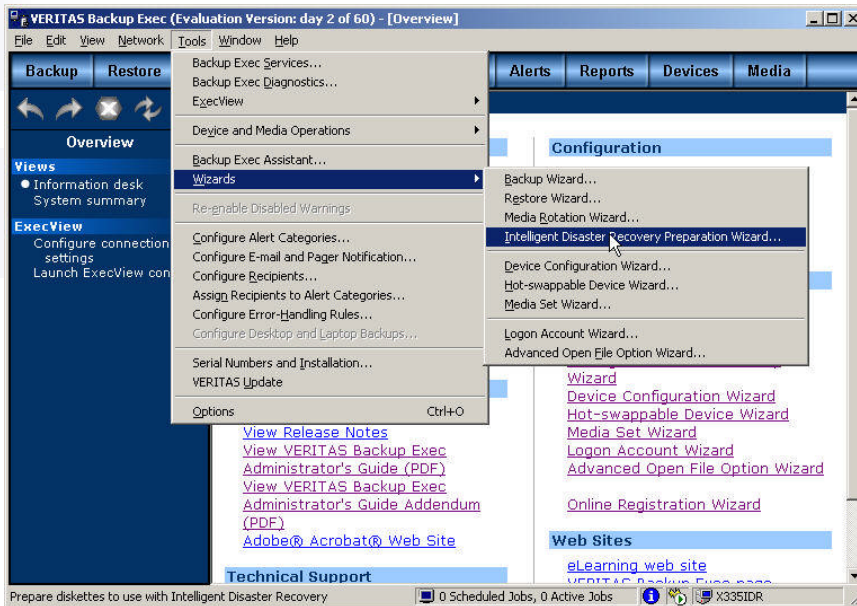
Creating the Intelligent Disaster Recovery Image
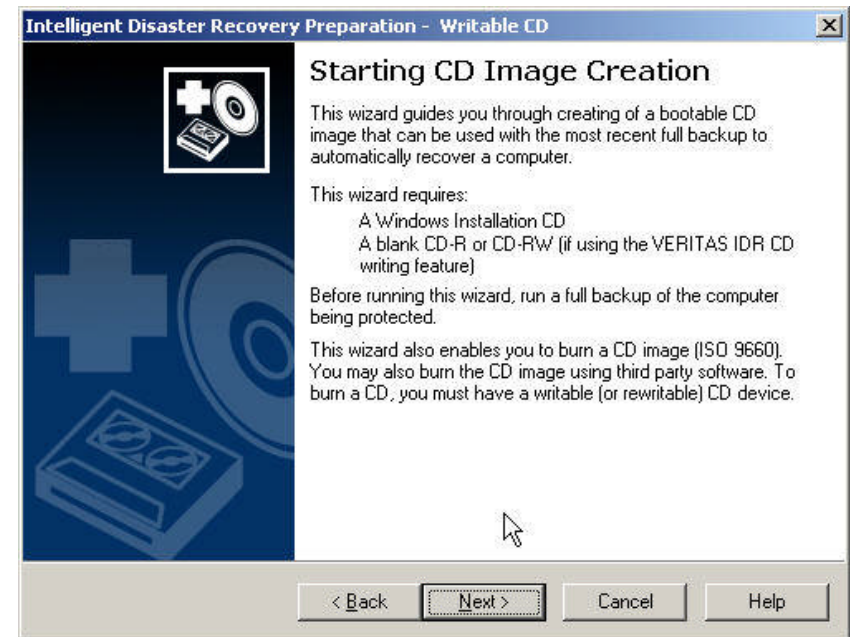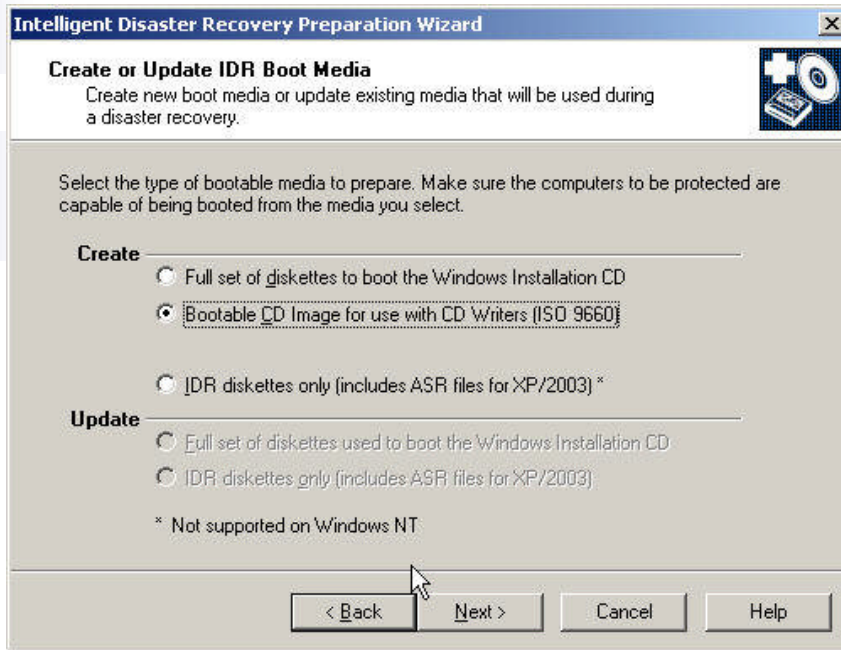
Creating the Intelligent Disaster Recovery Image

- You have to manually delete the backup server shown by default. Then you have to add in the client you want to create the IDR ISO for. Select Next since we are running Windows 2003
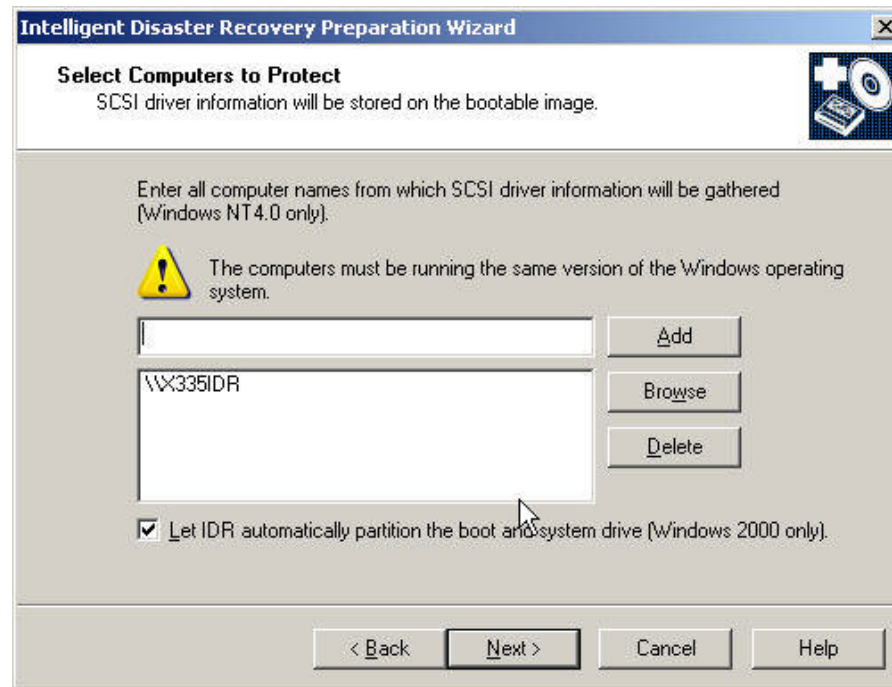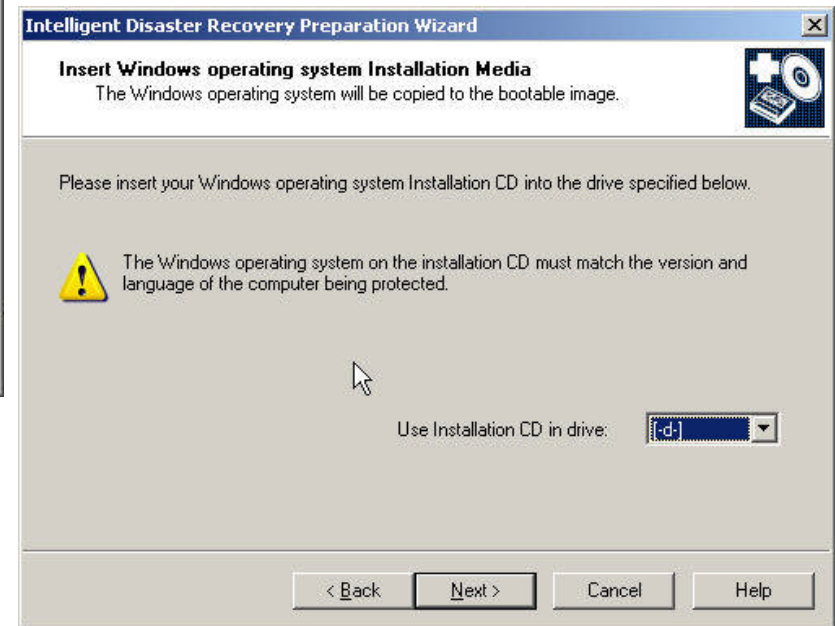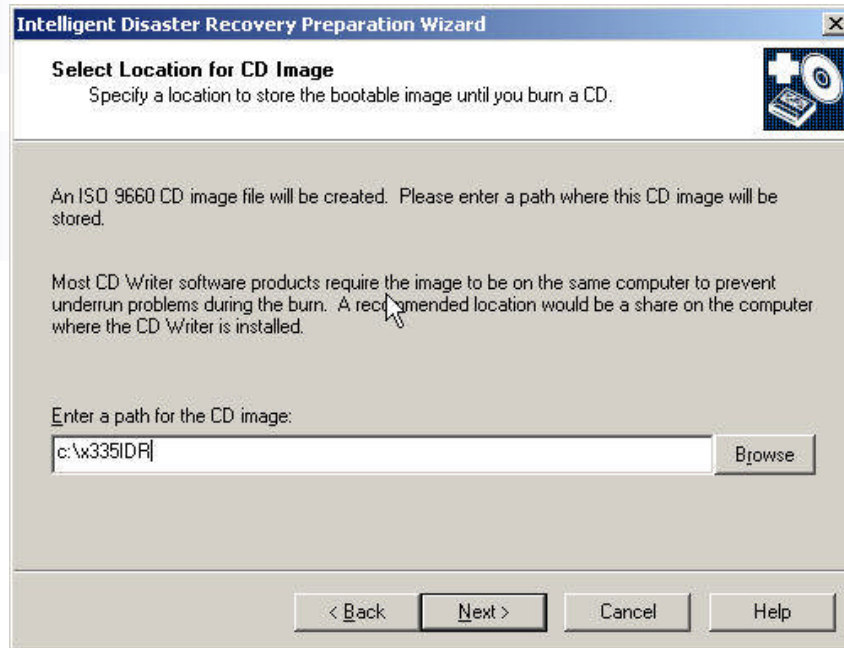
Creating the Intelligent Disaster Recovery Image

Intelligent Disaster Recovery Preparation Wizard ✕

Select Location for CD Image
Specify a location to store the bootable image until you burn a CD.

An ISO 9660 CD image file will be created. Please enter a path where this CD image will be stored.

Most CD Writer software products require the image to be on the same computer to prevent underrun problems during the burn. A recommended location would be a share on the computer where the CD Writer is installed.

