



# Vista Blood Establishment Computer Software (VBECS) Version 1.4.0.0

## Installation Guide

April 2009

Department of Veterans Affairs  
Office of Enterprise Development

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# Revision History

Date	Revision	Description	Author
8-18-08	1.0	Initial Version	BBM Team
		<p>Global: Made all appendix references consistent. Some were not pointing to a specific location. Updated Figures 356, 357, 362, 363, 394 and 426. Removed all instances of TSO or Technical Support Office.</p> <p>Roles: Added a paragraph to better describe the duties of IRMs and Server Support staff in the case of a data center installation.</p> <p>Orientation: Added text to better describe the roles in the second paragraph. Added a section called VBECS SharePoint. Removed reference to Appendix K. Updated text in last caution box to be grammatically correct.</p> <p>Sign-Offs: Added a Caution box concerning the installation records.</p> <p>Servers: Removed Caution box concerning Windows user names and passwords, since it is no longer relevant.</p> <p>Part 2: Server Startup: Server Support Staff: Added text under Before Starting this Step noting that appendices can be downloaded from SharePoint.</p> <p>Integrated Lights Out: Under Before Moving to the Next Step, changed text to read that the Server Hardware Checklist is now saved on SharePoint and not sent to the IM.</p> <p>Verify the CD: Updated Steps 10 and 20 by removing "Delete the CD Verification folder by right clicking on it in Windows Explorer and selecting Delete.</p> <p>Blood Bank preparation: Removed "Obtain Windows User Names" caution box because it was no longer relevant.</p> <p>Printers section: Added text noting that the Zebra manual can be downloaded from the Zebra website.</p> <p>Figures 1 and 2: Servers reversed. Server 1 is now Server 2 and vice versa. Blacked out server labels in figure 1.</p> <p>Install and Configure VBECS, Step 8: Corrected to refer to Step 11.</p> <p>Install the SQL Server Single Node Virtual Server: Step 3, changed "C:\temp" folder to "c:\software" folder. Step 11, changed reference in screen capture to "Group 0". Step 25, changed from using a strong password to using the SA password.</p> <p>Figures 18 and 35: Changed caption to Create Software Folder.</p> <p>Add the Second Node to the SQL Server Failover Cluster: Step 3, changed "C:\temp" folder to "c:\software" folder.</p> <p>Laser Printer section: Changed instructions back to printer specific driver (no more universal).</p> <p>Install Microsoft SQL Server Service Pack 4: Step 2, changed "C:\temp" folder to "c:\software" folder.</p> <p>Configure SQL Server and Deploy VBECS Databases: Steps 5 and 8, changed "C:\temp" folder to "c:\software" folder. Appendix H, removed warning box about writing down the password.</p> <p>Configure the Server Name and IP Address: Changed "C:\CD Verification" folder to "c:\software" folder in Steps 6 and 24.</p> <p>Changed Steps 7 and 25 to only copy all folders and files from the VBECS installation CD to c:\temp.</p> <p>Update Configuration Files for VBECS on the VBECS Servers: Changed the word "Change" to "Add" in Steps 5, 7, 9, 11, 17, 19, 21 and 23.</p>	
1-21-09	2.0	Install and Configure VBECS: Updated figures where log file is	BBM Team

Date	Revision	Description	Author
		<p>created to show .log instead of .txt.</p> <p>Install and Configure FTP and SMTP: Added Steps 4a and 7a for opening Windows Explorer. Changed "check box" to "text" in Step 2c.</p> <p>Figure 426: replaced with an updated screen shot.</p> <p>Changed wording on Step 6c. Added "Capture a screen shot" to Step 8e.</p> <p>Configure Hardware Alerts, Steps 4 and 11: Added instructions in case this step fails.</p> <p>Apply Windows Updates: Updated Step 15 to be consistent with Step 2.</p> <p>Appendix D: Added "or Region number (if data center installation)</p> <p>Appendix H: Added a row for SA password.</p> <p>Appendix I: Changed "C:\CD Verification" to "c:\temp"</p> <p>Appendix K: Updated the directory of the Windows Services installation log.</p>	
4-22-09	3.0	<p>Updated guide to address comments from Clinical Product Support (CPS) review:</p> <p>Install Microsoft SQL Server Service Pack 4: Updated Appendix E reference to the correct path (step 4). Removed instructions to take screen capture (step 11).</p> <p>Configure SQL Server and Deploy Databases, steps 5 and 8: Changed "software" to "temp."</p> <p>Update Configuration Files for VBECS on the VBECS Servers, step 5: Updated Appendix E reference to the correct path (first bullet point).</p> <p>Added new section 10: Update Configuration Files for VBECS Services.</p> <p>Appendix F: Updated the VistALink and HL7 ports.</p> <p>Appendix I: Updated the output to reflect changes that were caused by changes to installation directories.</p> <p>Removed blank page 301 to correct layout.</p>	BBM team

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# Introduction

The VistA Blood Establishment Computer Software (VBECS) system replaces the previous blood bank software (VistA Blood Bank v5.2) at the Department of Veterans Affairs (VA). The main purpose of VBECS is to automate the daily processing of blood inventory and patient transfusions in a hospital transfusion service.

VBECS is an improved Blood Bank application that facilitates ongoing compliance with Food and Drug Administration (FDA) standards for medical devices and enhances the VA Veterans Health Administration's (VHA's) ability to produce high-quality blood products and services to veterans. The system follows blood bank standards, standards of national accrediting agencies, FDA regulations, and VA policies.



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## Architecture Overview

VBECS is a Microsoft Windows application developed in C#. It utilizes Microsoft's .NET technology. VBECS is installed on a server running Microsoft Server 2003. For redundancy, there is a backup server with an identical configuration. These servers are managed by Microsoft Cluster Service. VBECS uses SQL Server 2000 as its database. The database exists on a shared storage component. Users log into the VBECS application with their existing login credentials.

If the server is to reside at a data center, it will join the data center's Windows domain (r01, r02, r03, or r04). All other servers will join the VHAMASTER (vha.med.va.gov) domain.



*To maintain centralized control, VBECS servers will be installed in the data center or VHAMASTER domain and not in the VISN's domain.*

VBECS servers are locked in a secure server room, so users access the application from the blood bank via remote workstations. These machines use *Remote Desktop Connection* (formerly Terminal Services) to connect to the server and access the application. The peripheral hardware devices such as printers and scanners are located in the blood bank.

The VBECS system resides within the VA's Wide Area Network (WAN). It is protected from unauthorized access outside the WAN by the network firewall. VBECS is not accessible beyond the firewall.

## Roles

The installation of VBECS involves many steps and requires careful preparation to be successful.

- VBECS runs on new hardware that must be assembled and configured. VBECS requires multiple servers for redundancy, workstations, printers, and barcode scanners.
- VBECS requires multiple pieces of supporting software that must be installed and configured on the server.
- VBECS must be installed and configured.
- The installer must be familiar with Windows administration and preferably have a Microsoft Certified Systems Engineer (MCSE) certification or related experience.

This document is a guide for the coordinator and installers of VBECS: the Implementation Manager (IM), the server support staff [Information Resource Management (IRM) or data center personnel], and the Remote Install Team. This guide starts with installation of the hardware supplied by the vendor who installed some of the commercial software (using a provided image) required by VBECS.

- The IM is responsible for the overall coordination of the installation. The manager schedules tasks and verifies that they are completed. Notify the IM if there are problems or questions (see Appendix A: Contacts). The IM's role is solely to coordinate the setup of VBECS and address problems.
- Members of the Remote Install Team and server support staff (in conjunction with laboratory personnel) will perform all parts of the installation. When the hardware arrives, the Remote Install Team and local staff will use this guide to:
  - Verify that all of the proper pieces arrived intact and according to specification.
  - Install software that was not included on the image.
  - Install and configure VBECS.

Note that if the server is installed at a hospital site, the IRMs will be supporting the VBECS hardware and laboratory equipment. However, if the hardware is at a data center, specialized server support staff

at that site will support the server installation. In this case, IRMs are only responsible for the laboratory hardware.



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### **Related Manuals and Reference Materials**

- *Cyber Security Practitioner Reference Guide*, V 1.0, August 3, 2004.
- *Department of Veterans Affairs Medical Device Isolation Architecture Guide*. Center for Engineering & Occupational Safety and Health (CEOSH), St. Louis, MO, in conjunction with the Department of Veterans Affairs and Veterans Health Administration, Washington, DC, April 30, 2004.
- *Threats and Countermeasures Guide*, Microsoft Corporation, 2005.
- VA ELECTRONIC MAIL SYSTEM (MAILMAN) TECHNICAL MANUAL AND SYSTEMS MANAGEMENT GUIDE Version 7.1.
- *Windows Server 2003 Security Guide*, Microsoft Corporation, 2005.

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# Orientation

## ***How This Installation Guide Is Organized***

This guide starts with the assembly and installation of the hardware and ends with the installation of VBECS.

This guide is divided into three parts based on roles. The IRM staff is responsible for Part 1. The Information Resource Management Systems (IRMS) or server support staff is responsible for Part 2 (depending on if this is a local or data center installation respectively). The Remote Install Team is responsible for Part 3.



*Maintain the order of the steps for successful installation.*

The *Before Starting This Step* section at the beginning of each step details tasks that must be completed prior to starting a step.

The *Before Moving to the Next Step* section at the end of each step details tasks that must be completed before moving to the next step.

A section for notes is included at the end of the document.

## ***Warnings***

Outlined text with a caution icon is used throughout this guide to highlight warnings, limitations, and cautions.



*Warnings, limitations, cautions*

Read and follow these caution statements and warnings.

## ***Screen Shots and Printouts***

Because VBECS is a medical device, screen shots must be captured and logs printed at various points throughout the installation to meet FDA requirements for objective evidence and documentation. A



(camera) at the beginning of each step that requires a screen capture will identify these points. A



(printer) at the beginning of each step that requires a printout will identify these points. For more information, see Appendix G: Instructions for Capturing Screen Shots for Installation Records.

## ***VBECS SharePoint***

Every VBECS site has a SharePoint page. SharePoint is a collaboration website that helps facilitate the installation of VBECS by serving as a central resource repository.

Prior to installation, all appendices will be filled out and posted to the SharePoint site. Please speak to the IM for more details on SharePoint.

## ***Data Center Installations***

In some regions, VBECS will be installed at a data center instead of at a hospital site. In some parts of the guide, the instructions will differ slightly for these locations. **DC** (data center icon) at the beginning of a step indicates that the instructions for a data center differ.

## HP Support

If there are any hardware related issues, contact HP support at 800.633.3600. Make sure you have the server serial numbers on hand when you call.

## Sign-Offs

To track the installation and ensure completeness, write your initials and date, as indicated:

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

 *The completed guide with facility screen captures, steps with names and dates of completion, and appendices is considered part of the facilities' records and should be retained per local policy. In addition, a copy of the installation records (minimum, Appendix D) should be sent to the applicable Blood Bank supervisor and a signed copy of Appendix E to the VBECS IM.*

## Installation Procedure

The installation procedure is divided into three parts. Complete the steps in each part before moving to the next. IRM staff at the blood bank site will complete Part 1. Server support staff will complete Part 2. The Remote Install Team will complete Part 3 remotely.

### Part 1: Blood Bank Preparation

- **Install Hardware at the Blood Bank:** This section describes preparations that must be made at the blood bank prior to starting server installation.

### Part 2: Server Startup

- **Prepare for Installation:** This section describes preparations that must be made prior to starting installation. It includes a list of hardware components and software installation media that must be present. It also details the Local Area Network (LAN) requirements for the VBECS system.
- **Set Up Hardware:** This section describes assembly of the hardware pieces, including servers, workstations, printers, and barcode scanners.

### Part 3: Server Installation

- **Configure and Verify Hardware:** This section describes configuration of the hardware and how to verify that each piece conforms to our specifications.
- **Install and Configure VBECS:** This section describes installation and configuration of VBECS.

## Servers

This guide does not cover details of building the servers. The vendor will build the servers (including assembling them and installing software), in accordance with the VBECS team specifications, prior to shipping them to the sites.

# Part 1: Blood Bank Preparation: IRM Staff

## *Install Hardware at the Blood Bank*

### **Before Starting This Step:**

Make sure that printed copies of Appendix B: Blood Bank Hardware Checklist and Appendix D: Blood Bank Configuration Checklist are on hand.

### **1 Blood Bank Hardware Checklist**

Use Appendix B: Blood Bank Hardware Checklist to verify that all hardware was received and is intact. Complete and send a copy of the checklist to the IM and file the original on-site. If parts are missing or appear broken, notify the IM immediately.

Check that the hardware is consistent with the descriptions in the checklist. For example, if the mouse does not match the description in the checklist (USB optical mouse), notify the IM immediately. Make sure that model numbers provided in the checklist are consistent with the hardware.

In case of a multi-divisional site, each location will complete a separate checklist.

### **2 Blood Bank Configuration Checklist**

Obtain information for configuring the VBECS hardware. The configuration parameters include IP addresses, network settings, and names for hardware devices related to the VBECS servers. Complete and send a copy of the checklist to the IM and file the original on-site. It is recommended that the blood bank keep copies of documentation for future inspections.

The completed checklist will be used in later steps to configure the hardware and must be available during installation.

In case of a multi-divisional site, each location will complete a separate checklist.

### **3 Supplies for the Blood Bank Site**

Ensure that the blood bank provided printer supplies:

- Ream (500 sheets) of 8.5" x 11" paper for the laser printer
- Printer ribbon and label stock for the Zebra tag printer

### **4 Workstations**

Install workstations purchased with VBECS in the blood bank. Other than required VBECS support applications and configurations, each site may manage its workstations in accordance with local policy. Sites may install their own image or use the one that comes with the workstation. New and existing workstations must have:

- Audio
- Remote Desktop Connection (installed by default on Windows XP and available as a free download from Microsoft)

Sites are responsible for filing a Remedy ticket or using other means to deal with failure of workstations, scanners, and related equipment.

### **5 Printers**

Install the printers in the blood bank.

## **Zebra Label Printer**

This printer will arrive assembled. Plug the printer into a power source and connect it to the network. Load the printer ribbon and 4" x 4" label stock. Refer to the manual that came with the printer (or downloaded from the Zebra website) if further instructions are needed.

## **Laser Printer**

Assemble the printer and feeder according to the instructions in the printer manufacturer's user guide. Load the paper. Plug the printer in and connect it to the network.

## **6 Network**

VBECS is a medical device and has special network requirements.

### **Virtual Local Area Network**

The VBECS printers must be isolated on a VLAN. If the servers will be at a location different from that of the printers, the printers and servers will reside on separate VLANs. The workstations are not part of the medical device and, therefore, must not reside on the VLAN: this may inhibit connectivity to other systems.

See Appendix F: VLAN Requirements for details on the VLAN configuration. If the VLAN is not configured, configure it. *Do not activate VLAN security (apply the ACL) until the VBECS installation is complete.*

### **Before Moving to the Next Step:**

- Make sure that:
  - The Blood Bank Hardware Checklist (Appendix B: Blood Bank Hardware Checklist) is complete, was sent to the IM, and the original was filed on-site.
  - The Blood Bank Configuration Checklist (Appendix D: Blood Bank Configuration Checklist) is complete, was sent to the IM, and the original was filed on-site.
  - Printers are configured and attached to the network.
  - Printer supplies are on-site or have been ordered.

# Part 2: Server Startup: Server Support Staff

## *Prepare for Installation*

### **Before Starting This Step:**

- Make sure that printed copies of Appendix D: Blood Bank Configuration Checklist are on hand. In case of a multi-divisional site, each location will complete a separate checklist. Note that appendices can be downloaded from SharePoint.
- Prepare an electronic installation validation record for screen shots to be captured during the installation of VBECS (see Appendix G: Instructions for Capturing Screen Shots for Installation Records).

### **1 Server Room**

Make sure that the server room is prepared for installation of the VBECS server rack:

- The server rack is 2 feet wide by 3.5 feet deep. Adequate space must be available to access the server cabinet from the front and back. Make sure the server room has adequate cooling capacity.
- There must be two L5-30R (125V, 30A) power receptacles available: the cabinet comes with a dual power source. The receptacles must be on separate circuits to accommodate failure of one circuit.
- The server rack comes with a built-in UPS. However, if the site has another UPS solution, the built-in UPS may be bypassed.

### **2 Server Hardware Checklist**

Use Appendix C: Server Hardware Checklist to verify that all hardware was received and is intact. Complete and send a copy of the checklist to the IM and file the original on-site. If parts are missing or appear broken, notify the IM immediately.

Check that the hardware is consistent with the descriptions in the checklist. For example, if the server does not match the description in the checklist, notify the IM immediately. Make sure that model numbers provided in the checklist are consistent with the hardware.

### **3 Server Configuration Checklist**

Obtain information for configuring the VBECS hardware. The configuration parameters include IP addresses, network settings, and names for hardware devices related to the VBECS servers. Complete and send a copy of Appendix E: Server Configuration Checklist to the IM and file the original on-site. It is recommended that the blood bank keep copies of all documentation for future inspections.

The completed checklist will be used in later steps to configure the hardware and must be available during installation.

## 4 Network

VBECS is a medical device and has special network requirements.



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### Virtual Local Area Network

The VBECS servers and both printers must be isolated on a VLAN. If the servers will be at a location different from that of the printers, the printers and servers will reside on separate VLANs. Since the workstations are not part of the medical device, they must not reside on the VLAN: this may inhibit connectivity to other systems.

See Appendix F: VLAN Requirements for details on the VLAN configuration. If the VLAN is not configured, configure it. *Do not activate VLAN security (apply the Access Control List) until the VBECS installation is complete.*

### Domain Name System

If Domain Name System (DNS) entries are not picked up automatically at your site, enter them for both servers and the cluster.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## 5 Software

The IM will provide the VBECS software CD, which contains VBECS and other supporting software required for the installation. If you did not receive the CD, contact the IM.

## 6 Exclusion Lists

Since VBECS is a medical device, all updates and changes to it must be tested and documented. This will be centrally managed. The VBECS servers must be added to site exclusion lists so they are not part of local update mechanisms. Do not install the *ePolicy agent* on the VBECS systems: exclude them from *Systems Management Server* (SMS) updates. Install Windows updates *only* after approval is granted.

## 7 Integrated Lights Out (Optional)

The HP ProLiant servers, on which VBECS resides, contain an Integrated Lights Out (iLO) feature that allows system administrators multiple ways to configure, update, operate and manage the servers remotely. Basic system administration and access to system management information remotely reduces the need for onsite support. Use of the iLO feature will be especially helpful for managing regional data centers where system administrators are not on site. The iLO feature allows full control of the server whether the system is powered off, starting up, distressed or operating normally. Multiple server administrators can view and share control of the system console simultaneously to collaboratively troubleshoot and administer ProLiant servers. Changes made to the server using iLO are recorded in the iLO Event Log.

To implement iLO, please refer to: Appendix L: Implementing Integrated Lights Out.



*Do not deviate from the instructions in this guide. Do not update virus definition files or Windows: this will be done when the VBECS installation is complete, as directed by the IM and Enterprise Product Support (EPS).*

### **Before Moving to the Next Step:**

- Make sure that:
  - Space and power requirements are met in the server room for the VBECS server rack.
  - The VBECS server rack is in place in the server room and is properly attached to separate power supplies.
  - The blood bank's space and network connectivity requirements are met.
  - The Server Hardware Checklist (Appendix C: Server Hardware Checklist) is complete and saved on SharePoint. The original was filed on-site.
  - The Server Configuration Checklist (Appendix E: Server Configuration Checklist) is complete, was sent to the IM, and the original was filed on-site.
  - The VLAN was configured (see Appendix F: VLAN Requirements for more information). (Apply ACL only after VBECS is installed.)
  - DNS entries were made.

## **Set Up Hardware**

### **Before Starting This Step:**

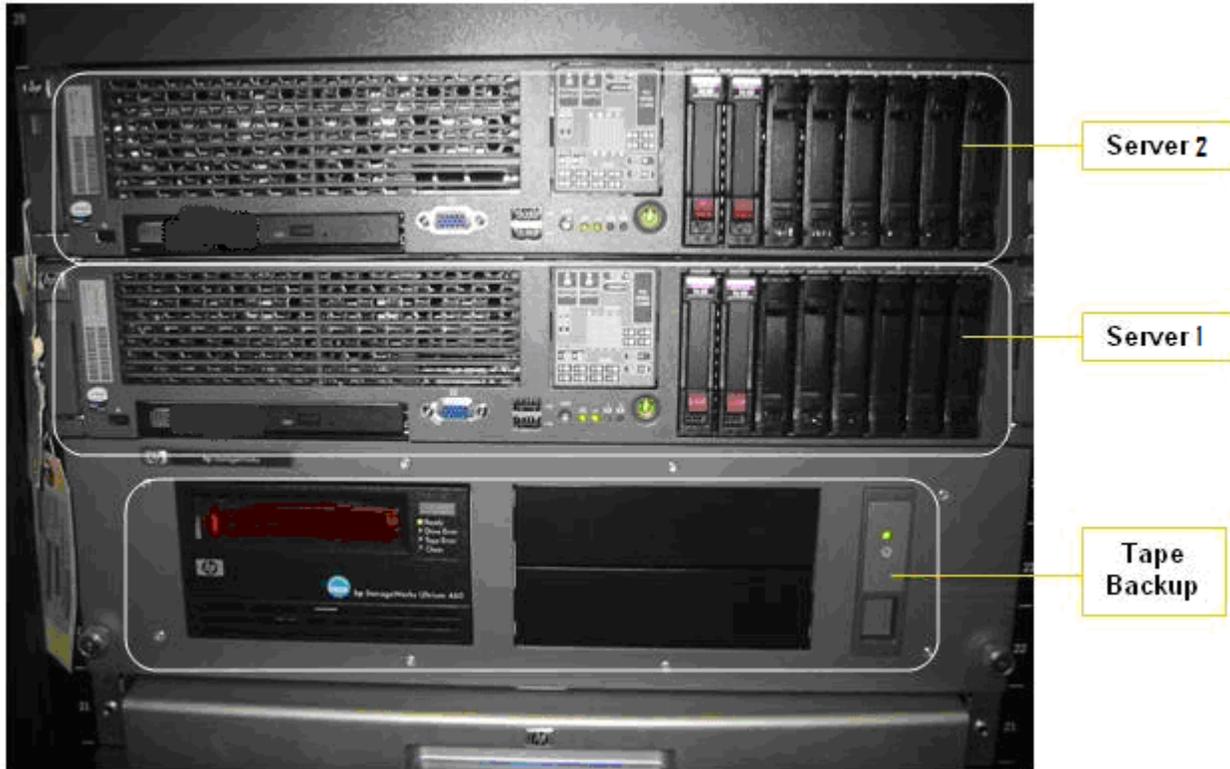
- All of the hardware was received, verified and is accessible.

The VBECS server rack will reside in the server room: the workstations, printers, and barcode scanners will reside in the blood bank.

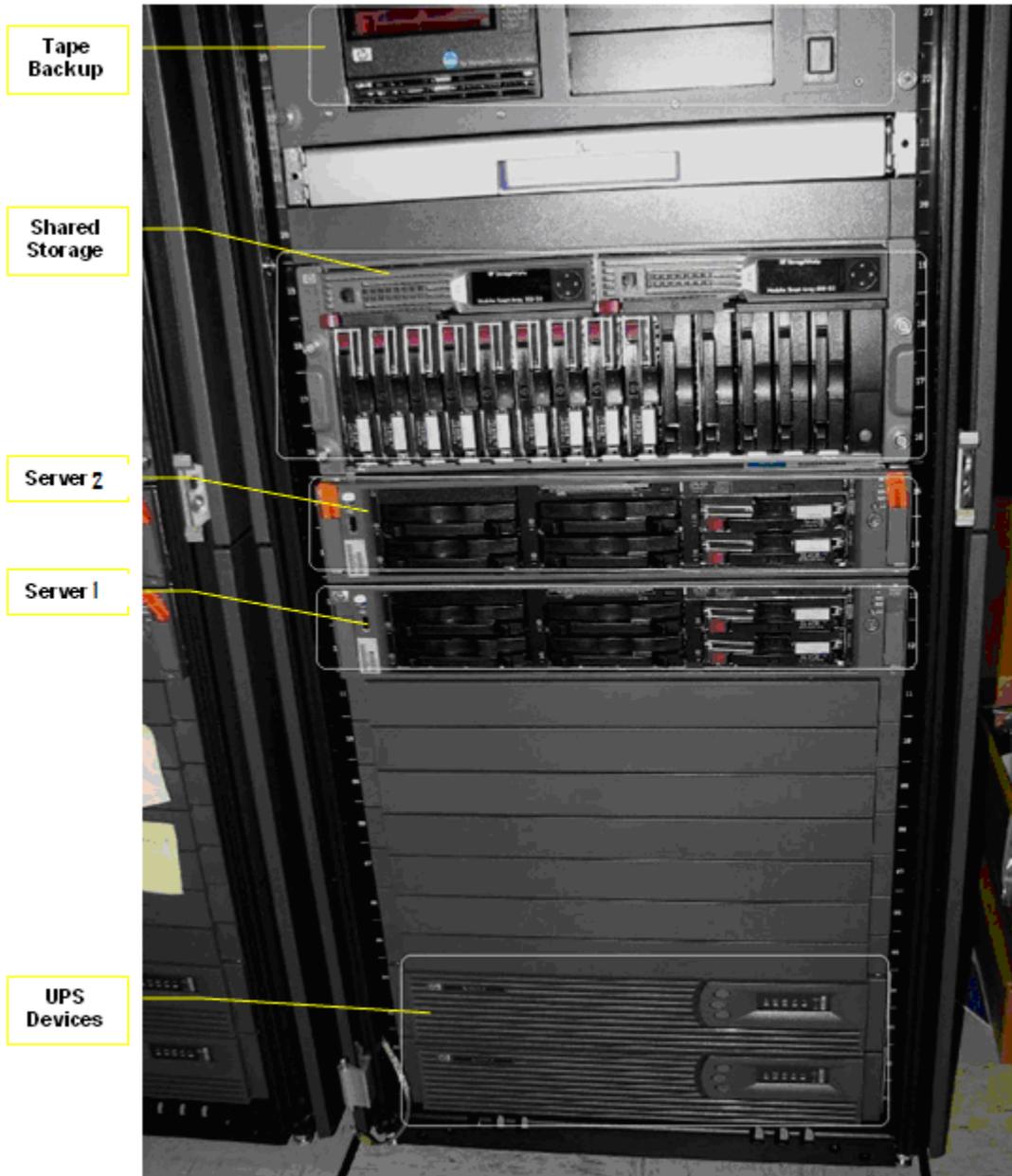
## 1 VBECS Server Rack

The server rack will arrive assembled. Unpack it, position the server in its space, and plug the rack in. The cords must be plugged into different circuits to provide redundancy if a circuit fails (Figure 1 and Figure 2).

**Figure 1: VBECS Rack (G5 Servers)**



**Figure 2: VBECS Rack (G4 Servers)**



## 2 Complete Installation of the Operating System

 *The two VBECS servers will be clustered for redundancy and failover. Therefore, their configurations must be identical. Changes made to one server must be applied to the other server to avoid failure of VBECS.*

### Switch Servers with the Keyboard Video Mouse (KVM) Switch

To switch the server that the KVM is pointed to:

- 1) Hold down the **function key** (fn).
- 2) Press the **Scroll key** twice.
- 3) Release the function key, and press **Enter** to move to the next port on the KVM.
- 4) Repeat Steps 1–3 to switch to the next server.

Throughout this document, the top server in the rack will be referred to as “Server 1”; the bottom server will be referred to as “Server 2.” Icons **1** and **2** will introduce each step that requires the user to switch servers.

 *If a server fails to start and boot into Windows, notify the IM immediately and stop the installation process.*

### Start Servers

- 1) Turn on the UPSs. Power switches are on both the front and back.
- 2) Use Network Interface Card (NIC) 2 (Figure 3) to connect Servers 1 and 2 to the public network. Use NIC 1 (Figure 3) (heartbeat for clustering) to connect the servers to each other. Label NIC 2 “Public” and NIC 1 “Heartbeat.” See Figure 4 for G4 server.

**Figure 3: Network Interface Cards (G5 Server)**



**Figure 4: Network Interface Cards (G4 Server)**



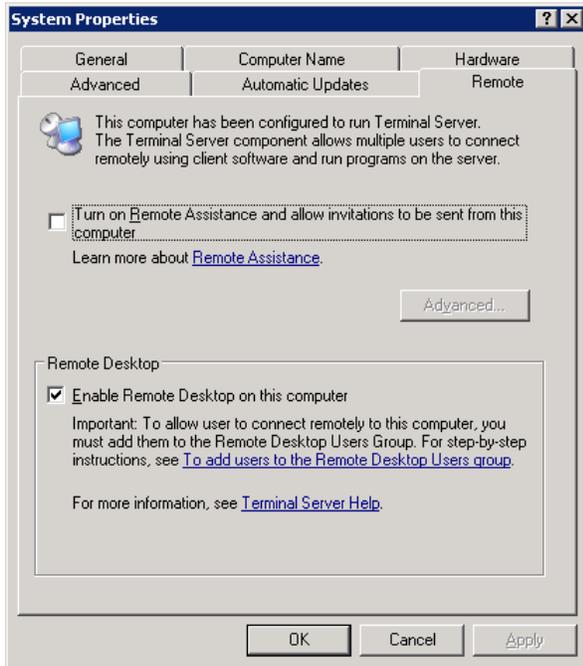
- 3) **1** Power on Server 1. Since the server was configured with Sysprep, the Windows mini-setup will launch.
- 4) In the Welcome to the Windows Setup Wizard window, click **Next**.
- 5) In the License Agreement screen, select the **I accept this agreement** radio button and click **Next**.
- 6) In the Computer Name and Administrator Password screen, enter the computer name specified in Appendix E: Server Configuration Checklist (Server Hardware Information, Row 1). Do not modify the Administrator password. Click **Next**.
- 7) Apply a label to the server with its name to avoid confusion in later steps.
- 8) In the Date and Time Settings screen, enter the time and time zone for your location. Check the **Automatically Adjust clock for daylight savings time** check box if this is your site's policy. Click **Next**.
- 9) **DC** The operating system is installed and will automatically try to join the VHAMASTER domain. The server will automatically restart. Joining the VHAMASTER domain will fail if this is a data center installation. In this case, join the data center domain manually (Click **Start, Control Panel, System**. Choose the **Computer Name** tab and click the **Change button**. Specify the data center domain in the **Domain** text box and click **OK**. When prompted, specify a username and password from the data center domain. Restart the server when prompted). Joining the domain will also fail if the server has not been assigned an IP address via DHCP. If this is the case, join the VHAMASTER domain after the server has been assigned a static IP address.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 10) **1** Log into Server 1 with the *InitialUser* ID and password (see Appendix H: Password List). Make sure that the "Log on to" combo box in the login screen points to the server, not to the domain. (If you don't see the "Log on to" combo box, click **Options**.)
- 11) Click **Start, Control Panel, System**. Click the **Remote** tab.

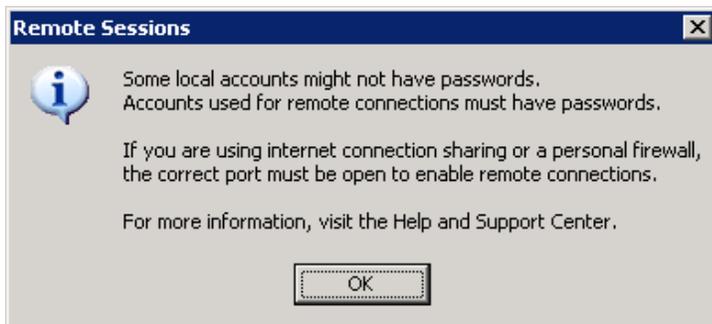
12) Check the **Enable Remote Desktop on this computer** check box (Figure 5).

**Figure 5: System Properties**



13) Click **OK** to close (Figure 6).

**Figure 6: Remote Sessions**



14) Click **OK** to save (Figure 5). Close the **Control Panel**.

## Verify Installed Software

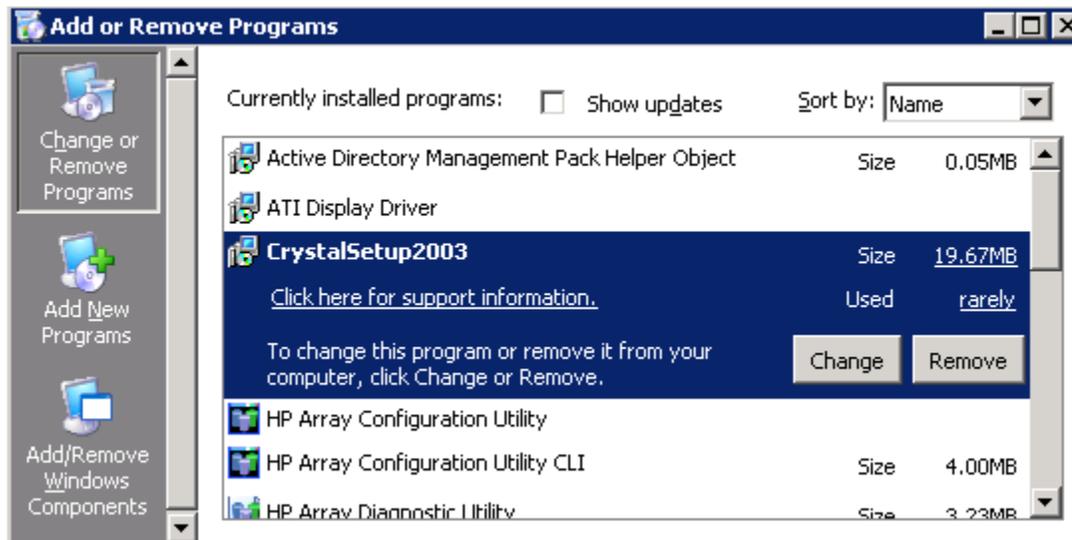
- 1)  To verify Windows Server 2003, click **Start, My Computer**. Select **Help, About Windows** (Figure 7). View the edition of the operating system, displayed at the top of the splash screen. Capture a screen shot. Click **OK** and close the **My Computer** window.

**Figure 7: About Windows**

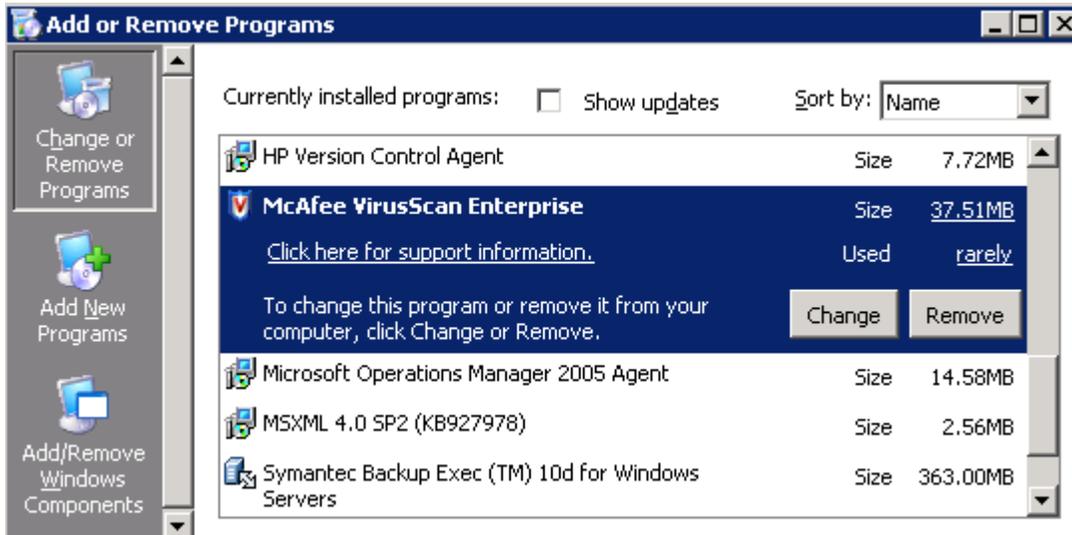


- 2)  To verify Crystal Reports and McAfee Virus protection, click **Start, Control Panel, Add or Remove Programs**. CrystalSetup2003 (Figure 8) and McAfee VirusScan Enterprise 8.0 [Figure 9 (Click on **Click here for support information** to verify correct McAfee VirusScan Enterprise version)] are listed under **Currently installed programs**. Capture a screen shot.

**Figure 8: Add or Remove Programs**



**Figure 9: Add or Remove Programs**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

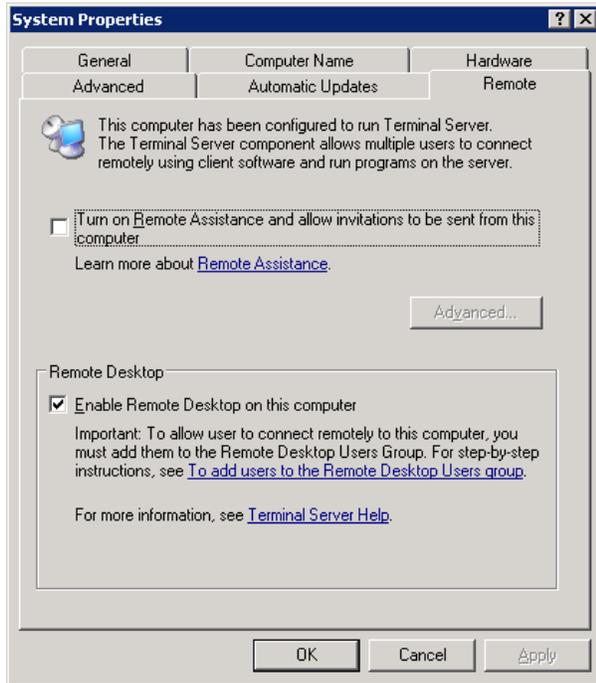
- 3) ❶ Log off Server 1.
- 4) ❷ Power on Server 2. Since the server was configured with Sysprep, the Windows mini-setup will launch.
- 5) In the Welcome to the Windows Setup Wizard screen, click **Next**.
- 6) In the License Agreement screen, click the **I accept this agreement** radio button and click **Next**.
- 7) In the Computer Name and Administrator Password screen, enter the computer name specified in Appendix E: Server Configuration Checklist (Server Hardware Information, Row 3). Do not modify the Administrator password. Click **Next**.
- 8) Apply a label to the server with its name to avoid confusion in later steps.
- 9) In the Date and Time Settings screen, enter the time and time zone for your location. Click **Next**.
- 10) **DC** The operating system is installed and will automatically try to join the VHAMASTER domain. The server will automatically restart. Joining the VHAMASTER domain will fail if this is a data center installation. In this case, join the data center domain manually (Click **Start, Control Panel, System**. Choose the **Computer Name** tab and click the **Change** button. Specify the data center domain in the **Domain text** box and click **OK**. When prompted, specify a username and password from the data center domain. Restart the server when prompted). Joining the domain will also fail if the server has not been assigned an IP address via DHCP. If this is the case, join the VHAMASTER domain after the server has been assigned a static IP address.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 11) ❷ Log into Server 2 with the *InitialUser* ID and password (see Appendix H: Password List). Make sure that the **Log on to** combo box in the login screen points to the server, not to the domain. (If you don't see the "Log on to" combo box, click **Options**.)
- 12) Click **Start, Control Panel, System**.
- 13) Click the **Remote** tab.
- 14) Check the **Enable Remote Desktop on this computer** check box.

15) Click **OK** to close (Figure 10).

**Figure 10: System Properties**



16) Click **OK** to close (Figure 11).

**Figure 11: Remote Sessions**

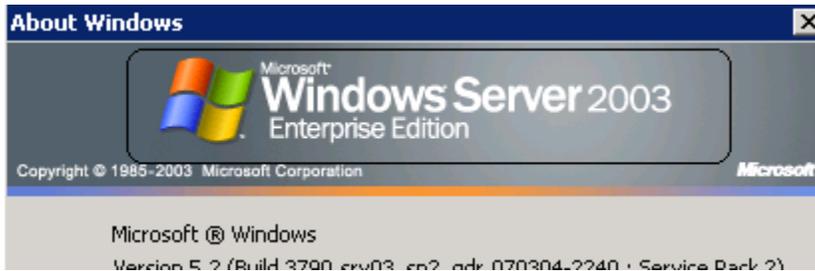


17) Close the Control Panel.

## Verify Installed Software

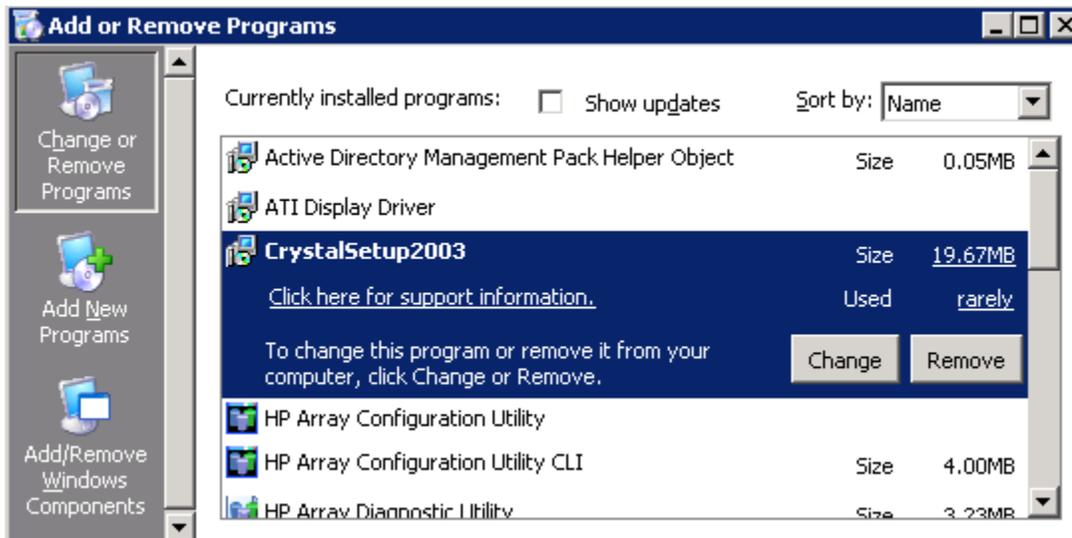
- 1)  To verify Windows Server 2003, click **Start, My Computer**. Select **Help, About Windows** (Figure 12). View the edition of the operating system displayed at the top of the splash screen. Capture a screen shot. Click **OK** and close My Computer.

**Figure 12: About Windows**

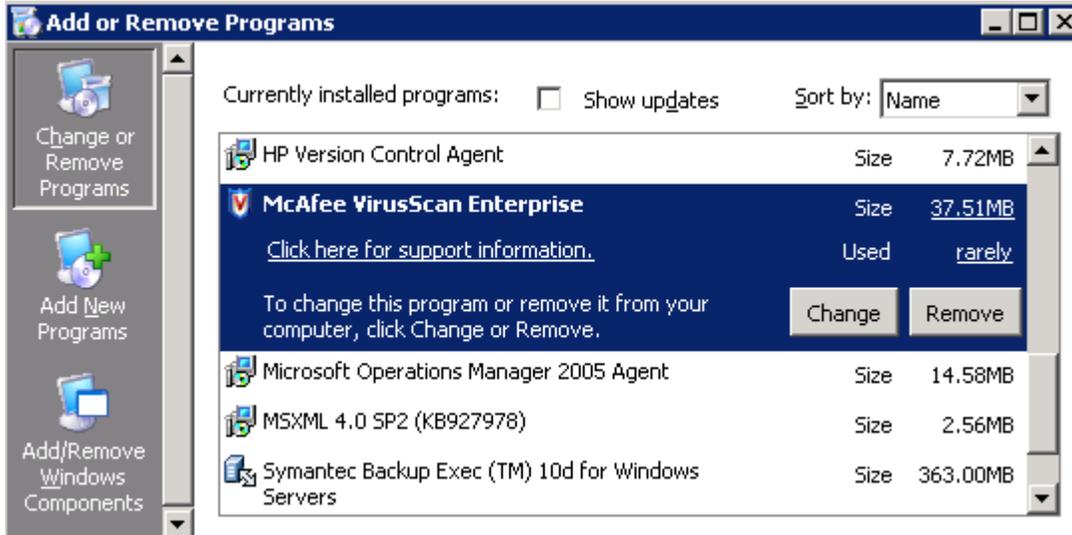


- 2)  To verify Crystal Reports and McAfee Virus protection, click **Start, Control Panel, Add or Remove Programs**. CrystalSetup2003 (Figure 13) and McAfee VirusScan Enterprise 8.0 (Figure 14) are listed under “Currently installed programs.” Capture a screen shot.

**Figure 13: Add or Remove Programs**



**Figure 14: Add or Remove Programs**



3) ② Log off Server 2.

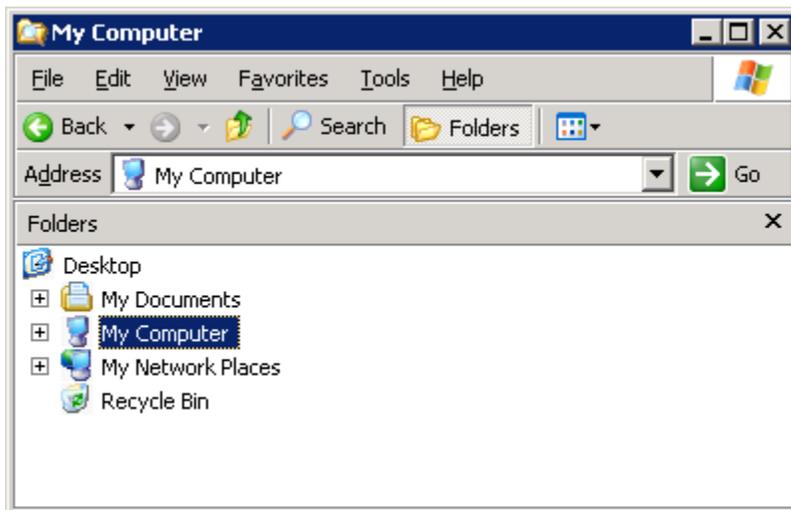
**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Configure the Server Name and IP Address

Refer to the completed Appendix E: Server Configuration Checklist for the values for this section.

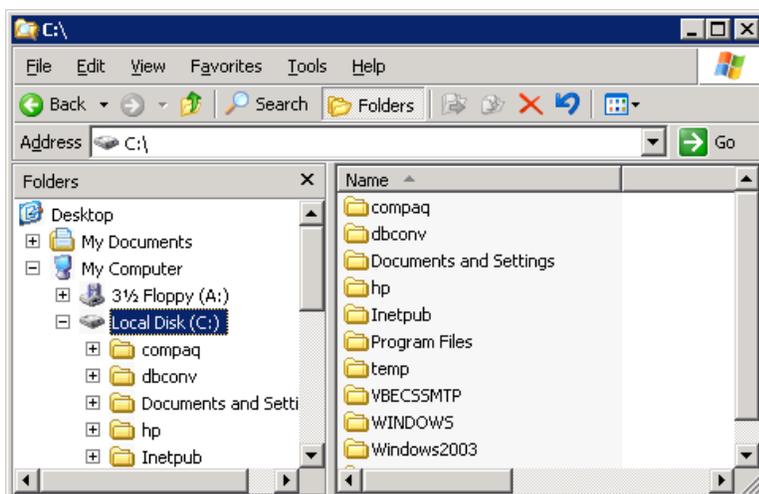
- 1) **1** Log into Server 1 with the *InitialUser* ID and password (see Appendix H: Password List). Make sure that the **Log on to** combo box in the login screen points to the server, not to the domain. (If you don't see the "Log on to" combo box, click **Options**.)
- 2) Click **Start, Windows Explorer**.
- 3) Click the plus sign to the left of **My Computer** (Figure 15).

**Figure 15: Windows Explorer**



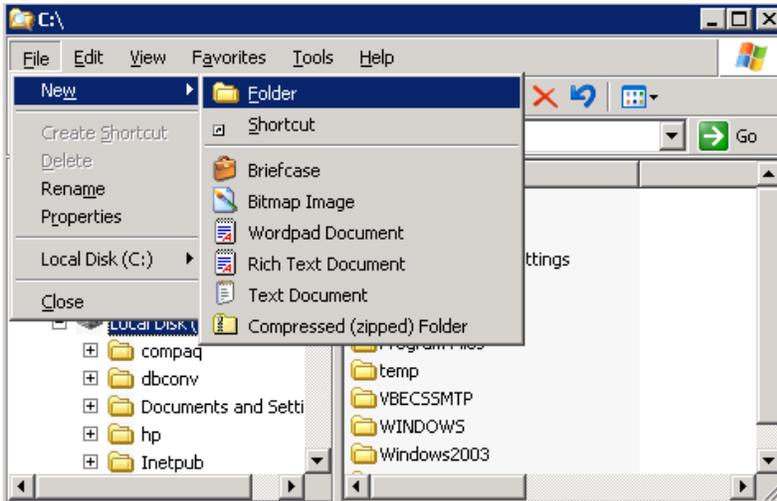
- 4) Select the C drive (Figure 16).

**Figure 16: C Drive**



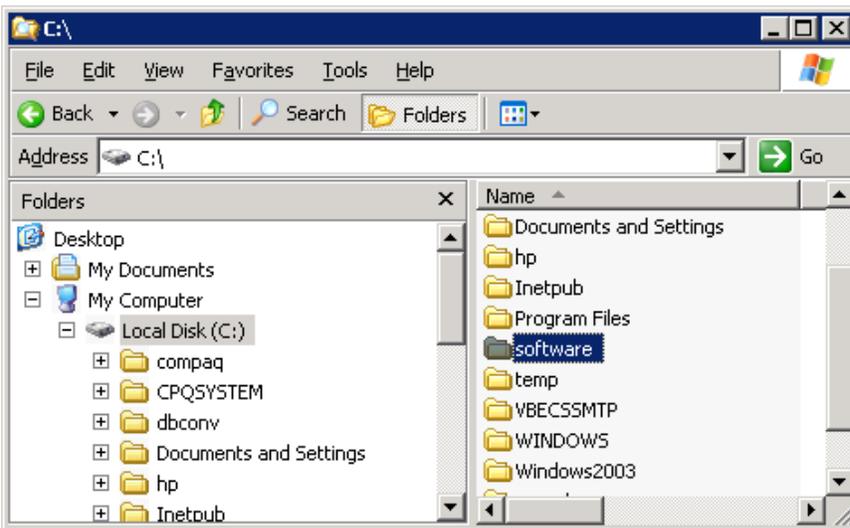
- 5) Click **File, New, Folder** (Figure 17).

**Figure 17: New Folder**



- 6) Enter **software** as the folder name (Figure 18). Move (do not copy) all contents of **c:\temp** into **c:\software**.

**Figure 18: Create Software Folder**



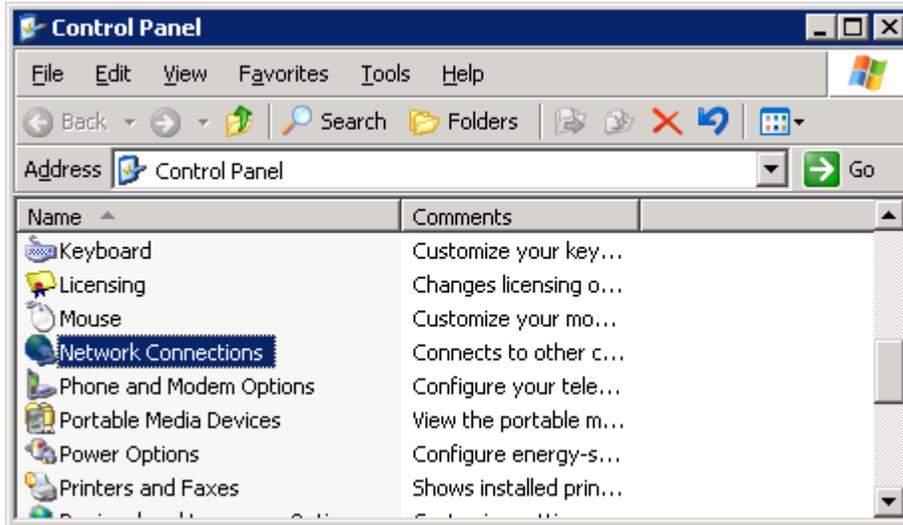
- 7) Verify that the version number on the VBECS installation CD is "1.4.0.0." Insert the VBECS installation CD in the CD drive. Copy all folders and files from the VBECS installation CD to **c:\temp**.

*If you right click the CD and select Copy, the installation will fail.*

- 8) Remove the VBECS CD from the drive.

- 9) Configure the IP address and related network information:
- Click **Start**, right click **Control Panel** and select **Open**. Double click **Network Connections** (Figure 19).

**Figure 19: Control Panel**



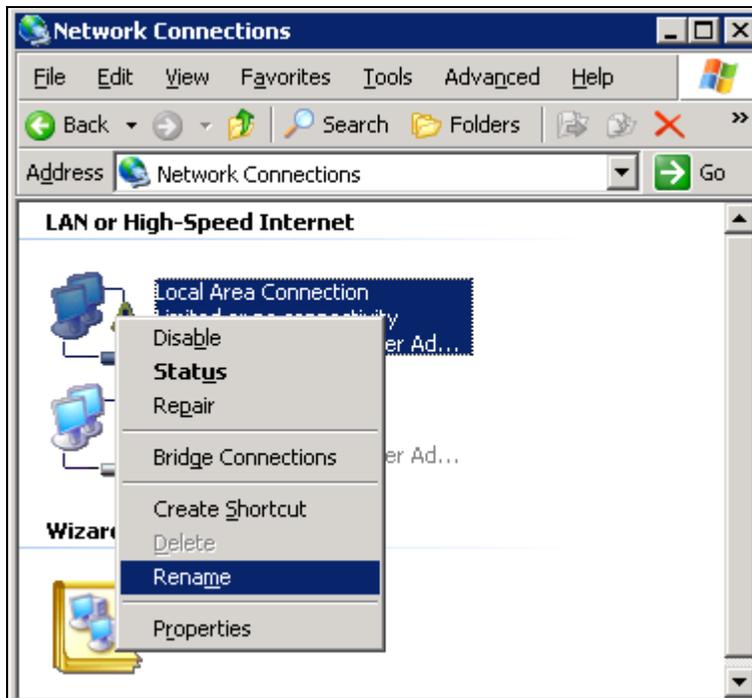
- Right click the connection that is not connected to the network (Limited or no connectivity). If DHCP is not enabled, neither adapter will be connected to the network and in this case, choose **Local Area Connection 2** (Figure 20).

**Figure 20: Network Connections**



- c) Click **Rename** (Figure 21). Name it “Heartbeat.”

**Figure 21: Network Connections**



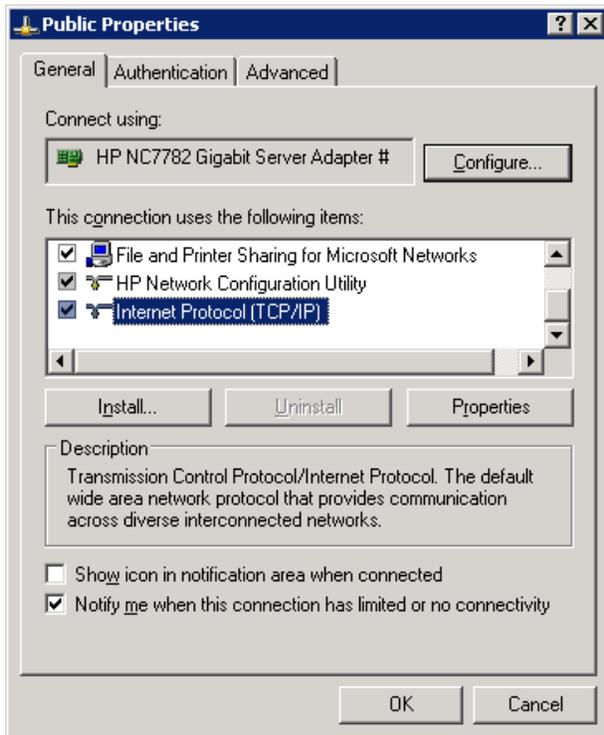
- d) Right click the other Local Area Connection and click **Rename** (Figure 21). Name it “Public.”
- e) Right click **Public**. Click **Properties** (Figure 22).

**Figure 22: Network Connections**



- f) Click **Internet Protocol (TCP/IP)**. Click **Properties** (Figure 23).

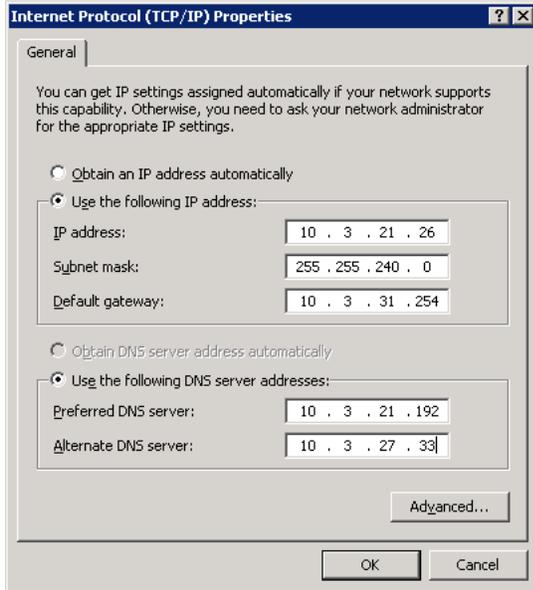
**Figure 23: Public Properties**



- g) Click the **Use the following IP address** radio button. Enter the IP address [from Appendix E: Server Configuration Checklist (Server Hardware Information, Server 1 IP Address, subnet mask, default gateway)].
- h) Click the **Use the following DNS server addresses** radio button. Enter the DNS server information [from Appendix E (Domain Information, Row 4)].
- i)  Capture a screen shot.

j) Click **Advanced** (Figure 24).

**Figure 24: Example of TCP/IP Properties**

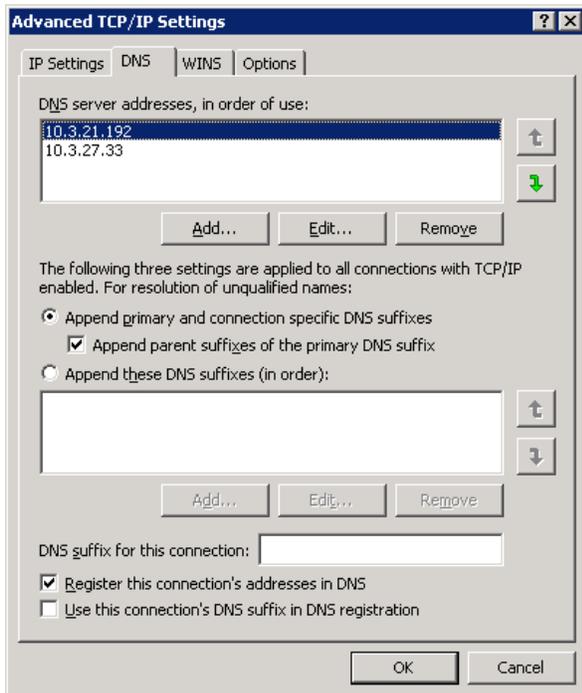


k) Click the **DNS** tab.

l) Click the **Append primary and connection specific DNS suffixes** radio button and check the **Append parent suffixes of the primary DNS suffix** check box (Figure 25).

m) If your site uses WINS, click the **WINS** tab and add servers [from Appendix E: Server Configuration Checklist (Domain Information, Row 5)].

**Figure 25: Example of Advanced TCP/IP Settings**

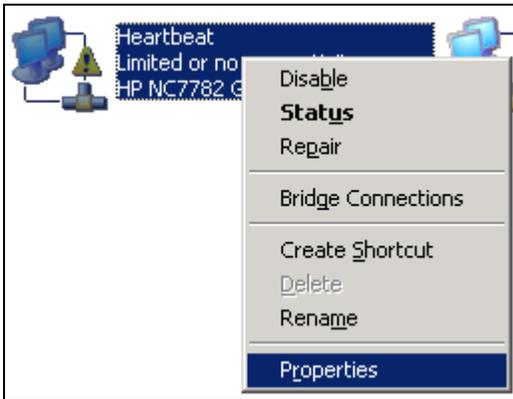


- n) Click **OK** to close the Advanced TCP/IP Settings dialog.
- o) Click **OK** to close the Internet Protocol (TCP/IP) Properties dialog. Click **Close** to exit.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

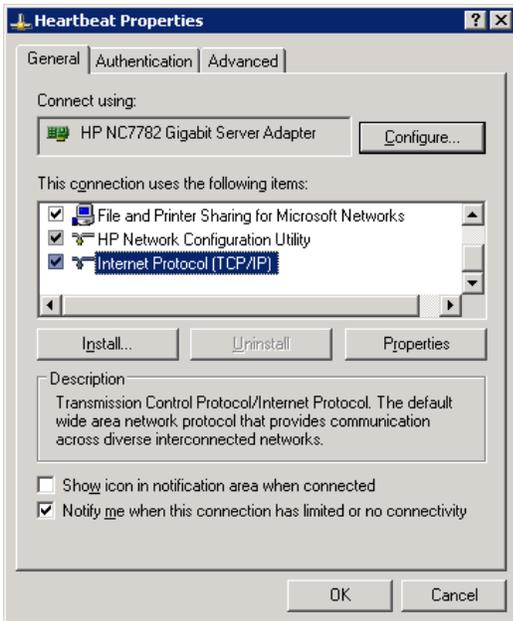
- 10) Configure the Heartbeat adapter, which facilitates communication between the servers for clustering:
  - a) Right click **Heartbeat**. Click **Properties** (Figure 26).

**Figure 26: Heartbeat Properties**



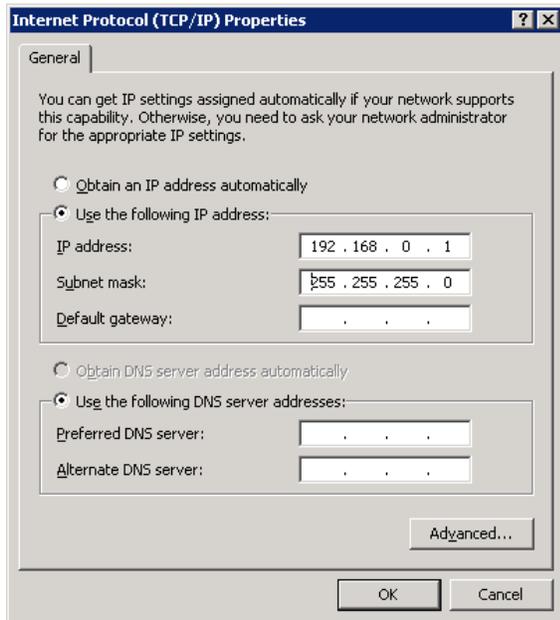
- b) Click **Internet Protocol (TCP/IP)**. Click **Properties** (Figure 27).

**Figure 27: Heartbeat Properties**



- c)  Click the **Use the following IP address** radio button. Enter **192.168.0.1** in the IP address field and **255.255.255.0** in the Subnet mask field. Capture a screen shot. Click **OK** to close the properties window and save the changes (Figure 28).

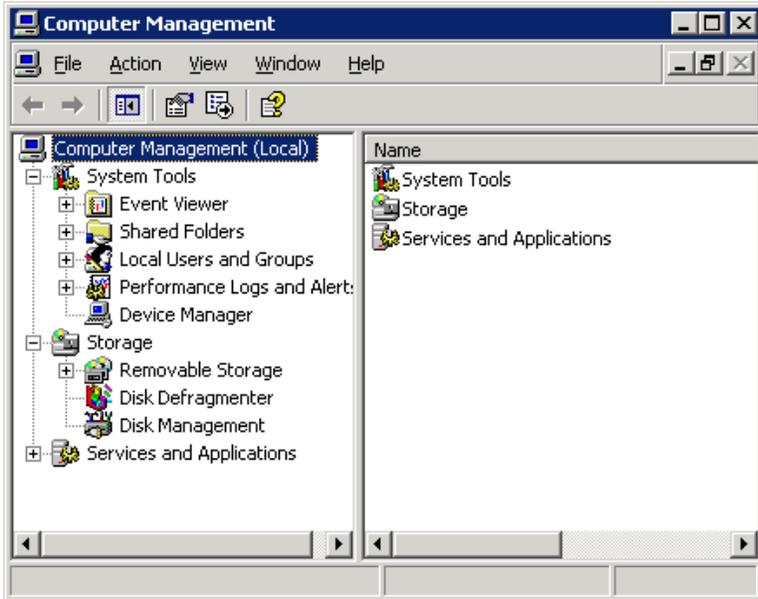
**Figure 28: Heartbeat TCP/IP Properties**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

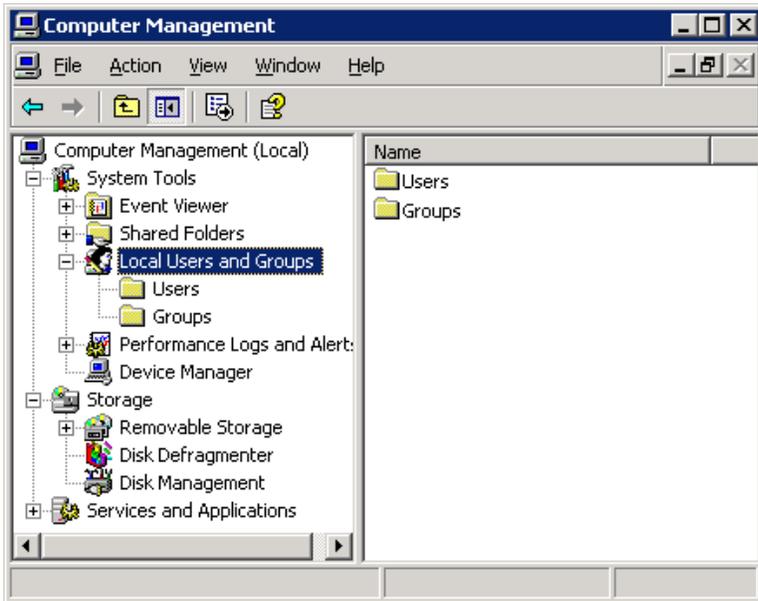
11) Click **Start, Administrative Tools, Computer Management** (Figure 29).

**Figure 29: Computer Management**



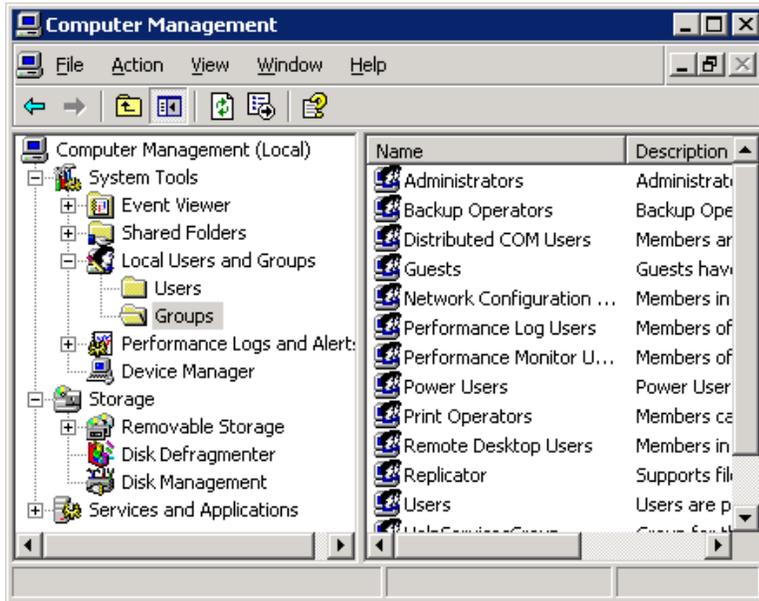
12) Click the plus sign to the left of **Local Users and Groups** (Figure 30).

**Figure 30: Computer Management**



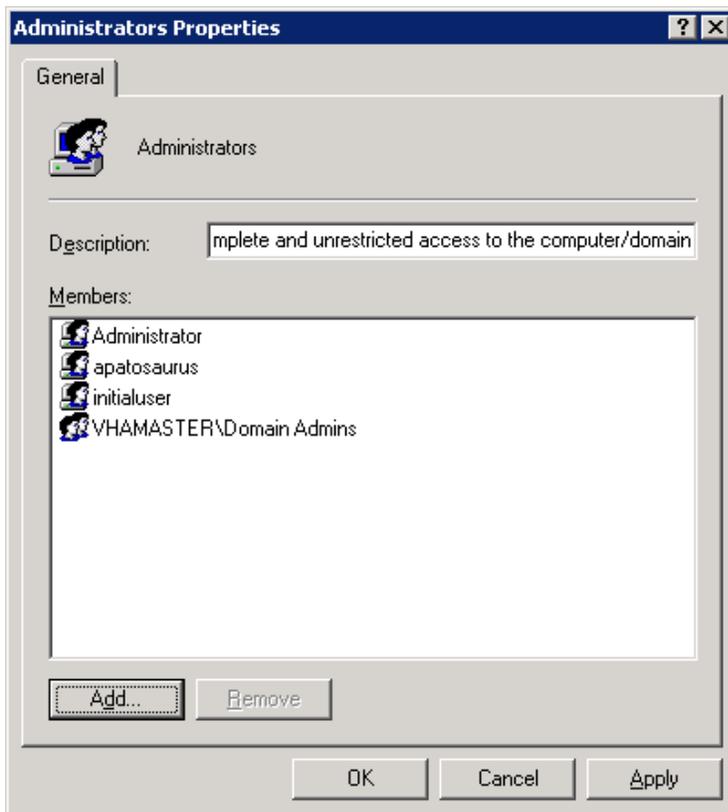
13) Click **Groups** and double click **Administrators** in the right pane (Figure 31).

**Figure 31: Computer Management**



14) Click **Add** (Figure 32).

**Figure 32: Administrators' Properties**



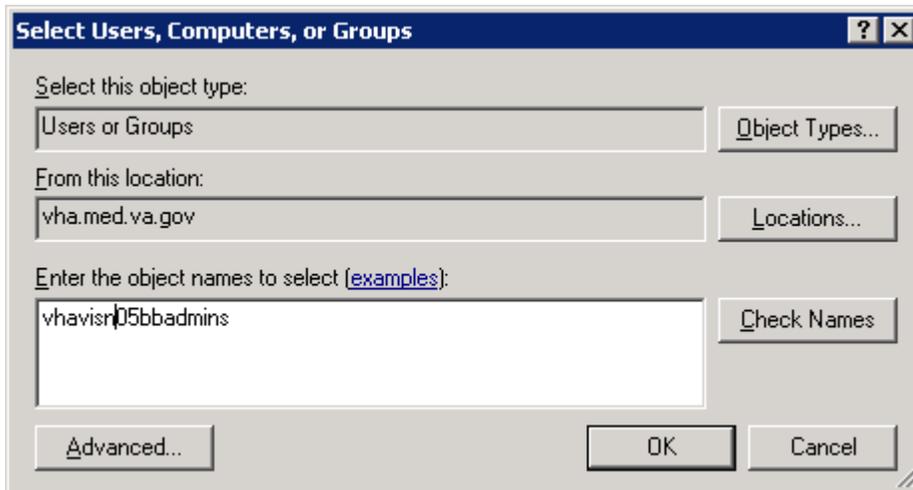
15) Close the Enter Network Password window, by clicking **Cancel** (Figure 33).

**Figure 33: Enter Network Password**



16) **DC** Enter **vhavisnXXbbadmins** in the **Enter the object names to select** field (replace “XX” with your two-digit VISN ID). For a data center installation, enter **RXXVbecsServerAdmins** (replace “XX” with your two-digit region ID). Click **OK** (Figure 34).

**Figure 34: Select Users, Computers, or Groups**



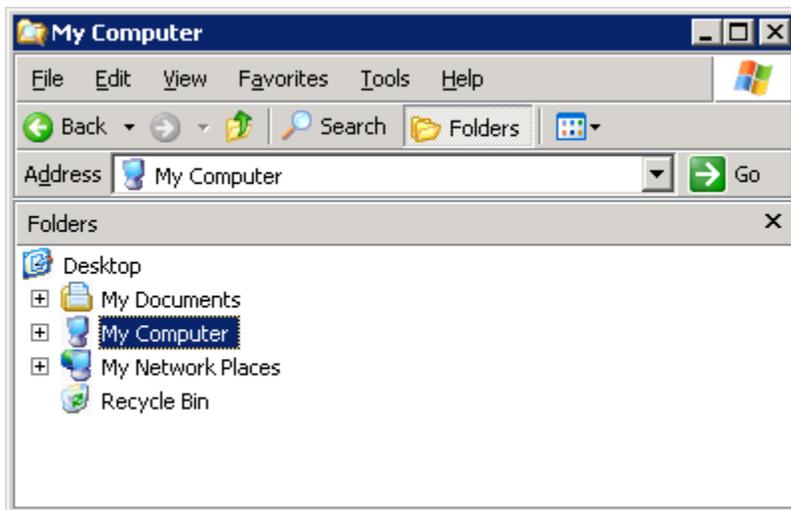
- 17) **DC** When the system prompts for the user name and password from the VHAMASTER domain, enter your Windows user name. For a data center installation, consult data center personnel for a user name and password. Click **OK** (Figure 35).

**Figure 35: Computer Name Changes**



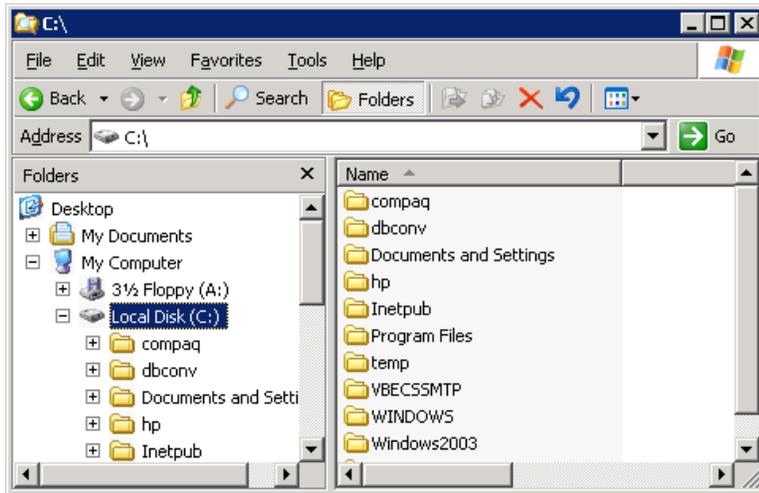
- 18) Click **OK** to close the Administrators Properties window. Close the Computer Management window.
- 19) **2** Log into Server 2 with the *InitialUser* ID and password (see Appendix H: Password List). Make sure that the **Log on to** combo box in the login screen points to the server, not to the domain. (If you don't see the "Log on to" combo box, click **Options**.)
- 20) Click **Start, Windows Explorer**.
- 21) Click the plus sign to the left of **My Computer** (Figure 36).

**Figure 36: Windows Explorer**



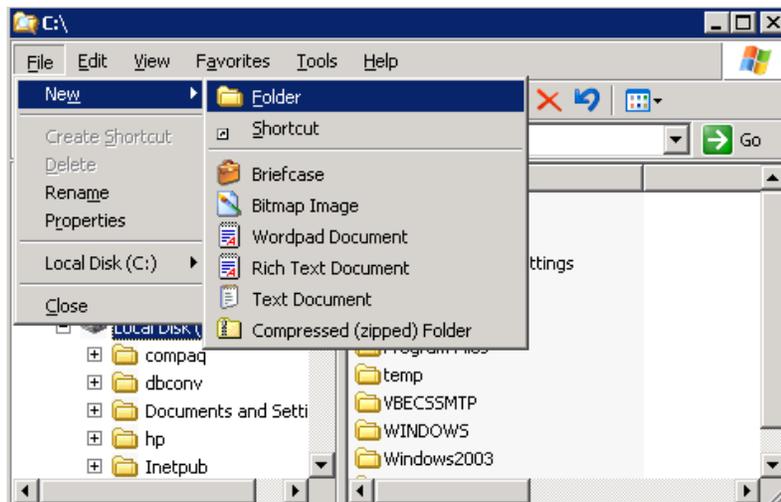
22) Select the C drive (Figure 37).

**Figure 37: C Drive**



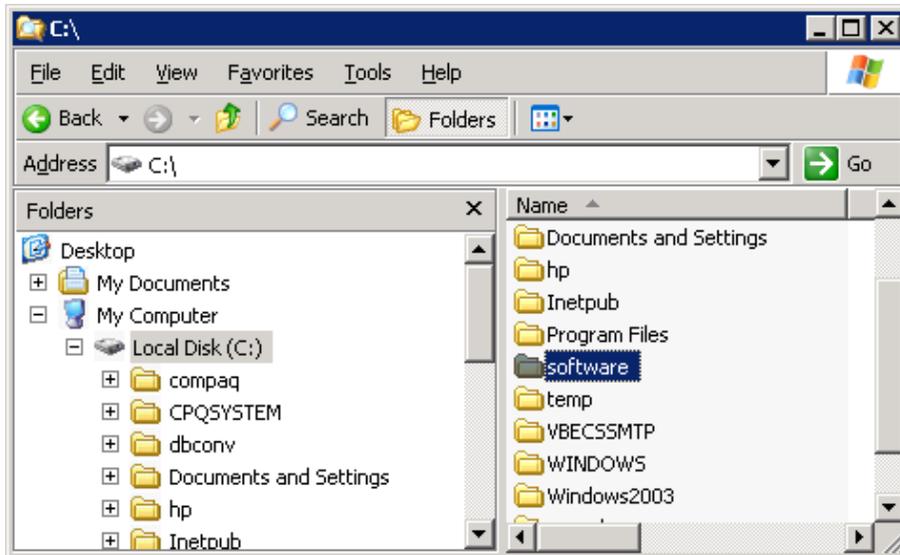
23) Click **File, New, Folder** (Figure 38).

**Figure 38: New Folder**



- 24) Enter **software** as the folder name (Figure 39). Move (do not copy) all contents of **c:\temp** into **c:\software**.

**Figure 39: Create Software Folder**

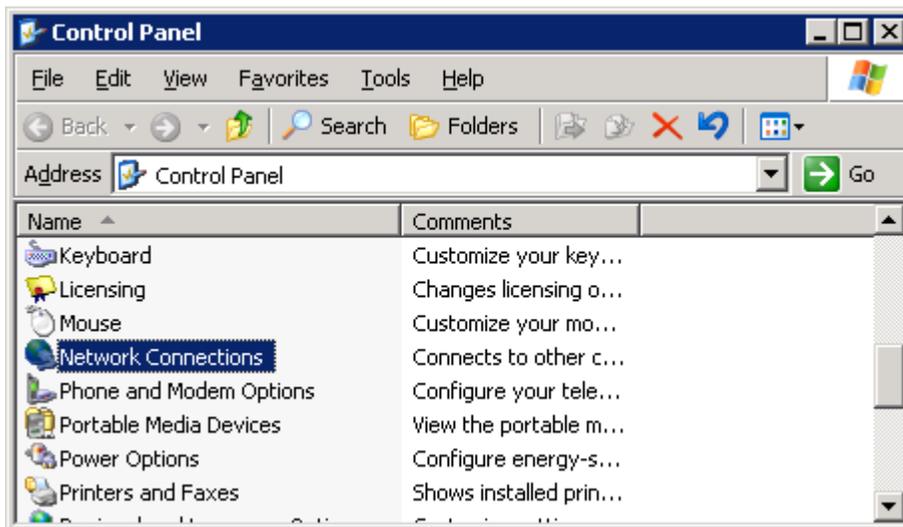


- 25) Verify that the version number on the VBECS installation CD is “1.4.0.0.” Insert the VBECS installation CD in the CD drive. Copy all folders and files from the VBECS installation CD to **c:\temp**.

*If you right click the CD and select Copy, the installation will fail.*

- 26) Remove the VBECS CD from the drive.  
27) Configure the IP address and related network information:  
a) Click **Start**, right click **Control Panel** and select **Open**. Double click **Network Connections** (Figure 40).

**Figure 40: Control Panel**



- b) Right click the connection that is not connected to the network (Limited or no connectivity). If DHCP is not enabled, neither adapter will be connected to the network and in this case, choose **Local Area Connection 2** (Figure 41).

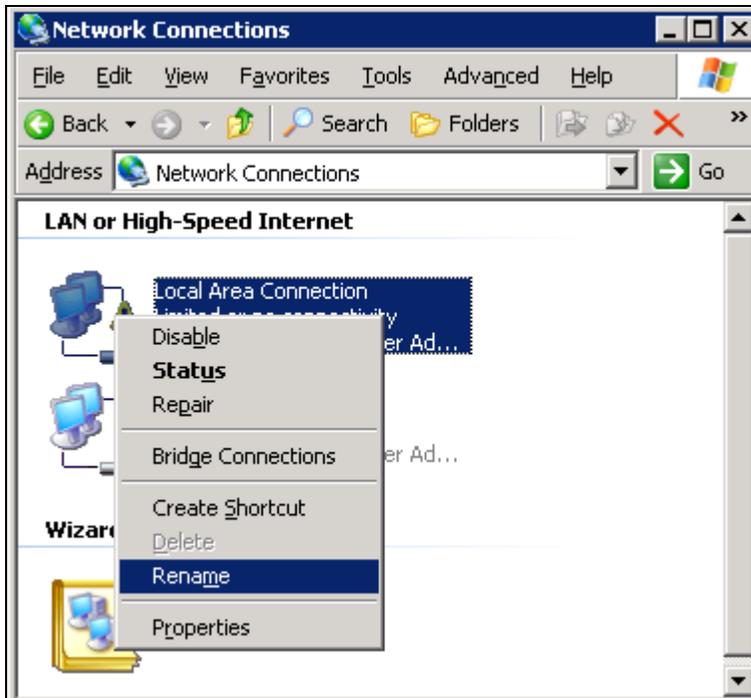
**Figure 41: Network Connections**



- c) Click **Rename**. Name it "Heartbeat."

- d) Right click the other Local Area Connection and click **Rename** (Figure 42). Name it "Public."

**Figure 42: Network Connections**



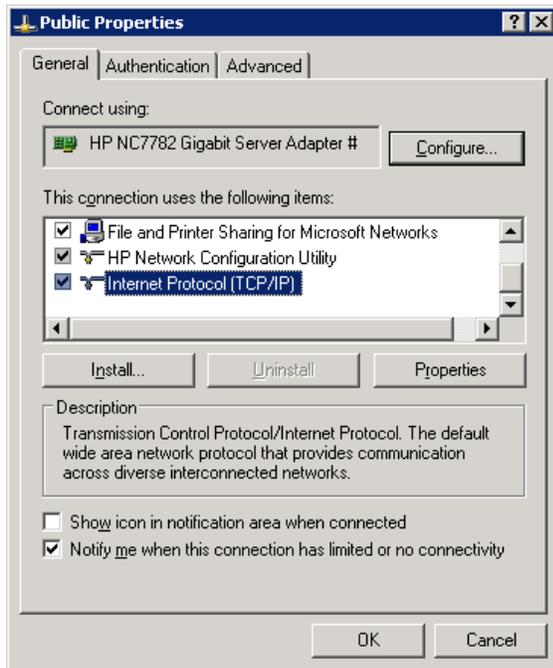
- e) Right click **Public**. Click **Properties** (Figure 43).

**Figure 43: Network Connections**



- f) Click **Internet Protocol (TCP/IP)**. Click **Properties** (Figure 44).

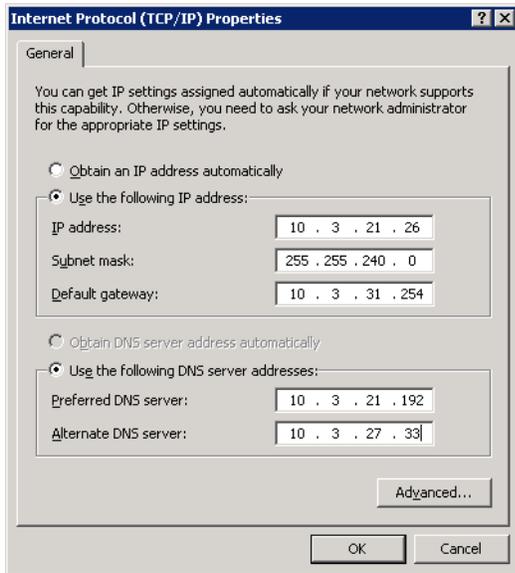
**Figure 44: Public Properties**



- g) Click the **Use the following IP address** radio button. Enter the IP address [from Appendix E: Server Configuration Checklist (Server Hardware Information, Server 2 IP Address, subnet mask, default gateway)].
- h) Click the **Use the following DNS server addresses** radio button. Enter the DNS server information [from Appendix E (Domain Information, Row 4)].
- i)  Capture a screen shot.

j) Click **Advanced** (Figure 45).

**Figure 45: Example of TCP/IP Properties**

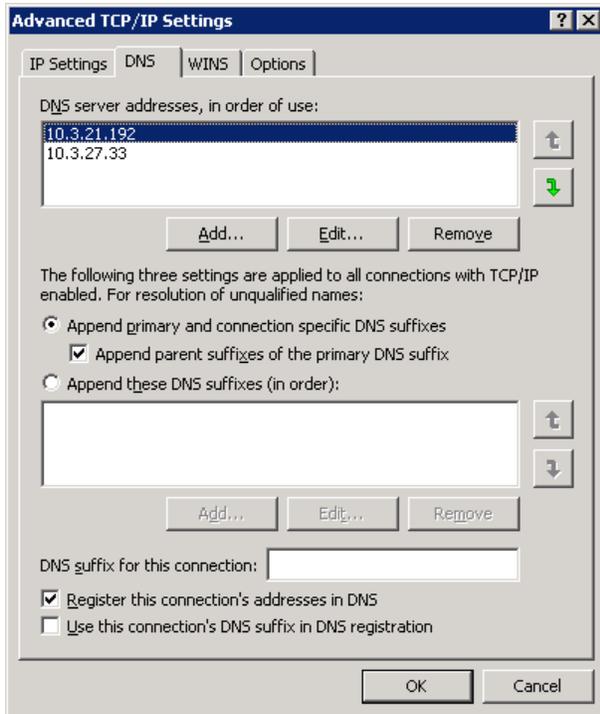


k) Click the **DNS** tab.

- l) Click the **Append primary and connection specific DNS suffixes** radio button and check the **Append parent suffixes of the primary DNS suffix** check box (Figure 46).
- m) If your site uses WINS, click the **WINS** tab and add servers [from Appendix E: Server Configuration Checklist (Domain Information, Row 5)].

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Figure 46: Example of Advanced TCP/IP Settings**

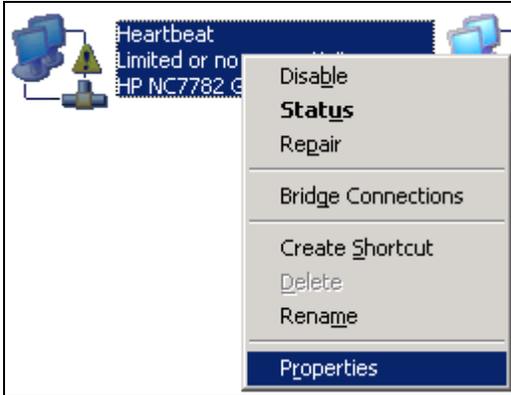


- n) Click **OK** to close the Advanced TCP/IP Settings dialog.
- o) Click **OK** to close the Internet Protocol (TCP/IP) Properties dialog. Click **Close** to exit.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

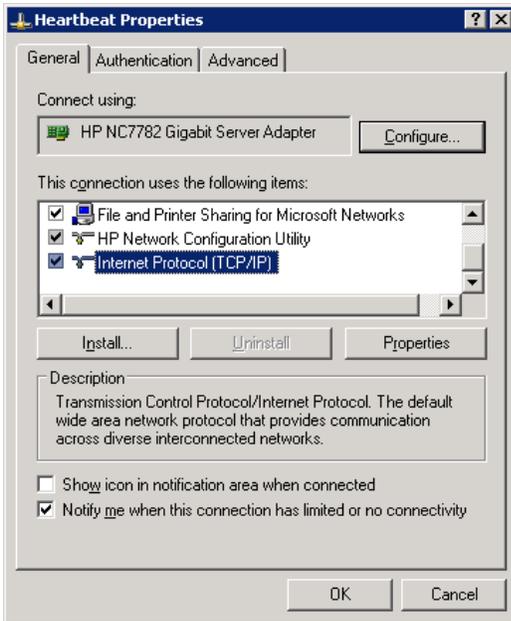
- 28) Configure the Heartbeat adapter, which facilitates communication between the servers for clustering:
  - a) Right click **Heartbeat**. Click **Properties** (Figure 47).

**Figure 47: Heartbeat Properties**



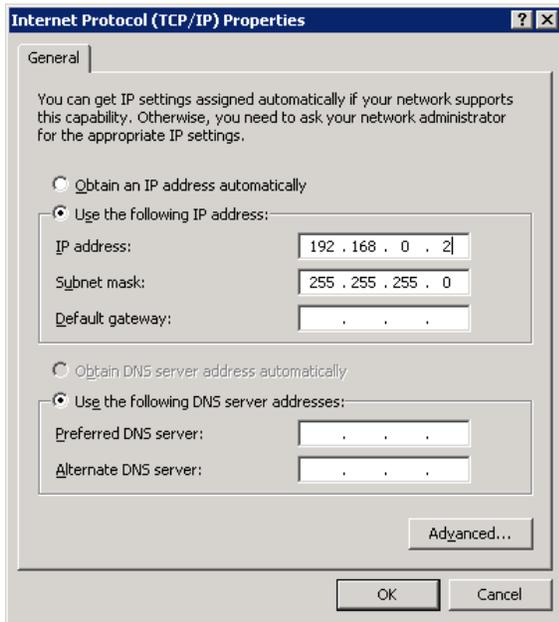
- b) Click **Internet Protocol (TCP/IP)**. Click **Properties** (Figure 48).

**Figure 48: Heartbeat Properties**



- c)  Click the **Use the following IP address** radio button. Enter **192.168.0.2** in the IP address field and **255.255.255.0** in the Subnet mask field. Capture a screen shot. Click **OK** to close the properties window and save the changes (Figure 49).

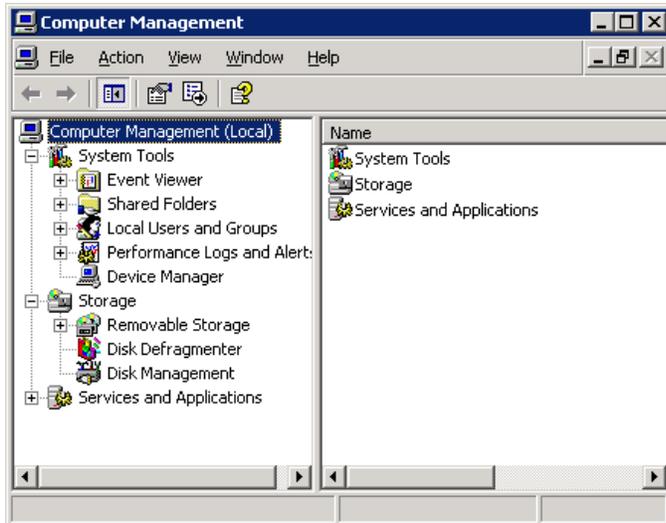
**Figure 49: Heartbeat TCP/IP Properties**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

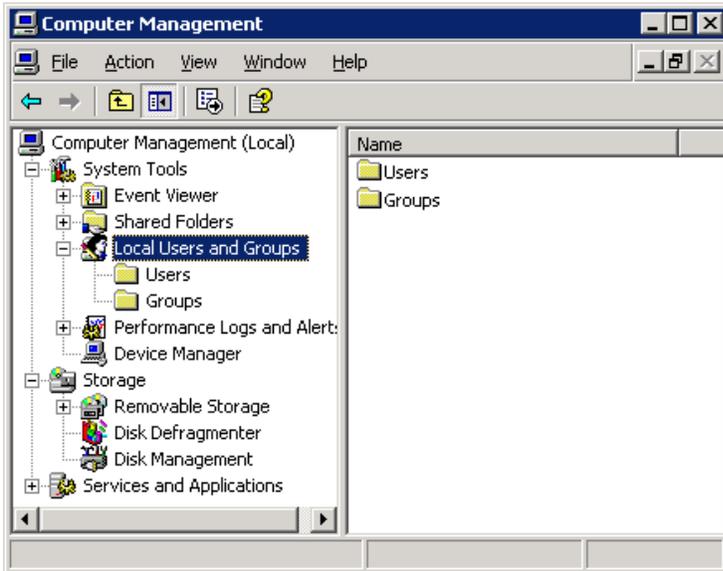
- 29) Click **Start, Administrative Tools, Computer Management** (Figure 50).

**Figure 50: Computer Management**



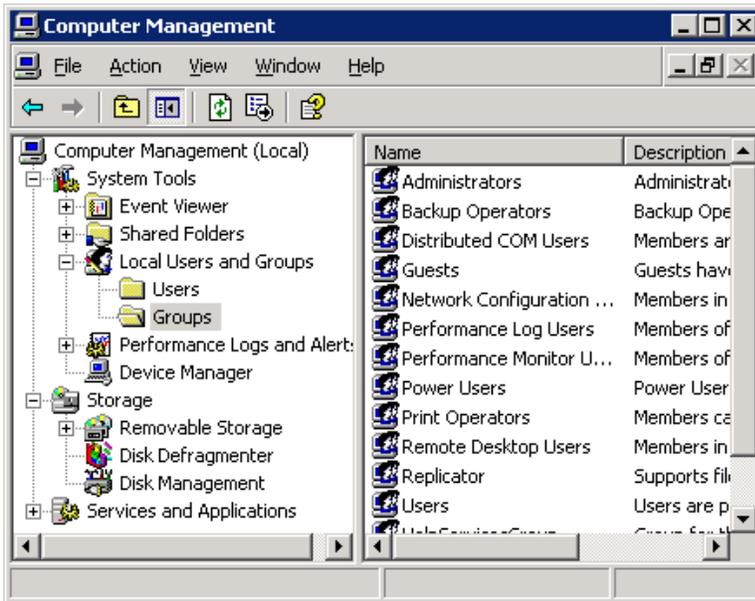
30) Click the plus sign to the left of **Local Users and Groups** (Figure 51).