Enter a path for the CD image:

c:\x335IDR   [Browse]

[< Back] [Next >] [Cancel] [Help]

Intelligent Disaster Recovery Preparation Wizard ✕

Insert Windows operating system Installation Media
The Windows operating system will be copied to the bootable image.

Please insert your Windows operating system Installation CD into the drive specified below.

⚠ The Windows operating system on the installation CD must match the version and language of the computer being protected.

Use Installation CD in drive: [-d-] ▼

[< Back] [Next >] [Cancel] [Help]

Creating the Intelligent Disaster Recovery Image

Creating the Intelligent Disaster Recovery Image
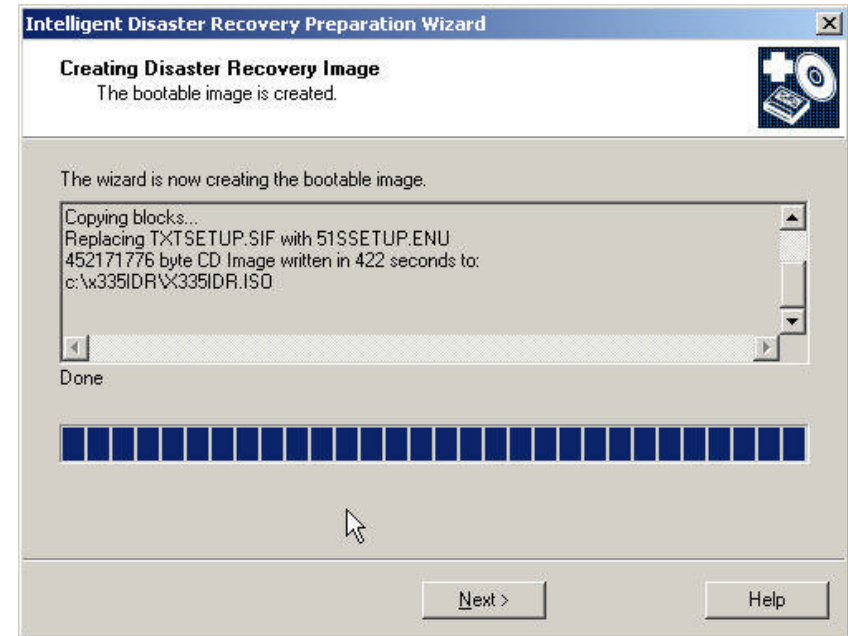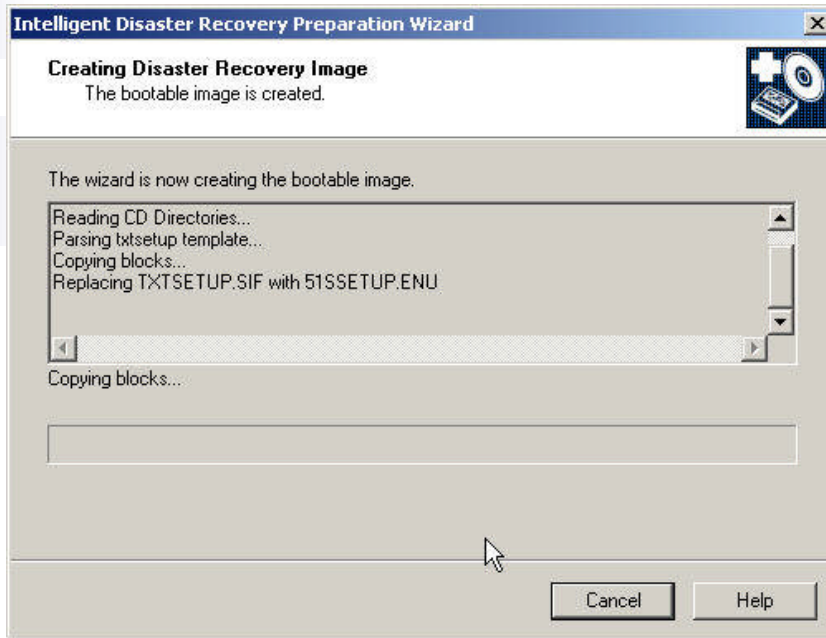
Creating the Intelligent Disaster Recovery Image

The ISO image has been created. Now you can use your favorite CD Burning software to create the bootable CD Image for the VM that will be created. Now we are ready to recover our physical systems on our disaster recovery configuration

Setting up the Disaster Recovery Scenario
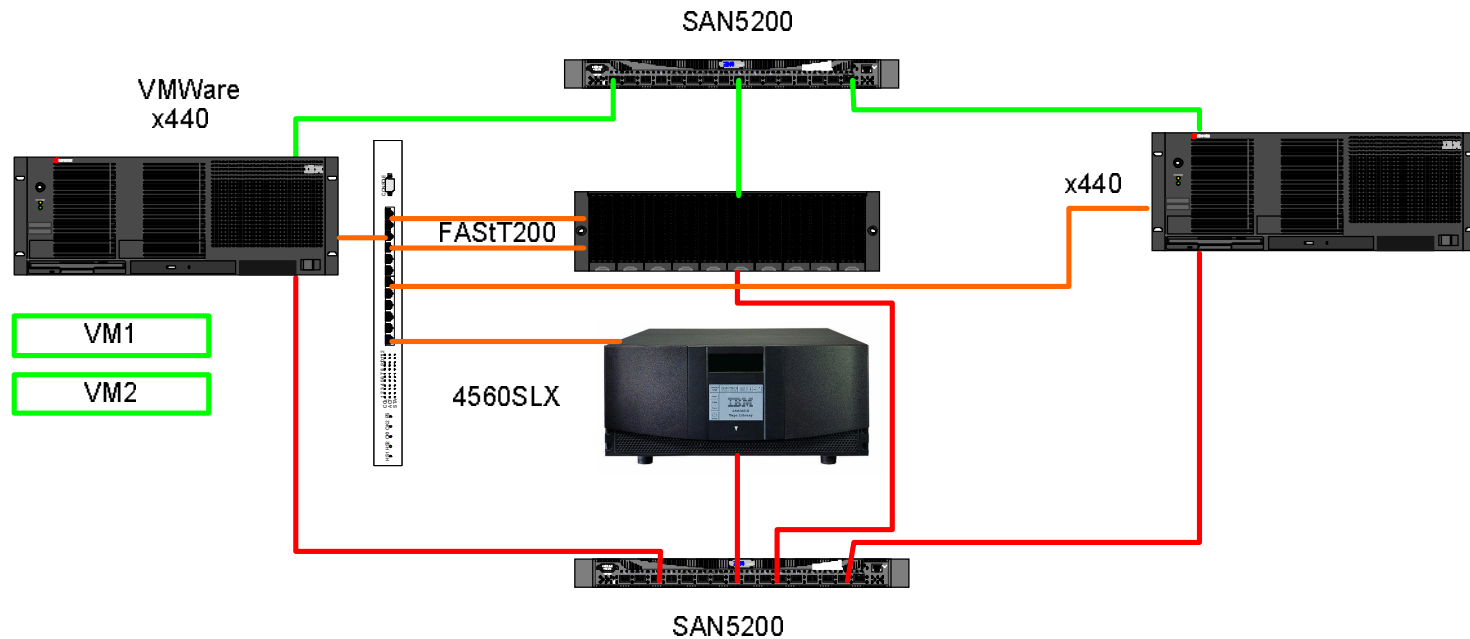
Setting up the VMWare ESX 2.1 Server

- We installed the VMWare x440 server using the standard VMWare installation procedure. We then create our VM Disks for the C: drive (4GB) and D: drive (4GB) on our SAN Attached disks for VM.

- NOTE: On Windows 2003, you must create a VM Disk that is at least as big as your PHYSICAL drive you were using on your real machine. With Windows 2000, IDR only requires that your VM Disk be as big as your LOGICAL Boot Partition was when you created the IDR Image.

- For example, with a 18GB PHYSICAL Disk, if you had two partitions, each 9GB and they were assigned as C: and D: on your physical machine, under a Windows 2000 IDR scenario, your VM Disks you would create could be 9GB and 9GB. Under Windows 2003, the way ASR works with IDR, you would need to have a VM Disk of 18GB, and then ASR would recreate the partitions for you.

- We then create our VMs for Windows 2003 and insert the IDR CD image we created previously and start the VM.

Starting the W2003 IDR CD

Here are the screenshots of the IDR W2003 Boot CD running on the VM
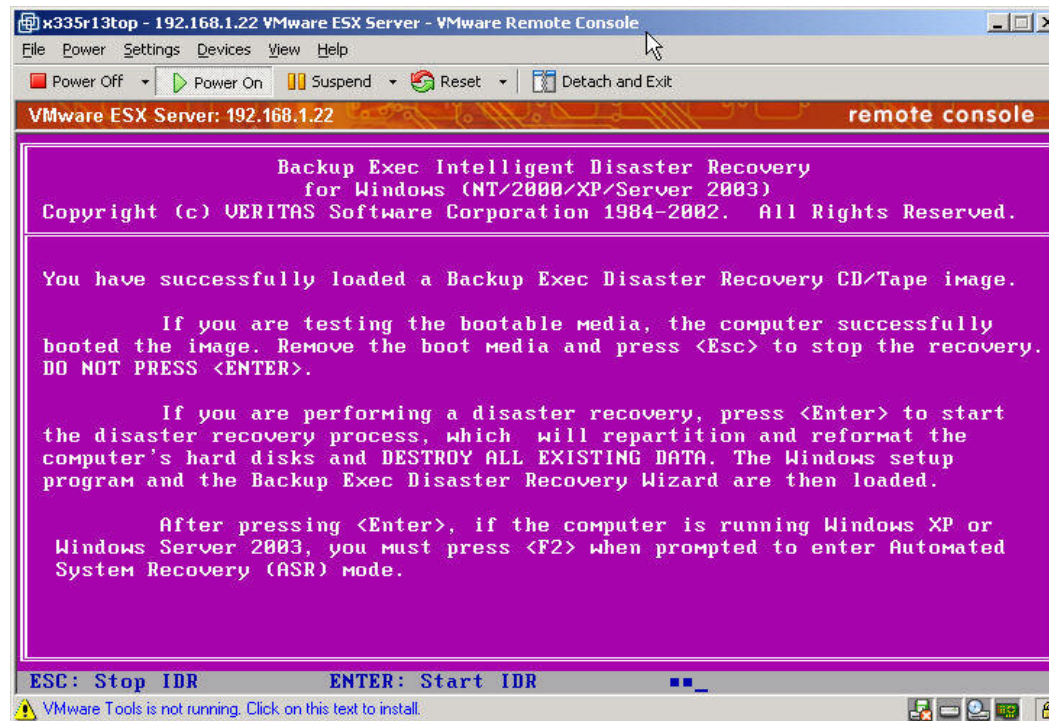
Windows 2003 IDR Procedure