**Figure 51: Computer Management**



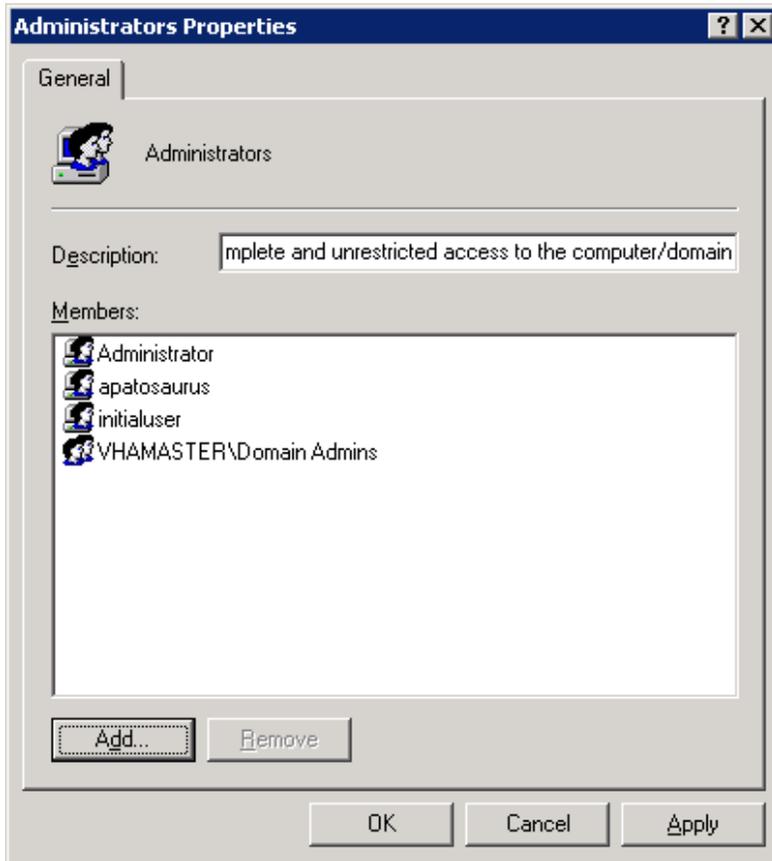
31) Click **Groups** and double click **Administrators** in the right pane (Figure 52).

**Figure 52: Computer Management**



32) Click **Add** (Figure 53)

**Figure 53: Administrators Properties**



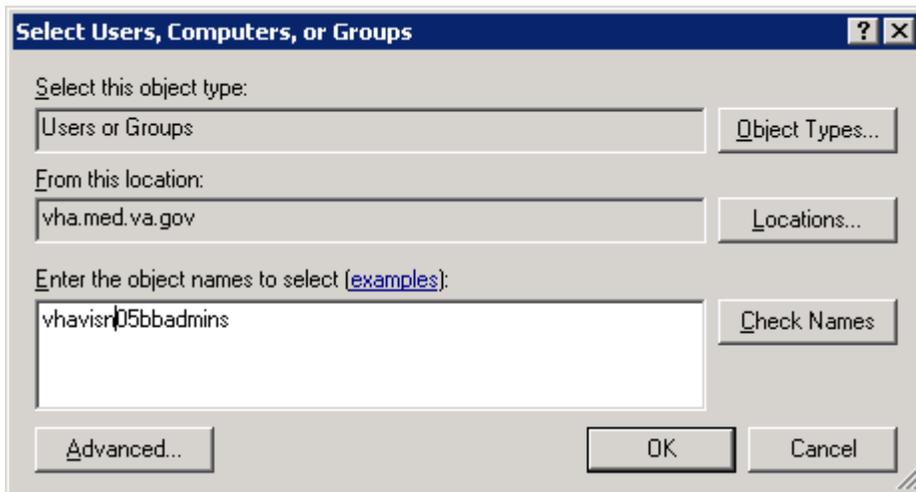
33) Close the Enter Network Password window by clicking **Cancel** (Figure 54).

**Figure 54: Enter Network Password**



- 34) **DC** Enter **vhavisnXXbbadmins** in the **Enter the object names to select** field (replace “XX” with your two-digit VISN ID). For a data center installation, enter **RXXVbecsServerAdmins** (replace “XX” with your two-digit region ID). Click **OK** (Figure 55).

**Figure 55: Example of Entering the Group Name**



- 35) **DC** At the system prompt for the user name and password for the VHAMASTER domain, enter your Windows user name. For data center installations, consult data center personnel for a user name and password. Click **OK** (Figure 56).

**Figure 56: Enter Network Password**

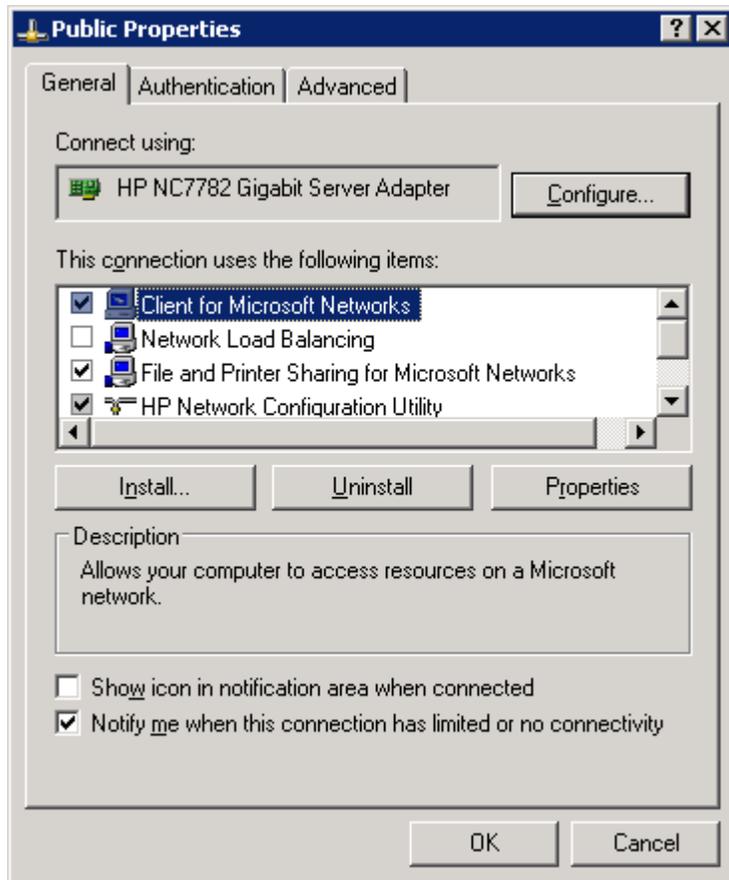


- 36) Click **OK** to close the Administrators Properties window. Close the Computer Management window.

## Configure the Speed and Duplex Setting on the NICs

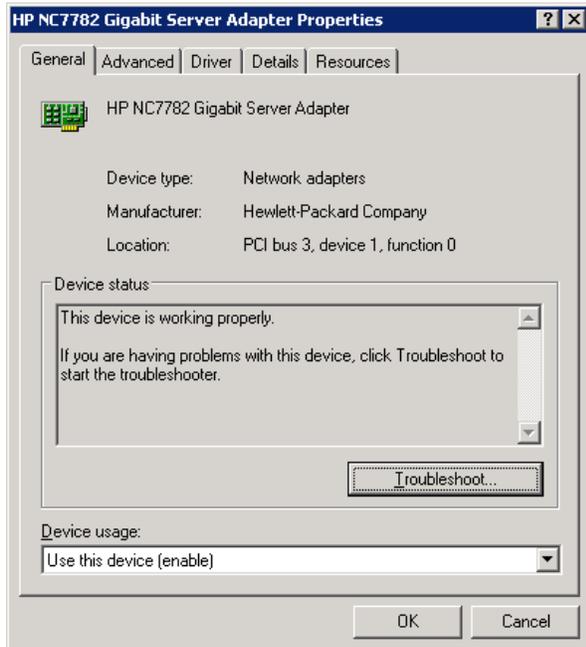
- 1) **1** Log into Server 1 with the *InitialUser* ID and password (see Appendix H: Password List). Make sure that the **Log on to** combo box in the login screen points to the server, not to the domain. (If you don't see the "Log on to" combo box, click **Options**.)
- 2) Click **Start, Control Panel, Network Connections, Public**. Click **Properties**.
- 3) Click **Configure** (Figure 57).

**Figure 57: Public Properties**



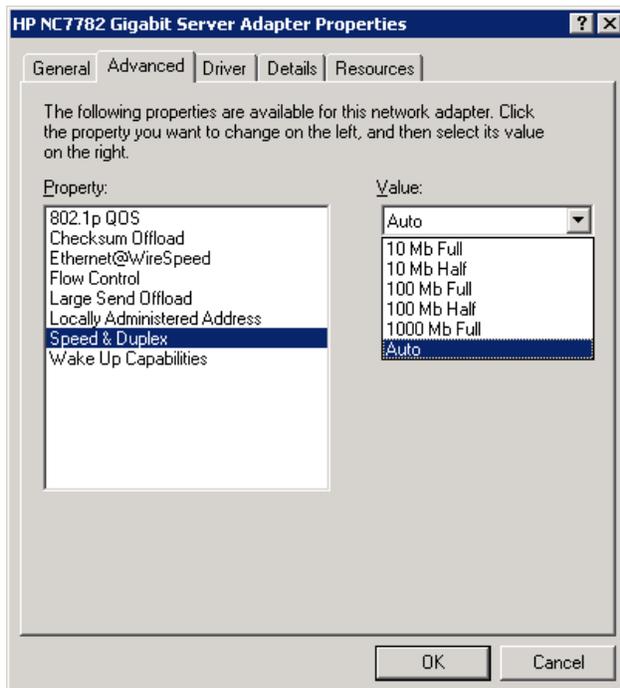
- 4) Click on the **Advanced** tab (Figure 58).

**Figure 58: NIC Properties**



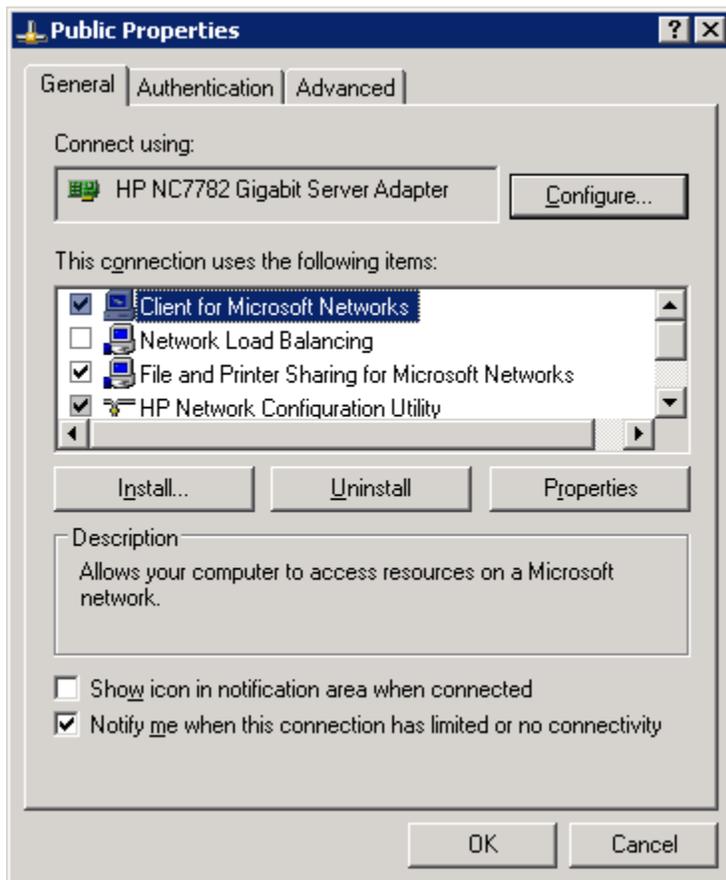
- 5) Click **Speed and Duplex** (Figure 59) and choose the **Value** noted in Appendix E: Server Configuration Checklist [Network Interface Card (NIC) Speed and Duplex Setting]. Click **OK** to save.

**Figure 59: HP NC7782 Gigabit Server Adapter Properties**



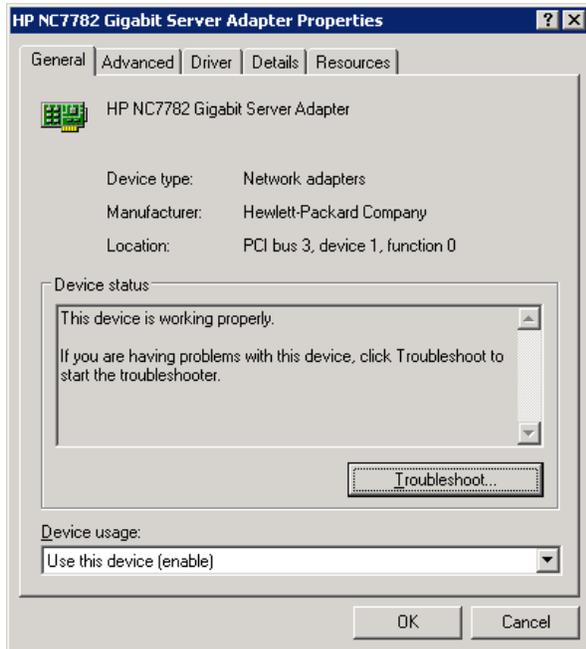
- 6) ② Log into Server 2 with the *InitialUser* ID and password (see Appendix H: Password List). Make sure that the **Log on to** combo box in the login screen points to the server, not to the domain. (If you do not see the “Log on to” combo box, click **Options**.)
- 7) Click **Start, Control Panel, Network Connections, Public**. Click **Properties**.
- 8) Click **Configure** (Figure 60).

**Figure 60: Public Properties**



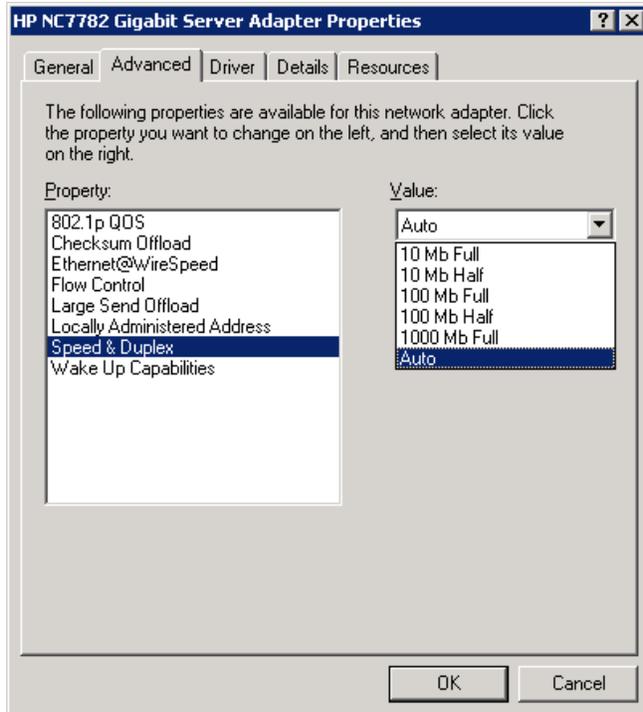
9) Click on the **Advanced** tab (Figure 61).

**Figure 61: NIC properties**



- 10) Click **Speed and Duplex** (Figure 62), and choose the **Value** noted in Appendix E: Server Configuration Checklist [Network Interface Card (NIC) Speed and Duplex Setting]. Click **OK** to save.

**Figure 62: HP NC7782 Gigabit Server Adapter Properties**



**Before Moving to the Next Step:**

- After preparation, the hardware may be shut down if the configuration steps are not to be performed immediately.
- Make sure that:
  - The server rack is installed in the server room.
  - The operating system was installed on both servers.
  - The printers are assembled, powered up, and plugged into the network.
  - A copy of the completed Server Configuration Checklist (Appendix E) is available and the original is filed on-site.
  - Notify the site Remote Install Team by email that Part 2 is complete.

# Part 3: Server Installation: Remote Install Team

## Configure and Verify Hardware

### Before Starting This Step:

- Make sure that:
  - The Remote Install Team received an email notice from server support staff that Part 2 is complete.
  - The printers are assembled, powered up, and connected to the network.
  - The password list was obtained from the IM.

In this section, IP addresses and network names will be assigned, server security (virus protection and security updates) will be applied, and the server and workstation configuration will be verified.

## 1 Print Part 3: Server Installation

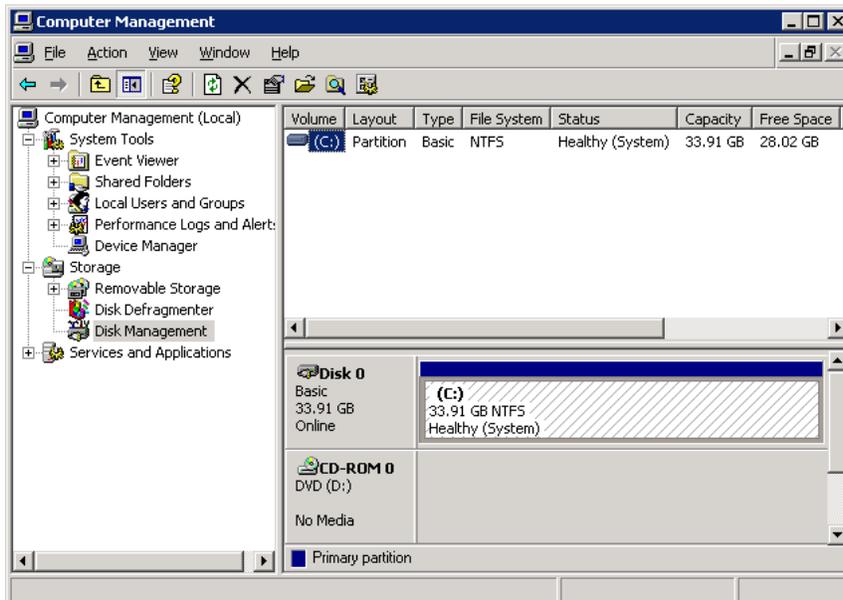
- 1)  Print this part (Part 3) as a two-sided document.
- 2) Initial and date it, as required.

## 2 Rename the CD Drive

To rename the CD drive:

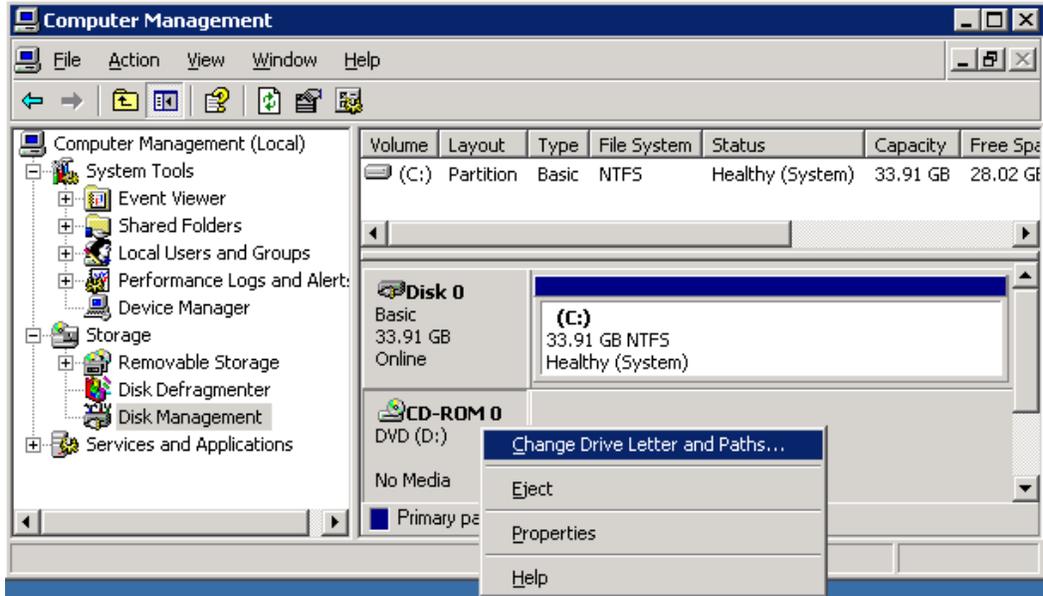
- 1) **1** Log into Server 1 with your Windows ID. Specify your own domain when logging in.
- 2) Click **Start, Administrative Tools, Computer Management**. Select **Disk Management** (Figure 63).

Figure 63: Computer Management



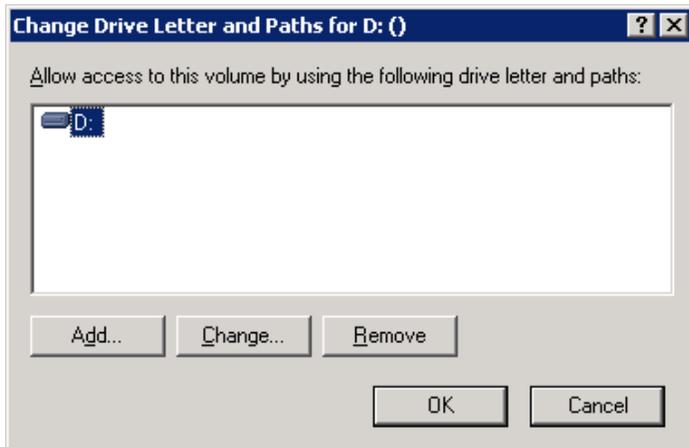
- 3) Right click the CD-ROM in the right pane, and select **Change Drive Letter and Paths** (Figure 64).

**Figure 64: Computer Management**



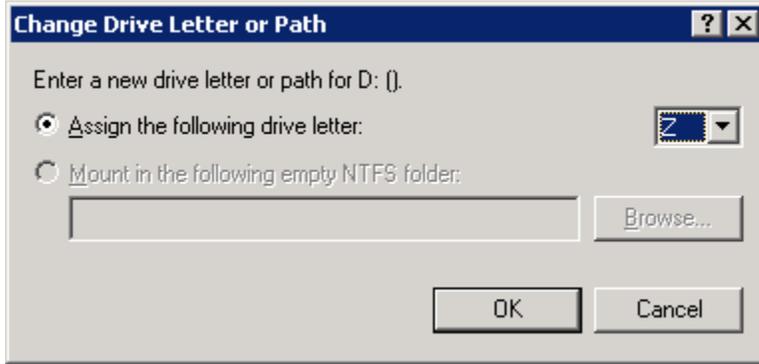
- 4) Click **Change** (Figure 65).

**Figure 65: Change Drive Letter and Paths for D:**



- 5) Change the drive letter to “Z” and click **OK** (Figure 66).

**Figure 66: Change Drive Letter or Path**

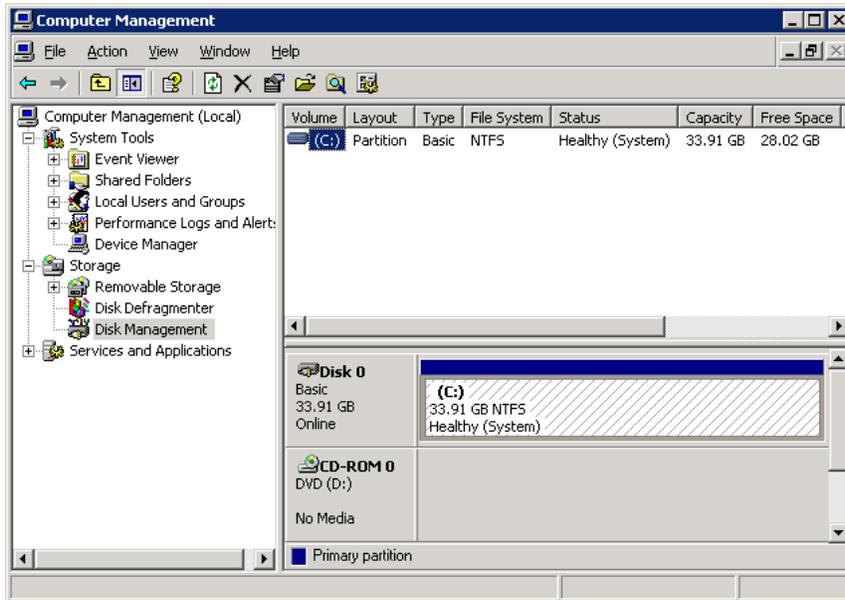


- 6) Click **Yes** in the confirmation screen. Close the Computer Management screen.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

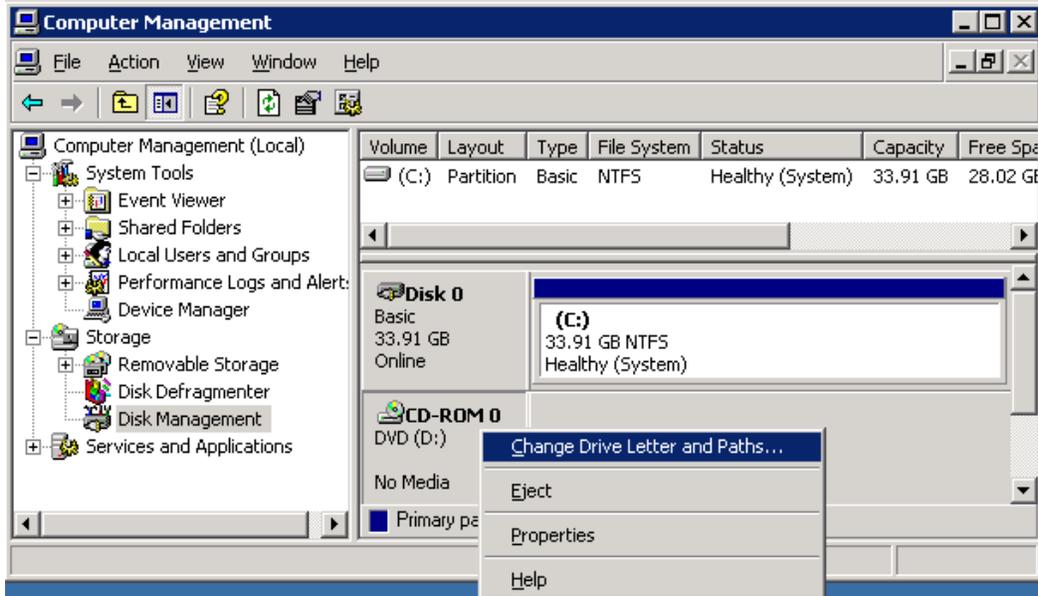
- 7) **2** Log into Server 2 with your Windows ID. Specify your own domain when logging in.
- 8) Click **Start, Administrative Tools, Computer Management**. Select **Disk Management** (Figure 67).

**Figure 67: Computer Management**



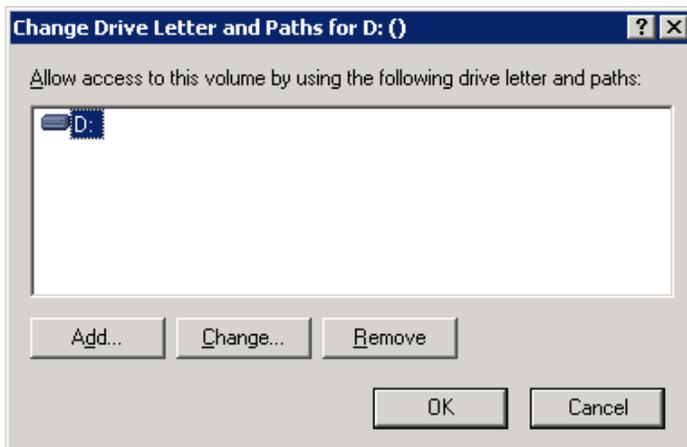
- 9) Right click the CD-ROM in the right-pane, and select **Change Drive Letter and Paths** (Figure 68).

**Figure 68: Computer Management**



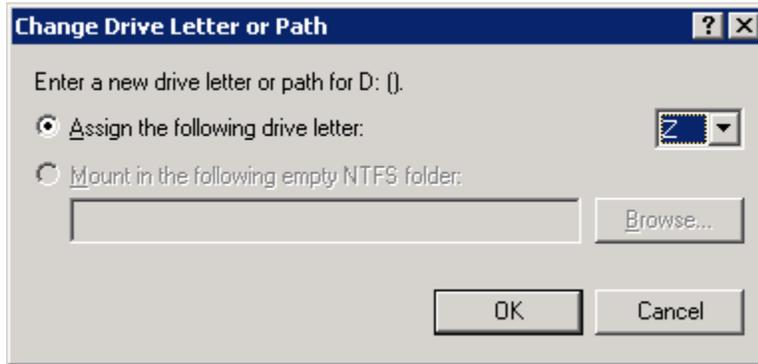
- 10) Click **Change** (Figure 69).

**Figure 69: Change Drive Letter and Paths for D:**



11) Change the drive letter to “Z” and click **OK** (Figure 70).

**Figure 70: Change Drive Letter or Path**



12) Click **Yes** in the confirmation screen. Close the Computer Management screen.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

### **3 Laser Printer**

Configure the IP address and network settings according to the parameters defined in the Server Configuration Checklist (Appendix E). Print a test page to make sure the printer was properly set up. Add the printer to the VBECS server:

*To avoid printer problems during software use, the VBECS printer name and drivers must be identically configured on each clustered server node.*

1) **1** Log into Server 1 with your Windows ID.

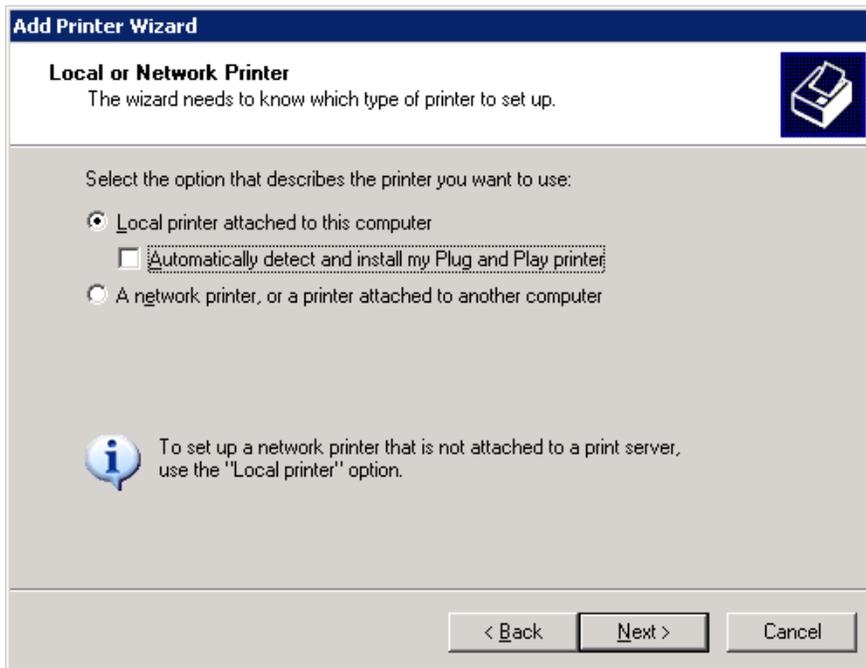
- 2) Open the **Control Panel, Printers and Faxes, Add Printer.**
- 3) In the Add Printer Wizard screen, click **Next** (Figure 71).

**Figure 71: Add Printer Wizard**



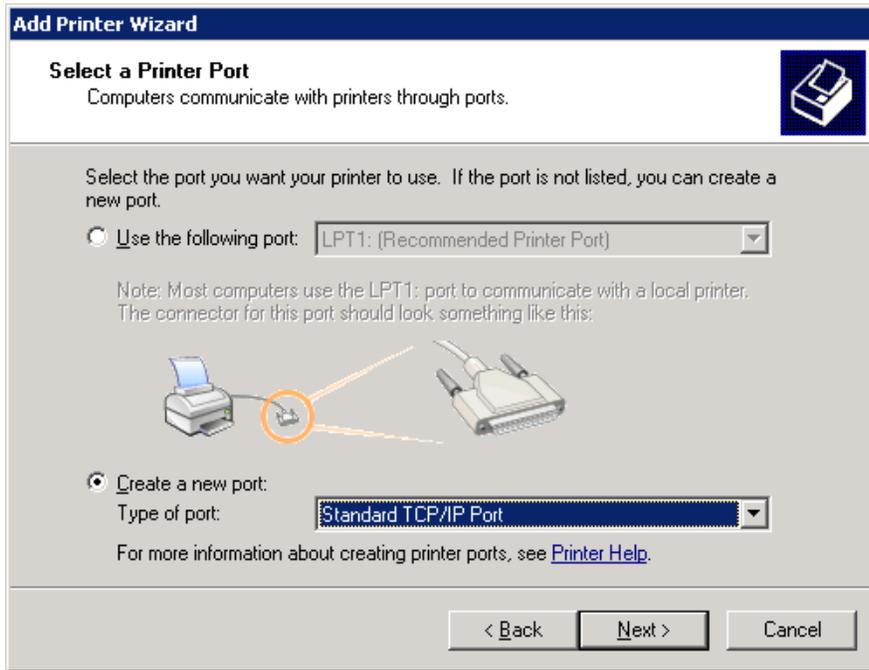
- 4) Make sure the **Local printer attached to this computer** radio button is selected.
- 5) Uncheck the **Automatically detect and install my Plug and Play printer** check box.
- 6) Click **Next** (Figure 72).

**Figure 72: Add Printer Wizard**



- 7) Select the **Create a new port** radio button.
- 8) Select **Standard TCP/IP Port** from the drop-down menu. Click **Next** (Figure 73).

**Figure 73: Add Printer Wizard**



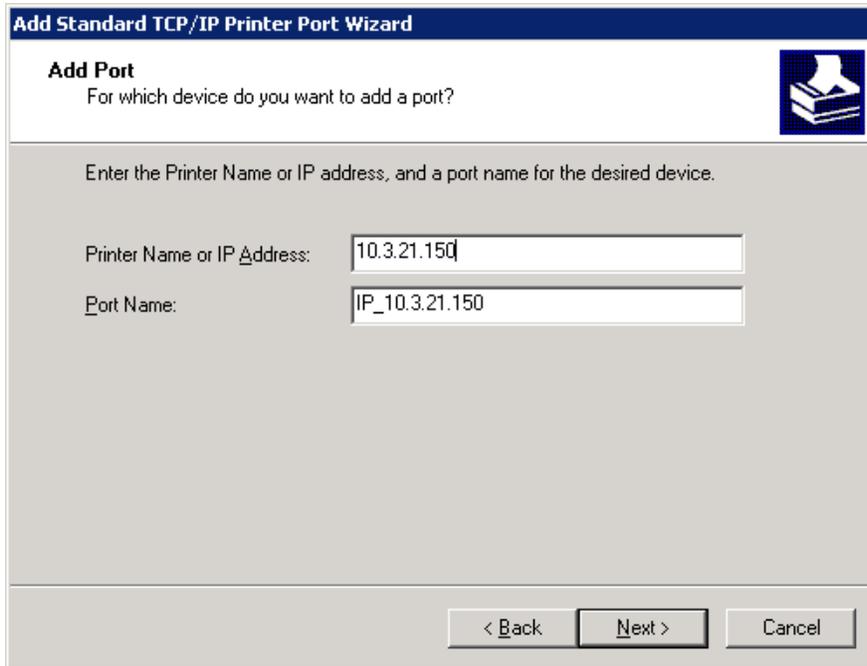
- 9) In the Add Standard TCP/IP Printer Port Wizard screen, click **Next** (Figure 74).

**Figure 74: Add Standard TCP/IP Printer Port Wizard**



- 10) Enter the IP address of the printer [from Appendix D: Blood Bank Configuration Checklist (Blood Bank Hardware Information, Row 23)] in the “Printer Name or IP Address” field (the Port Name field will populate automatically). Click **Next** (Figure 75).

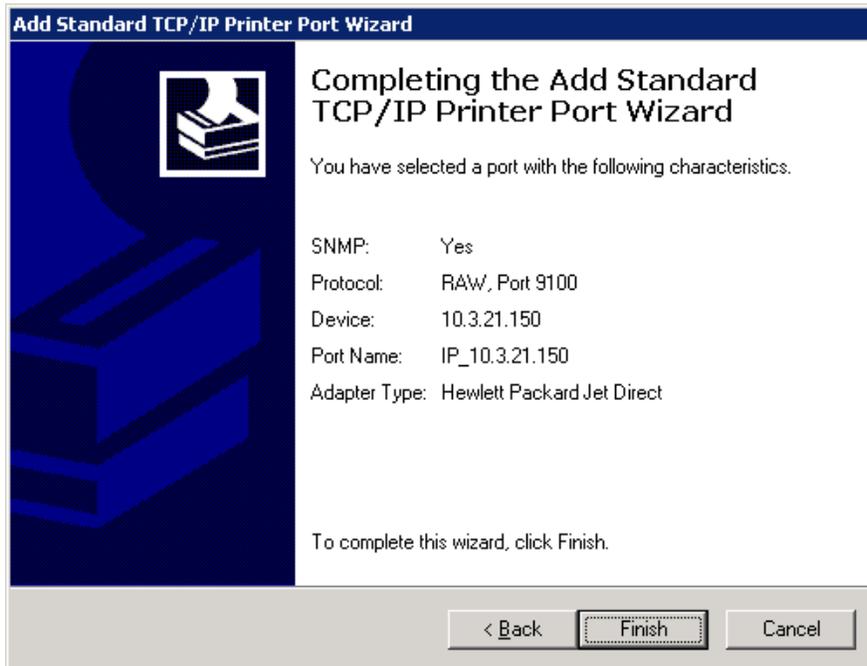
**Figure 75: Example of TCP/IP Settings**



The screenshot shows a Windows-style dialog box titled "Add Standard TCP/IP Printer Port Wizard". The main heading is "Add Port" with a sub-question: "For which device do you want to add a port?". Below this, there is a prompt: "Enter the Printer Name or IP address, and a port name for the desired device." Two text input fields are present: "Printer Name or IP Address:" containing "10.3.21.150" and "Port Name:" containing "IP\_10.3.21.150". At the bottom, there are three buttons: "< Back", "Next >", and "Cancel". A printer icon is visible in the top right corner.

- 11)  Capture a screen shot. Click **Finish** (Figure 76).

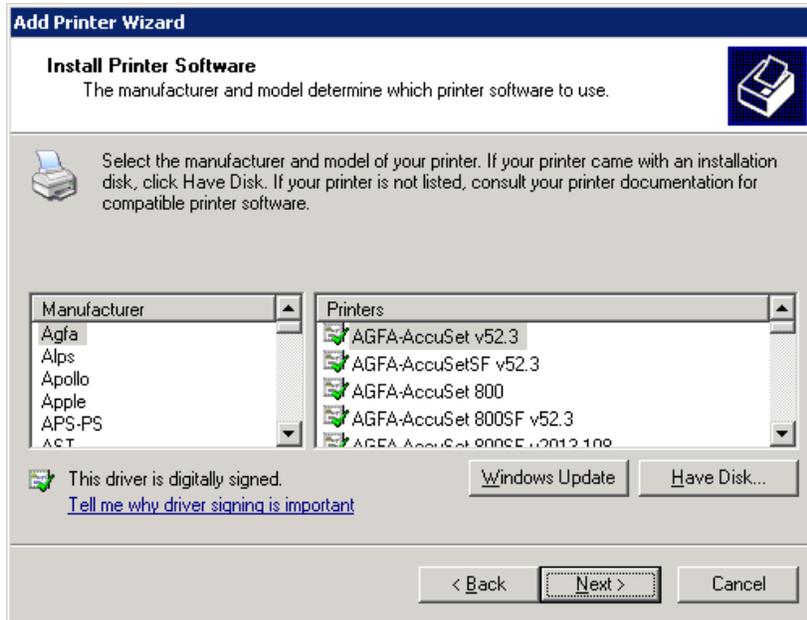
**Figure 76: Example of Review Settings**



The screenshot shows the same dialog box, now at the "Completing the Add Standard TCP/IP Printer Port Wizard" step. It features a printer icon on the left and a list of characteristics for the selected port: "SNMP: Yes", "Protocol: RAW, Port 9100", "Device: 10.3.21.150", "Port Name: IP\_10.3.21.150", and "Adapter Type: Hewlett Packard Jet Direct". A message at the bottom states: "To complete this wizard, click Finish." The buttons at the bottom are "< Back", "Finish", and "Cancel".

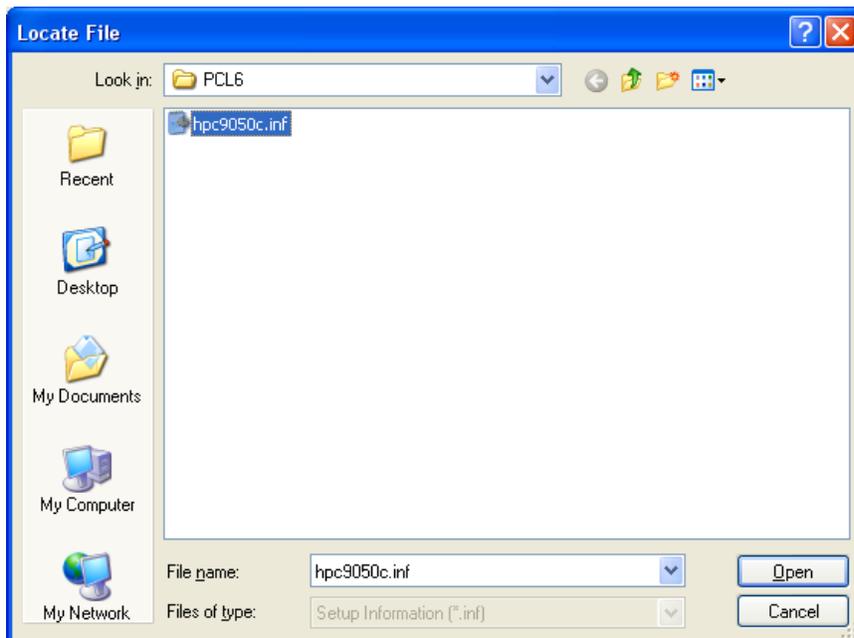
- 12) To select a driver, click **Have Disk** (Figure 77). Note: If the site has chosen to use their own printer [from Appendix D: Blood Bank Configuration Checklist (Printer)], use the driver supplied by the site for Steps 13-15.

**Figure 77: Add Printer Wizard**



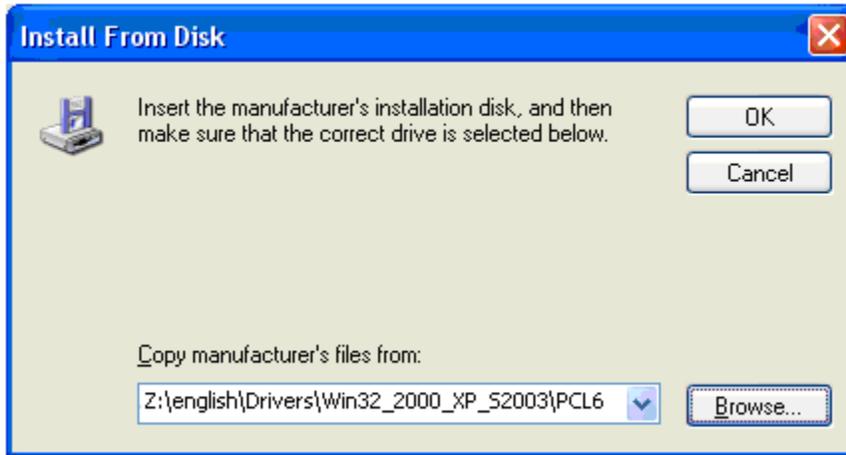
- 13) Enter \\10.3.21.77\HP\english\Win32\_2000\_XP\_S2003\PCL6\. Select **hpc9050c.inf**. Click **Open** (Figure 78).

**Figure 78: Navigate to the Driver**



14) Click **OK** (Figure 79).

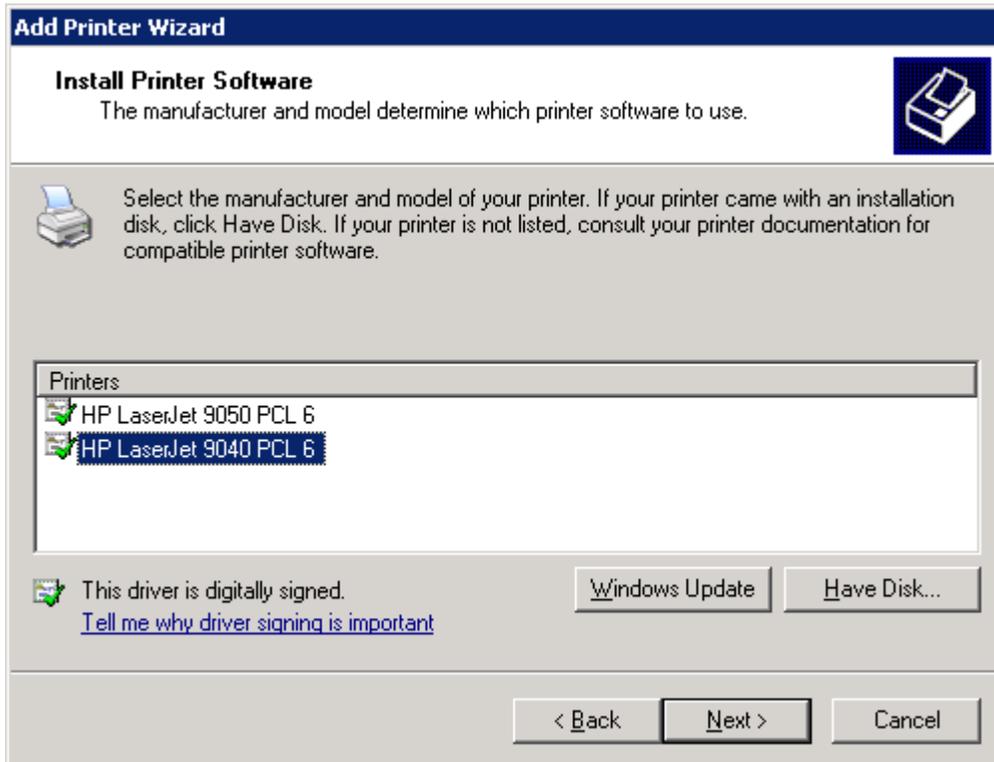
**Figure 79: Install From Disk**



15) Select **HP LaserJet 9040 PCL 6**. Click **Next** (Figure 80).

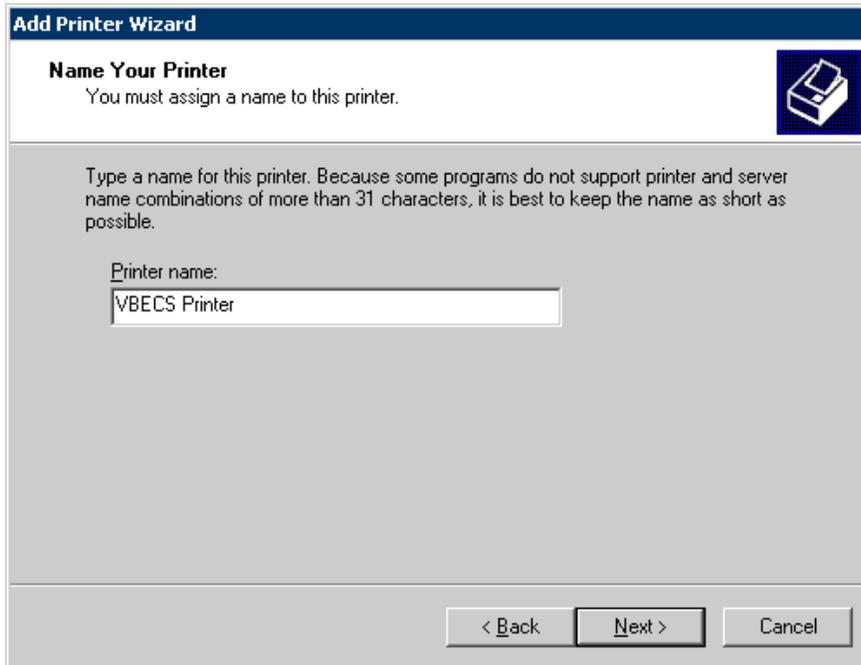
*Make sure that the 9040 driver is selected.*

**Figure 80: Add Printer Driver Wizard**



16) For a single-division site, enter **VBECS Printer** as the printer name. For a multi-divisional site, enter **VBECS Printer** and the site name (e.g., VBECS Printer Hines). Click **Next** (Figure 81).

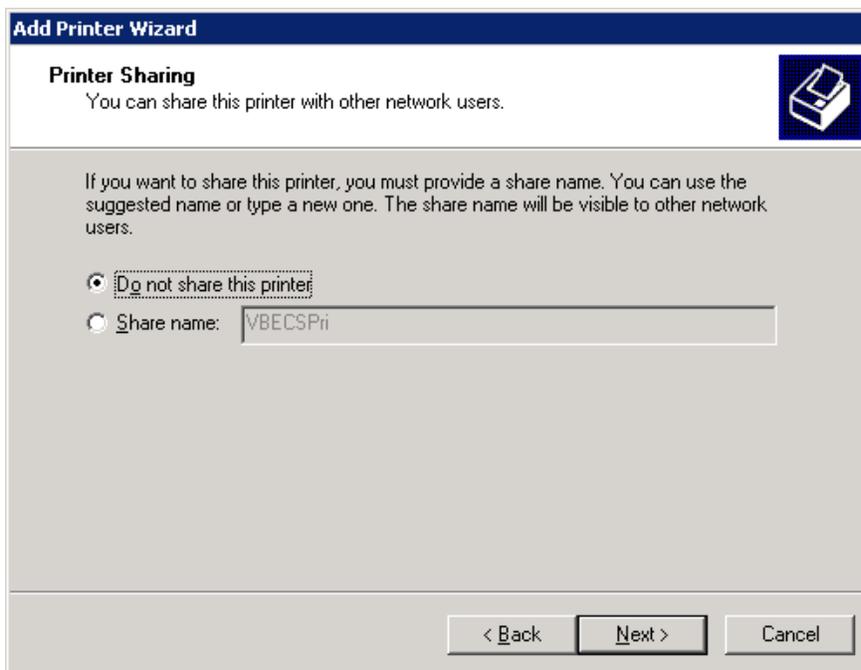
**Figure 81: Add Printer Wizard**



The screenshot shows the 'Add Printer Wizard' dialog box with the title bar 'Add Printer Wizard'. The main heading is 'Name Your Printer' with a printer icon to the right. Below the heading is the instruction: 'You must assign a name to this printer.' The main area contains a paragraph: 'Type a name for this printer. Because some programs do not support printer and server name combinations of more than 31 characters, it is best to keep the name as short as possible.' Below this is a text input field labeled 'Printer name:' containing the text 'VBECS Printer'. At the bottom are three buttons: '< Back', 'Next >', and 'Cancel'.

17) Click the **Do not share this printer** radio button. Click **Next** (Figure 82).

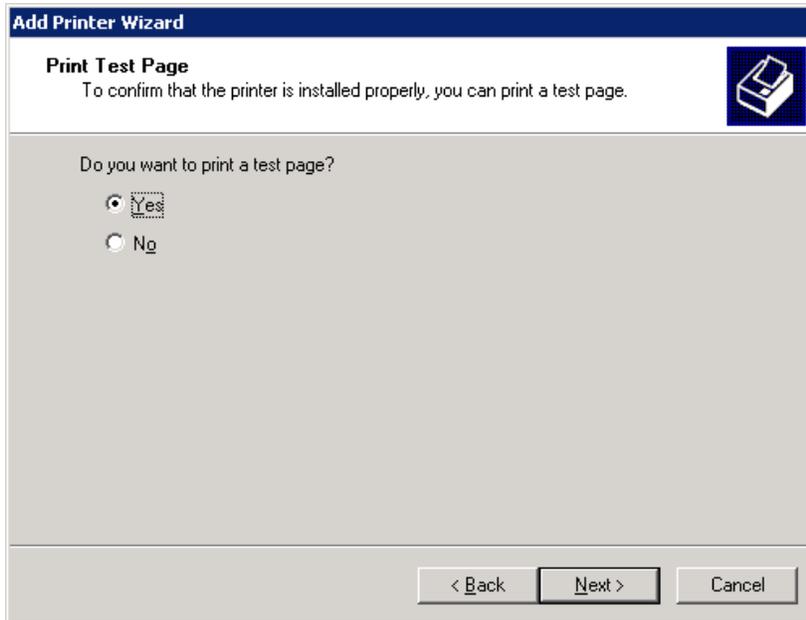
**Figure 82: Add Printer Wizard**



The screenshot shows the 'Add Printer Wizard' dialog box with the title bar 'Add Printer Wizard'. The main heading is 'Printer Sharing' with a printer icon to the right. Below the heading is the instruction: 'You can share this printer with other network users.' The main area contains a paragraph: 'If you want to share this printer, you must provide a share name. You can use the suggested name or type a new one. The share name will be visible to other network users.' Below this are two radio buttons: 'Do not share this printer' (which is selected) and 'Share name:'. The 'Share name:' label is followed by a text input field containing 'VBECSPri'. At the bottom are three buttons: '< Back', 'Next >', and 'Cancel'.

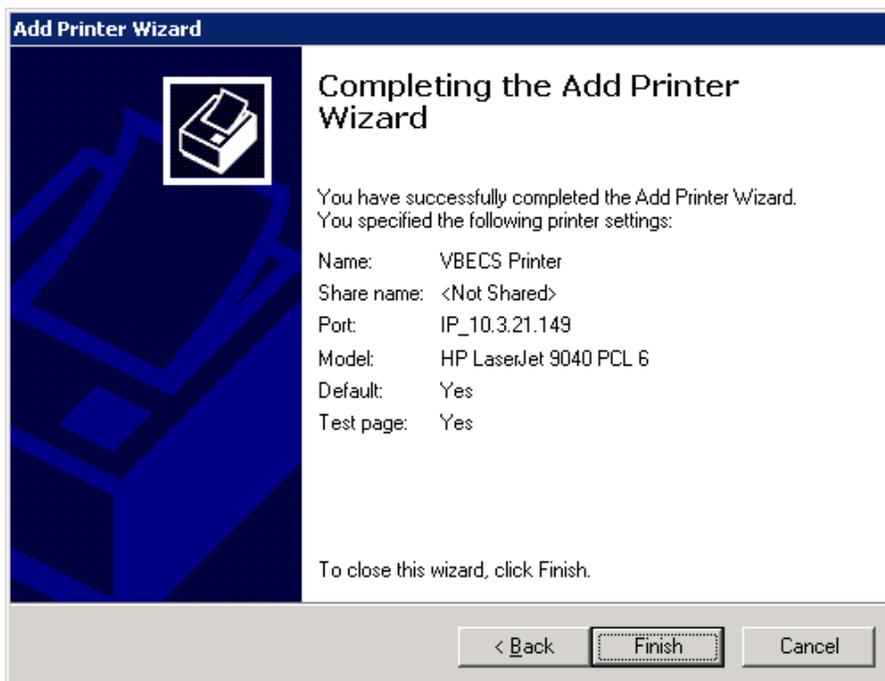
- 18)  Print a test page to make sure the printer is working. Retain the test page for validation records. Click **Next** (Figure 83).

**Figure 83: Add Printer Wizard**



- 19)  Capture a screen shot. Click **Finish** (Figure 84).

**Figure 84: Example of a Completed Installation**



- 20) For a multi-divisional site, repeat Section 3: Laser Printer for all printers in all divisions.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 21) ② Log into Server 2 with your Windows ID.
- 22) Click Start, Control Panel, Printers and Faxes, Add Printer.
- 23) In the Add Printer Wizard screen, click **Next** (Figure 85).

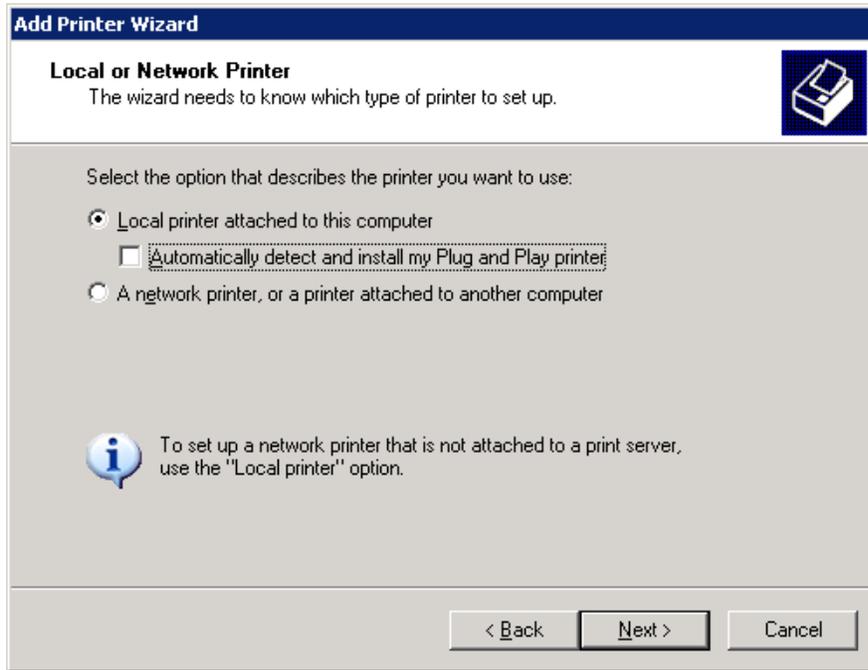
**Figure 85: Add Printer Wizard**



- 24) Make sure the **Local printer attached to this computer** radio button is selected.

25) Uncheck the **Automatically detect and install my Plug and Play printer** check. Click **Next** (Figure 86).

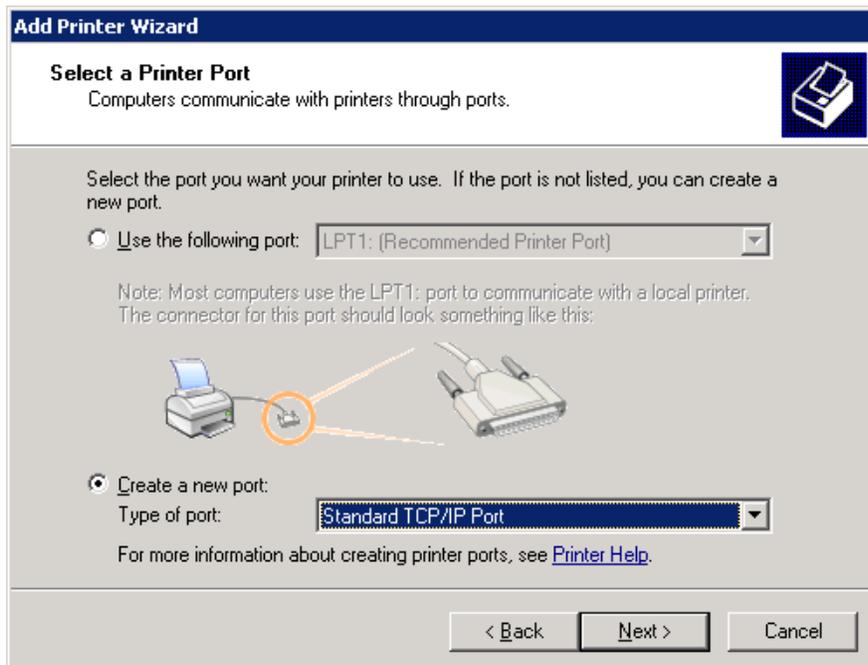
**Figure 86: Add Printer Wizard**



26) Select the **Create a new port** radio button.

27) Select **Standard TCP/IP Port** from the drop-down menu. Click **Next** (Figure 87).

**Figure 87: Add Printer Wizard**



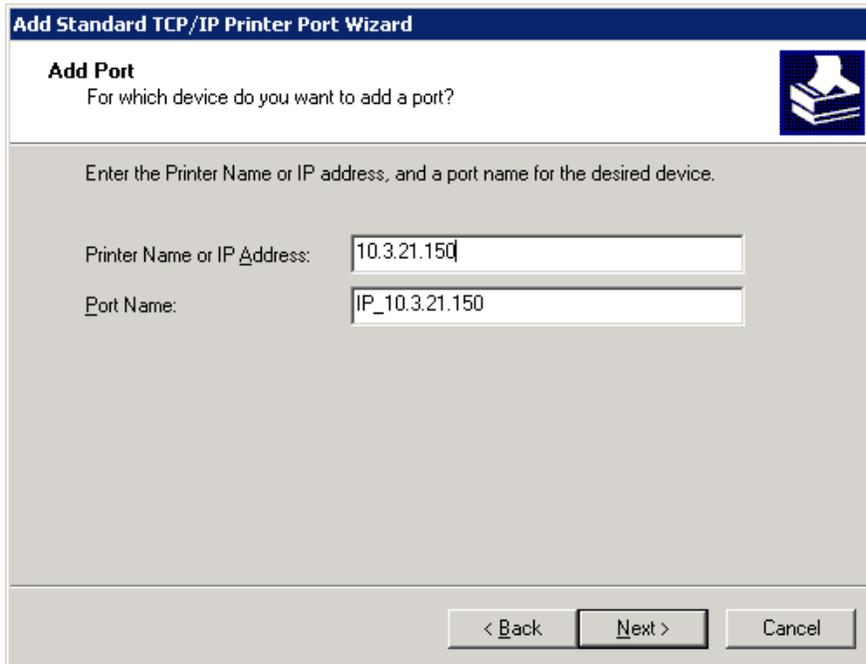
28) In the Add Standard TCP/IP Printer Port Wizard screen, click **Next** (Figure 88).

**Figure 88: Add Standard TCP/IP Printer Port Wizard**



29) Enter the IP address of the printer [from Appendix D: Blood Bank Configuration Checklist (Blood Bank Hardware Information, Row 23)] in the Printer Name or IP Address field (the Port Name field will populate automatically). Click **Next** (Figure 89).

**Figure 89: Example of TCP/IP Settings**



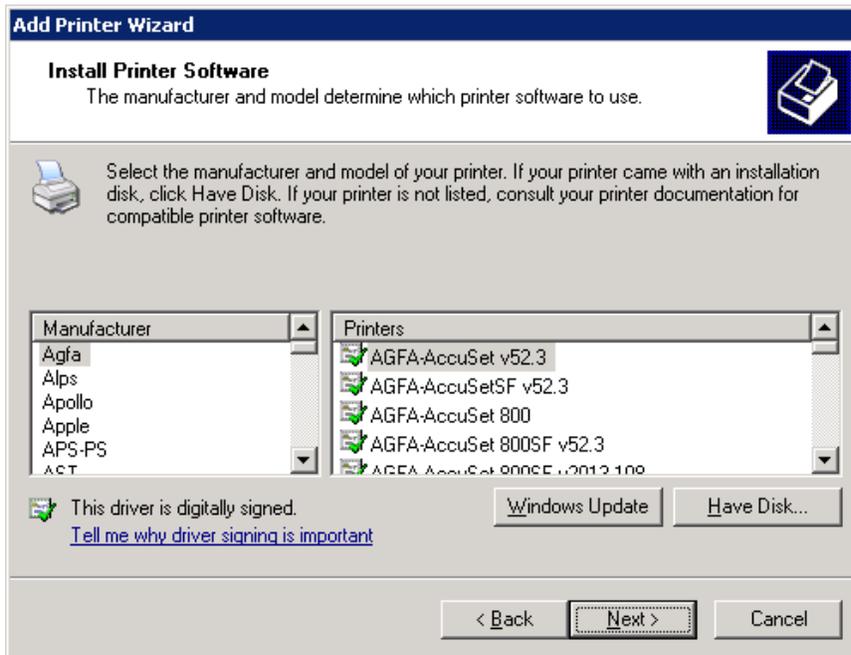
30)  Capture a screen shot. Click **Finish** (Figure 90).

**Figure 90: Example of Review Settings**



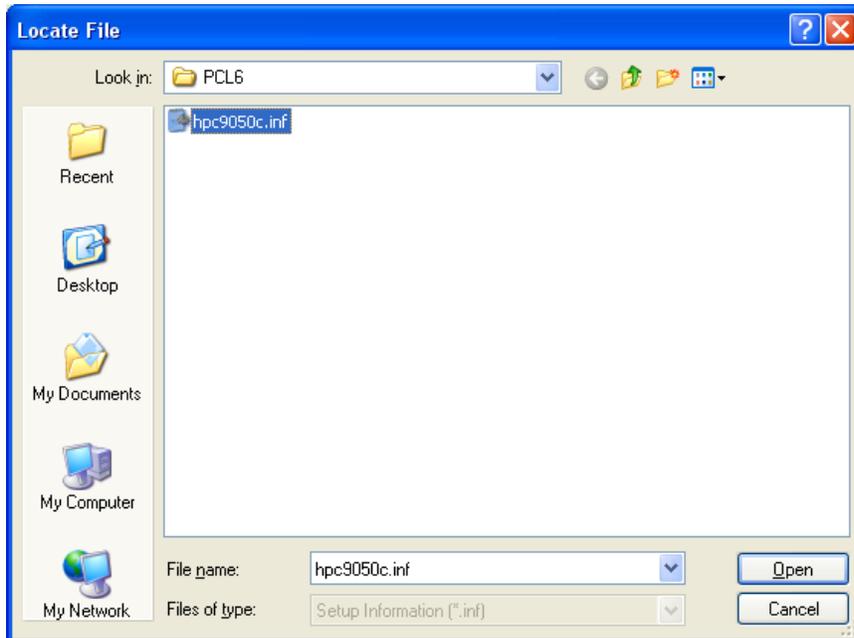
31) To select a driver, click **Have Disk** (Figure 91). Note: If the site has chosen to use their own printer [from Appendix D: Blood Bank Configuration Checklist (Printer)], use the driver supplied by the site for Steps 32-34.

**Figure 91: Add Printer Wizard**



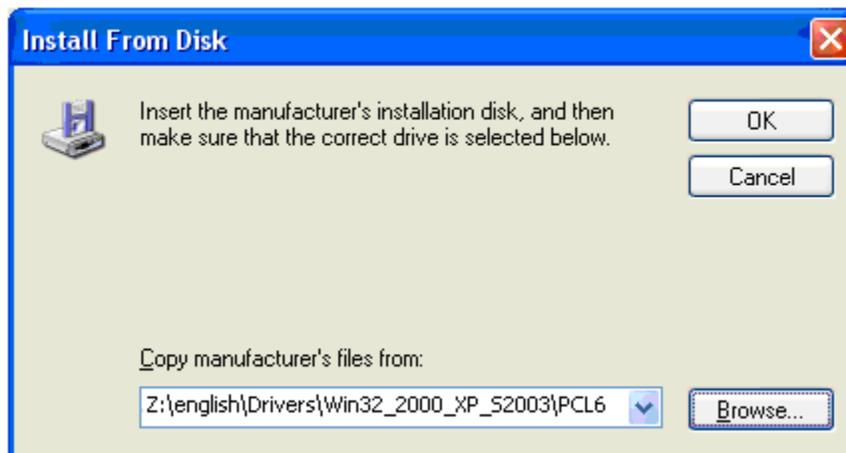
32) Enter \\10.3.21.77\HP\english\Win32\_2000\_XP\_S2003\PCL6). Select **hpc9050c.inf**. Click **Open** (Figure 92).

**Figure 92: Navigate to the Driver**



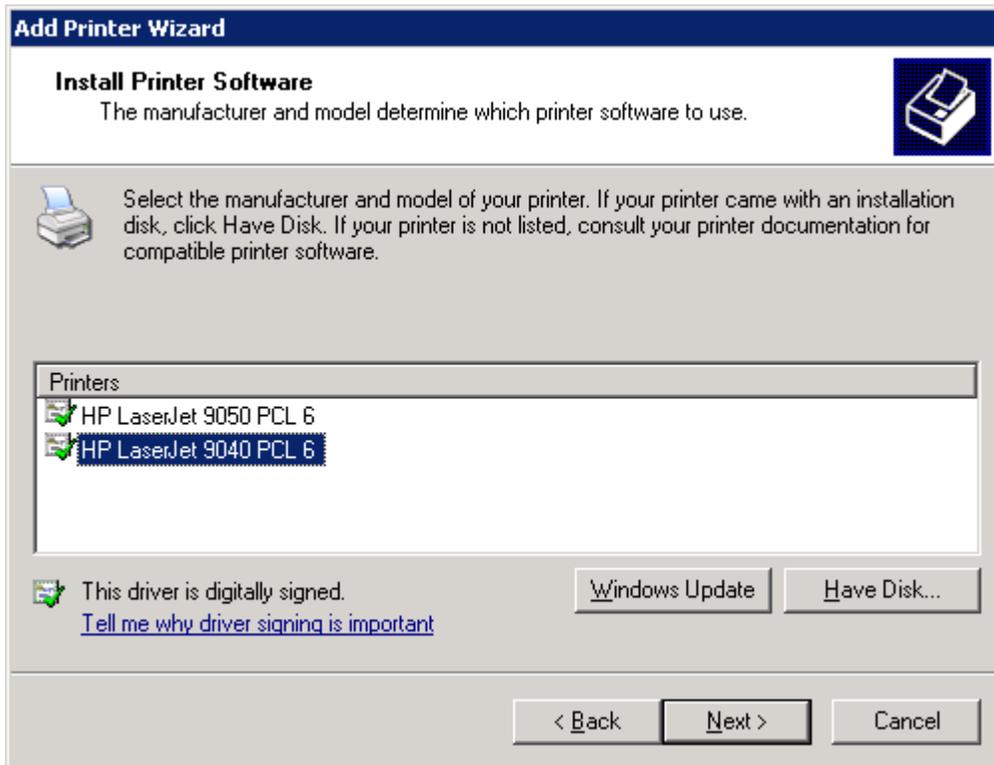
33) Click **OK** (Figure 93).

**Figure 93: Install From Disk**



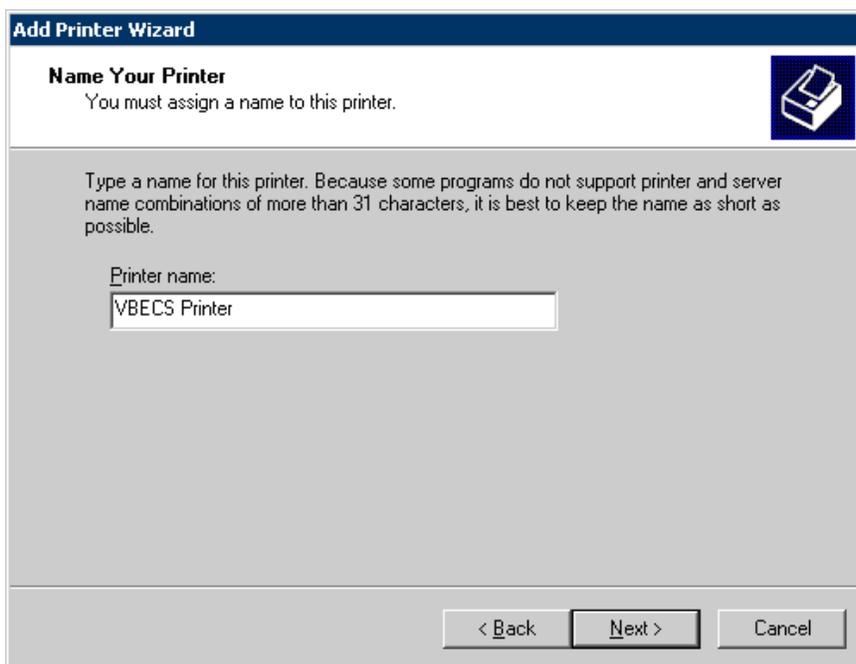
34) Select **HP LaserJet 9040 PCL 6**. Click **Next** (Figure 94).

**Figure 94: Add Printer Driver Wizard**



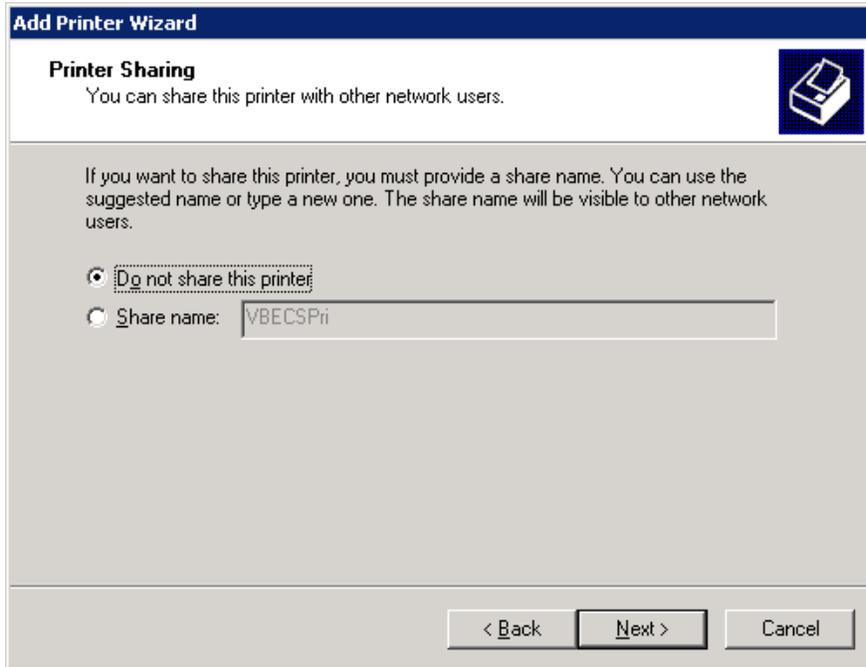
35) For a single-division site, enter **VBECS Printer** as the printer name. For a multi-divisional site, enter **VBECS Printer** and the site name (e.g., VBECS Printer Hines). Click **Next** (Figure 95).

**Figure 95: Add Printer Wizard**



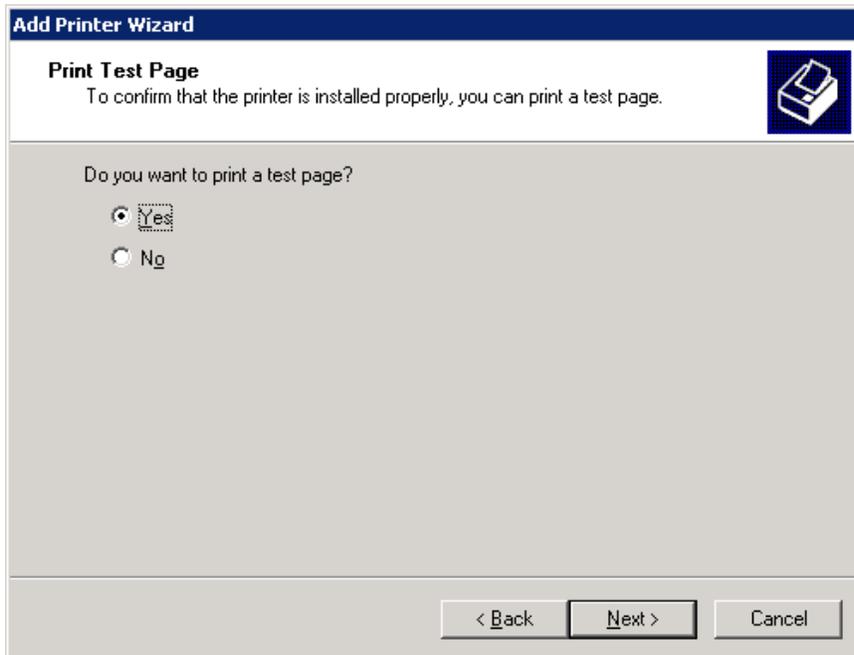
36) Click the **Do not share this printer** radio button. Click **Next** (Figure 96).

**Figure 96: Add Printer Wizard**



37)  Print a test page to make sure the printer is working. Retain the test page for validation records. Click **Next** (Figure 97).

**Figure 97: Add Printer Wizard**



- 38)  Capture a screen shot. Click **Finish** (Figure 98).

**Figure 98: Example of a Completed Installation**



- 39) For a multi-divisional site, repeat Section 3: Laser Printer for all printers in all divisions.

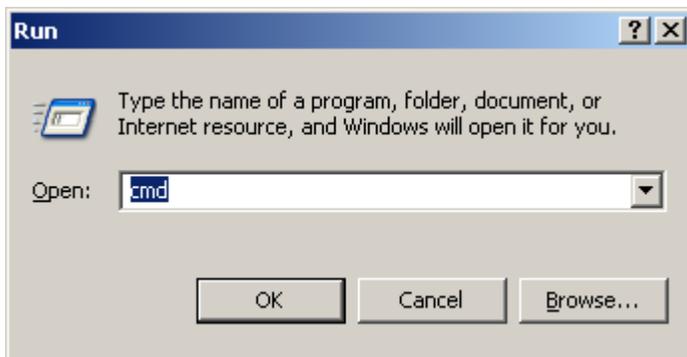
**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

#### 4 Verify the CD

To verify the contents of the VBECs Installation CD:

- 1) **1** Log into Server 1 with your Windows ID.
- 2) Click **Start, Run**. Enter **cmd** and click **OK** (Figure 99).

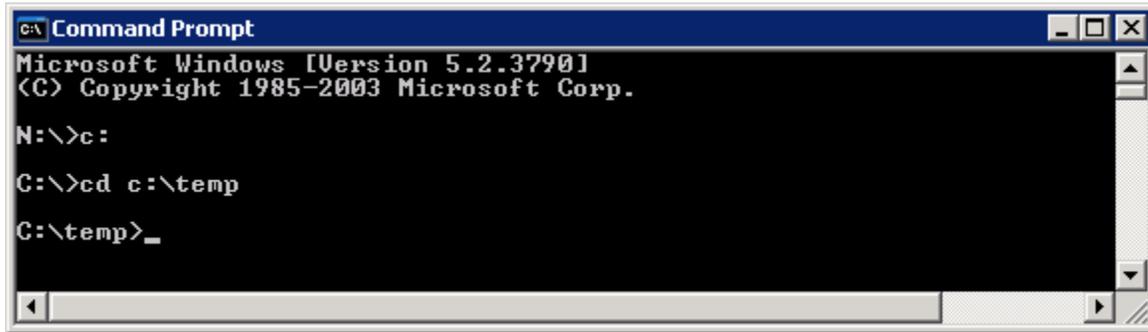
**Figure 99: Example of Running a Command Prompt**



- 3) Enter **c:** and press **Enter** (Figure 100).

- 4) Enter `cd c:\temp` and press **Enter** (Figure 100).

**Figure 100: Example of Changing Directory**

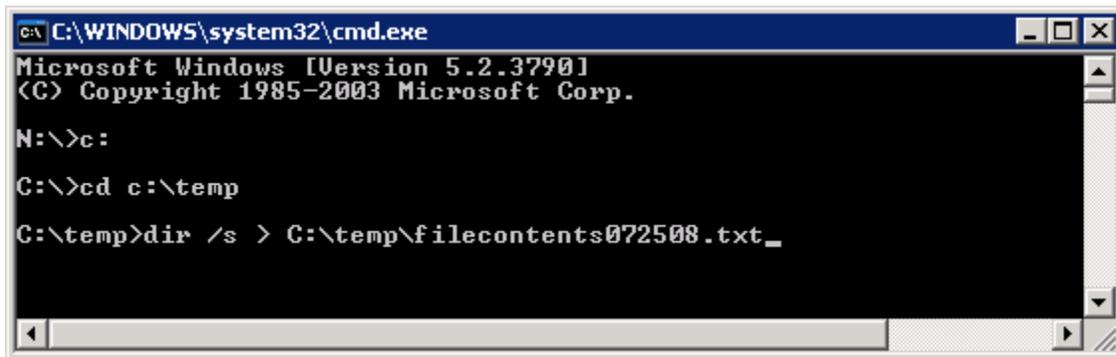


```
C:\ Command Prompt
Microsoft Windows [Version 5.2.3790]
(C) Copyright 1985-2003 Microsoft Corp.

N:\>c:
C:\>cd c:\temp
C:\temp>_
```

- 5) Enter `dir /s > c:\temp\filecontentsmmddy.txt` and press **Enter** (Figure 101). “mmddy” represents the current date.

**Figure 101: Example of Creating File Contents**



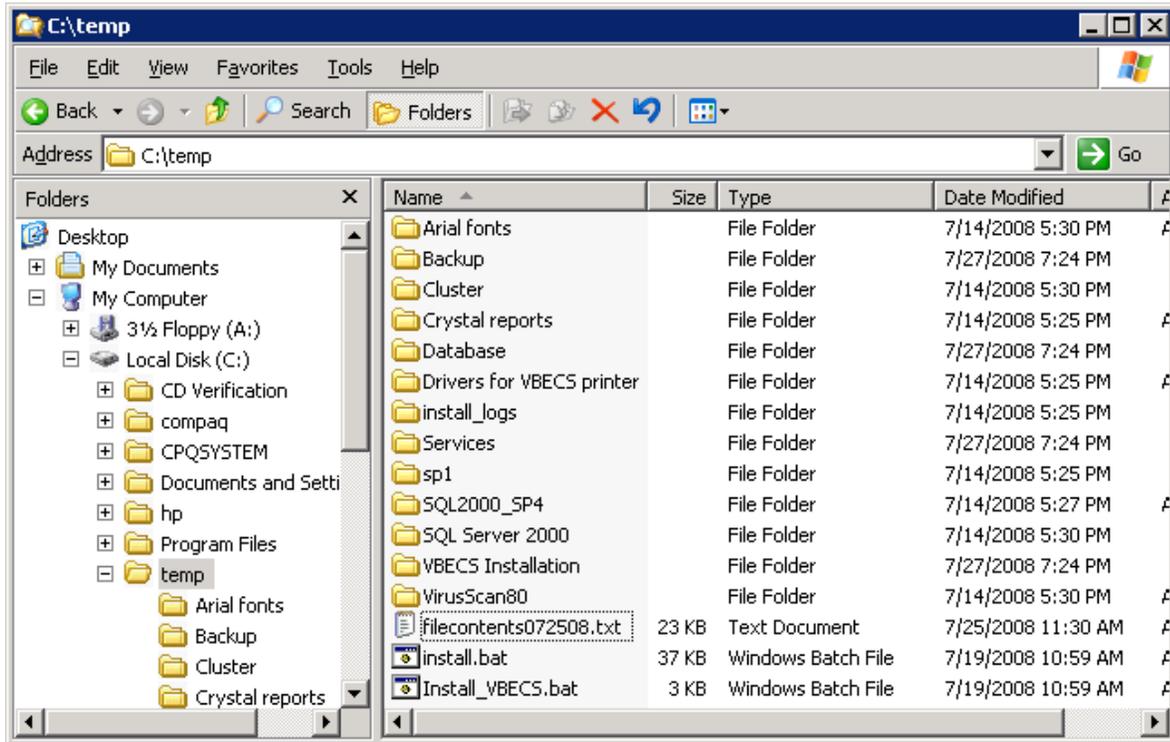
```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 5.2.3790]
(C) Copyright 1985-2003 Microsoft Corp.

N:\>c:
C:\>cd c:\temp
C:\temp>dir /s > C:\temp\filecontents072508.txt_
```

- 6) Click **X** in the upper right corner to close the command prompt.

- 7) Click **Start, Windows Explorer**. Navigate to the c:\temp folder (Figure 102).

**Figure 102: Temp Folder**

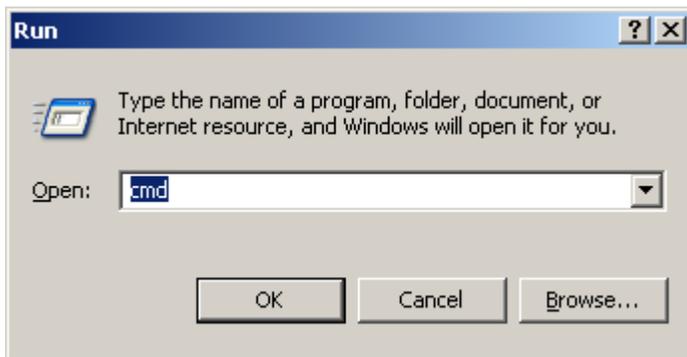


- 8) Double click the **filecontentsmmdyy.txt** file.
- 9) Compare the contents of this file with the contents of Appendix I: VBECS Installation CD Contents. *Exclude* date and time for folders and files. If the contents do not match, contact the IM immediately (see Appendix A: Contacts).
- 10) Print the file for validation records. Label the printout with the server name.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

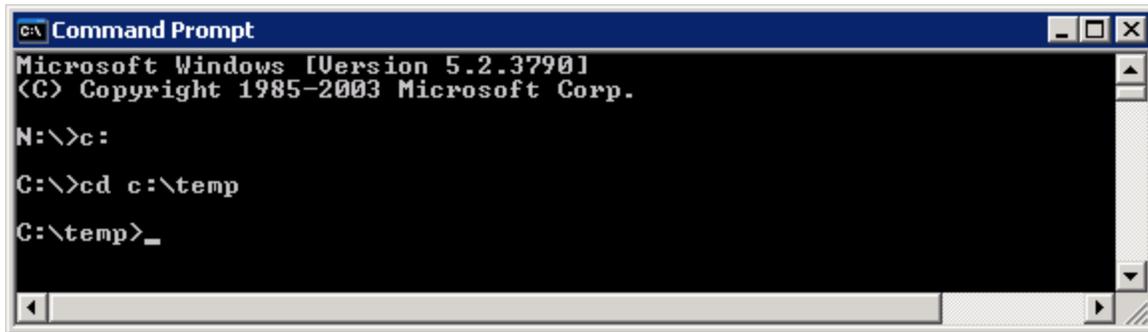
- 11) Log into Server 2 with your Windows ID.
- 12) Click **Start, Run**. Enter **cmd** and click **OK** (Figure 103).

**Figure 103: Example of Running a Command Prompt**



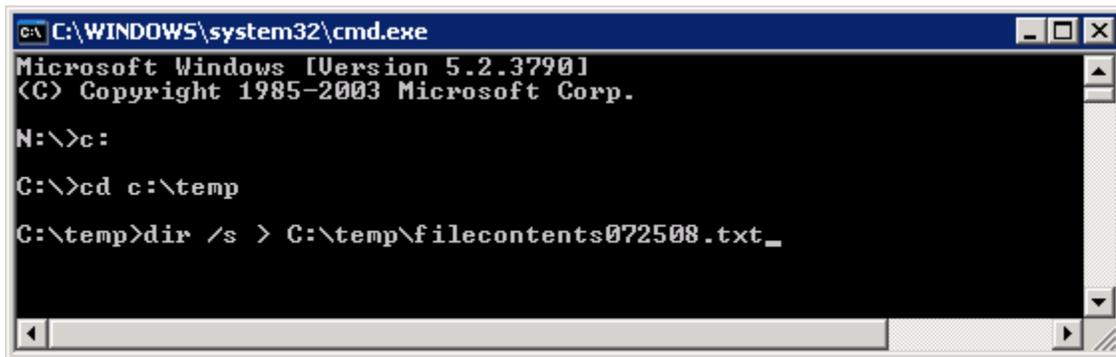
- 13) Enter **c:** and press **Enter** (Figure 104).
- 14) Enter **cd c:\temp** and press **Enter** (Figure 104).

**Figure 104: Example of Changing Directory**



- 15) Enter **dir /s > c:\temp\filecontentsmmddy.txt** and press **Enter** (Figure 105). "mmddy" represents the current date.

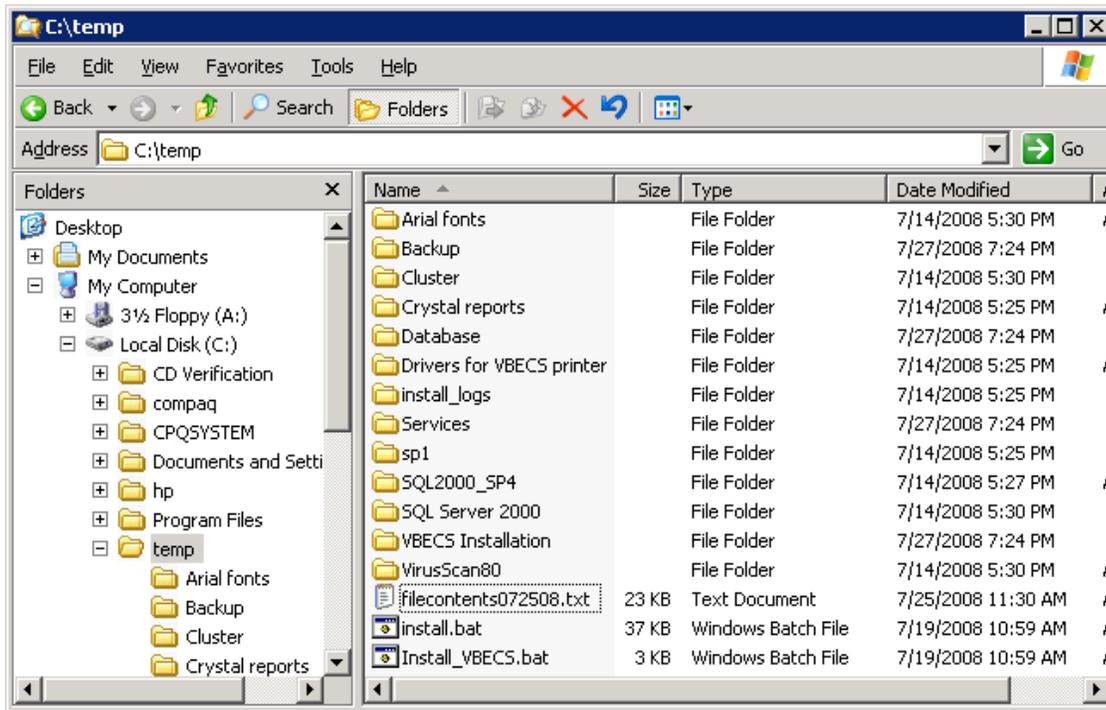
**Figure 105: Example of Creating File Contents**



- 16) Click **X** in the upper right corner to close the command prompt.

17) Click **Start, Windows Explorer**. Navigate to the c:\temp folder (Figure 106).

**Figure 106: Temp Folder**



18) Double click the **filecontentsmmdyy.txt** file.

19) Compare the contents of this file with the contents of Appendix I: VBECS Installation CD Contents. *Exclude* date and time for folders and files. If the contents do not match, contact the IM immediately (see Appendix A: Contacts).

20)  Print the file for validation records. Label the printout with the server name.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

### **Before Moving to the Next Step:**

- Make sure that:
  - The servers were configured with IP addresses and names.
  - The HP printer(s) was added to both servers.
  - The printers are configured with IP addresses.

## ***Install and Configure VBECS***

VBECS runs entirely on the server. This section covers installation of Cluster Services, SQL Server and VBECS on the server.

### **1 Cluster Service**

To provide redundancy if a server fails, Cluster Service stores critical data on a shared storage device. To configure this shared storage:

- 1) ❶ Shut down Server 1: click **Start, Shut Down**. Select **Shut down** (do not select the Install updates and shut down option). Enter **cluster install** in the Comment field and click **OK**. Click **Yes** in any confirmation messages.
- 2) ❷ Shut down Server 2: click **Start, Shut Down**. Select **Shut down** (do not select the Install updates and shut down option). Enter **cluster install** in the Comment field and click **OK**. Click **Yes** in any confirmation messages.



*Failure to shut down the servers will cause the cluster configuration to fail!*

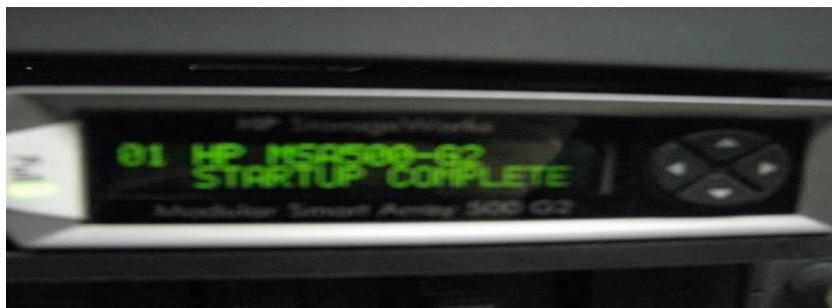
- 3) Instruct server support staff to complete Steps 4-31.
- 4) To turn on the shared storage device, press the power button (Figure 107):
  - Drives 1–4 as “Data”
  - Drive 5 as “Hot Spare”
  - Drives 6 and 7 as “Quorum”
  - Drives 8 and 9 as “Logs”

**Figure 107: Shared Storage**



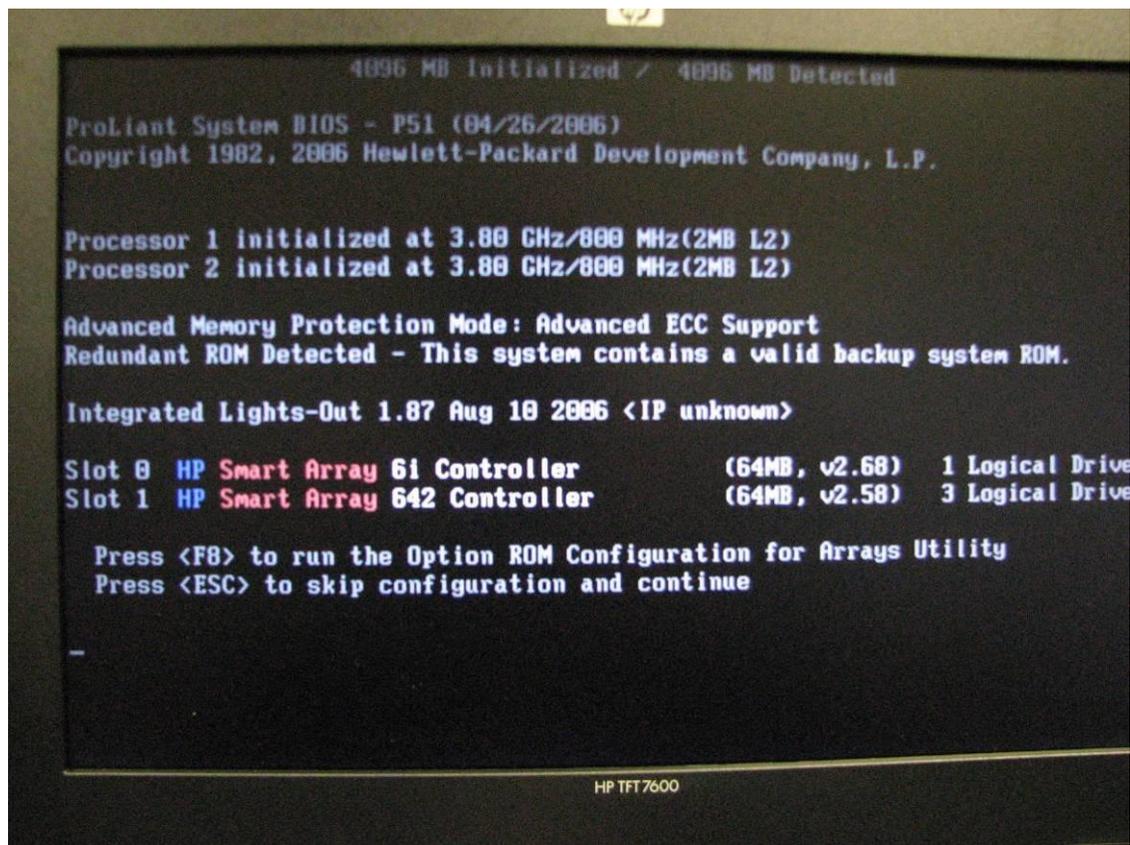
- 5) ❶ When “Startup Complete” appears on both controllers (Figure 108), turn on Server 1.