NOTE! You must hit ENTER and then IMMEDIATELY Press F2 when prompted for ASR Mode
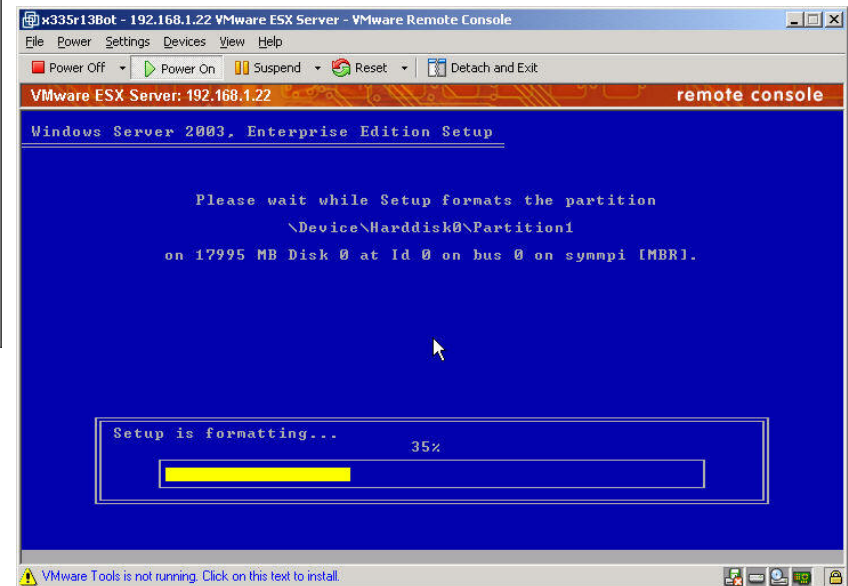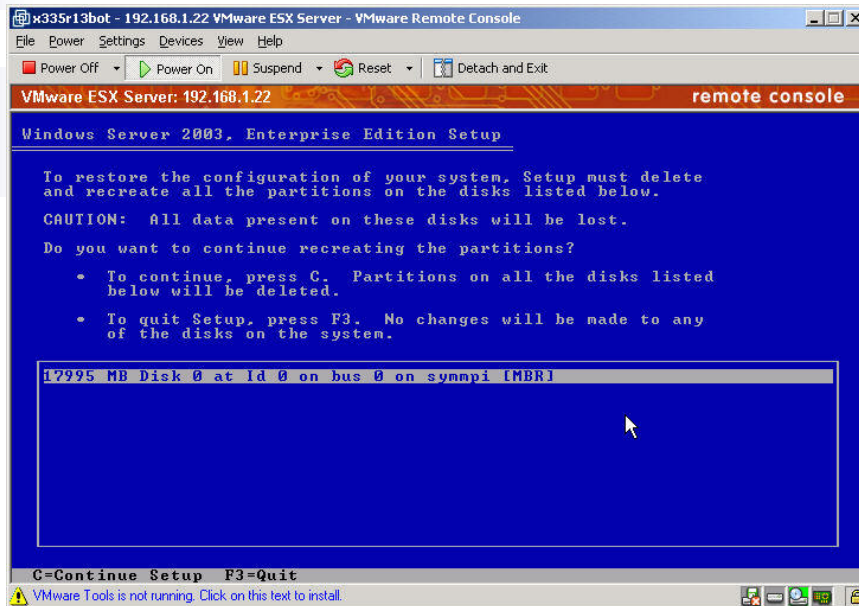
Windows 2003 IDR Procedure
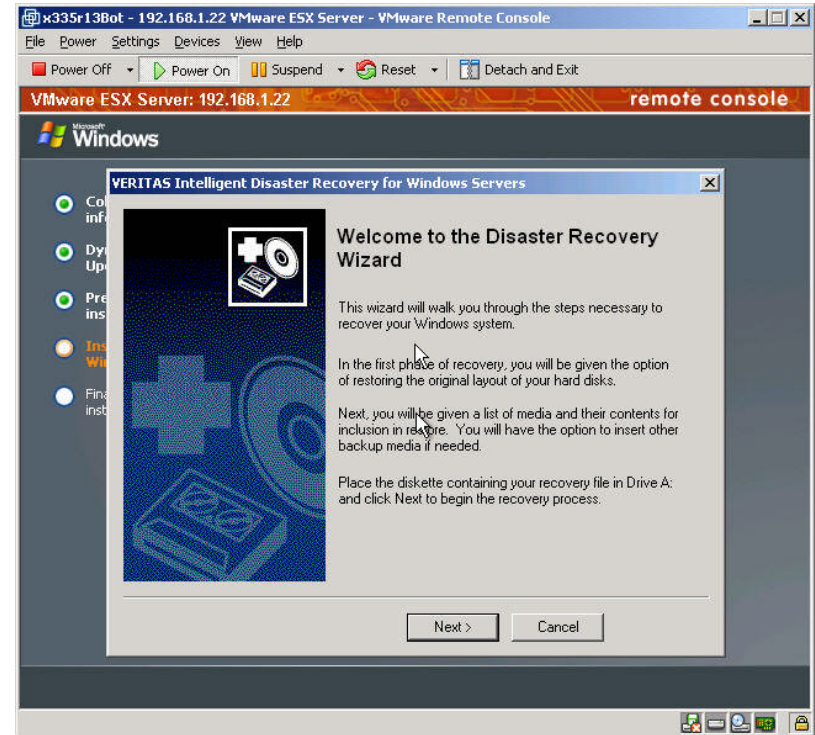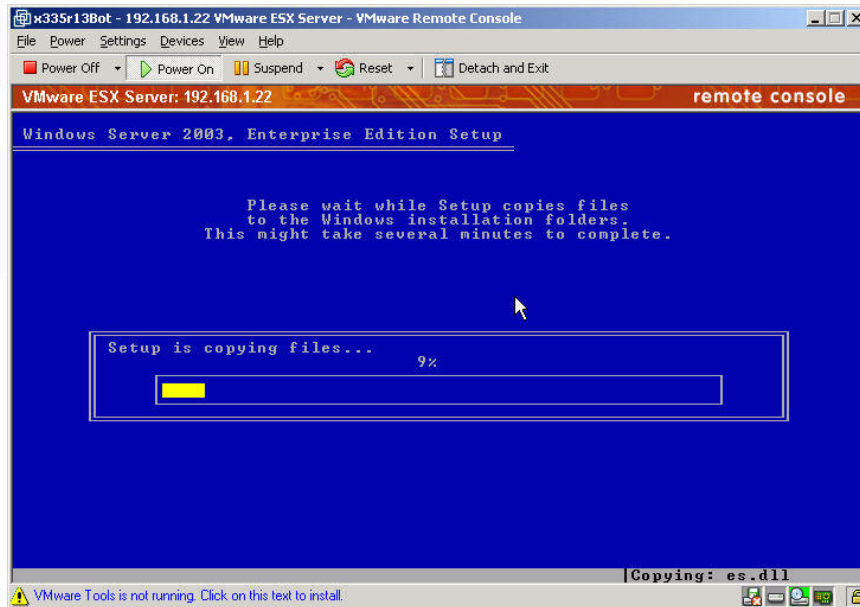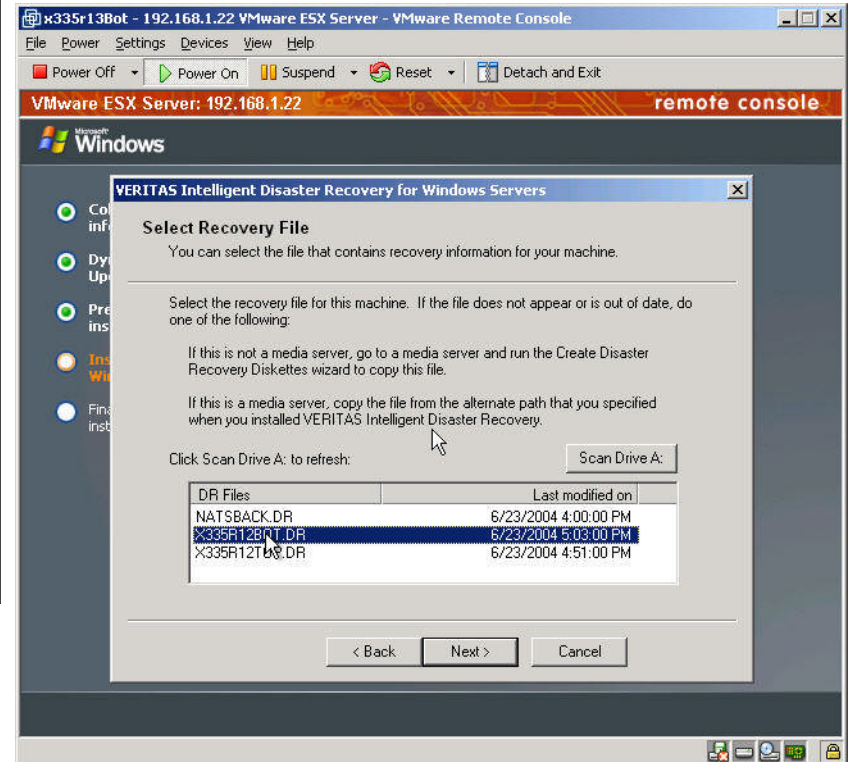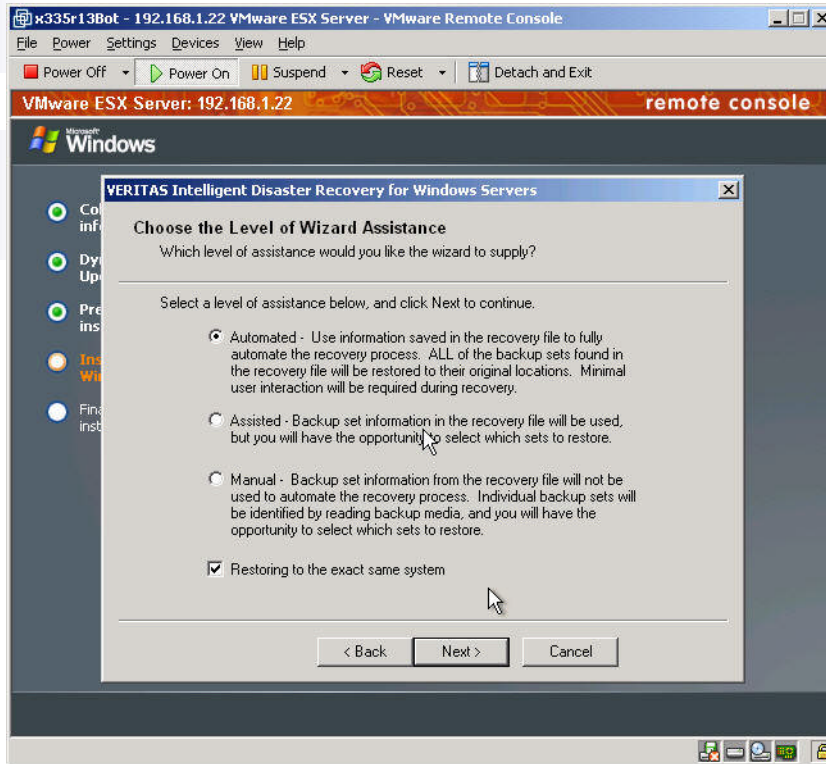
Windows 2003 IDR Procedure