**Figure 108: Startup Complete**



Watch the startup sequence of the server. The array configuration utility appears twice: once for the server discs [6i Controller (G4 server) or P400 Controller (G5 server)] and again for the shared storage (642 Controller). *Ignore the first instance of the “Press <F8> to run the Optional ROM Configuration for Array Utility” message.* At the second instance of the message, press **F8** to configure the shared storage (Figure 109). *If you miss the prompt, restart the server and repeat this step.*

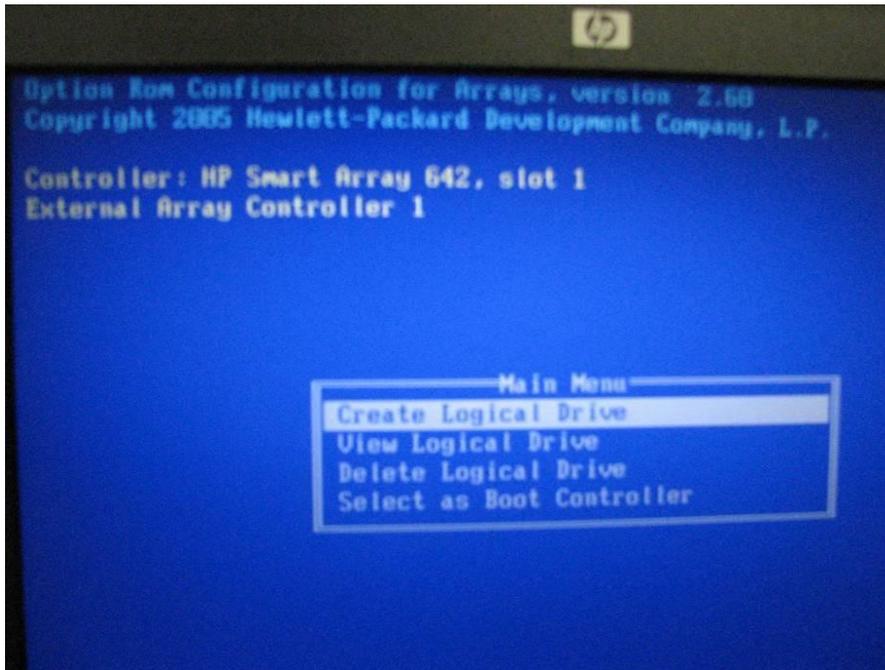
**Figure 109: Press F8**



- 6) The array configuration utility will launch. Make sure that the screen lists the controller as the HP Smart Array 642. If it refers to the Smart Array 6i or P400 controller, press **Escape** to exit. Restart the server and return to Step 7.
- 7) Select **Delete Logical Drive** and press **Enter**.
- 8) If “There are no available logical drives” appears in the next screen, press **Escape** to exit and continue with Step 11.
- 9) If there are logical drives, select them and press **F8** to delete them. Press **F3** to confirm the deletion.
- 10) Repeat Steps 7 through 9 until all logical drives are deleted.

11) Select **Create Logical Drive** and press **Enter** (Figure 110).

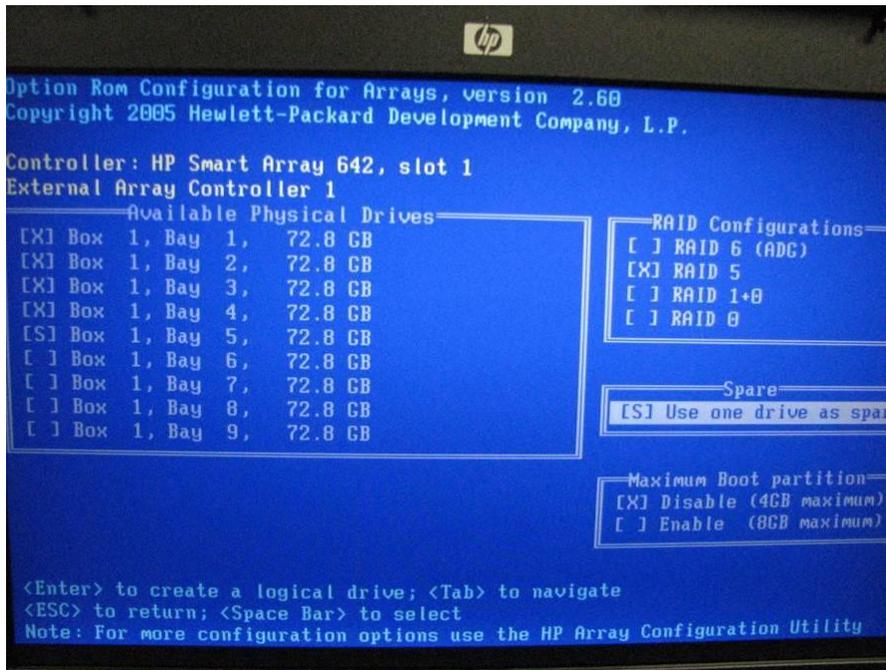
**Figure 110: Smart Array 642**



- 12) Under Available Physical Drives, press the space bar to place an “X” to the left of the first four drives, and remove “X” from all remaining drives.
- 13) Press **Tab** to move to the RAID Configurations menu. Use the arrow keys to place an “X” to the left of RAID 5.
- 14) Press **Tab** to move to the **Spare** menu. Press the space bar to place an “S” to the left of “Use one drive as spare.”

15) Verify that the screen matches Figure 111. Press **Enter** to create the logical drive (Figure 111).

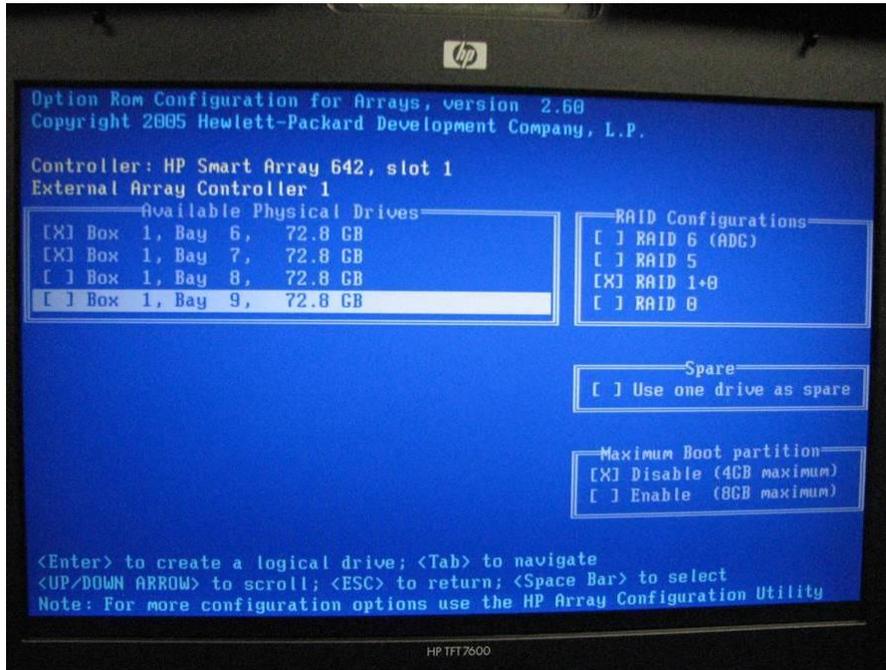
**Figure 111: First Logical Drive**



- 16) In the confirmation window, press **F8** to save the configuration.
- 17) When the “configuration saved” message appears, press **Enter** to continue.
- 18) Select **Create Logical Drive** and press **Enter** (Figure 110).
- 19) Under Available Physical Drives, press the space bar to place an “X” to the left of the first two drives, and remove the “X” from all remaining drives. (Use the **Tab** key if you need to navigate between menus).
- 20) Press **Tab** to move to the RAID Configurations menu. Press the space bar to place an “X” to the left of RAID 1+0.

21) Verify that the screen matches Figure 112. Press **Enter** to create the logical drive (Figure 112).

**Figure 112: Second Logical Drive**



- 22) In the confirmation window, press **F8** to save the configuration.
- 23) When the “configuration saved” message appears, press **Enter** to continue.
- 24) Select **Create Logical Drive** and press **Enter** (Figure 110).
- 25) Under Available Physical Drives, press the space bar to place an “X” to the left of both drives.
- 26) Press **Tab** to move to the RAID Configurations menu. Press the space bar to place an “X” to the left of RAID 1+0.

27) Verify that the screen matches Figure 113. Press **Enter** to create the logical drive (Figure 113).

**Figure 113: Third Logical Drive**

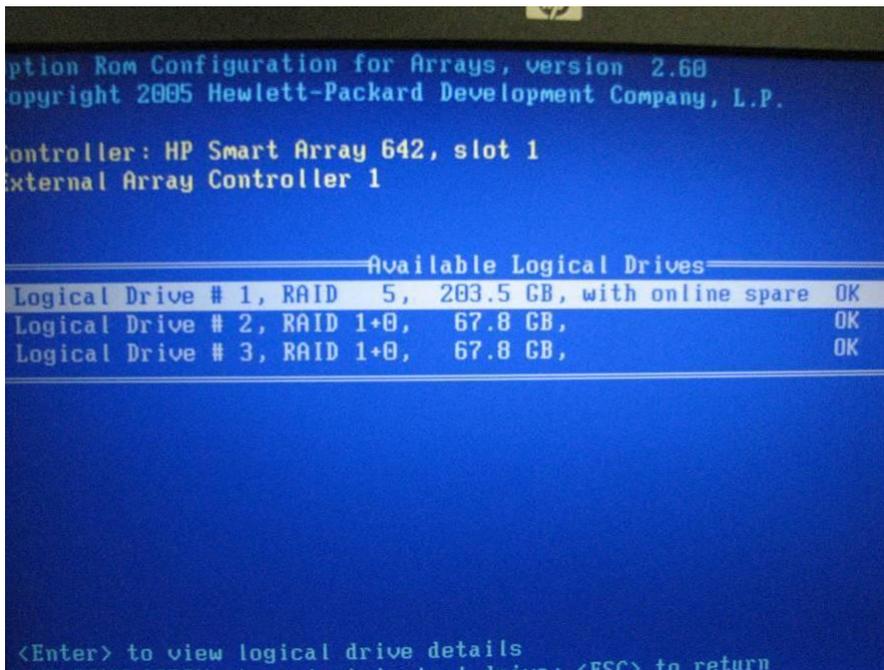


28) In the confirmation window, press **F8** to save the configuration.

29) When the "configuration saved" message appears, press **Enter** to continue.

30) Select **View Logical Drive** and press **Enter**. Verify that the configuration matches Figure 114.

**Figure 114: Array Configuration**



31) Press **Escape** twice to exit the array configuration utility. Notify the Remote Install Team to continue the installation.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

32) ❶ Log into Server 1 with your Windows ID.

33) Click **Start, Administrative Tools, Computer Management**. Select **Storage, Disk Management**.

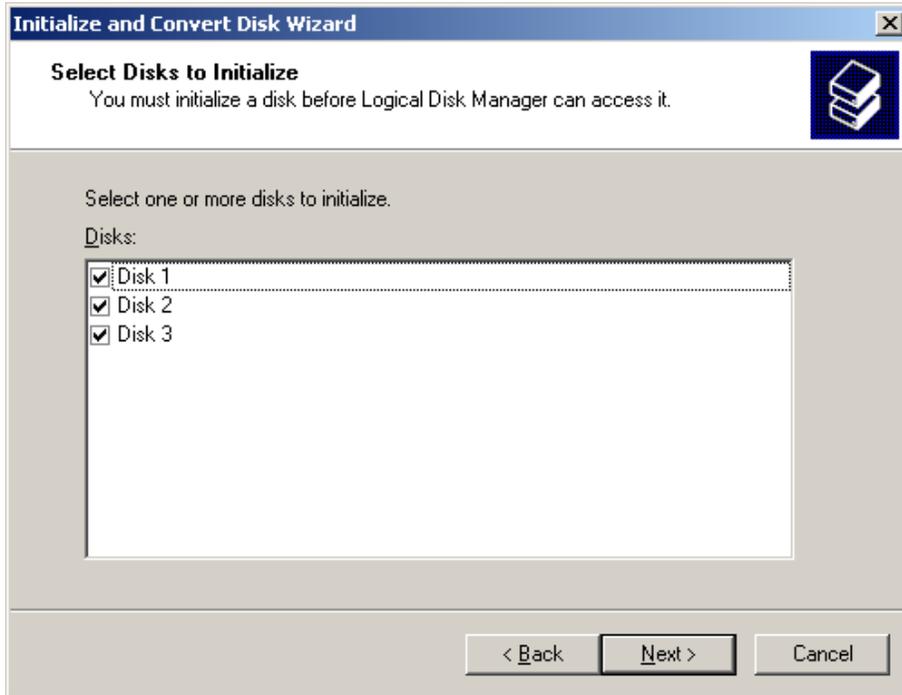
34) In the Initialize and Convert Disk Wizard screen, click **Next** (Figure 115).

**Figure 115: Configure the First Disk**



35) Make sure all disks are selected. Click **Next** (Figure 116).

**Figure 116: Initialize Disks**

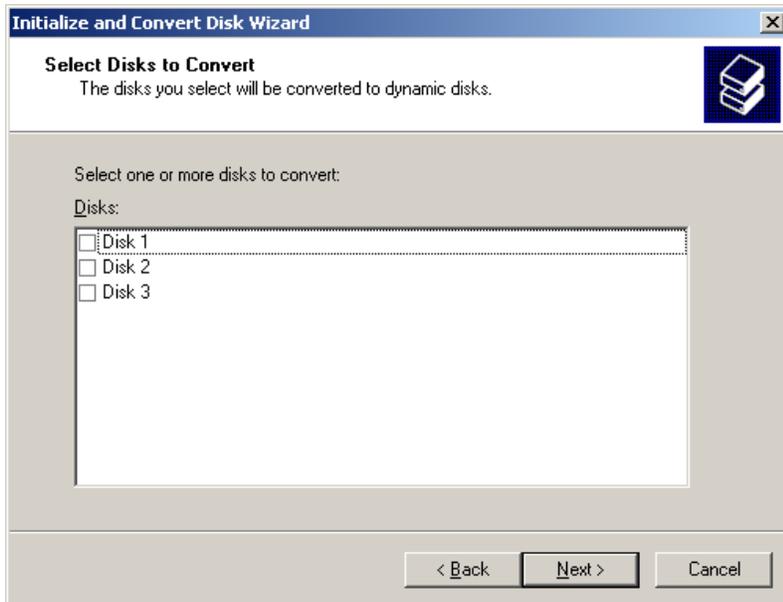


36) Make sure none of the disks are selected. Click **Next** (Figure 117).



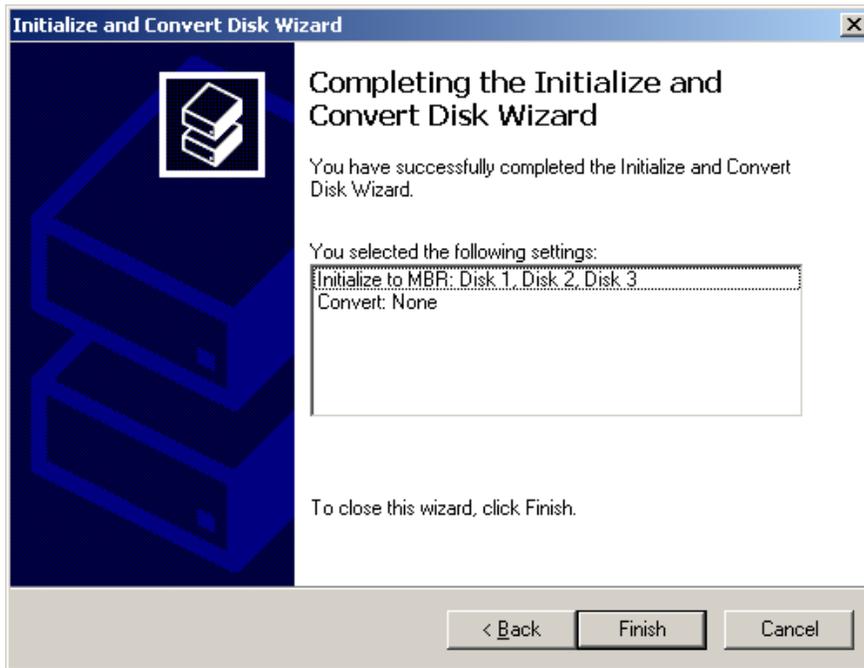
*Do not configure the disks as dynamic: the cluster will fail.*

**Figure 117: Initialize and Convert Disk Wizard**



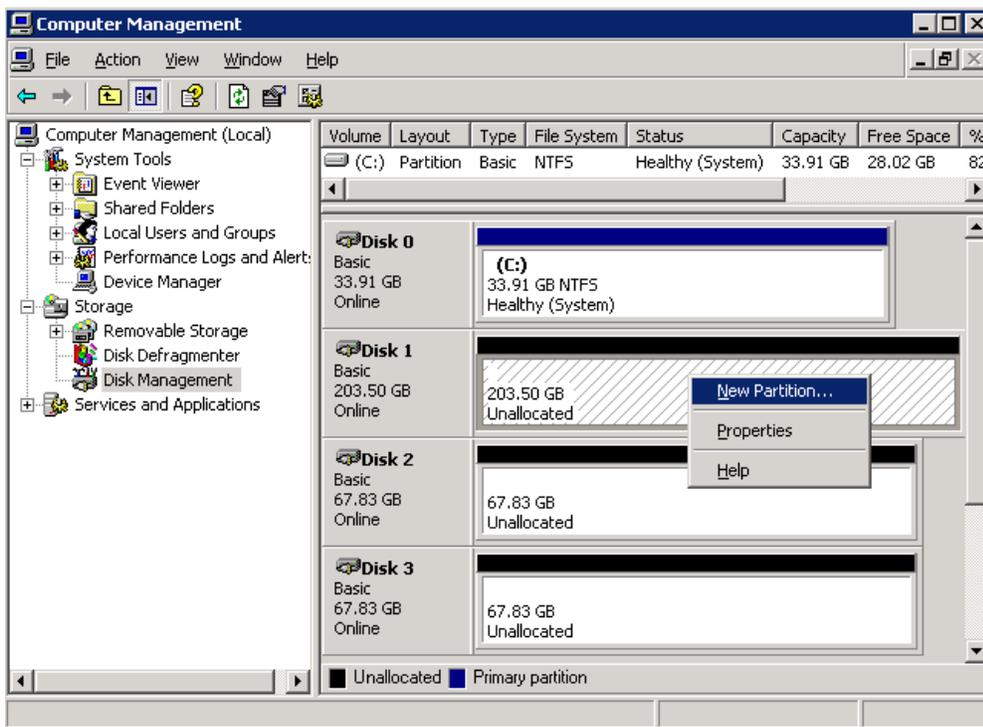
37) Click **Finish** (Figure 118).

**Figure 118: Initialize and Convert Disk Wizard**



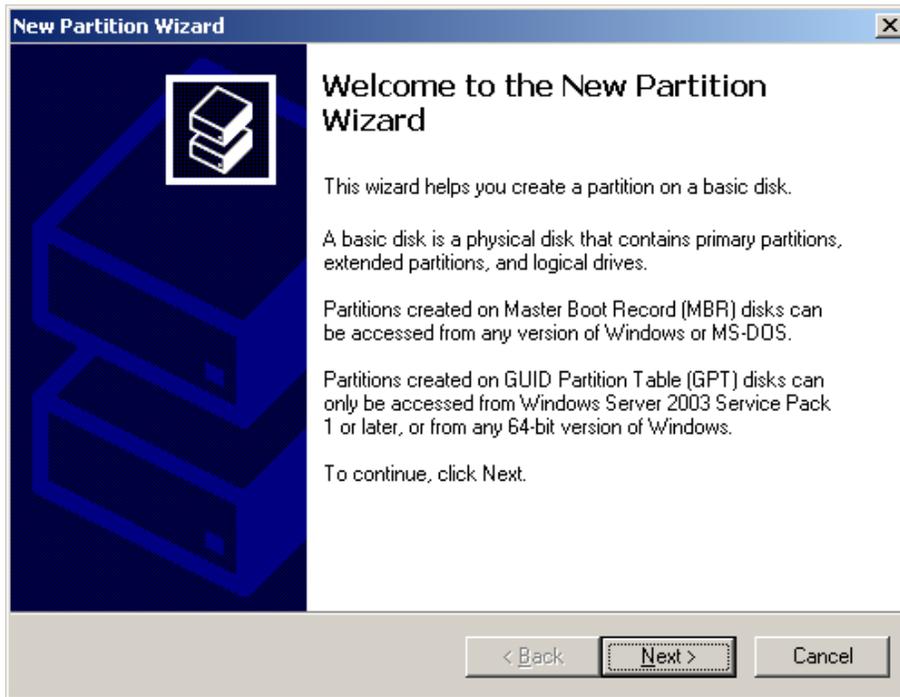
38) To start the New Partition Wizard, right click (in white area) **Disk 1**. Click **New Partition** (Figure 119).

**Figure 119: Computer Management**



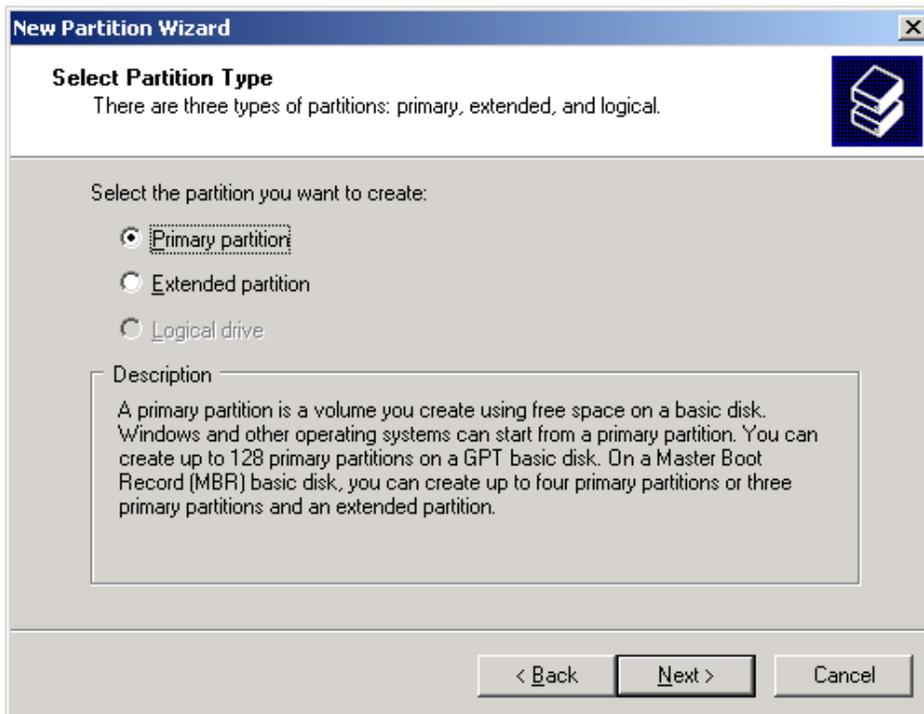
39) Click **Next** (Figure 120).

**Figure 120: New Partition Wizard**



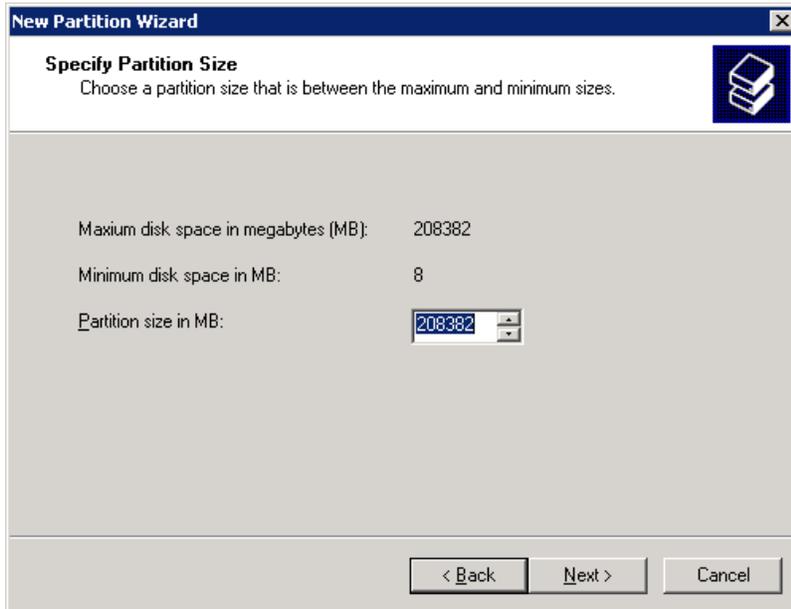
40) Make sure the **Primary partition** radio button is selected. Click **Next** (Figure 121).

**Figure 121: New Partition Wizard**



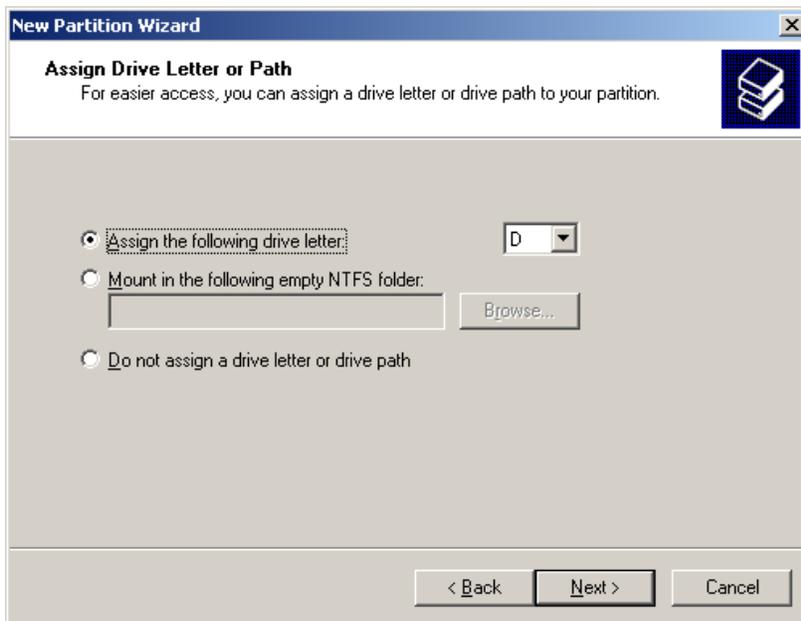
41) Keep the default partition size. Click **Next** (Figure 122).

**Figure 122: Example of Partition Size**



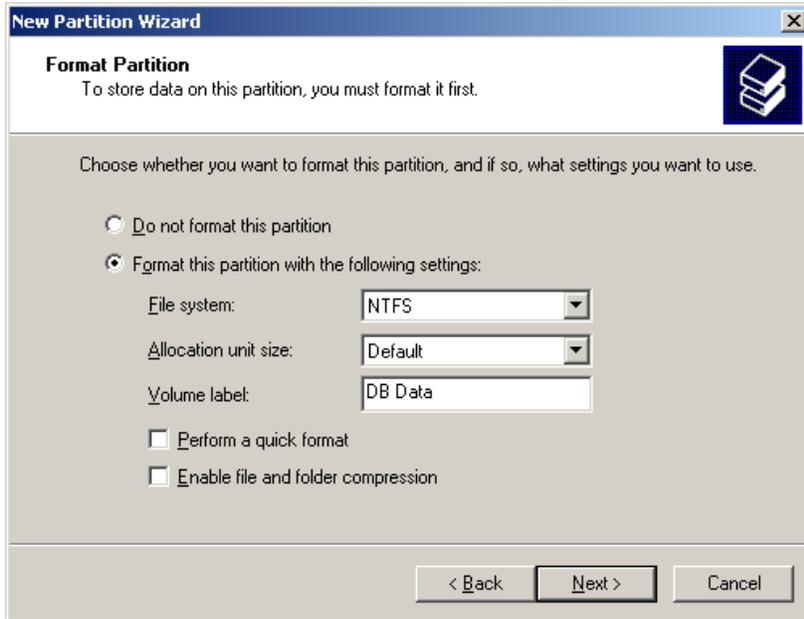
42) Leave “D” (default) as the drive letter. Click **Next** (Figure 123).

**Figure 123: New Partition Wizard**



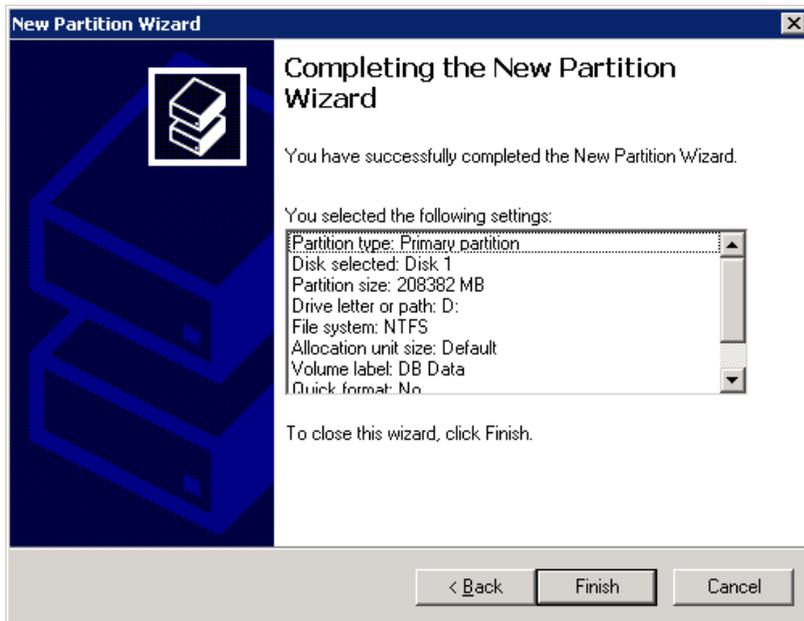
- 43) Enter **DB Data** in the **Volume label** field. Keep defaults for others (**NTFS** for “File system” and **Default** for “Allocation unit size”). Click **Next** (Figure 124).

**Figure 124: New Partition Wizard**



- 44)  Capture a screen shot. Scroll down to capture all text and take 2<sup>nd</sup> screen shot. Click **Finish** to complete (Figure 125).

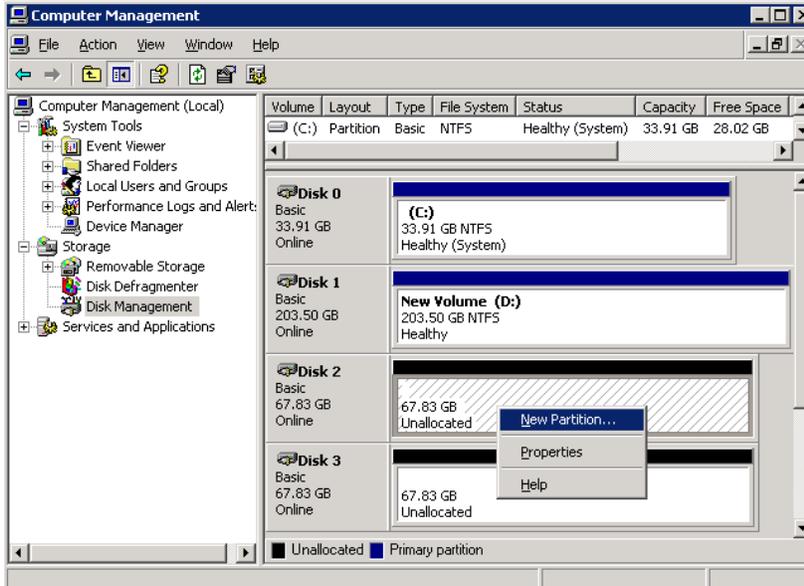
**Figure 125: New Partition Wizard**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

45) To start the New Partition Wizard, right click (in white area) **Disk 2**. Click **New Partition** (Figure 126).

**Figure 126: Computer Management**



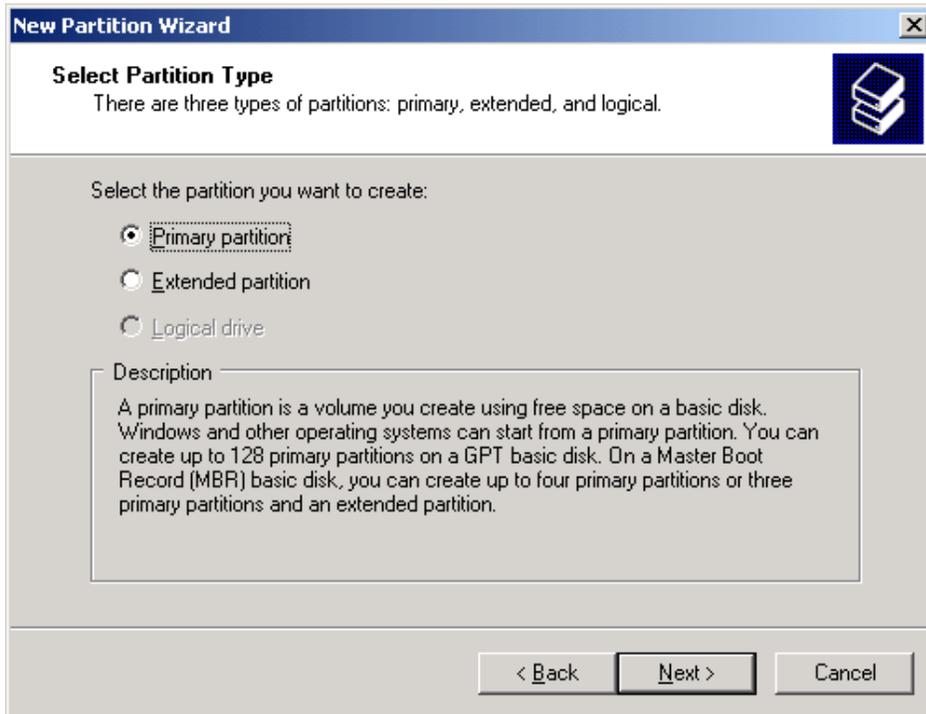
46) Click **Next** (Figure 127).

**Figure 127: New Partition Wizard**



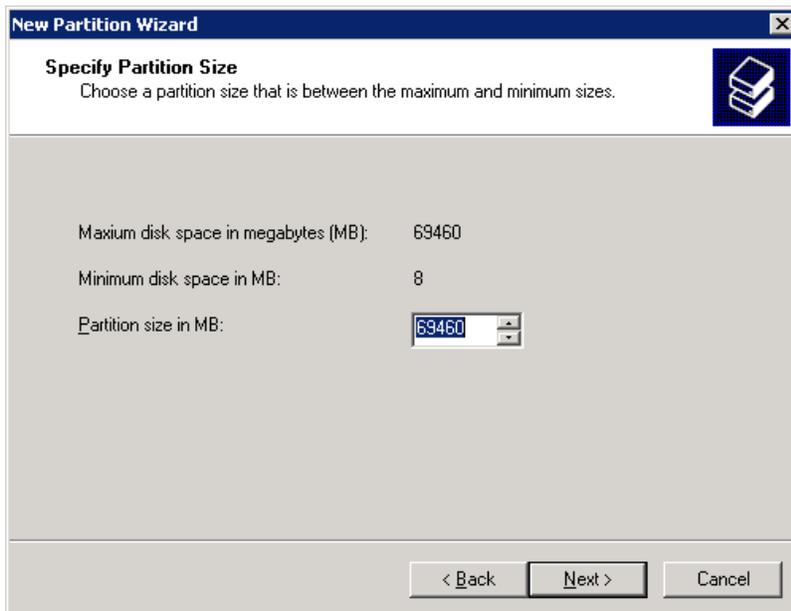
47) Make sure the **Primary partition** radio button is selected. Click **Next** (Figure 128).

**Figure 128: New Partition Wizard**



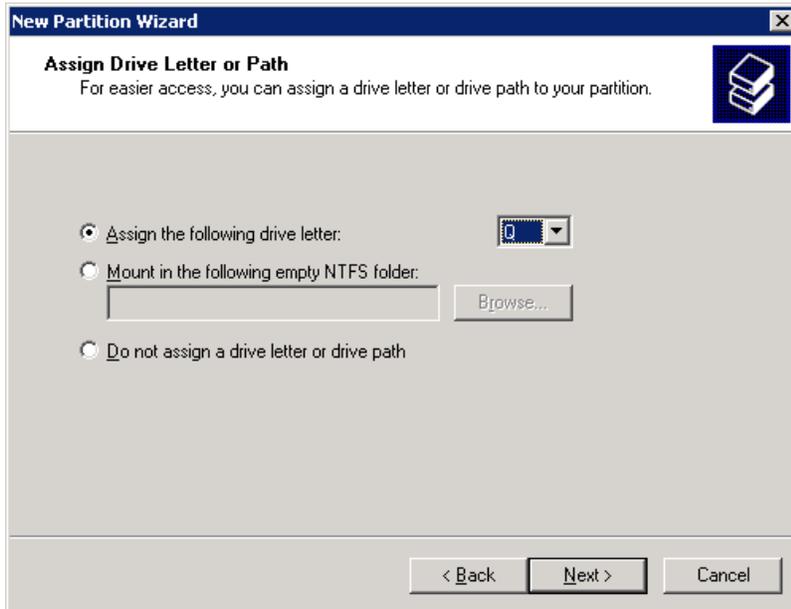
48) Keep the default partition size. Click **Next** (Figure 129).

**Figure 129: Example of Partition Size**



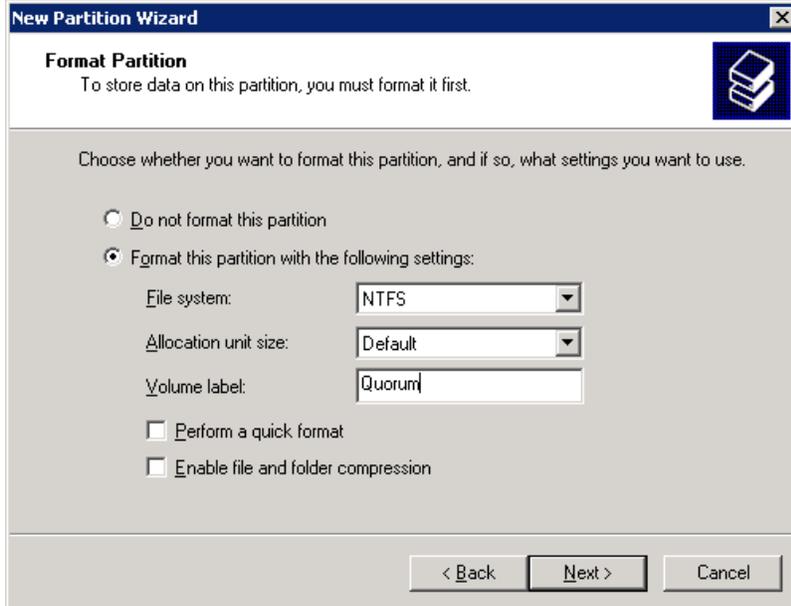
49) Change the drive letter to “Q” (Figure 130). Click **Next**.

**Figure 130: New Partition Wizard**



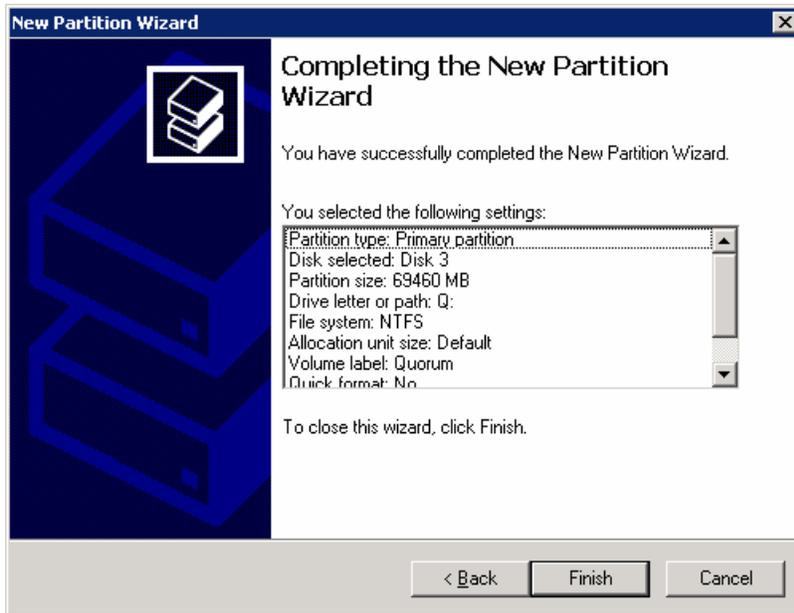
50) Enter **Quorum** in the **Volume label** field. Keep defaults for others (**NTFS** for “File system” and **Default** for “Allocation unit size”). Click **Next** to accept all other defaults (Figure 131).

**Figure 131: New Partition Wizard**



- 51)  Capture a screen shot. Scroll down to capture all text and take 2<sup>nd</sup> screen shot. Click **Finish** to complete (Figure 132).

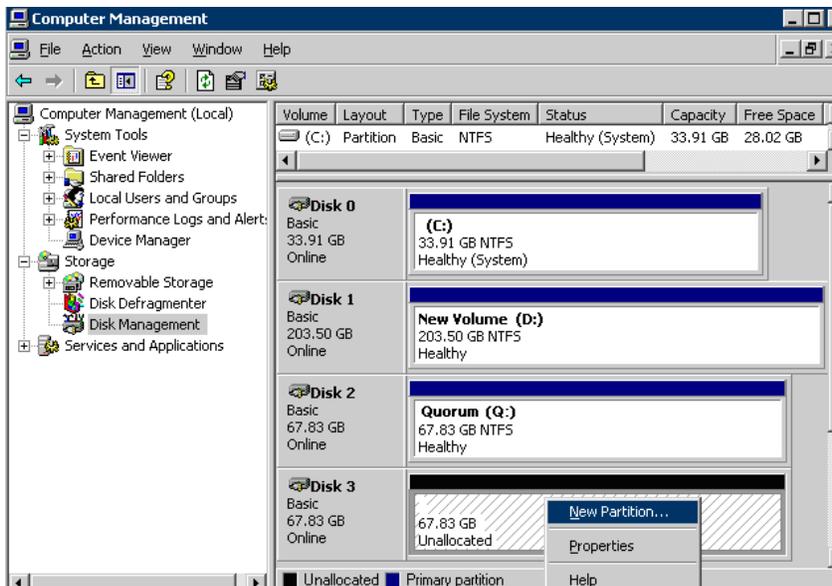
**Figure 132: New Partition Wizard**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 52) To start the New Partition Wizard, right click (in white area) **Disk 3**. Click **New Partition** (Figure 133).

**Figure 133: Computer Management**



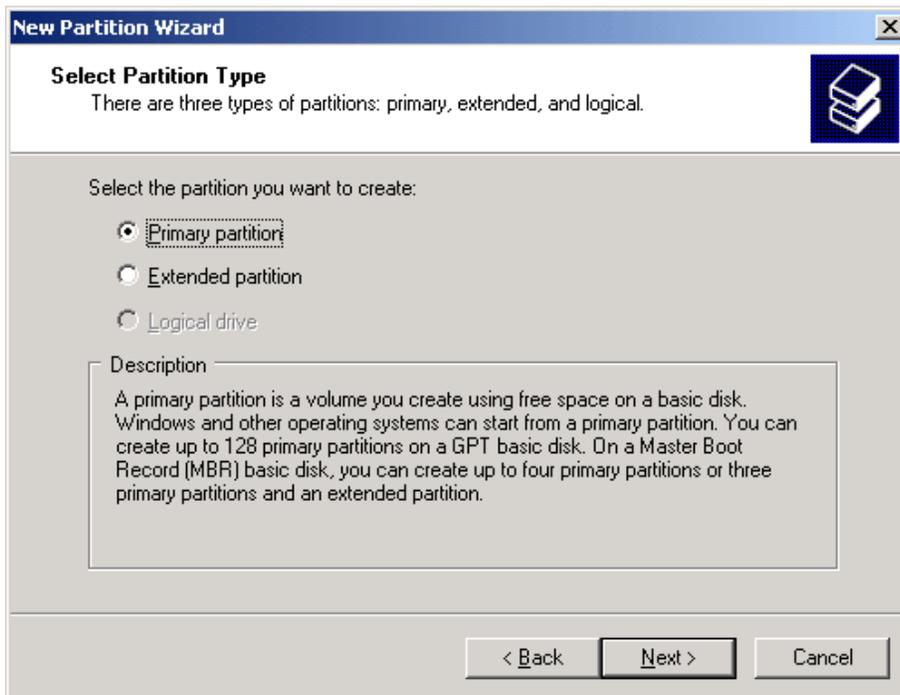
53) Click **Next** (Figure 134).

**Figure 134: New Partition Wizard**



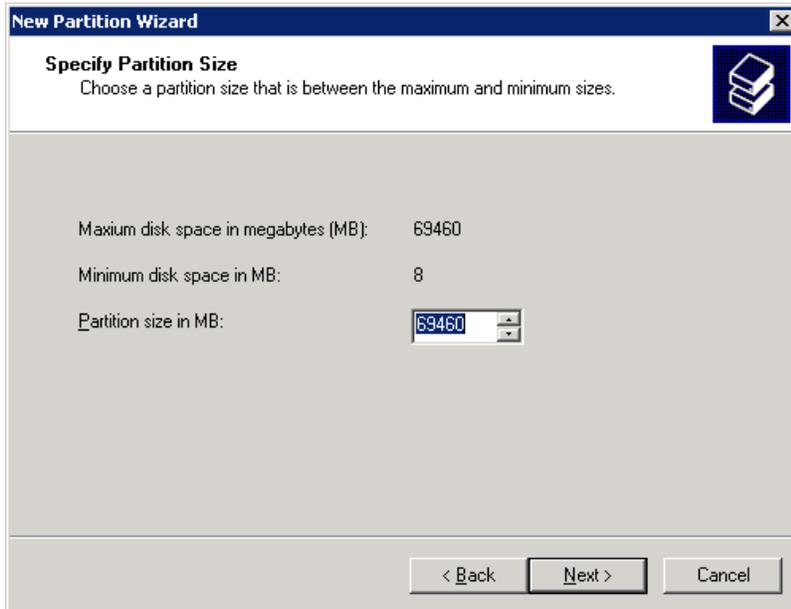
54) Make sure the **Primary partition** radio button is selected. Click **Next** (Figure 135).

**Figure 135: New Partition Wizard**



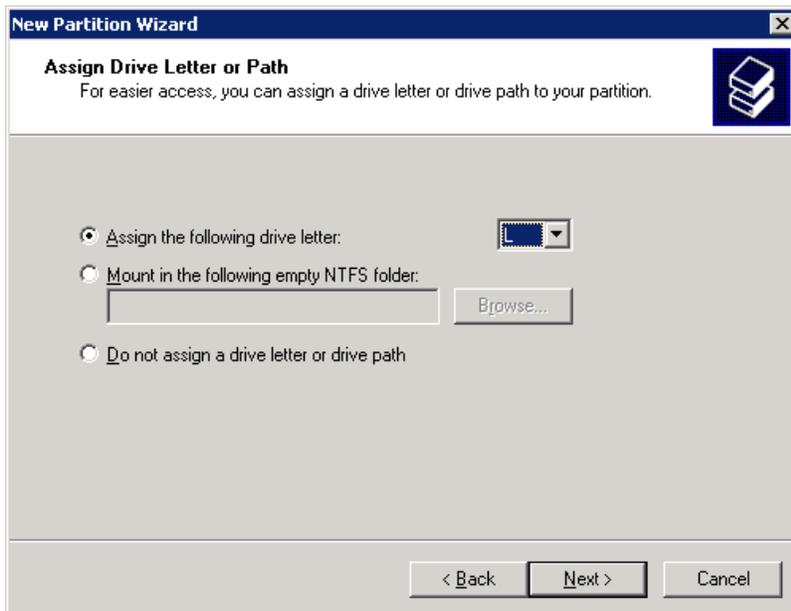
55) Keep the default partition size. Click **Next** (Figure 136).

**Figure 136: Example of Partition Size**



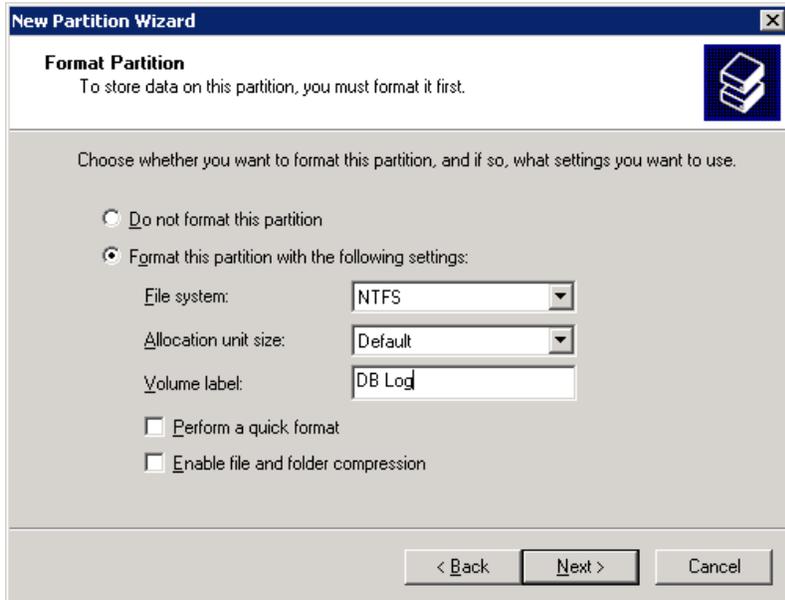
56) Change the drive letter to “L” (Figure 137).

**Figure 137: New Partition Wizard**



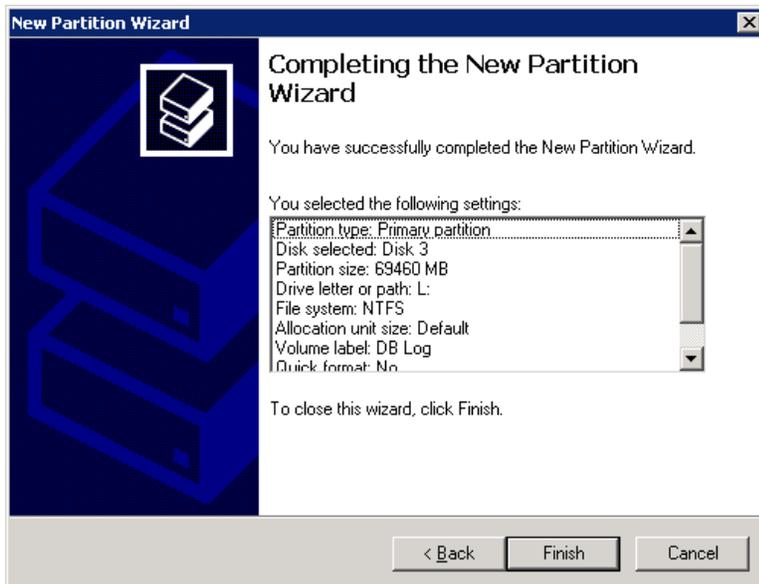
57) Enter **DB Log** in the **Volume label** field. Keep defaults for others (**NTFS** for “File system” and **Default** for “Allocation unit size”). Click **Next** to accept all other defaults (Figure 138).

**Figure 138: New Partition Wizard**



58)  Capture a screen shot. Scroll down to capture all text and take 2<sup>nd</sup> screen shot. Click **Finish** to complete (Figure 139).

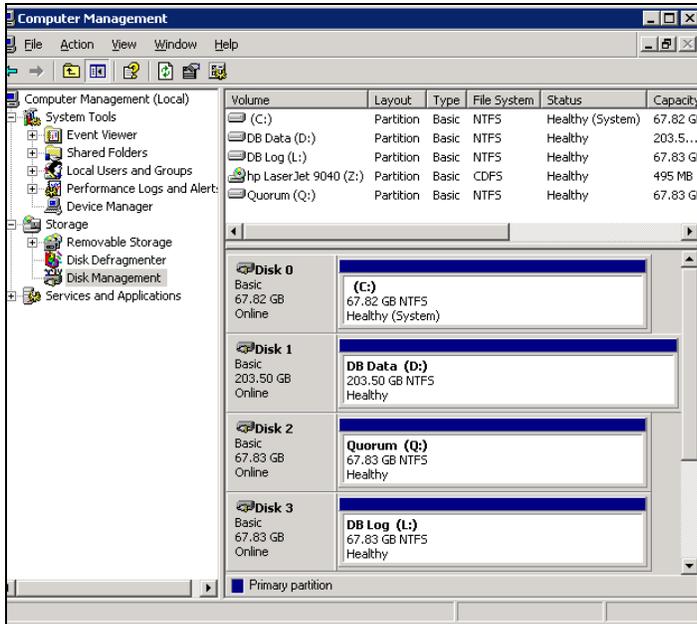
**Figure 139: New Partition Wizard**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 59)  Verify that the screen is similar to Figure 140 (disk sizes may vary). Wait for the formatting to complete. Capture a screen shot.

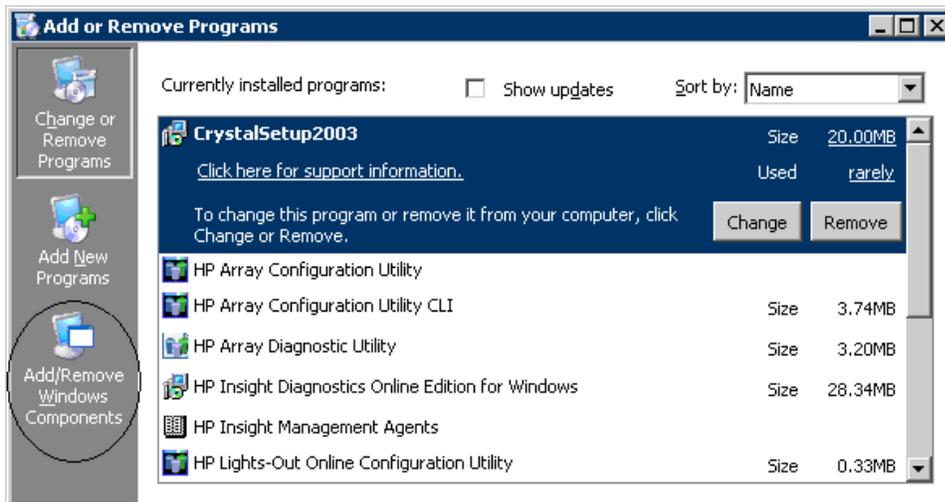
**Figure 140: Example of Disk Management**



### Configure Network Access for the Distributed Transaction Coordinator

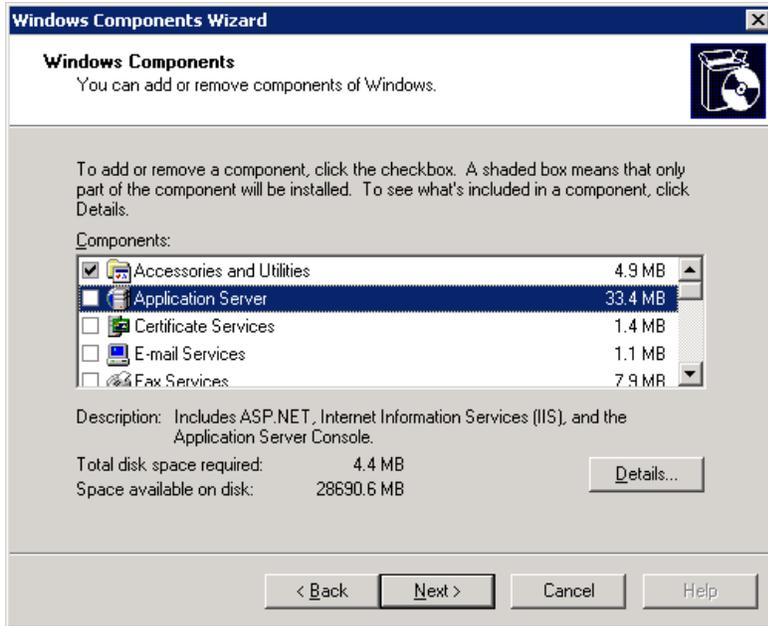
- 1) Click **Start, Control Panel, Add or Remove Programs**.
- 2) Click **Add/Remove Windows Components** (Figure 141).

**Figure 141: Add or Remove Programs**



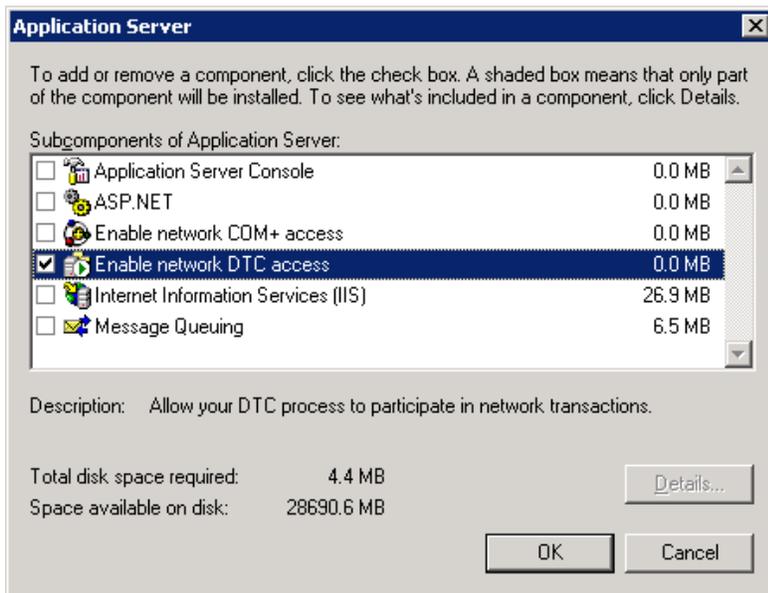
- 3) Select **Application Server** (do not check the check box). Note that Accessories and Utilities will already be checked. Click **Details** (Figure 142).

**Figure 142: Windows Components Wizard**



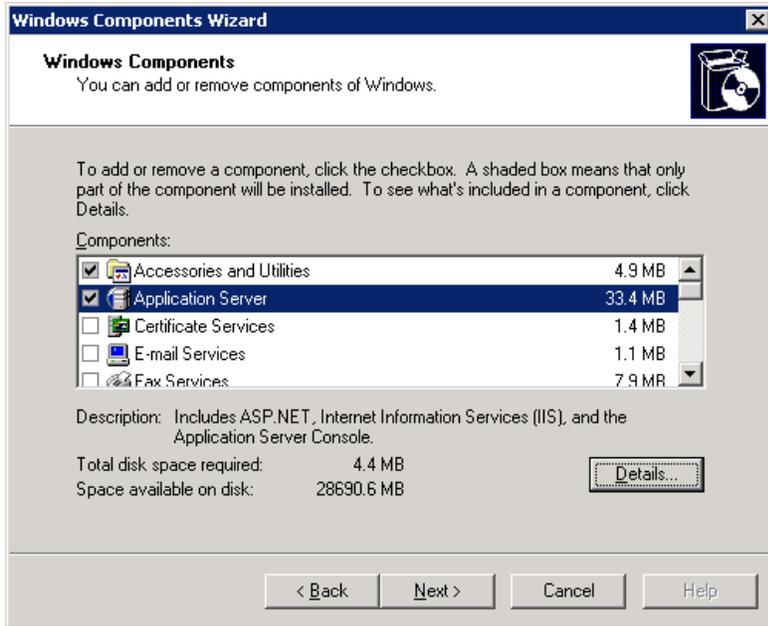
- 4) Check the **Enable network DTC access** check box. Click **OK** (Figure 143).

**Figure 143: Application Server**



- 5) Application Server is now checked. Click **Next** (Figure 144). Wait for the components to be installed.

**Figure 144: Windows Component Wizard**



- 6) Click **Finish** (Figure 145). Close the Add or Remove Programs dialog and Control Panel.

**Figure 145: Windows Components Wizard**

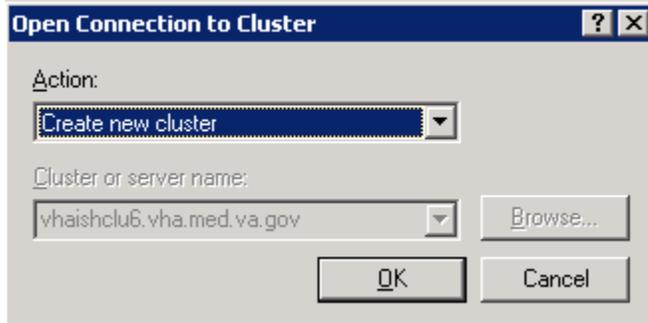


**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Install Clustering

- 1) Click **Start, Administrative Tools, Cluster Administrator**.
- 2) In the Open Connection to Cluster window, select **Create new cluster** from the Action dropdown. Click **OK** (Figure 146).

**Figure 146: Example of Creating a Cluster**



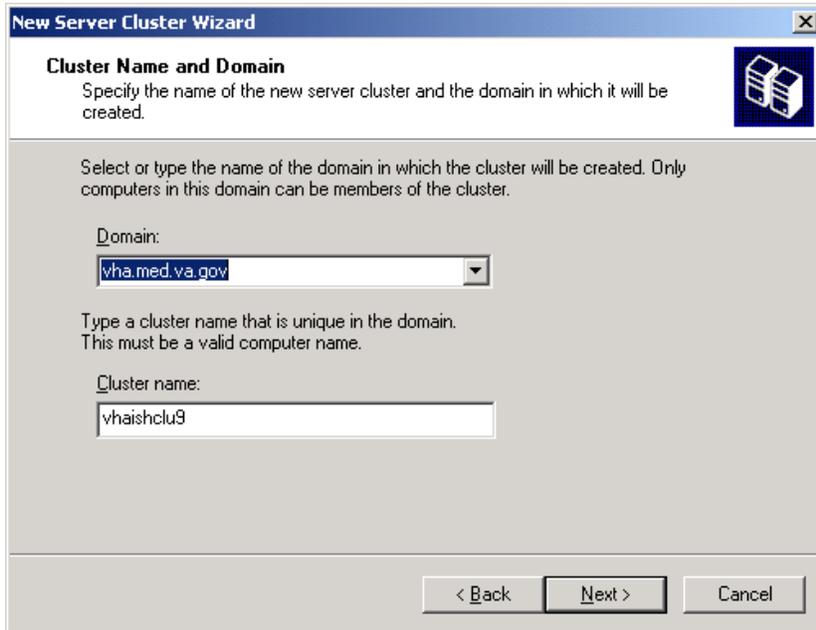
- 3) Click **Next** (Figure 147).

**Figure 147: New Server Cluster Wizard**



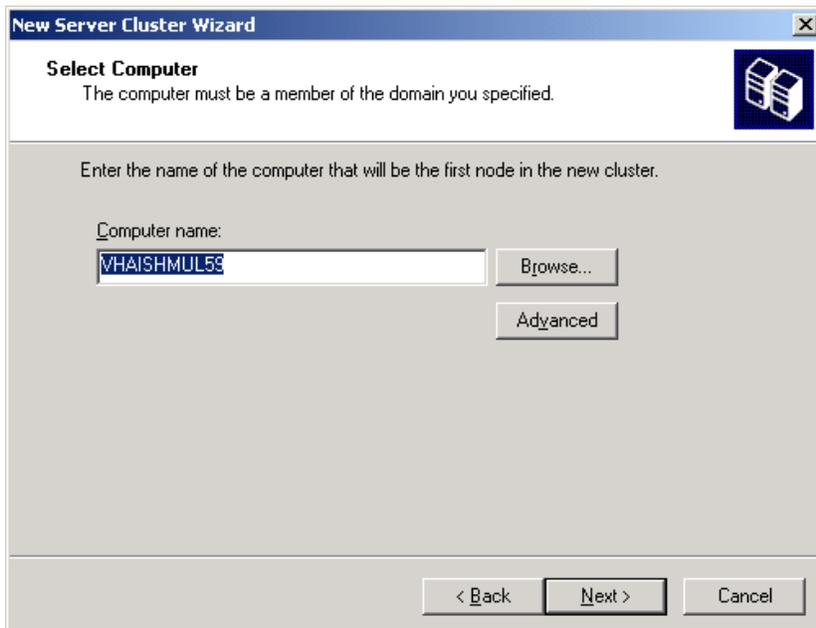
- 4) Enter the cluster name from Appendix E: Server Configuration Checklist (Server Hardware Information, Row 5) in the **Cluster name** field. Leave the domain set to the default. Click **Next** (Figure 148).

**Figure 148: Example of Entering a Cluster Name and Domain**



- 5) The computer name will automatically be set to the name of this server. Click **Next** (Figure 149).

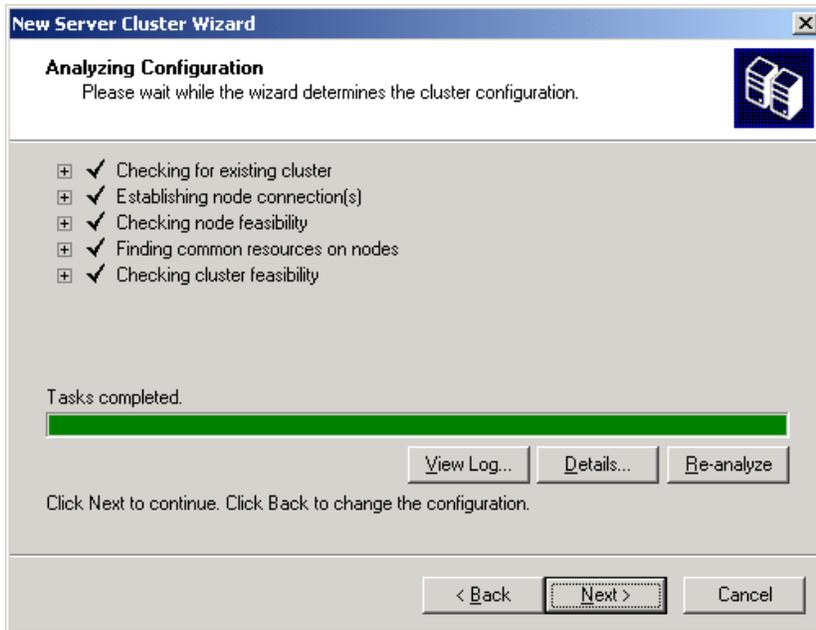
**Figure 149: Example of Selecting a First Node**



- 6) Cluster Administrator will do the preliminary analysis.

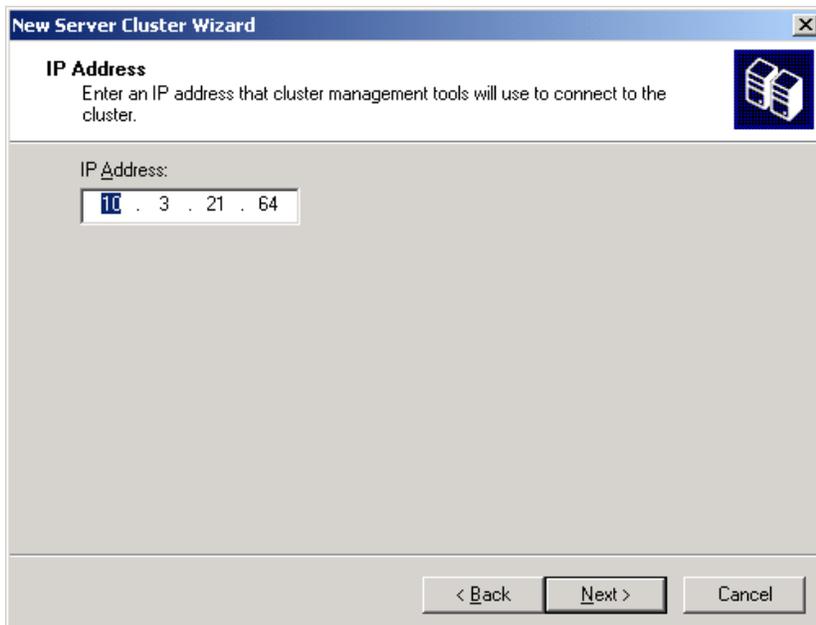
- 7)  Capture a screen shot. Click **Next** (Figure 150).

**Figure 150: Preliminary Configuration Analysis**



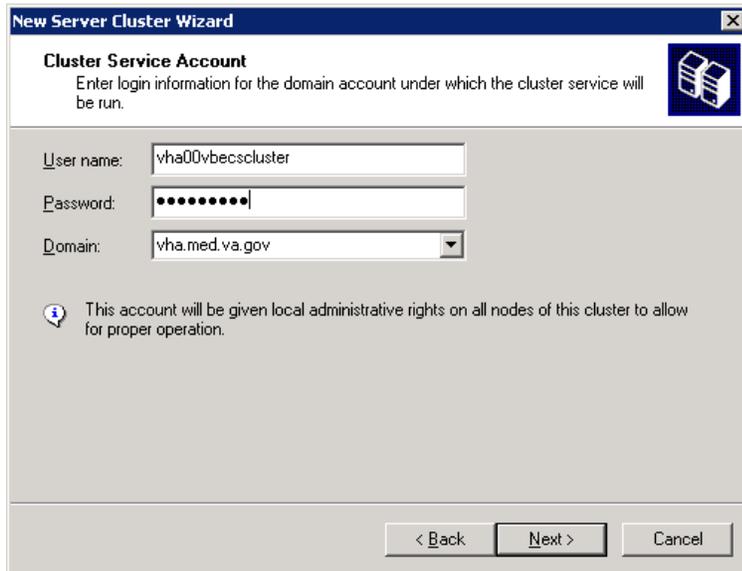
- 8) Enter the IP address from Appendix E: Server Configuration Checklist (Server Hardware Information, Row 6). Click **Next** (Figure 151).

**Figure 151: Example of a Cluster IP Address**



- 9) **DC** Enter **vhaXXvbecscluster** as the cluster service account user name (replace “XX” with your two-digit VISN ID). For a data center installation, enter **RXXVBESVCCLU01** (replace “XX” with your two-digit region ID). For an EPS installation, enter **vhaEPSvbecsCluster**. Enter the password (see Appendix H: Password List). Click **Next** (Figure 152).

**Figure 152: Example of a Setting the Cluster Service Account**

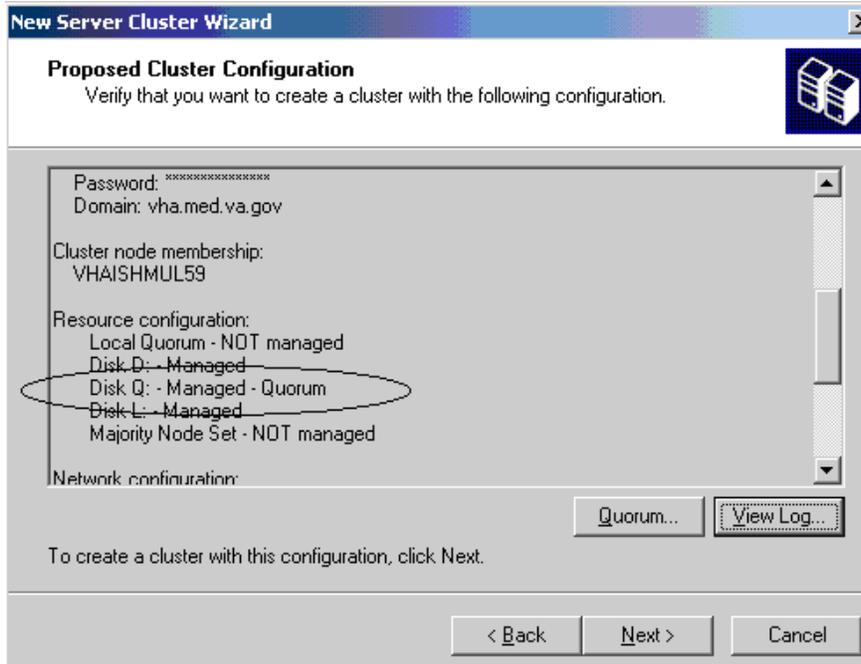


The screenshot shows a Windows-style dialog box titled "New Server Cluster Wizard". The main heading is "Cluster Service Account" with a sub-instruction: "Enter login information for the domain account under which the cluster service will be run." There are three input fields: "User name:" containing "vha00vbecscluster", "Password:" with masked characters, and "Domain:" with a dropdown menu showing "vha.med.va.gov". An information icon and text state: "This account will be given local administrative rights on all nodes of this cluster to allow for proper operation." At the bottom are buttons for "< Back", "Next >", and "Cancel".

- 10) In the “Proposed Cluster Configuration” window, if the quorum is not set to “Disk Q,” click **Quorum**. Change the quorum to “Disk Q.”

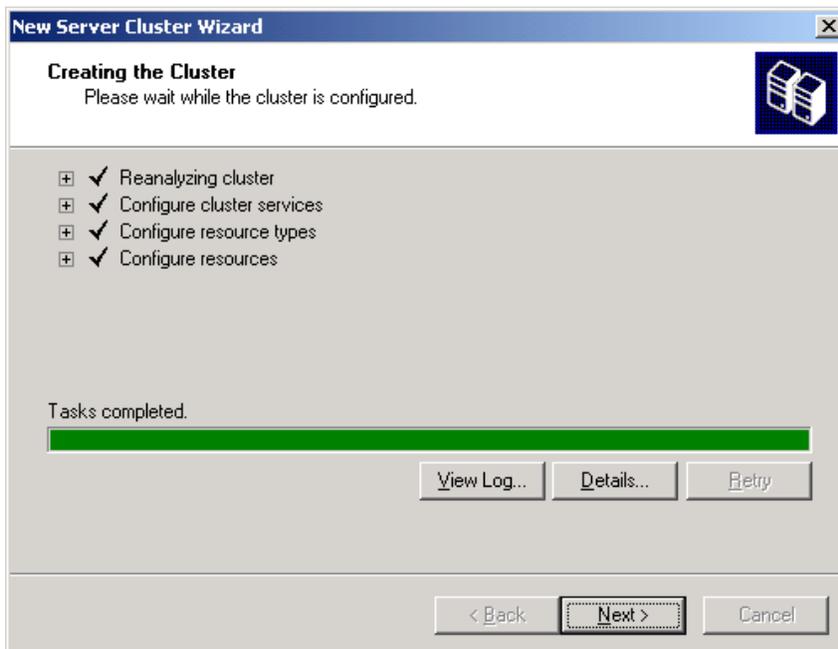
11)  Capture a screen shot. Click **Next** (Figure 153).

**Figure 153: Example of a Cluster Resource Configuration**



12) The cluster will be created. Click **Next** (Figure 154).

**Figure 154: New Server Cluster Wizard**



13) Click **Finish** (Figure 155).

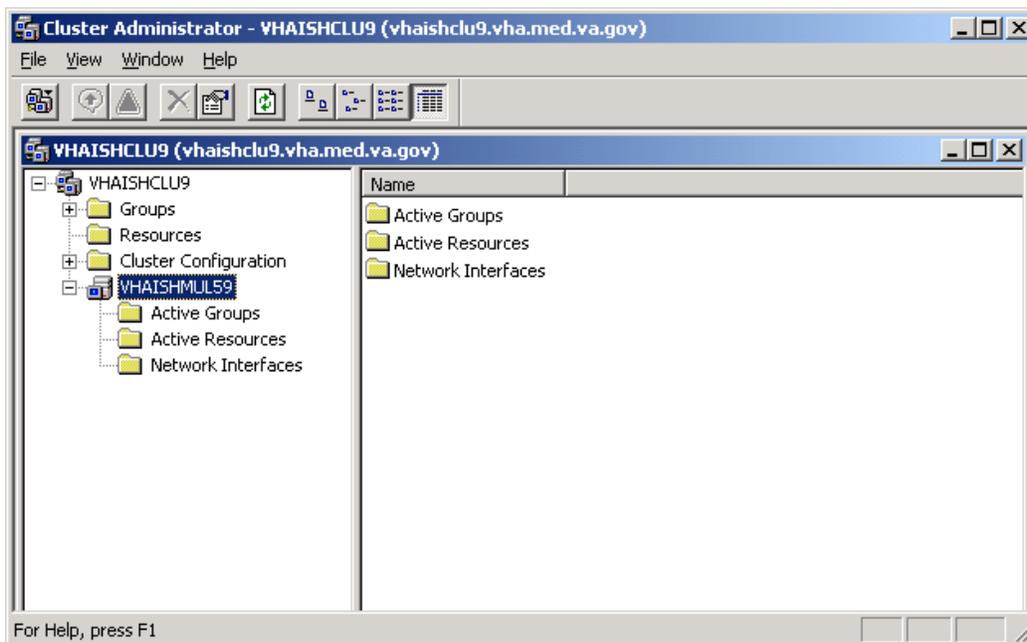
**Figure 155: Finished with Node 1**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

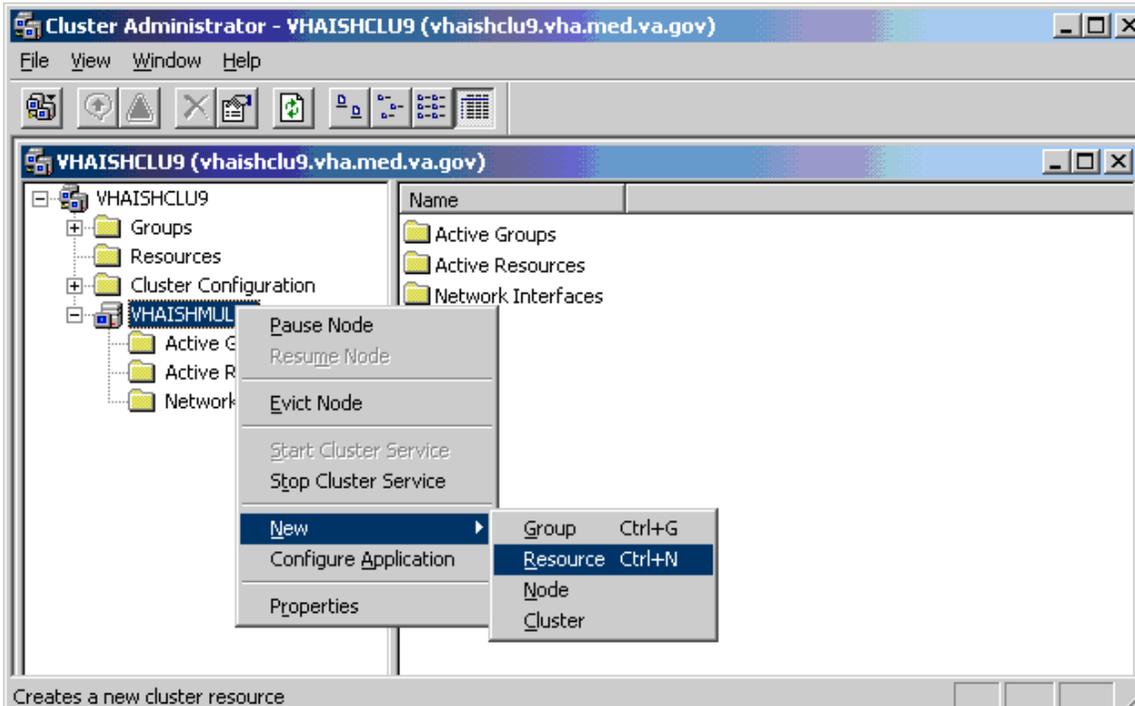
14) The Cluster Administrator window shows the finished cluster for Node 1 (Figure 156).

**Figure 156: Example of Cluster Administrator on Node 1**



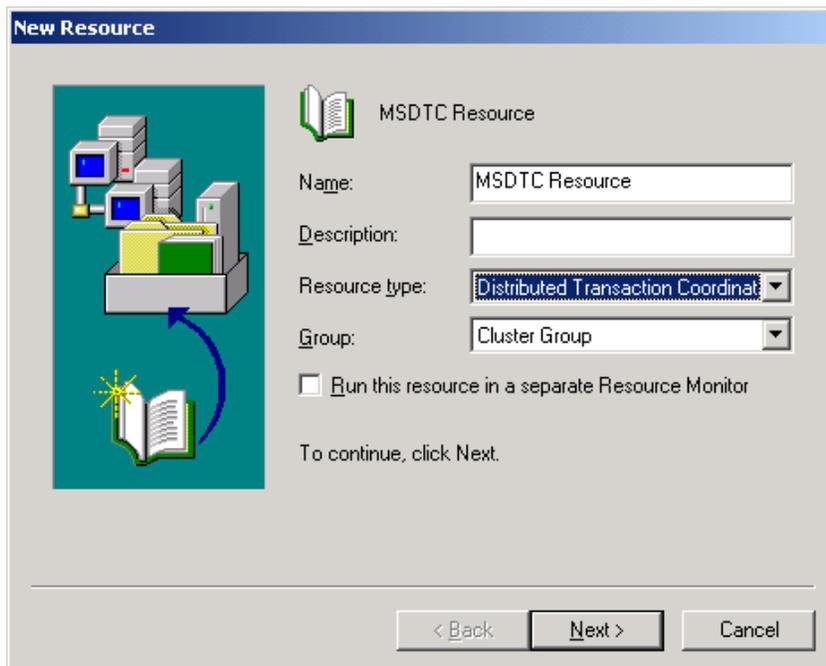
15) Right click the node 1 server name and select **New, Resource** (Figure 157).

**Figure 157: Example of Adding a Resource**



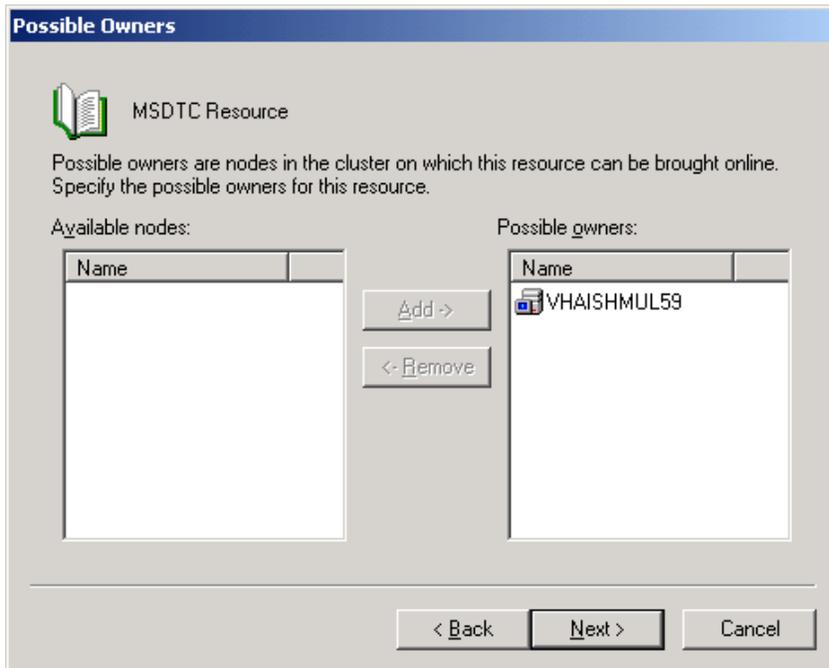
16) In the New Resource screen, enter **MSDTC Resource** as the name. Select **Distributed Transaction Coordinator** from the “Resource type” drop-down menu. Leave **Cluster Group** as the “Group”. Click **Next** (Figure 158).

**Figure 158: New Resource**



17) Click **Next** (Figure 159).

**Figure 159: Example of Possible Owners**

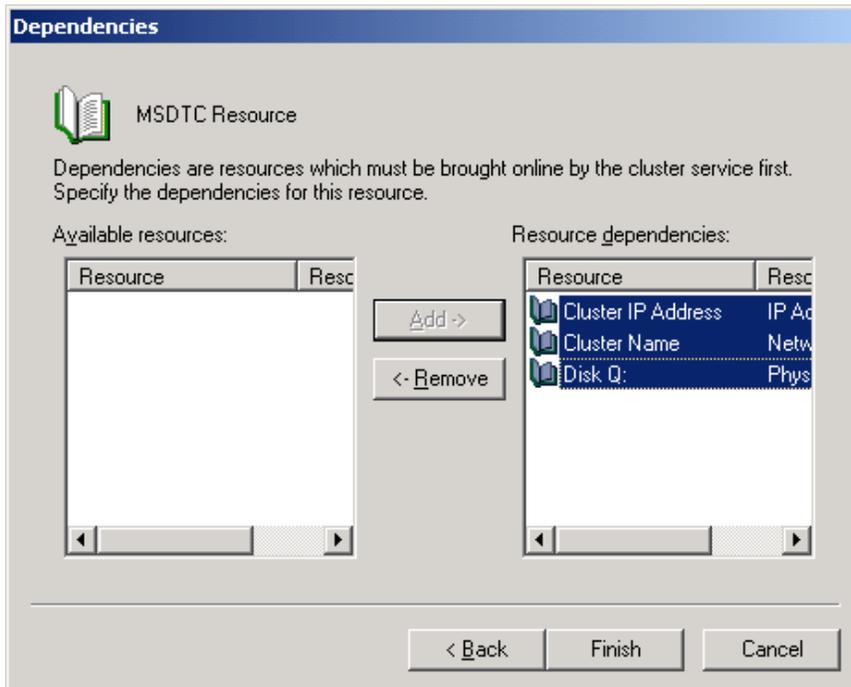


18) Select **Cluster IP Address** under Available resources. Click **Add** to add it as a resource dependency.

19) Select **Cluster Name** and click **Add**.

20) Select **Disk Q:** and click **Add**. Click **Finish** (Figure 160).

**Figure 160: Dependencies**



- 21) Verify that “Cluster resource ‘MSDTC Resource’ created successfully appears. Click **OK** (Figure 161).

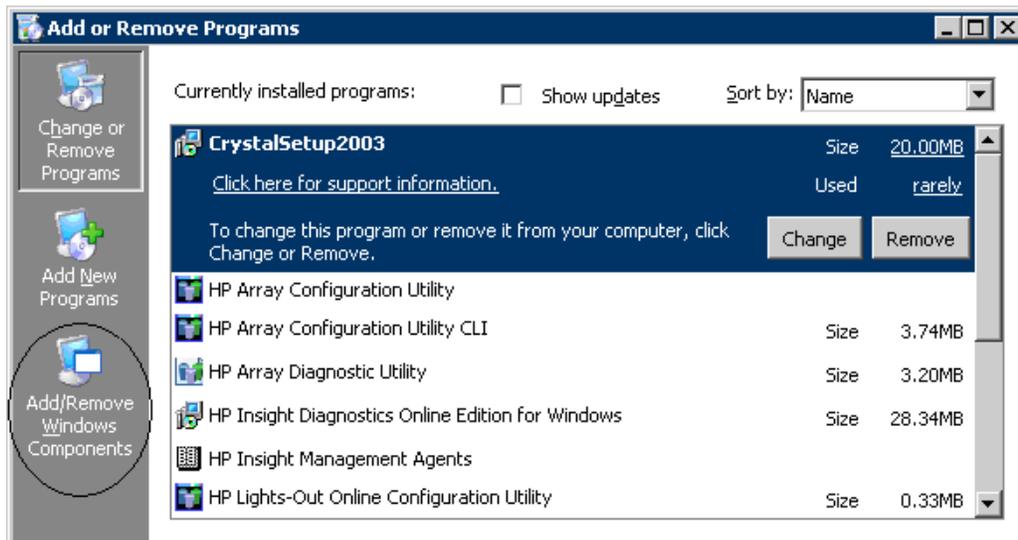
**Figure 161: Cluster Administrator**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

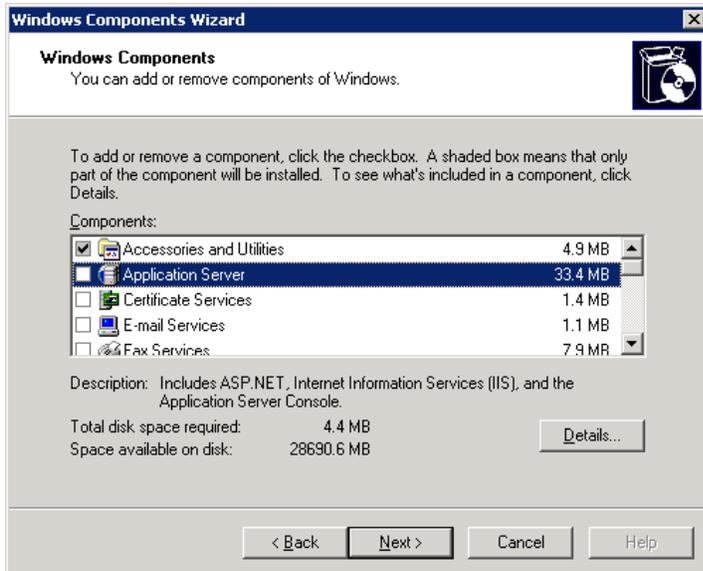
- 22) ② Instruct server support staff to turn on Server 2.  
23) Log in with your Windows ID.  
24) Click **Start, Control Panel, Add or Remove Programs**.  
25) Click **Add/Remove Windows Components** (Figure 162).

**Figure 162: Add or Remove Programs**



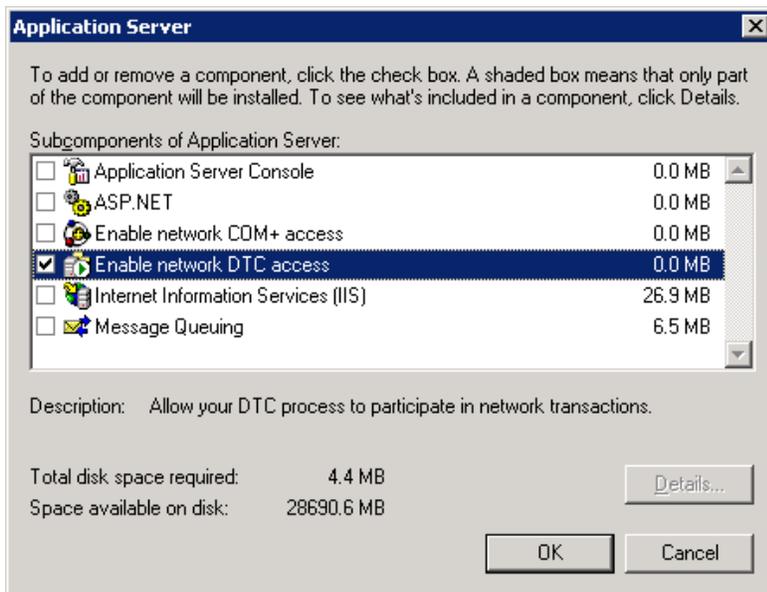
26) Select **Application Server** (do not check the check box). Note that Accessories and Utilities will already be checked. Click **Details** (Figure 163).

**Figure 163: Windows Components Wizard**



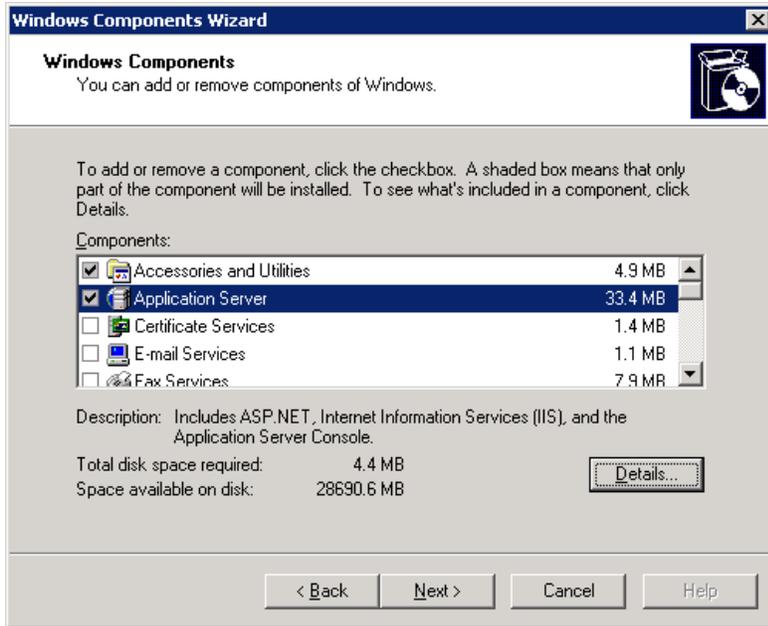
27) Check the **Enable network DTC access** check box. Click **OK** (Figure 164).

**Figure 164: Application Server**



28) Application Server is now checked. Click **Next** (Figure 165). Wait for the components to be installed.

**Figure 165: Windows Component Wizard**



29) Click **Finish** (Figure 166). Close the Add or Remove Programs dialog and Control Panel.

**Figure 166: Windows Components Wizard**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 30) ❶ Log into Server 1 with your Windows ID.
- 31) Click **Start, Administrative Tools, Cluster Administrator.**
- 32) To open the Add Nodes Wizard, right click the cluster in Cluster Administrator. Select **New, Node** (Figure 167).

**Figure 167: Add Cluster Node 2**



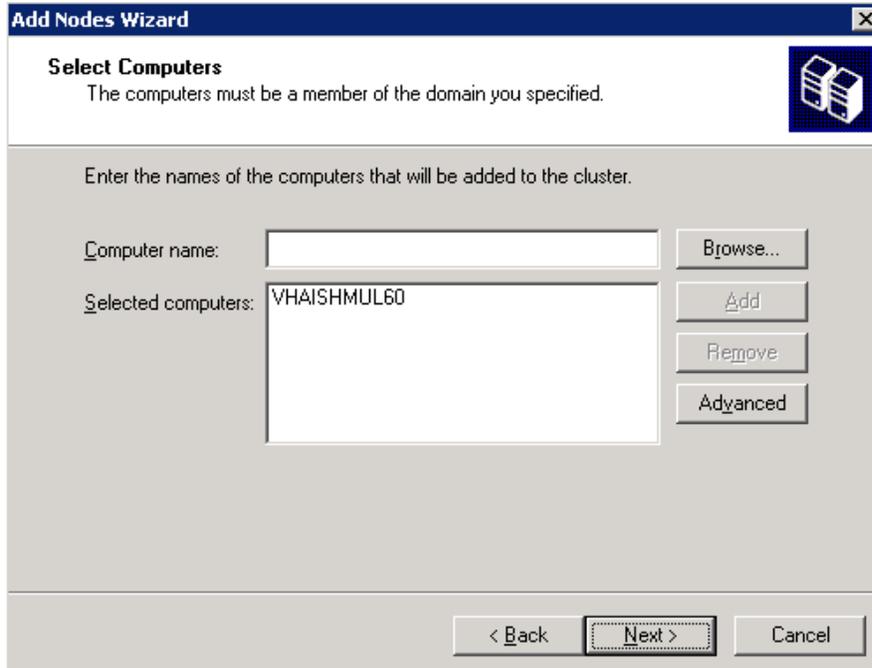
- 33) Click **Next** (Figure 168).

**Figure 168: Add Nodes Wizard**



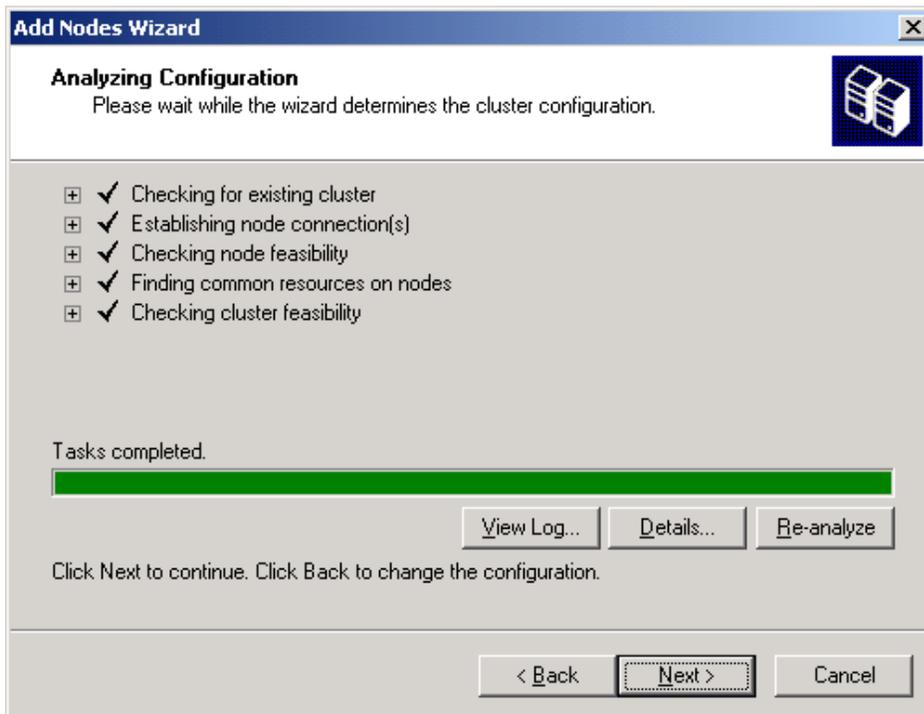
34) Enter the Server 2 name [Appendix E: Server Configuration Checklist (Server Hardware Information, Row 3)] in the **Computer name** field and click **Add**. Click **Next** (Figure 169).

**Figure 169: Example of Selecting a Node**



35) Click **Next** (Figure 170).

**Figure 170: Add Nodes Wizard**



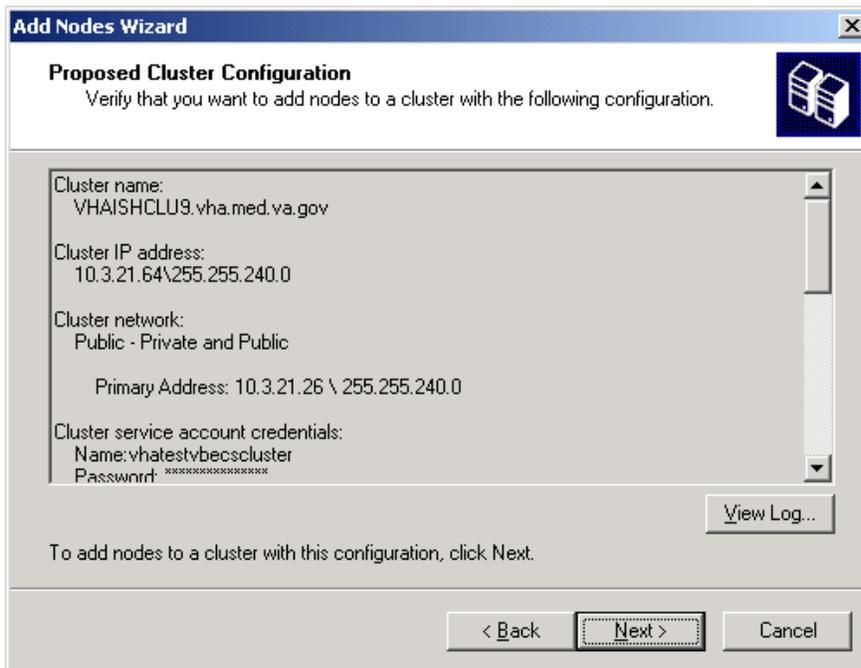
36) Enter the Cluster Service Account password (see Appendix H: Password List). Click **Next** (Figure 171).

**Figure 171: Example of Entering Cluster Service Account**



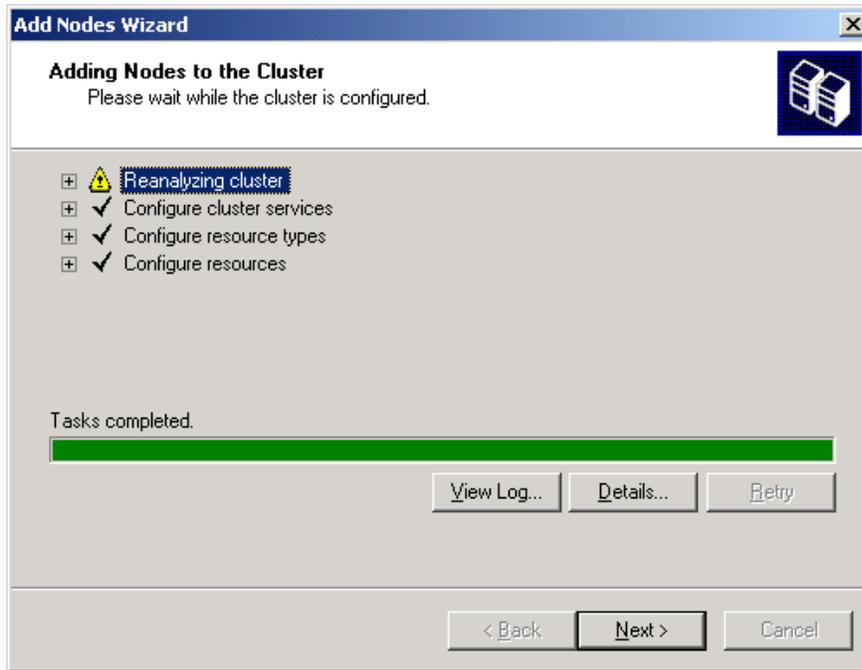
37) Click **Next** (Figure 172).

**Figure 172: Example of Cluster Configuration**



38) The node is added. Disregard the warning icon (⚠) next to **Reanalyzing cluster**. Click **Next** (Figure 173).

**Figure 173: Add Nodes Wizard**



39) Click **Finish** to complete the installation (Figure 174).

**Figure 174: Add Nodes Wizard**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## 2 Install SQL Server

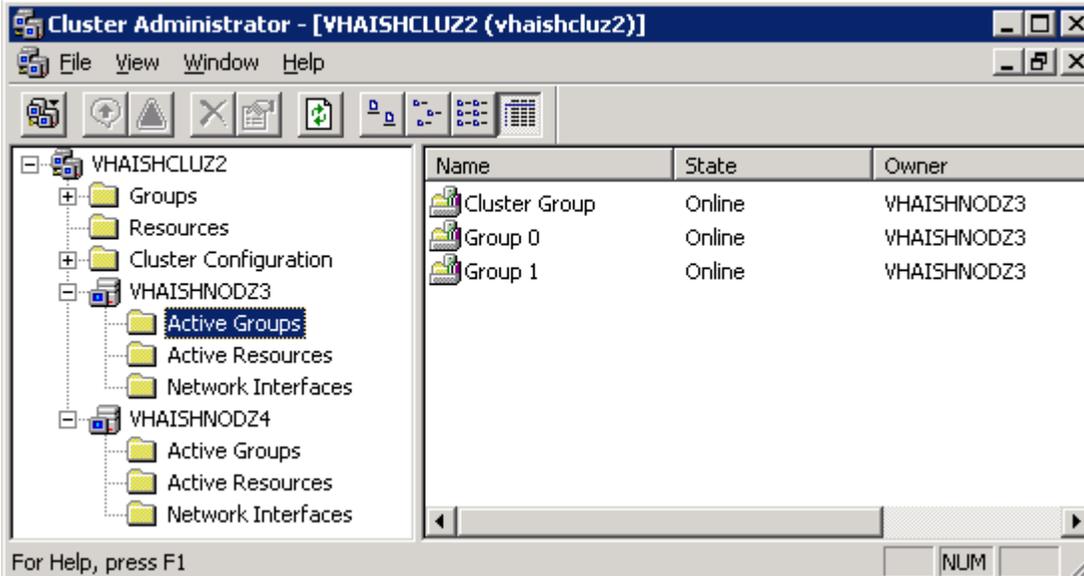
When SQL Server is installed in a cluster environment:

- SQL Server must be installed on a single node virtual server and the second node must be added to the SQL Server failover cluster.
- After setting up the cluster, SQL Server Service Pack 4 must be installed. Only then may SQL Server be configured and the VBECS databases deployed.

### Verify the Cluster State

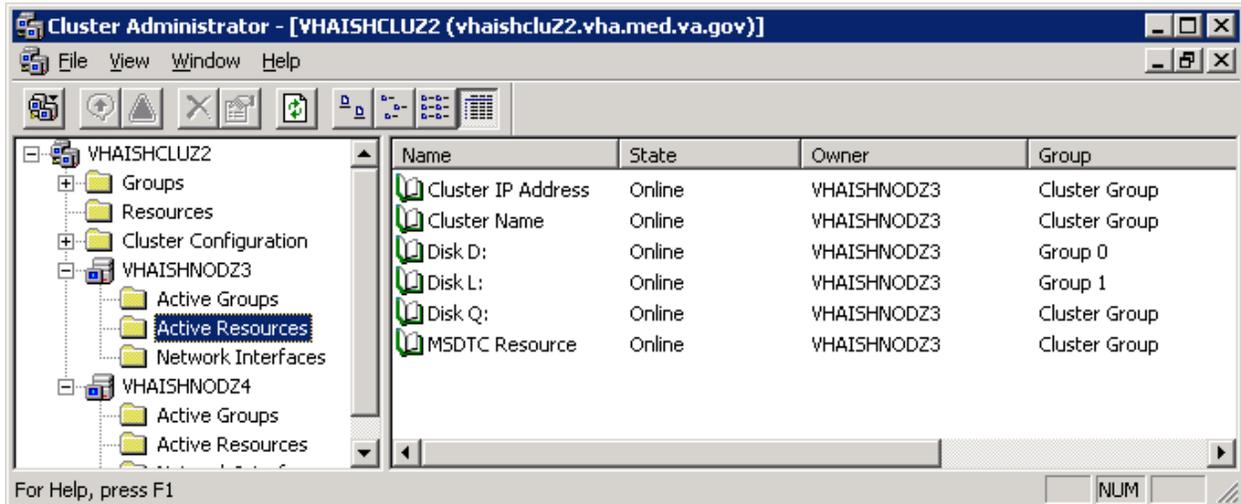
- 1) **1** Log into Server 1 with your Windows ID.
- 2) Verify the cluster state and disk configuration: click **Start, Administrative Tools, Cluster Administrator**.
- 3)  Click **Active Groups** under both nodes. Verify that one active group is similar to Figure 175; the state of Cluster Group, Group 0, and Group 1 is “Online.” If a resource is not online, right click it and select **Bring Online**. Capture a screen shot.

**Figure 175: Example of Active Groups**



- 4)  Click **Active Resources** under both servers. Verify that one of them is similar to Figure 176; the state of the six resources is “Online.” If a resource is not online, right click it and select **Bring Online**. Capture a screen shot.

**Figure 176: Example of Active Resources**



- 5) **1** To restart Server 1, click **Start, Shut Down**. Select **Restart**. Enter **cluster install** in the Comment field and click **OK**.
- 6) **2** To restart Server 2, click **Start, Shut Down**. Select **Restart**. Enter **cluster install** in the Comment field and click **OK**.

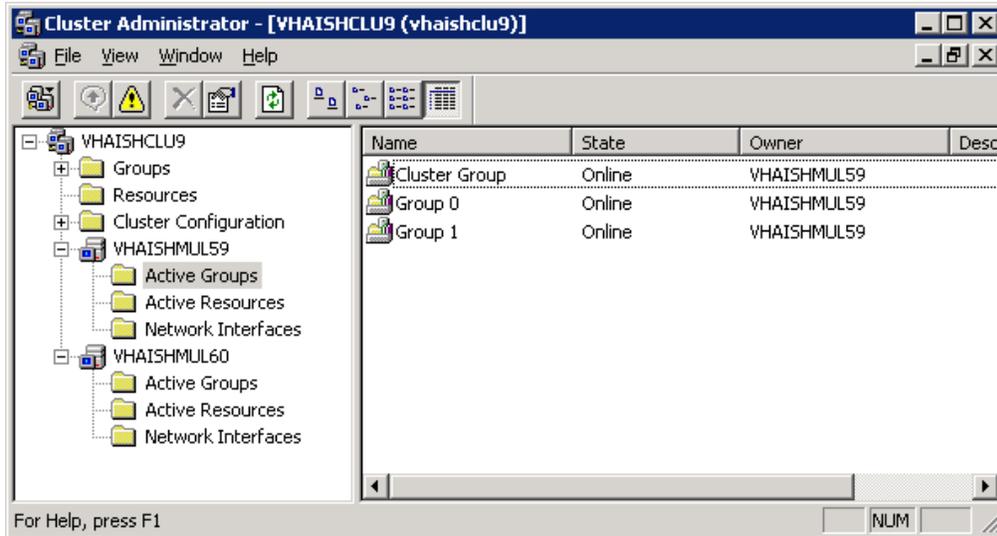
 *If the installer attempted to install SQL Server on the cluster and the setup was interrupted, some resources may be offline. Failure to bring them online may halt the installation.*

### Install the SQL Server Single Node Virtual Server

- 1) **1** Log into Server 1 with your Windows ID.

- 2) Click **Active Groups** under Server 1 in Cluster Administrator. Verify that one active group is similar to Figure 177; the state of Cluster Group, Group 0, and Group 1 is “Online.” If a resource is not online, right click it and select **Bring Online**.

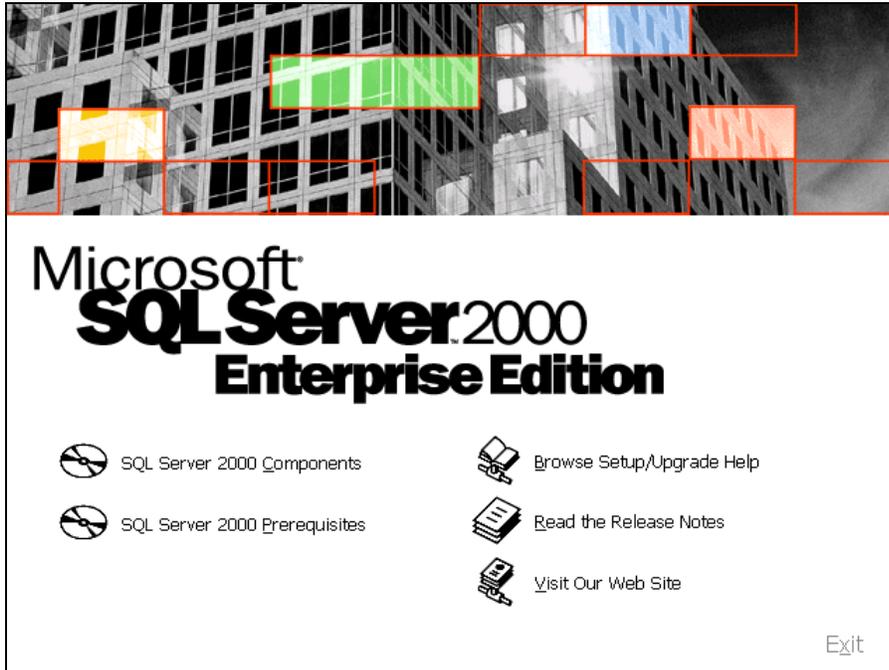
**Figure 177: Example of Cluster Administrator**



 *The installation process requires restarting both cluster nodes several times. This may cause a cluster to fail over to another node. Verify which node is active before installing SQL Server and the SQL Server service pack. Failure to install on the active node will halt the installation and cause further problems.*

- 3) Click **Start, Windows Explorer**. Navigate to the **c:\software\SQL Server 2000** folder. Double click **autorun.exe**. Click **SQL Server 2000 Components**. (Figure 178).

**Figure 178: SQL Server Installation Screen 1**



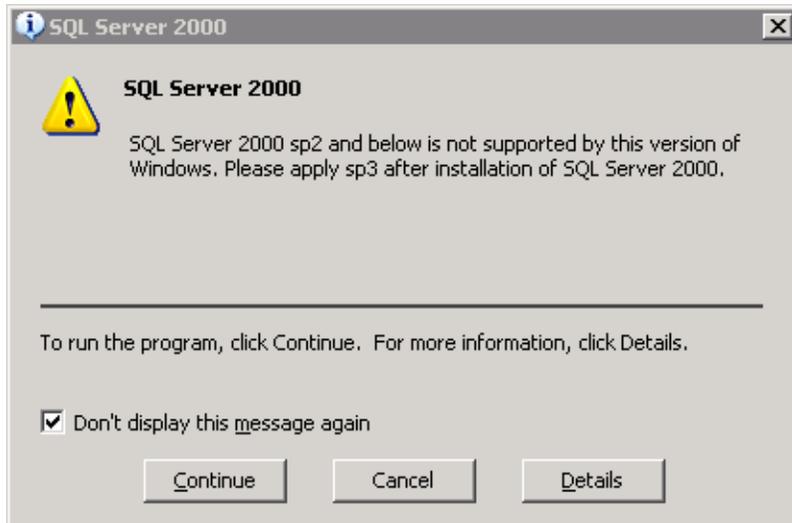
- 4) Click **Install Database Server** (Figure 179).

**Figure 179: SQL Server Installation Screen 2**



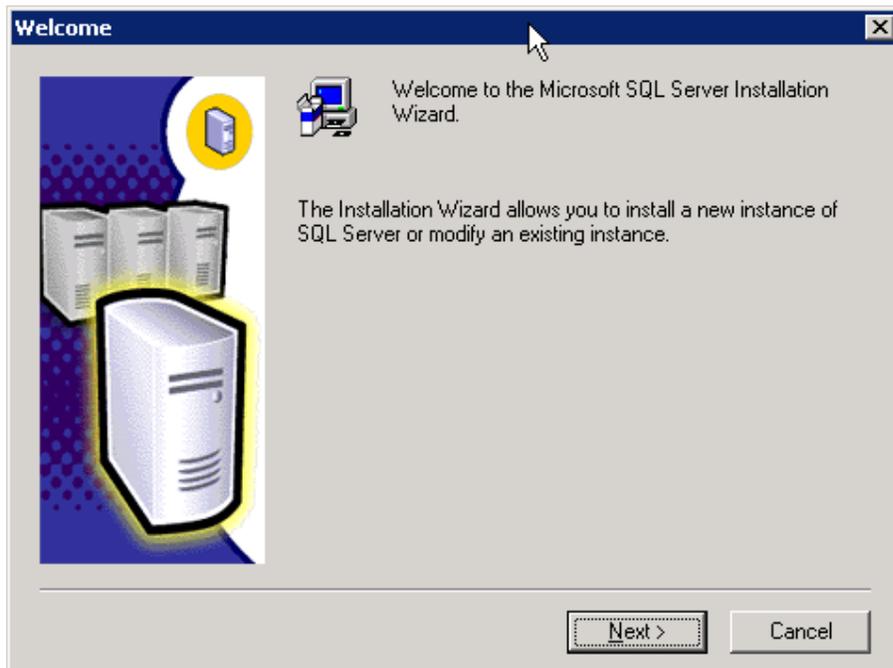
- 5) If the SQL Server 2000 warning dialog appears (it may not appear if SQL Server was installed or registry settings were changed during Microsoft SQL Server patch deployments), check the **Don't display this message again** check box. Click **Continue** (Figure 180).

**Figure 180: SQL Server 2000 Installation Warning**



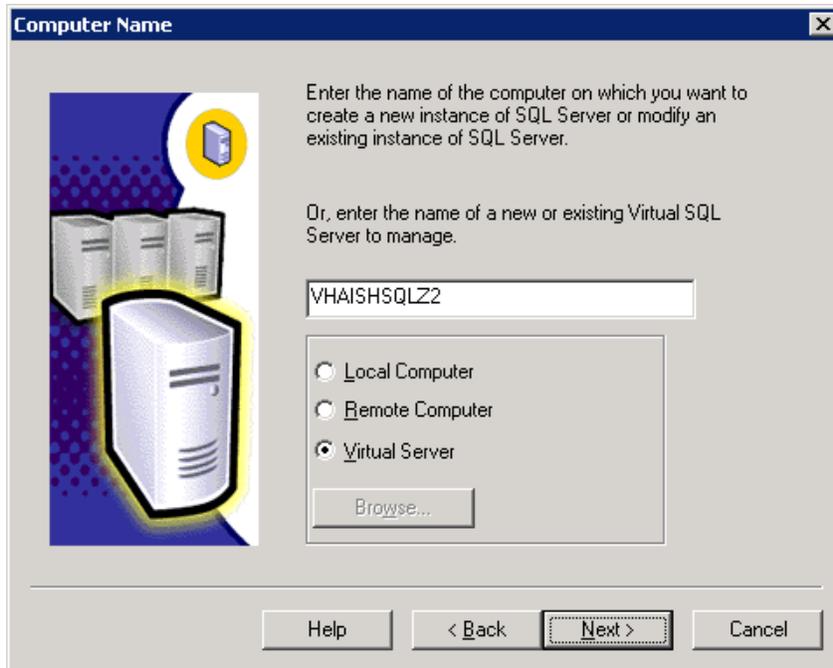
- 6) Click **Next** (Figure 181).

**Figure 181: SQL Server Installation Welcome**



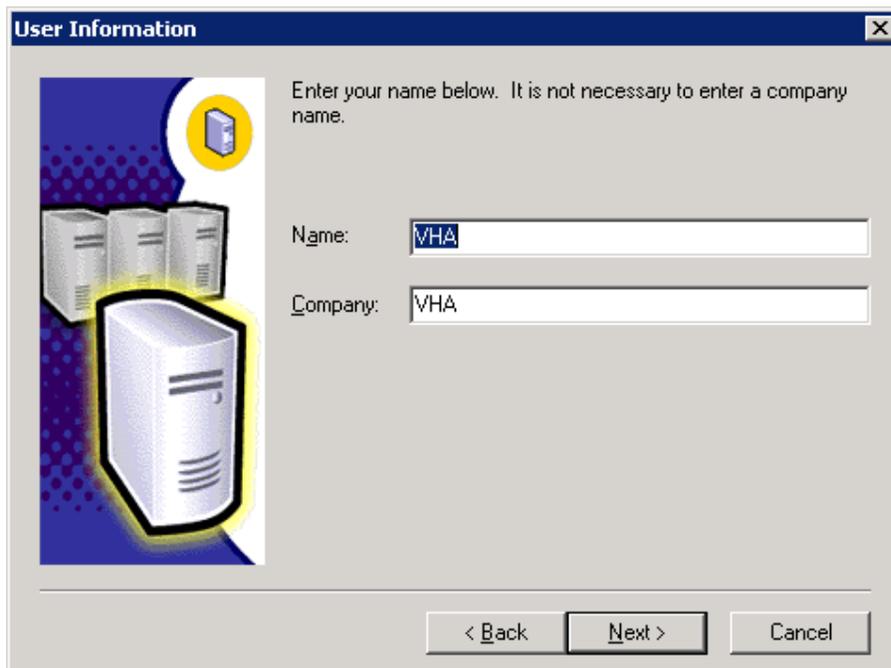
- 7)  Click the **Virtual Server** radio button. Enter the SQL Server virtual server network name [from Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server Network Name, Row 7)] in the field. Capture a screen shot. Click **Next** (Figure 182).

**Figure 182: Example of SQL Server Installation Computer Name**



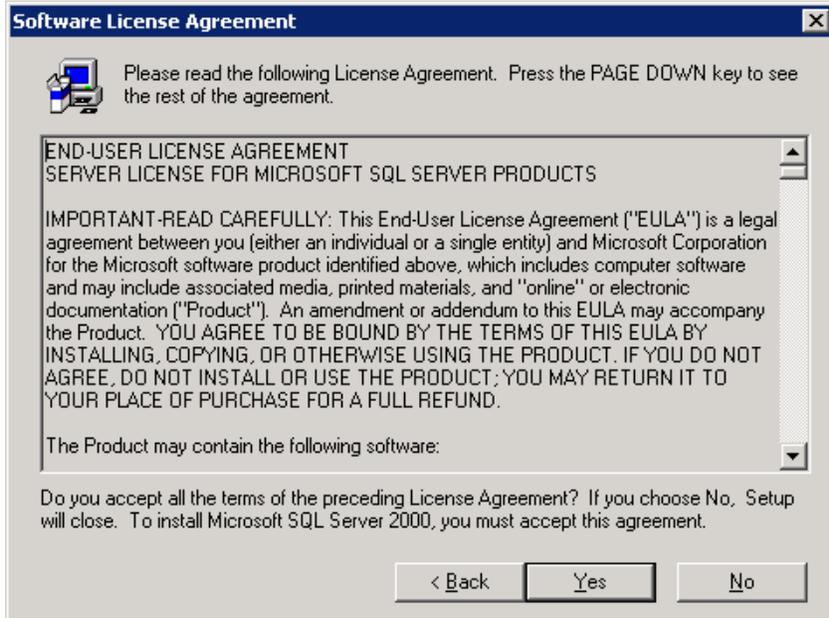
- 8) Enter **VHA** in the Name and Company fields. Click **Next** (Figure 183).

**Figure 183: SQL Server Installation User Information**



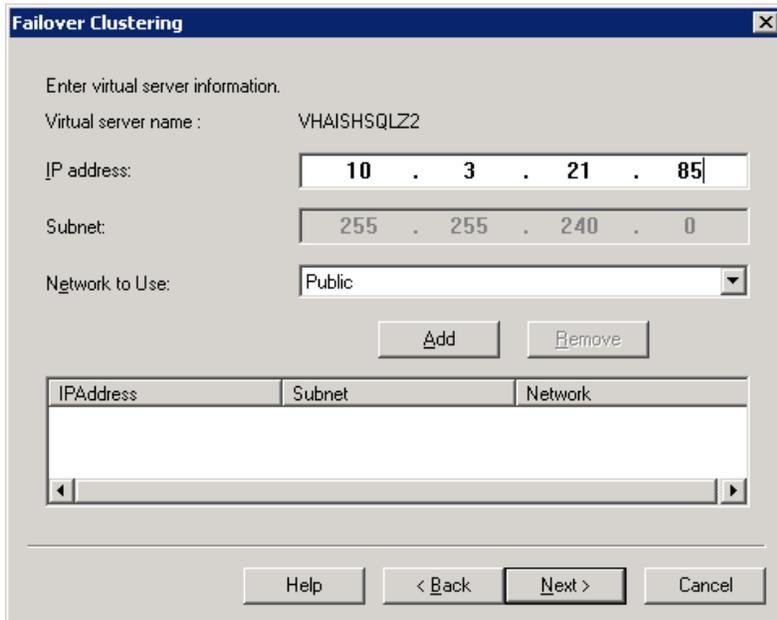
9) In the Software License Agreement dialog, click **Yes** (Figure 184).

**Figure 184: SQL Server Installation Software License Agreement**



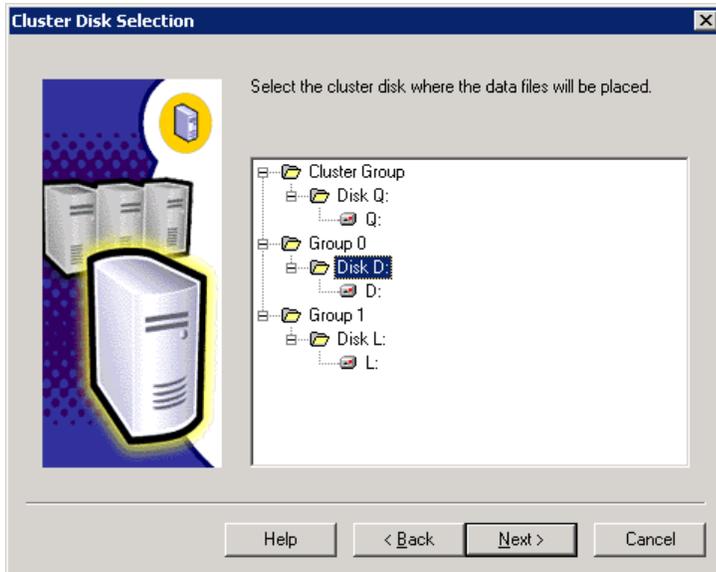
10)  Select **Public** from the “Network to Use” drop-down menu. Enter the SQL Server virtual server IP address [from Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server IP Address, Row 8)] in the IP address field. Click **Add**. Capture a screen shot. Click **Next** (Figure 185).

**Figure 185: Example of Configuring Failover Clustering**



- 11) In the Cluster Disk Selection dialog, select **Disk D:** (under Group 0) in which to place the data files. Click **Next** (Figure 186). (The order displayed in Figure 186 may differ from your system display.)

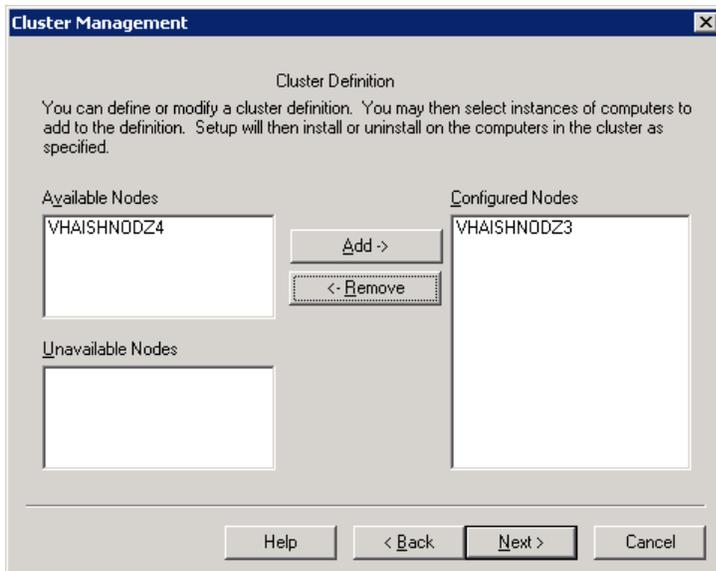
**Figure 186: Cluster Disk Selection**



- 12)  In the Cluster Management dialog, select the inactive cluster node (Server 2) in the Configured Nodes field. Click **Remove** to remove the node. Verify that the Configured Nodes field contains only the active cluster node. Capture a screen shot. Click **Next** (Figure 187).

 *Failure to perform installation to only a single node may cause the installation process to fail.*

**Figure 187: Example of Cluster Management**



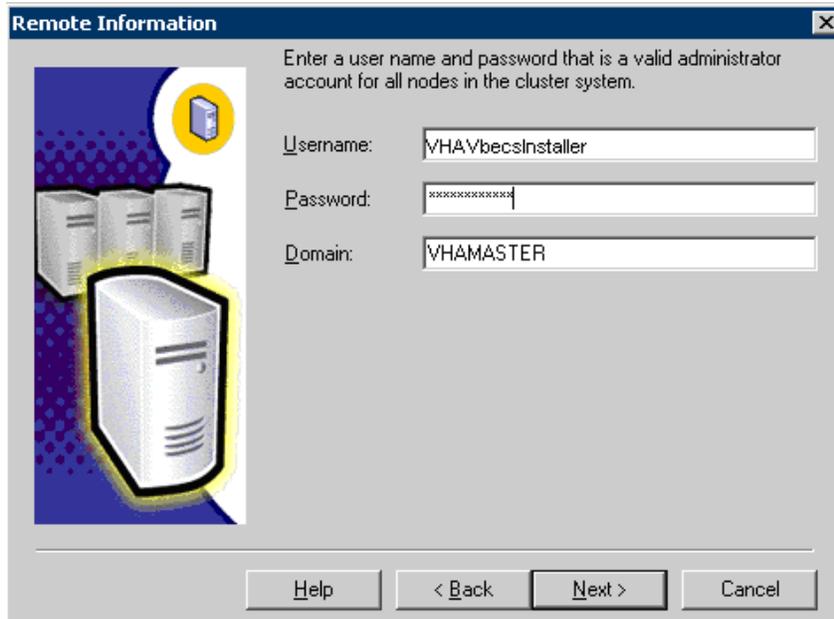
- 13) **DC**  In the Remote Information dialog, enter your Windows user name, password, and **VHAMASTER** as the domain name. (For data center installations, enter the data center domain.) Capture a screen shot.



*Use only domain accounts with access to both cluster nodes.*

- 14) Click **Next** (Figure 188).

**Figure 188: Example of Remote Information**



Remote Information

Enter a user name and password that is a valid administrator account for all nodes in the cluster system.

Username: VHA\vbecsinstaller

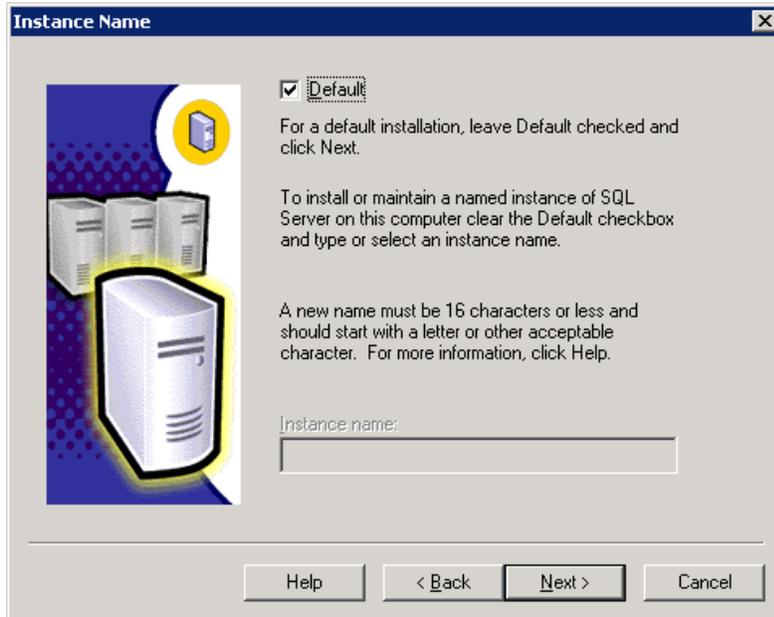
Password: \*\*\*\*\*

Domain: VHAMASTER

Help < Back Next > Cancel

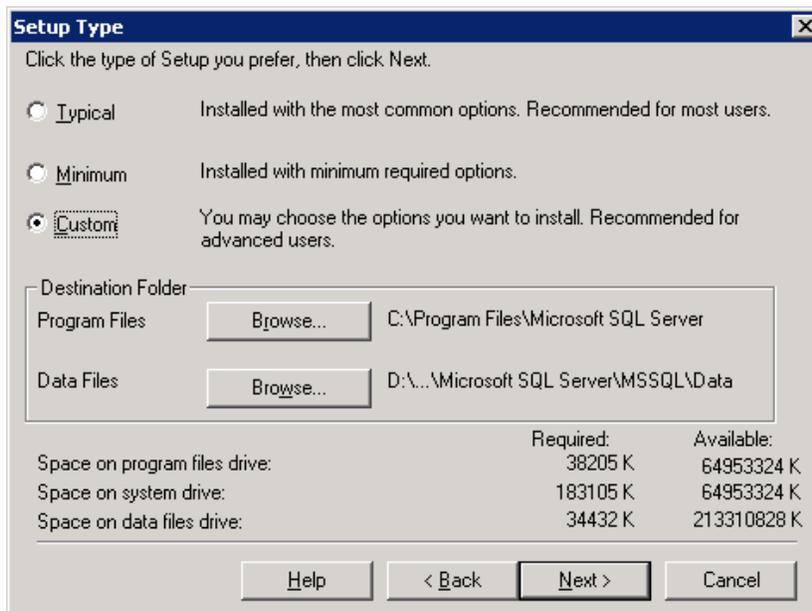
- 15) In the Instance Name dialog, check the **Default** check box (if not already selected). Click **Next** (Figure 189).

**Figure 189: Instance Name**



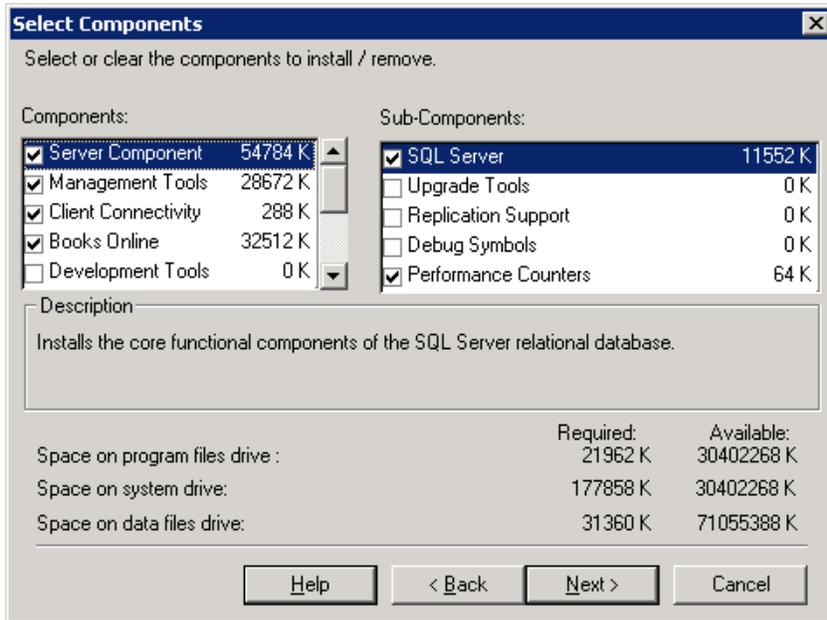
- 16)  In the Setup Type dialog, click the **Custom** radio button. In the “Destination Folder” section, set “Program Files” to **C:\Program Files\Microsoft SQL Server** (default). Set “Data Files” to **D:\Program Files\Microsoft SQL Server\MSSQL\Data**. Capture a screen shot.
- 17) Click **Next** (Figure 190).

**Figure 190: Setup Type**

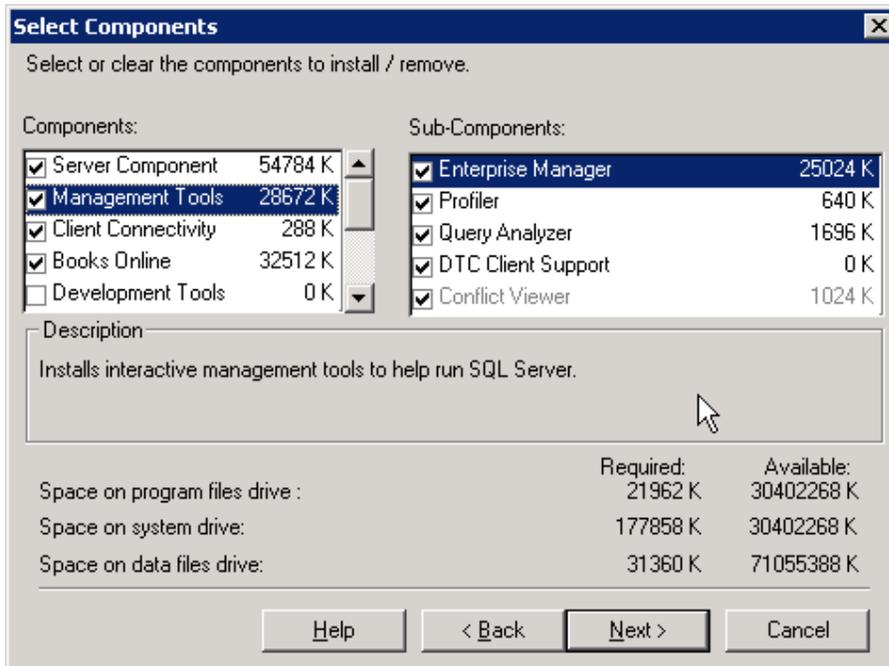


- 18)  In the Select Components dialog, select components and subcomponents to match the corresponding screen captures (Figure 191–Figure 195). Capture screen shots of each.

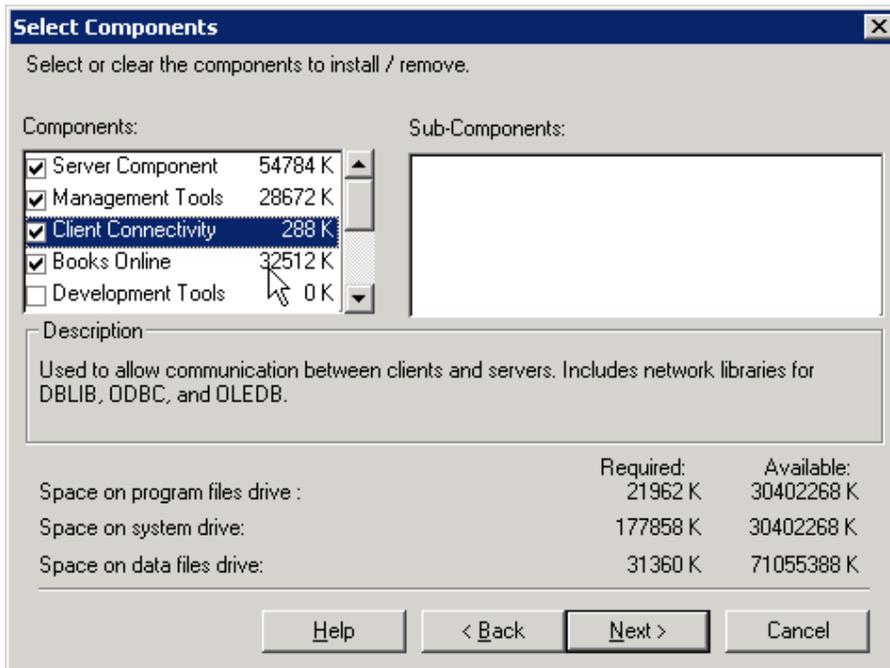
**Figure 191: Select Server Components**



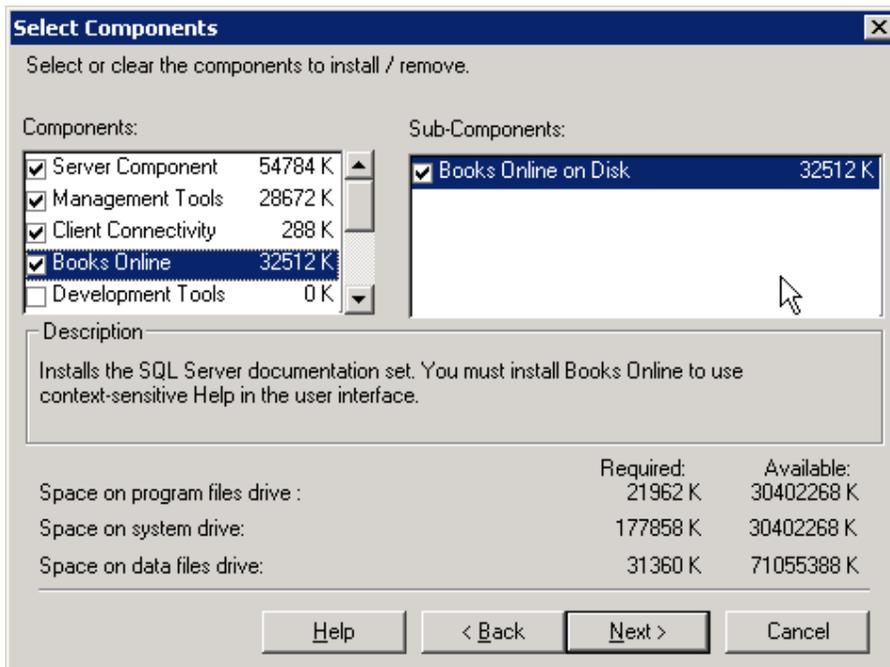
**Figure 192: Select Management Tools**



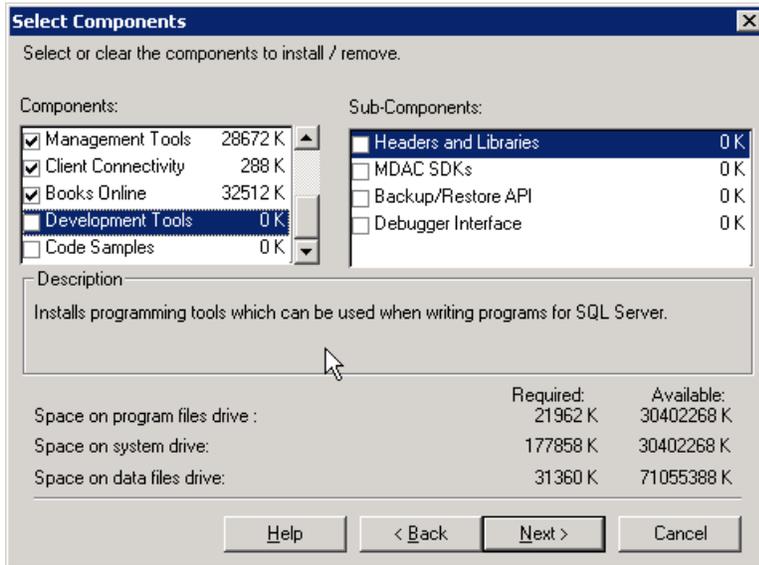
**Figure 193: Select Client Connectivity**



**Figure 194: Select Books Online**



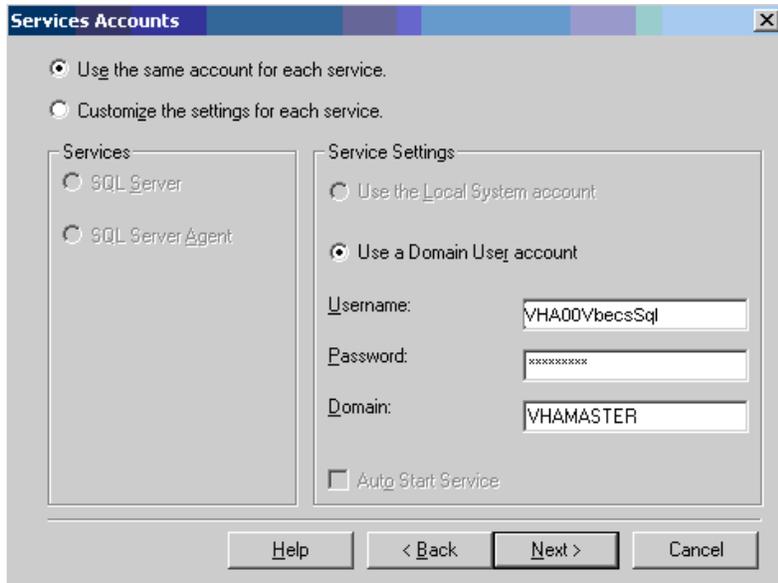
**Figure 195: Select Development Tools**



- 19) Click **Next** (Figure 195).
- 20) In the Services Accounts dialog, click the **Use the same account for each service** radio button.
- 21) **DC** Enter **VHAXXVbecsSql** (replace “XX” with your two-digit VISN ID), the SQL Server service account name, in the Username field. For data center installations, enter **RXXVBESVCSQL01** (replace “XX” with your two-digit region ID). VISN or region information can be found in Appendix D, Contact Information.
- 22) Enter the password provided by the IM in the Password field (see Appendix H: Password List).
- 23) **DC** Enter **VHAMASTER** (for data center installations, enter the data center domain) in the Domain field.

- 24)  Capture a screen shot. Click **Next** (Figure 196).

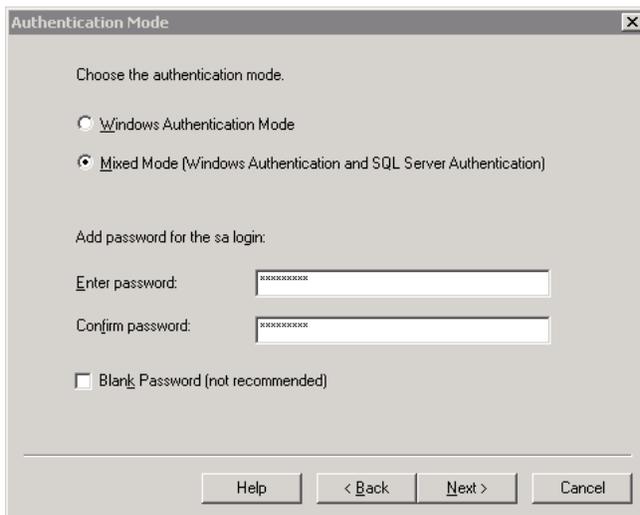
**Figure 196: Example of Services Accounts**



- 25) In the Authentication Mode dialog, click the **Mixed Mode** radio button. Enter the System Administrator (SA) password (see Appendix H: Password List) for the SA login. Uncheck the **Blank Password (not recommended)** check box.

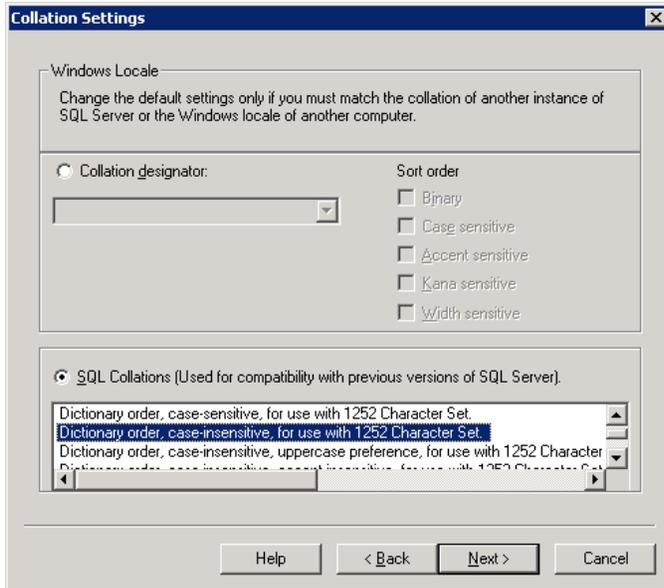
- 26)  Capture a screen shot. Click **Next** (Figure 197).

**Figure 197: Authentication Mode**



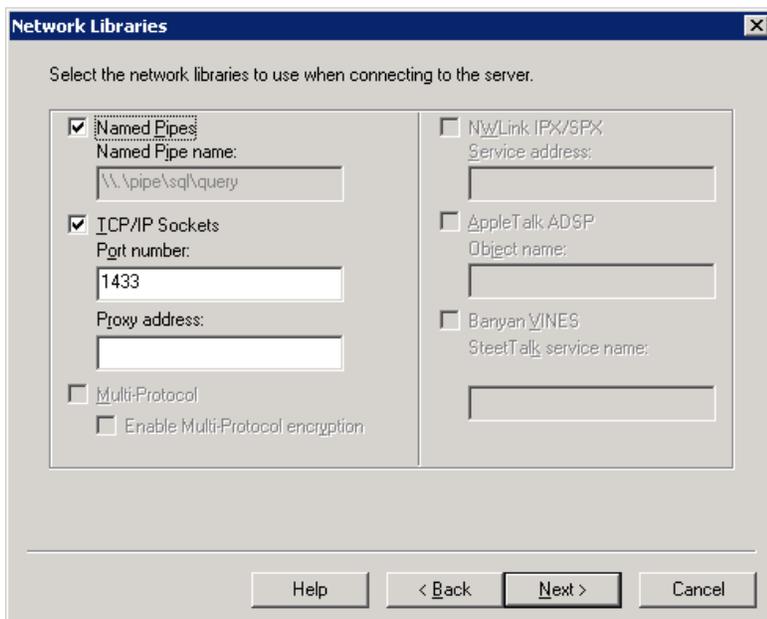
- 27)  In the Collation Settings dialog, click the **SQL Collations** radio button (default). Select **Dictionary order, case-insensitive, for use with 1252 Character Set** (default). Capture a screen shot. Click **Next** (Figure 198).

**Figure 198: Collation Settings**



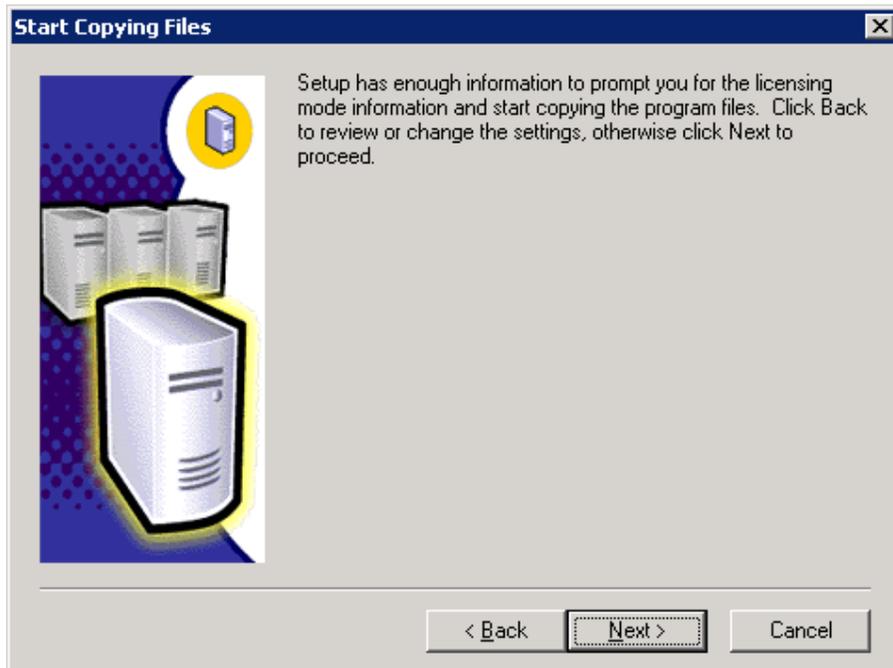
- 28)  In the Network Libraries dialog, check the **Named Pipes** and **TCP/IP Sockets** check boxes if not already checked. Keep the default **Port number**. Capture a screen shot. Click **Next** (Figure 199).

**Figure 199: Network Libraries**



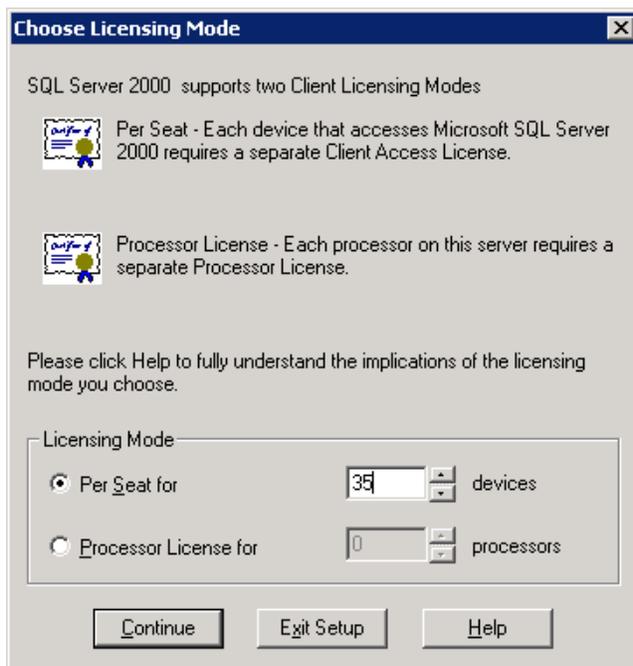
29) In the Start Copying Files dialog, click **Next** (Figure 200).

**Figure 200: Start Copying Files**



30)  In the Select Licensing Mode dialog, click the **Per Seat for** radio button and select **35** from the combo box as the number of devices. Capture a screen shot. Click **Continue** (Figure 201).

**Figure 201: Select Licensing Mode**

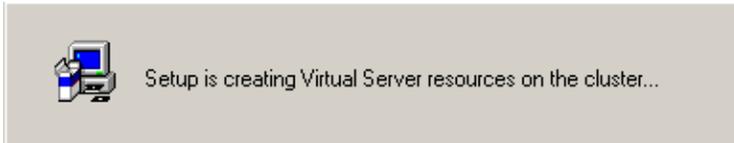


31) The SQL Server virtual server installation will begin. Messages similar to those in Figure 202 and Figure 203 will appear.

**Figure 202: Setup Message 1**



**Figure 203: Setup Message 2**



32) In the Setup Complete dialog, click **Finish** (Figure 204).

**Figure 204: Setup Complete**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 33) ❶ To restart Server 1, click **Start, Shut Down**. Select **Restart**. Enter **SQL Install** in the Comment field. Click **OK**.
- 34) ❷ To restart Server 2, click **Start, Shut Down**. Select **Restart**. Enter **SQL Install** in the Comment field. Click **OK**.



*Failure to restart both cluster nodes may halt the installation.*

## Add the Second Node to the SQL Server Failover Cluster

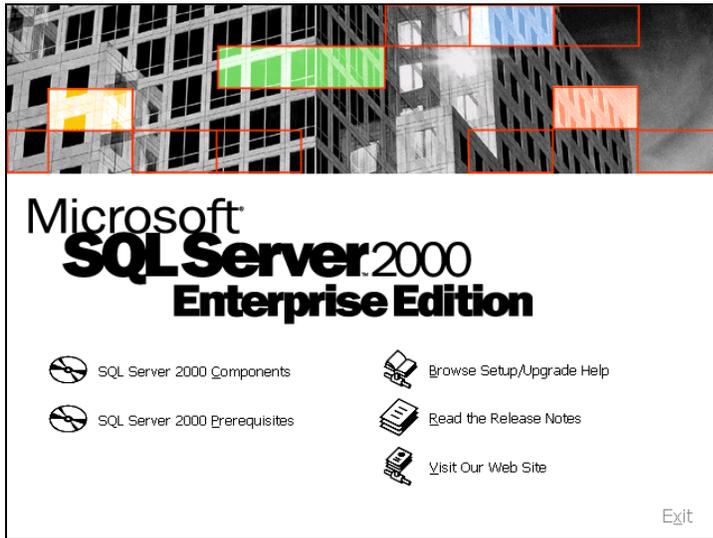
- 1) **1** Log into Server 1 (the server on which you installed SQL Server) with your Windows ID.
- 2) Open Cluster Administrator. Make sure that “Cluster Group,” “Group 0,” and “Group 1” are in the Active Groups list of the node you on which you installed SQL Server. If not, drag and drop those groups to the Active Groups list on that server.



*Steps 3–8 are identical to those for setting up the first node.*

- 3) Click **Start, Windows Explorer**. Open the `c:\software\SQL Server 2000` folder, and double click `autorun.exe`.
- 4) Click **SQL Server 2000 Components** (Figure 205).

**Figure 205: SQL Server Installation Screen 1**



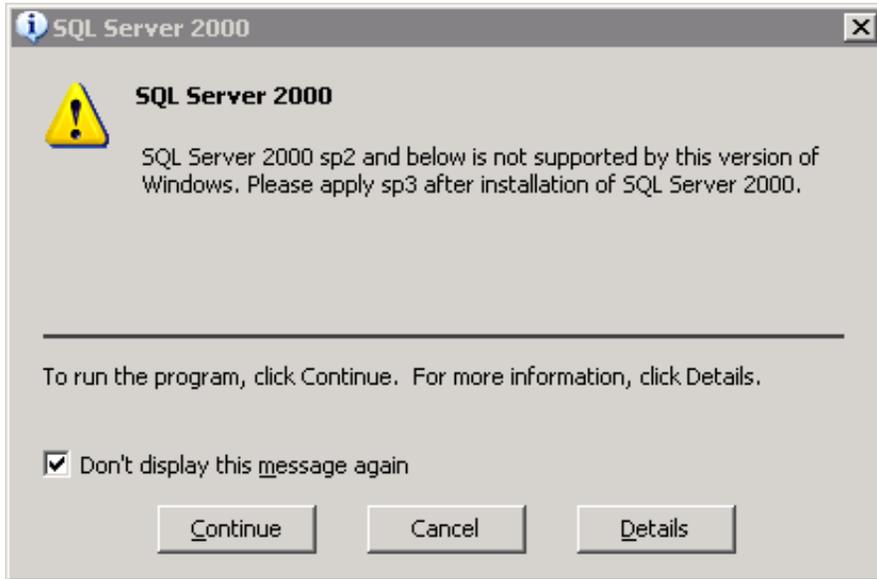
- 5) Click **Install Database Server** (Figure 206).

**Figure 206: SQL Server Installation Screen 2**



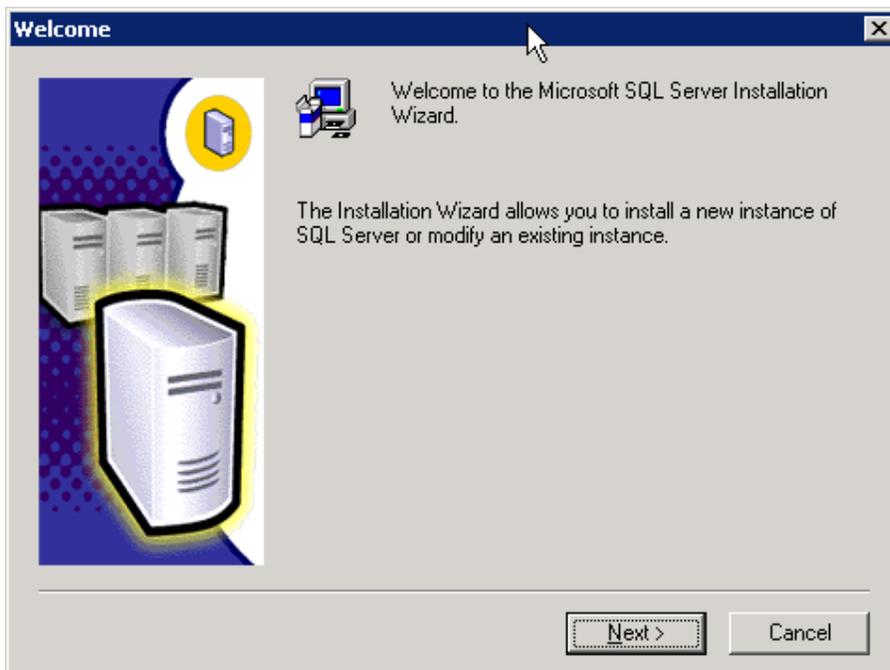
- 6) If the SQL Server 2000 warning dialog appears (it may not appear if SQL Server was installed or registry settings were changed during Microsoft SQL Server patch deployments), check the **Don't display this message again** check box. Click **Continue** (Figure 207).

**Figure 207: SQL Server Installation Warning**



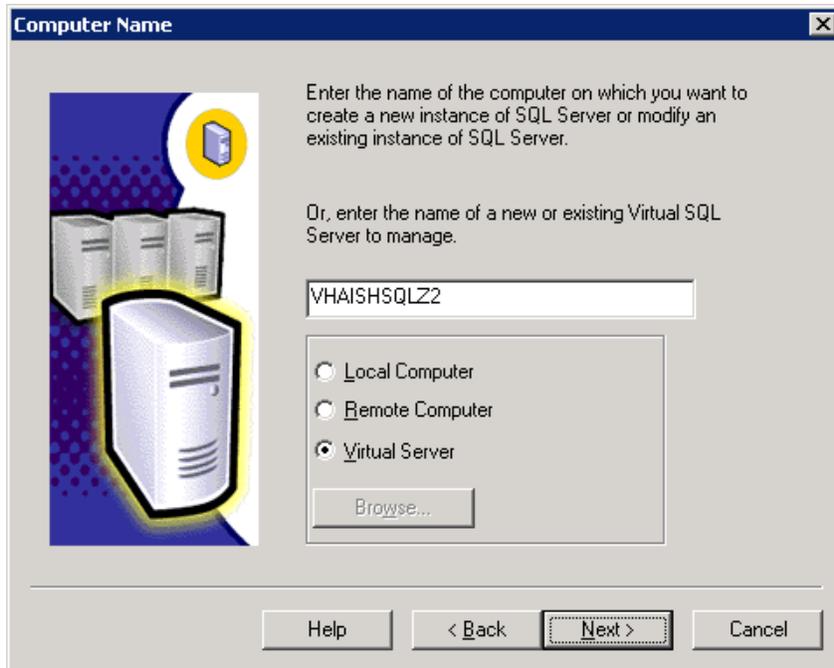
- 7) Click **Next** (Figure 208).

**Figure 208: SQL Server Installation Welcome**



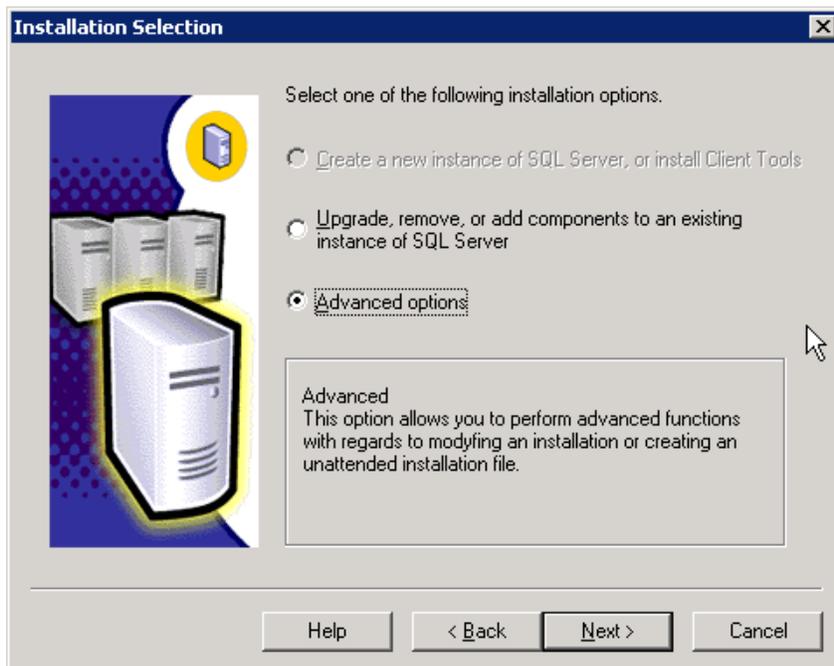
- 8)  Click the **Virtual Server** radio button. Enter the SQL Server virtual server network name [from Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server Network Name, Row 7)] in the field. Capture a screen shot. Click **Next** (Figure 209).

**Figure 209: Example of SQL Server Installation Computer Name**



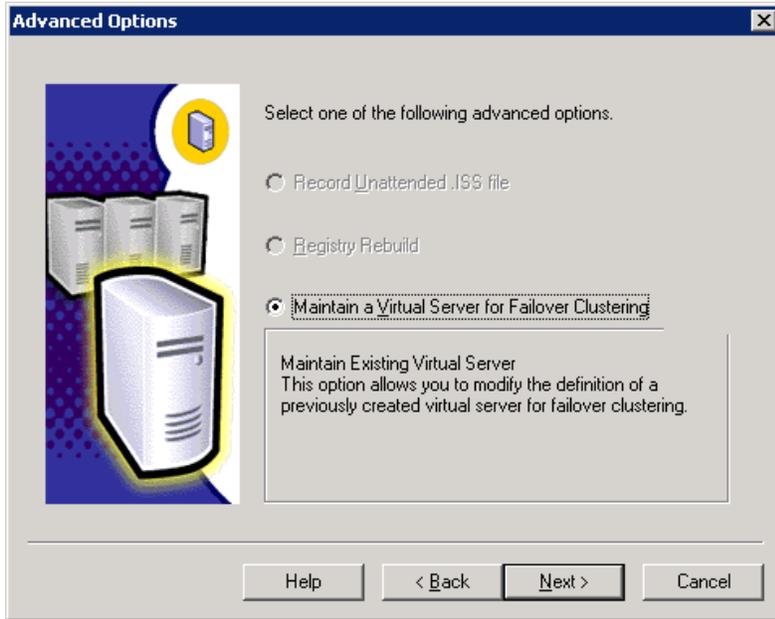
- 9) Click the **Advanced options** radio button. Click **Next** (Figure 210).

**Figure 210: Installation Selection**



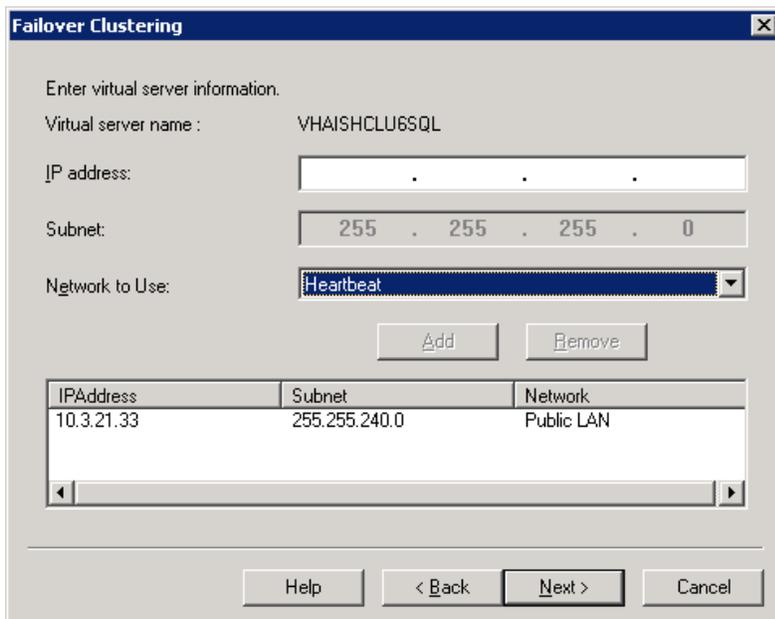
- 10) Click the **Maintain a Virtual Server for Failover Clustering** radio button. Click **Next** (Figure 211).

**Figure 211: Advanced Options**



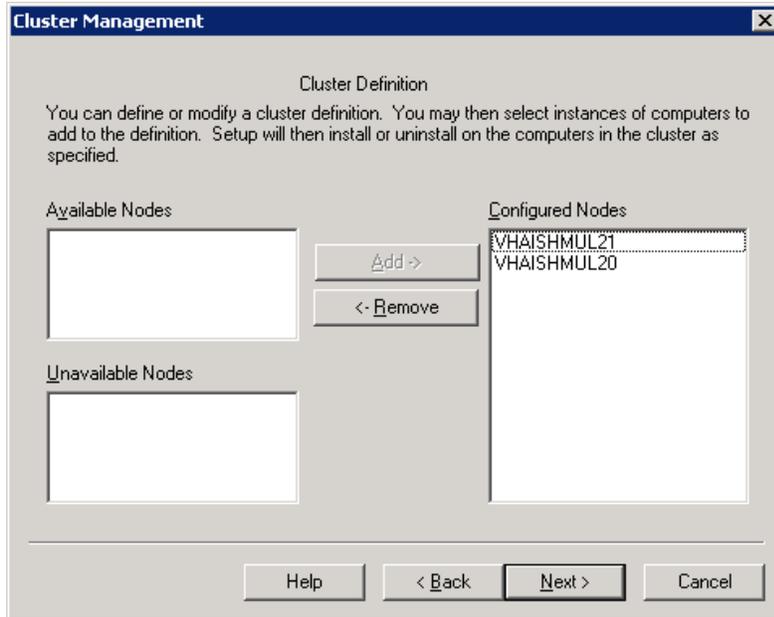
- 11)  Capture a screen shot. Click **Next** (Figure 212).

**Figure 212: Example of Failover Clustering**



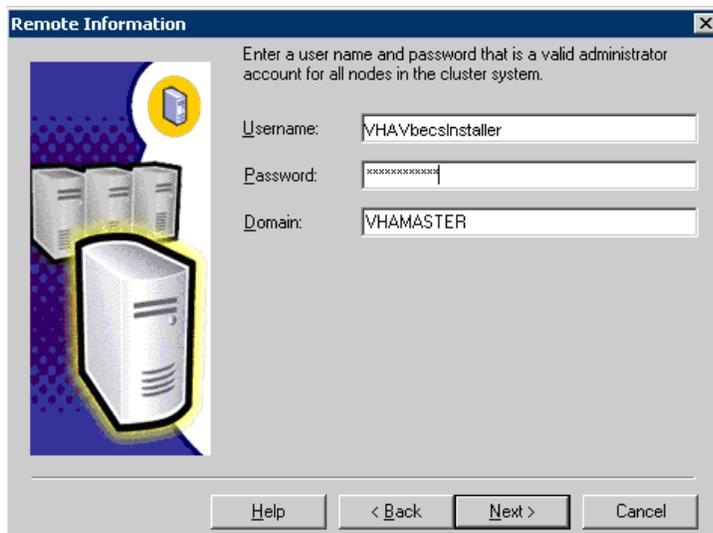
- 12)  Select the inactive node in the Available Nodes list. Click **Add** to add the available node to the Configured Nodes list. Capture a screen shot. Click **Next** (Figure 213).

**Figure 213: Example of Cluster Management**



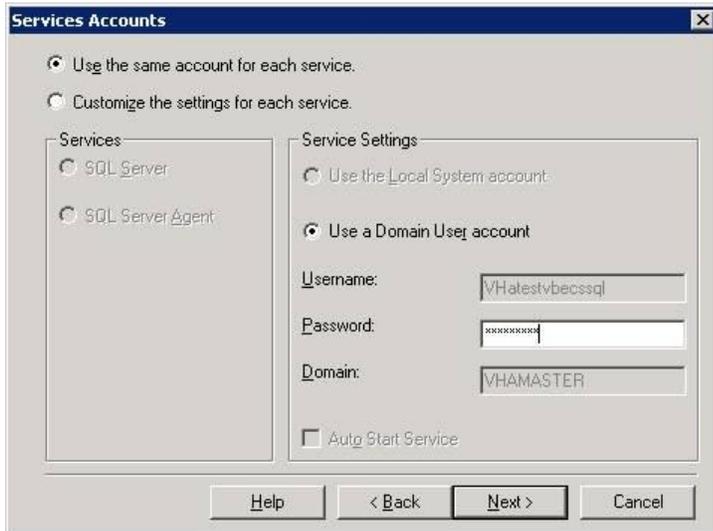
- 13) **DC**  In the Remote Information dialog, enter your Windows user name, password, and **VHAMASTER** (or data center domain for a data center installation) as the domain name. Capture a screen shot.
- 14) Click **Next** (Figure 214).

**Figure 214: Example of Remote Information**



- 15) Click the **Use the same account for each service** and the **Use a Domain User account** radio buttons.
- 16)  Enter the password provided by the IM in the Password field (see Appendix H: Password List). The Username and Domain fields will populate automatically. Capture a screen shot.
- 17) Confirm that these fields are set to the proper values. Click **Next** (Figure 215).

**Figure 215: Example of Services Accounts**



- 18) The SQL Server configuration of virtual server nodes will begin. Messages similar to the one in Figure 216 will appear.

**Figure 216: Setup Message 3**



19) Click **Finish** (Figure 217).

**Figure 217: Setup Complete**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 20) ❶ To restart Server 1, click **Start, Shut Down**. Select **Restart**. Enter **SQL Install** in the Comment field. Click **OK**.
- 21) ❷ To restart Server 2, click **Start, Shut Down**. Select **Restart**. Enter **SQL Install** in the Comment field. Click **OK**.



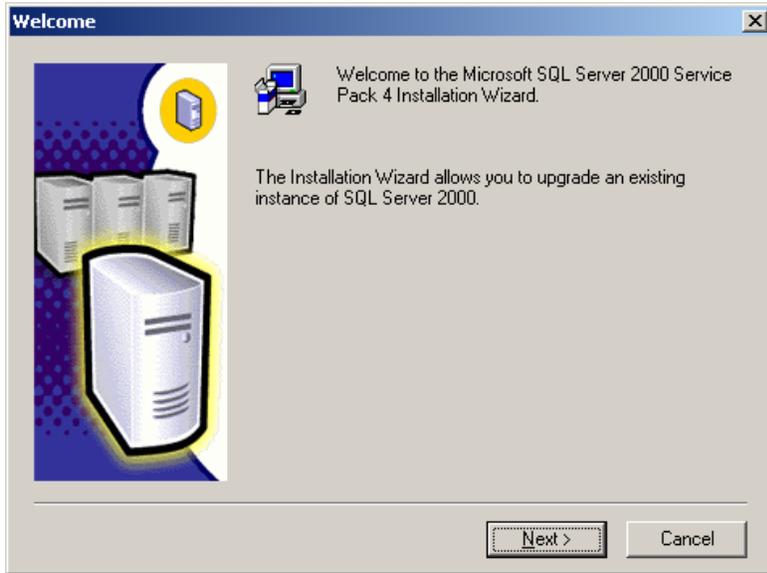
*Failure to restart both cluster nodes may halt the installation.*

#### **Install Microsoft SQL Server Service Pack 4**

- 1) ❶ Log into Server 1 with your Windows ID. Verify that Server 1 is the active node in Cluster Administrator.
- 2) Click **Start, Windows Explorer**. Navigate to `c:\software\SQL2000_SP4`. Double click **setup.bat** to run the script.

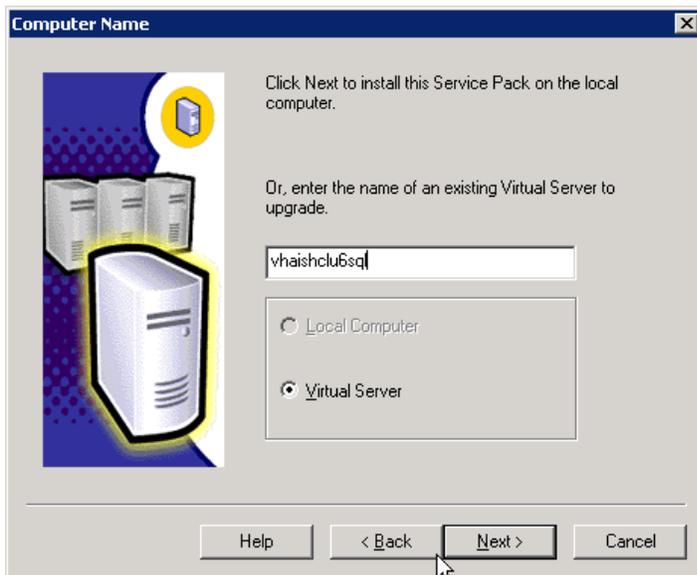
- 3) In the Welcome dialog, click **Next** (Figure 218).

**Figure 218: Welcome**



- 4)  Enter the SQL Server virtual server network name [from Appendix E: Server Configuration Checklist (Server Hardware Information, SQL Server Virtual Server Network Name, Row 7)]. Capture a screen shot. Click **Next** (Figure 219).

**Figure 219: Example of Computer Name**

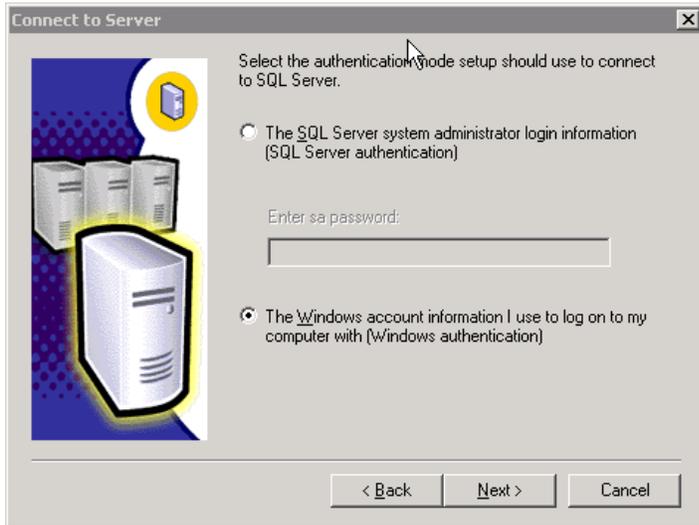


- 5) Click the **Windows account information I use to log on to my computer with (Windows authentication)** radio button. Click **Next** (Figure 220).



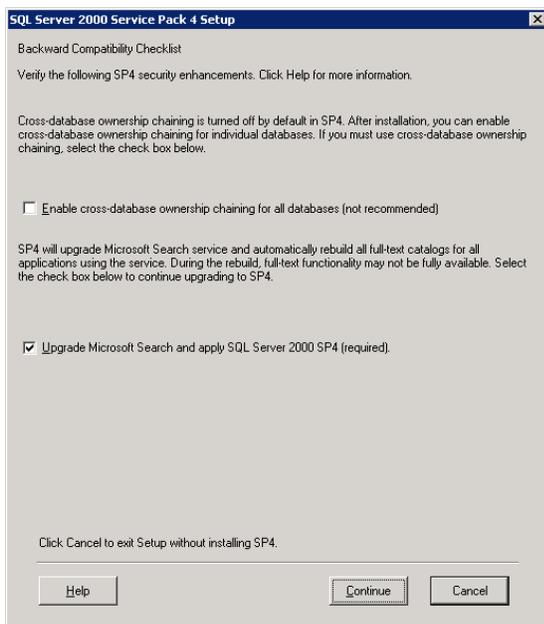
*The installer must be a local administrator on both cluster nodes.*

**Figure 220: Connect to Server**



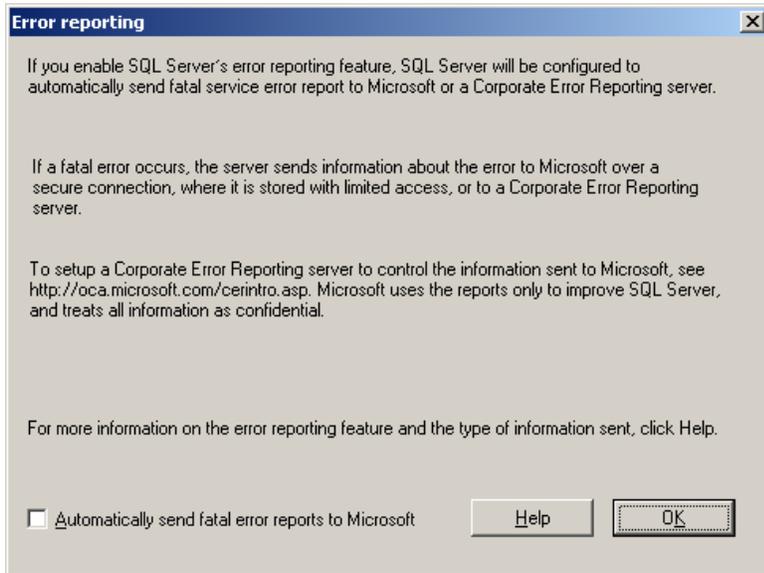
- 6)  Uncheck the **Enable cross-database ownership chaining for all databases (not recommended)** check box. Click the **Upgrade Microsoft Search and apply SQL Server SP4 (required)** check box. Capture a screen shot. Click **Continue** (Figure 221).

**Figure 221: SQL Server 2000 Service Pack 4 Setup**



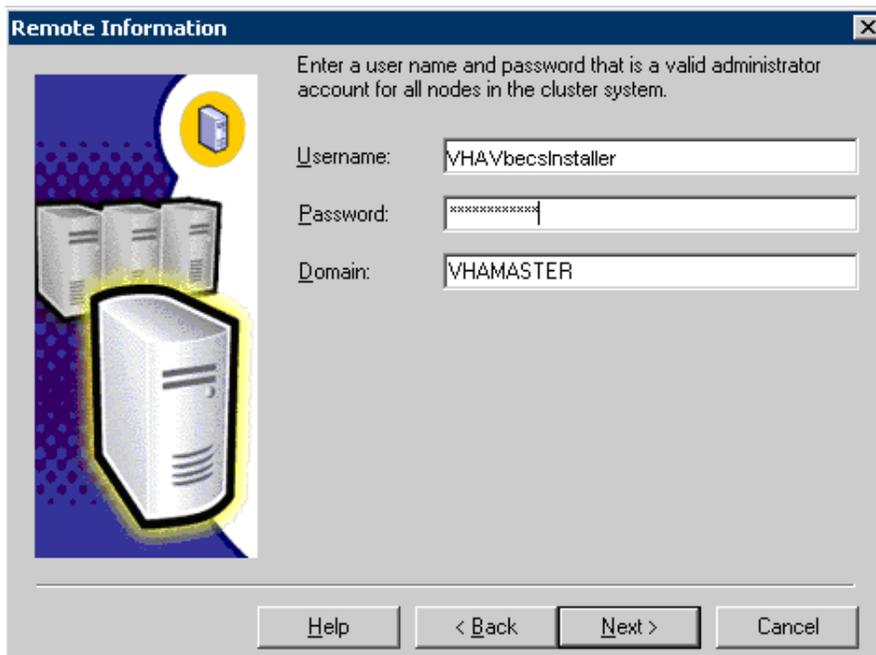
- 7) Uncheck the **Automatically send fatal error reports to Microsoft** check box. Click **OK** (Figure 222).

**Figure 222: Error Reporting Dialog**



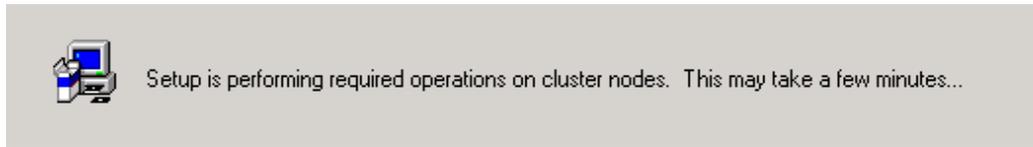
- 8) **DC**  Enter your Windows user name, password, and VHAMASTER (for a data center installation, enter the data center domain) as the domain name. Capture a screen shot. Click **Next** (Figure 223).

**Figure 223: Example of Remote Information**



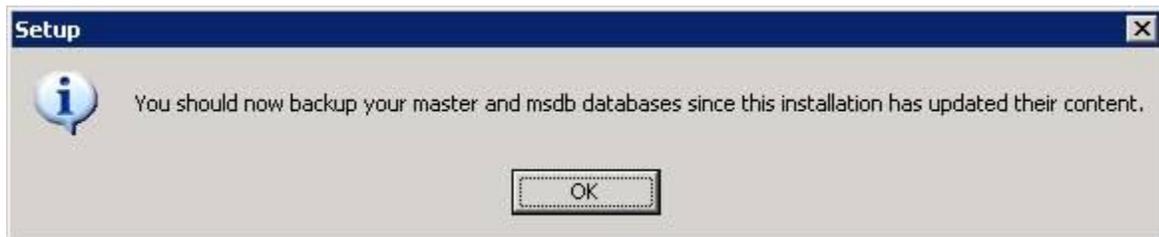
- 9) Installation of the SQL Server service pack will begin. Messages similar to the one in Figure 224 will appear.

**Figure 224: Setup Message 4**



- 10) Click **OK** to continue (Figure 225).

**Figure 225: Setup**



- 11) **1** Click the **Yes, I want to restart my computer now** radio button. Click **Finish** (Figure 226). Server 1 will restart.

**Figure 226: Setup Complete**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 12) **2** Log into Server 2 and restart. Click **Start, Shut Down**. Select **Restart**. Enter **SP4 Install** in the Comment field. Click **OK**.

 *Failure to restart both cluster nodes may disrupt normal functioning of the SQL Server virtual server and halt installation.*

## Configure SQL Server and Deploy VBECS Databases

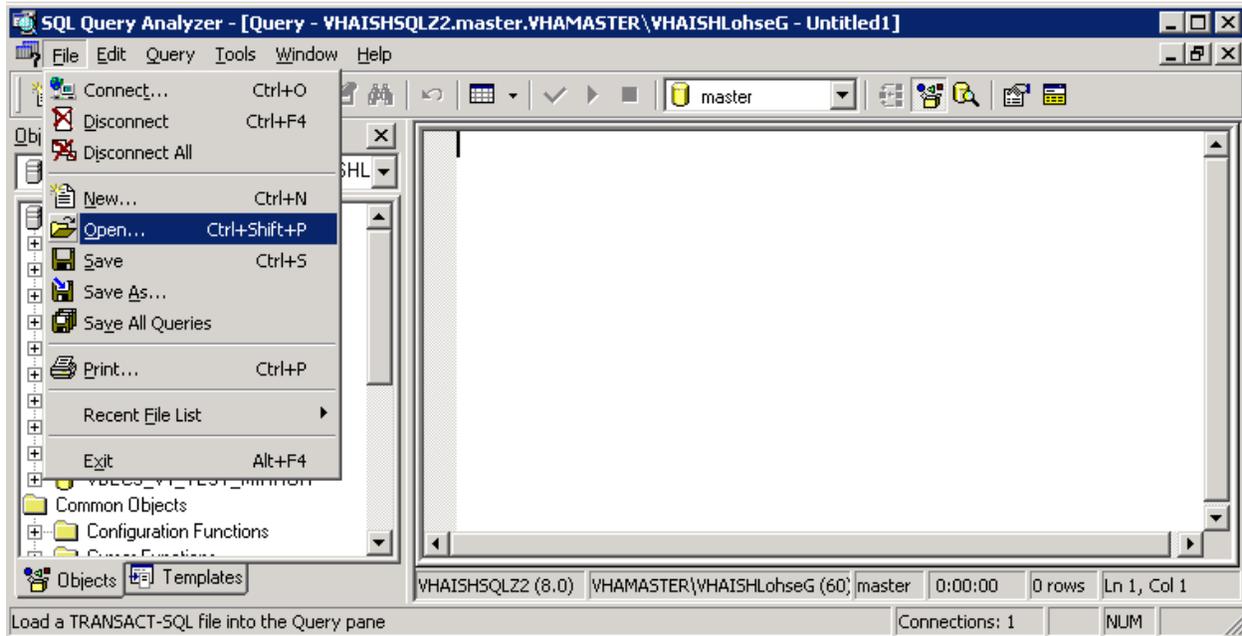
- 1) **1** Log into Server 1 with your Windows ID.
- 2) Click **Start, All Programs, Microsoft SQL Server, Query Analyzer**.
- 3) Enter the SQL Server cluster name [Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server Network Name, Row 7)] in the **SQL Server** field. Select the **Windows authentication** radio button. Click **OK** (Figure 227).

**Figure 227: Example of Connect to SQL Server**



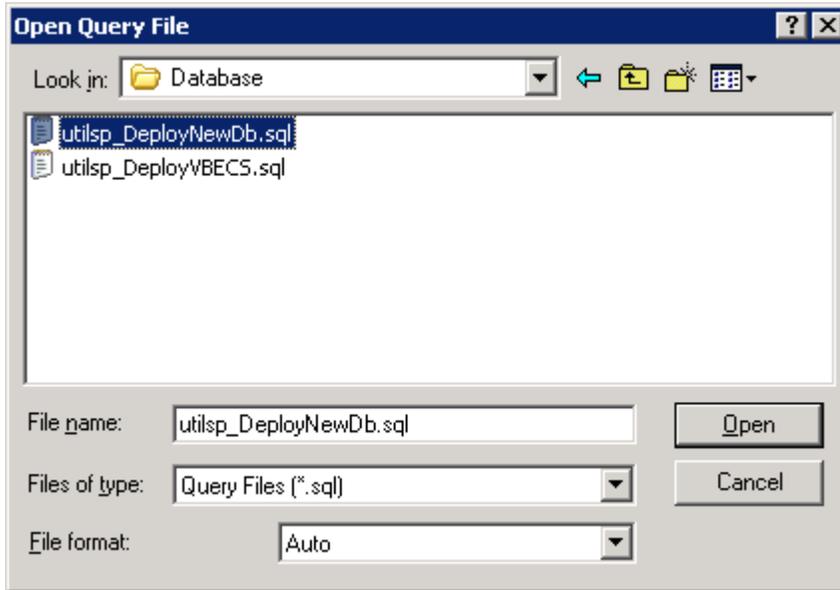
- 4) Click **File** (pull down menu), **Open** (Figure 228).