Windows 2003 IDR Procedure
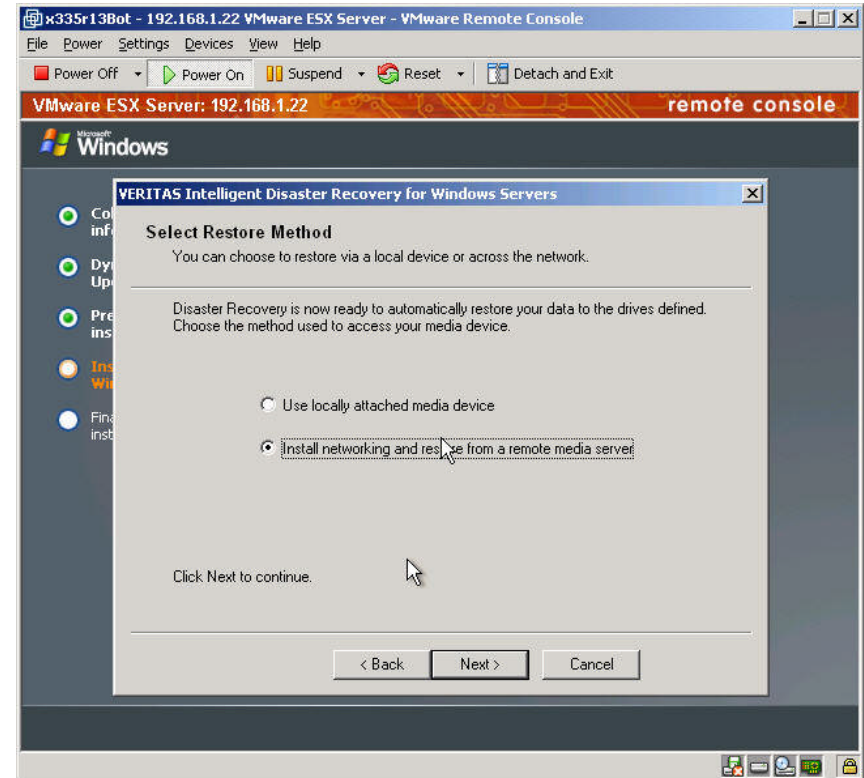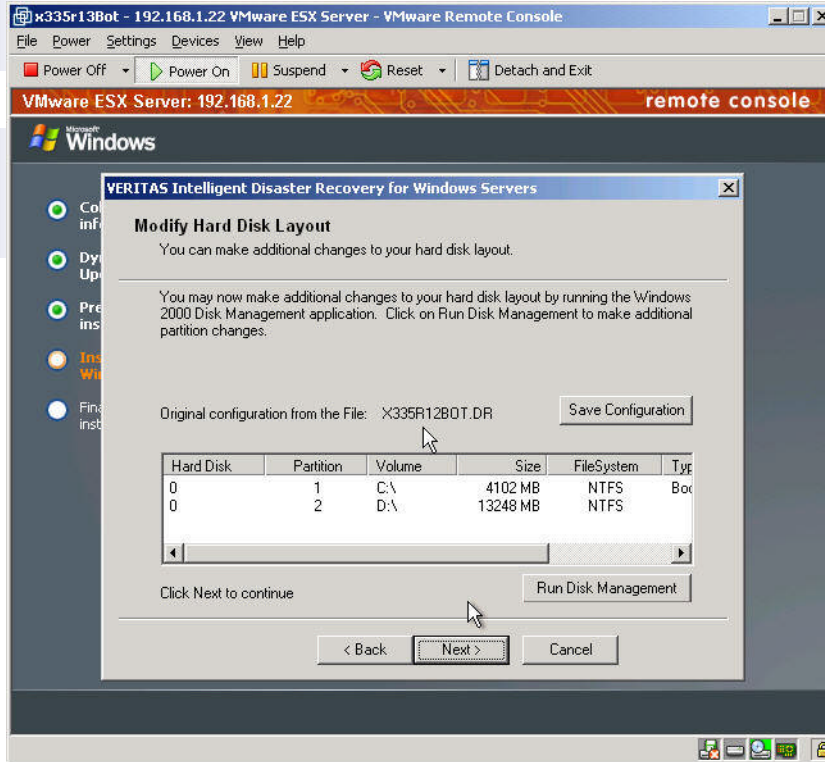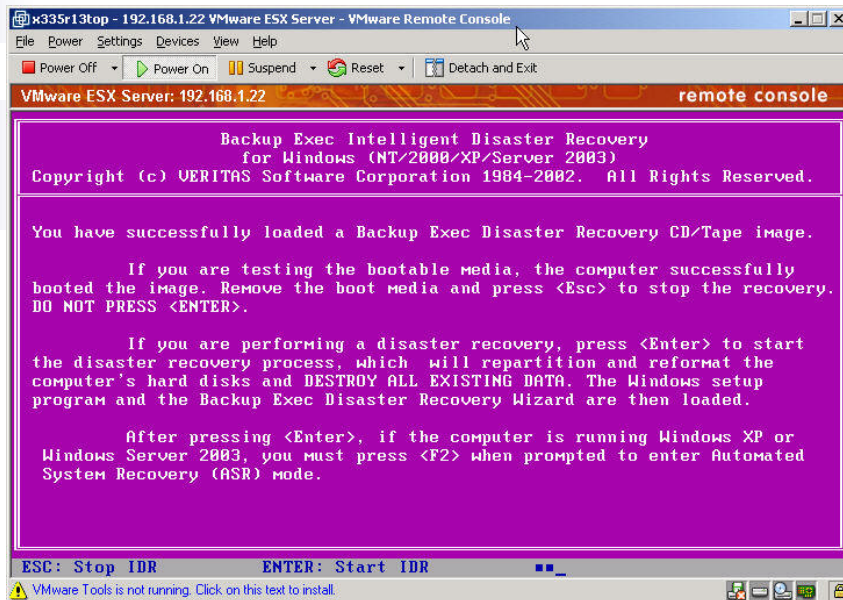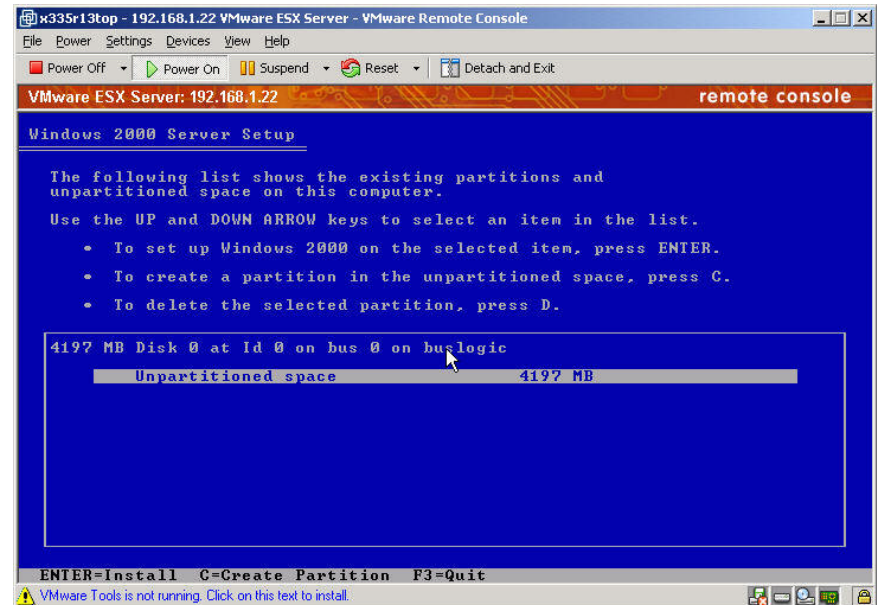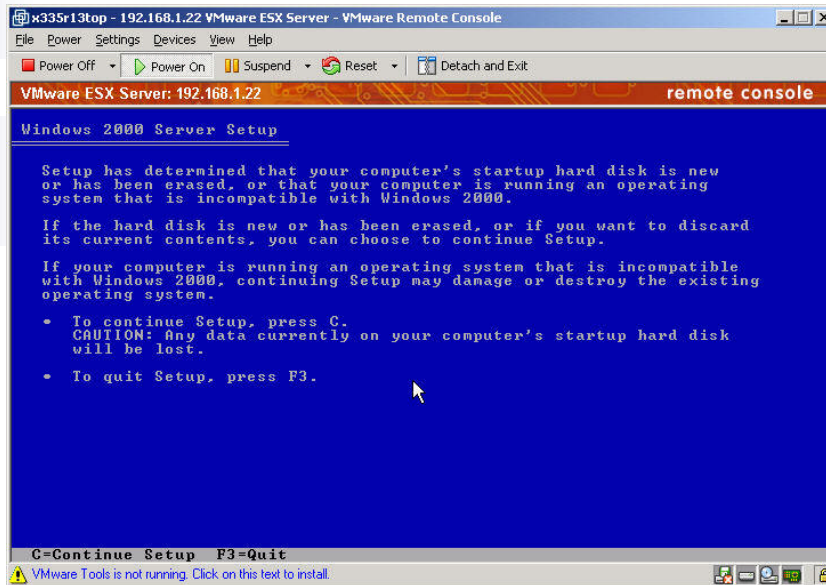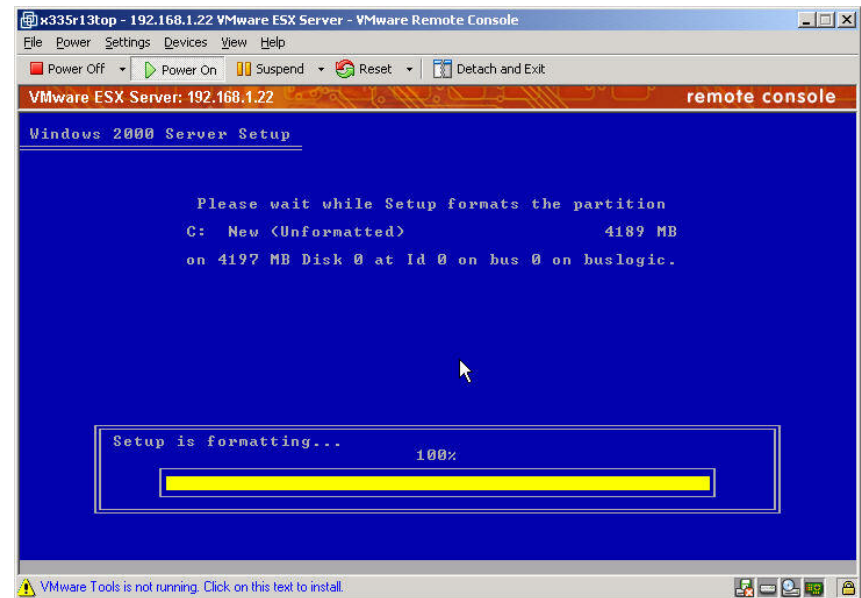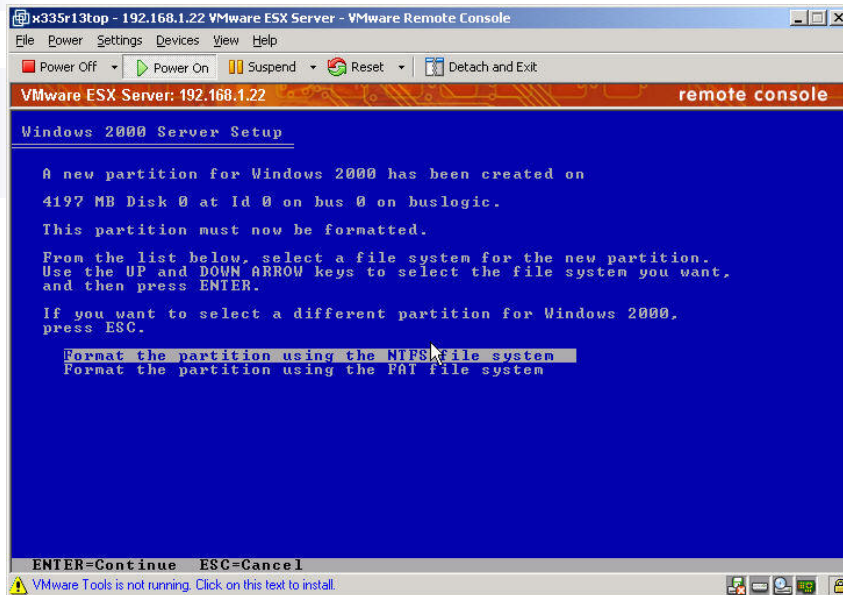