**Figure 228: Example of Query Analyzer**



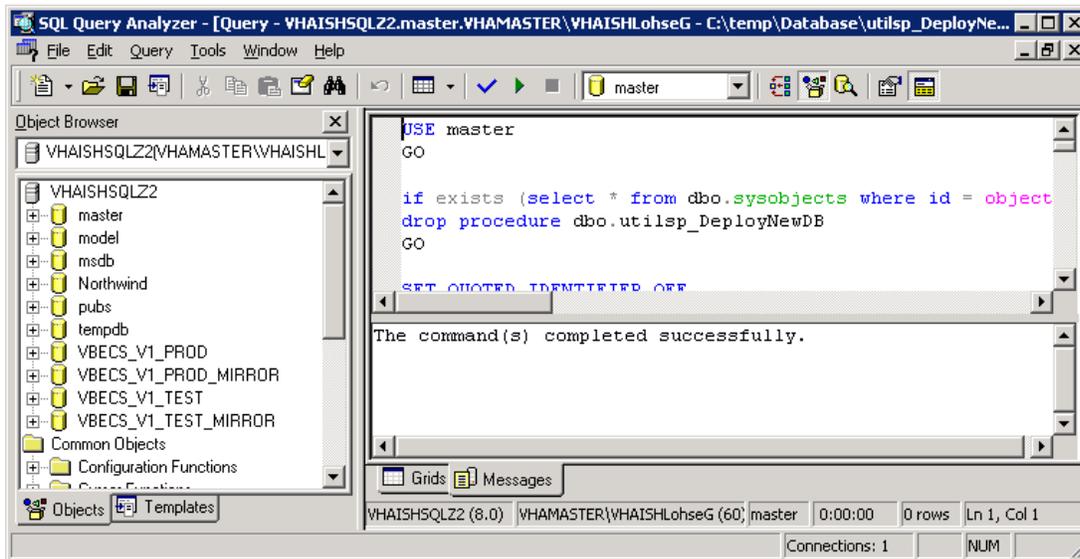
- 5) Navigate to the **C:\temp\Database** folder. Select **utilsp\_DeployNewDb.sql**. Click **Open** (Figure 229).

**Figure 229: Open Query File**



- 6) Press **F5** to execute the script.
- 7)  Verify that **The command(s) completed successfully** appears in the Messages tab (Figure 230). Capture a screen shot.

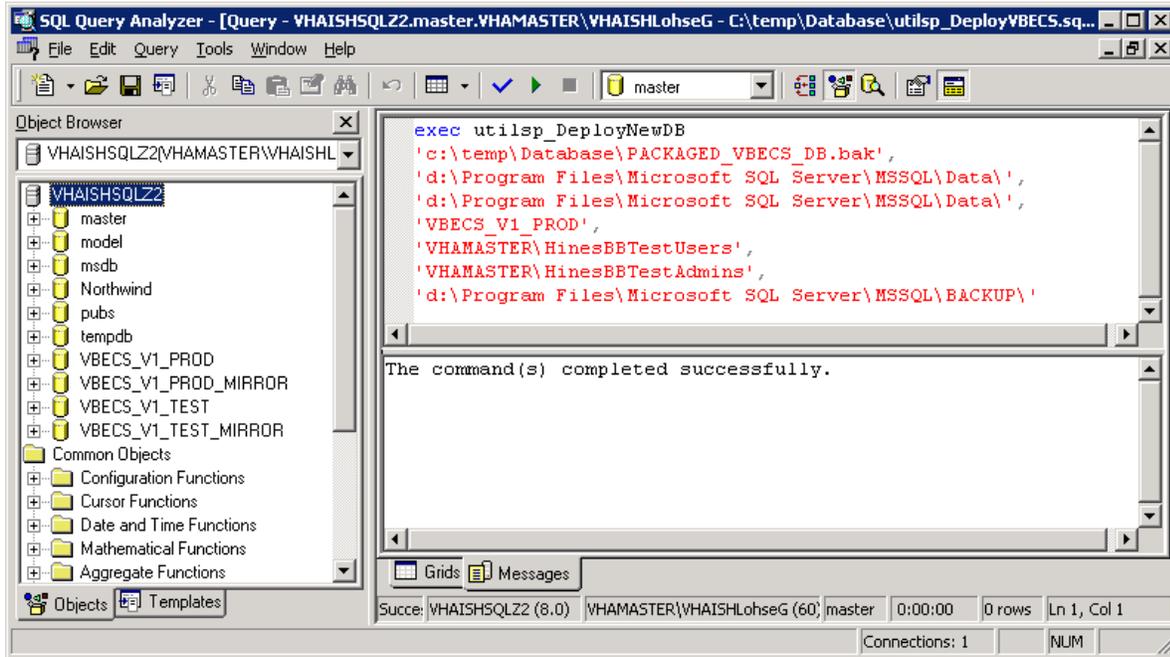
**Figure 230: Success Message**



- 8) Click **File, Open**. Navigate to the **C:\temp\Database** folder. Select **utilsp\_DeployVBECS.sql**. Click **Open**.
- 9) Replace:
  - a) **<DATABASE NAME>** with **VBECS\_V1\_PROD**.

- b) “<YOUR GROUP NAME> with the Active Directory Group Name for common users [Appendix E: Server Configuration Checklist (Domain Information, Row 8)].
- c) <YOUR ADMIN GROUP NAME> with the Active Directory Group Name for administrator users [Appendix E: Server Configuration Checklist (Domain Information, Row 9)] (Figure 231).

**Figure 231: Example of Deployment Stored Procedure After Text is Updated**



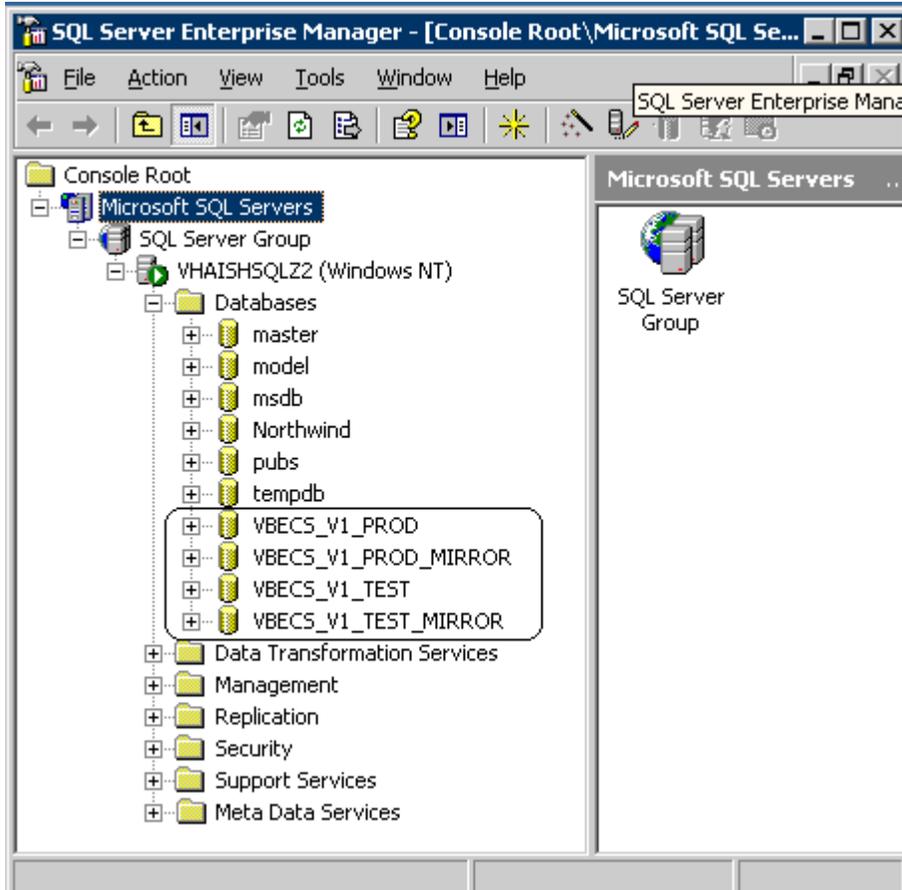
- 10) Press **F5**. Wait for the script to complete. Verify below the Messages tab is **Query batch completed**. Capture a screen shot.
- 11) Replace **VBECS\_V1\_PROD** with **VBECS\_V1\_TEST**.
- 12) Press **F5**. Verify below the Messages tab is **Query batch completed**. The completion of the script indicates that the deployment of the VBECS database is complete. Capture a screen shot.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 13) Close Query Analyzer. Click **No to all** to bypass saving file changes.

- 14) Click **Start, All Programs, Microsoft SQL Server, Enterprise Manager**. Click the plus to the left of **Microsoft SQL Servers, SQL Server Group, SQL <server name>** and **Databases**. Verify that the screen matches Figure 232. Close SQL Server Enterprise Manager.

**Figure 232: VBECS Databases**

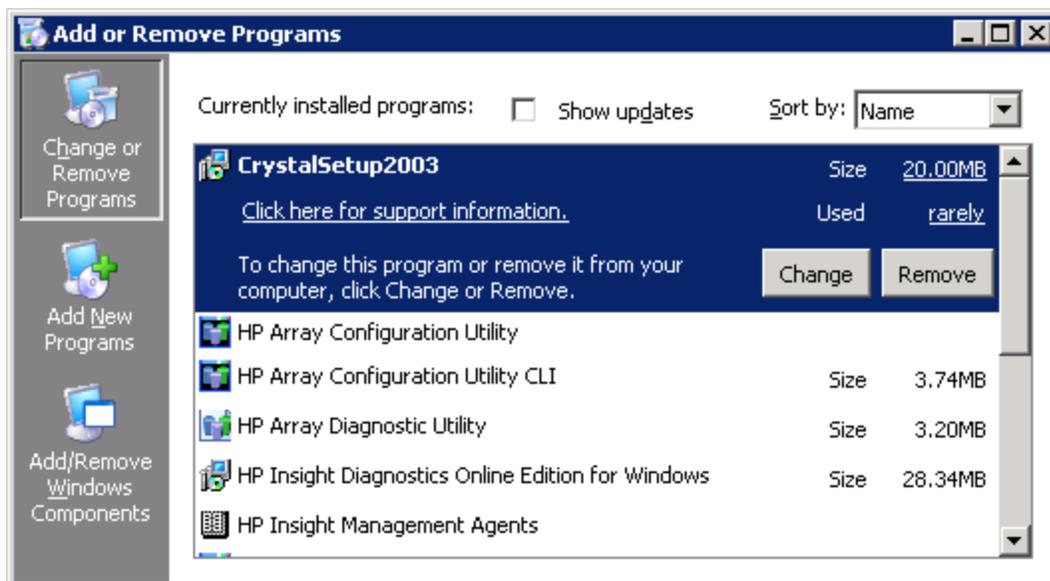


### 3 Configure Terminal Server for Remote Desktop Connection

Terminal Server allows users to access VBECS via Remote Desktop Connection. To install Terminal Server:

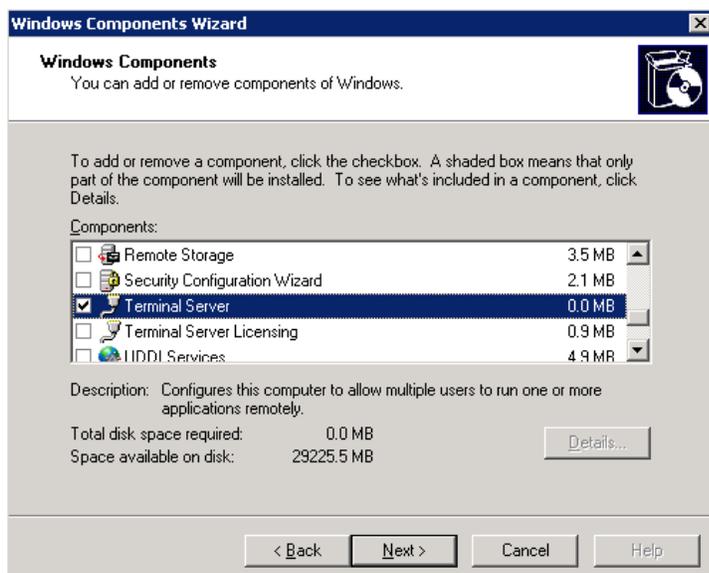
- 1) **1** Log into Server 1 with your Windows ID.
- 2) Click, **Start, Control Panel, Add or Remove Programs.**
- 3) Click **Add/Remove Windows Components** (Figure 233).

Figure 233: Add or Remove Programs



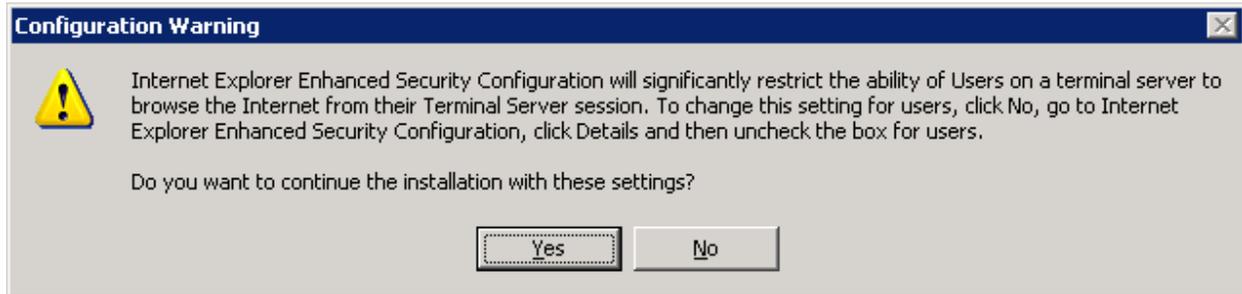
- 4) Check the **Terminal Server** check box (Figure 234).

Figure 234: Windows Components Wizard



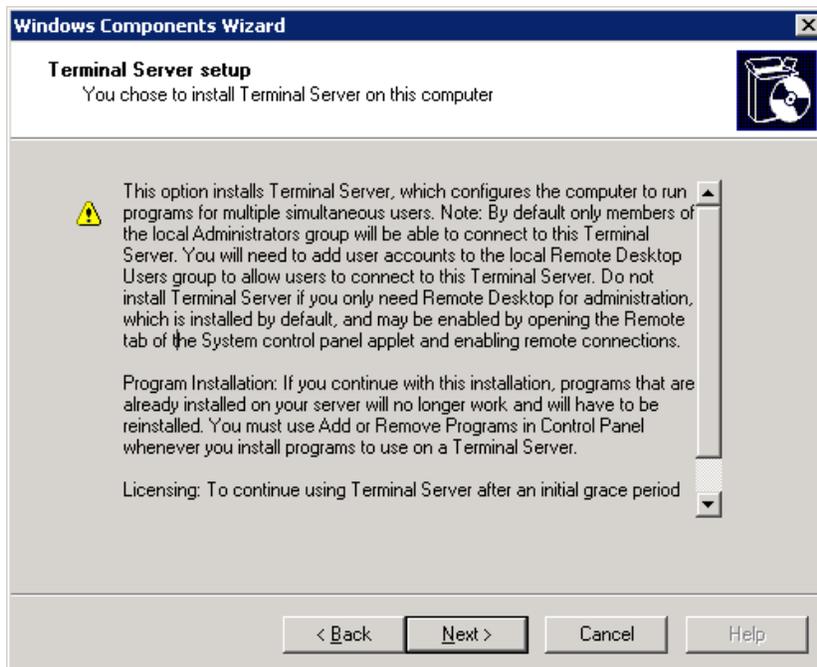
5) If a warning appears, click **Yes** (Figure 235). Click **Next** (Figure 234).

**Figure 235: Configuration Warning**



6) Click **Next** (Figure 236).

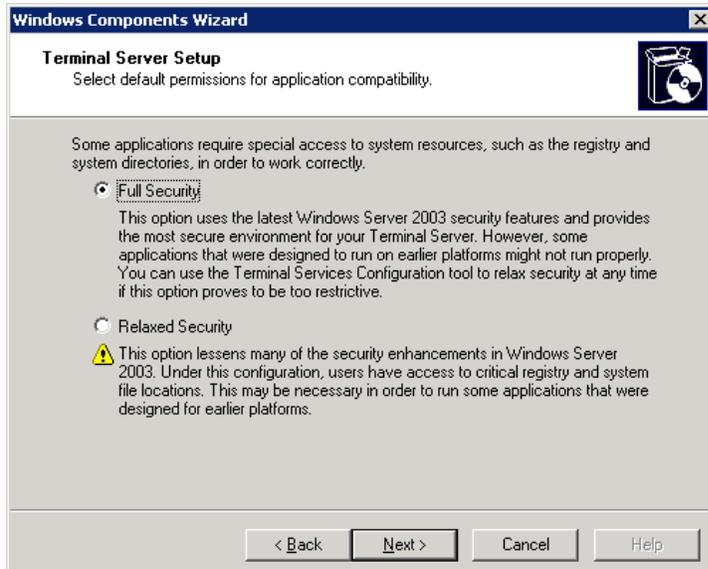
**Figure 236: Windows Components Wizard**



7) Click the **Full Security** radio button (default).

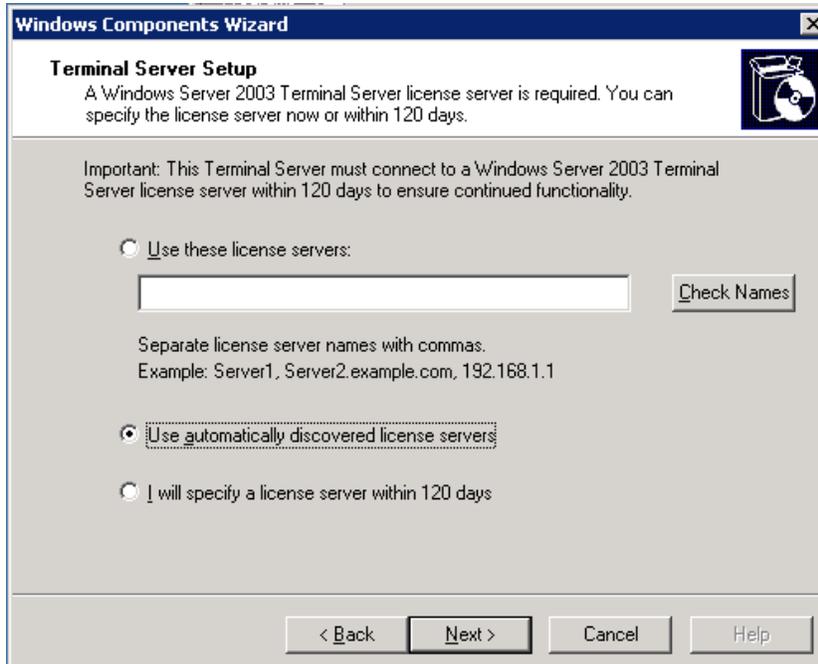
- 8)  Capture a screen shot. Click **Next** (Figure 237).

**Figure 237: Windows Components Wizard**



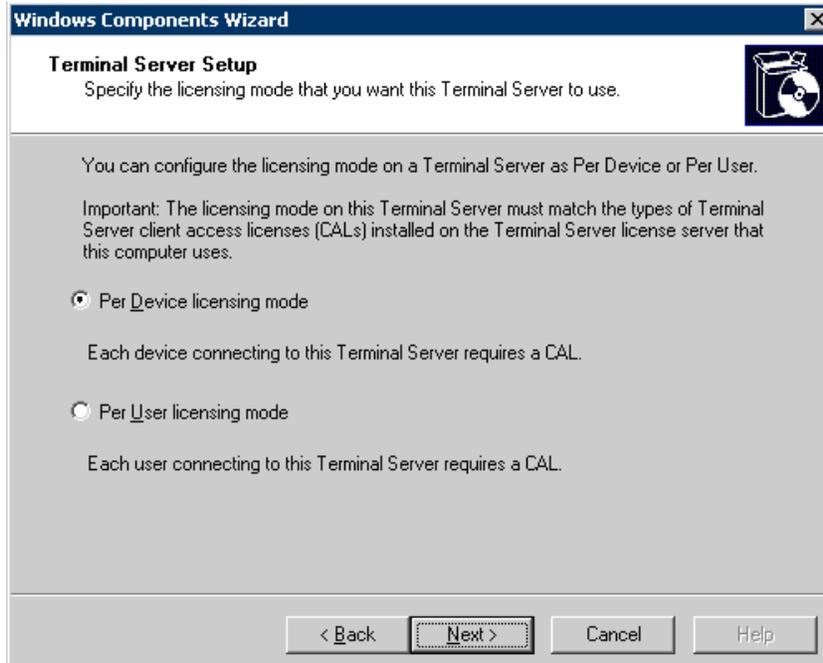
- 9) Click the **Use automatically discovered license servers** radio button. Click **Next** (Figure 238).

**Figure 238: Windows Components Wizard**



- 10)  Click the **Per Device licensing mode** radio button. Capture a screen shot. Click **Next** (Figure 239).

**Figure 239: Windows Components Wizard**



11) Click **Finish** to complete the installation (Figure 240).

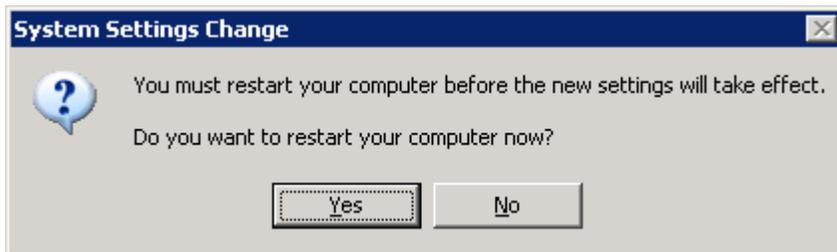
**Figure 240: Windows Components Wizard**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

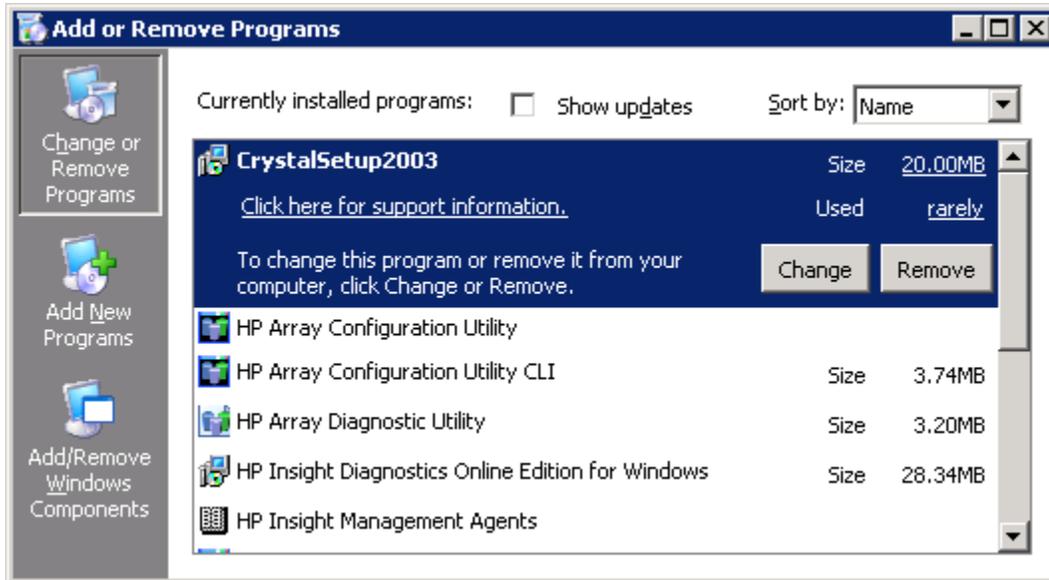
12) ❶ Click **Yes** to restart Server 1 (Figure 241).

**Figure 241: System Settings Change**



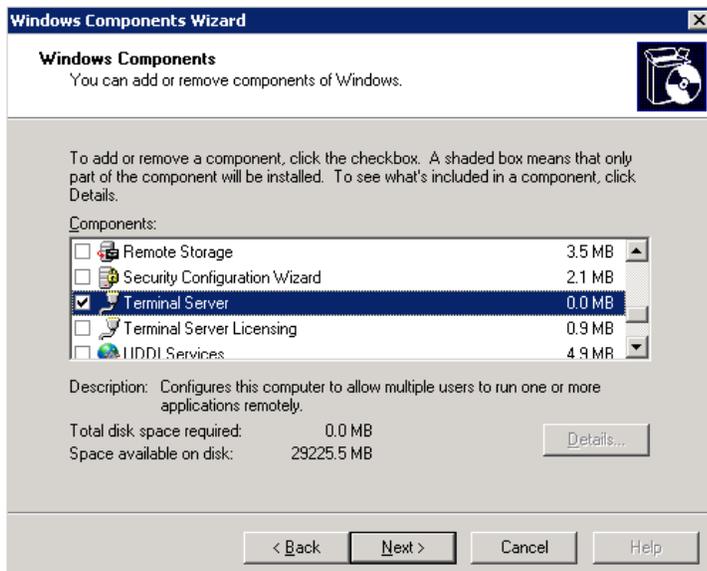
- 13) ② Log into Server 2 with your Windows ID.
- 14) Click **Start, Control Panel, Add or Remove Programs.**
- 15) Click **Add/Remove Windows Components** (Figure 242).

**Figure 242: Add or Remove Programs**



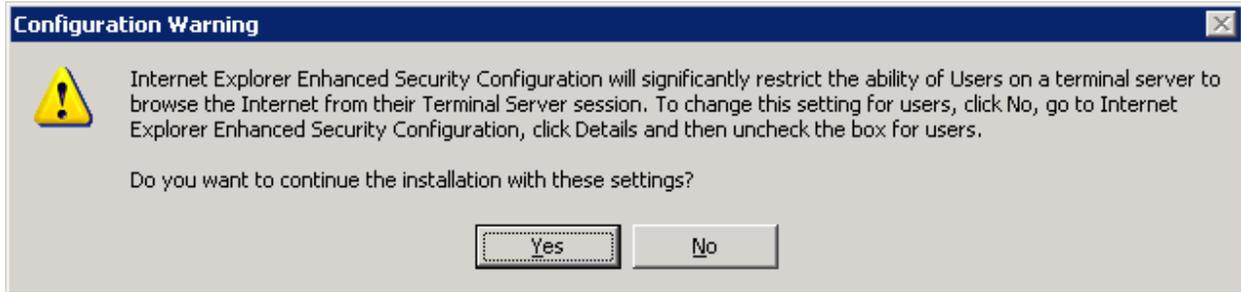
- 16) Check the **Terminal Server** check box (Figure 243).

**Figure 243: Windows Components Wizard**



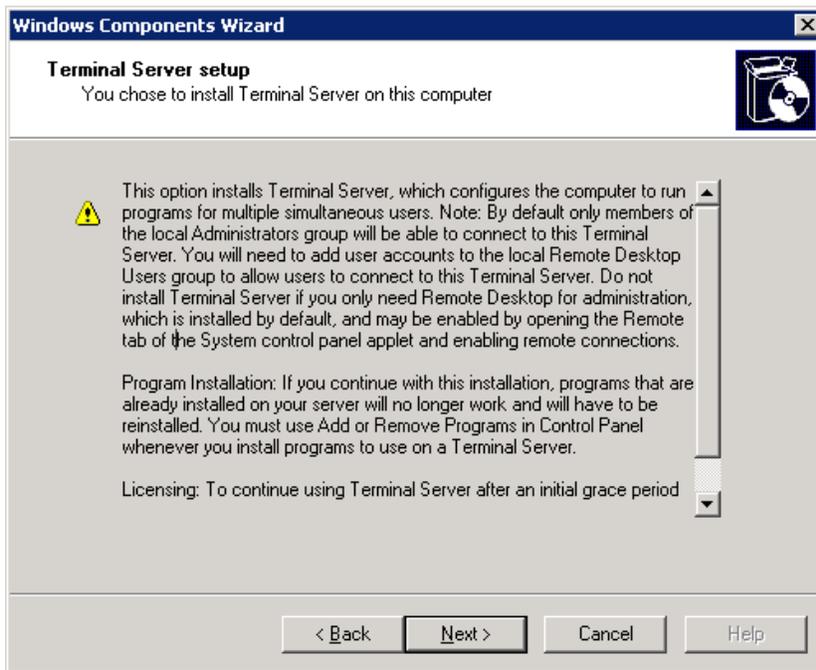
17) If a warning appears click **Yes** (Figure 244). Click **Next** (Figure 243).

**Figure 244: Configuration Warning**



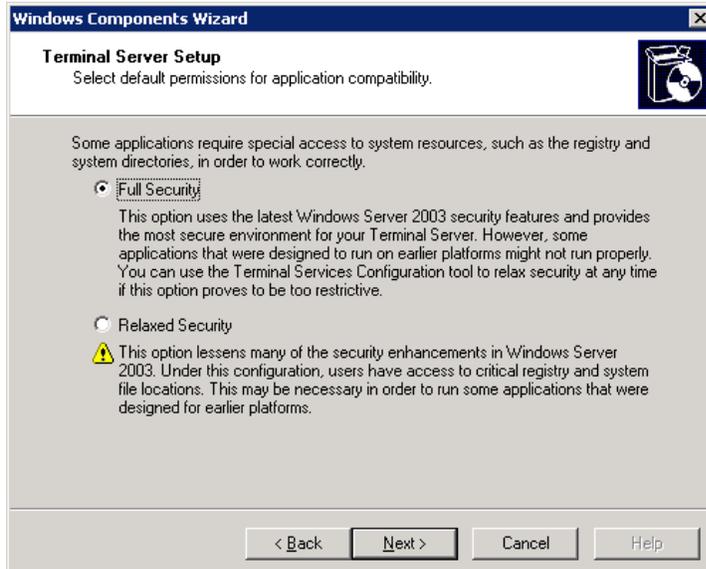
18) Click **Next** (Figure 245).

**Figure 245: Windows Components Wizard**



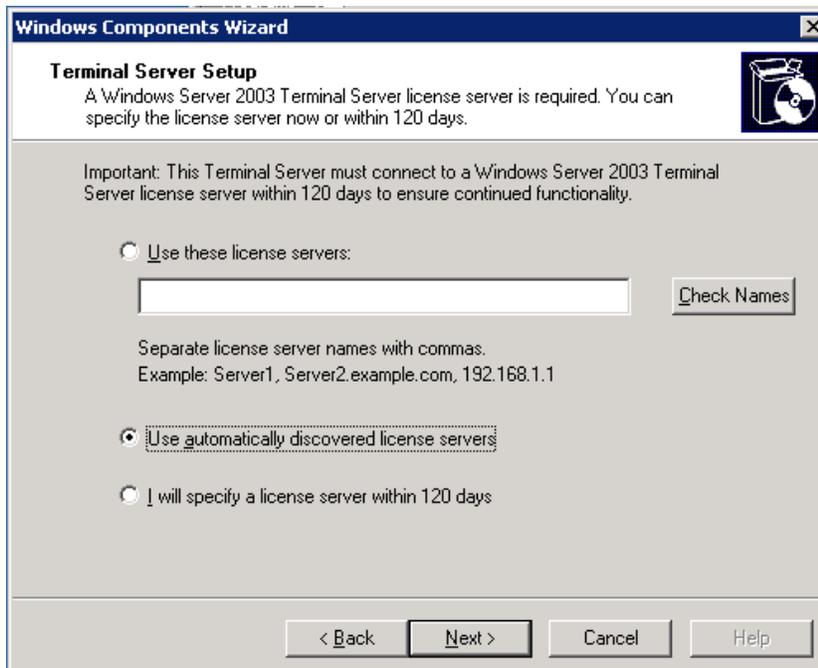
- 19)  Click the **Full Security** radio button (default). Capture a screen shot. Click **Next** (Figure 246).

**Figure 246: Windows Components Wizard**



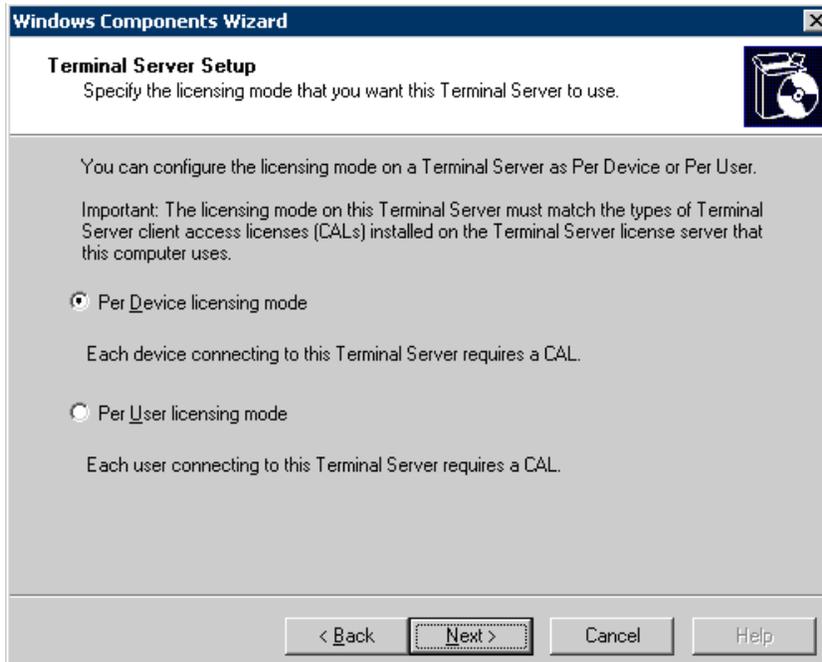
- 20) Click the **Use automatically discovered license servers** radio button. Click **Next** (Figure 247).

**Figure 247: Windows Components Wizard**



- 21)  Click the **Per Device licensing mode** radio button. Capture a screen shot. Click **Next** (Figure 248).

**Figure 248: Windows Components Wizard**



22) Click **Finish** to complete the installation (Figure 249).

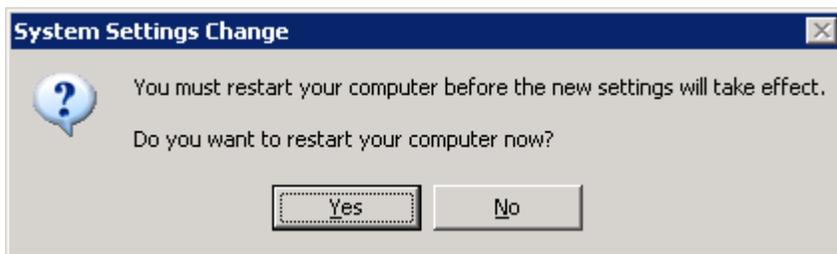
**Figure 249: Windows Components Wizard**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

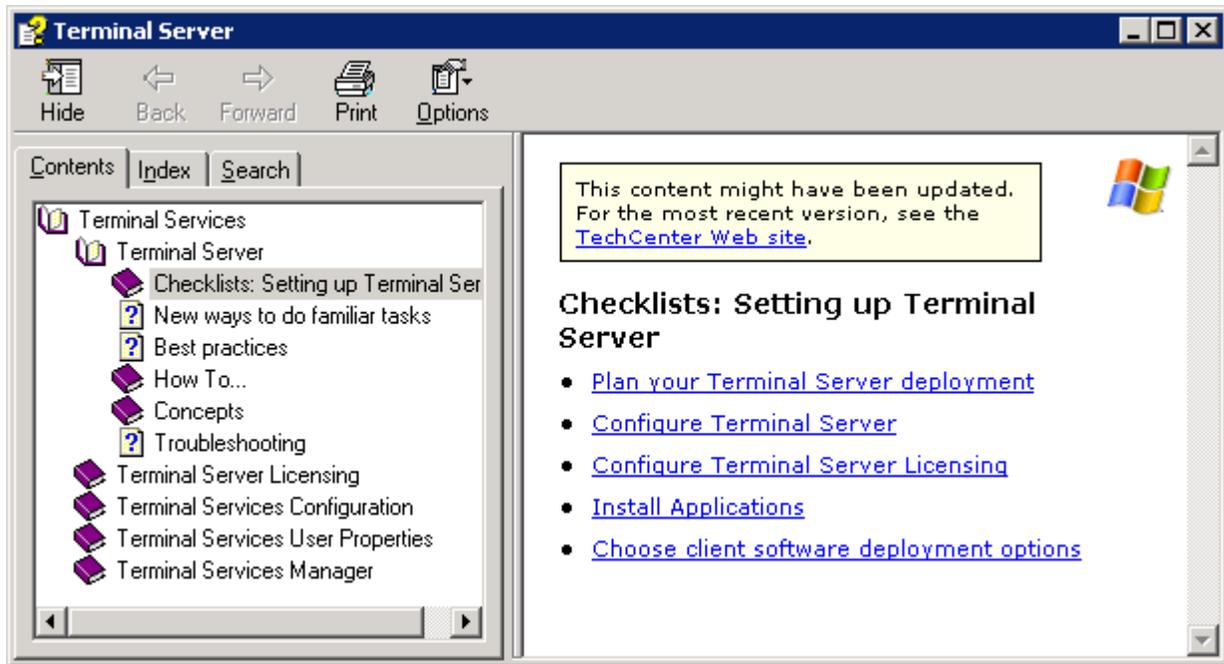
23) ② Click **Yes** to restart Server 2 (Figure 250).

**Figure 250: System Settings Change**



- 24) ① Log into Server 1 with your Windows ID. The Terminal Server help window will automatically launch. **Close** the Terminal Server window (Figure 251).

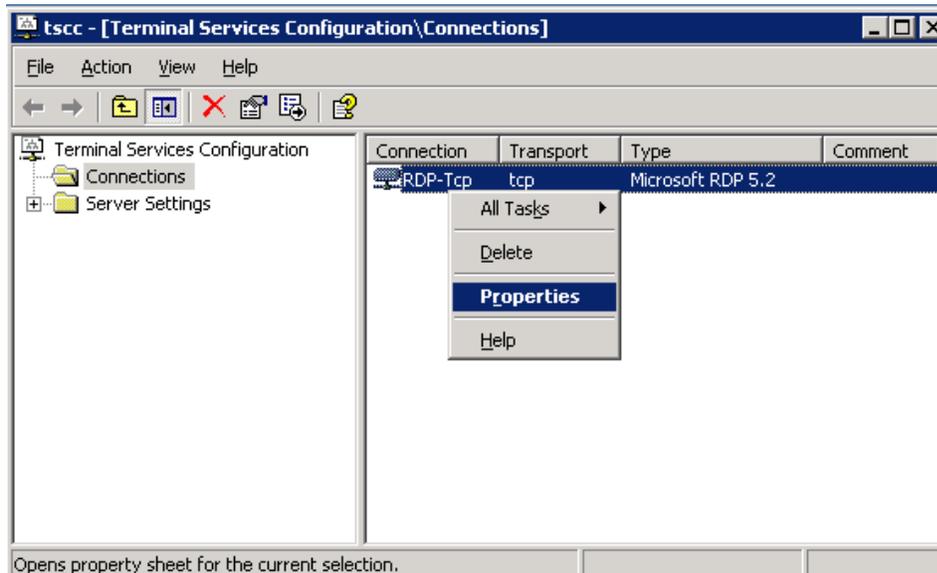
**Figure 251: Terminal Server**



- 25) Configure Terminal Services: Click **Start, Administrative Tools, Terminal Services Configuration**.

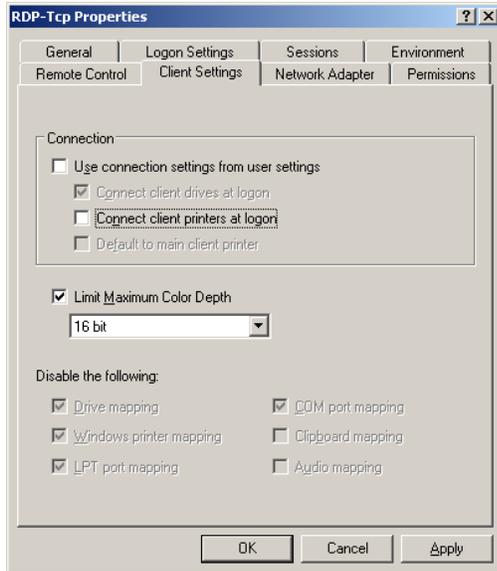
- 26) Right click **RDP-Tcp**. Click **Properties** (Figure 252).

**Figure 252: Terminal Services Configuration\Connections**



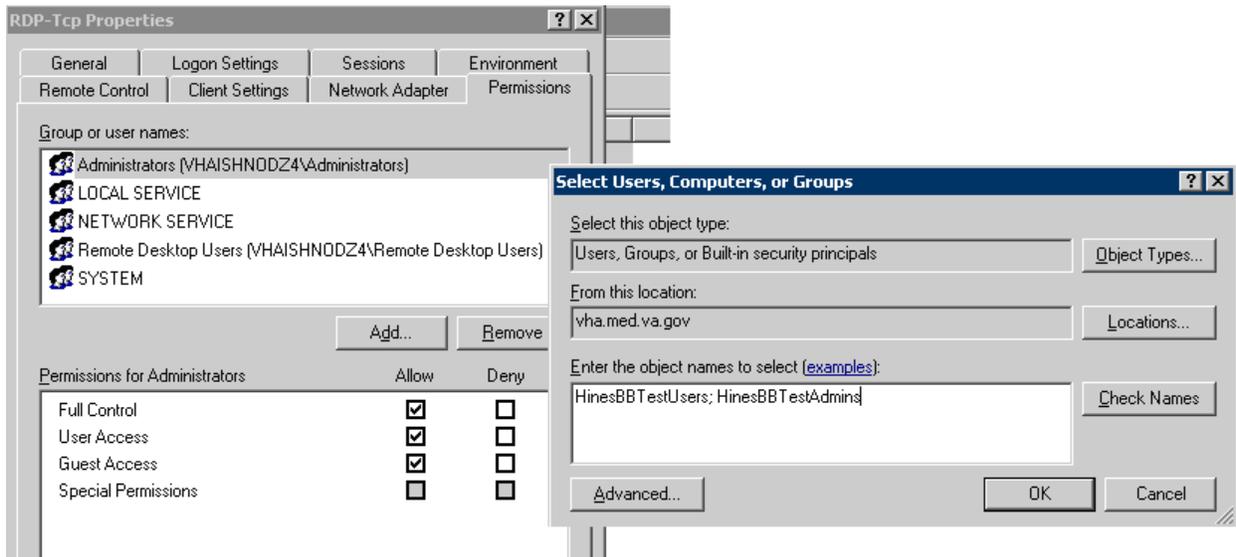
- 27)  Click the **Client Settings** tab. Uncheck the **Use connection setting from user settings** and **Connect client printers at logon** check boxes in the connection group (Figure 253). Capture a screen shot.

**Figure 253: RDP-Tcp Properties**



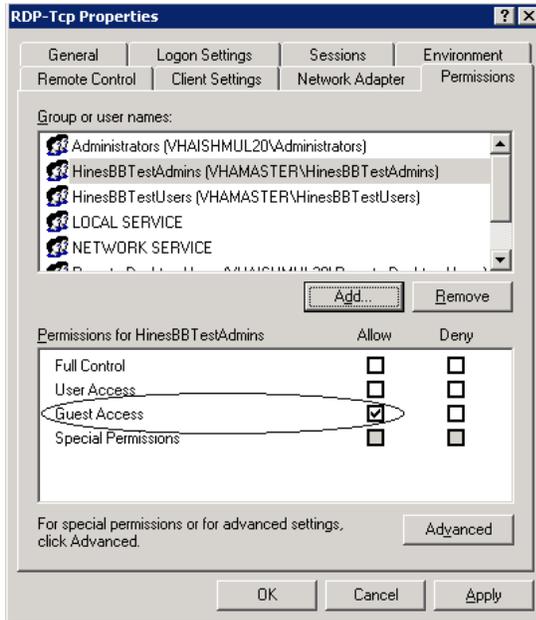
- 28)  Click the **Permissions** tab. Click **Add**. Enter the two group names [from Appendix E: Server Configuration Checklist (Domain Information, Rows 8 and 9)] separated by a semicolon in the **Enter the object names to select** field. Capture a screen shot. Click **OK** (Figure 254).

**Figure 254: Example of Configuring User Access**



- 29)  Make sure that the permissions on both groups are set to Guest Access (default). Capture a screen shot (Figure 255). Click **OK** to close.

**Figure 255: Example of RDP-Tcp Properties**



- 30) If Figure 256 appears, click **OK** to continue.

**Figure 256: Terminal Server Properties**

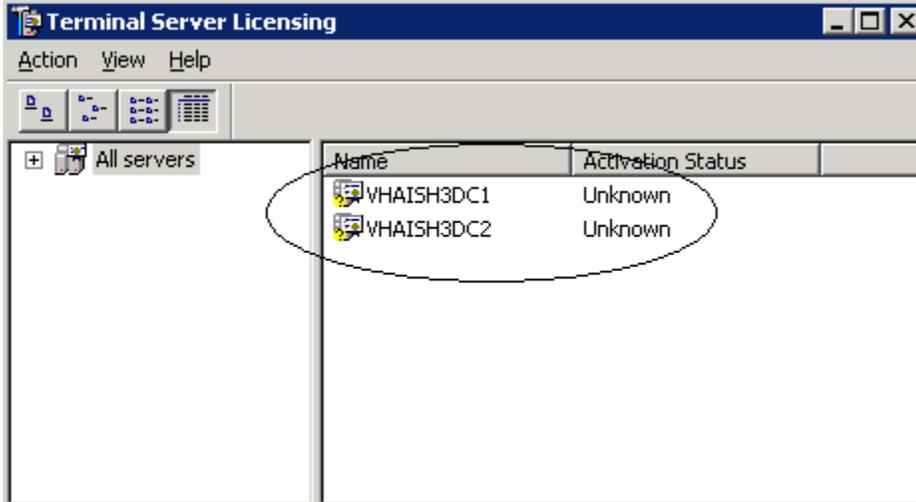


- 31) Close the Terminal Services Configuration\Connections window (Figure 252).

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

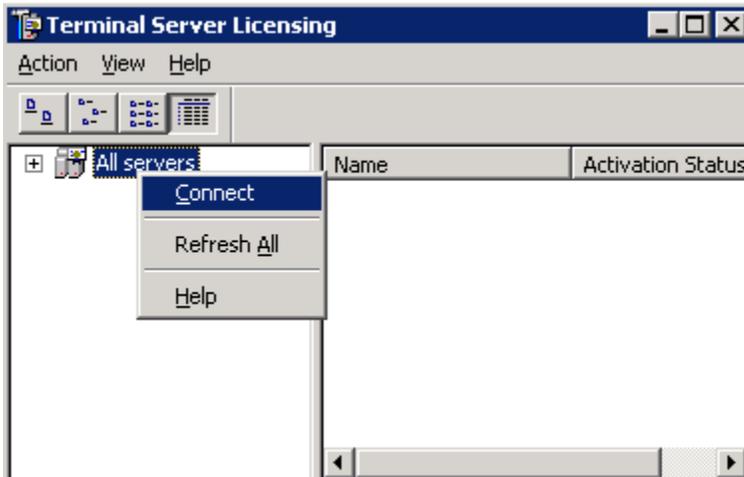
- 32) Click **Start, Administrative Tools, Terminal Server Licensing**. Verify that at least one server appears in the right pane. If at least one server appears in the right pane, continue at Step 36 (Figure 257).

**Figure 257: Example of Terminal Server Licensing**



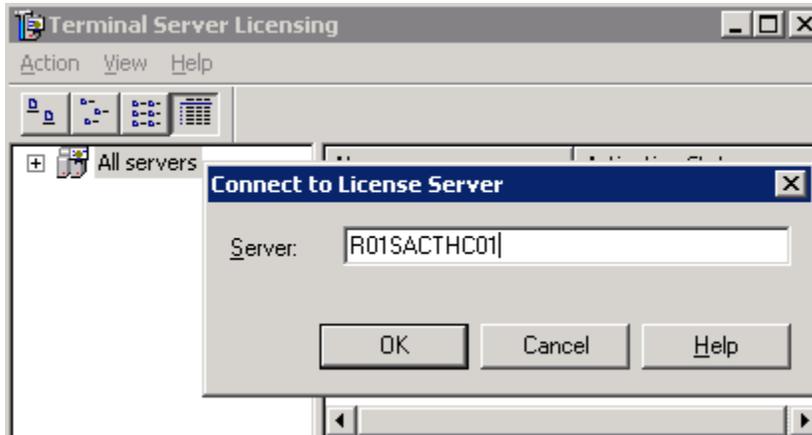
- 33) If no servers appear in the right pane, right click **All servers** and click **Connect** (Figure 258).

**Figure 258: Terminal Server Licensing**



- 34) Enter the license server name(s) from Appendix E: Server Configuration Checklist (Domain Information, Row 10). Click **OK** (Figure 259).

**Figure 259: Example of License Server**

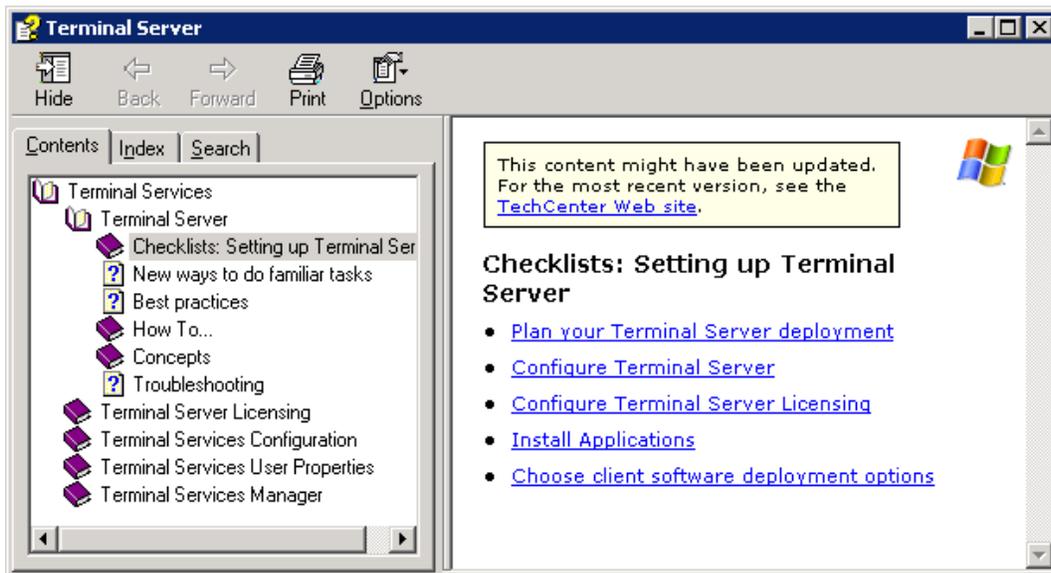


- 35) Repeat Steps 33 and 34 for all license servers.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 36) **2** Log into Server 2 with your Windows ID. The Terminal Server help window will automatically launch. **Close** the Terminal Server window (Figure 260).

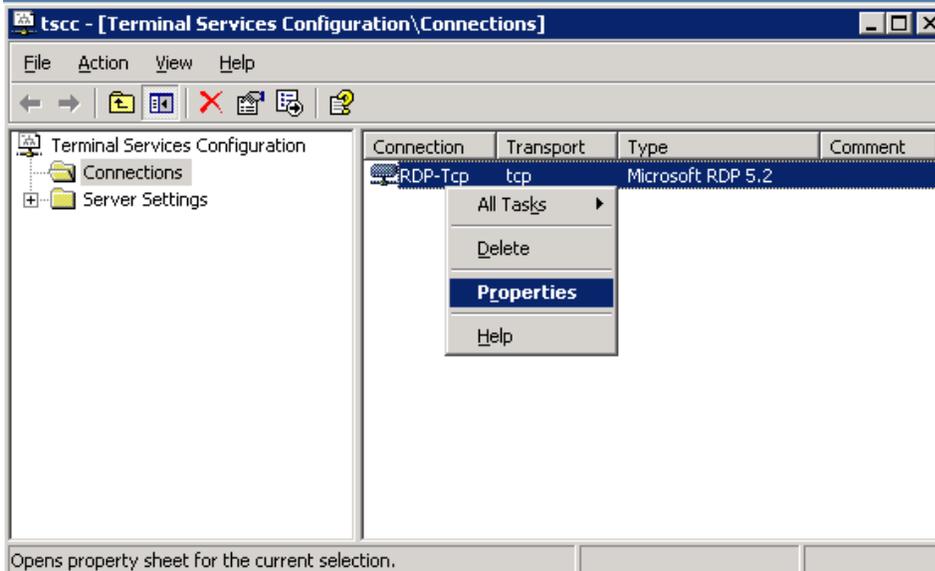
**Figure 260: Terminal Server**



- 37) Configure Terminal Services: Click **Start, Administrative Tools, Terminal Services Configuration**.

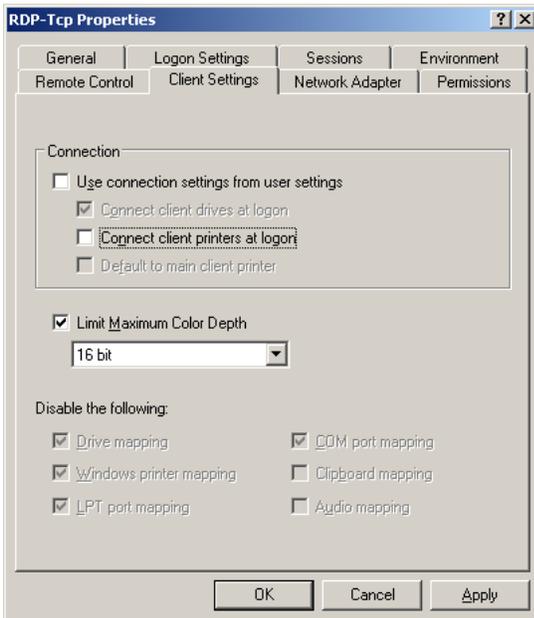
38) Right click **RDP-Tcp**. Click **Properties** (Figure 261).

**Figure 261: Terminal Services Configuration\Connections**



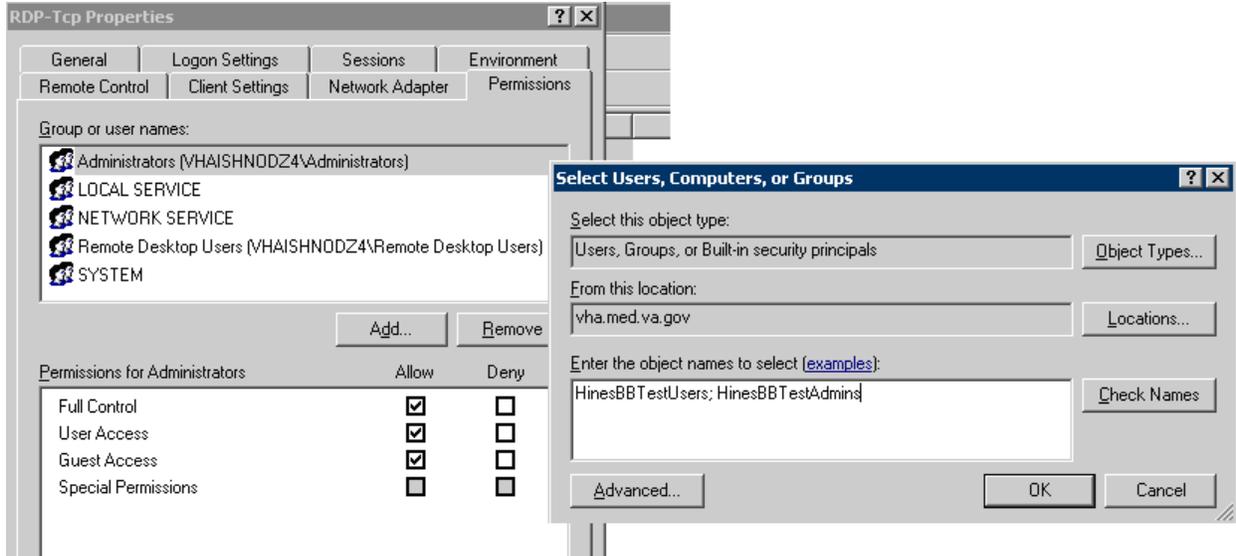
39)  Click the **Client Settings** tab. Uncheck the **Use connection setting from user settings** and **Connect client printers at logon** check boxes in the connection group. Capture a screen shot (Figure 262).

**Figure 262: RDP-Tcp Properties**



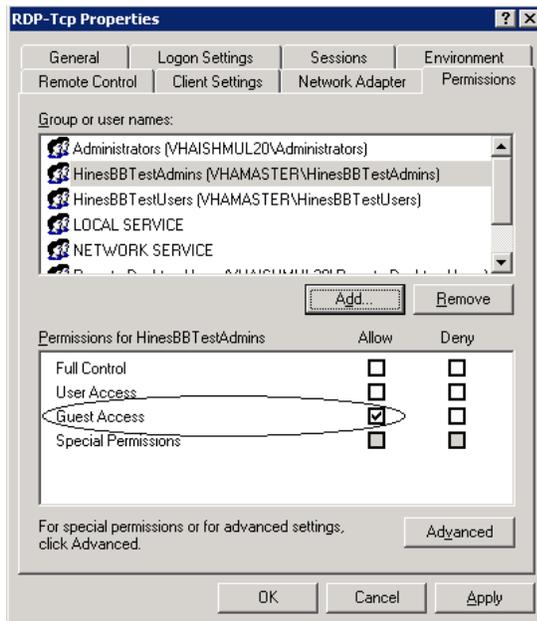
- 40)  Click the **Permissions** tab. Click **Add**. Enter the two group names [Appendix E: Server Configuration Checklist (Domain Information, Rows 8 and 9)] separated by a semicolon in the **Enter the object names to select** field. Capture a screen shot. Click **OK** (Figure 263).

**Figure 263: Example of Configuring User Access**



- 41)  Make sure that the permissions on both groups are set to Guest Access (default). Capture a screen shot. Click **OK** to close (Figure 264).

**Figure 264: Example of RDP-Tcp Properties**



- 42) Close the Terminal Services Configuration window.

43) If Figure 265 appears, click **OK** to continue.

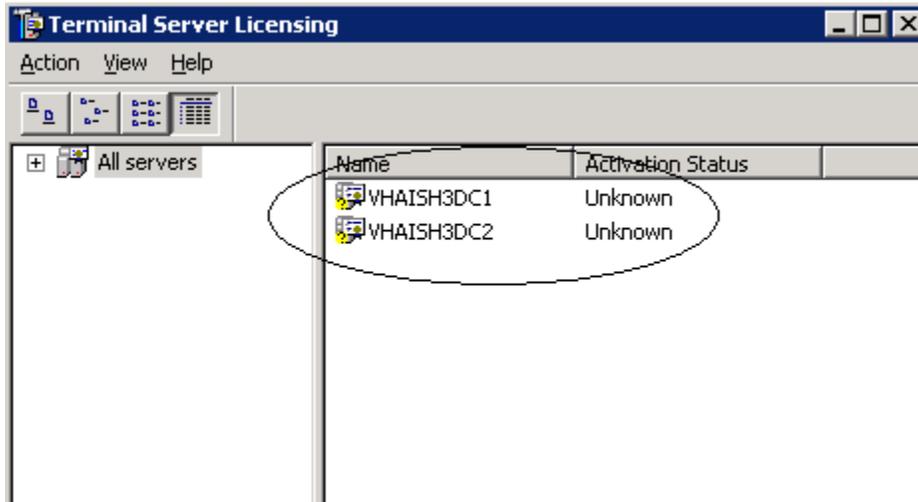
**Figure 265: Terminal Server Properties**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

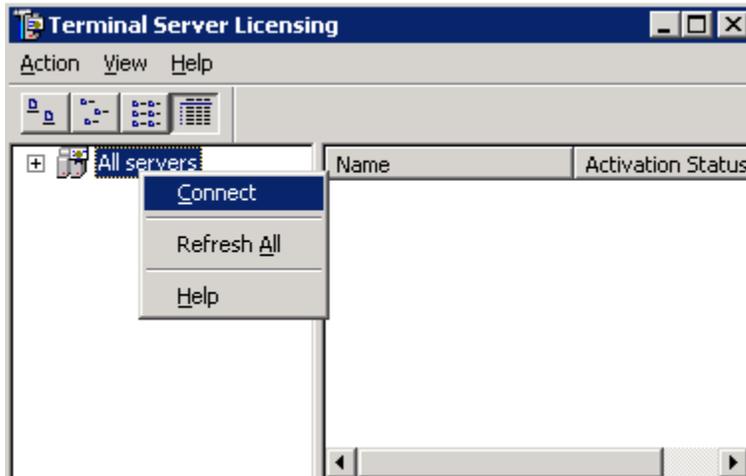
44) Click **Start, Administrative Tools, Terminal Server Licensing**. Verify that at least one server appears in the right pane. If at least one server appears in the right pane, continue at the next section (Figure 266).

**Figure 266: Example of Terminal Server Licensing**



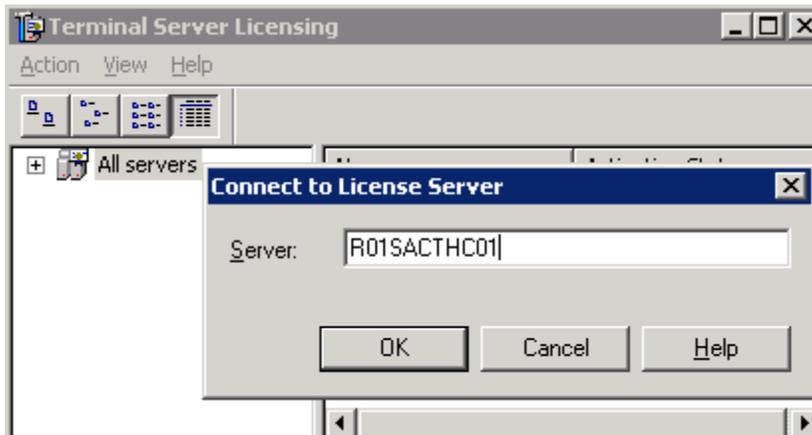
45) If no servers appear in the right pane, right click **All servers** and click **Connect** (Figure 267).

**Figure 267: Terminal Server Licensing**



46) Enter the license server name from Appendix E: Server Configuration Checklist (Domain Information, Row 10). Click **OK** (Figure 268).

**Figure 268: Example of License Server**



47) Repeat Steps 45 and 46 for all license servers.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## 4 Install VBECS Services and the VBECS Application

### Install the Services that Support VBECS

- 1)  Log into Server 1 with your Windows ID.
- 2) Click **Start, Windows Explorer** and navigate to the c:\temp directory. Double click **install.bat** to run the script.
- 3)  When prompted, enter the domain and **VHAXXVbecsCluster** as the user name (replace “XX” with your two-digit VISN ID or EPS for EPS installations). For data center installations, enter **RXXVBESVCCLU01** (replace “XX” with your two-digit region ID). Enter the password (see Appendix H: Password List).
- 4) Enter the:
  - Database server name [from Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server Network Name, Row 7)]
  - Cluster Server IP address [from Appendix E: Server Configuration Checklist (Server Hardware Information, Row 6)]
  - Email address [from Appendix E: Server Configuration Checklist (Contact Information, VBECS Service support email address)]
- 5)  Check the installation log (InstallUtil.InstallLog) in c:\temp to verify that the installation was completed (no rollback messages in logs). Print the installation log for validation records.
- 6)  Click **Start, Administrative Tools, Services**. Verify that these services are listed. Capture a screen shot.
  - VBECS CPRS HL7 Client Monitor
  - VBECS CPRS HL7 Listener
  - VBECS HL7 Multi Listener
  - VBECS Patient Merge HL7 Listener
  - VBECS Patient Update HL7 Listener
  - VBECS Scheduled Report Runner
  - VBECS Service Monitor
  - VBECS Test CPRS HL7 Client Monitor
  - VBECS Test CPRS HL7 Listener
  - VBECS Test HL7 Multi Listener
  - VBECS Test Patient Merge HL7 Listener
  - VBECS Test Patient Update HL7 Listener
  - VBECS Test Scheduled Report Runner
  - VBECS Test VistALink RPC XML Listener
  - VBECS VistALink RPC XML Listener

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_



*Some services are installed as disabled. Do not activate these services unless the IM or EPS directs you to do so. Prior to starting the VBECS services, ensure that the Configure Interfaces section of Maintenance Operations in VistA Blood Establishment Computer Software (VBECS) Technical Manual-Security Guide was completed.*

- 7)  Log into Server 2 with your Windows ID.
- 8) Click **Start, Windows Explorer** and navigate to the c:\temp directory. Double click **install.bat** to run the script.
- 9)  When prompted, enter the domain and **VHAXXVbecsCluster** as the user name (replace “XX” with your two-digit VISN ID or EPS for EPS installations). For data center installations, enter **RXXVBESVCCLU01** (replace “XX” with your two-digit region ID). Enter the password (see Appendix H: Password List).
- 10) Enter the:
  - Database server name [from Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server Network Name, Row 7)]
  - Cluster Server IP address [from Appendix E: Server Configuration Checklist (Server Hardware Information, Row 6)]
  - Email address [from Appendix E: Server Configuration Checklist (Contact Information, VBECS Services support email address)]
- 11)  Check the installation log (InstallUtil.InstallLog) in c:\temp to verify that the installation was completed (no rollback messages in logs). Print the installation log for validation records.
- 12)  Click **Start, Administrative Tools, Services**. Verify that these services are listed. Capture a screen shot.
  - VBECS CPRS HL7 Client Monitor
  - VBECS CPRS HL7 Listener
  - VBECS HL7 Multi Listener
  - VBECS Patient Merge HL7 Listener
  - VBECS Patient Update HL7 Listener
  - VBECS Scheduled Report Runner
  - VBECS Service Monitor
  - VBECS Test CPRS HL7 Client Monitor
  - VBECS Test CPRS HL7 Listener
  - VBECS Test HL7 Multi Listener
  - VBECS Test Patient Merge HL7 Listener
  - VBECS Test Patient Update HL7 Listener
  - VBECS Test Scheduled Report Runner
  - VBECS Test VistALink RPC XML Listener
  - VBECS VistALink RPC XML Listener

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_



*Some services are installed as disabled. Do not activate these services unless the IM or EPS directs you to do so. Prior to starting the VBECS services, ensure that the Configure Interfaces section of Maintenance Operations in VistA Blood Establishment Computer Software (VBECS) Technical Manual-Security Guide was completed.*

## Install VBECS

- 1) **1** Log into Server 1 with your Windows ID.
- 2) To install VBECS files on the server and register the DLL for the help files, navigate to the c:\temp folder. Double click **Install\_VBECS.bat** to run the script.
- 3)  Check the Vbecs\_Install\_log.txt file in c:\temp to verify that there were no errors during the installation process (“no differences encountered” will appear in every step). Print the installation log for validation records.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 4) **2** Log into Server 2 with your Windows ID.
- 5) To install VBECS files on the server and register the DLL for the help files, navigate to the c:\temp folder. Double click **Install\_VBECS.bat** to run the script.
- 6)  Check the Vbecs\_Install\_log.txt file in c:\temp to verify that there were no errors during the installation process (“no differences encountered” will appear in every step). Print the installation log for validation records.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## 5 Install Backup Exec

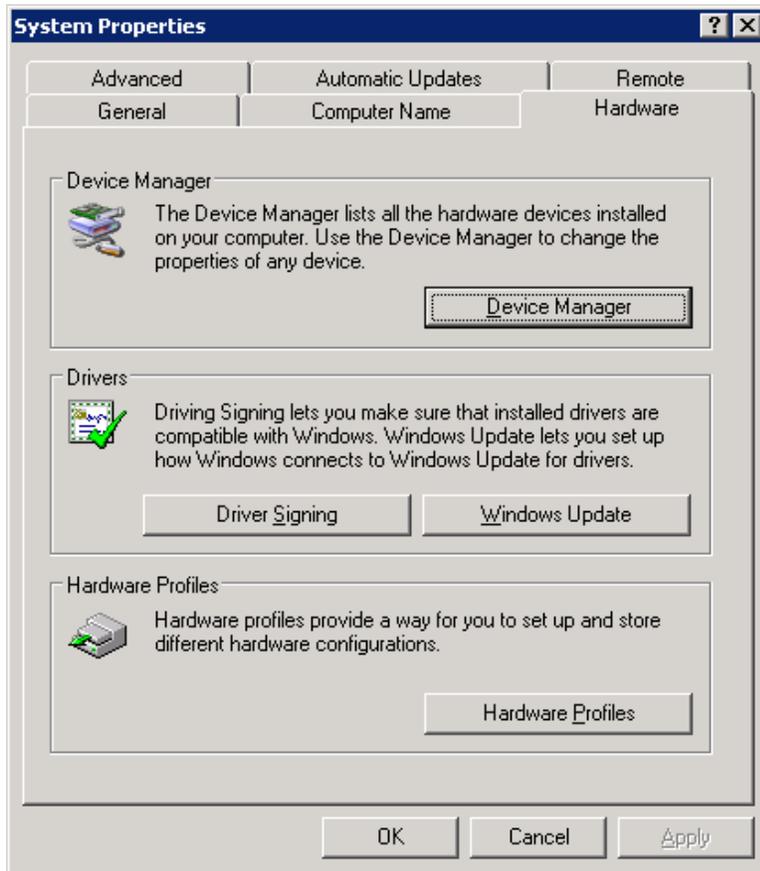
If the site chooses to use its own backup strategy (see Appendix E: Server Configuration Checklist, Backup Exec), continue at Section 7. See Appendix J: Backup Procedures for Data Centers for more information on implementing an independent backup strategy.

To ensure that the database is preserved in the event of a disaster, install Backup Exec:

- 1) Instruct server support staff to turn on the tape device.
- 2) **2** The tape drive is attached to only one server (usually Server 2, but this must be verified). Log into Server 2.
- 3) Click **Start, Control Panel, System**. Click the **Hardware** tab.

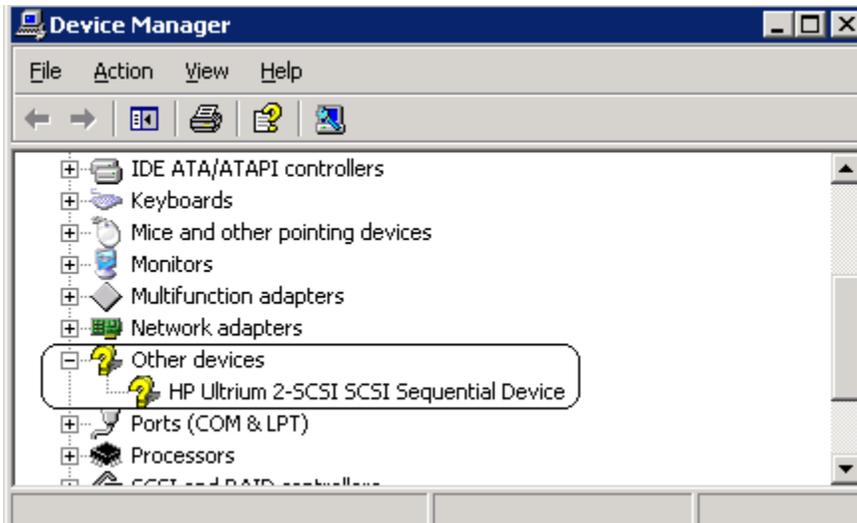
4) Click **Device Manager** (Figure 269).

**Figure 269: System Properties**



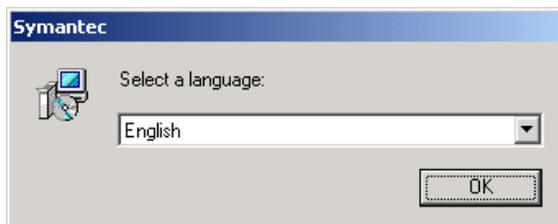
- 5) If the tape drive does not appear in Device Manager (Figure 270), it is attached to the other server. Log into the other server and repeat Steps 3-5 to verify that the server recognizes the tape device.

**Figure 270: Device Manager**



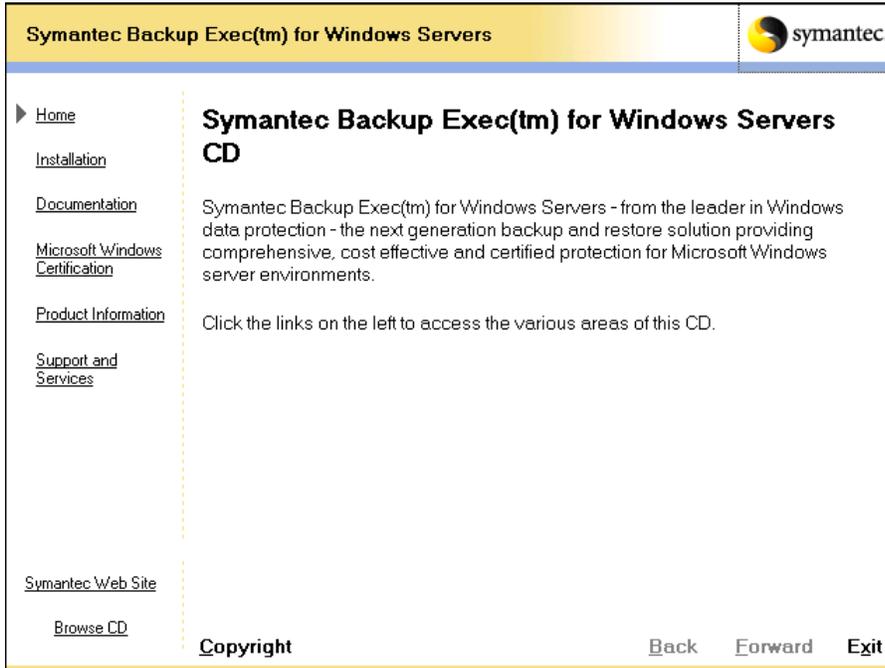
- 6) Instruct the server support staff to insert the Backup Exec CD in the CD drive of the server to which the tape device is attached.
- 7) The CD will start automatically. In the Symantec software window, click **OK** (Figure 271).

**Figure 271: Symantec Software**



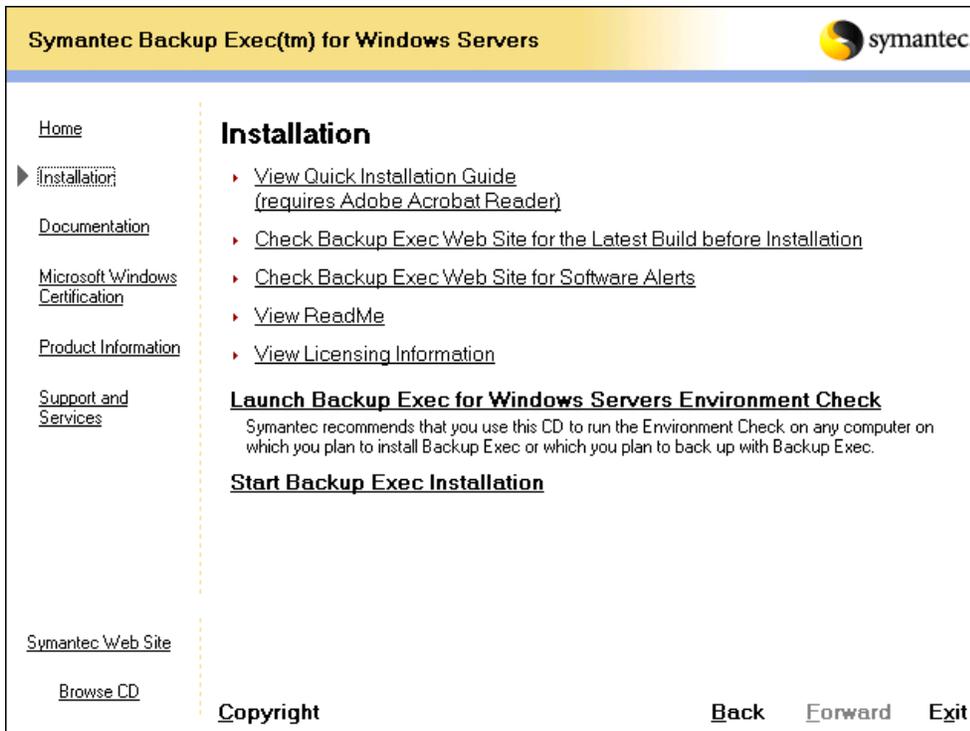
8) Click **Installation** (Figure 272).

**Figure 272: Symantec Backup Exec(tm) for Windows Servers: Home**



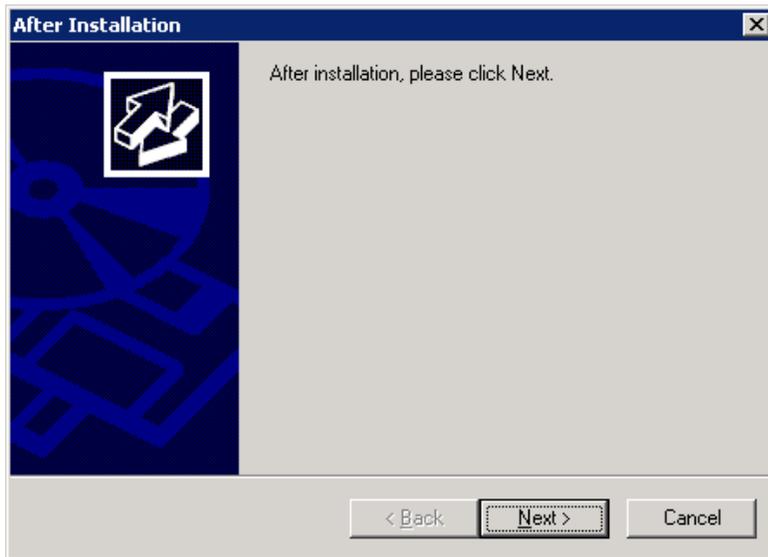
9) Click **Start Backup Exec Installation** (Figure 273).

**Figure 273: Symantec Backup Exec(tm) for Windows Servers**



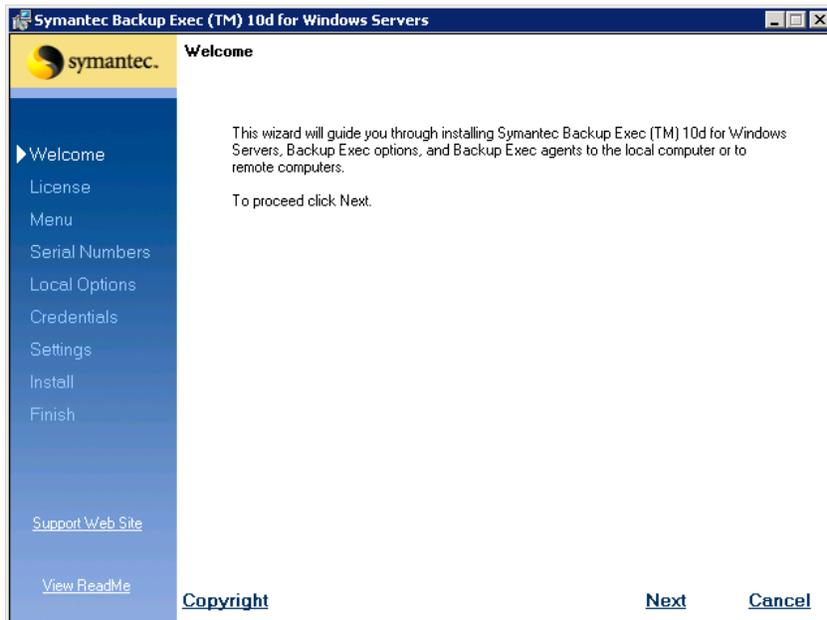
10) Ignore the After Installation screen: do *not* click **Next** (Figure 274).

**Figure 274: After Installation**



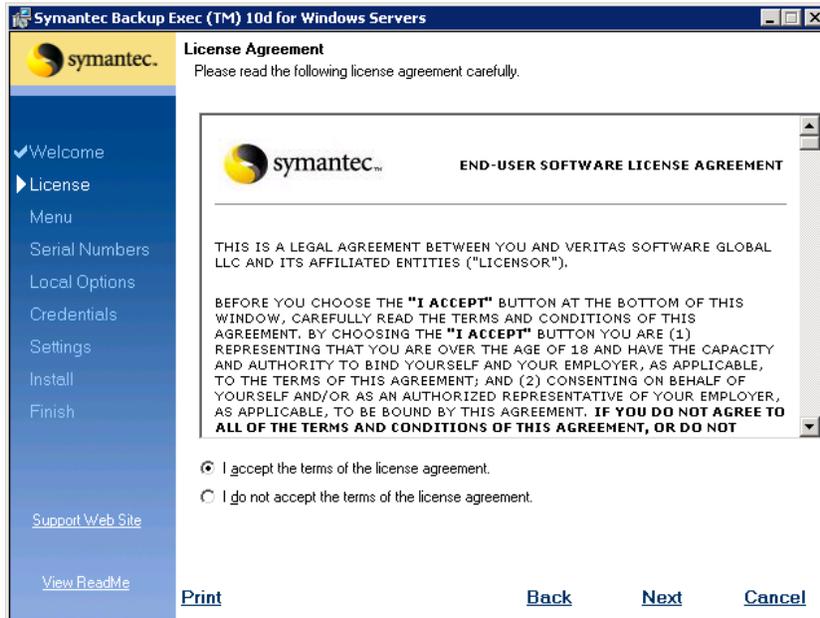
11) Click **Next** on the Welcome screen (Figure 275).

**Figure 275: Symantec Backup Exec (TM) 10d for Windows Servers: Welcome**



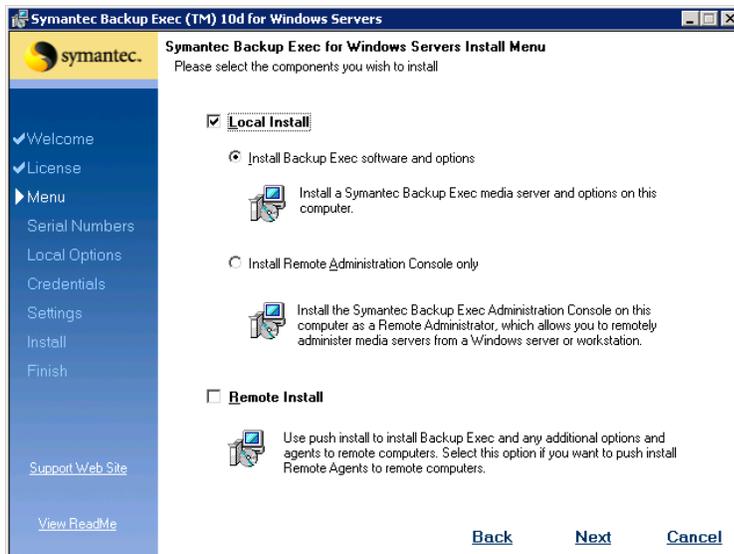
12) Click the **I accept the terms of the license agreement** radio button. Click **Next** (Figure 276).

**Figure 276: Symantec Backup Exec (TM) 1d for Windows Servers: License Agreement**



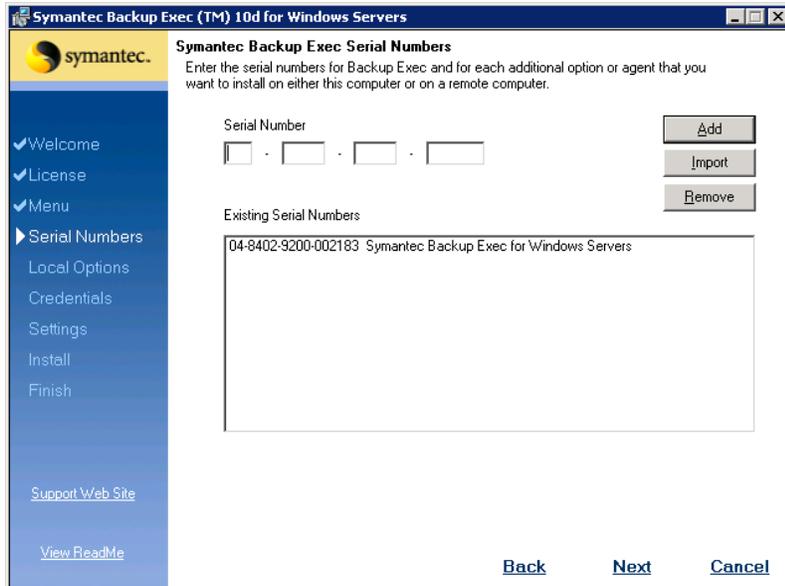
13) Keep the defaults (**Local Install** checked and **Install Backup Exec software and options** selected). Click **Next** (Figure 277).

**Figure 277: Symantec Backup Exec (TM) 10d for Windows Servers: Local Install**



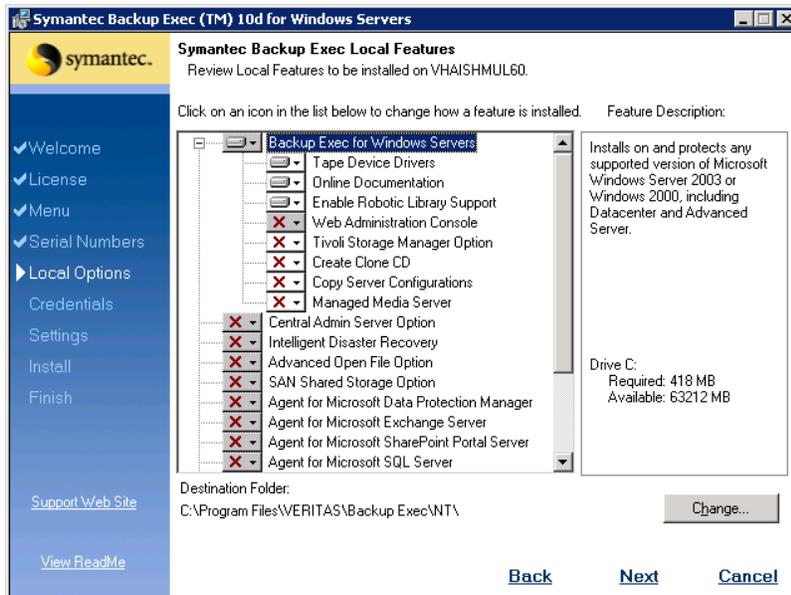
14) Enter the serial number (see IM) included with the Symantec software. Click **Add**. Click **Next** (Figure 278).

**Figure 278: Example of Symantec Backup Exec (TM) 10d for Windows Servers: Serial Numbers**



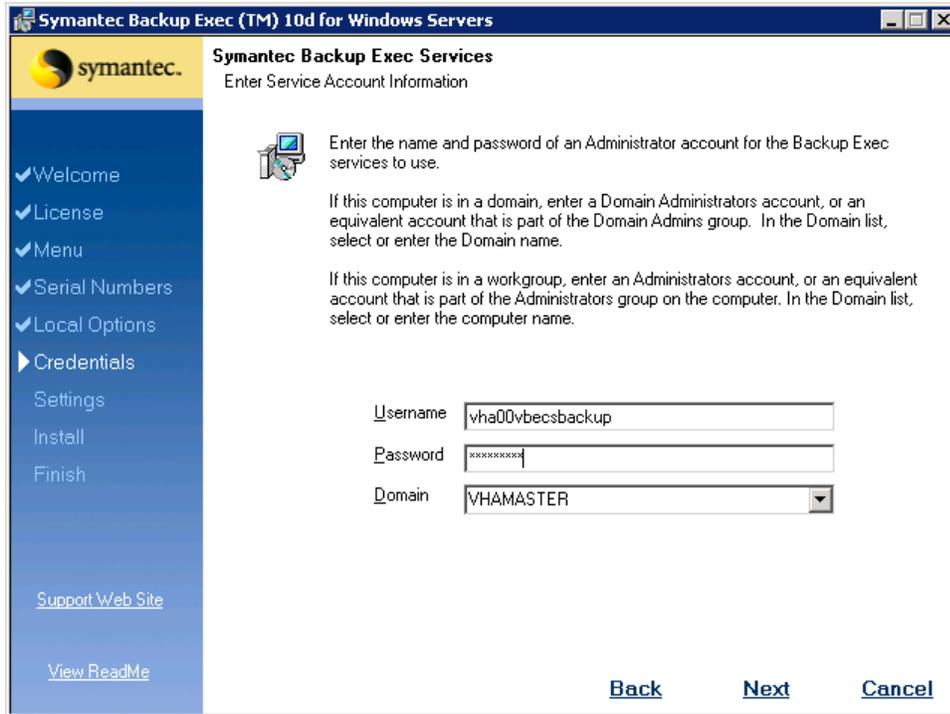
15) Click **Next** (Figure 279).

**Figure 279: Symantec Backup Exec (TM) 10d for Windows Servers: Local Features**



16) Enter **vhaXXvbecsbackup** as the user name (replace “XX” with your two-digit VISN ID). Enter the password (see Appendix H: Password List). Click **Next** (Figure 280).

**Figure 280: Example of Symantec Backup Exec (TM) 10d for Windows Servers: Services**



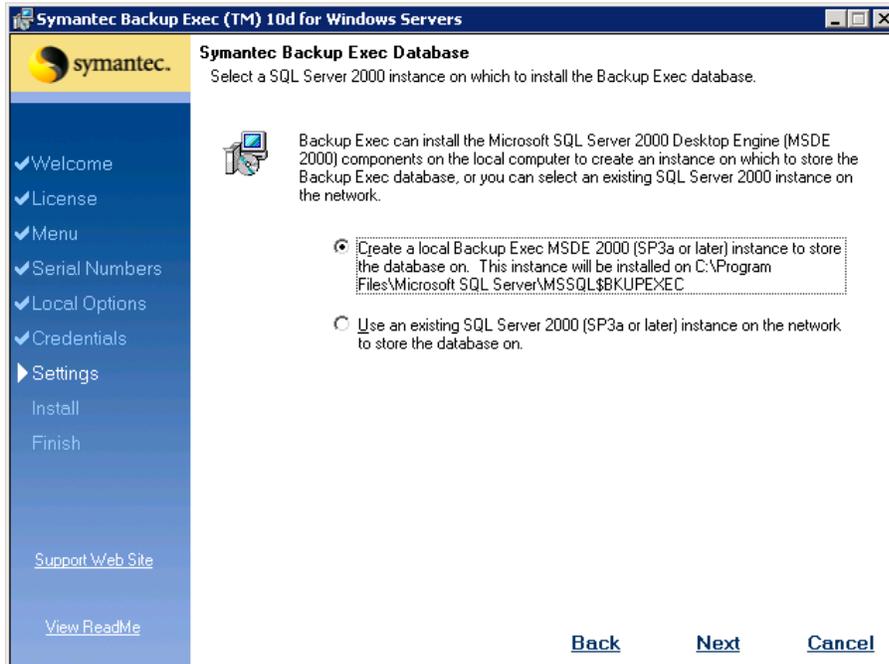
17) Click **OK** (Figure 281).

**Figure 281: Confirmation Window**



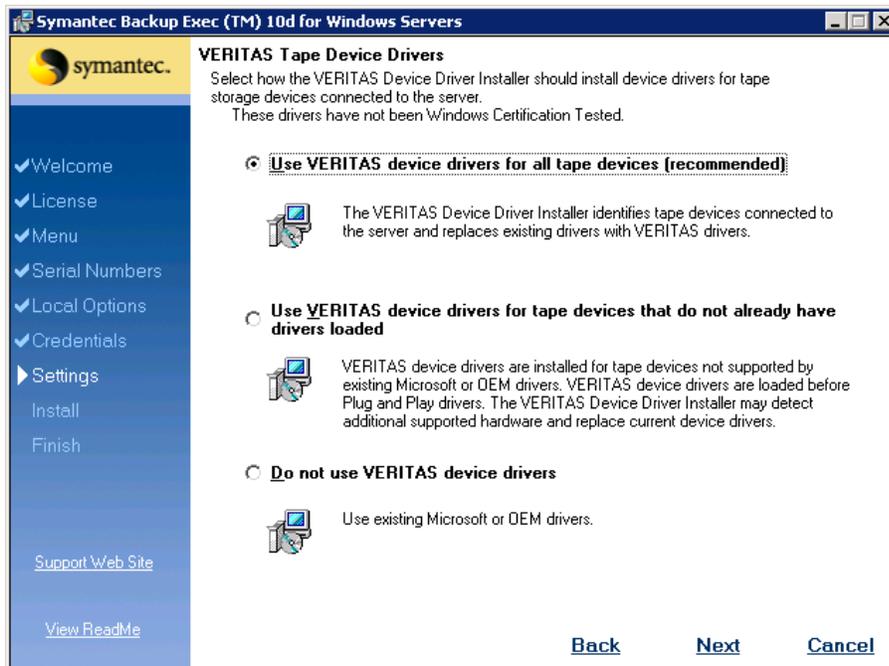
18) Keep the default radio button (**Create a local...**) selected. Click **Next** (Figure 282).

**Figure 282: Symantec Backup Exec (TM) 10d for Windows Servers: Database**



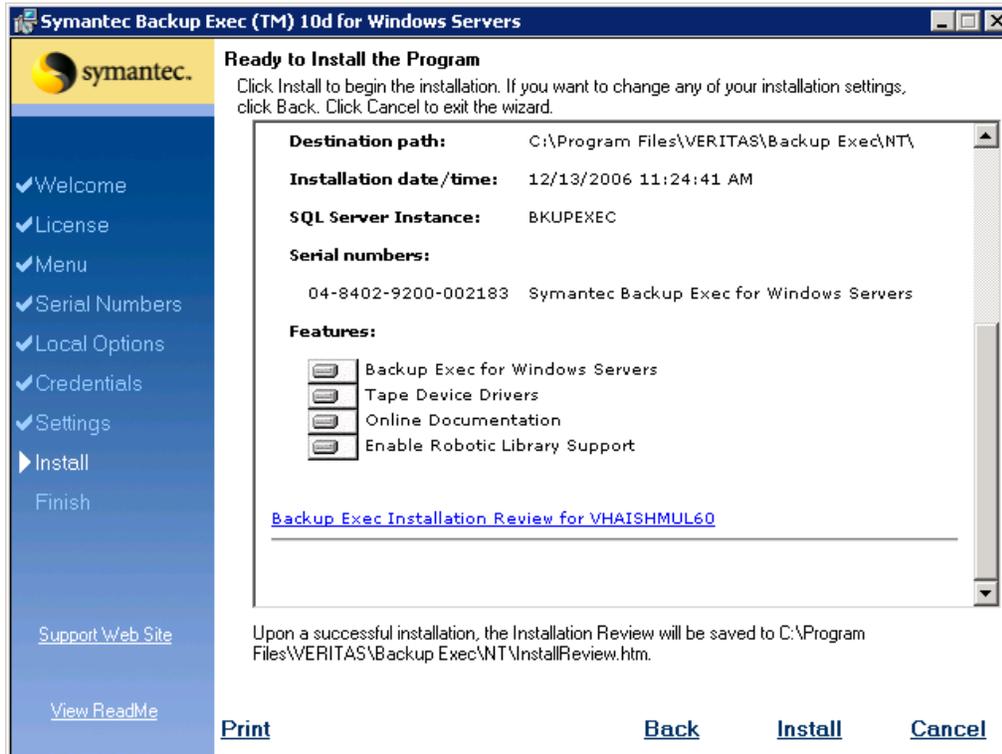
19) Keep the default radio button [Use VERITAS device drivers for all tape devices (recommended)] selected. Click **Next** (Figure 283).

**Figure 283: Symantec Backup Exec (TM) 10d for Windows Servers: Tape Device Drivers**



20) Click **Install** (Figure 284).

**Figure 284: Symantec Backup Exec (TM) 10d for Windows Servers: Ready to Install the Program**



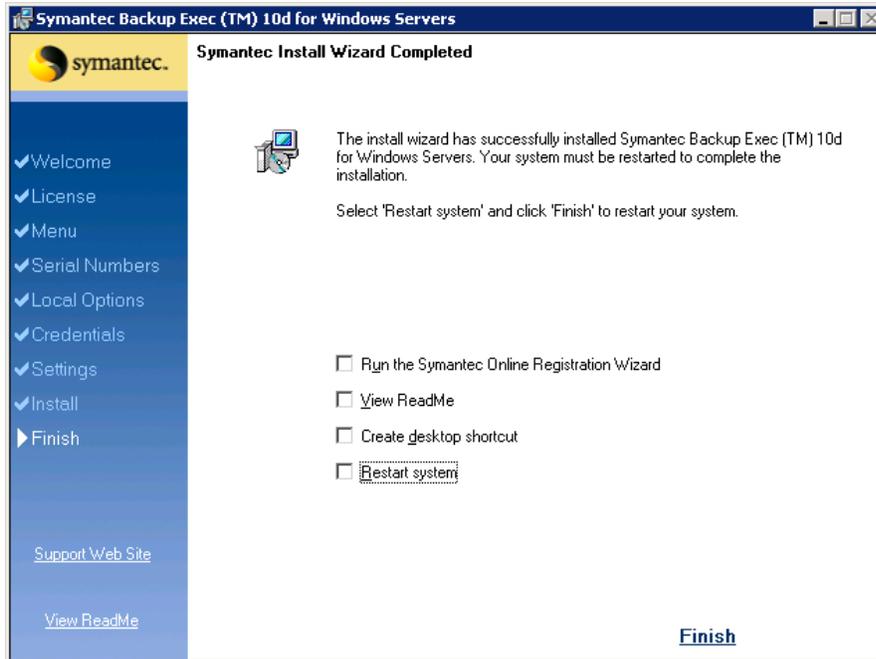
21) Click **Continue Anyway** (Figure 285).

**Figure 285: Hardware Installation Warning**



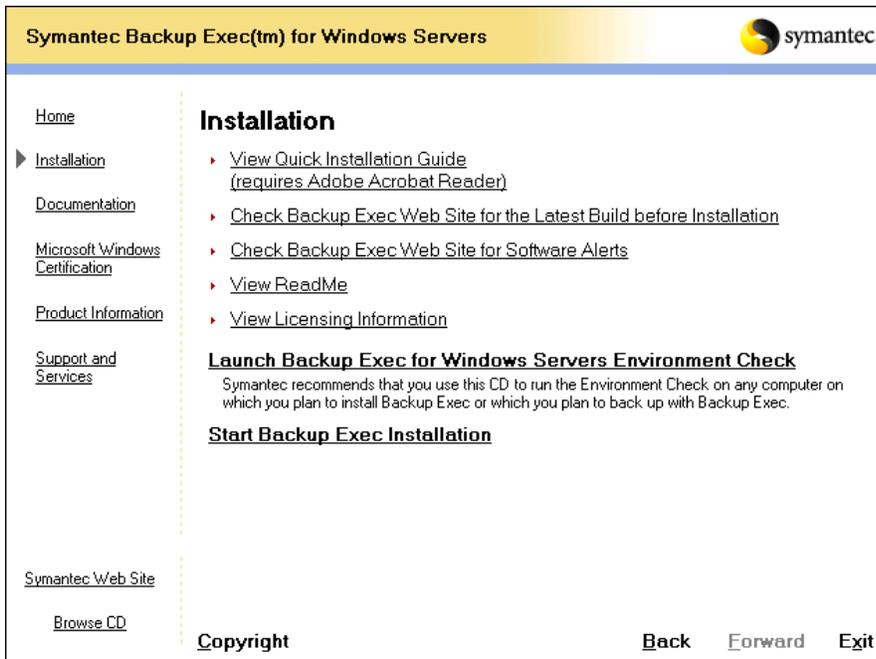
22) Uncheck all the check boxes and click **Finish** (Figure 286).

**Figure 286: Symantec Backup Exec (TM) 10d for Windows Servers: Symantec Install Wizard Completed**



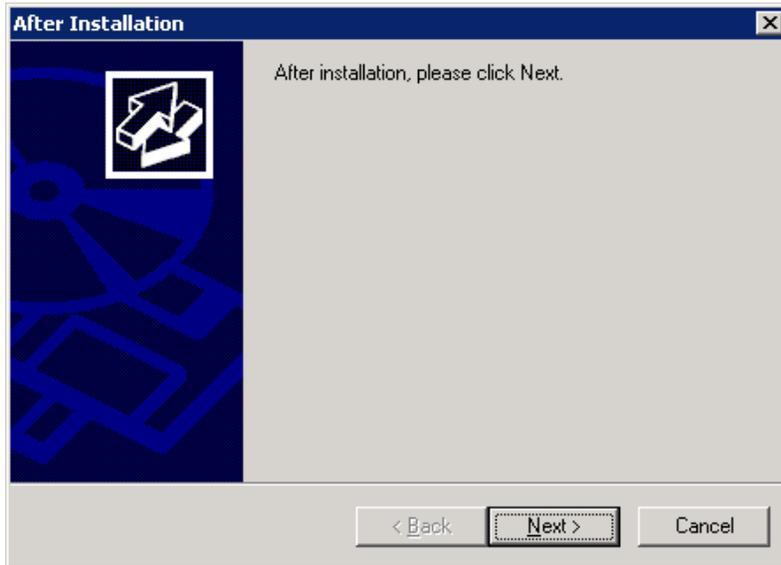
23) Click **Exit**.

**Figure 287: Symantec Backup Exec (TM) 10d for Windows Servers**



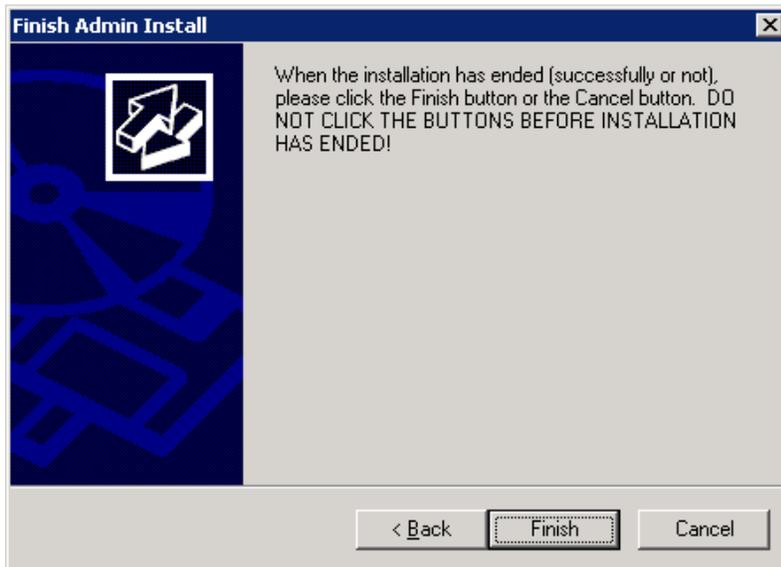
24) Click **Next** (Figure 288).

**Figure 288: After Installation**



25) Click **Finish** (Figure 289).

**Figure 289: Finish Admin Install**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

26) Click **Start, Shut Down**. Select **Restart**. Enter **Backup Exec installation** in the Comment field. Click **OK**.

## 6 Configure Backup Exec

These instructions describe the minimum settings for backups. Perform backups in accordance with local policy. Perform backups at least five days a week and move backup tapes to a secure location other than the server room.

To back up the database nightly, configure Backup Exec:

- 1) Log into the server on which Backup Exec is installed with your Windows ID.
- 2) Click **Start, All Programs, Symantec Backup Exec 10d for Windows Servers** to launch Backup Exec.
- 3) In the First Time Startup Wizard screen, click **Next** (Figure 290).

**Figure 290: First Time Startup Wizard**



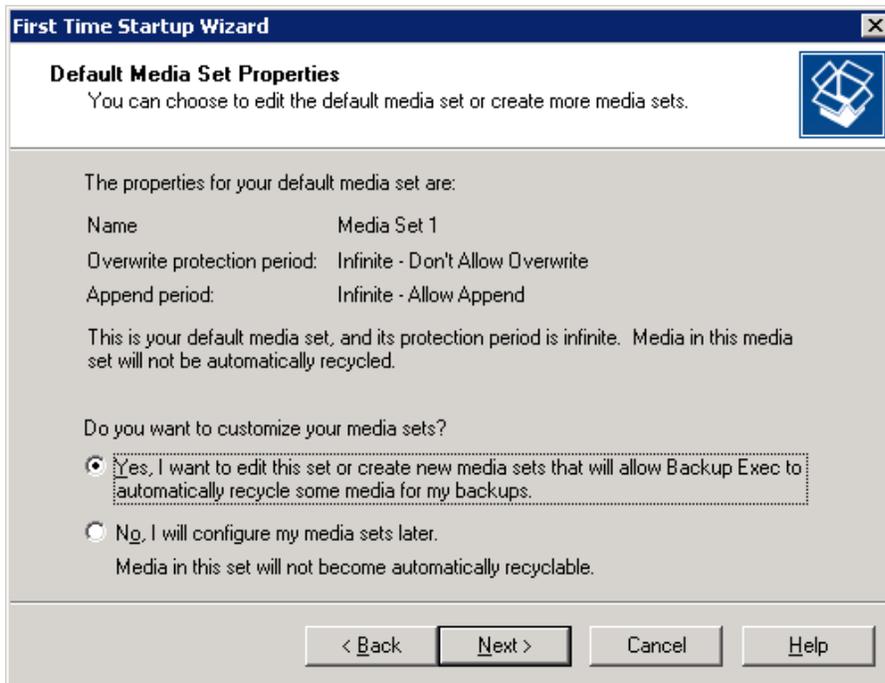
4) Click **Next** (Figure 291).

**Figure 291: First Time Startup Wizard**



5) Leave the **Yes...** radio button selected. Click **Next** (Figure 292).

**Figure 292: First Time Startup Wizard**



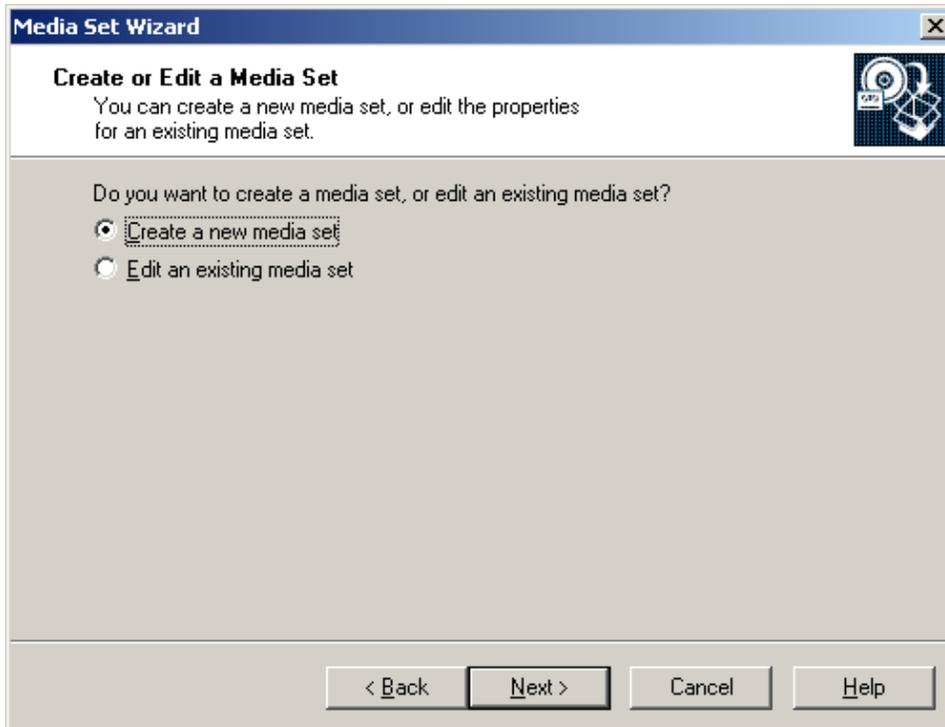
6) In the Media Set Wizard screen, click **Next** (Figure 293).

**Figure 293: Media Set Wizard**



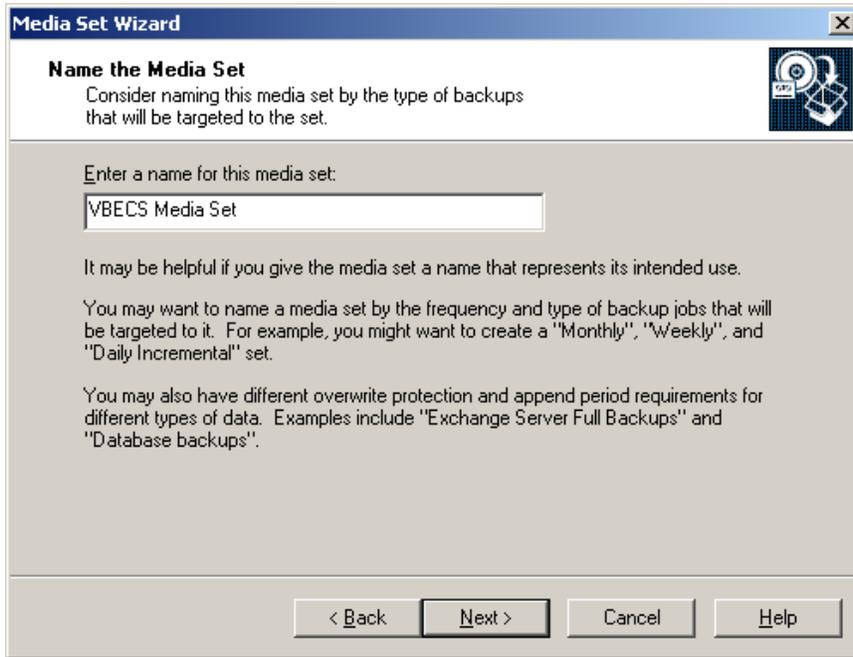
7) Leave the **Create a new media set** radio button selected. Click **Next** (Figure 294).

**Figure 294: Media Set Wizard**



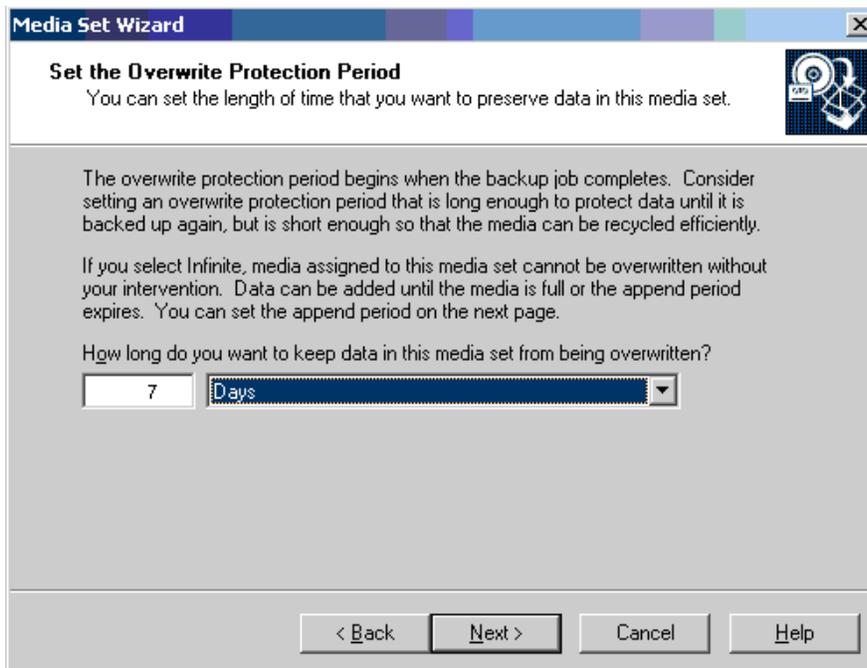
8) Enter **VBECS Media Set** in the field. Click **Next** (Figure 295).

**Figure 295: Media Set Wizard**



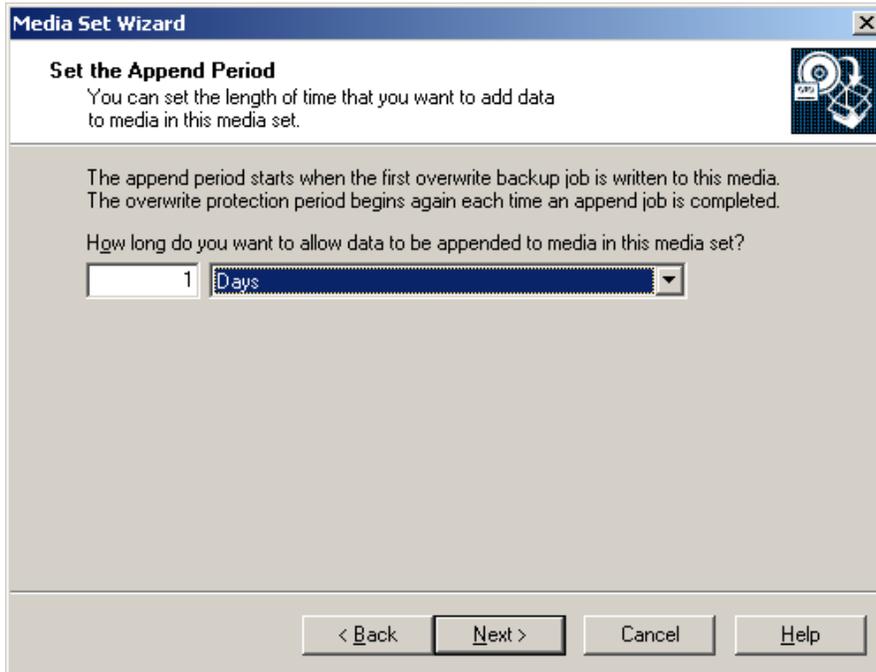
9) Change the overwrite protection to 7 days. Click **Next** (Figure 296).

**Figure 296: Media Set Wizard**



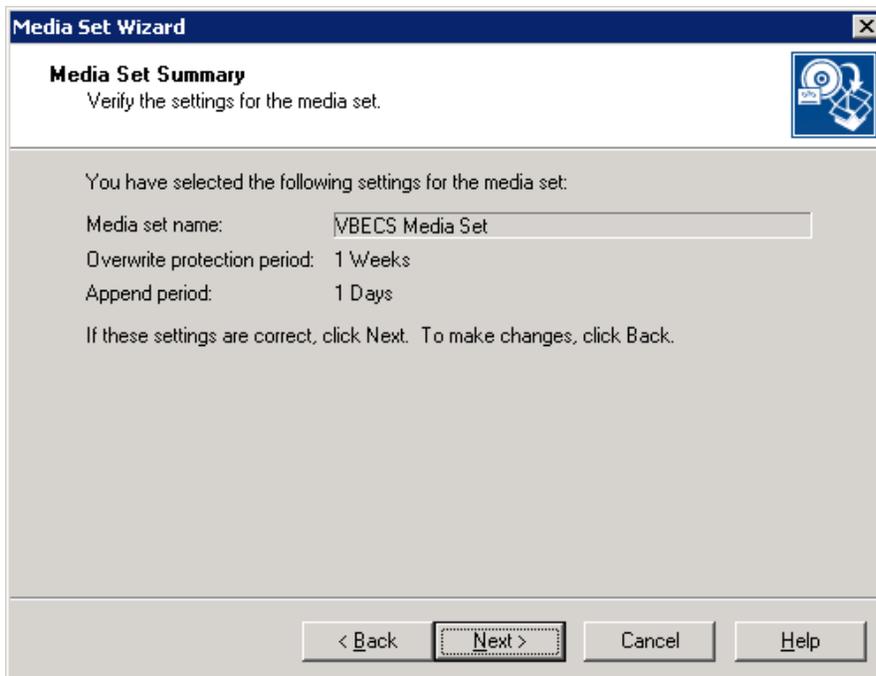
10) Change the period to 1 day. Click **Next** (Figure 297).

**Figure 297: Media Set Wizard**



11) In the Media Set Summary screen, click **Next** (Figure 298).

**Figure 298: Media Set Wizard**



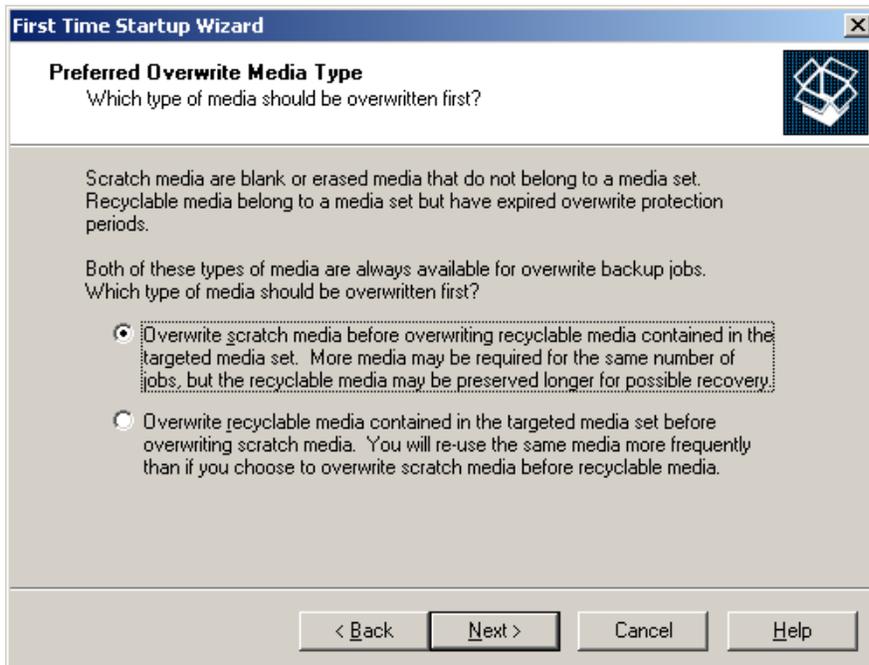
12) Do not check the check box. Click **Finish** to complete the Media Set Wizard (Figure 299).

**Figure 299: Media Set Wizard finished**



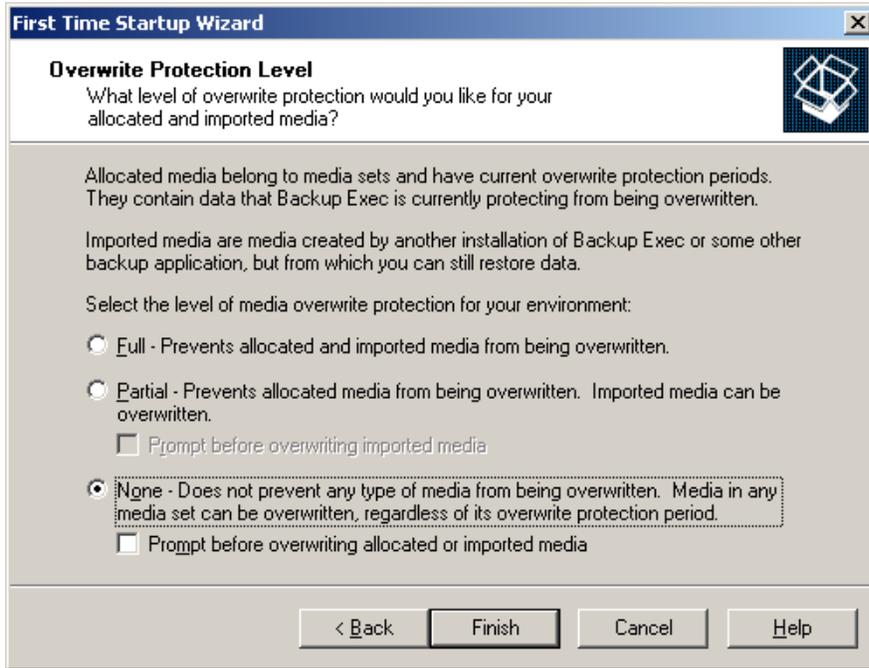
13) Leave the **Overwrite scratch media...** radio button selected. Click **Next** (Figure 300).

**Figure 300: First Time Startup Wizard**



14) Select the **None** radio button. Uncheck the **Prompt before overwriting** check box. Click **Finish** (Figure 301).

**Figure 301: First Time Startup Wizard**



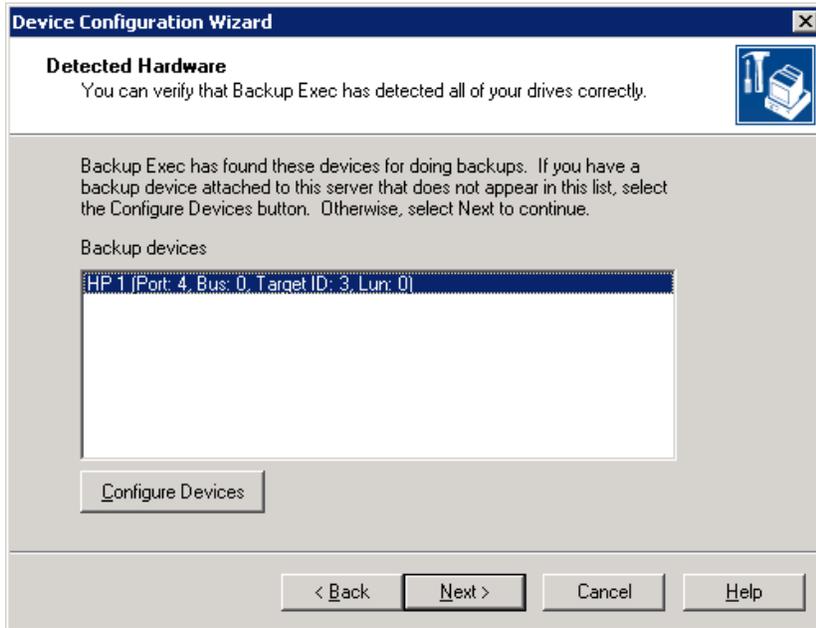
15) Make sure the tape backup device is turned on. In the Device Configuration Wizard screen, click **Next** (Figure 302).

**Figure 302: Welcome**



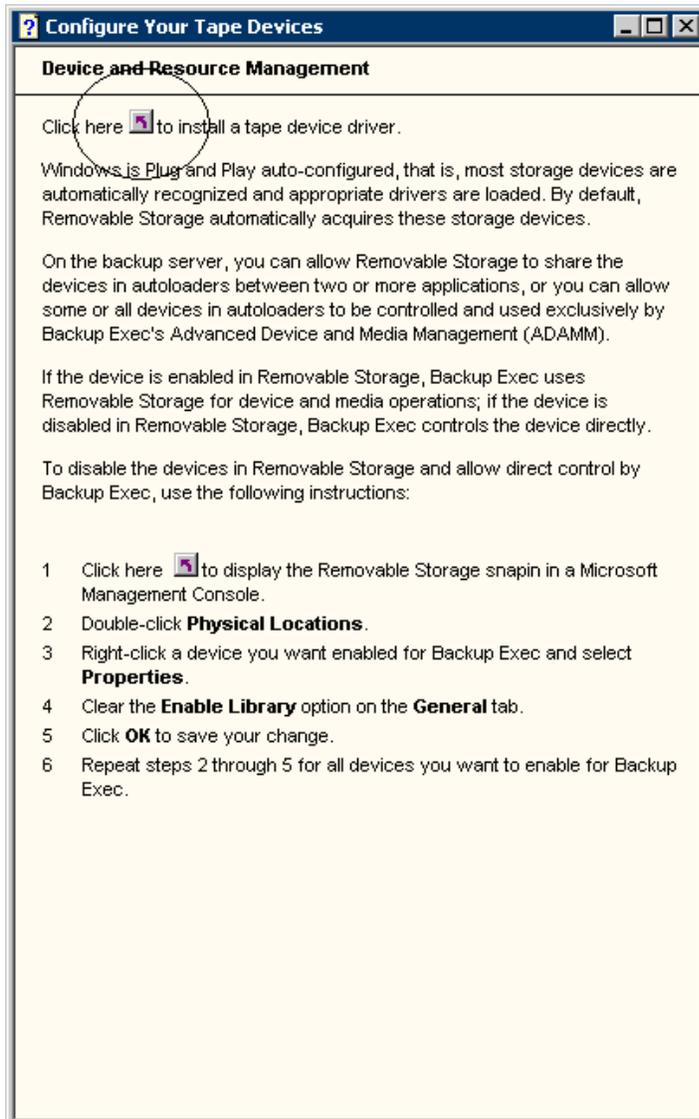
16) Click **Configure Devices** (Figure 303).

**Figure 303: Device Configuration Wizard**



- 17) In the Configure Your Tape Devices dialog, click the top icon with the red arrow (📌) to install VERITAS device drivers (Figure 304).

**Figure 304: Configure Your Tape Devices**



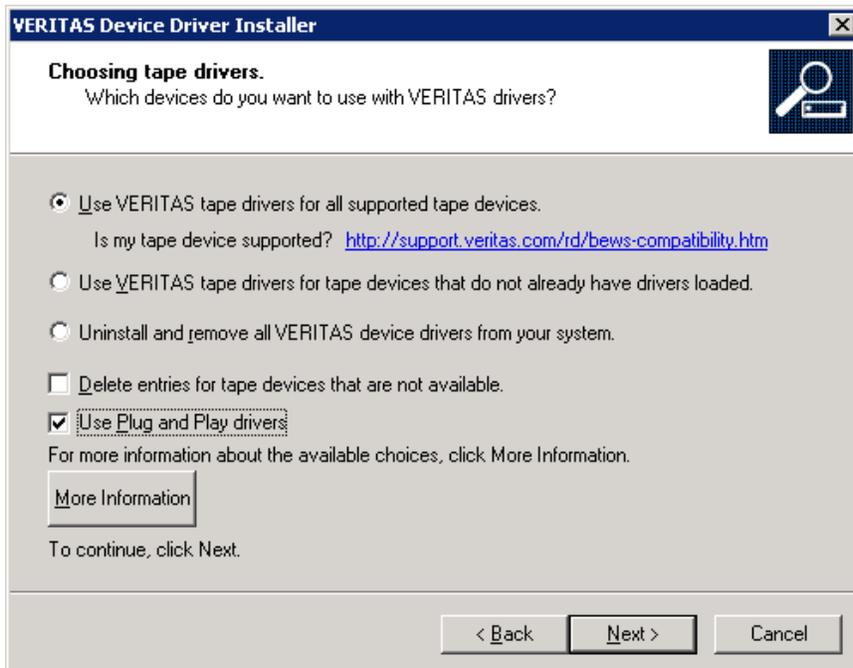
18) The Device Driver Installer starts. Click **Next** (Figure 305).

**Figure 305: VERITAS Device Driver Installer**



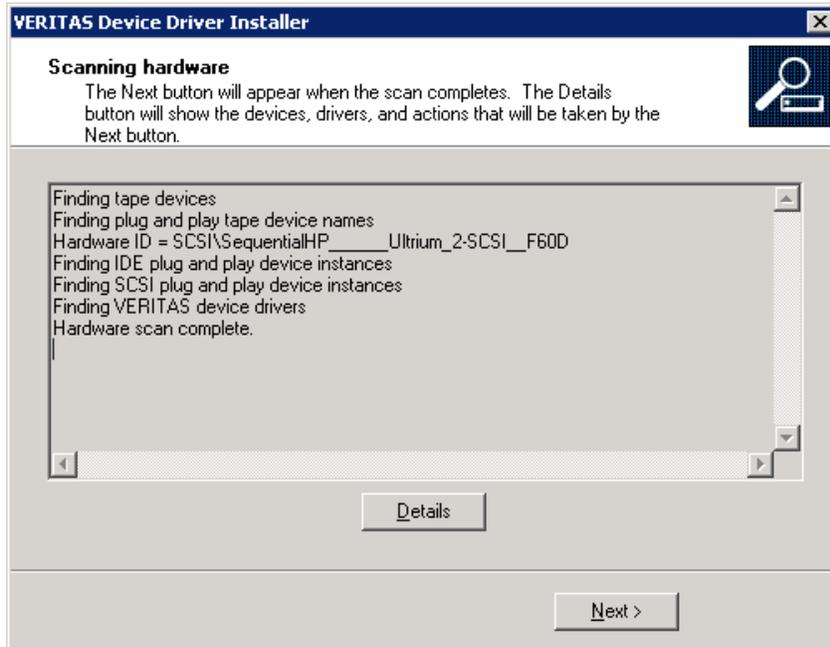
19) Leave the **Use VERITAS tape drivers for all tape devices** radio button selected. Check **Use Plug and Play drivers**. Click **Next** (Figure 306).

**Figure 306: VERITAS Device Driver Installer**



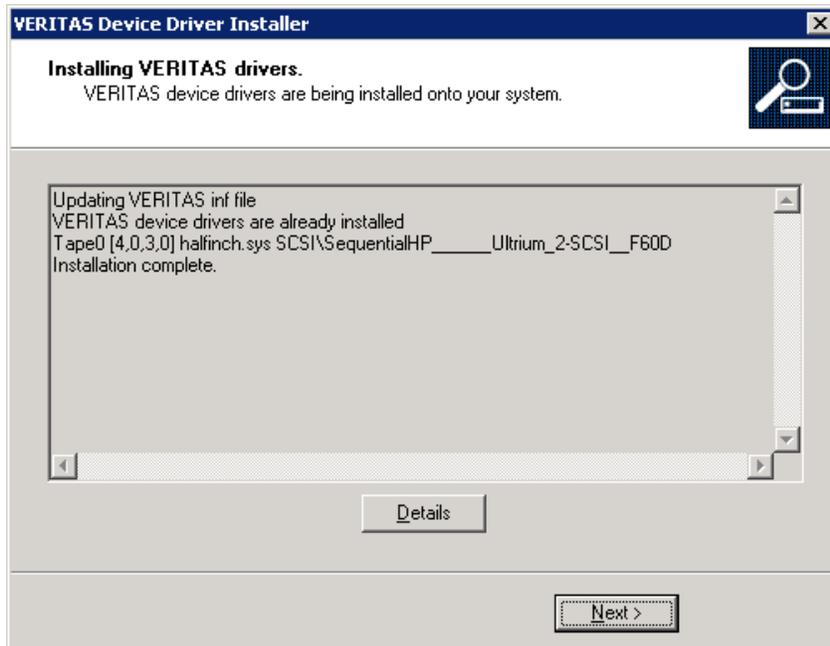
20) In the Scanning Hardware window, click **Next** (Figure 307).

**Figure 307: VERITAS Device Driver Installer**



21) Click **Next** (Figure 308).

**Figure 308: VERITAS Device Driver Installer**



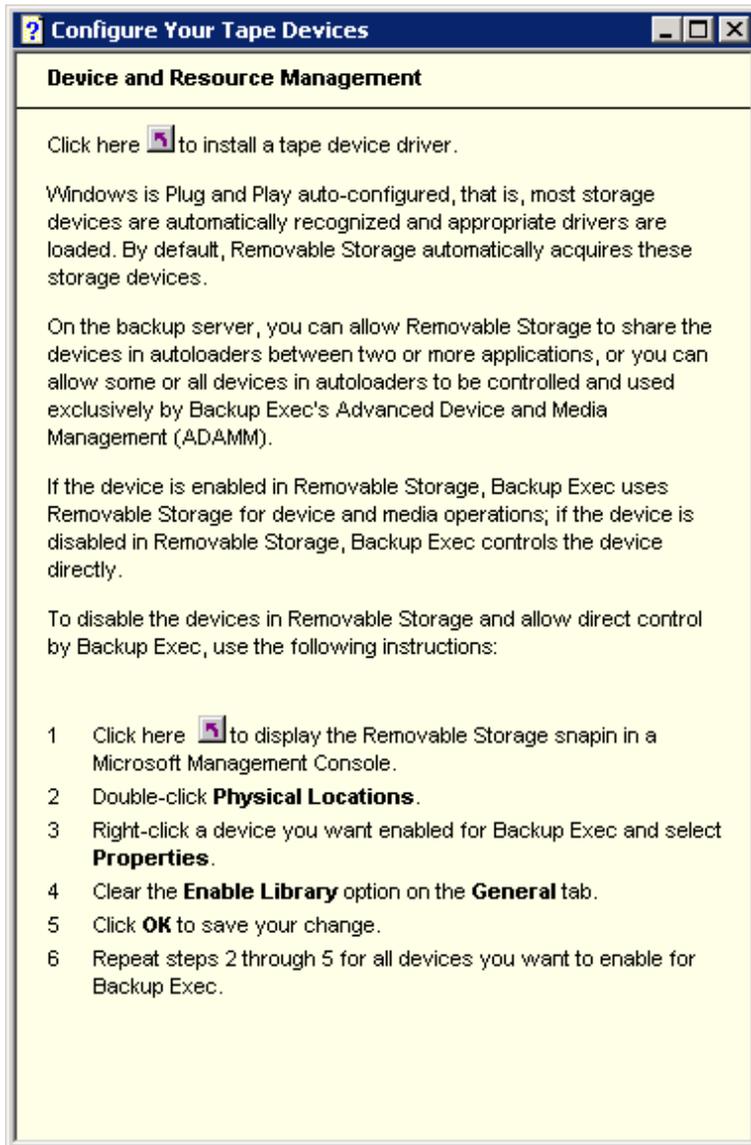
22) Click **Finish** (Figure 309).

**Figure 309: VERITAS Device Driver Installer**



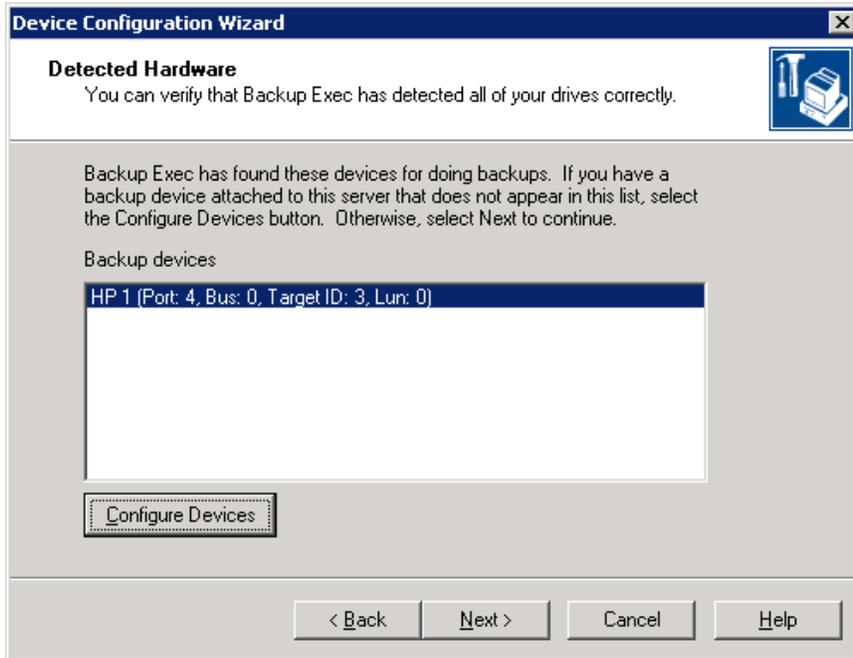
23) Click **X** in the upper right corner to close the Configure Your Tape Devices window (Figure 310).

**Figure 310: Configure Your Tape Devices**



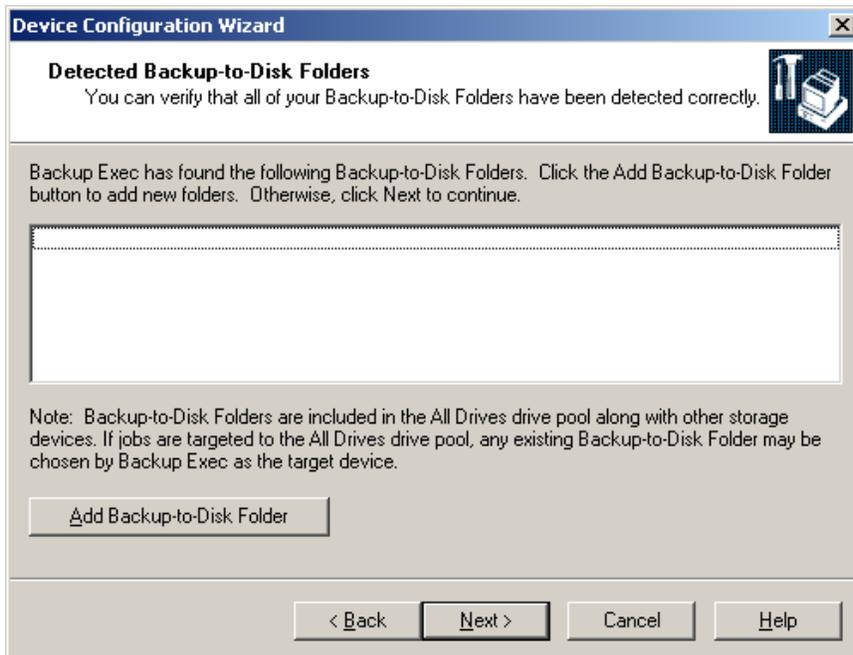
24) Click **Next** (Figure 311).

**Figure 311: Device Configuration Wizard**



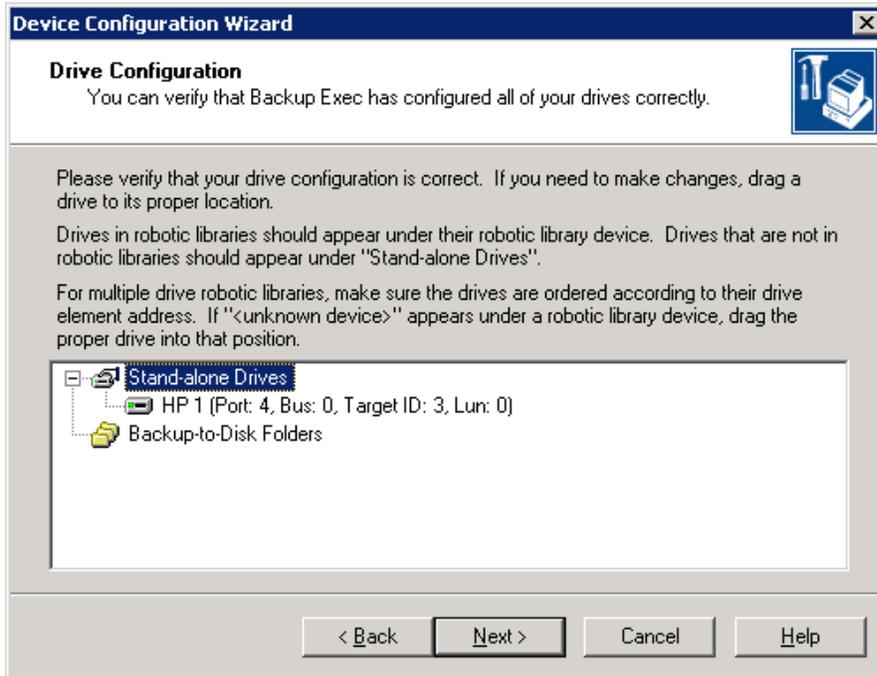
25) In the Detected Backup-to-Disk Folders window, click **Next** (Figure 312).

**Figure 312: Device Configuration Wizard**



26) Click **Next** (Figure 313).

**Figure 313: Device Configuration Wizard**



27) Click **Finish** to complete the installation (Figure 314).

**Figure 314: Device Configuration Wizard**



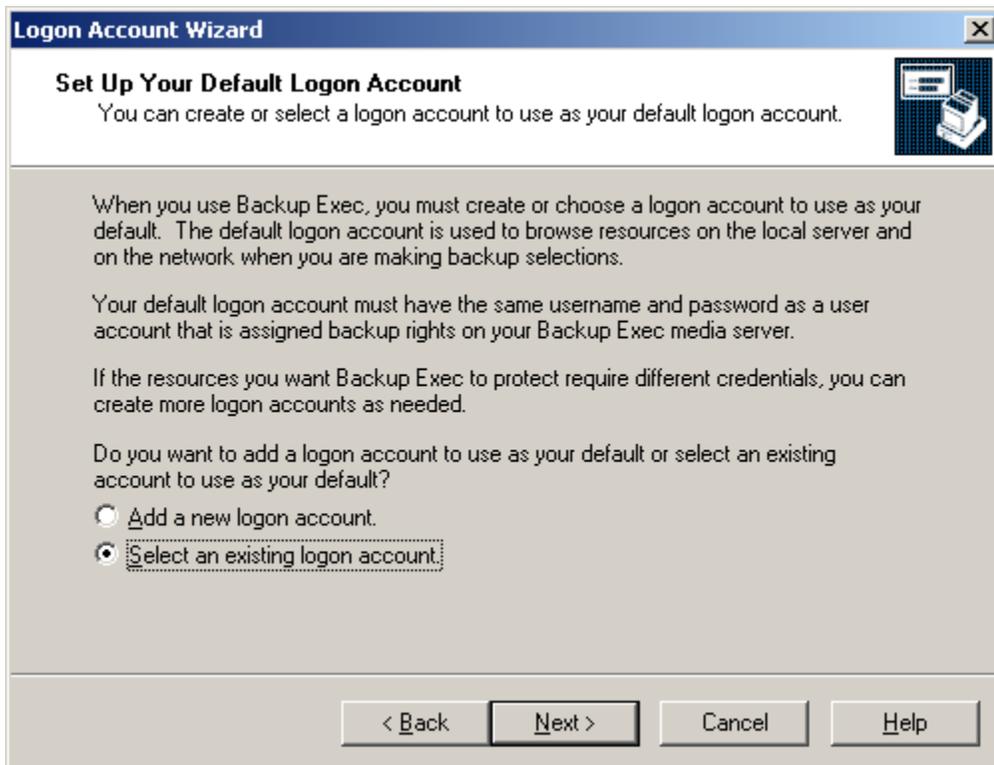
28) In the Logon Account Wizard screen, click **Next** (Figure 315).

**Figure 315: Logon Account Welcome**



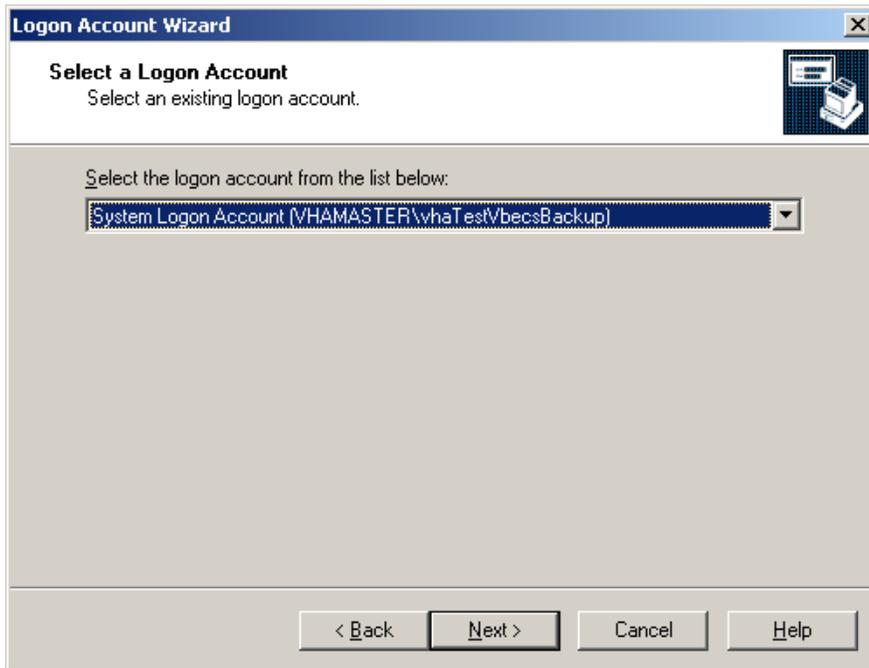
29) Click the **Select an existing logon account** radio button. Click **Next** (Figure 316).

**Figure 316: Logon Account Wizard**



30) Leave the System Logon Account selected. Click **Next** (Figure 317).

**Figure 317: Example of Select a Logon Account**



31) Leave the check box unchecked. Click **Finish** (Figure 318).

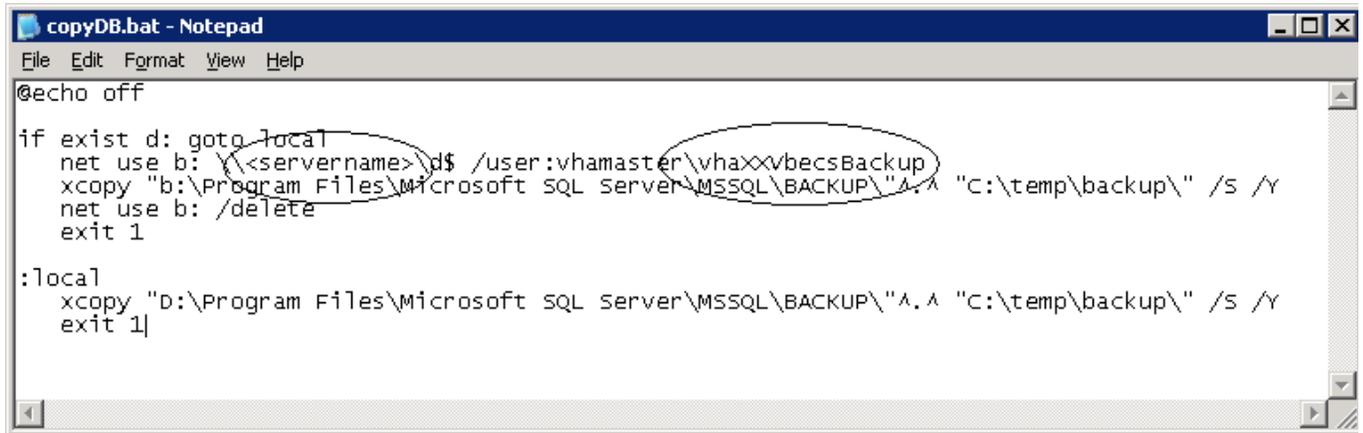
**Figure 318: You have completed the Logon Account Wizard**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 32) Configure the backup job: using Windows Explorer, navigate to C:\Program Files\Vista\Vbecs\Backup and edit the copyDB.bat file: change <servername> to reflect the name of the other server in the cluster [not the one you are currently logged into (Figure 319)].

**Figure 319: copyDB.bat File**

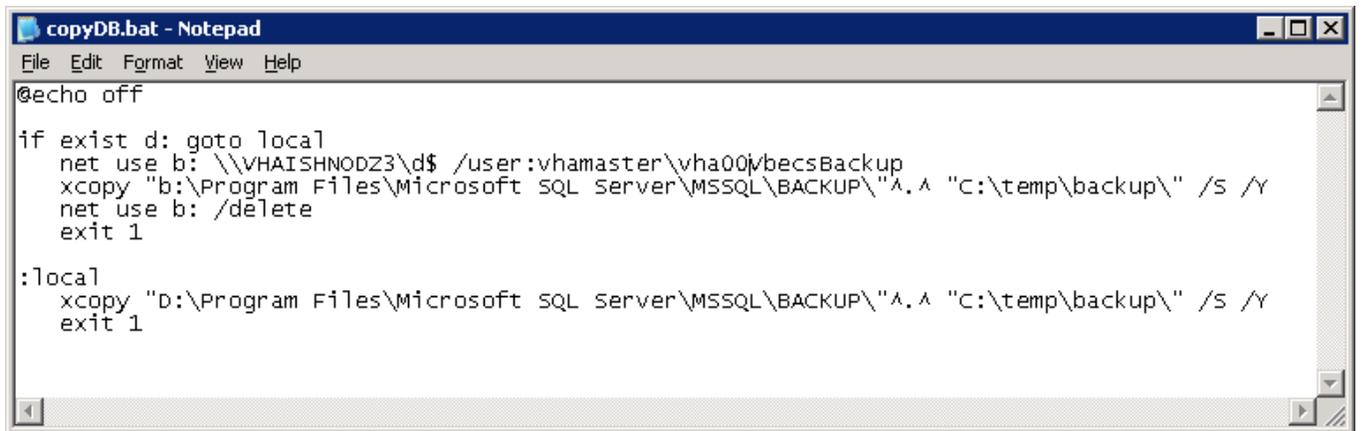


```
copyDB.bat - Notepad
File Edit Format View Help
@echo off
if exist d: goto local
net use b: \\<servername>d$ /user:vhamaster\vhaXXvbecsBackup
xcopy "b:\Program Files\Microsoft SQL Server\MSSQL\BACKUP"*.^ "c:\temp\backup\" /s /Y
net use b: /delete
exit 1

:local
xcopy "d:\Program Files\Microsoft SQL Server\MSSQL\BACKUP"*.^ "c:\temp\backup\" /s /Y
exit 1
```

- 33) Replace “XX” in VHAXXVbecsBackup with your two-digit VISN ID. Save the file (Figure 320).

**Figure 320: Example of Configured copyDB.bat File**

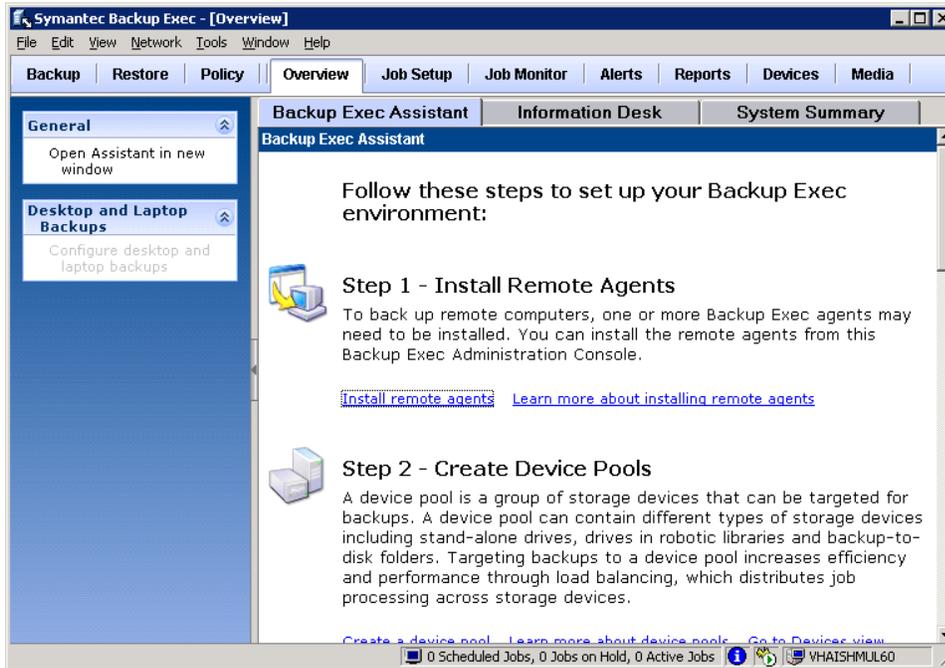


```
copyDB.bat - Notepad
File Edit Format View Help
@echo off
if exist d: goto local
net use b: \\VHAISHMODZ3\d$ /user:vhamaster\vha00vbecsBackup
xcopy "b:\Program Files\Microsoft SQL Server\MSSQL\BACKUP"*.^ "c:\temp\backup\" /s /Y
net use b: /delete
exit 1

:local
xcopy "d:\Program Files\Microsoft SQL Server\MSSQL\BACKUP"*.^ "c:\temp\backup\" /s /Y
exit 1
```

34) Click the **Backup** tab (Figure 321).

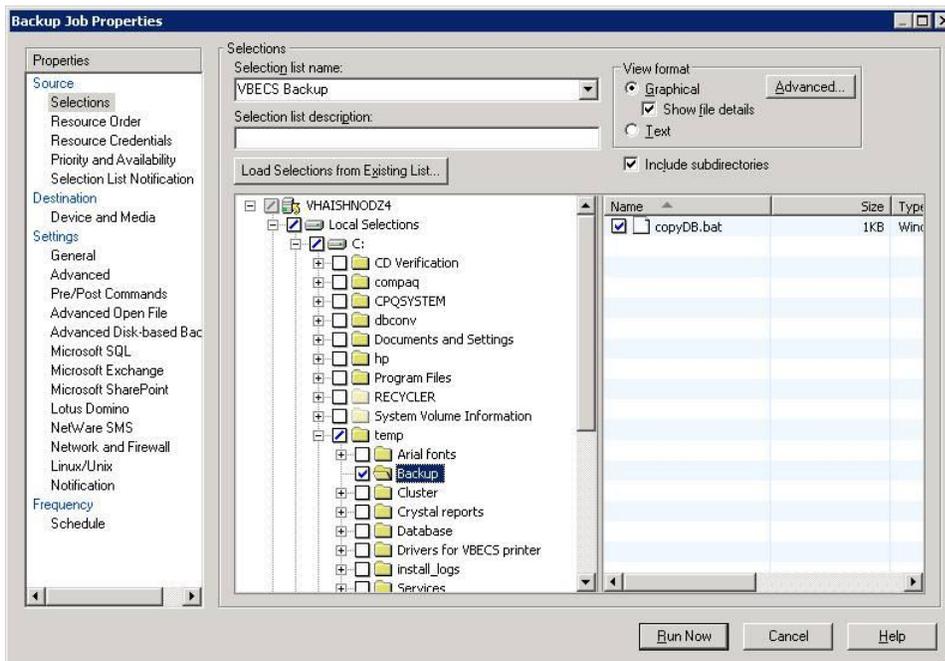
**Figure 321: Symantec Backup Exec – [Overview]**



35) In the “Selection list name” field, enter **VBECS Backup** (Figure 322). Select all folders and files under \Backup.

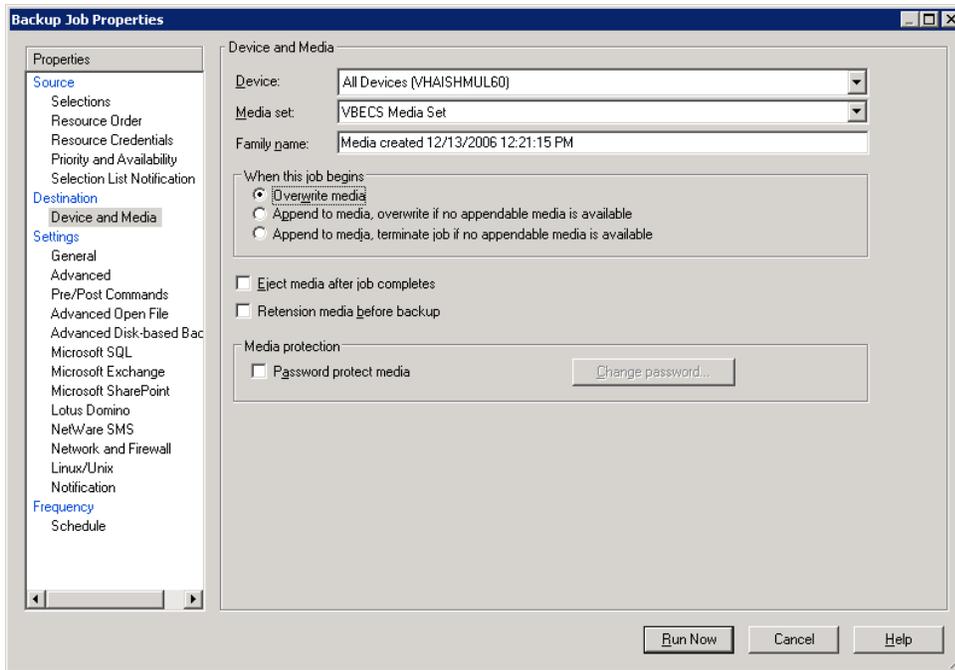
36) Click **Device and Media** in the Properties pane (Figure 322).

**Figure 322: Backup Job Properties**



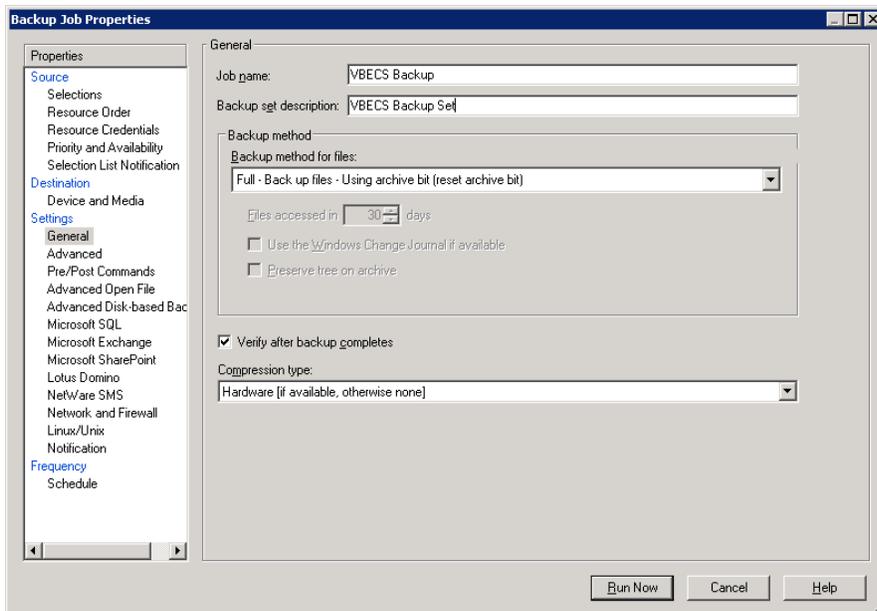
37) Select **VBECs Media Set** from the “Media set” drop-down menu. Click the **Overwrite media** radio button. Keep the defaults for all other fields. Click **General** in the Properties pane (Figure 323).

**Figure 323: Backup Job Properties**



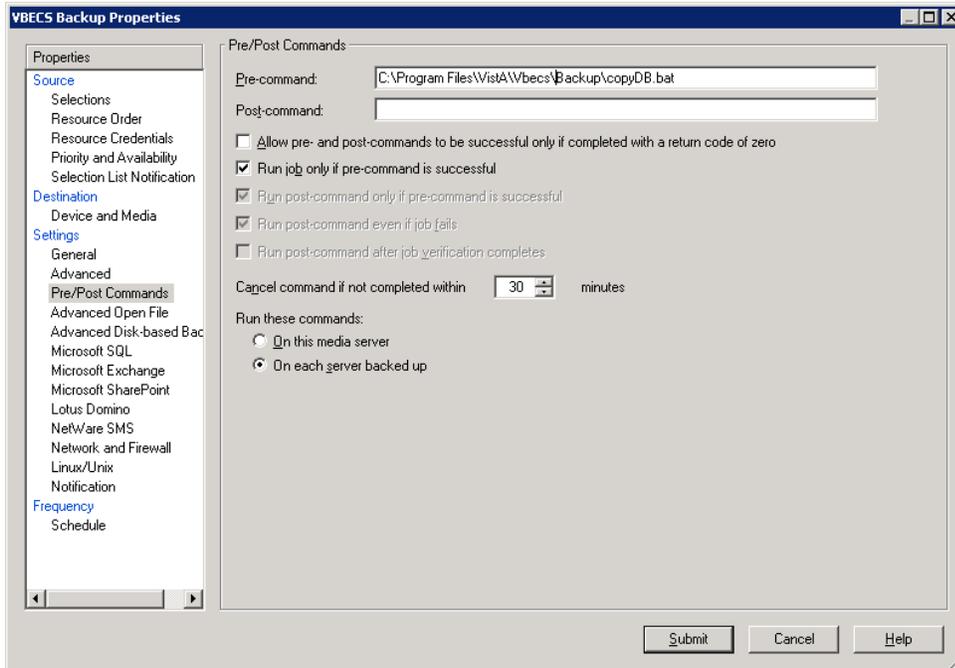
38) Change the text in the “Job name” field to “VBECs Backup.” Change the text in the “Backup set description” field to “VBECs Backup Set.” Keep all other defaults. Click **Pre/Post Commands** in the Properties pane (Figure 324).

**Figure 324: Backup Job Properties**



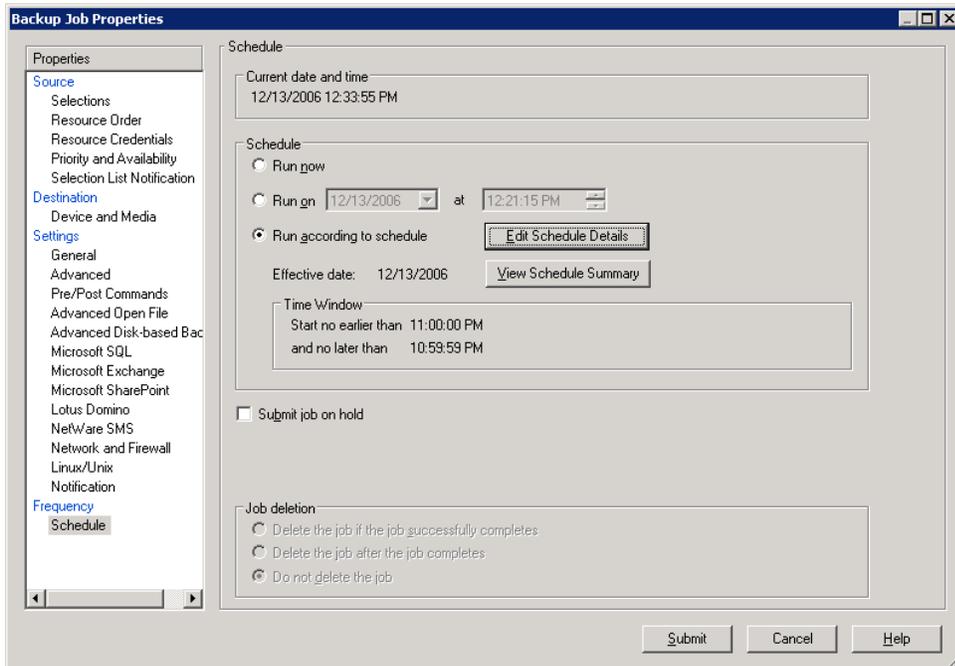
- 39) Change the text in the “Pre-command” field to:  
 C:\Program Files\Vista\Vbecs\Backup\copyDB.bat  
 Check the **Run job only if pre-job command is successful** check box. Keep all other defaults.  
 Click **Schedule** in the Properties pane (Figure 325).

**Figure 325: Backup Job Properties**



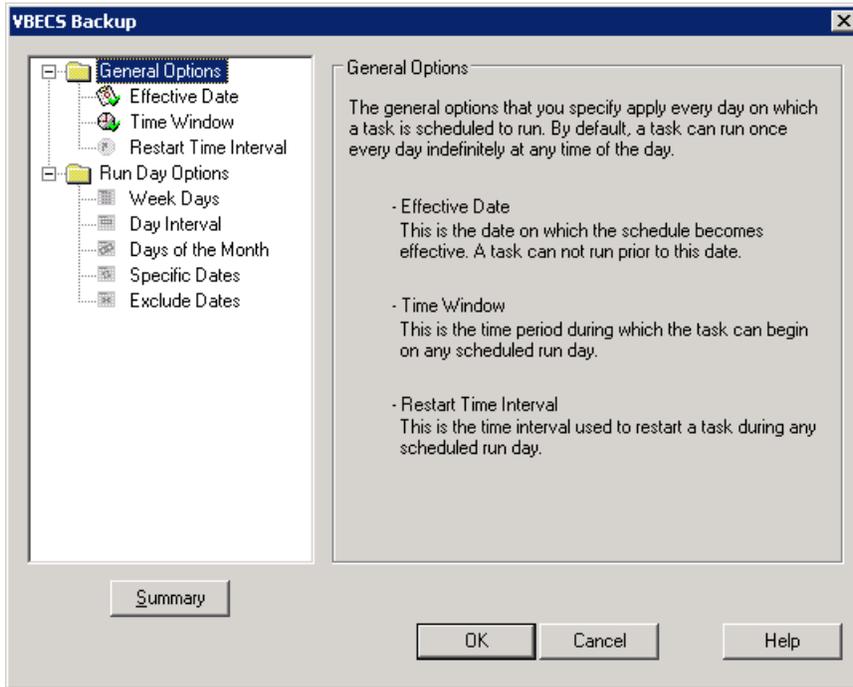
- 40) Click the **Run according to schedule** radio button (Figure 326).

**Figure 326: Backup Job Properties**



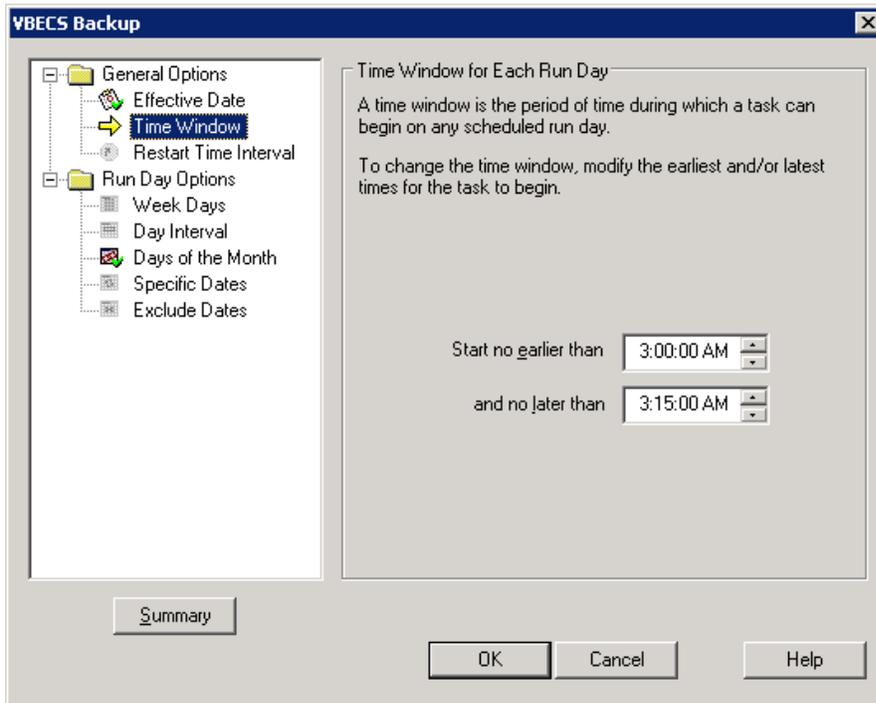
41) Click **Time Window** in the left pane (Figure 327).

**Figure 327: VBECS Backup**



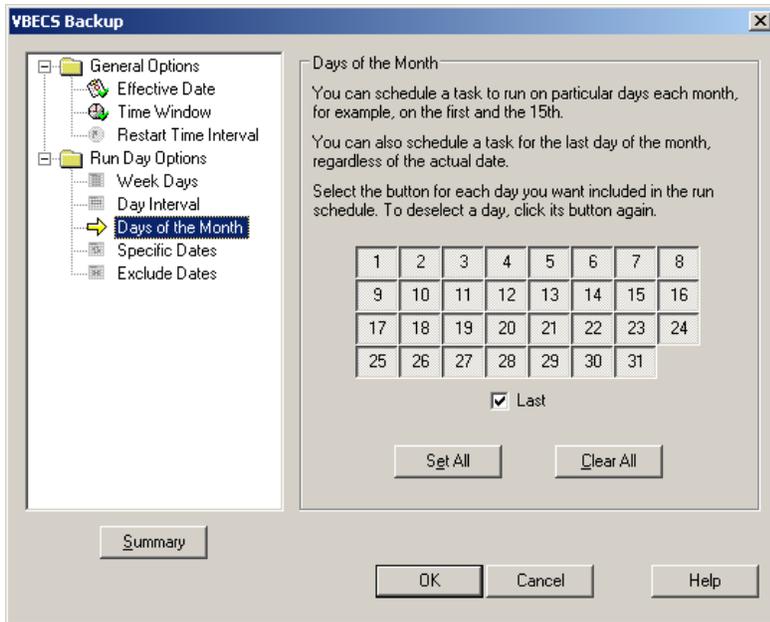
42) Select **3:00:00 AM** from the “Start no earlier than” drop-down menu and **3:15:00 AM** from the “and no later than” drop-down menu. Click **Days of the Month** in the left pane (Figure 328).

**Figure 328: VBECS Backup**



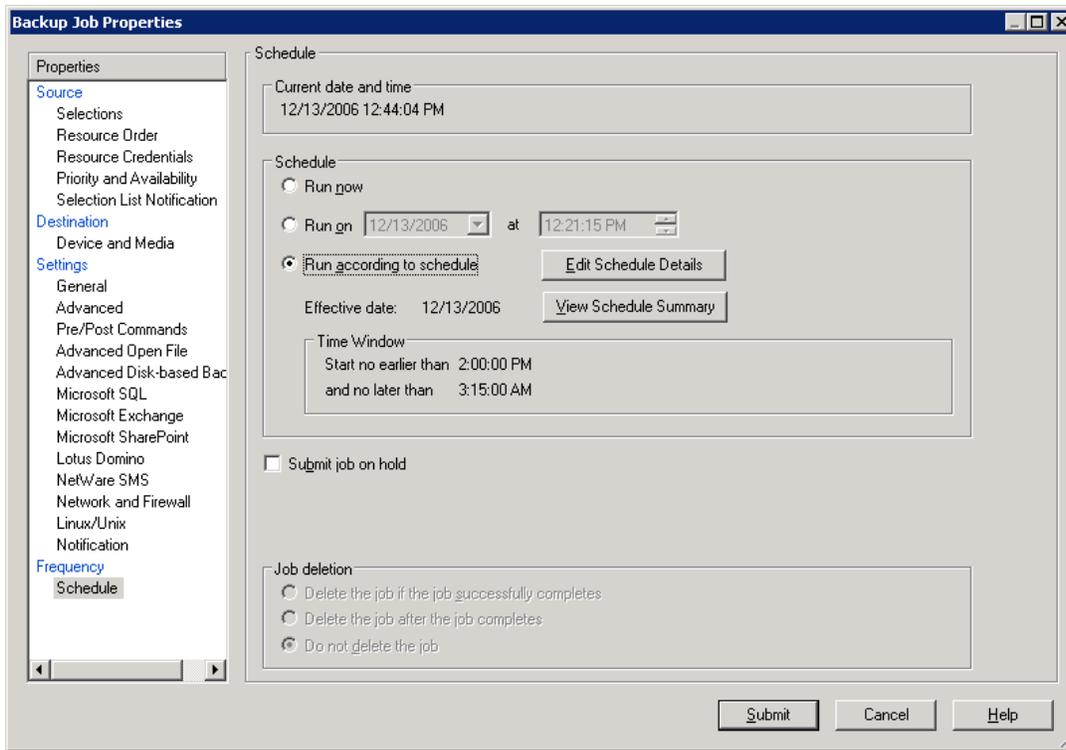
43) Click **Set All**. Click **OK** to close (Figure 329). Note: Backups must occur at least five days a week. Configure Backup Exec for days when staff is available to change the tapes. Keep all other defaults.

**Figure 329: VBECS Backup**



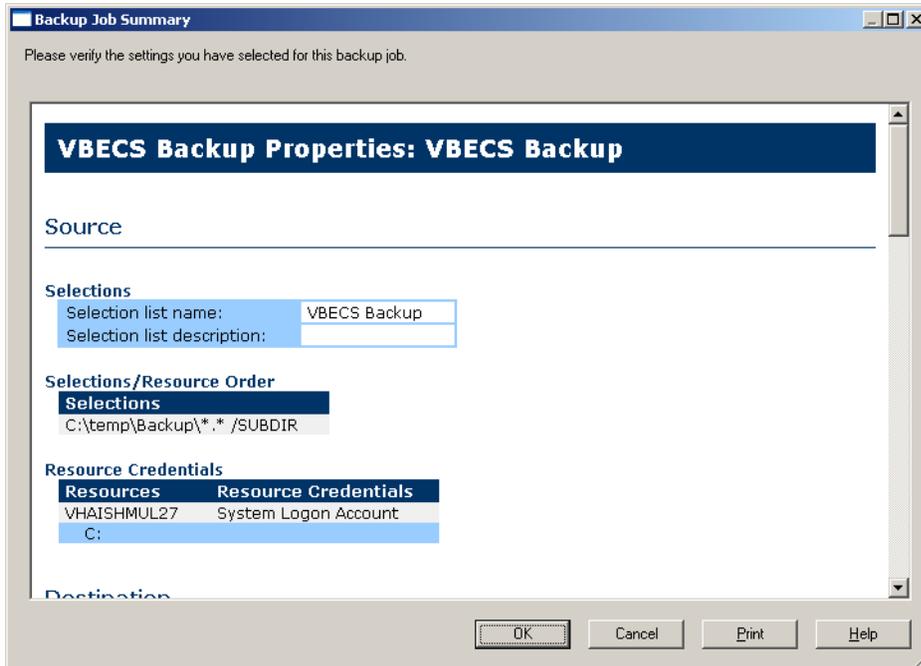
44) Click **Submit** to save (Figure 330).

**Figure 330: Backup Job Properties**



- 45)  In the job summary screen click **Print** (Figure 331). Verify the settings on the printout. Click **OK**.

**Figure 331: Example of Job Summary**



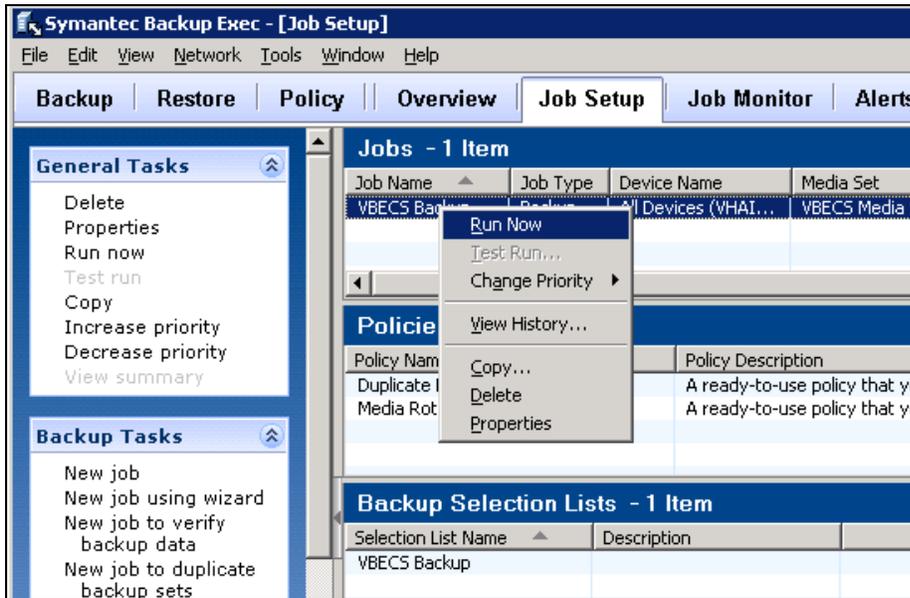
- 46) Click **OK** (Figure 332).

**Figure 332: Confirmation Prompt**



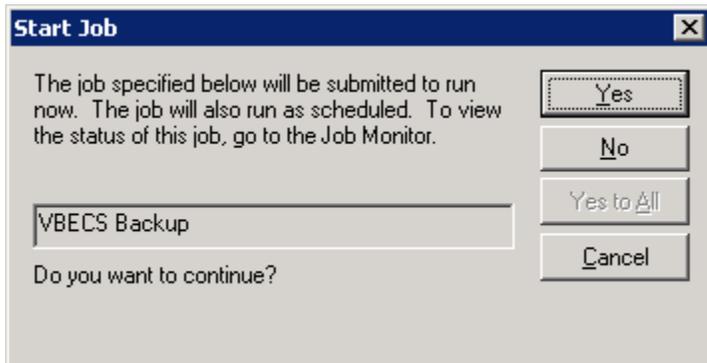
47) To test the job, click the **Job Setup** tab. Right click **VBECs Backup**. Select **Run Now** (Figure 333).

**Figure 333: Test Run**



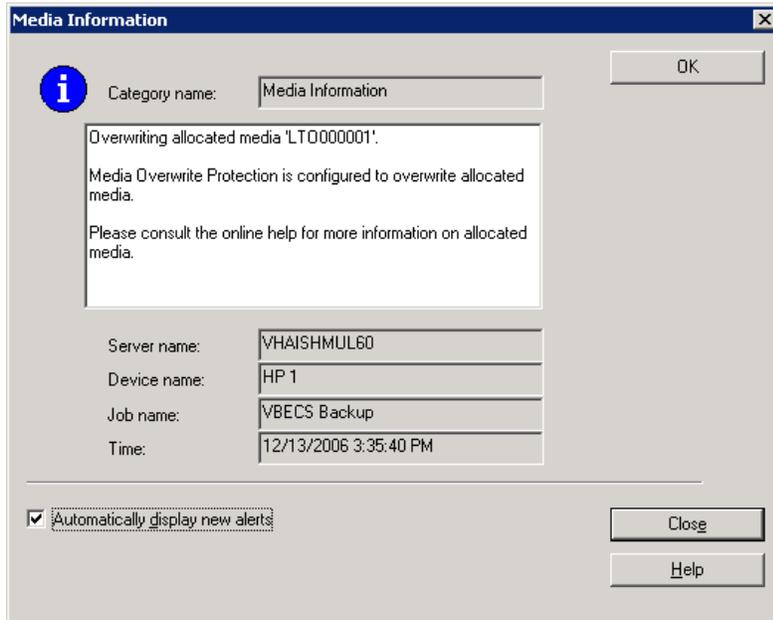
48) Click **Yes** (Figure 334). Note the current time.

**Figure 334: Confirmation**



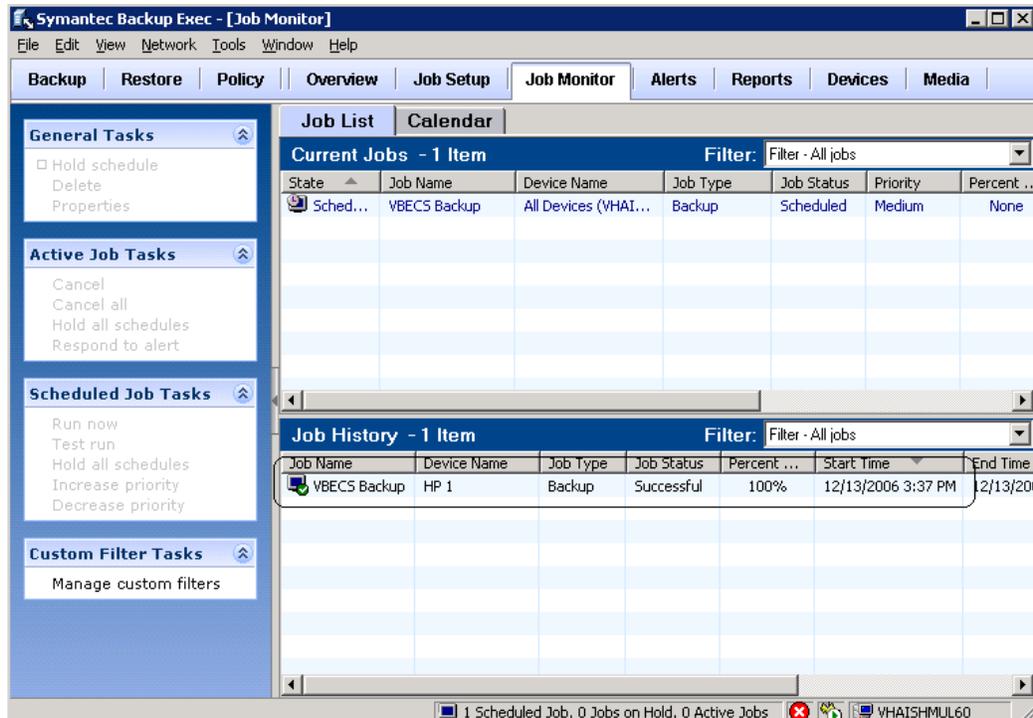
49) If the Media Information window appears, click **OK** (Figure 335).

**Figure 335: Media Information**



50) To view the completed job, click the **Job Monitor** tab. Double click **VBECS Backup** in the Job History pane for the time noted in step 48 (Figure 336).

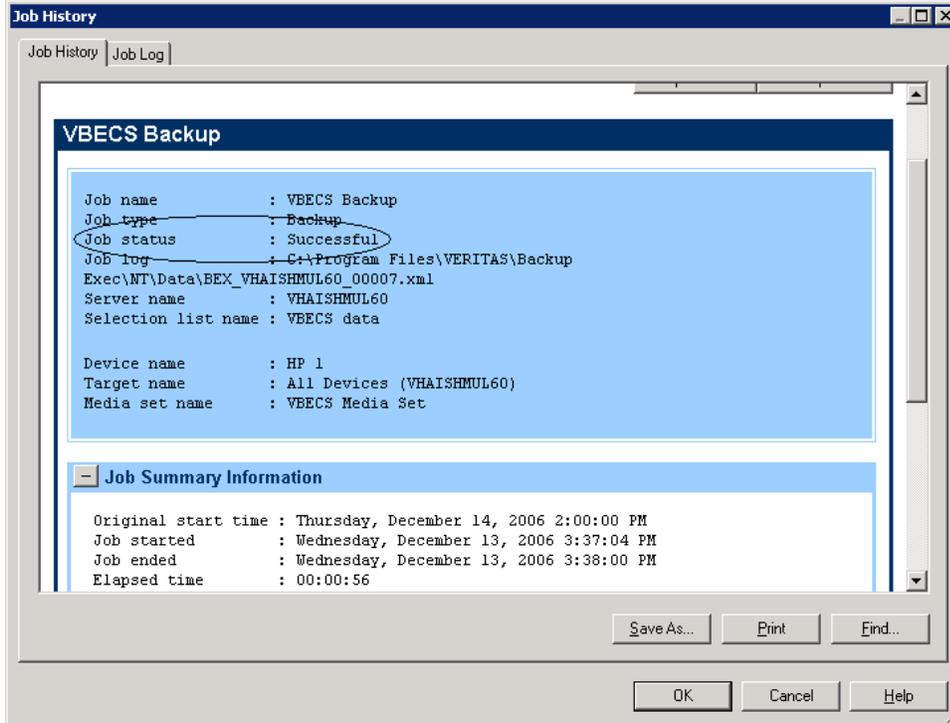
**Figure 336: Symantec Backup Exec – [Job Monitor]**



51) Verify that “Successful” appears as the job status.

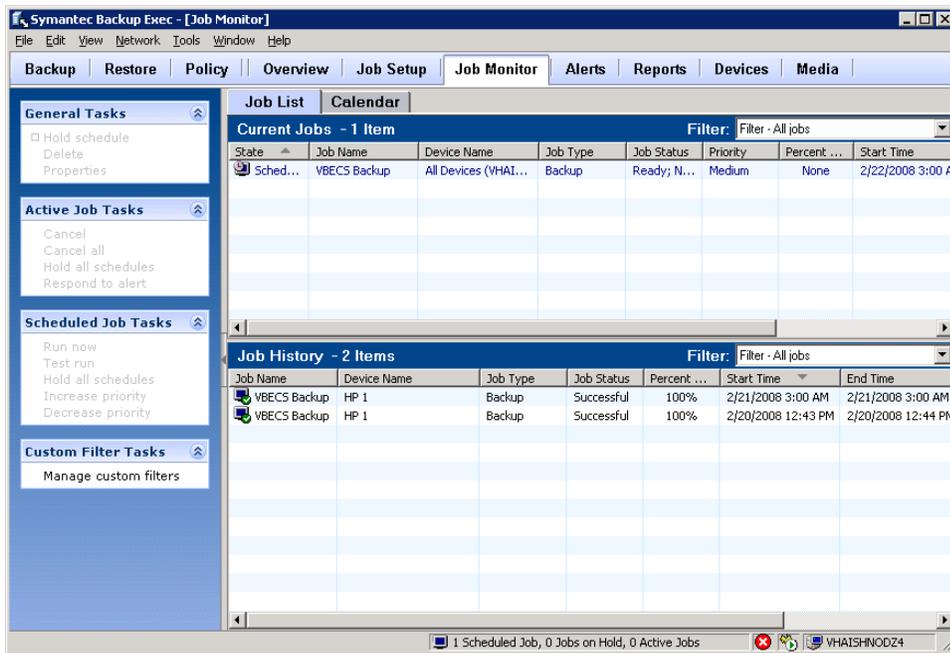
52)  Click **Print**. Save the report. Click **OK** to return to the main window (Figure 337).

**Figure 337: Example of Successful Completion**



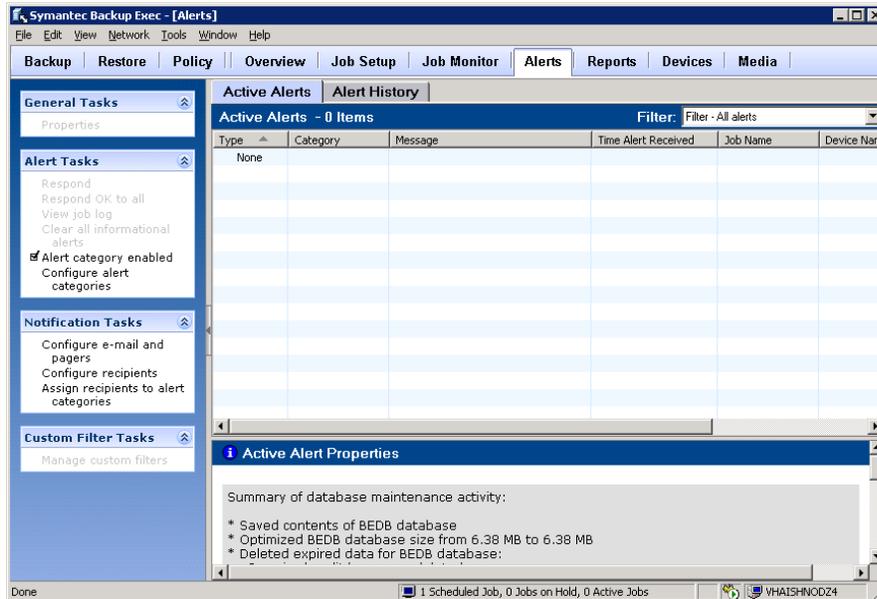
53) To configure alerts, click the **Alerts** tab (Figure 338).

**Figure 338: Main Backup Exec screen**



54) Click **Configure e-mail and pagers** (Figure 339).

**Figure 339: Symantec Backup Exec - [Alerts]**

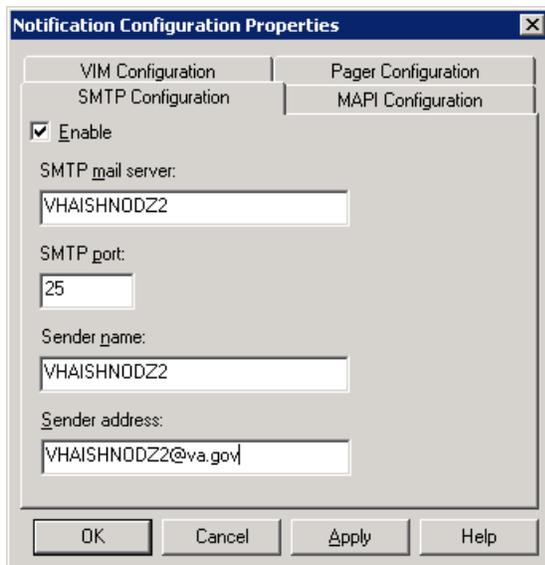


55) Check the **Enable** check box and enter the following (Figure 340). Server name can be found in Appendix E: Server Configuration Checklist (Server Hardware Information, Row 3):

- SMTP mail server: <server name>
- SMTP port: 25
- Sender name: <server name>
- Sender address: <server name>@va.gov

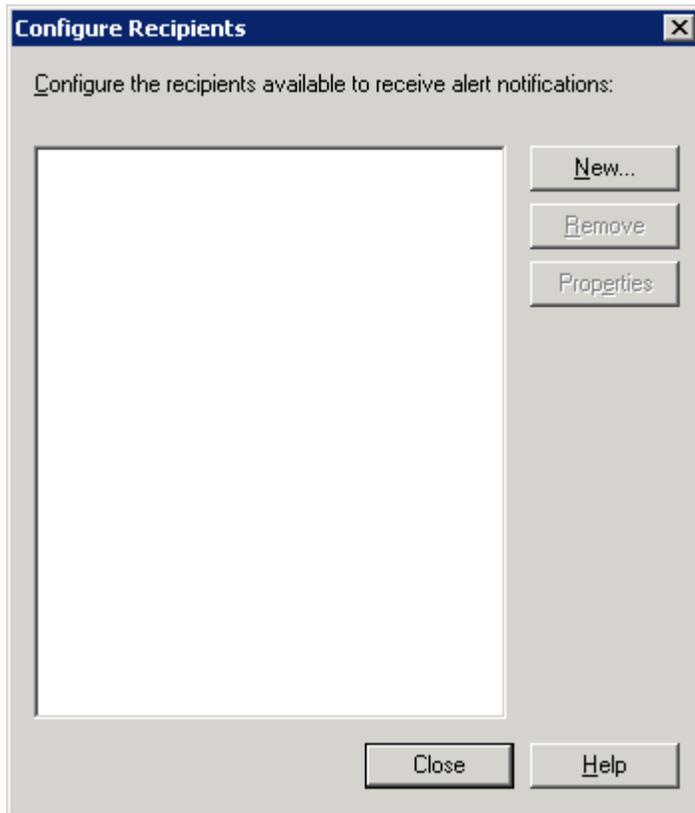
Click **OK**.