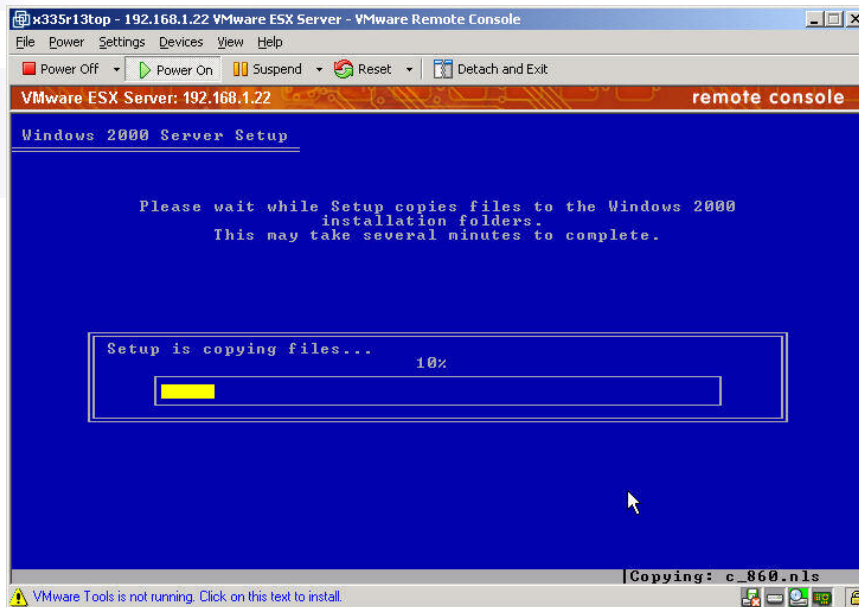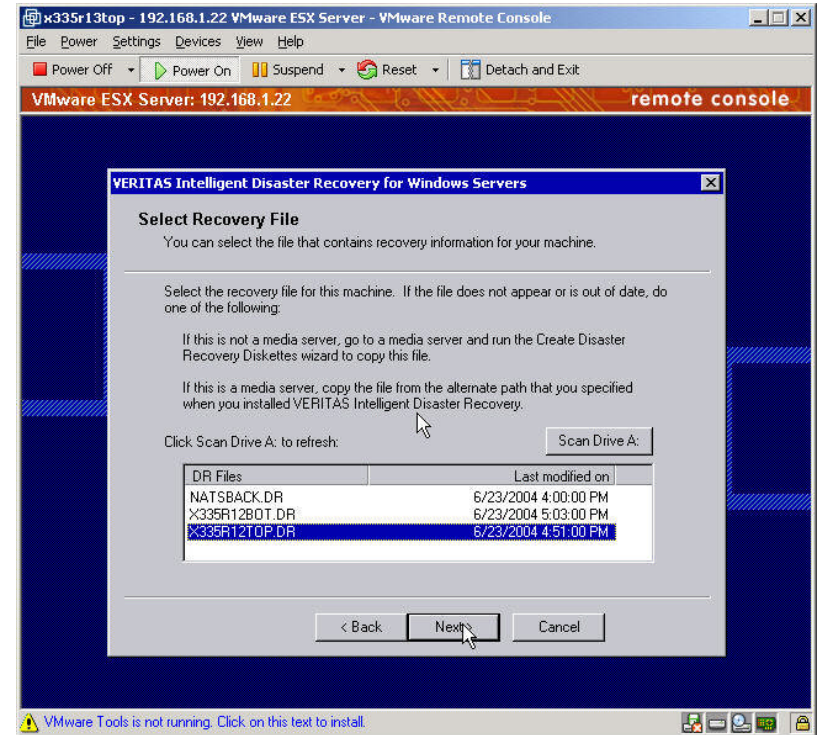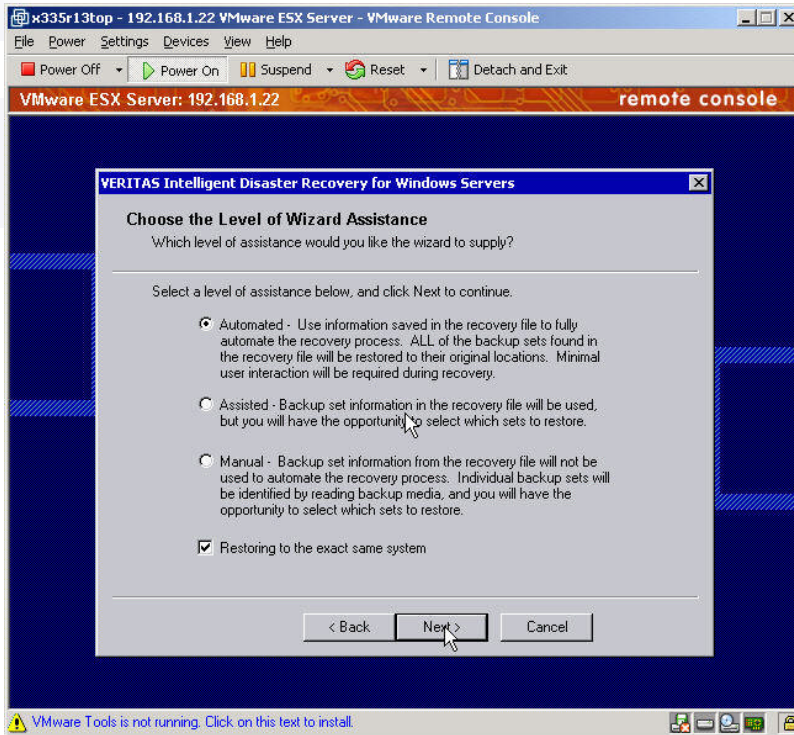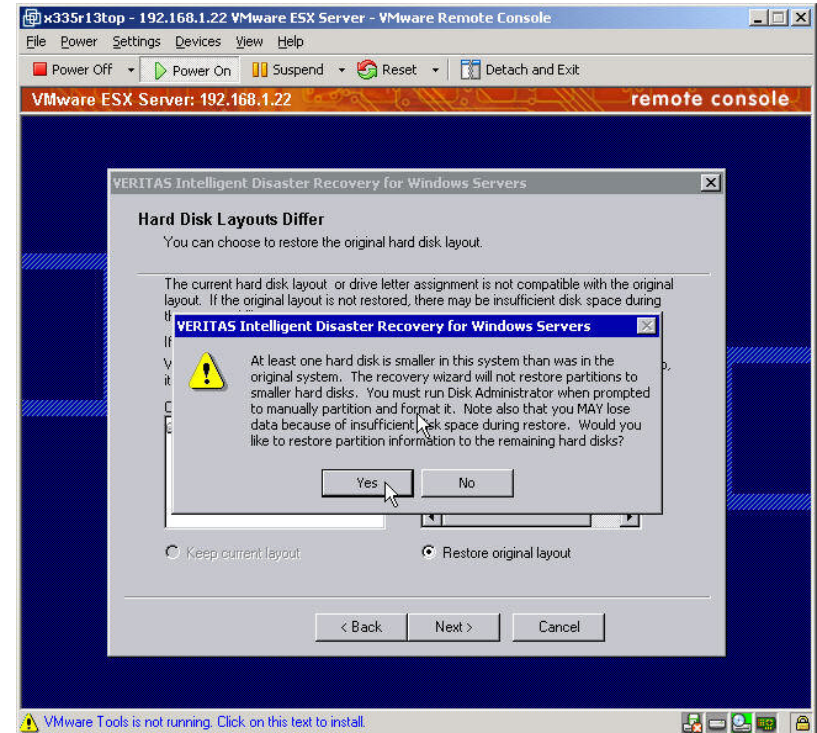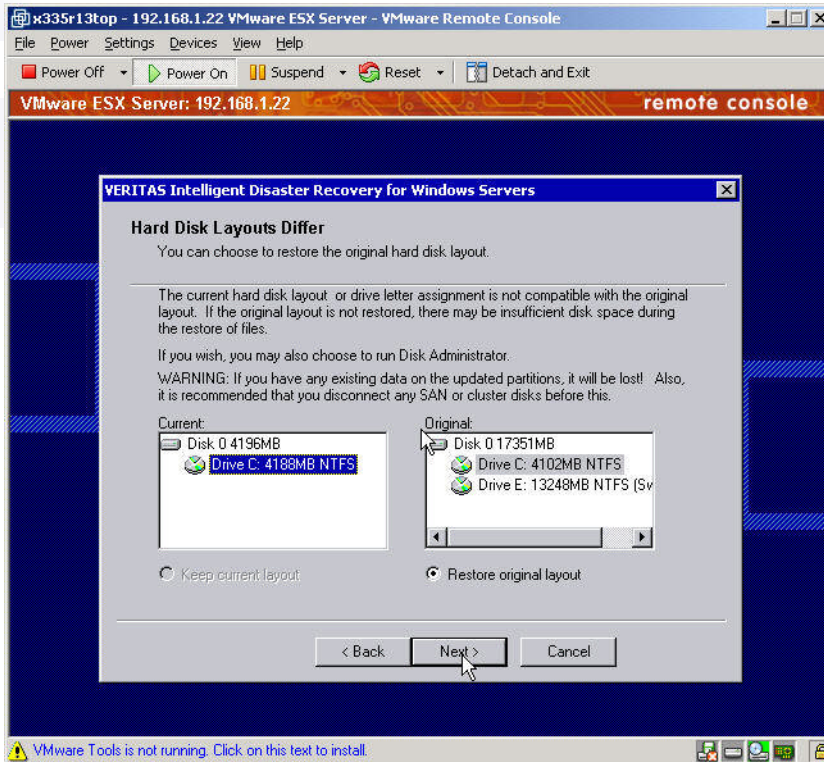
Windows 2003 IDR Procedure
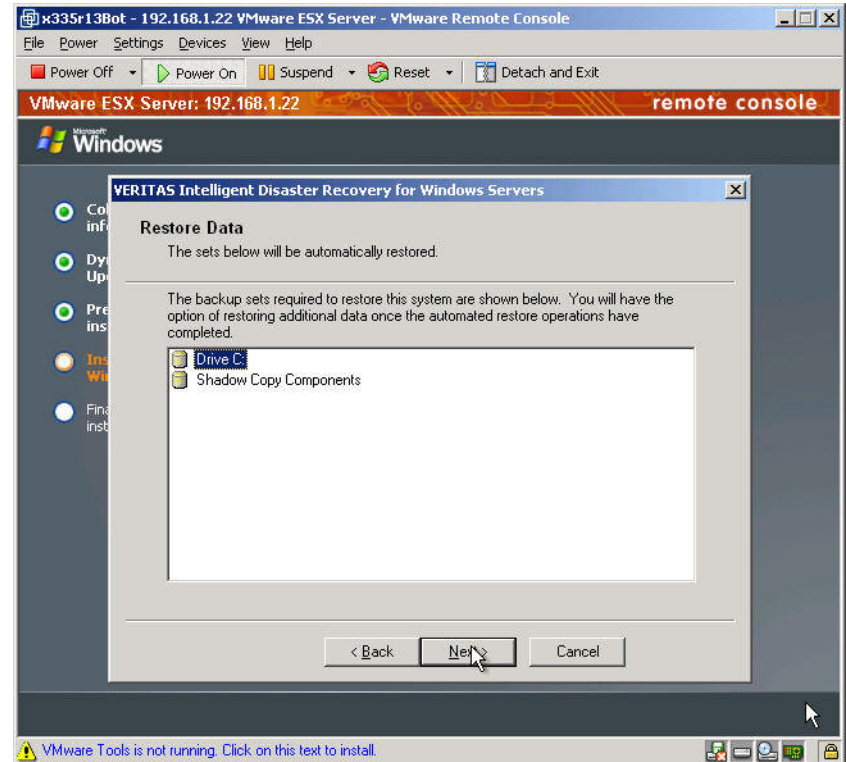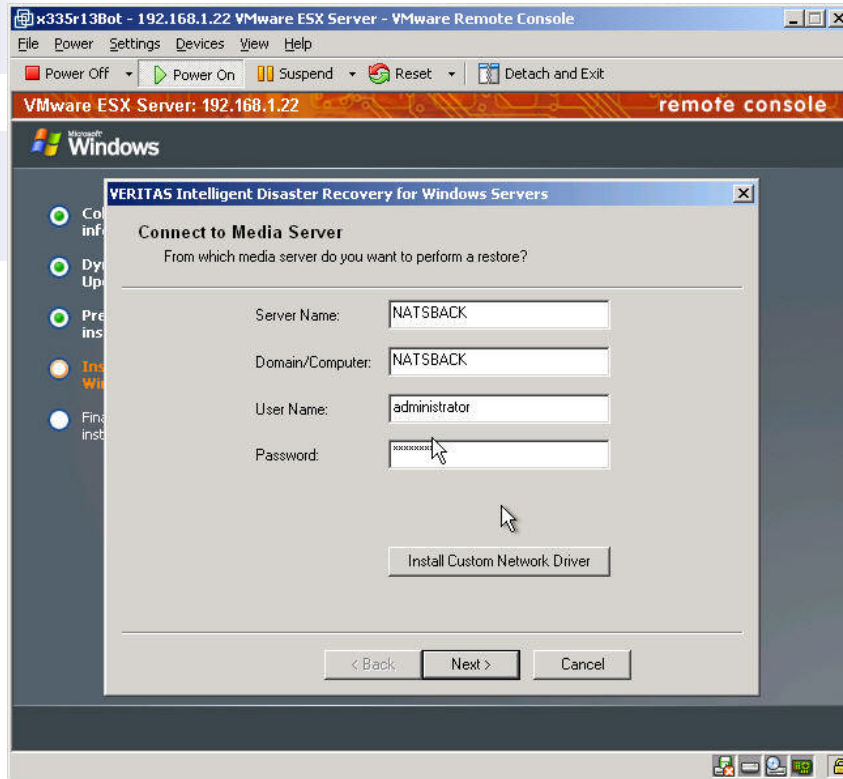
Windows 2003 IDR Procedure
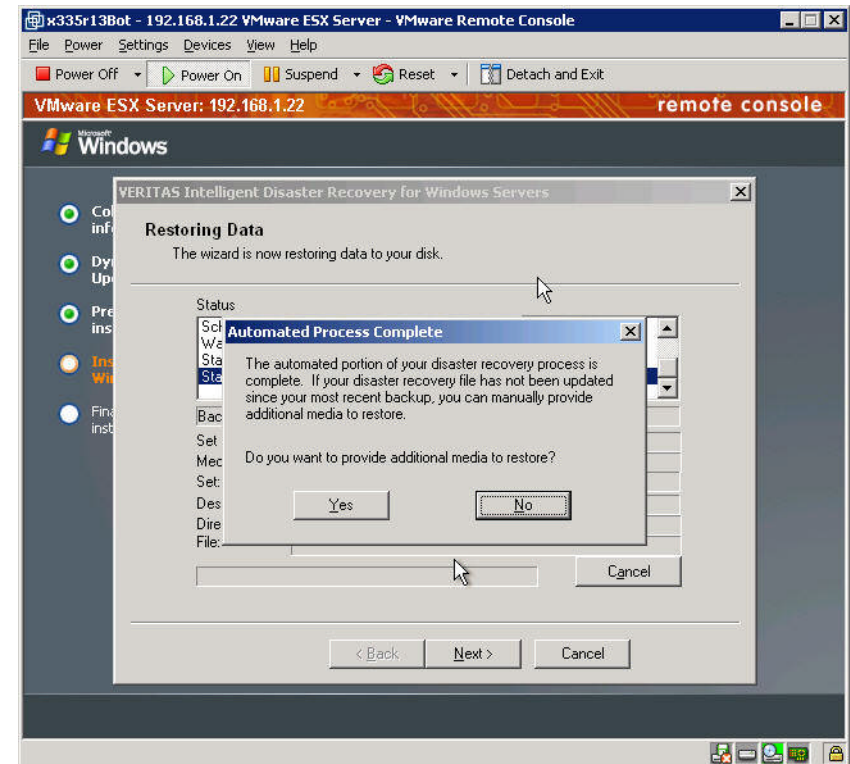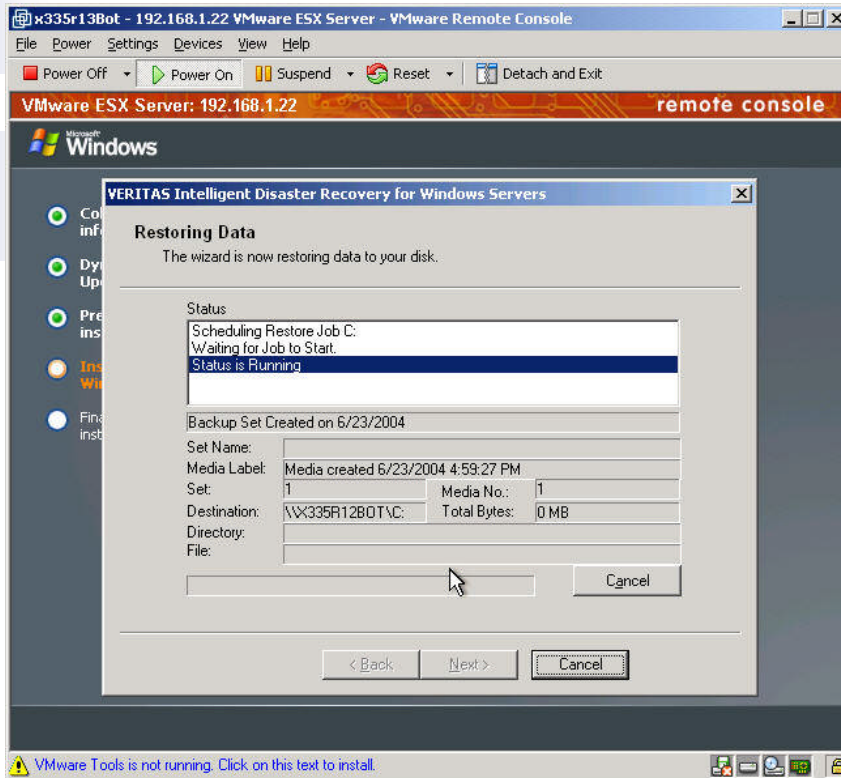
Windows 2003 IDR Procedure
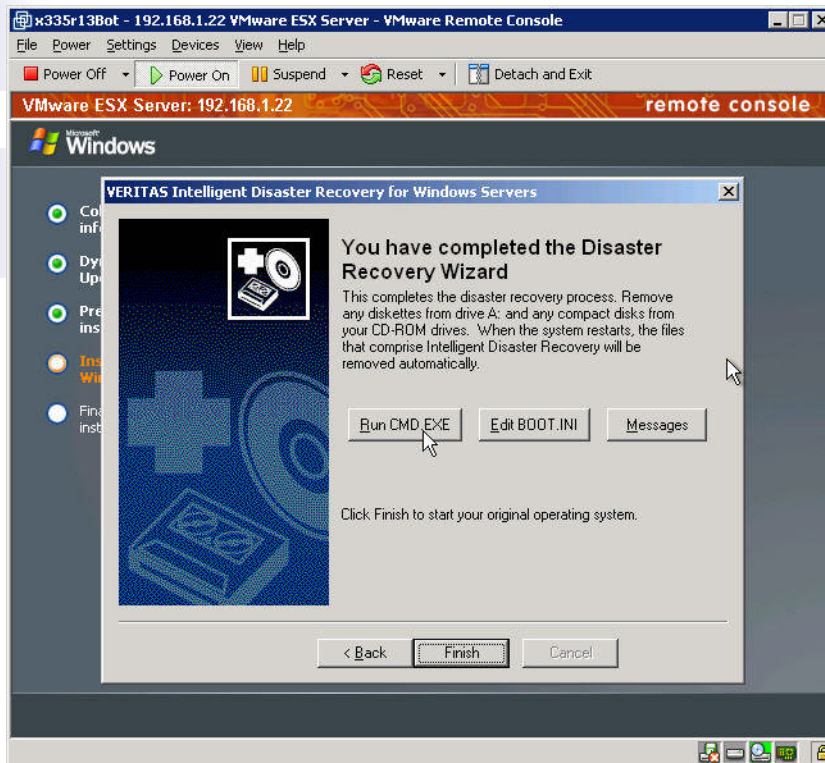
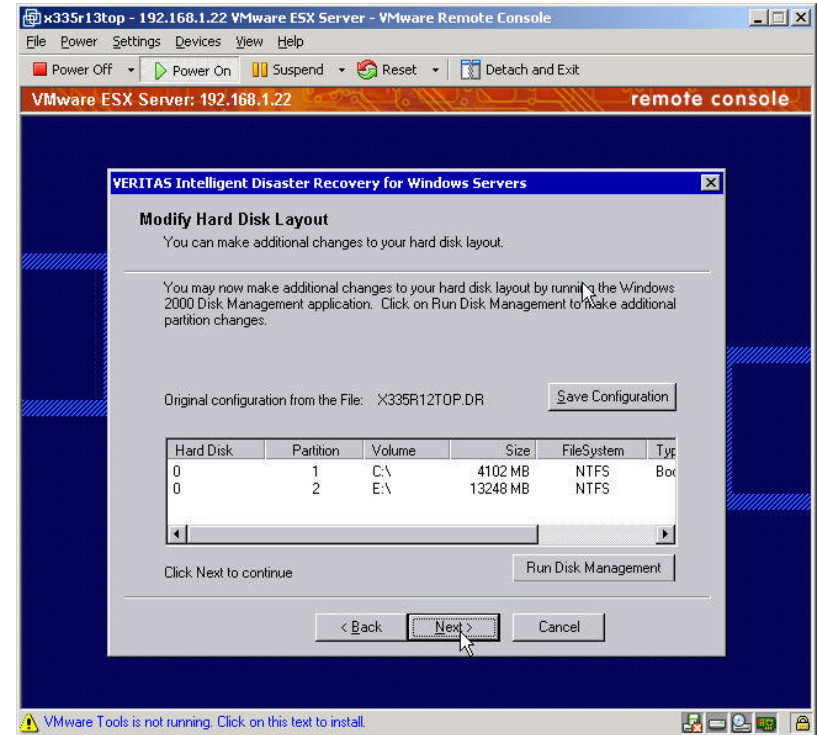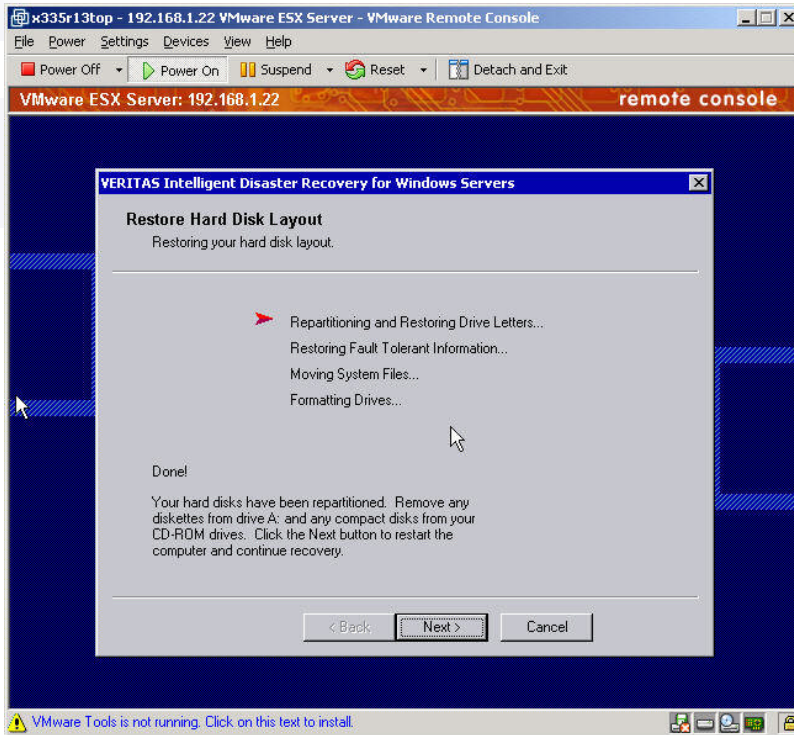- After you restart, you are ready to install VMTOOLS in the Virtual Machine to compete the Disaster Recovery to the VM.