**Figure 340: Notification Configuration Properties**



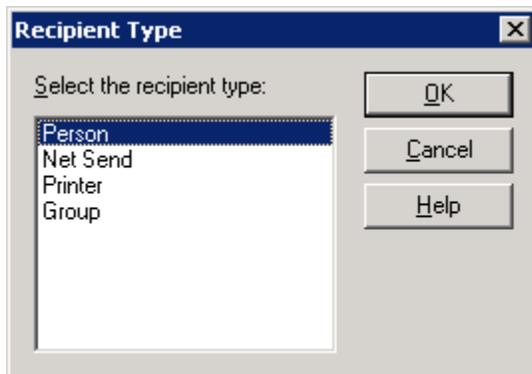
56) Click **Configure Recipients** (Figure 341). Click **New**.

**Figure 341: Configure Recipients**



57) Leave "Person" selected (Figure 342). Click **OK**.

**Figure 342: Recipient Type**



58) Check the **Enable** check box and enter the following:

- Name: Backup Exec Alerts Group
- Address: Email address [from Appendix E: Server Configuration Checklist (Contact Information, VBECS Service support email address)]

Click **OK** and close the Configure Recipients screen (Figure 343).

**Figure 343: Person Recipient Properties**

**Person Recipient Properties**

Name: Backup Exec Alerts Group

SMTP Mail | MAPI Mail | VIM Mail | Pager

Enable

Address:  
vhaciobecsengineers@med.va.gov

Test

Limit the number of notifications sent

Enable

Notify me a maximum of 5 times  
within 5 minutes.

Reset the notification limits after 15 minutes.

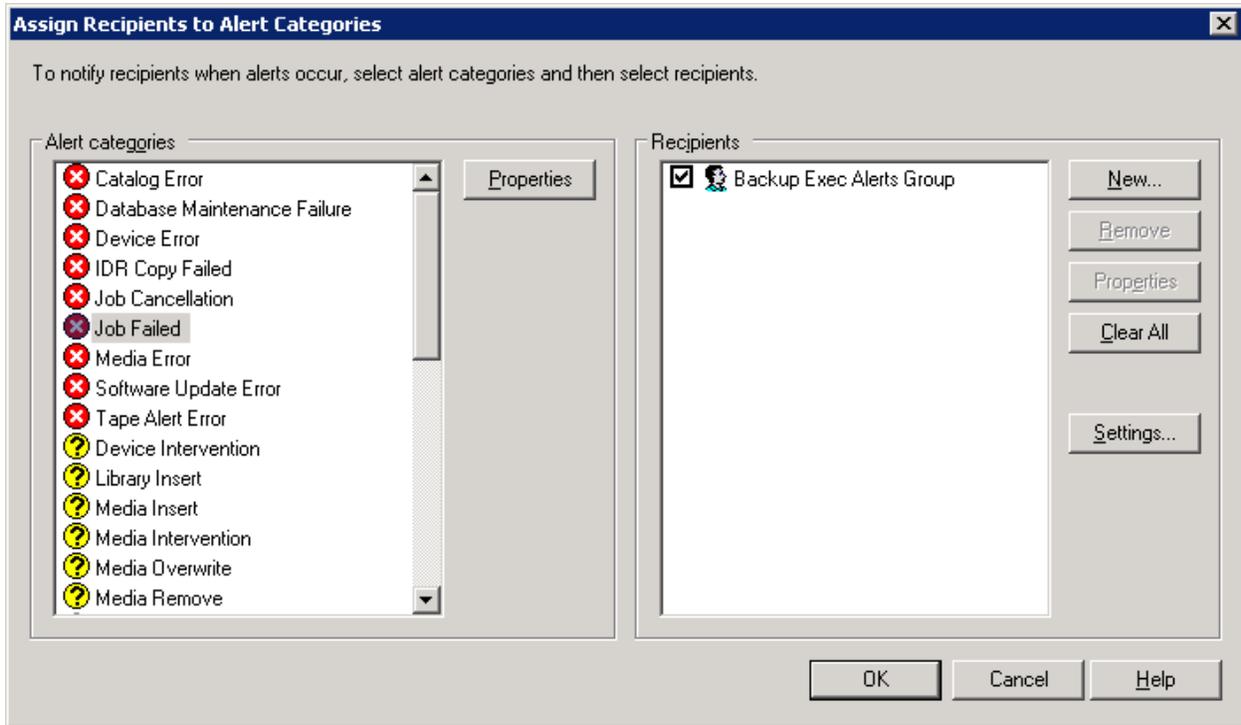
Limit when notifications can be sent

Enable Schedule

OK Cancel Help

59) From the main alerts screen, click **Assign recipients to alert categories**. Select **Job Failed** and check the **VBECS Backup Alerts Group** check box (Figure 344). Click **OK** to close the window.

**Figure 344: Assign Recipients to Alert Categories**

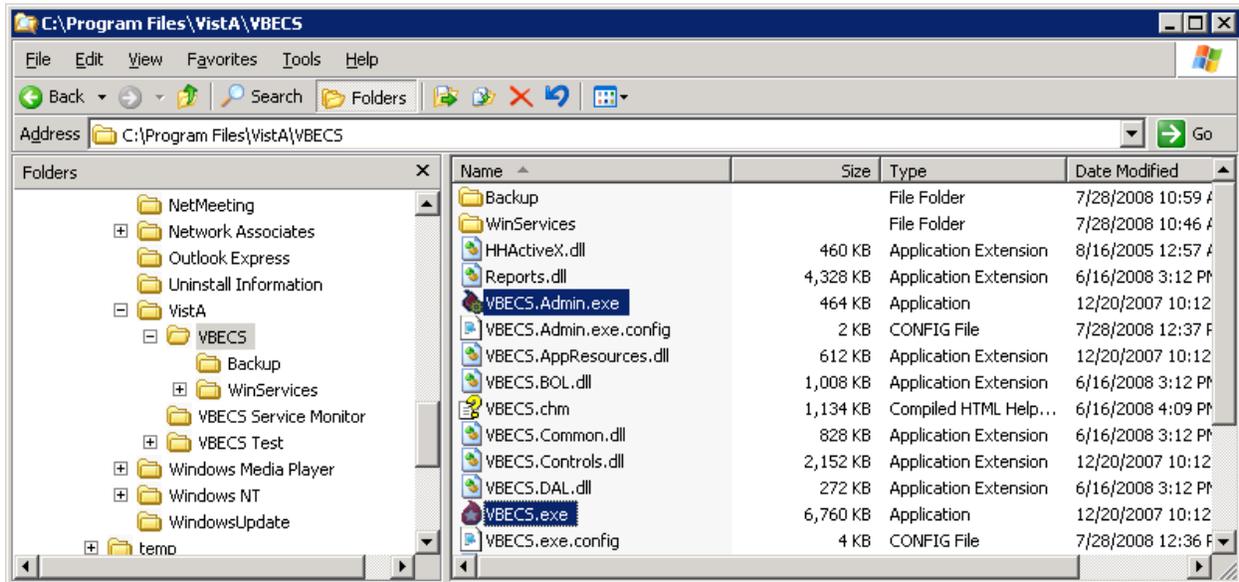


**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## 7 Create Shortcuts for VBECS

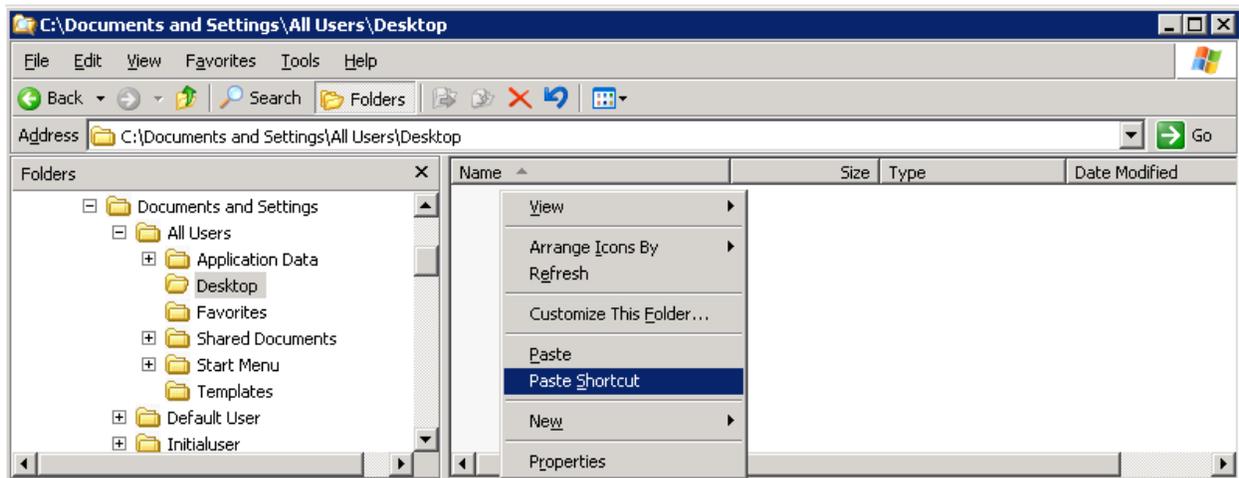
- 1) **1** Log into Server 1 with your Windows ID.
- 2) Click **Start, Windows Explorer**. Navigate to the C:\Program Files\Vista\VBECS directory.
- 3) Hold the **CTRL** key and select **VBECS.exe** and **VBECS.Admin.exe**. Press **CTRL+C** to copy the files (Figure 345).

**Figure 345: Select the VBECS Application Files**



- 4) Navigate to the C:\Documents and Settings\All Users\Desktop folder. Right click in the white space on the right pane and click **Paste Shortcut** (Figure 346).

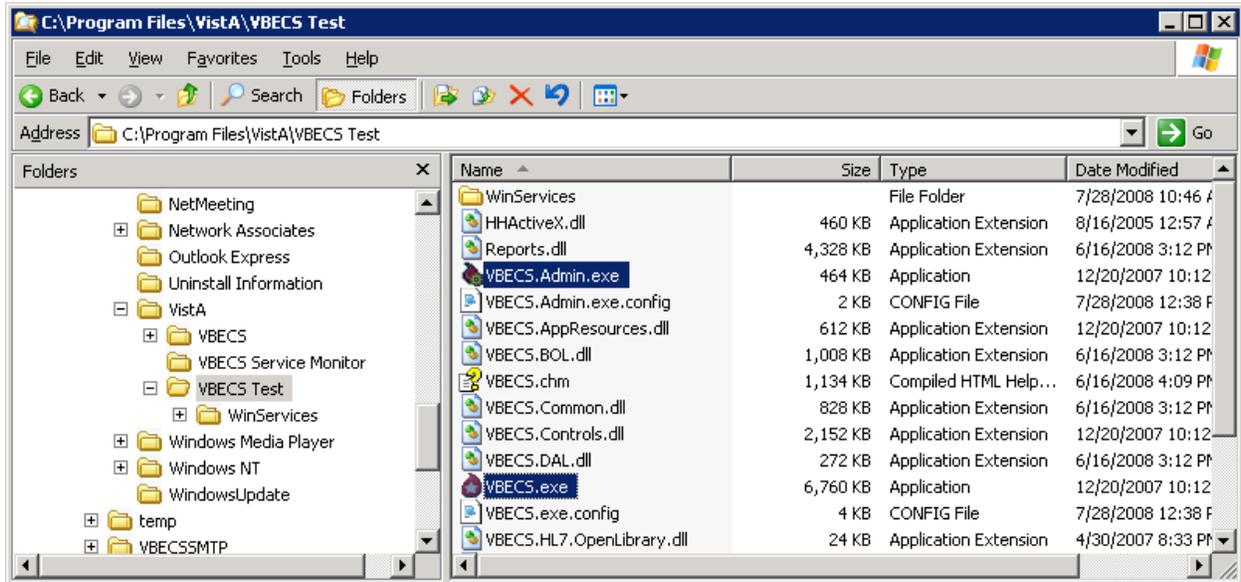
**Figure 346: Create VBECS Shortcut**



- 5) Select **Shortcut to VBECS.exe** and click press **F2**. Rename it to "VBECS.exe."
- 6) Select **Shortcut to VBECS.Admin.exe** and press **F2**. Rename it to "VBECS Administrator.exe."
- 7) Navigate to the C:\Program Files\Vista\VBECS Test directory.

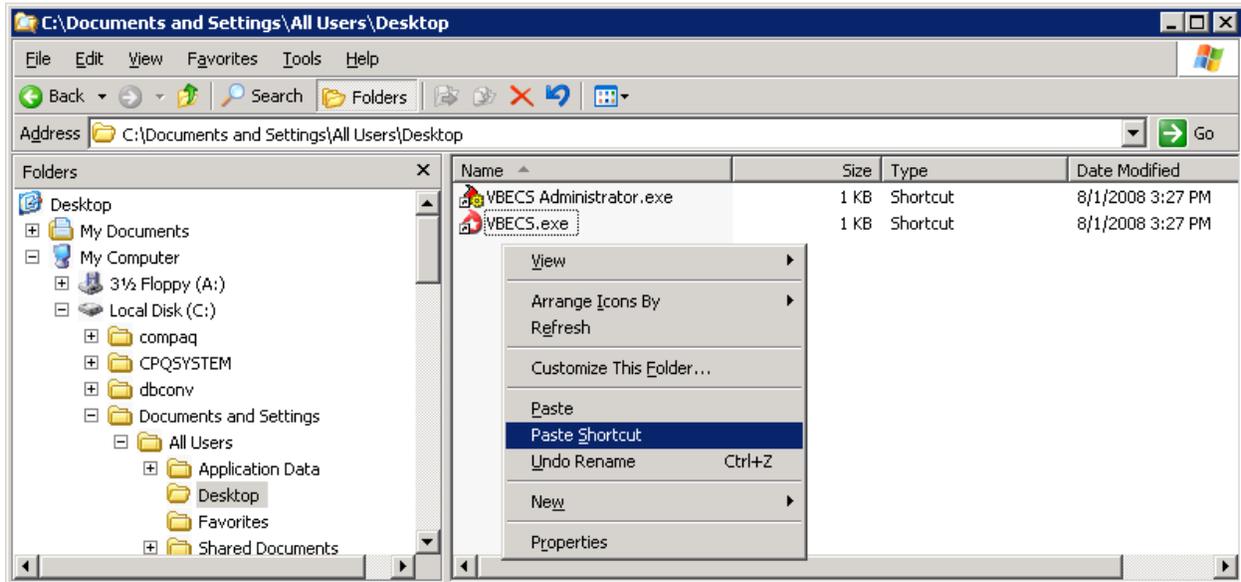
- 8) Hold the **CTRL** key and select **VBECS.exe** and **VBECS.Admin.exe**. Press **CTRL+C** to copy the files (Figure 347).

**Figure 347: Select the VBECS Test Application Files**



- 9) Navigate to the C:\Documents and Settings\All Users\Desktop folder. Right click in the white space on the right pane and click **Paste Shortcut** (Figure 348).

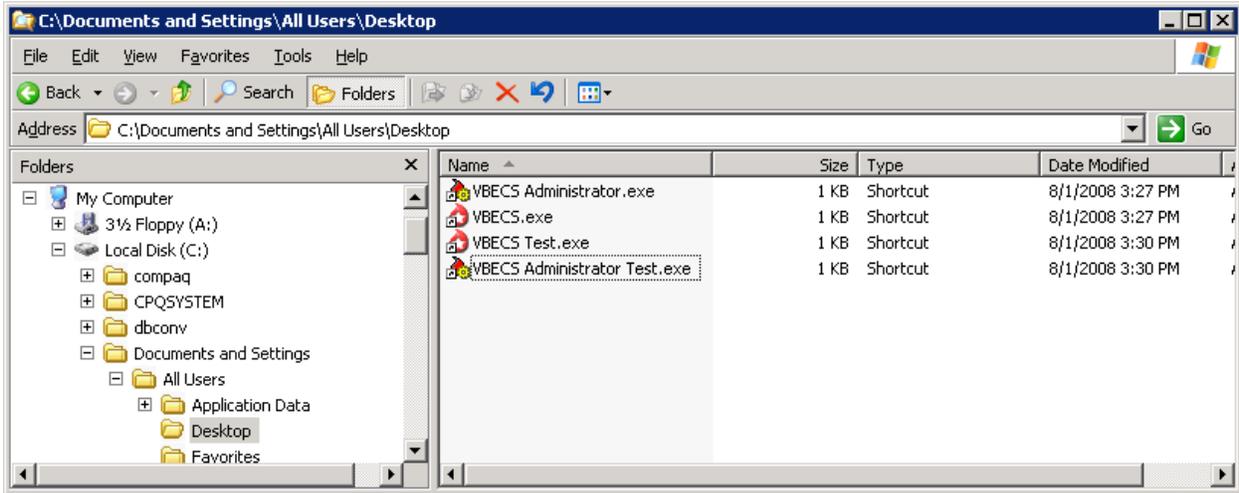
**Figure 348: Create VBECS Shortcut**



- 10) Select **Shortcut to VBECS.exe** and click press **F2**. Rename it to "VBECS Test.exe."
- 11) Select **Shortcut to VBECS.Admin.exe** and press **F2**. Rename it to "VBECS Administrator Test.exe."

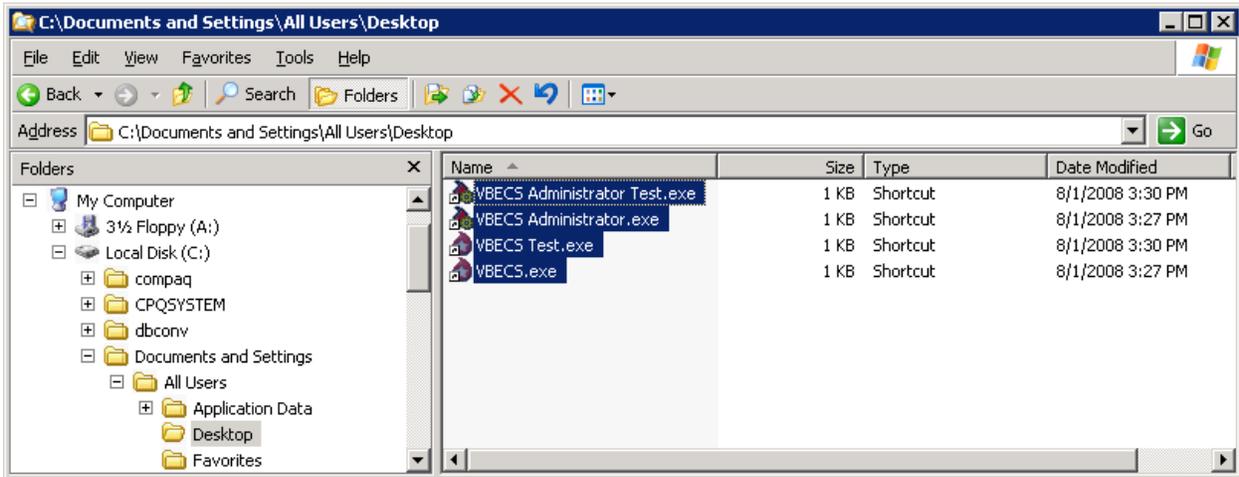
12) Verify that the Desktop folder matches Figure 349.

**Figure 349: Desktop**



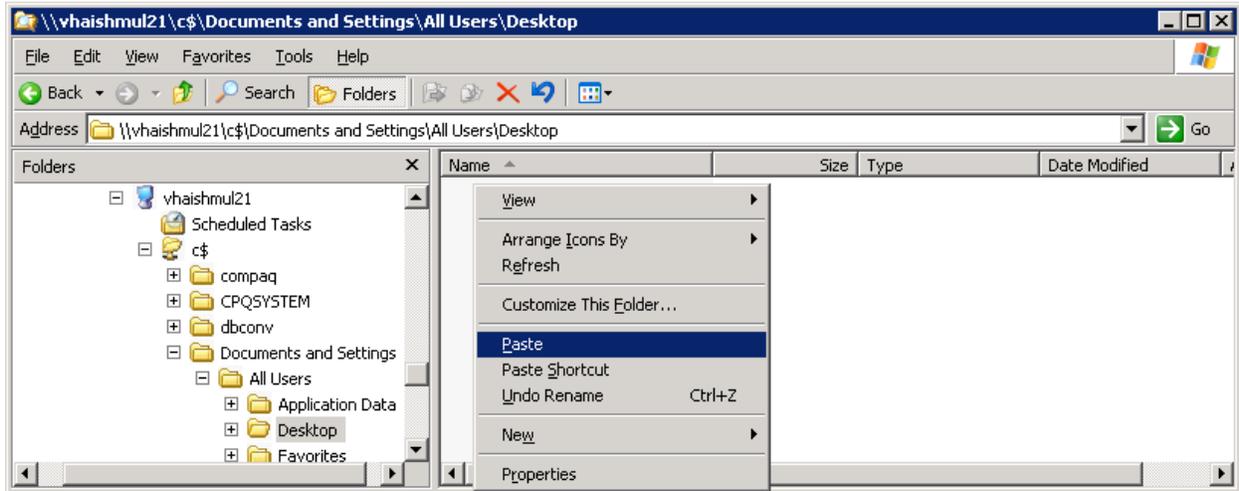
13) Select all four shortcuts from the C:\Documents and Settings\All Users\Desktop folder. Press **CTRL+C** to copy the shortcuts. (Figure 350).

**Figure 350: Select all Shortcuts**



- 14) In the address field, type `\\<Server 2 name>\c$\Documents and Settings\All Users\Desktop` and press **Enter**. Substitute the name of Server 2 for `<Server 2 name>`. Right click on the white space in the right pane and click Paste (Figure 351).

**Figure 351: Copying Shortcuts**



- 15) Verify the four shortcuts are copied over and the screen matches Figure 350.

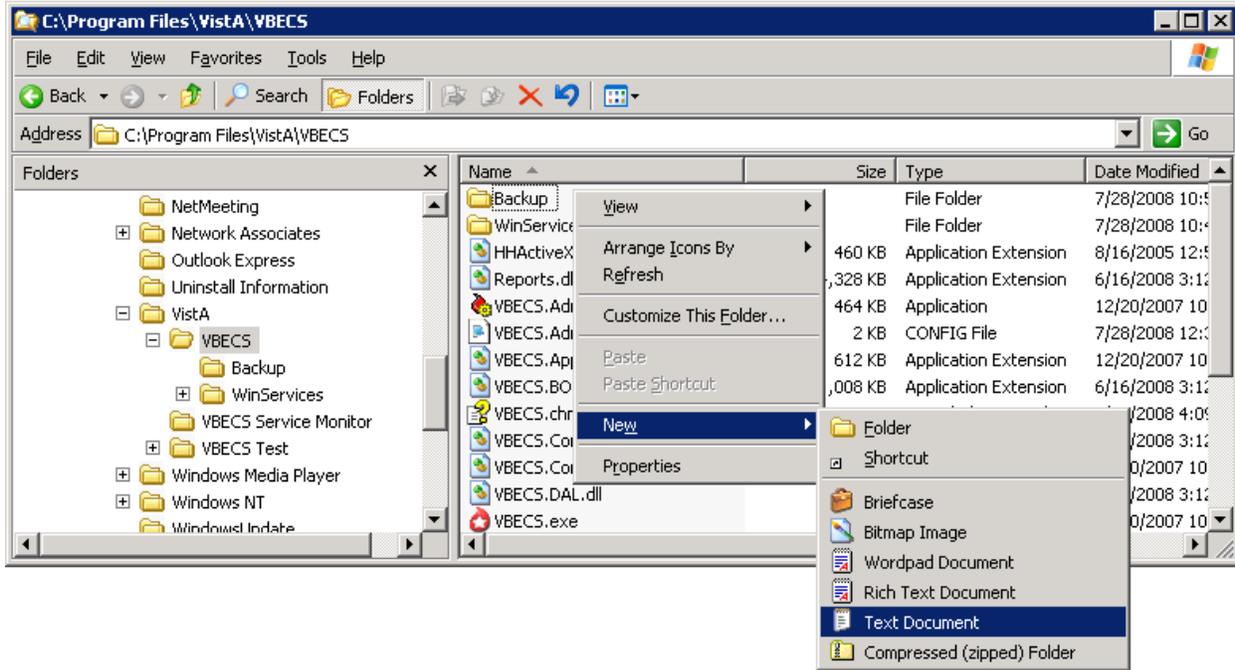
**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## 8 Create VBECS Error Logs

- 1) **1** Log into Server 1 with your Windows ID.
- 2) Click **Start, Windows Explorer** and navigate to the `C:\Program Files\Vista\VBECS` folder.

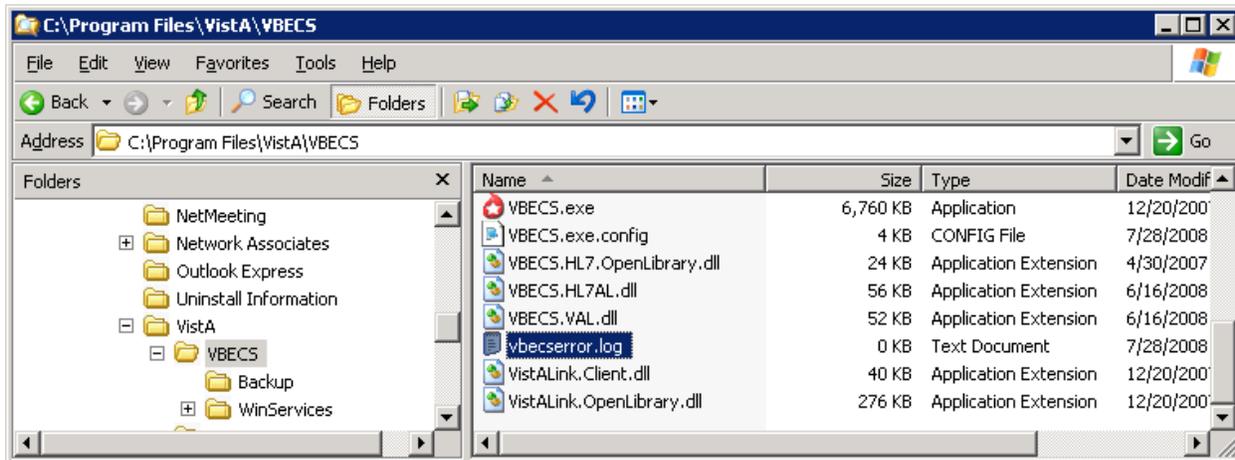
3) Right click in the right pane and select **New, Text Document** (Figure 352).

**Figure 352: Creating a New Text Document**



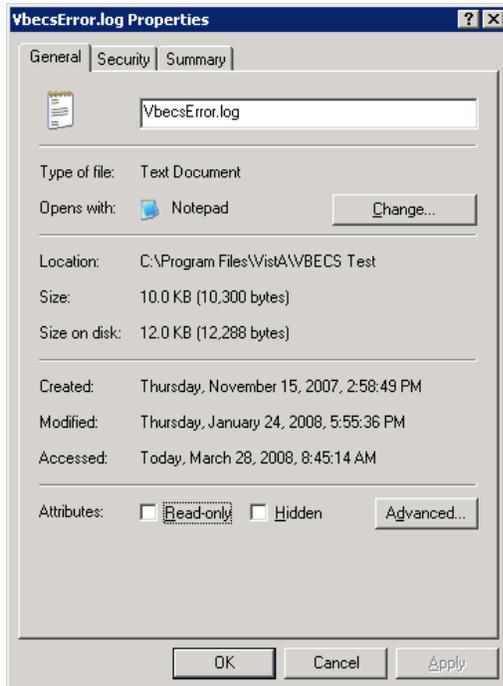
4) Name the document "vbecserror.log" (Figure 353). Click **Yes** when prompted to confirm file rename.

**Figure 353: Renaming the VBECS Error Log File**



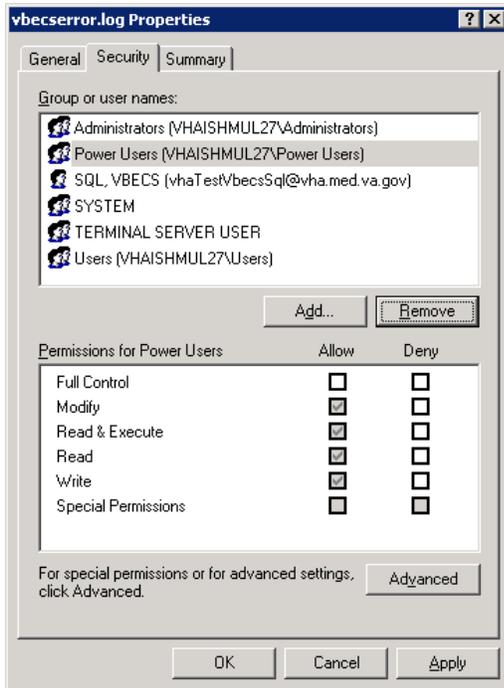
5) Right click **vbecserror.log** and select **Properties**. Select the **Security** tab (Figure 354).

**Figure 354: General Tab**



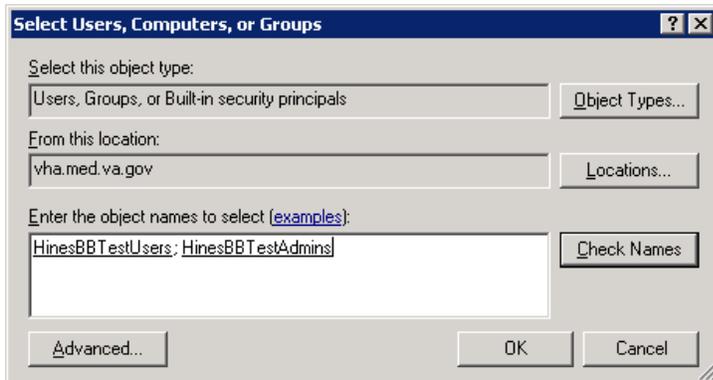
6) Click **Add** (Figure 355).

**Figure 355: Example of Security Tab**



7) Enter the two group names [Appendix E: Server Configuration Checklist (Domain Information, Rows 6 and 7)] in the **Enter the object names to select** field. Click **OK** (Figure 356).

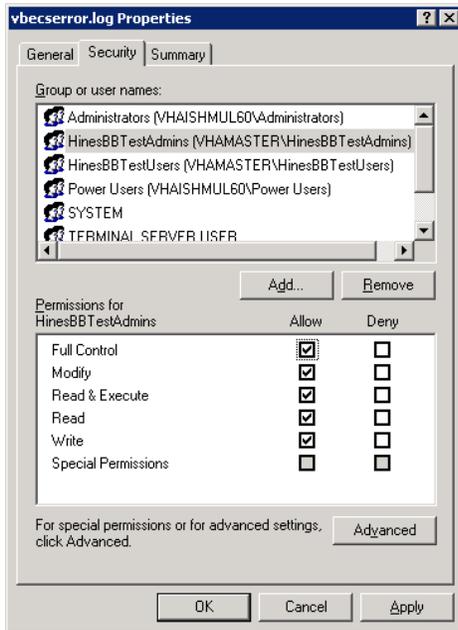
**Figure 356: Example of Adding VBECS Groups**



8) Click the first group in the previous step. Check the **Full Control** check box.

9) Check the **Full Control** check box for the second group added in Step 7 (Figure 357). Click **OK**.

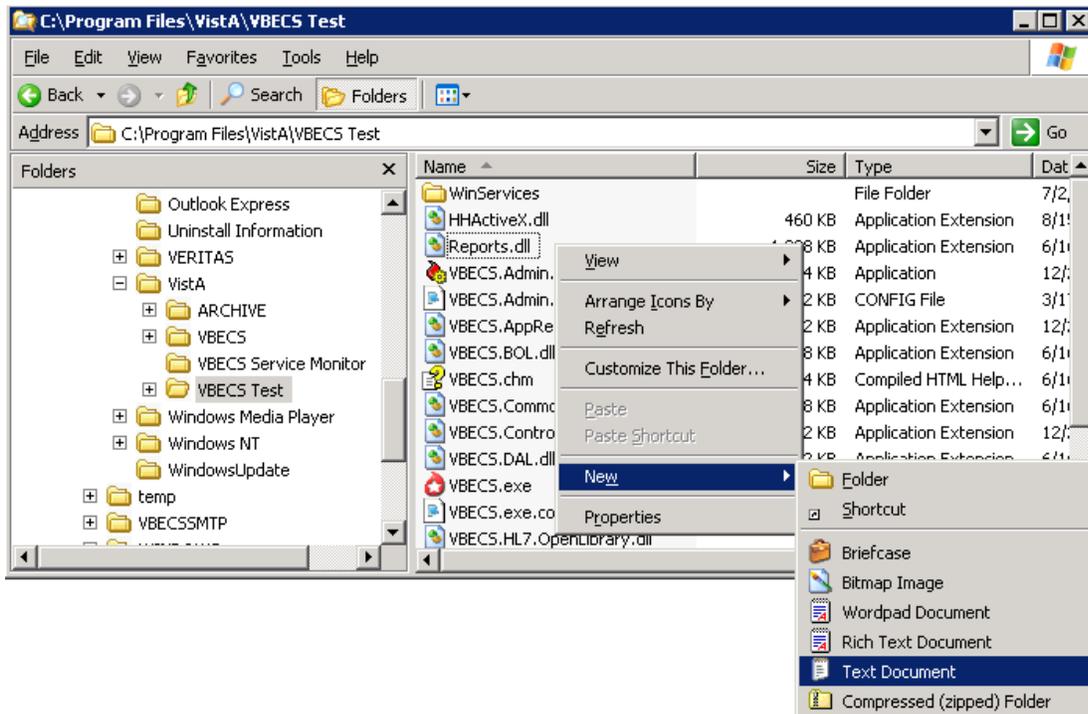
**Figure 357: Example of Full Control**



10) Navigate to the C:\Program Files\Vista\VBCECS Test folder.

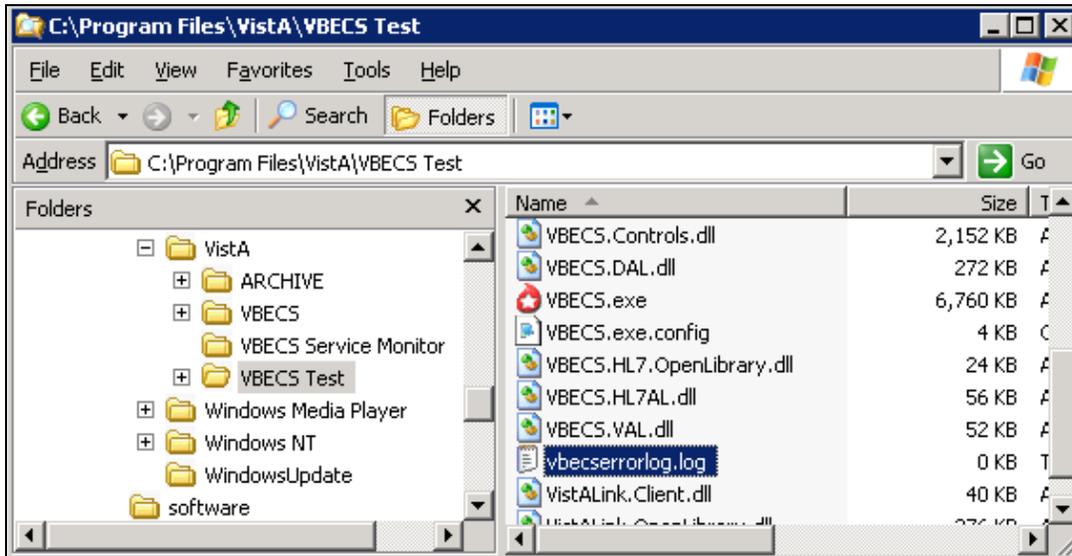
11) Right click in the right pane and select **New, Text Document** (Figure 358).

**Figure 358: Creating a New Text Document**



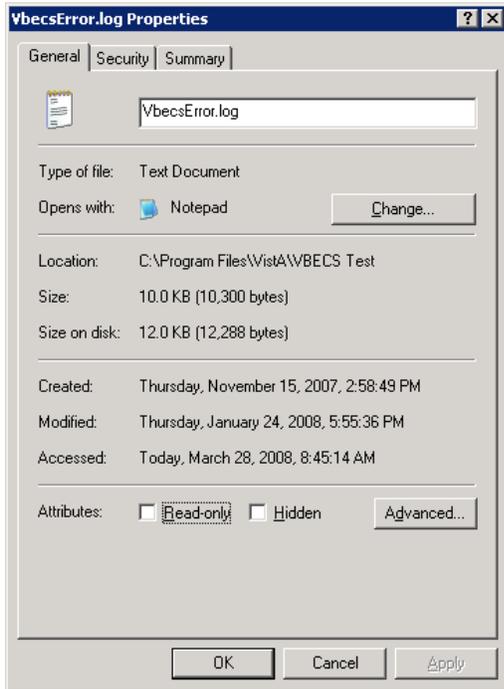
12) Name the document “vbecserror.log.” Click **Yes** when prompted to confirm file rename. Right click **vbecserror.log** (Figure 359). Select **Properties**.

**Figure 359: Renaming the VBECS Error Log File**



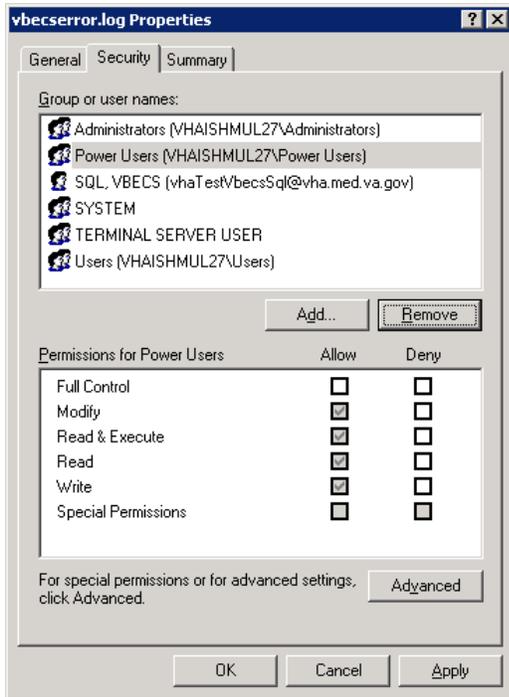
13) Click the **Security** tab (Figure 360).

**Figure 360: General Tab**



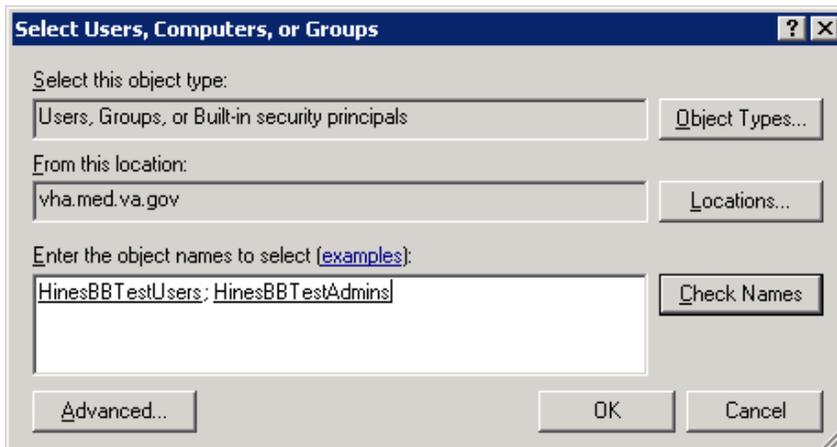
14) Click **Add** (Figure 361).

**Figure 361: Example of Security Tab**



15) Enter the two group names [Appendix E: Server Configuration Checklist (Domain Information, Rows 6 and 7)], in the **Enter the object names to select** field. Click **OK** (Figure 362).

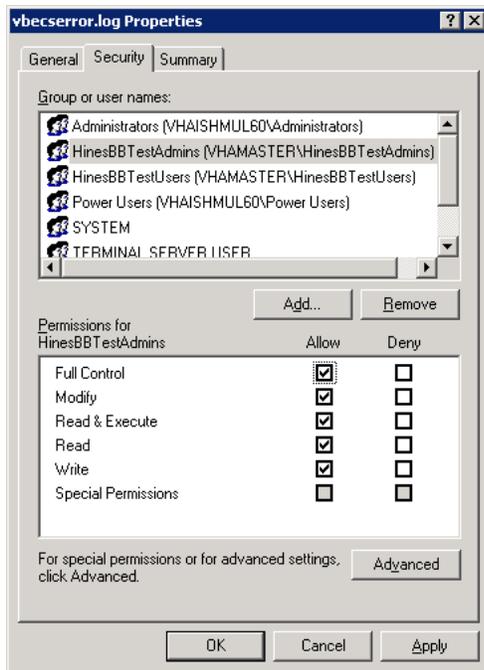
**Figure 362: Example of Adding VBECS Groups**



16) Click the first group added in the previous step. Check the **Full Control** check box.

- 17) Check the **Full Control** check box for the second group added in Step 14 (Figure 363). Click **OK**.

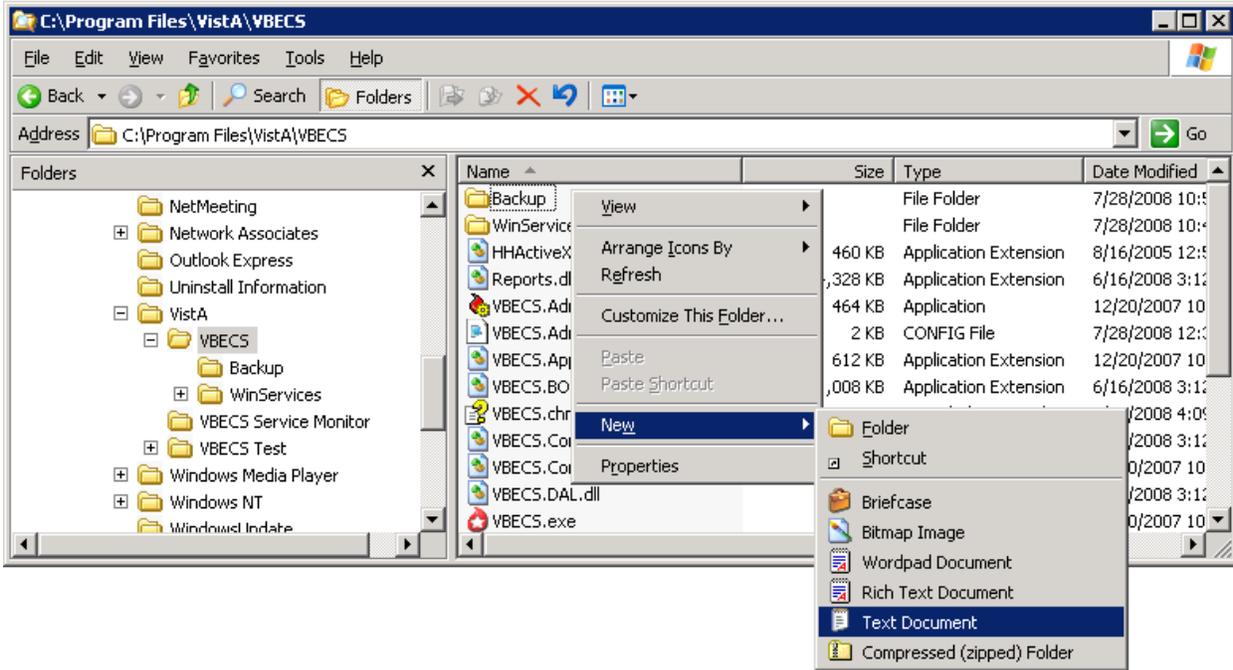
**Figure 363: Example of Full Control**



- 18) **2** Log into Server 2 with your Windows ID.  
19) Click **Start, Windows Explorer** and navigate to the C:\Program Files\Vista\VBCECS folder.

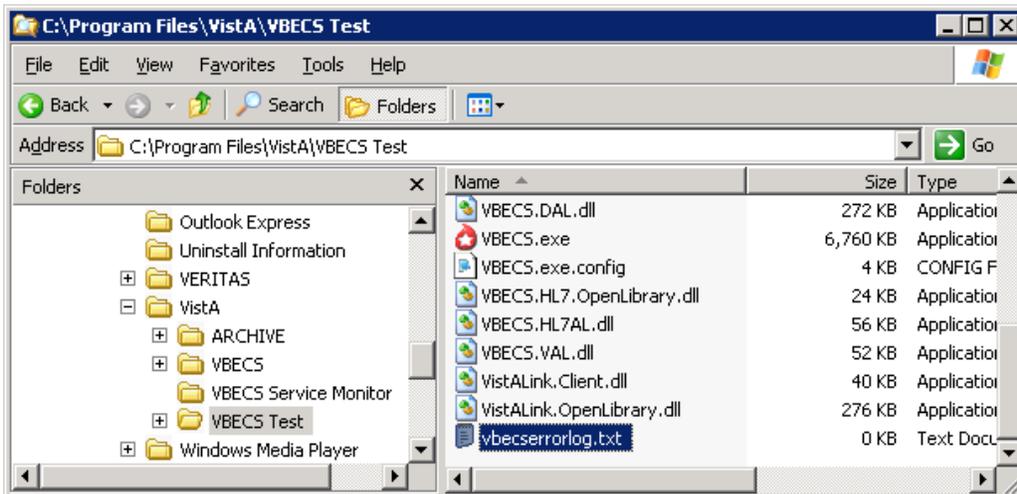
20) Right click in the right pane and select **New, Text Document** (Figure 364).

**Figure 364: Creating a New Text Document**



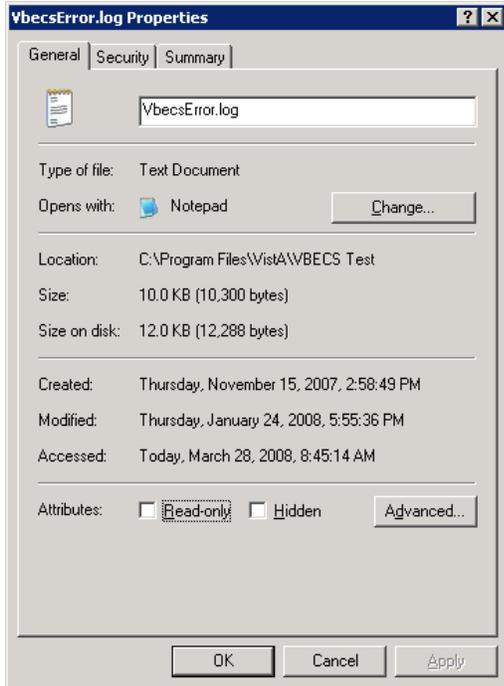
21) Name the document “vbecerror.log” (Figure 365). Click **Yes** when prompted to confirm file rename.

**Figure 365: Renaming the VBECS Error Log File**



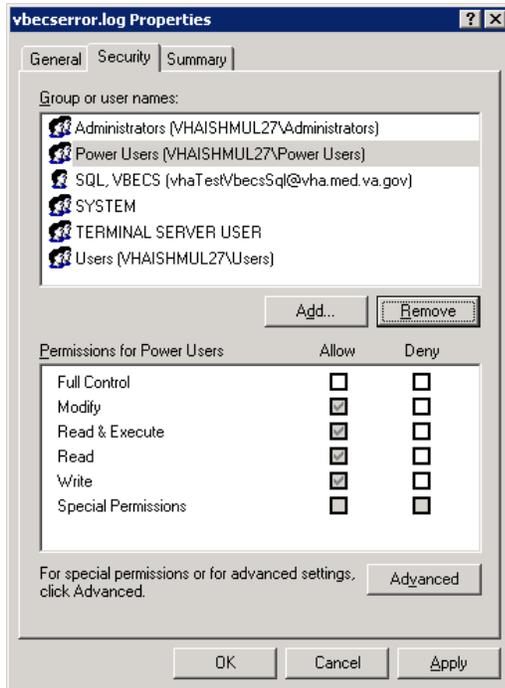
22) Right click **vbecserror.log** and select **Properties**. Select the **Security** tab (Figure 366).

**Figure 366: General Tab**



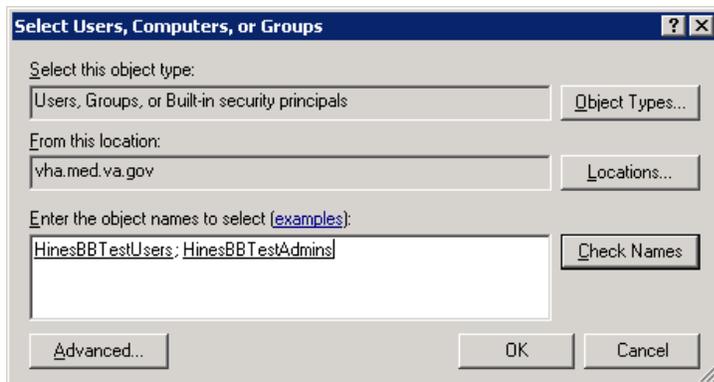
23) Click **Add** (Figure 367).

**Figure 367: Example of Security Tab**



24) Enter the two group names [Appendix E: Server Configuration Checklist (Domain Information, Rows 6 and 7)] in the “Enter the object names to select” field. Click **OK** (Figure 368).

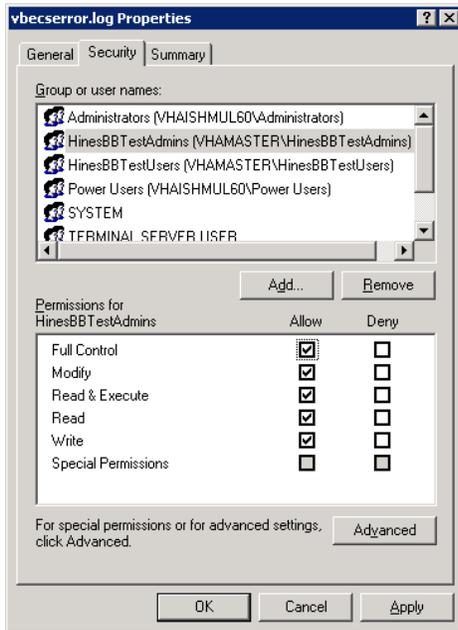
**Figure 368: Example of Adding VBECS Groups**



25) Click the first group added in the previous step. Check the **Full Control** check box.

26) Check the **Full Control** check box for the second group added in Step 7 (Figure 369). Click **OK**.

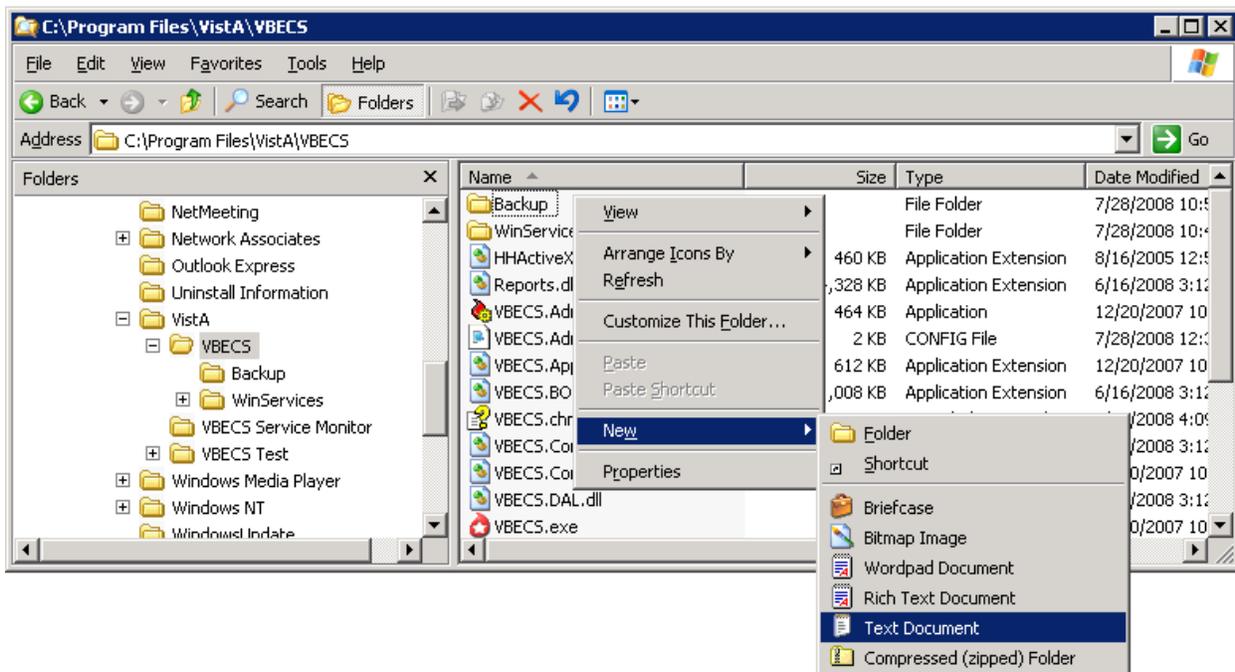
**Figure 369: Example of Full Control**



27) Navigate to the C:\Program Files\Vista\VBCECS Test folder

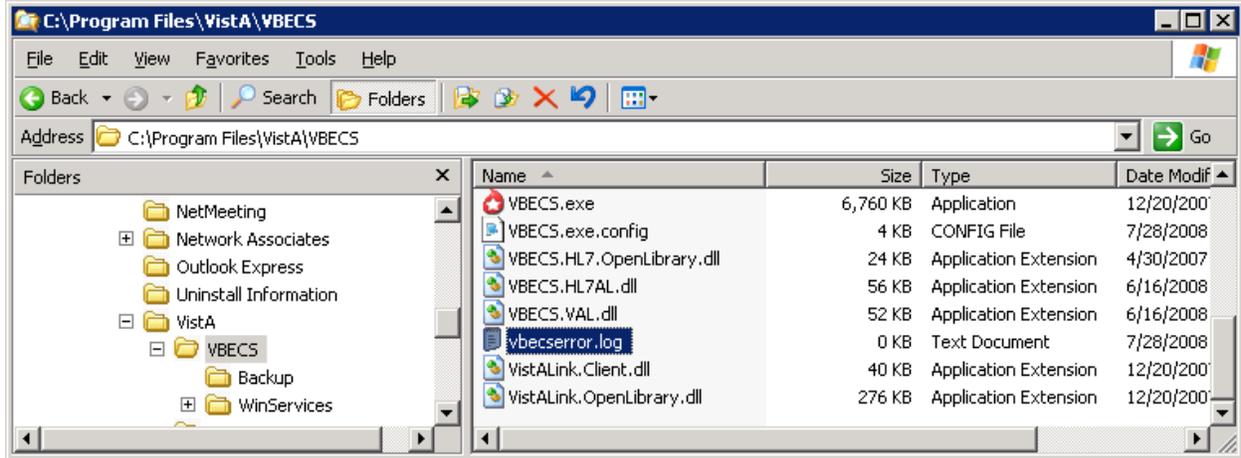
28) Right click in the right pane and select **New, Text Document** (Figure 370).

**Figure 370: Creating a New Text Document**



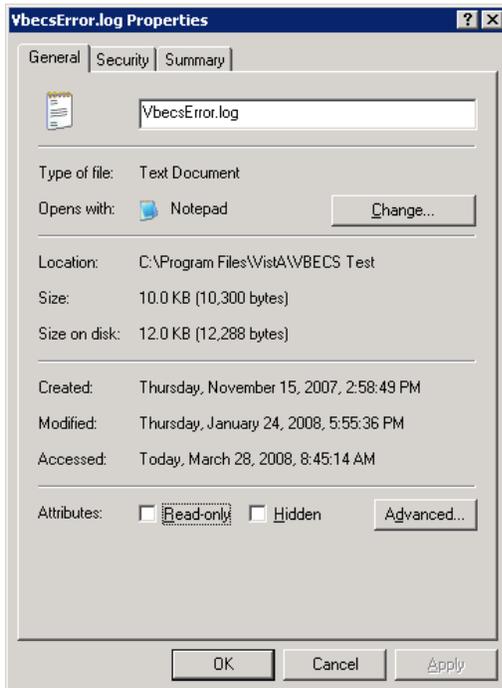
29) Name the document “vbecserror.log.” Click **Yes** when prompted to confirm file rename. Right click **vbecserror.log** (Figure 371). Select **Properties**.

**Figure 371: Renaming the VBECS Error Log File**



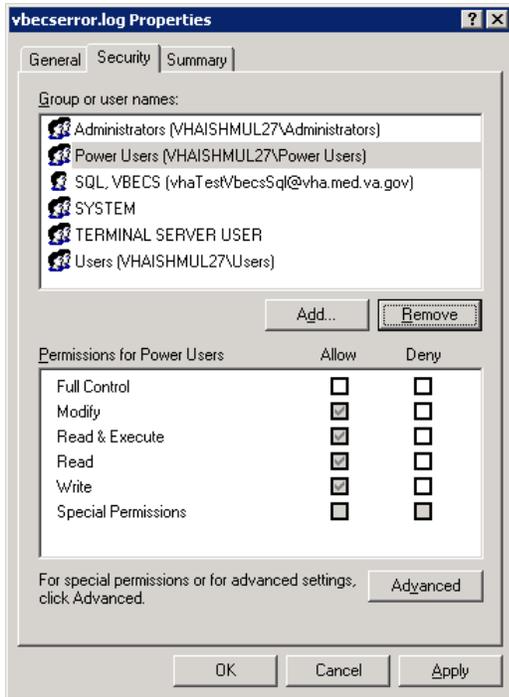
30) Click the **Security** tab (Figure 372).

**Figure 372: General Tab**



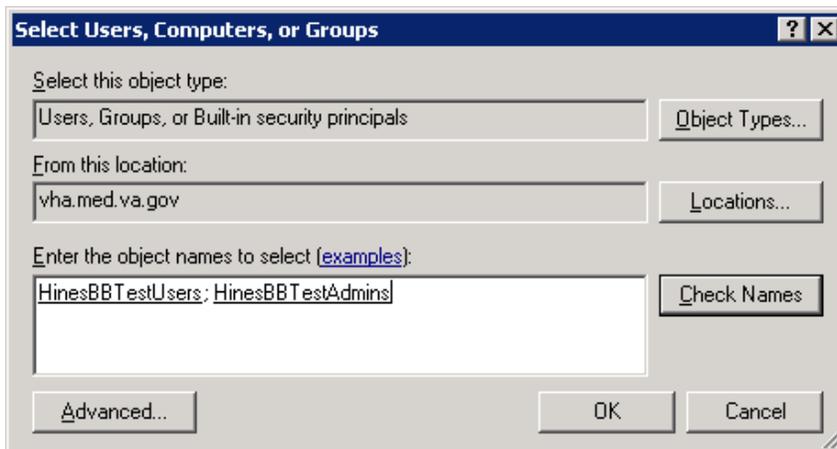
31) Click **Add** (Figure 373).

**Figure 373: Example of Security Tab**



32) Enter the two group names [Appendix E: Server Configuration Checklist (Domain Information, Rows 6 and 7)], in the **Enter the object names to select** field. Click **OK** (Figure 374).

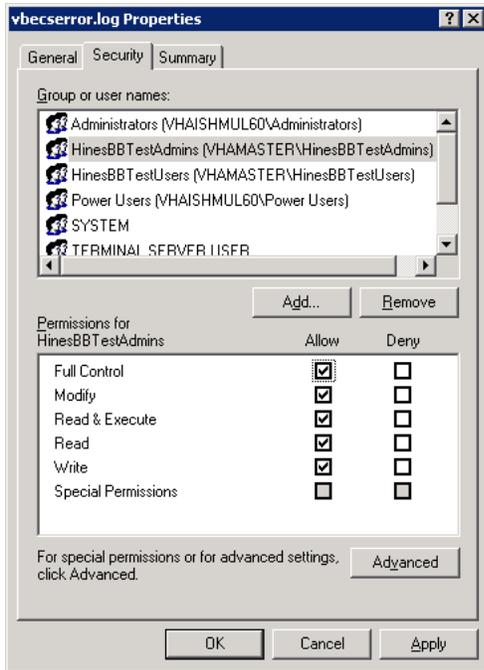
**Figure 374: Example of Adding VBECS Groups**



33) Click the first group added in the previous step. Check the **Full Control** check box.

34) Check the **Full Control** check box for the second group added in Step 14 (Figure 375). Click **OK**.

**Figure 375: Example of Full Control**



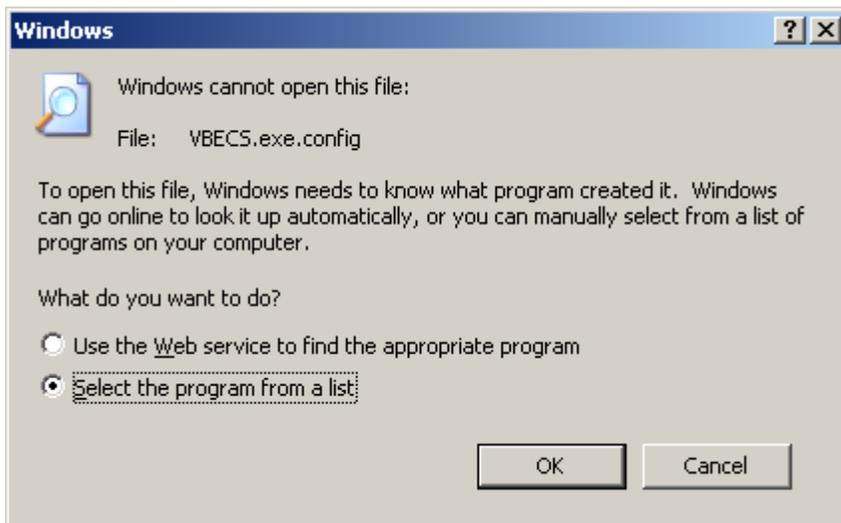
**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## 9 Update Configuration Files for VBECS on the VBECS Servers

Update the four configuration files (two each in the VBECS Test and VBECS folders in the C:\Program Files\Vista directory). Print each file for validation records.

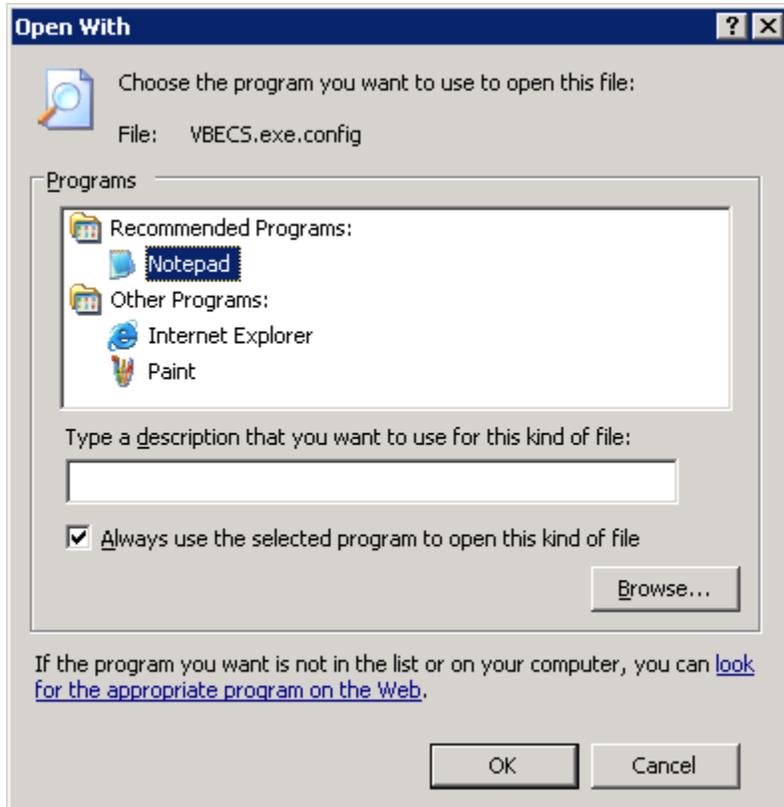
- 35) ❶ Log into Server 1 with your Windows ID.
- 36) Click **Start, Windows Explorer** and navigate to the C:\Program Files\Vista\VBECS directory.
- 37) Double click **VBECS.exe.config**. Check the **Select the program from a list** radio button and click **OK** (Figure 376).

**Figure 376: Selecting a Program to Edit Config Files**



- 38) Select **Notepad**. Check the **Always use the selected program to open this kind of file** check box (Figure 377). Click **OK**.

**Figure 377: Open With**



- 39) Enter the Production Environment values (circled text in Figure 378). Add the:
- Data Source value to the database name from Appendix E: Server Configuration Checklist (Server Hardware Information, SQL Server Virtual Server Network Name, Row 7)
  - Initial Catalog value to VBECS\_V1\_PROD
  - VbecsEnvironmentType value to P
  - VbecsUsersDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 6)
  - VbecsAdminDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 7)
  - **DC** For a data center installation, set the domain value for the data center domain. All others, use “Vnn.med.va.gov” where *nn* is the 2 digit VISN number from Appendix D: Blood Bank Configuration Checklist

**Figure 378: Example of Production Configuration File for VBECS**

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <configSections>
    <section name="exceptionManagement" type="gov.va.med.vbecs.ExceptionManagement.ExceptionManagerSectionHandler, VBECS.Co

    <sectionGroup name="VistALink">
      <section name="Client" type="System.Configuration.NameValueSectionHandler" />
      <section name="DebugAccessList" type="System.Configuration.NameValueSectionHandler" />
    </sectionGroup>

    <section name="DebugDivisionSelection" type="System.Configuration.NameValueSectionHandler" />
  </configSections>

  <appSettings>
    <add key="PrimaryDbConnectionString" value="Connection Timeout=90;Data Source=VHAPORBBSQL;Initial Catalog=VBECS_V1_PROD;P
    <add key="DbQueryTimeoutSeconds" value="120" />
    <add key="ExceptionMailFrom" value="" />
    <add key="ExceptionMailTo" value="" />
    <add key="ErrorLogFileName" value="VbecsError.log" />
    <!-- Use "P" for live production system, use "M" for mirror test system -->
    <add key="VbecsEnvironmentType" value="P" />
    <add key="VbecsUsersDomainGroupName" value="VancouverBloodBankUsers" />
    <add key="VbecsAdminDomainGroupName" value="VancouverBloodBankAdmins" />
    <add key="Domain" value="vha.med.va.gov" />
    <add key="VistaCacheRefreshIntervalInMinutes" value="270" />
  </appSettings>
</configuration>
```

40)  Save and print the file for validation records.

41) In the same directory, open the **VBECS.Admin.exe.config** file. Using Notepad, enter the Production Environment values (circled text in Figure 379). Add the:

- Data Source value to the database name from Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server Network Name, Row 7)
- Initial Catalog value to VBECS\_V1\_PROD
- VbecsEnvironmentType value to P
- VbecsUsersDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 6)
- VbecsAdminDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 7)
- **DC** For a data center installation, set the domain value to the data center domain. All others, use “Vnn.med.va.gov” where nn is the 2 digit VISN number from Appendix D: Blood Bank Configuration Checklist

**Figure 379: Example of Production Configuration File for VBECS Administrator**

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <configSections>
    <section name="exceptionManagement" type="gov.va.med.vbecs.ExceptionManagement.ExceptionManagerSectionHandler, VBECS.Co

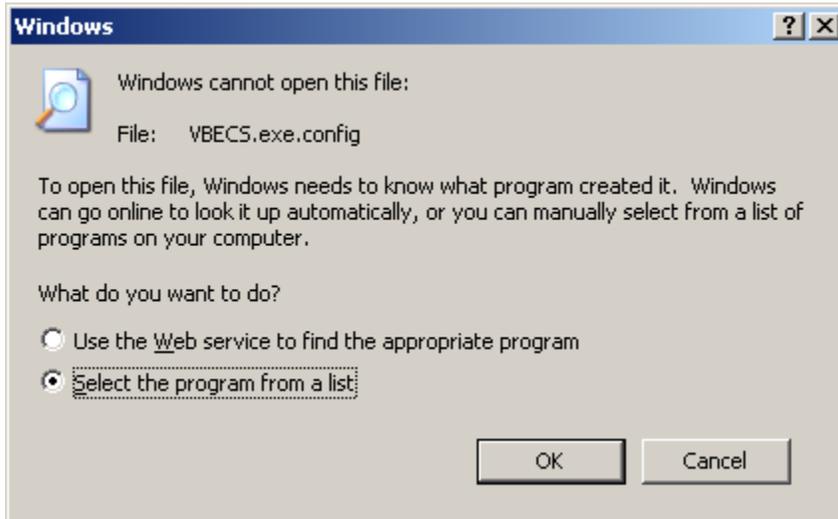
    <sectionGroup name="VistALink">
      <section name="Client" type="System.Configuration.NameValueSectionHandler" />
      <section name="DebugAccessList" type="System.Configuration.NameValueSectionHandler" />
    </sectionGroup>
  </configSections>

  <appSettings>
    <add key="PrimaryDbConnectionString" value="Connection Timeout=90;Data Source=VHAPORBBSQL;Initial Catalog=VBECS_V1_PROD;P
    <add key="DbQueryTimeoutSeconds" value="120" />
    <add key="ExceptionMailFrom" value="" />
    <add key="ExceptionMailTo" value="" />
    <add key="ErrorLogFileName" value="VbecsError.log" />
    <!-- Use "P" for live production system, use "M" for mirror test system -->
    <add key="VbecsEnvironmentType" value="P" />
    <add key="VbecsUsersDomainGroupName" value="VancouverBloodBankUsers" />
    <add key="VbecsAdminDomainGroupName" value="VancouverBloodBankAdmins" />
    <add key="Domain" value="vha.med.va.gov" />
  </appSettings>
</configuration>
```

- 42)  Save and print the file for validation records.
- 43) Navigate to **C:\Program Files\VistA\VBECs Test**. Open **VBECs.exe.config**. Using notepad, enter the Test Environment values (Refer to Figure 378). Add the:
- Data Source value to the database name from Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server Network Name, Row 7)
  - Initial Catalog value to VBECs\_V1\_TEST
  - VbecsEnvironmentType value to M
  - VbecsUsersDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 6)
  - VbecsAdminDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 7)
  - **DC** For a data center installation, set the domain value to the data center domain. All others, use “Vnn.med.va.gov” where *nn* is the 2 digit VISN number from Appendix D: Blood Bank Configuration Checklist
- 44)  Save and print the file for validation records.
- 45) Using In the same directory, open the **VBECs.Admin.exe.config** file. Using Notepad, enter the Test Environment values (Refer to Figure 379). Add the:
- Data Source value to the database name from Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server Network Name, Row 7)
  - Initial Catalog value to VBECs\_V1\_TEST
  - VbecsEnvironmentType value to M
  - VbecsUsersDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 6)
  - VbecsAdminDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 7)
  - **DC** For a data center installation, set the domain value to the data center domain. All others, use “Vnn.med.va.gov” where *nn* is the 2 digit VISN number from Appendix D: Blood Bank Configuration Checklist
- 46)  Save and print the file for validation records.

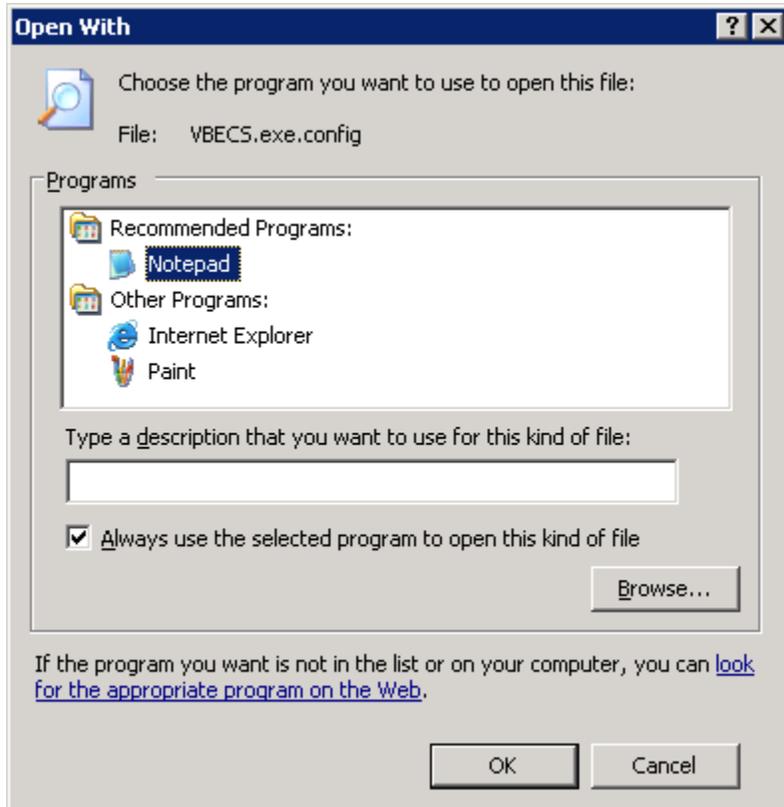
- 47) ② Log into Server 2 with your Windows ID.
- 48) Click **Start, Windows Explorer** and navigate to the C:\Program Files\Vista\VBECs directory.
- 49) Double click **VBECs.exe.config**. Check the **Select the program from a list** radio button and click **OK** (Figure 380).

**Figure 380: Selecting a Program to Edit Config Files**



- 50) Select **Notepad**. Check the **Always use the selected program to open this kind of file** check box (Figure 381). Click **OK**.

**Figure 381: Open With**



- 51) Enter the Production Environment values (circled text in Figure 382). Add the:
- Data Source value to the database name from Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server Network Name, Row 7)
  - Initial Catalog value to VBECS\_V1\_PROD
  - VbecsEnvironmentType value to P
  - VbecsUsersDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 6)
  - VbecsAdminDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 7)
  - **DC** For a data center installation, set the domain value for the data center domain. All others, use “Vnn.med.va.gov” where *nn* is the 2 digit VISN number from Appendix D: Blood Bank Configuration Checklist

**Figure 382: Example of Production Configuration File for VBECS**

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <configSections>
    <section name="exceptionManagement" type="gov.va.med.vbecs.ExceptionManagement.ExceptionManagerSectionHandler, VBECS.Co

    <sectionGroup name="VistALink">
      <section name="Client" type="System.Configuration.NameValueSectionHandler" />
      <section name="DebugAccessList" type="System.Configuration.NameValueSectionHandler" />
    </sectionGroup>

    <section name="DebugDivisionSelection" type="System.Configuration.NameValueSectionHandler" />
  </configSections>

  <appSettings>
    <add key="PrimaryDbConnectionString" value="Connection Timeout=90;Data Source=VHAPORBBSQL;Initial Catalog=VBECS_V1_PROD;P
    <add key="DbQueryTimeoutSeconds" value="120" />
    <add key="ExceptionMailFrom" value="" />
    <add key="ExceptionMailTo" value="" />
    <add key="ErrorLogFileName" value="VbecsError.log" />
    <!-- Use "P" for live production system, use "M" for mirror test system -->
    <add key="VbecsEnvironmentType" value="P" />
    <add key="VbecsUsersDomainGroupName" value="VancouverBloodBankUsers" />
    <add key="VbecsAdminDomainGroupName" value="VancouverBloodBankAdmins" />
    <add key="Domain" value="vha.med.va.gov" />
    <add key="VistaCacheRefreshIntervalInMinutes" value="270" />
  </appSettings>
</configuration>
```

52)  Save and print the file for validation records.

53) In the same directory, open the **VBECS.Admin.exe.config** file. Using Notepad, enter the Production Environment values (circled text in Figure 383). Add the:

- Data Source value to the database name from Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server Network Name, Row 7)
- Initial Catalog value to VBECS\_V1\_PROD
- VbecsEnvironmentType value to P
- VbecsUsersDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 6)
- VbecsAdminDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 7)
- **DC** For a data center installation, set the domain value to the data center domain. All others, use “Vnn.med.va.gov” where nn is the 2 digit VISN number from Appendix D: Blood Bank Configuration Checklist

**Figure 383: Example of Production Configuration File for VBECS Administrator**

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <configSections>
    <section name="exceptionManagement" type="gov.va.med.vbecs.ExceptionManagement.ExceptionManagerSectionHandler, VBECS.Com

    <sectionGroup name="VistALink">
      <section name="Client" type="System.Configuration.NameValueSectionHandler" />
      <section name="DebugAccessList" type="System.Configuration.NameValueSectionHandler" />
    </sectionGroup>
  </configSections>

  <appSettings>
    <add key="PrimaryDbConnectionString" value="Connection Timeout=90;Data Source=VHAPORBBSQL;Initial Catalog=VBECS_V1_PROD;P
    <add key="DbQueryTimeoutSeconds" value="120" />
    <add key="ExceptionMailFrom" value="" />
    <add key="ExceptionMailTo" value="" />
    <add key="ErrorLogFileName" value="VbecsError.log" />
    <!-- Use "P" for live production system, use "M" for mirror test system -->
    <add key="VbecsEnvironmentType" value="P" />
    <add key="VbecsUsersDomainGroupName" value="VancouverBloodBankUsers" />
    <add key="VbecsAdminDomainGroupName" value="VancouverBloodBankAdmins" />
    <add key="Domain" value="vha.med.va.gov" />
  </appSettings>
</configuration>
```

- 54)  Save and print the file for validation records.
- 55) Navigate to **C:\Program Files\VistA\VBECs Test**. Open **VBECs.exe.config**. Using notepad, enter the Test Environment values (Refer to Figure 382). Add the:
- Data Source value to the database name from Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server Network Name, Row 7)
  - Initial Catalog value to VBECs\_V1\_TEST
  - VbecsEnvironmentType value to M
  - VbecsUsersDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 6)
  - VbecsAdminDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 7)
  - **DC** For a data center installation, set the domain value to the data center domain. All others, use “Vnn.med.va.gov” where *nn* is the 2 digit VISN number from Appendix D: Blood Bank Configuration Checklist
- 56)  Save and print the file for validation records.
- 57) Using In the same directory, open the **VBECs.Admin.exe.config** file. Using Notepad, enter the Test Environment values (Refer to Figure 383). Add the:
- Data Source value to the database name from Appendix E: Server Configuration Checklist (SQL Server Information, Virtual Server Network Name, Row 7)
  - Initial Catalog value to VBECs\_V1\_TEST
  - VbecsEnvironmentType value to M
  - VbecsUsersDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 6)
  - VbecsAdminDomainGroupName value to the group name from Appendix E: Server Configuration Checklist (Domain Information, Row 7)
  - **DC** For a data center installation, set the domain value to the data center domain. All others, use “Vnn.med.va.gov” where *nn* is the 2 digit VISN number from Appendix D: Blood Bank Configuration Checklist
- 58)  Save and print the file for validation records.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## 10 Update Configuration Files for VBECS Services

Update the four configuration files (two each in the VBECS Test and VBECS folders in the C:\Program Files\Vista directory). Print each file for validation records.

- 1) **1** Log into Server 1 with your Windows ID.
- 2) Click **Start, Windows Explorer** and navigate to the C:\Program Files\Vista\VBECS\WinServices\VBECS HL7 Multi Listener directory.
- 3) Double click **VbecsHL7ListenerService.exe.config**. Change the listenerPortNumber value to **21994** (Figure 384).

**Figure 384: Example of Service Configuration File**

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <appSettings>
    <add key="PrimaryDbConnectionString" value="Connection Time
8192:integrated security=SSPI;Application Name=VBECS" />
    <add key="serviceName" value="VBECS HL7 Multi Listener" />
    <add key="allowPing" value="true" />
    <add key="listenerIpAddress" value="10.3.21.82" />
    <add key="listenerPortNumber" value="21994" />
    <add key="monitorService" value="true" />
    <add key="monitorInterval" value="5000" />
    <add key="monitorMaxRetries" value="3" />
    <add key="monitorServiceStartTimeout" value="5" />
    <add key="BuildNumber" value="1.0.6.2" />
  </appSettings>
</configuration>
```

- 4)  Save and print the file for validation records.
- 5) Navigate to the C:\Program Files\Vista\VBECS\WinServices\VBECS VistaLink RPC XML Listener directory.
- 6) Double click **VistaLink.ListenerWinService.exe.config**. Change the listenerPortNumber value to **21992** (Figure 385).

**Figure 385: Example of Service Configuration File**

```
<add key="serviceName" value="VBECS Test VistaLink RPC XML Listener" />
<add key="serverName" value="vhaishsqlz1" />
<add key="databaseName" value="VBECS_V1-TEST" />
<add key="listenerPortNumber" value="21992" />
<add key="allowPing" value="true" />
<add key="listenerIpAddress" value="10.3.21.81" />
<add key="monitorService" value="true" />
<add key="monitorInterval" value="3000" />
<add key="monitorMaxRetries" value="3" />
<add key="monitorServiceStartTimeout" value="5" />
<add key="BuildNumber" value="1.0.6.2" />
</appSettings>
```

- 7)  Save and print the file for validation records.

- 8) Navigate to the C:\Program Files\Vista\VBECs Test\WinServices\VBECs Test HL7 Multi Listener directory.
- 9) Double click **VbecsHL7ListenerService.exe.config**. Change the listenerPortNumber value to **21993** (Figure 386).

**Figure 386: Example of Service Configuration File**

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <appSettings>
    <add key="PrimaryDbConnectionString" value="Connection Timeout=9
8192;integrated security=SSPI;Application Name=VBECs" />
    <add key="serviceName" value="VBECs Test HL7 Multi Listener" />
    <add key="allowPing" value="true" />
    <add key="listenerIpAdress" value="10.3.21.81" />
    <add key="listenerPortNumber" value="21993" />
    <add key="monitorService" value="true" />
    <add key="monitorInterval" value="5000" />
    <add key="monitorMaxRetries" value="3" />
    <add key="monitorServiceStartTimeout" value="5" />
    <add key="BuildNumber" value="1.0.6.2" />
  </appSettings>
</configuration>
```

- 10)  Save and print the file for validation records.
- 11) Navigate to the C:\Program Files\Vista\VBECs Test\WinServices\VBECs Test VistaLink RPC XML Listener directory.
- 12) Double click **VistaLink.ListenerWinService.exe.config**. Change the listenerPortNumber value to **21991** (Figure 387).

**Figure 387: Example of Service Configuration File**

```
<add key="serviceName" value="VBECs Test VistaLink RPC XML Listener" />
<add key="serverName" value="vhaishsqlz1" />
<add key="databaseName" value="VBECs_V1_TEST" />
<add key="listenerPortNumber" value="21991" />
<add key="allowPing" value="true" />
<add key="listenerIpAdress" value="10.3.21.81" />
<add key="monitorService" value="true" />
<add key="monitorInterval" value="3000" />
<add key="monitorMaxRetries" value="3" />
<add key="monitorServiceStartTimeout" value="5" />
<add key="BuildNumber" value="1.0.6.2" />
</appSettings>
```

- 13)  Save and print the file for validation records.
- 14) **2** Log into Server 2 with your Windows ID.
- 15) Click **Start, Windows Explorer** and navigate to the C:\Program Files\Vista\VBECs\WinServices\VBECs HL7 Multi Listener directory.

- 16) Double click **VbecsHL7ListenerService.exe.config**. Change the listenerPortNumber value to **21994** (Figure 388).

**Figure 388: Example of Service Configuration File**

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <appSettings>
    <add key="PrimaryDbConnectionString" value="Connection Time
8192;integrated security=SSPI;Application Name=VBECS" />
    <add key="serviceName" value="VBECS HL7 Multi Listener" />
    <add key="allowPing" value="true" />
    <add key="listenerIpAddress" value="10.3.21.82" />
    <add key="listenerPortNumber" value="21994" />
    <add key="monitorService" value="true" />
    <add key="monitorInterval" value="5000" />
    <add key="monitorMaxRetries" value="3" />
    <add key="monitorServiceStartTimeout" value="5" />
    <add key="BuildNumber" value="1.0.6.2" />
  </appSettings>
</configuration>
```

- 17)  Save and print the file for validation records.
- 18) Navigate to the C:\Program Files\Vista\VBECS\WinServices\VBECS VistALink RPC XML Listener directory.
- 19) Double click **VistALink.ListenerWinService.exe.config**. Change the listenerPortNumber value to **21992** (Figure 389).

**Figure 389: Example of Service Configuration File**

```
<add key="serviceName" value="VBECS Test VistALink RPC XML Listener" />
<add key="serverName" value="vhaishsqlz1" />
<add key="databaseName" value="VBECS_V1_TEST" />
<add key="listenerPortNumber" value="21992" />
<add key="allowPing" value="true" />
<add key="listenerIpAddress" value="10.3.21.81" />
<add key="monitorService" value="true" />
<add key="monitorInterval" value="3000" />
<add key="monitorMaxRetries" value="3" />
<add key="monitorServiceStartTimeout" value="5" />
<add key="BuildNumber" value="1.0.6.2" />
</appSettings>
```

- 20)  Save and print the file for validation records.
- 21) Navigate to the C:\Program Files\Vista\VBECS Test\WinServices\VBECS Test HL7 Multi Listener directory.

- 22) Double click **VbecsHL7ListenerService.exe.config**. Change the listenerPortNumber value to **21993** (Figure 390).

**Figure 390: Example of Service Configuration File**

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <appSettings>
    <add key="PrimaryDbConnectionString" value="Connection Timeout=9
8192;integrated security=SSPI;Application Name=VBECS" />
    <add key="serviceName" value="VBECS Test HL7 Multi Listener" />
    <add key="allowPing" value="true" />
    <add key="listenerIpAddress" value="10.3.21.81" />
    <add key="listenerPortNumber" value="21993" />
    <add key="monitorService" value="true" />
    <add key="monitorInterval" value="5000" />
    <add key="monitorMaxRetries" value="3" />
    <add key="monitorServiceStartTimeout" value="5" />
    <add key="BuildNumber" value="1.0.6.2" />
  </appSettings>
</configuration>
```

- 23)  Save and print the file for validation records.
- 24) Navigate to the C:\Program Files\Vista\VBECS Test\WinServices\VBECS Test VistALink RPC XML Listener directory.
- 25) Double click **VistALink.ListenerWinService.exe.config**. Change the listenerPortNumber value to **21991** (Figure 391).

**Figure 391: Example of Service Configuration File**

```
<add key="serviceName" value="VBECS Test VistALink RPC XML Listener" />
<add key="serverName" value="vhaishsqlz1" />
<add key="databaseName" value="VBECS_V1_TEST" />
<add key="listenerPortNumber" value="21991" />
<add key="allowPing" value="true" />
<add key="listenerIpAddress" value="10.3.21.81" />
<add key="monitorService" value="true" />
<add key="monitorInterval" value="3000" />
<add key="monitorMaxRetries" value="3" />
<add key="monitorServiceStartTimeout" value="5" />
<add key="BuildNumber" value="1.0.6.2" />
</appSettings>
```

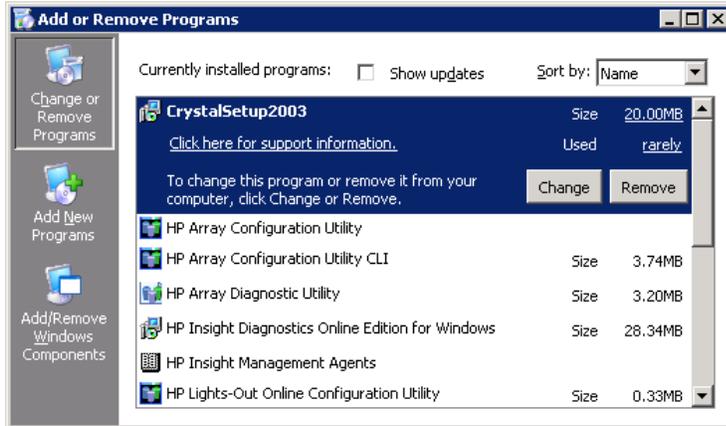
- 26)  Save and print the file for validation records.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## 11 Install and Configure FTP and SMTP

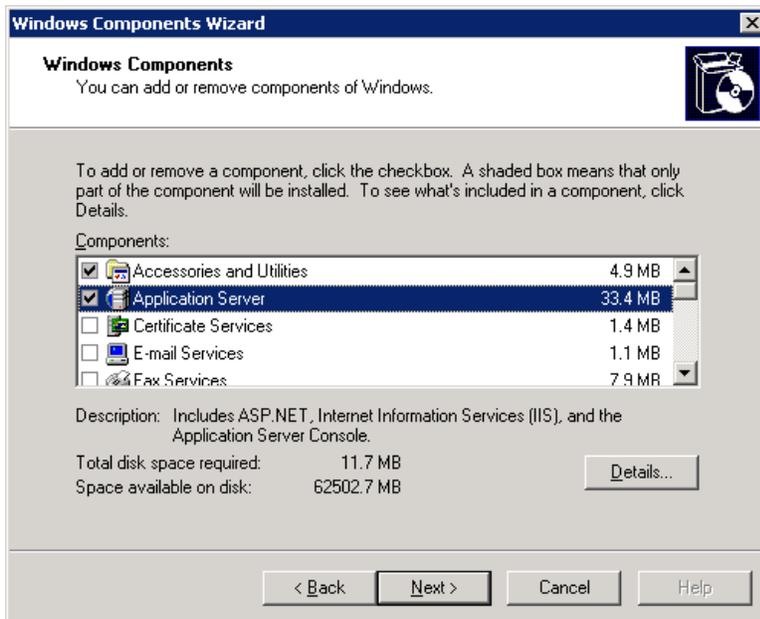
- 1) ❶ Log into Server 1 with your Windows ID.
- 2) Install FTP and SMTP:
  - a) Click **Start, Control Panel, Add or Remove Programs**. Click **Add/Remove Windows Components** (Figure 392).

**Figure 392: Add or Remove Programs**



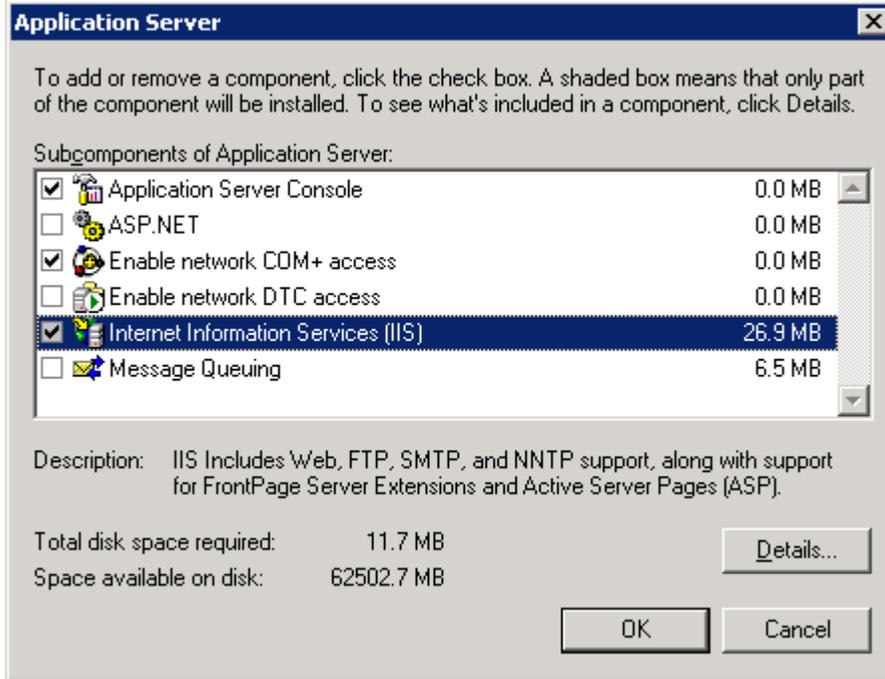
- b) Check the **Application Server** check box. Click **Details** (Figure 393).

**Figure 393: Windows Components Wizard**



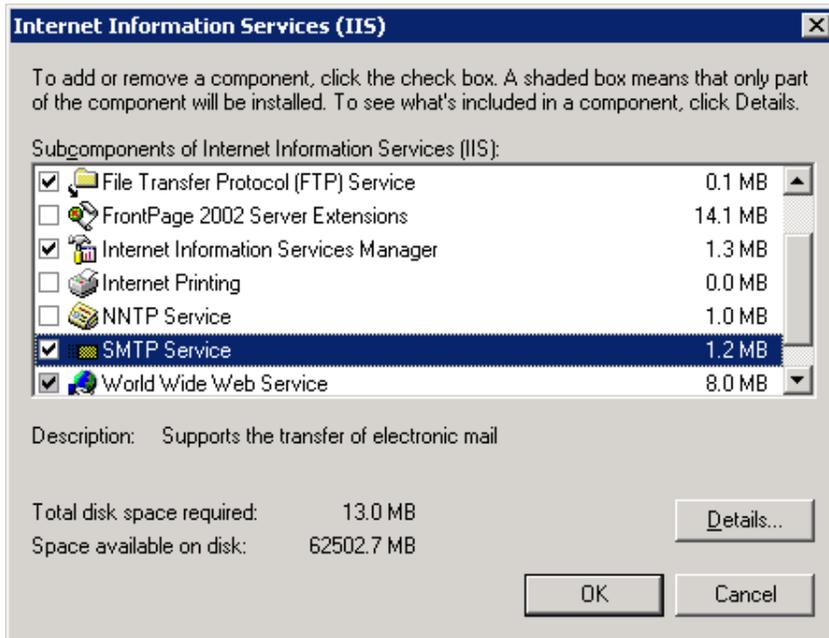
- c) Check the **Internet Information Services** text. Click **Details** (Figure 394).

**Figure 394: Application Server**



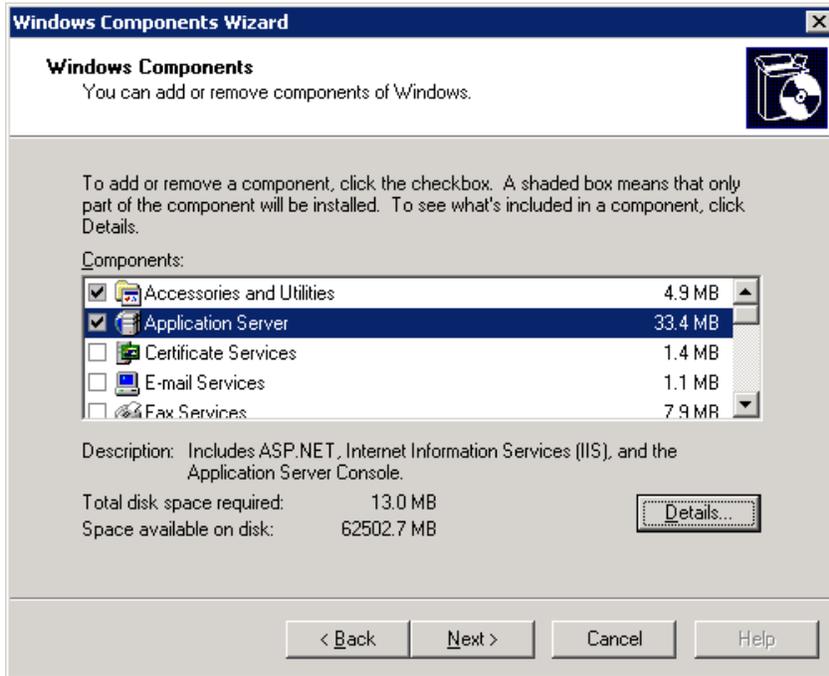
- d) Check the **File Transfer Protocol (FTP) Service** and **SMTP Service** check boxes. Keep all other defaults. Click **OK** to close both windows and continue (Figure 395).