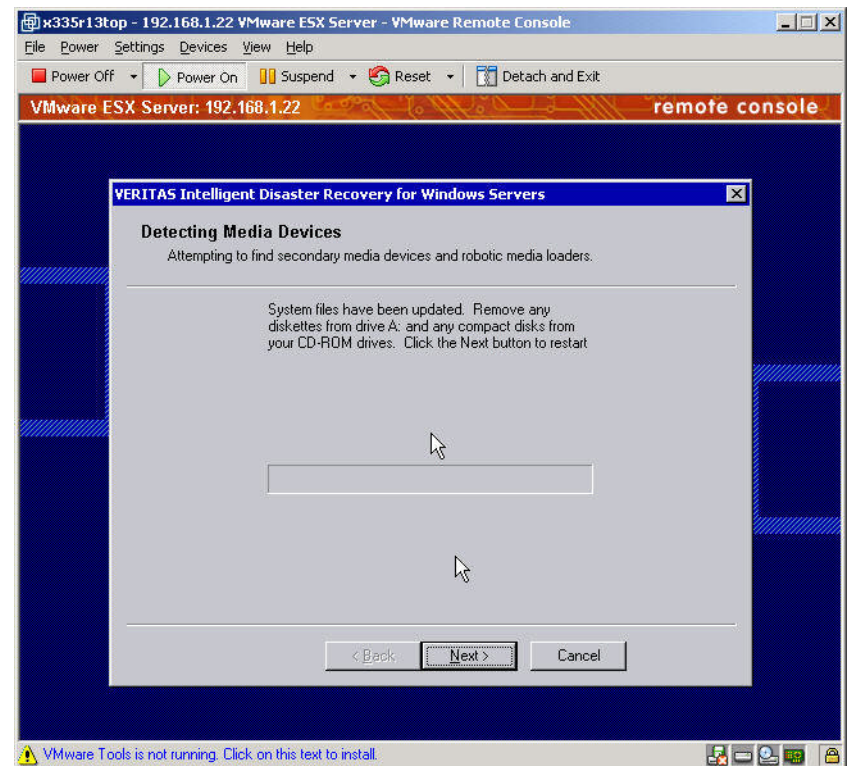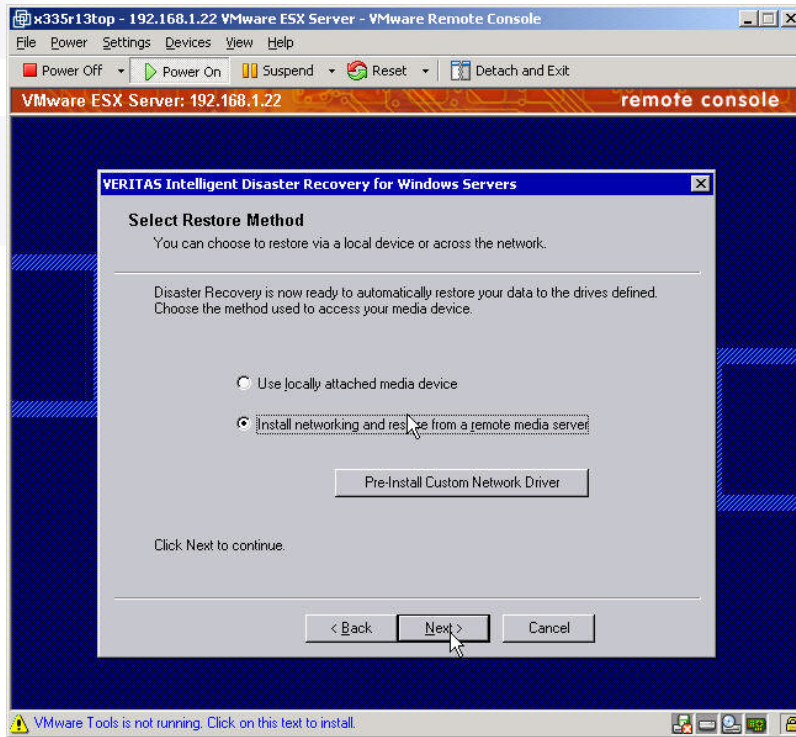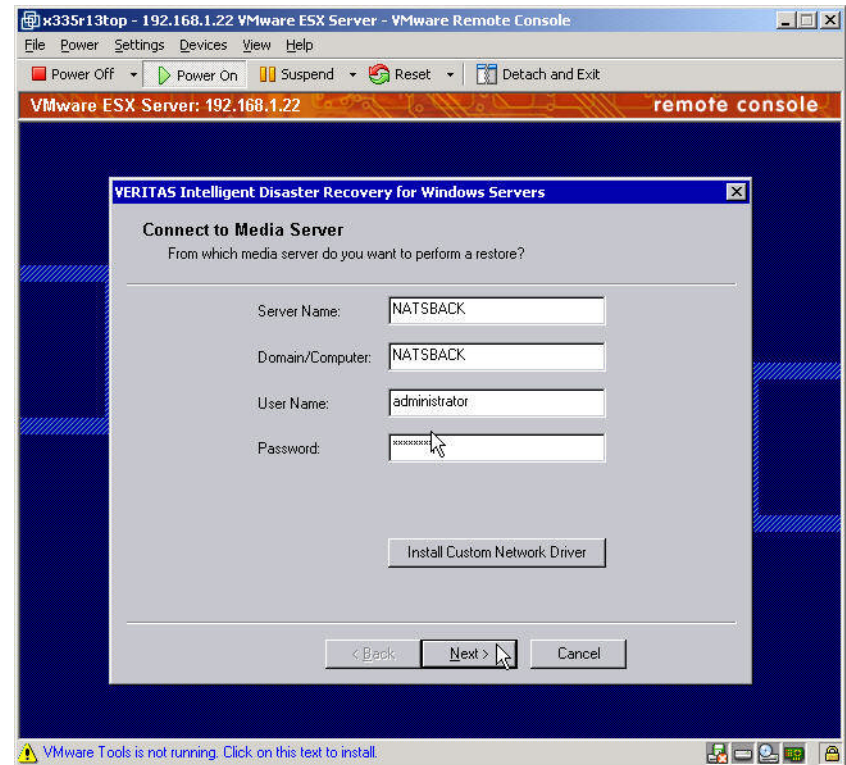
Windows 2000 IDR Procedure
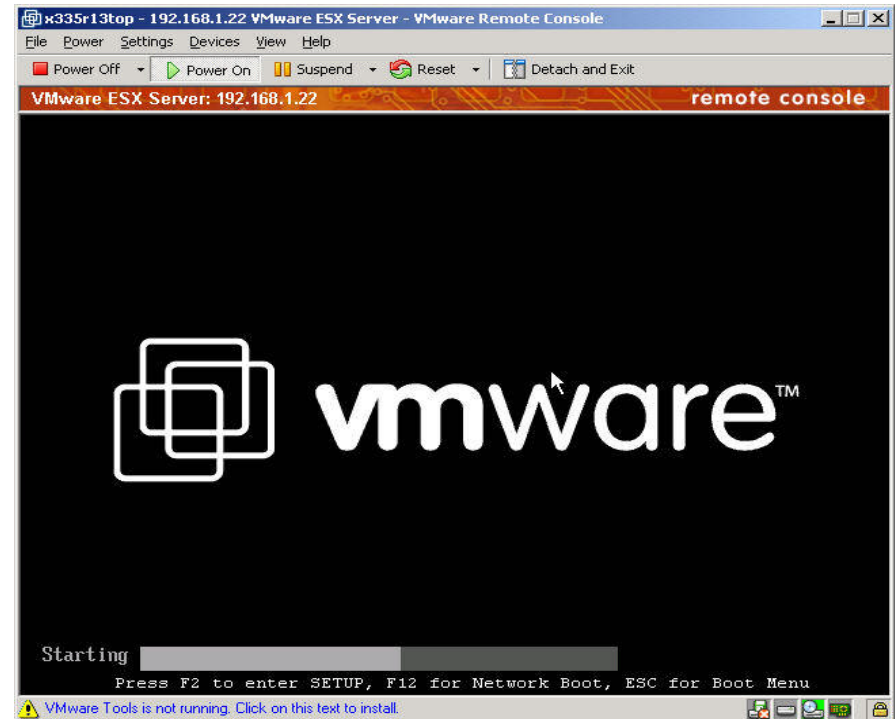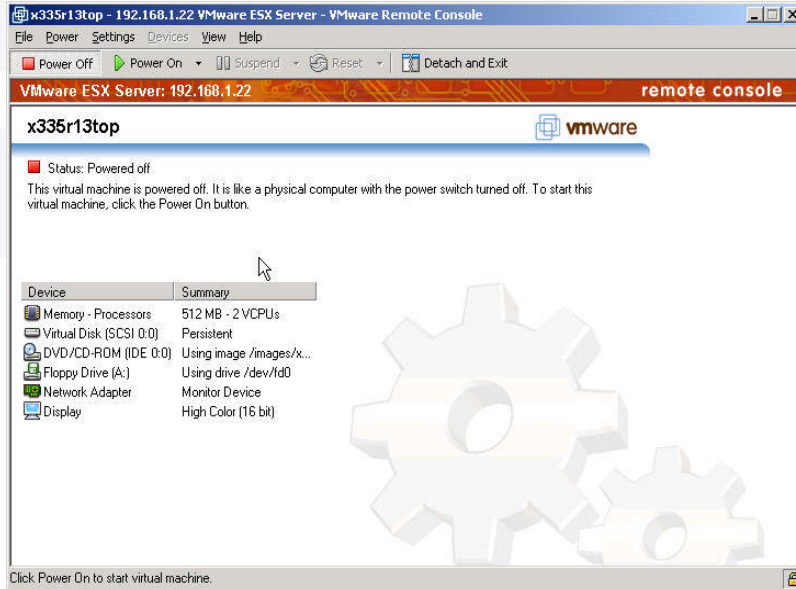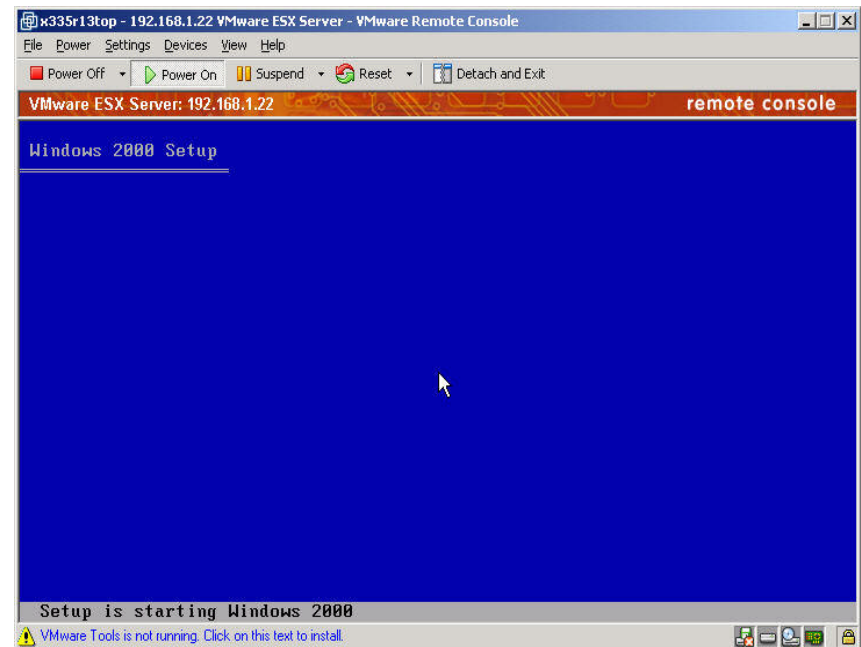
Windows 2000 IDR Procedure

Windows 2000 IDR Procedure

Windows 2000 IDR Procedure

Windows 2000 IDR Procedure
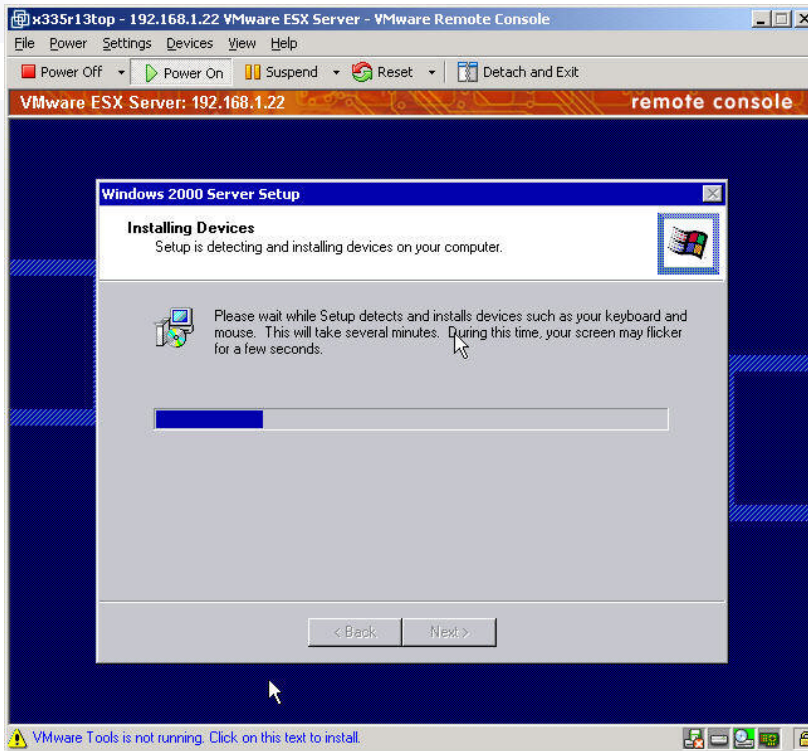
Windows 2000 IDR Procedure

Windows 2000 IDR Procedure
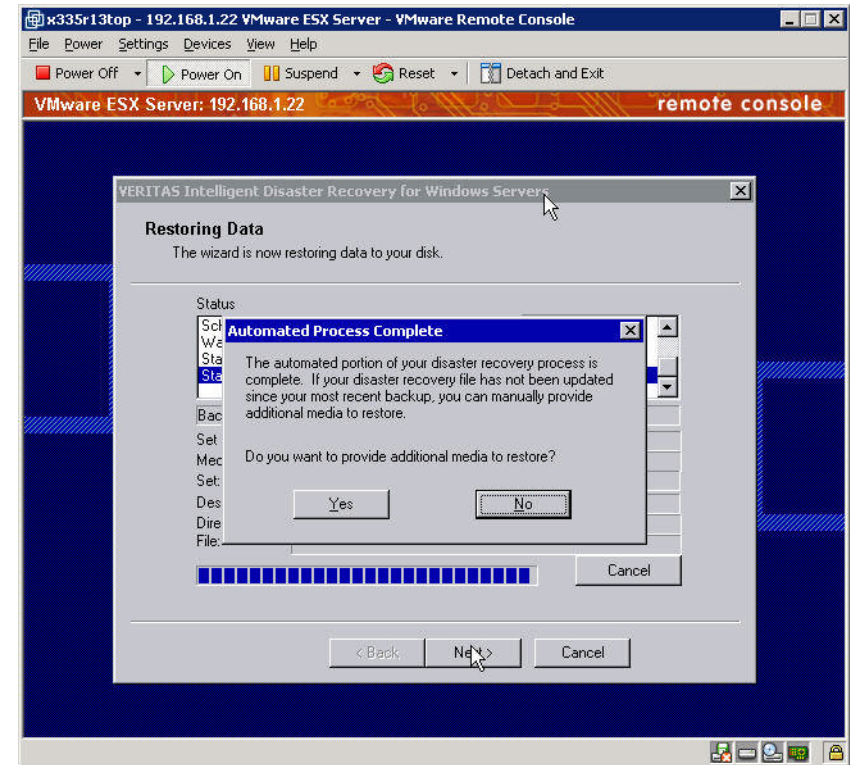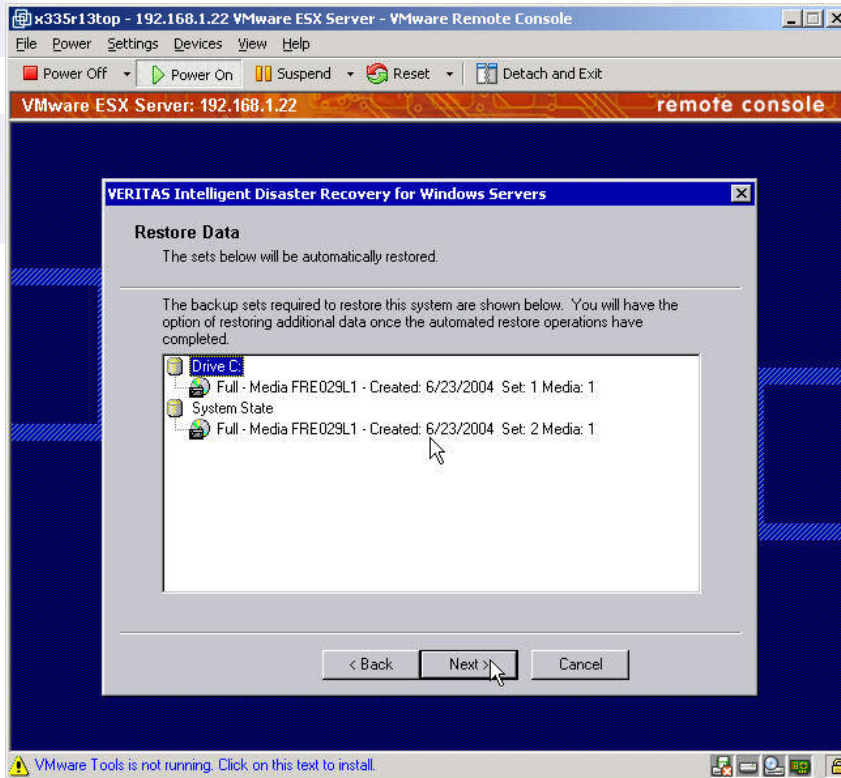
Windows 2000 IDR Procedure
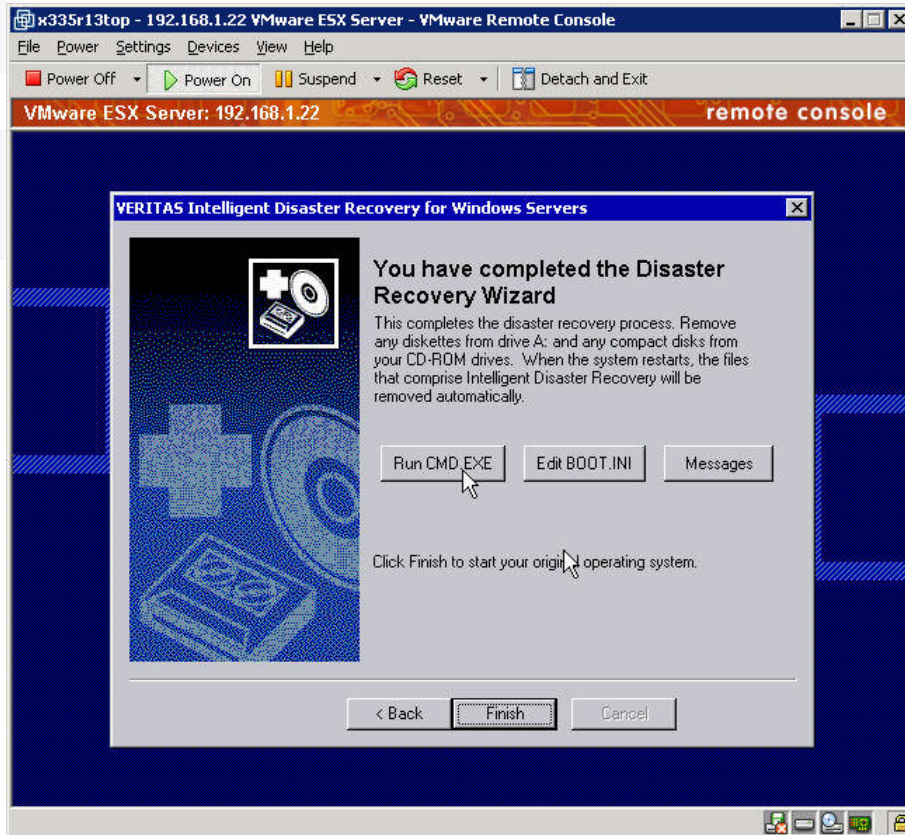
Windows 2000 IDR Procedure

Windows 2000 IDR Procedure

Windows 2000 IDR Procedure

Windows 2000 IDR Procedure

- After you restart, you are ready to install VMTOOLS in the Virtual Machine to compete the Disaster Recovery to the VM.

Questions?