**Figure 395: Internet Information Services (IIS)**



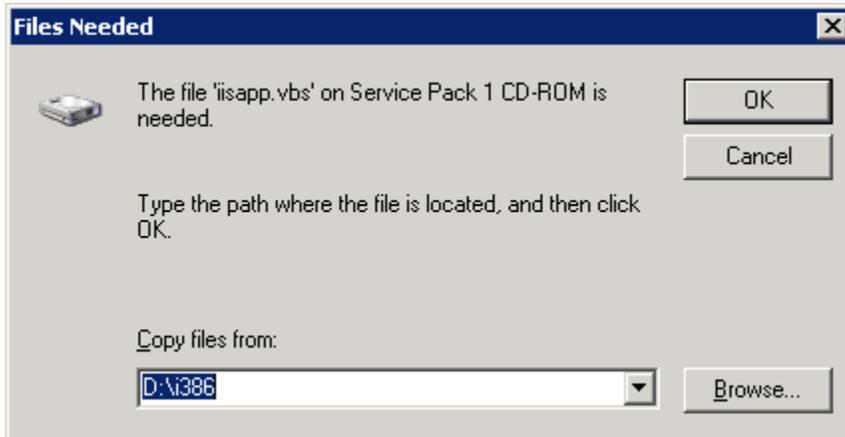
e) Click **Next** (Figure 396).

**Figure 396: Windows Components Wizard**



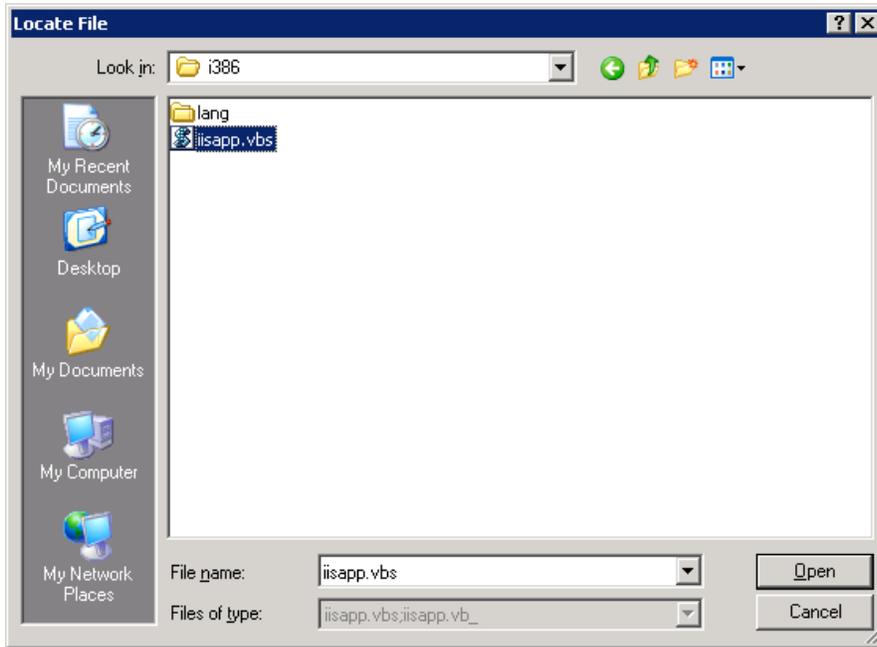
f) In the Files Needed dialog screen, click **Browse** (Figure 397).

**Figure 397: Files Needed**



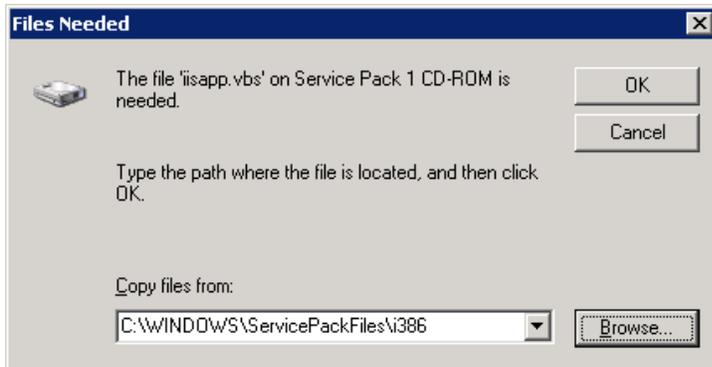
- g) Navigate to C:\Windows\ServicePackFiles\i386\. Select **issapp.vbs**. Click **Open** (Figure 398).

**Figure 398: Locate File**



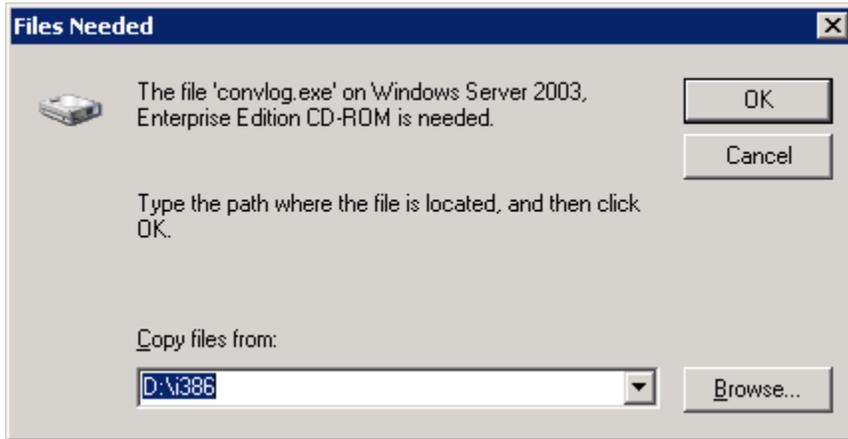
- h) Click **OK** (Figure 399).

**Figure 399: Files Needed**



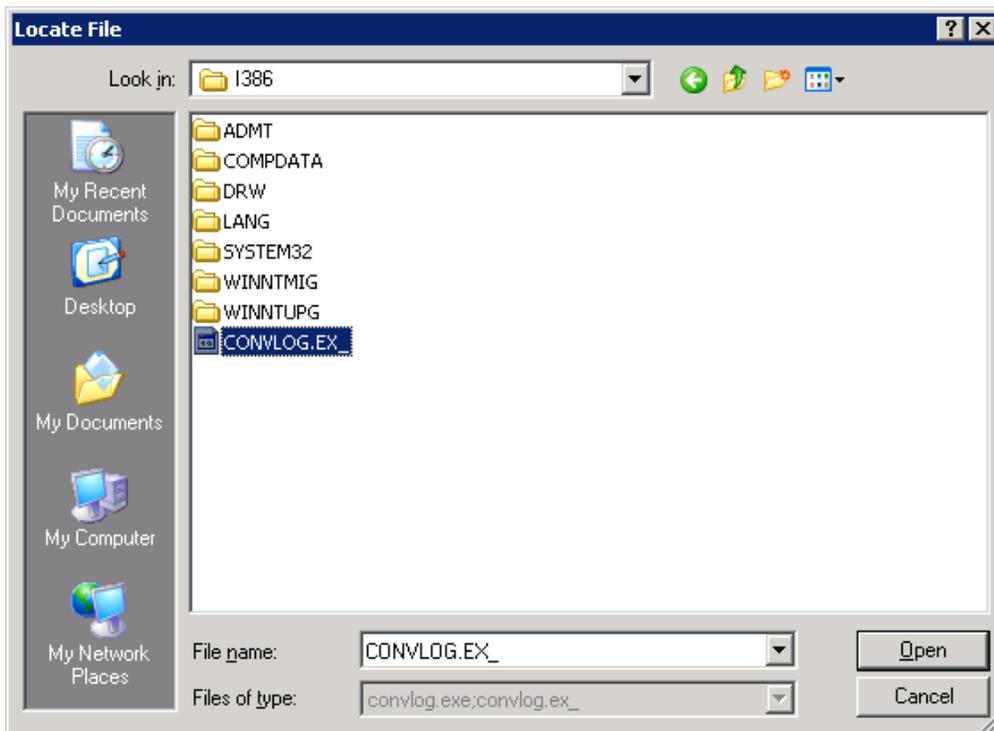
i) In the Files Needed dialog screen, click **Browse** (Figure 400).

**Figure 400: Files Needed**



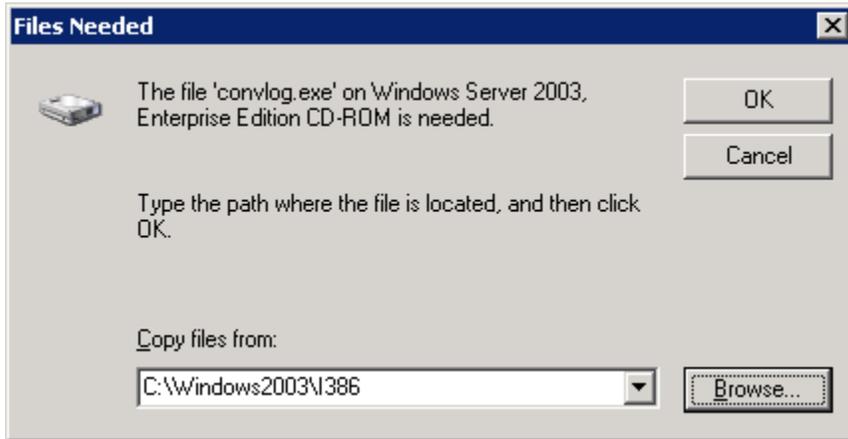
j) Navigate to C:\Windows2003\i386\, Select **CONVLOG.EX\_**. Click **Open** (Figure 401).

**Figure 401: Locate File**



k) Click **OK** (Figure 402).

**Figure 402: Files Needed**



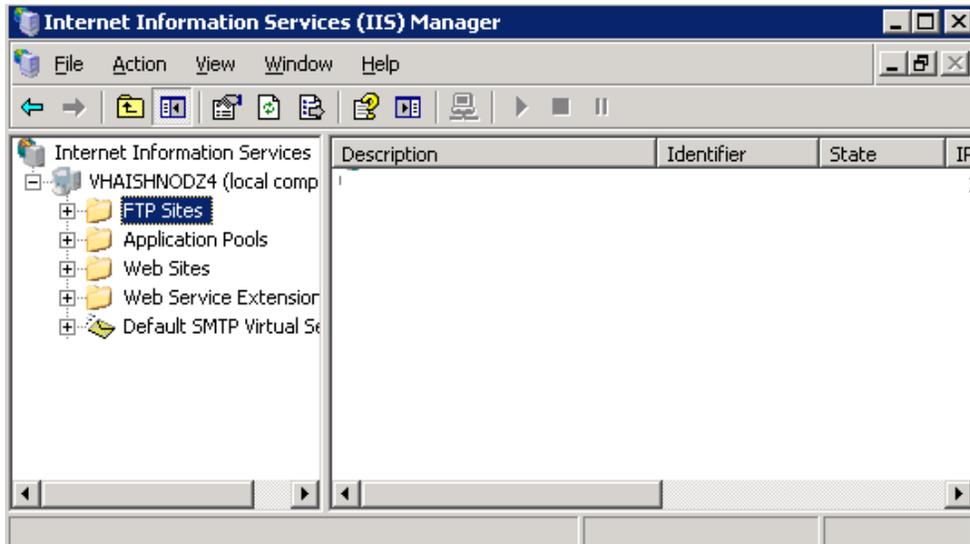
l) Click **Finish** (Figure 403).

**Figure 403: Windows Components Wizard**



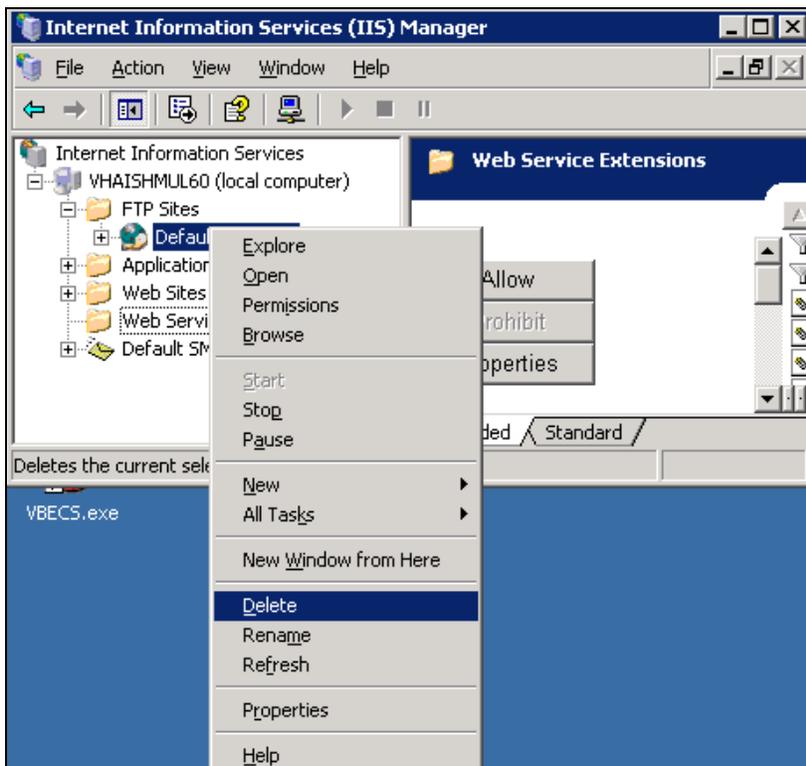
- 3) Configure FTP:
  - a) Click **Start, Administrative Tools, Internet Information Services (IIS) Manager** (Figure 404).

**Figure 404: Internet Information Services (IIS) Manager**



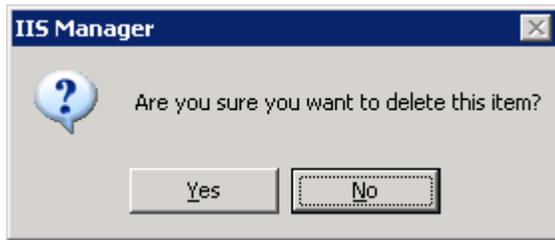
- b) Open the **FTP Sites** folder. Right click **Default FTP Site**. Select **Delete** (Figure 405).

**Figure 405: Internet Information Services (IIS) Manager**



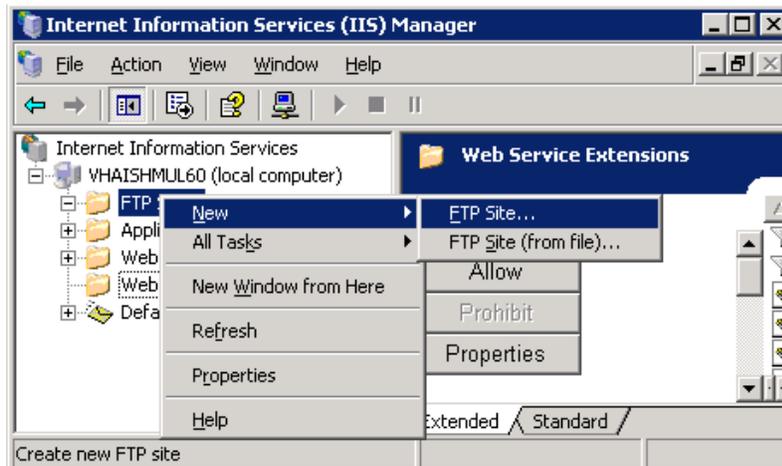
c) Click **Yes** (Figure 406).

**Figure 406: Confirmation**



d) Right click **FTP Sites**. Click **New**, **FTP Site** (Figure 407).

**Figure 407: Internet Information Services (IIS) Manager**



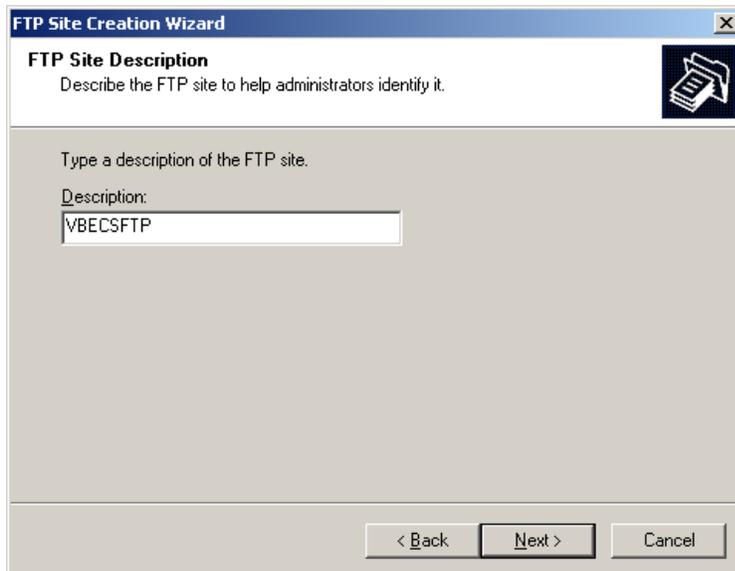
e) Click **Next** (Figure 408).

**Figure 408: Example of FTP Site Creation Wizard 1**



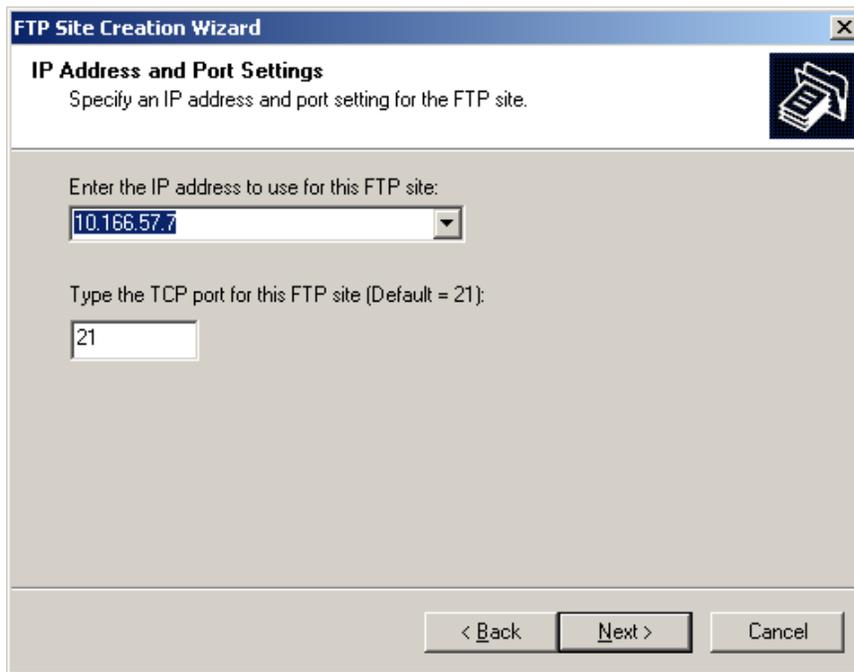
- f)  Enter **VBECSFTP** as the FTP site name. Capture a screen shot. Click **Next** (Figure 409).

**Figure 409: FTP Site Creation Wizard 2**



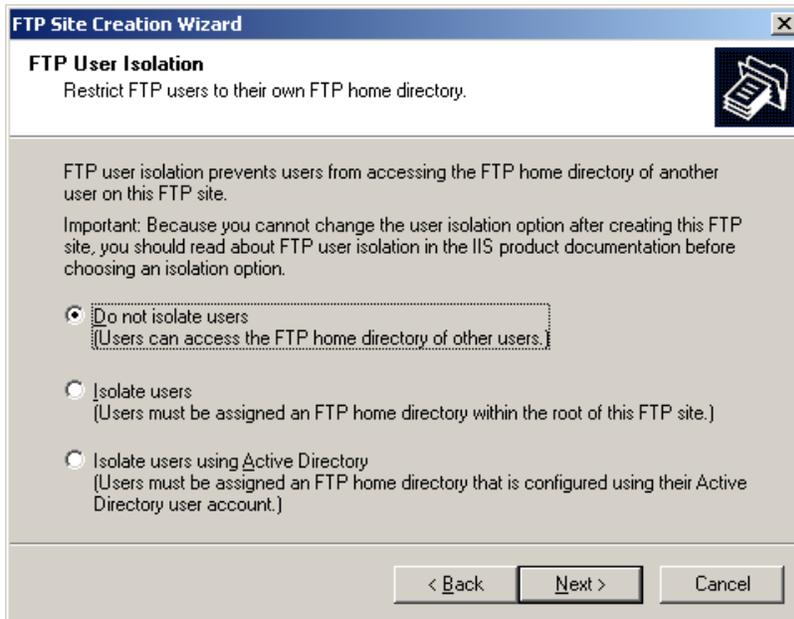
- g)  Select the public IP address of Server 1 from the **Enter the IP address ...** drop-down menu [from Appendix E: Server Configuration Checklist (Server Hardware Information, Server 1 IP Address, Row 2)]. Capture a screen shot. Keep “21” as the **TCP port**. Click **Next** (Figure 410).

**Figure 410: Example of FTP Site Creation Wizard 3**



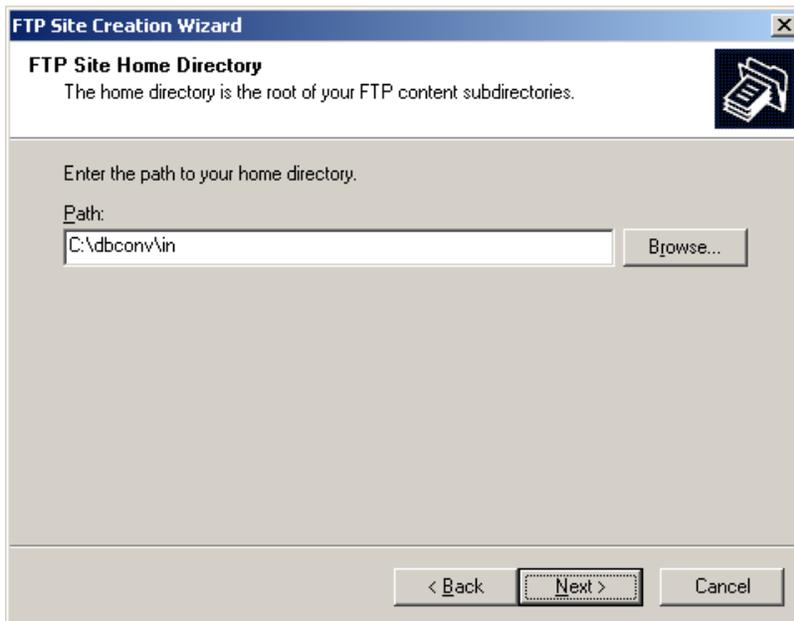
- h)  Keep defaults. Capture a screen shot. Click **Next** (Figure 411).

**Figure 411: FTP Site Creation Wizard 4**



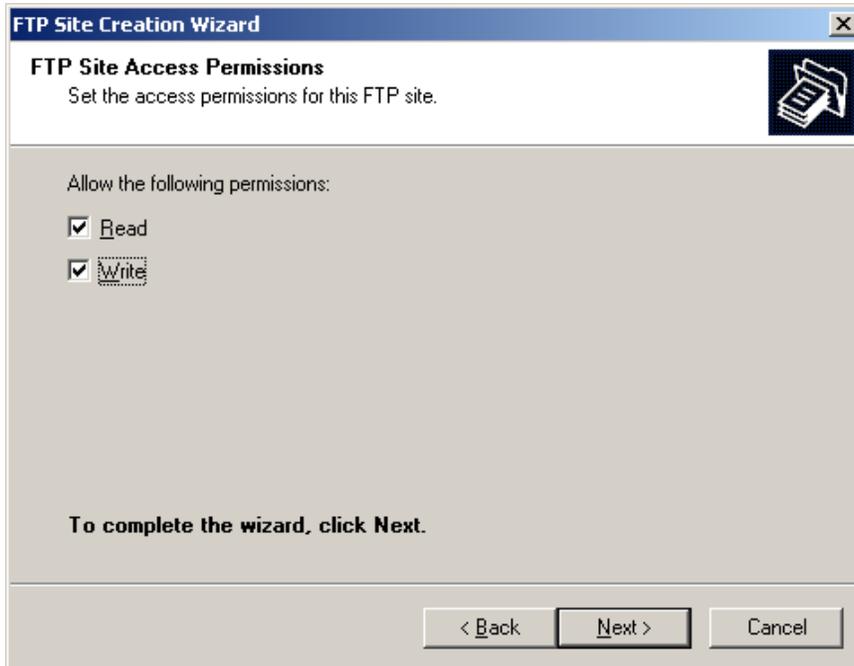
- i)  Enter **C:\dbconv\in** as the home directory in the “Path” field. Capture a screen shot. Click **Next** (Figure 412).

**Figure 412: FTP Site Creation Wizard 5**



- j)  Check the **Read** and **Write** check boxes. Capture a screen shot. Click **Next** (Figure 413).

**Figure 413: FTP Site Creation Wizard 6**



- k) Click **Finish** to complete the installation (Figure 414).

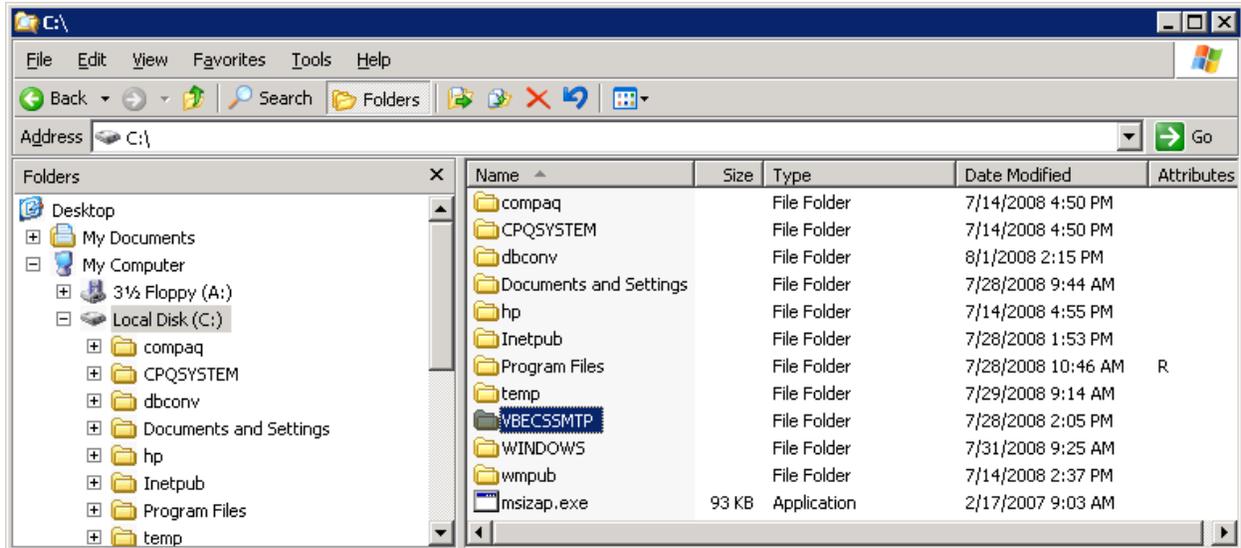
**Figure 414: FTP Site Creation Wizard 7**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

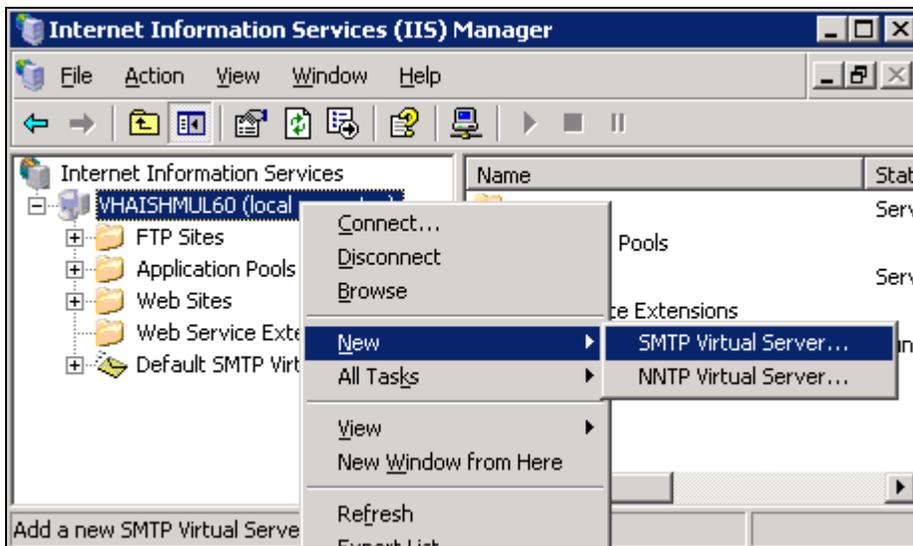
- 4) Configure SMTP:
  - a) Click **Start, Windows Explorer**.
  - b) Create a folder named **VBECSSMTP** on the C drive of the server as the home directory for SMTP (Figure 415).

**Figure 415: Example of SMTP Folder**



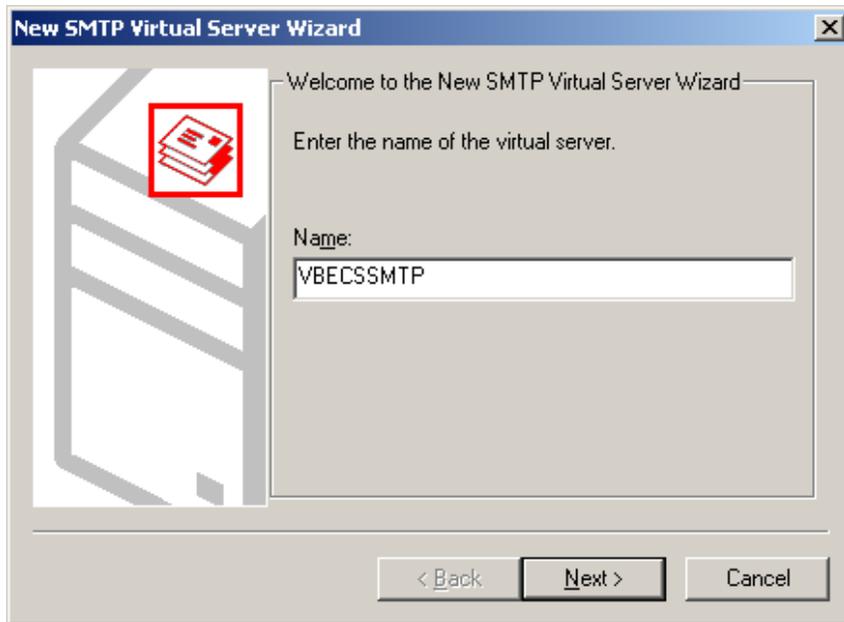
- c) Return to the Internet Information Services (IIS) screen. Right click the server name. Select **New, SMTP Virtual Server** (Figure 416).

**Figure 416: Example of Internet Information Services Manager**



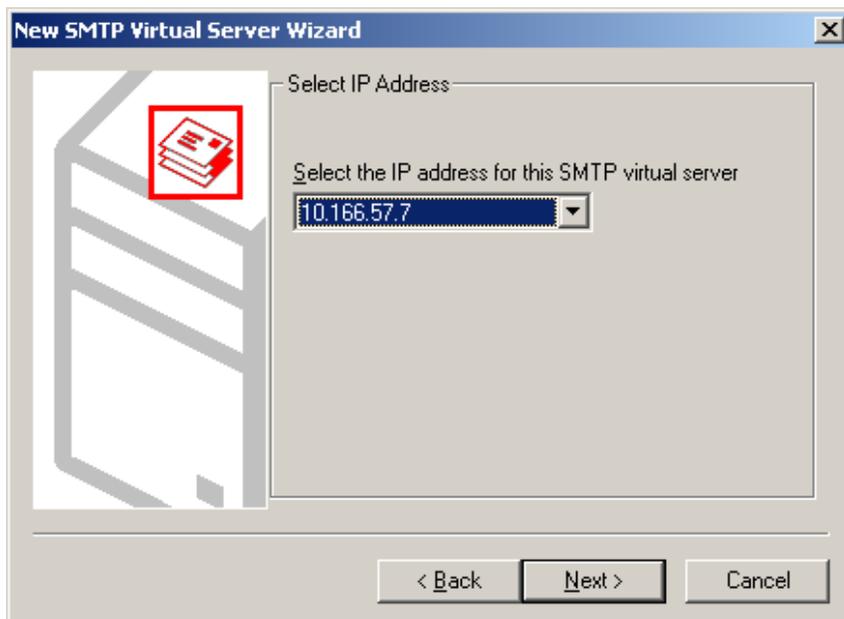
- d)  In the SMTP Virtual Server Wizard screen, enter VBECSSMTP in the Name field. Capture a screen shot. Click **Next** (Figure 417).

**Figure 417: New SMTP Virtual Server Wizard**



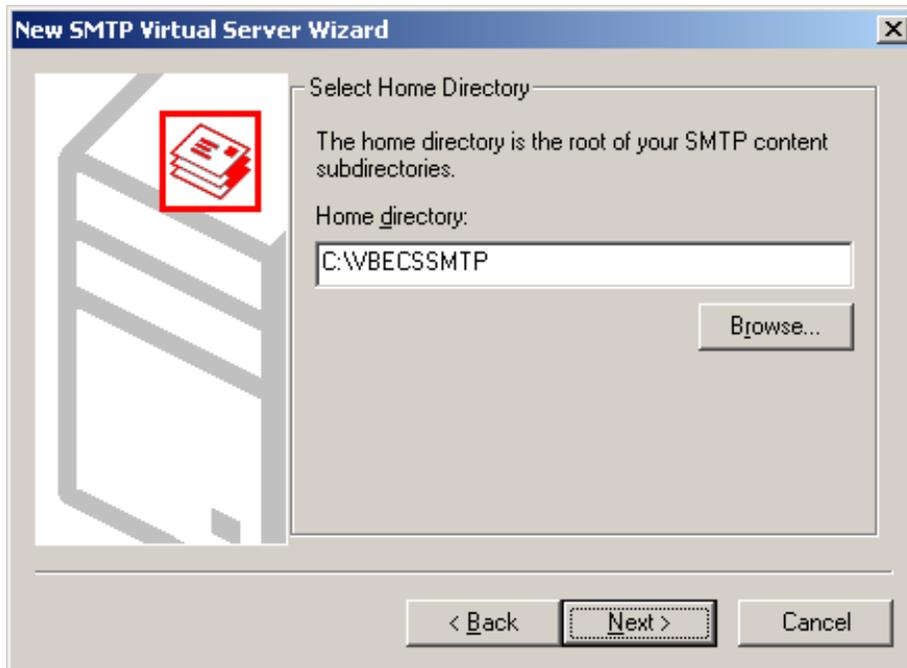
- e)  Select the public IP address of Server 1 from the **Select the IP address ...** drop-down menu [from Appendix E: Server Configuration Checklist (Server Hardware Information, Server 1 IP Address, Row 2)]. Capture a screen shot. Click **Next** (Figure 418).

**Figure 418: Example of New SMTP Virtual Server Wizard 1**



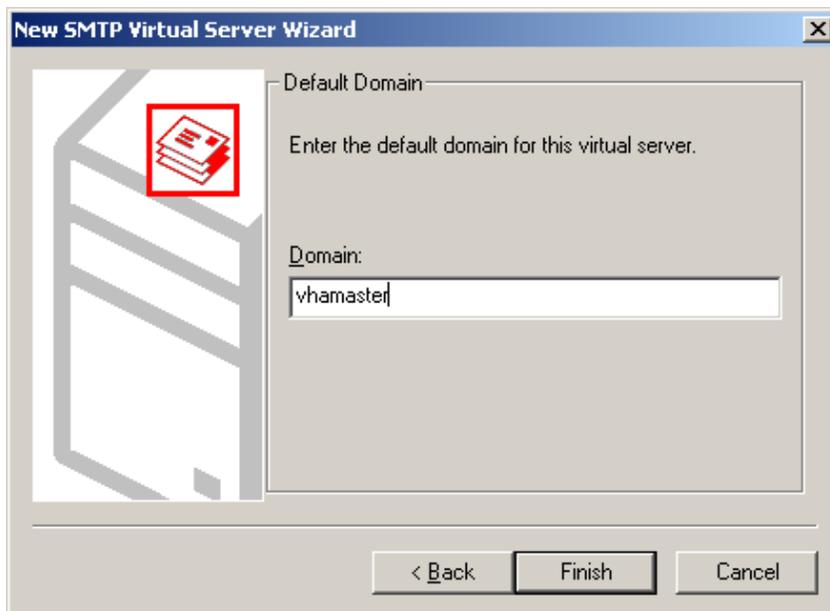
- f)  Enter **C:\VBECSSMTP** in the field as the home directory. Capture a screen shot. Click **Next** (Figure 419).

**Figure 419: New SMTP Virtual Server Wizard 2**



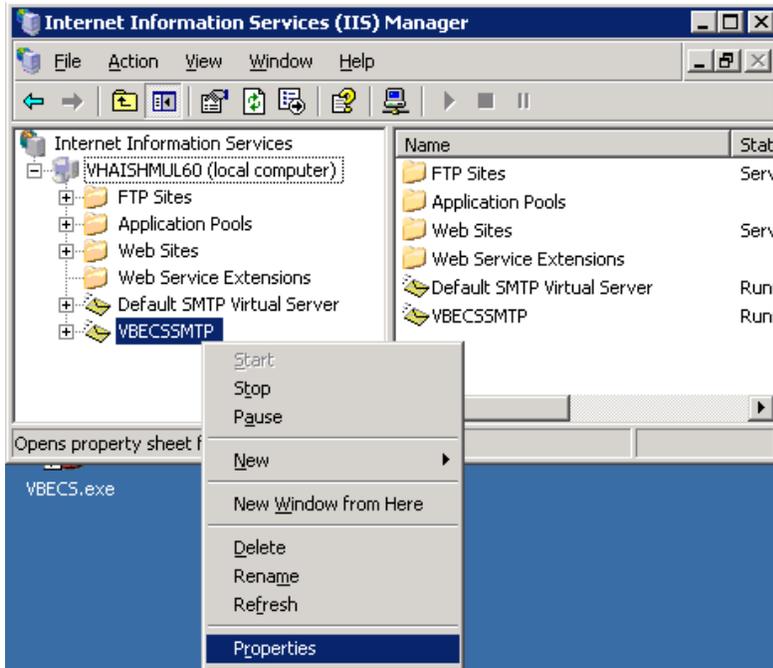
- g) **DC**  Enter **vhamaster** as the domain name. For a data center installation, enter the data center domain name. Capture a screen shot. Click **Finish** to complete the installation (Figure 420).

**Figure 420: Example of New SMTP Virtual Server Wizard 3**



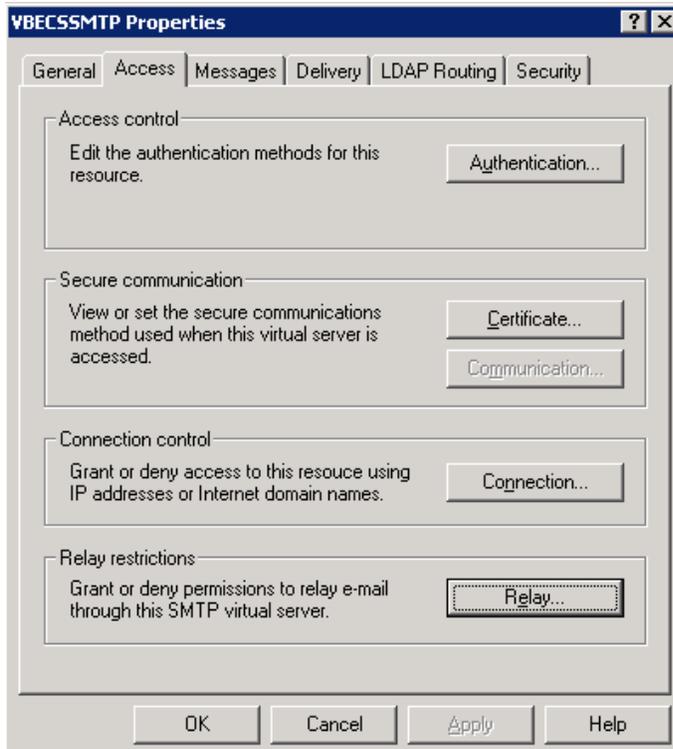
h) Right click **VBECSMTP**. Select **Properties** (Figure 421).

**Figure 421: Internet Information Services (IIS) Manager**



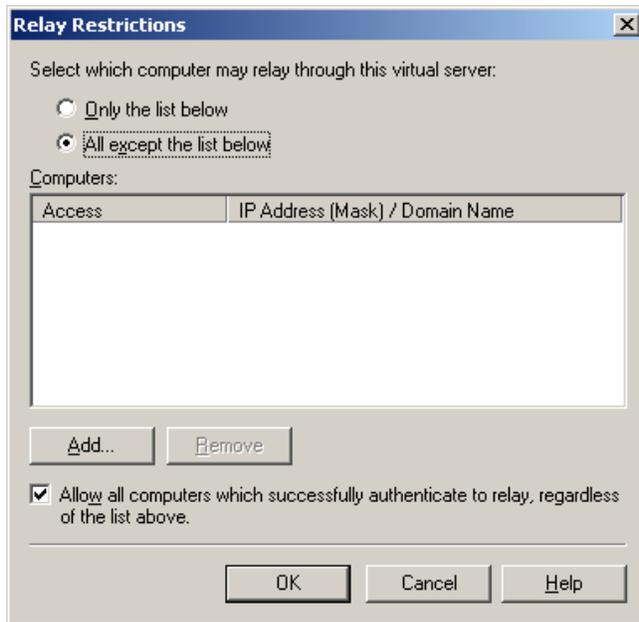
i) Click the **Access** tab. Click **Relay** (Figure 422).

**Figure 422: VBECSMTP Properties**



- j)  Click the **All except the list below** radio button. Make sure that the **Allow all computers...** check box is checked. Capture a screen shot. Click **OK** (Figure 423).

**Figure 423: Relay Restrictions**

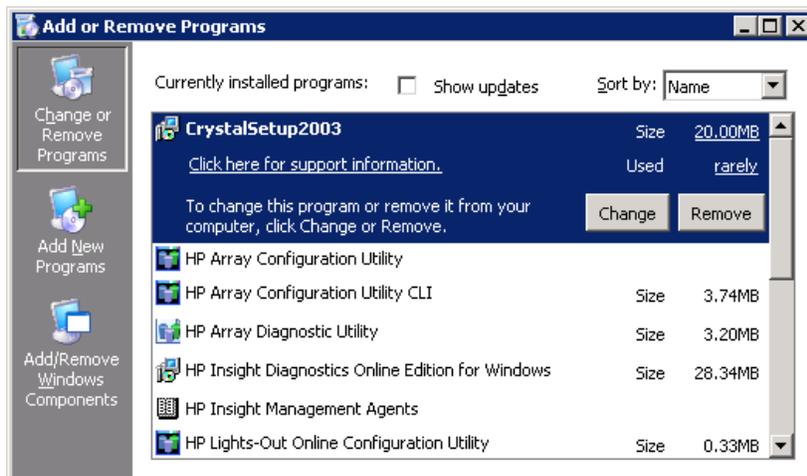


- k) Repeat Steps g through i for the **Default SMTP Virtual Server**.  
 l) Click **OK** to exit the VBECSMTP Properties window. Close IIS Manager.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

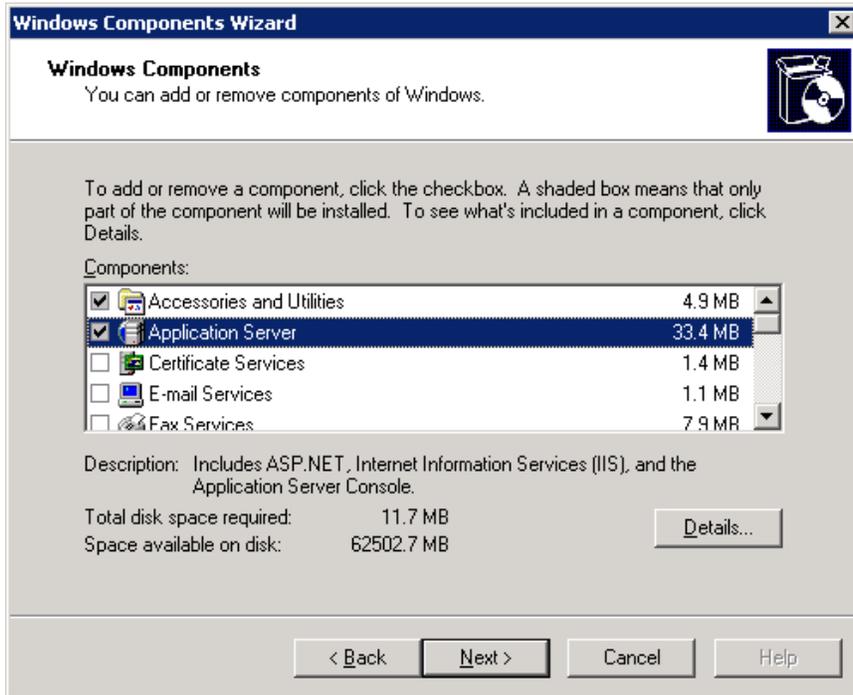
- 5)  Log into Server 2 with your Windows ID.  
 6) Install FTP and SMTP:  
 a) Click **Start, Control Panel, Add or Remove Programs**. Click **Add/Remove Windows Components** (Figure 424).

**Figure 424: Add or Remove Programs**



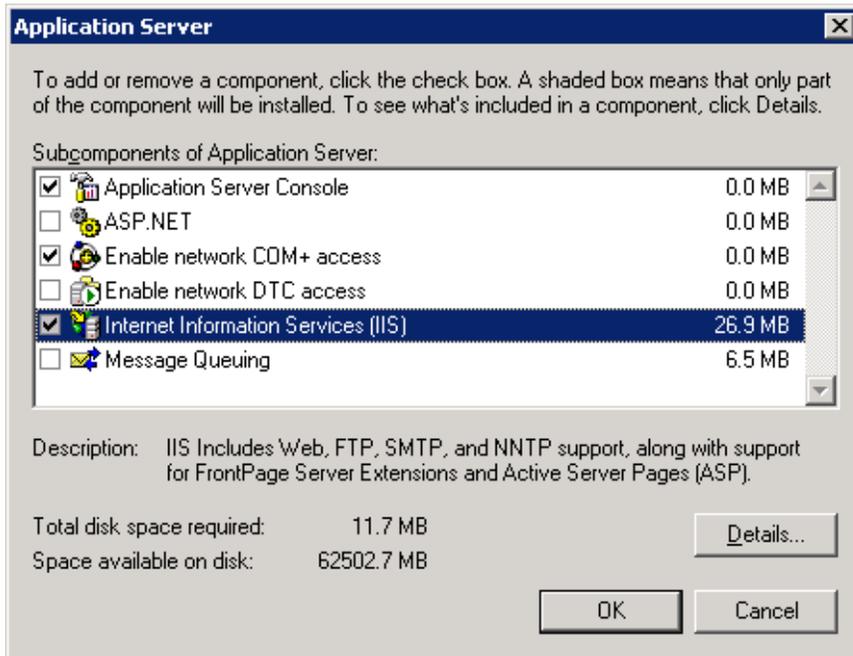
- b) Check the **Application Server** check box. Click **Details** (Figure 425).

**Figure 425: Windows Components Wizard**



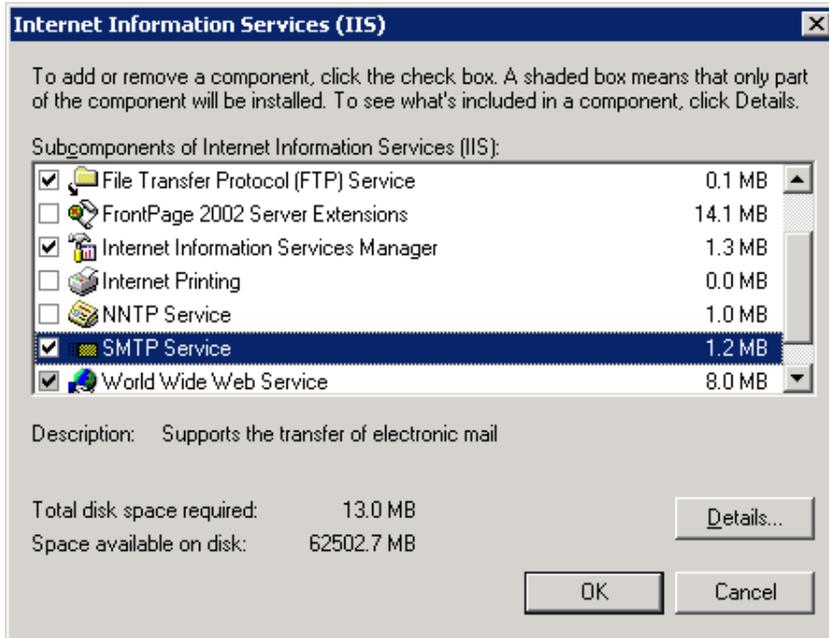
- c) Check the **Internet Information Services (IIS)** check box. Keep all other defaults. Click **Details** (Figure 426).

**Figure 426: Application Server**



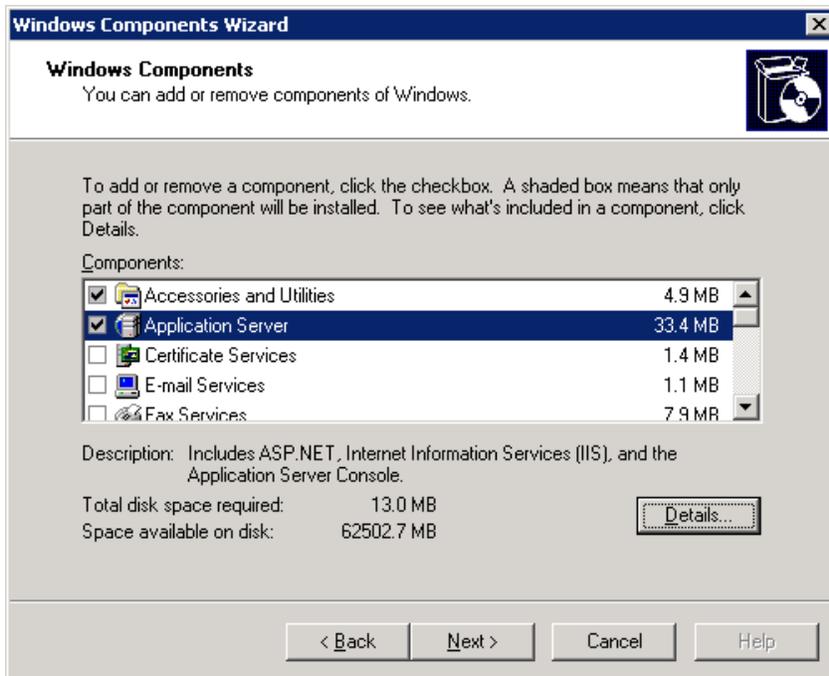
- d) Check the **File Transfer Protocol (FTP) Service** and **SMTP Service** check boxes. Keep all other defaults. Click **OK** to close both windows and continue (Figure 427).

**Figure 427: Internet Information Services (IIS)**



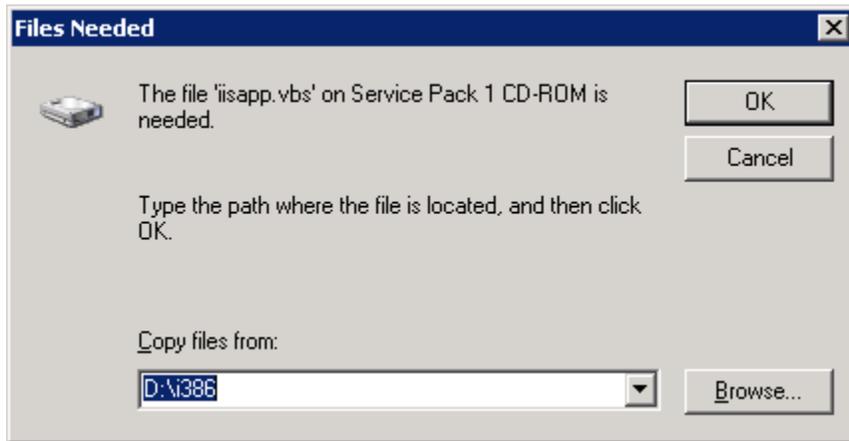
- e) Click **Next** (Figure 428).

**Figure 428: Windows Components Wizard**



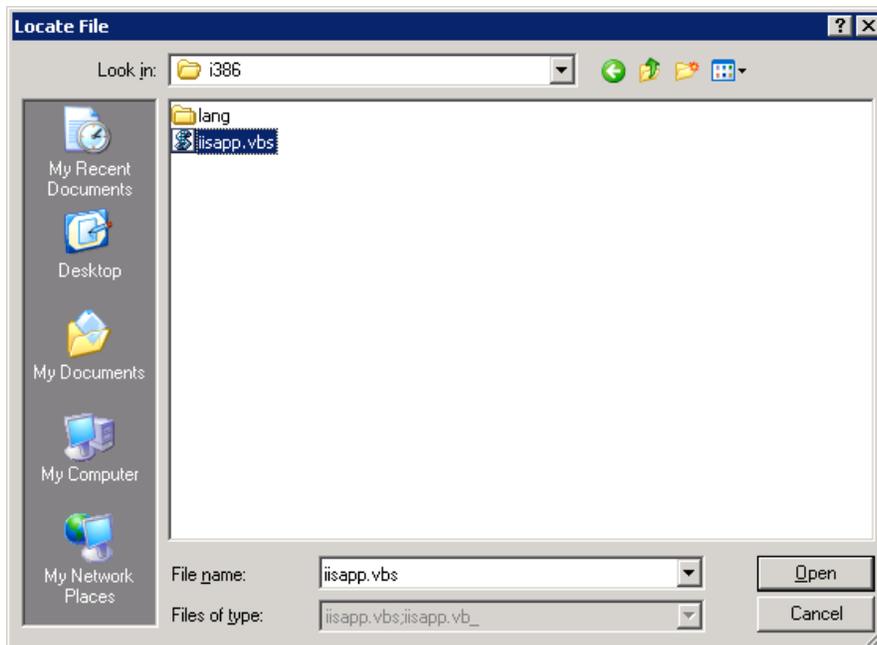
f) In the Files Needed dialog screen, click **Browse** (Figure 429).

**Figure 429: Files Needed**



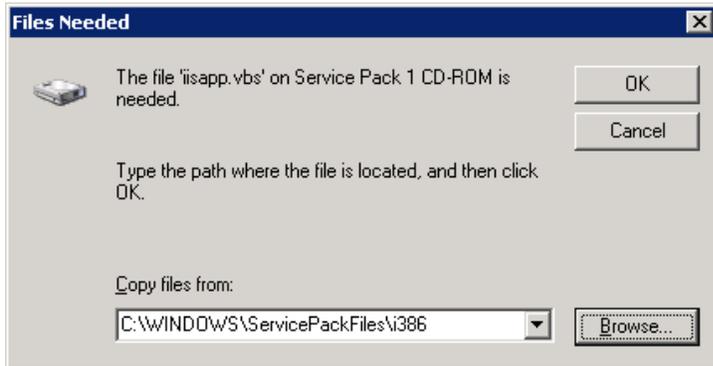
g) Navigate to C:\Windows\ServicePackFiles\i386\. Select **iisapp.vbs**. Click **Open** (Figure 430).

**Figure 430: Locate File**



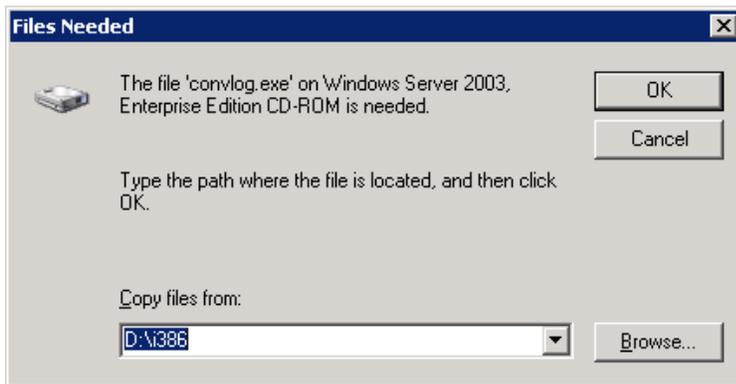
h) Click **OK** (Figure 431).

**Figure 431: Files Needed**



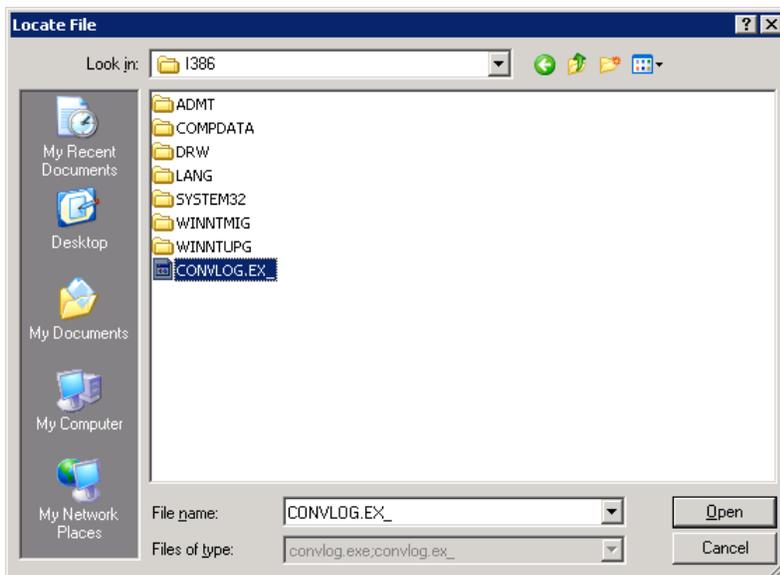
i) In the Files Needed dialog, click **Browse** (Figure 432).

**Figure 432: Files Needed**



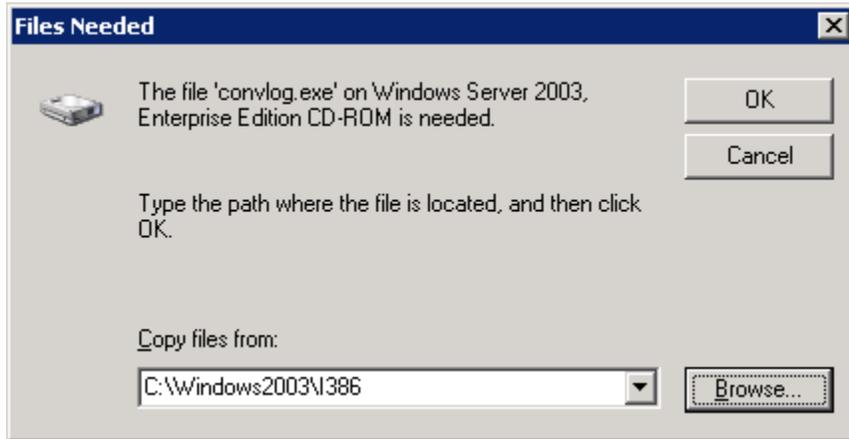
j) Navigate to C:\Windows2003\i386\, Select **CONVLOG.EX\_**. Click **Open** (Figure 433).

**Figure 433: Locate File**



k) Click **OK** (Figure 434).

**Figure 434: Files Needed**



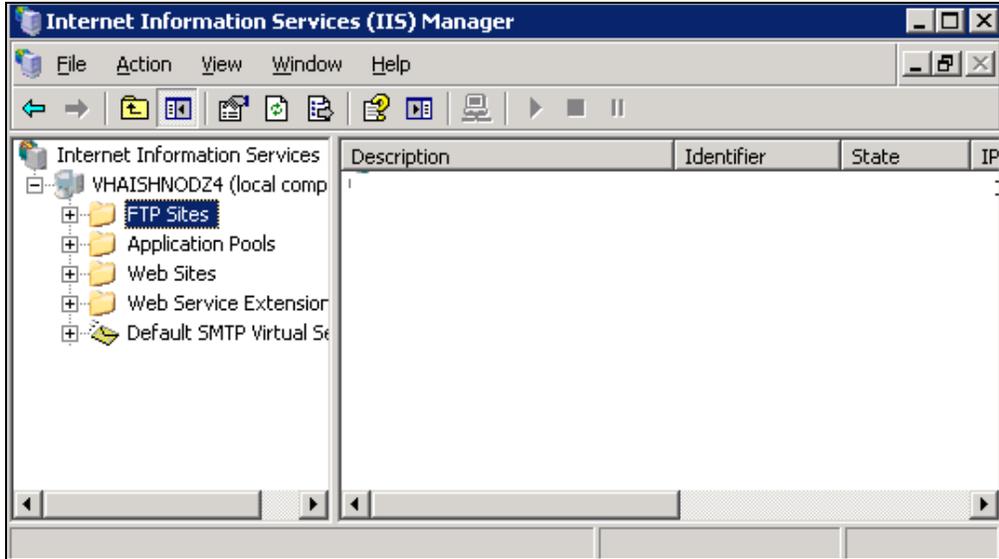
l) Click **Finish** (Figure 435).

**Figure 435: Windows Components Wizard**



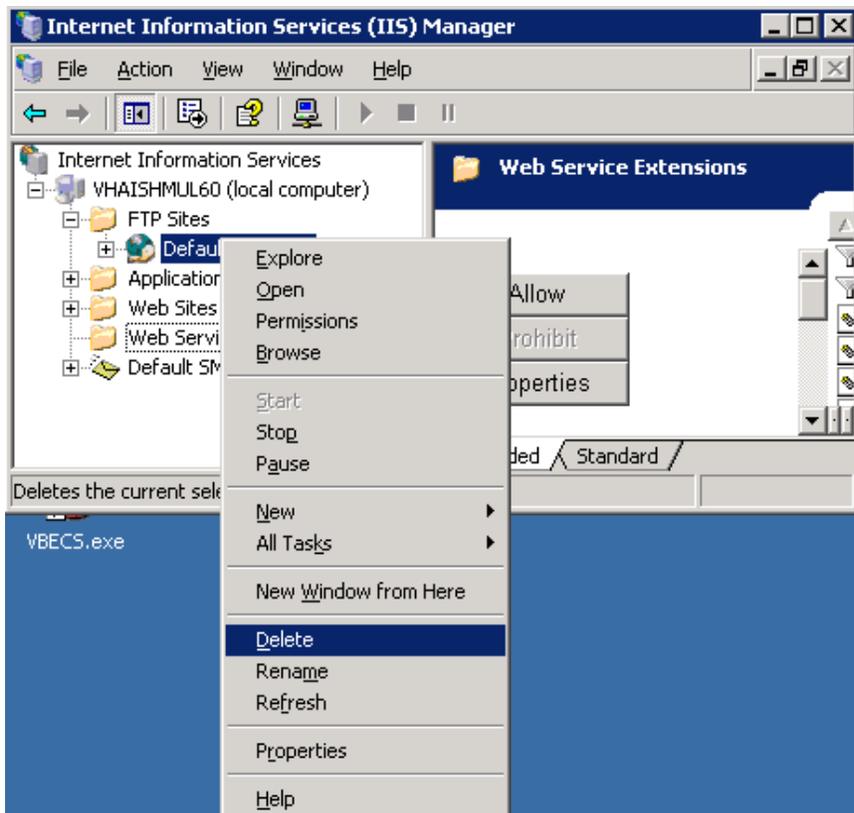
- 7) Configure FTP:
  - a) Click **Start, Windows Explorer**.
  - b) Click **Start, Administrative Tools, Internet Information Services (IIS) Manager** (Figure 436).

**Figure 436: Internet Information Services (IIS) Manager**



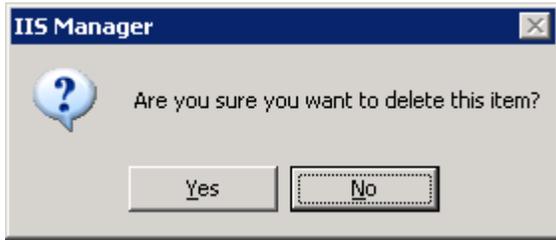
- c) Open the **FTP Sites** folder. Right click **Default FTP Site**. Click **Delete** (Figure 437).

**Figure 437: Internet Information Services (IIS) Manager**



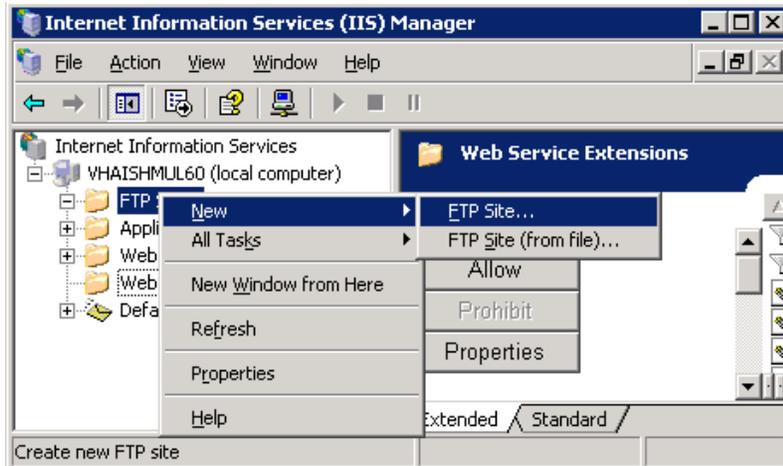
d) Click **Yes** (Figure 438).

**Figure 438: IIS Manager**



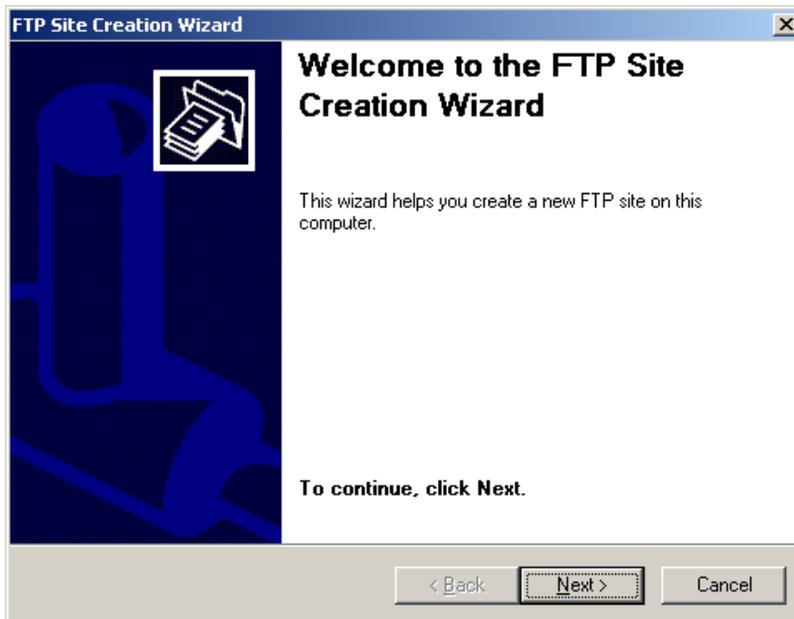
e) Right click **FTP Sites**. Click **New, FTP Site** (Figure 439).

**Figure 439: Internet Information Services (IIS) Manager**



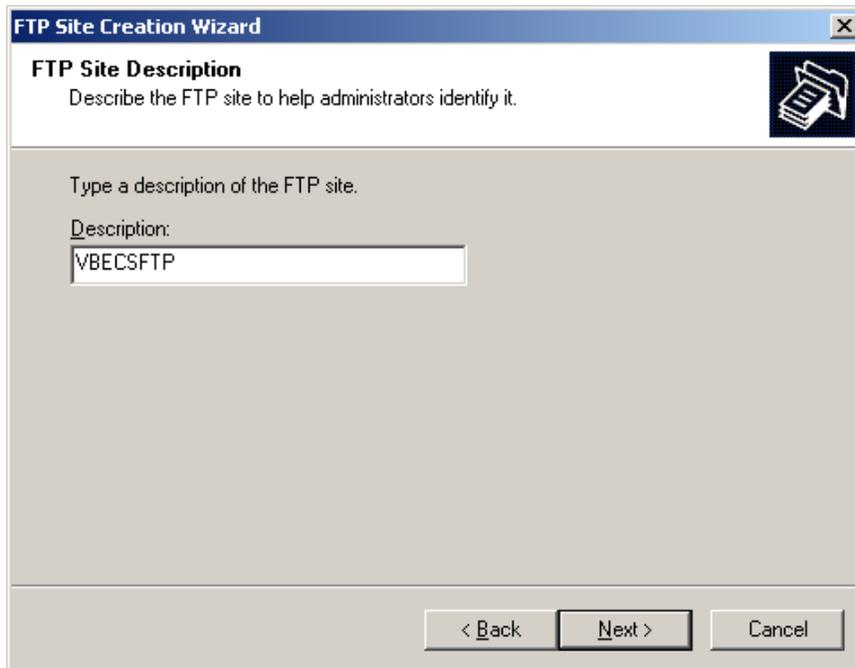
f) Click **Next** (Figure 440).

**Figure 440: Example of FTP Site Creation Wizard 1**



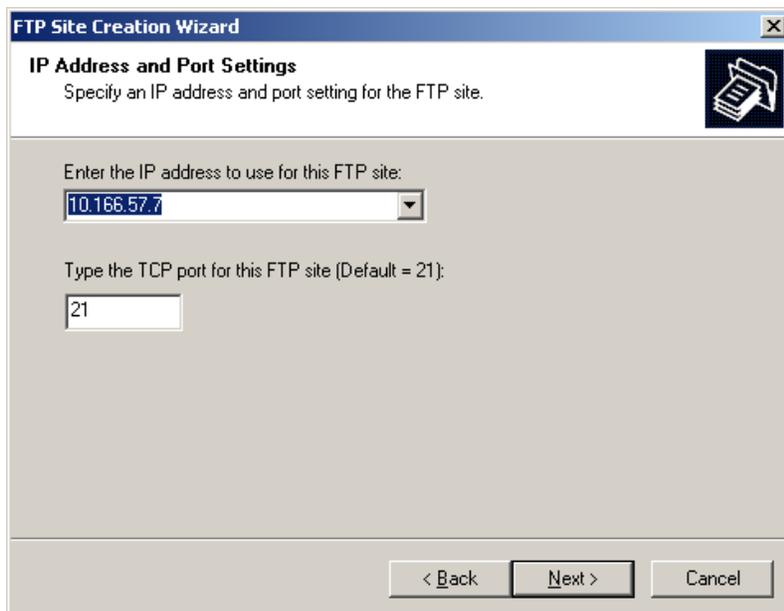
- g)  Enter **VBECSTFTP** in the field as the server name. Capture a screen shot. Click **Next** (Figure 441).

**Figure 441: FTP Site Creation Wizard 2**



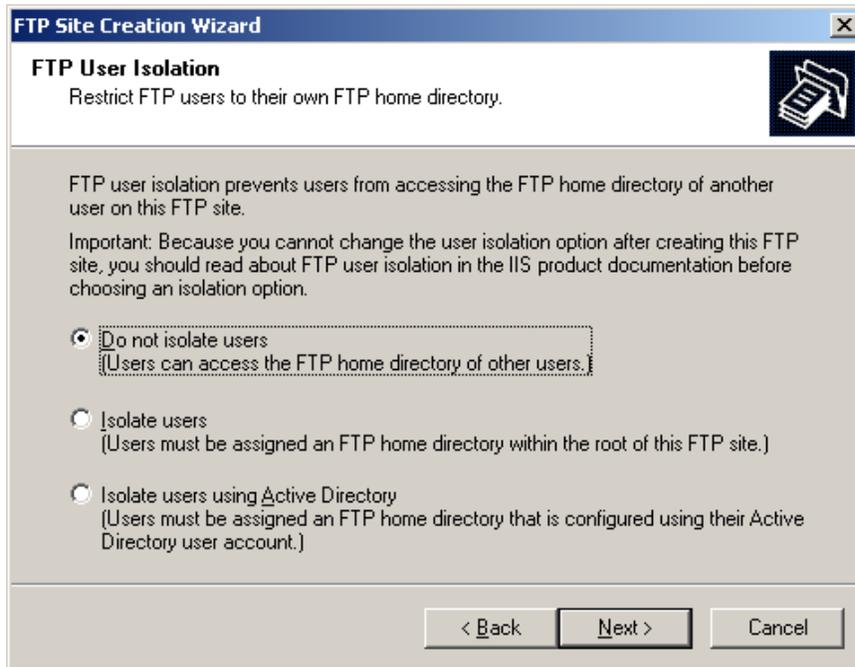
- h)  Select the public IP address of Server 2 from Appendix E: Server Configuration Checklist (Server Hardware Information, Server 2 IP Address, Row 4). Capture a screen shot. Keep “21” as the **TCP port**. Click **Next** (Figure 442).

**Figure 442: Example of FTP Site Creation Wizard 3**



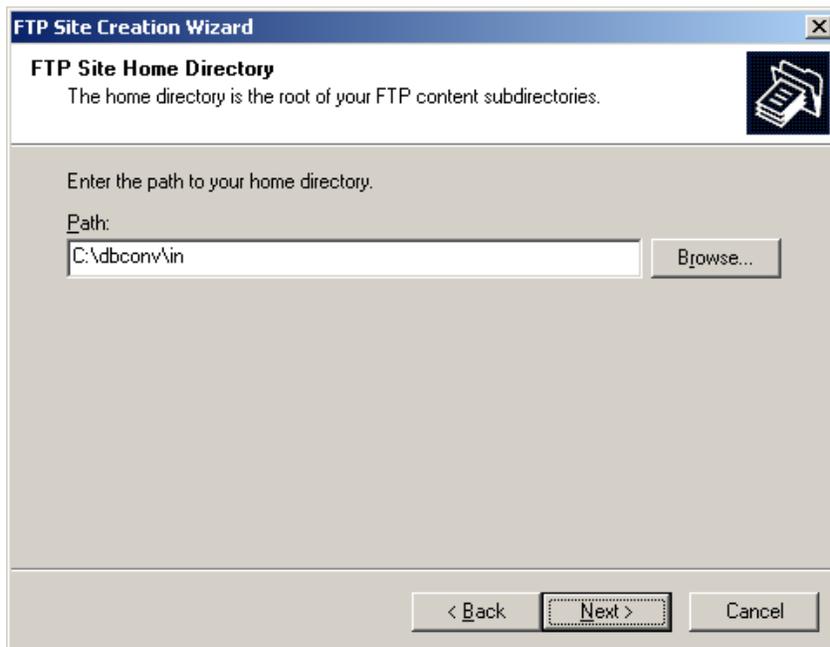
- i)  Keep all defaults. Capture a screen shot. Click **Next** (Figure 443).

**Figure 443: FTP Site Creation Wizard 4**



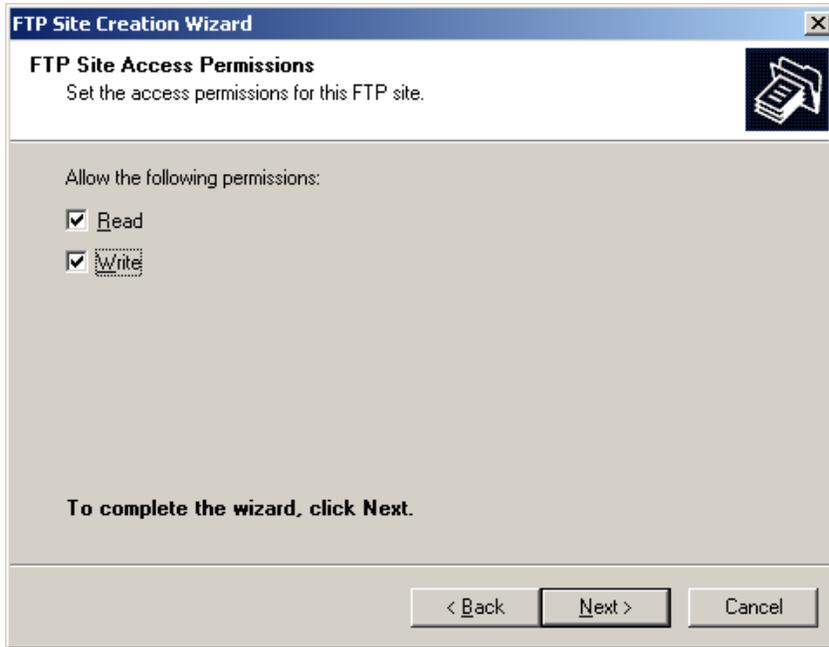
- j)  Enter **C:\dbconv\in** in the “Path” field as the home directory. Capture a screen shot. Click **Next** (Figure 444).

**Figure 444: FTP Site Creation Wizard 5**



- k)  Check the **Read** and **Write** check boxes. Capture a screen shot. Click **Next** (Figure 445).

**Figure 445: FTP Site Creation Wizard 6**



- l) Click **Finish** to complete the installation (Figure 446).

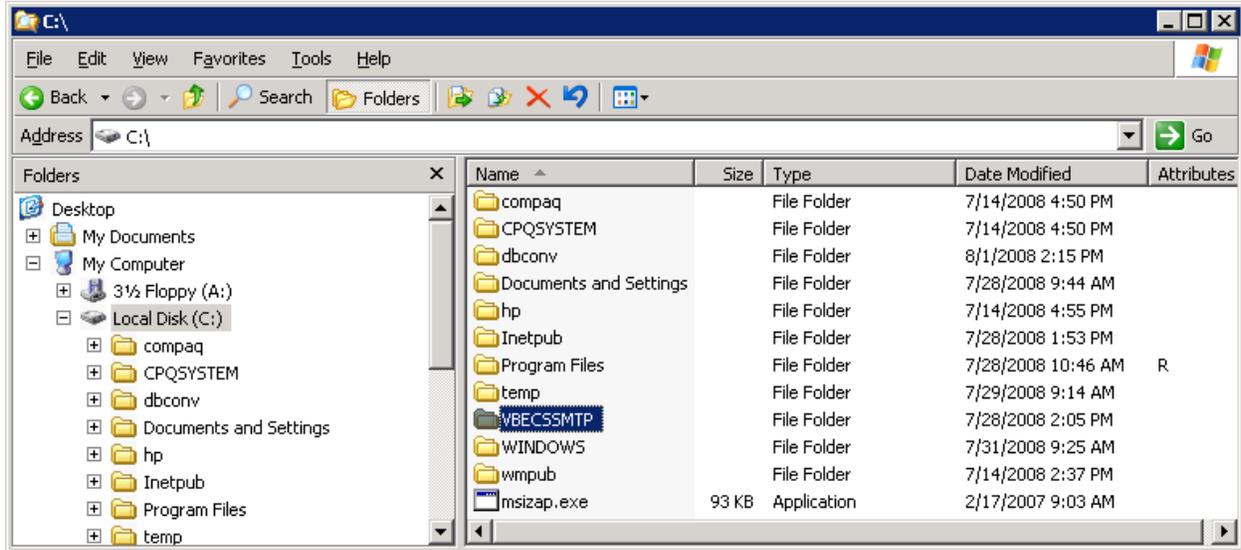
**Figure 446: You Have Successfully Completed the FTP Site Creation Wizard**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

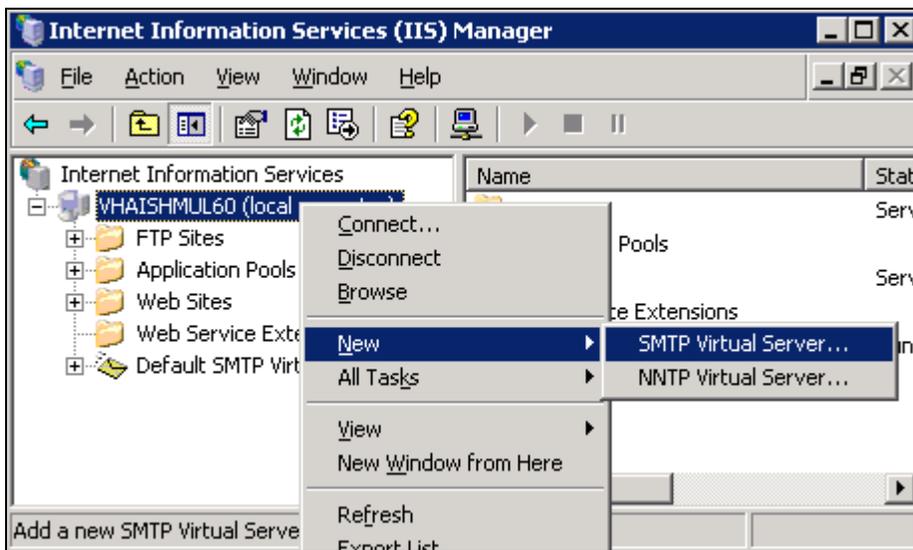
- 8) Configure SMTP:
  - a) Create a folder named “VBECSSMTP” on the C drive of the server as the home directory for SMTP (Figure 447).

**Figure 447: Example of SMTP Folder**



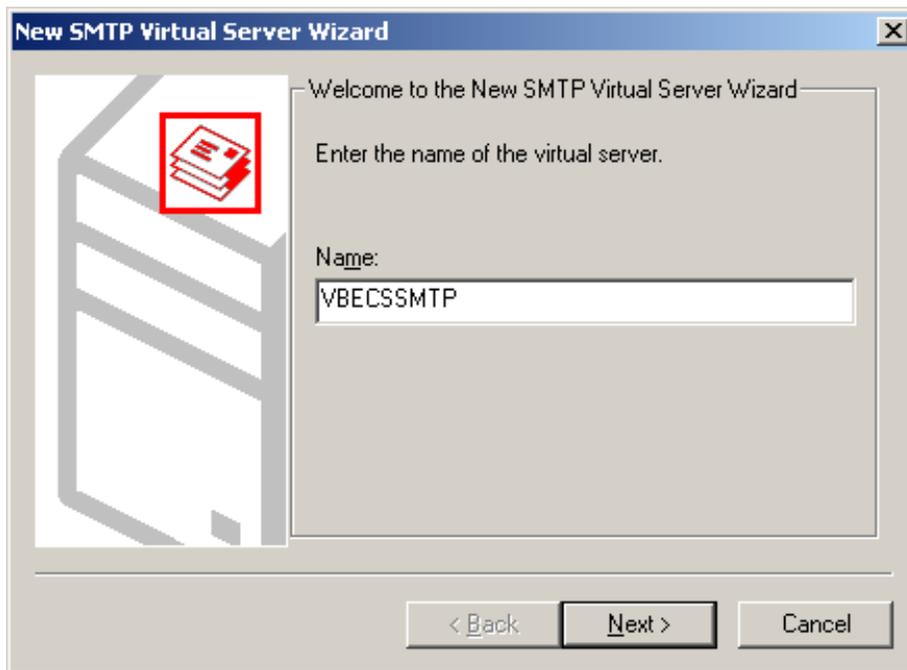
- b) Return to the Internet Information Services (IIS) screen. Right click the server name. Select **New, SMTP Virtual Server** (Figure 448).

**Figure 448: Example of Internet Information Services (IIS) Manager**



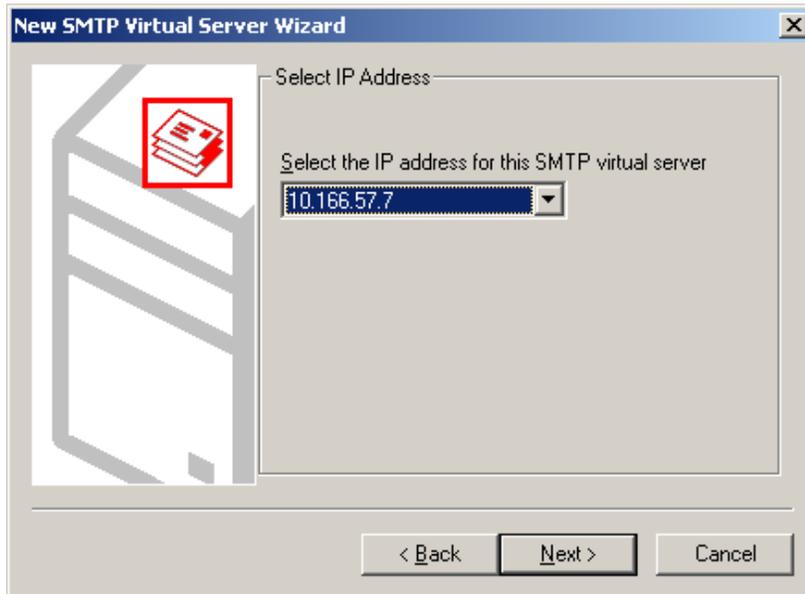
- c)  In the SMTP Virtual Server Wizard screen, enter **VBECSSMTP** in the Name field. Capture a screen shot. Click **Next** (Figure 449).

**Figure 449: New SMTP Virtual Server Wizard**



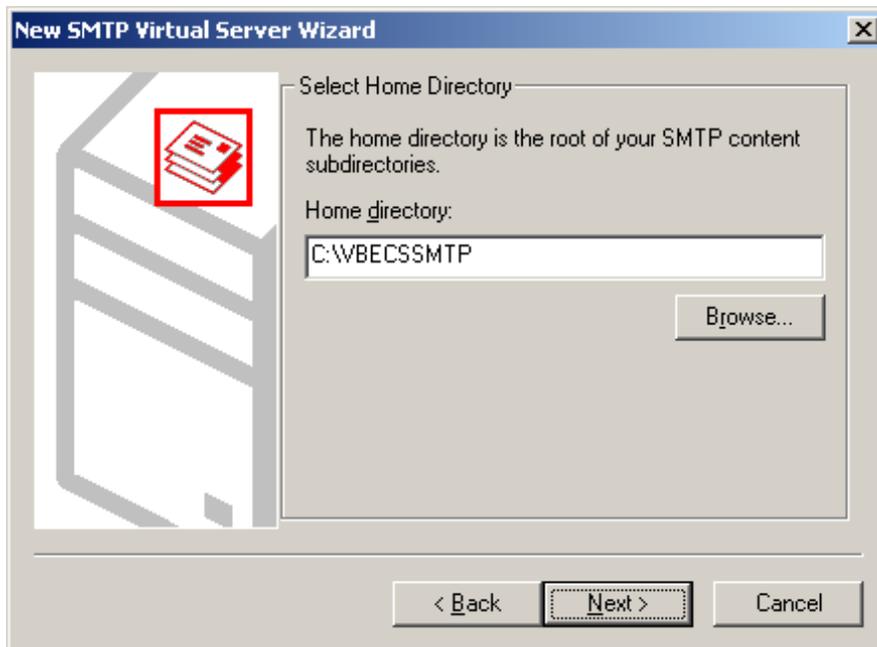
- d)  Select the public IP address of Server 2 from Appendix E: Server Configuration Checklist (Server Hardware Information, Server 2 IP Address, Row 4). Capture a screen shot. Click **Next** (Figure 450).

**Figure 450: Example of New SMTP Virtual Server Wizard 1**



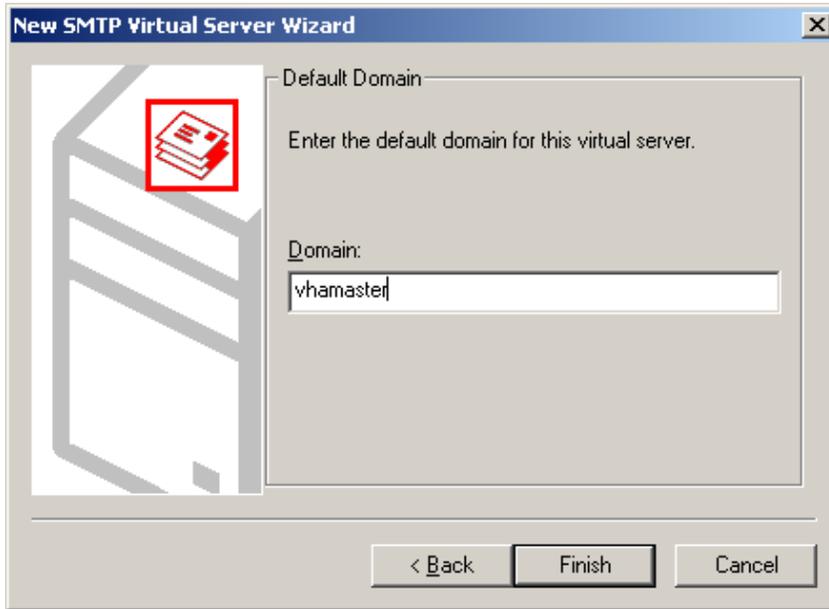
- e)  Enter **C:\VBECSSMTP** in “Home directory” field. Capture a screen shot. Click **Next** (Figure 451).

**Figure 451: New SMTP Virtual Server Wizard 2**



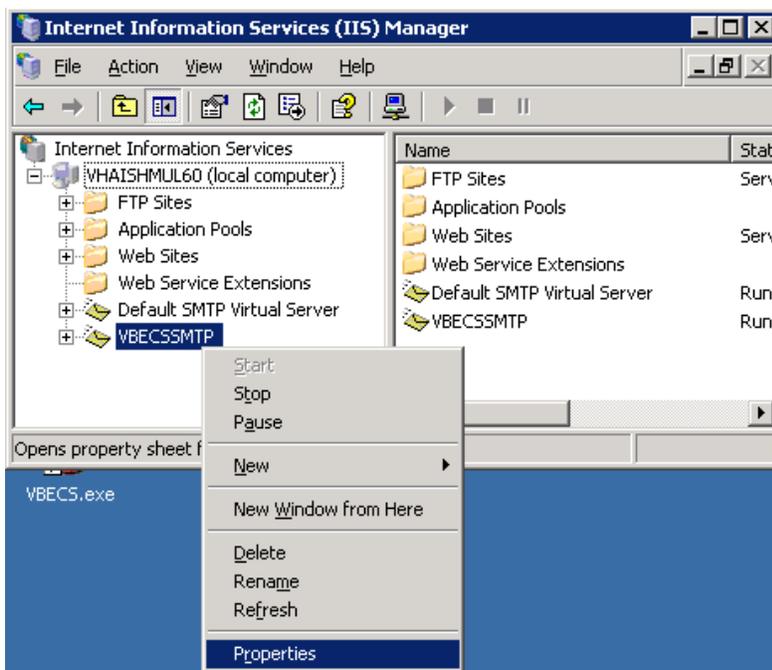
- f) **DC**  Enter **vhamaster** as the domain name. For a data center installation, enter the data center domain name. Capture a screen shot. Click **Finish** to complete the installation (Figure 452).

**Figure 452: Example of New SMTP Virtual Server Wizard 3**



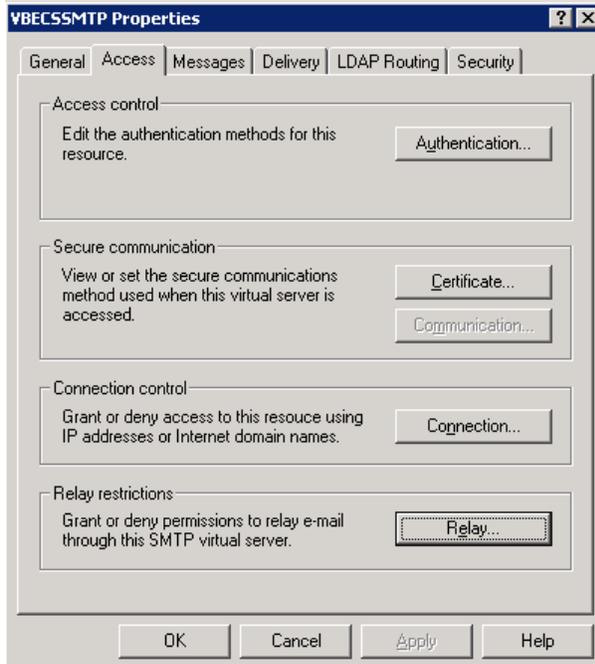
- g) Right click **VBECSMTP** and select **Properties** (Figure 453).

**Figure 453: Internet Information Services (IIS) Manager**



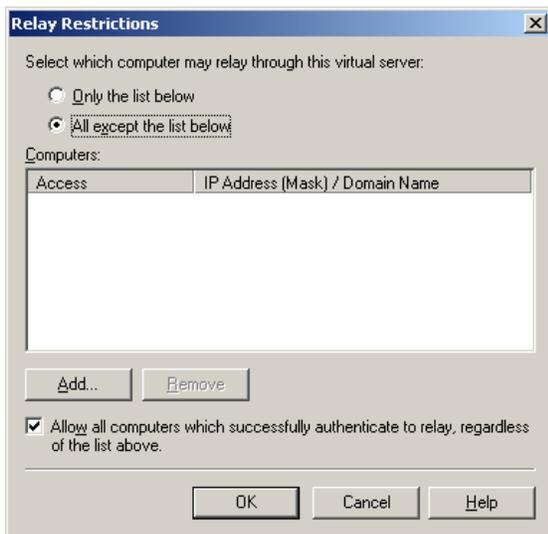
h) Click the **Access** tab. Click **Relay** (Figure 454).

**Figure 454: VBECSMTP Properties**



i)  Click the **All except the list below** radio button. Make sure that the **Allow all computers...** check box is checked. Capture a screen shot. Click **OK** to save (Figure 455).

**Figure 455: Relay Restrictions**



j) Repeat Steps g through i for the Default SMTP Virtual Server. Click **OK** to exit the VBECSMTP Properties window (Figure 454). Close IIS Manager.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## 12 Configure Hardware Alerts

- 1) **1** Log into Server 1 with your Windows ID.
- 2) Click **Start, All Programs, HP Management Agents, Event Notifier Config.**
- 3) Click **Next** (Figure 456).

**Figure 456: Welcome to the Event Notifier Configuration Wizard**



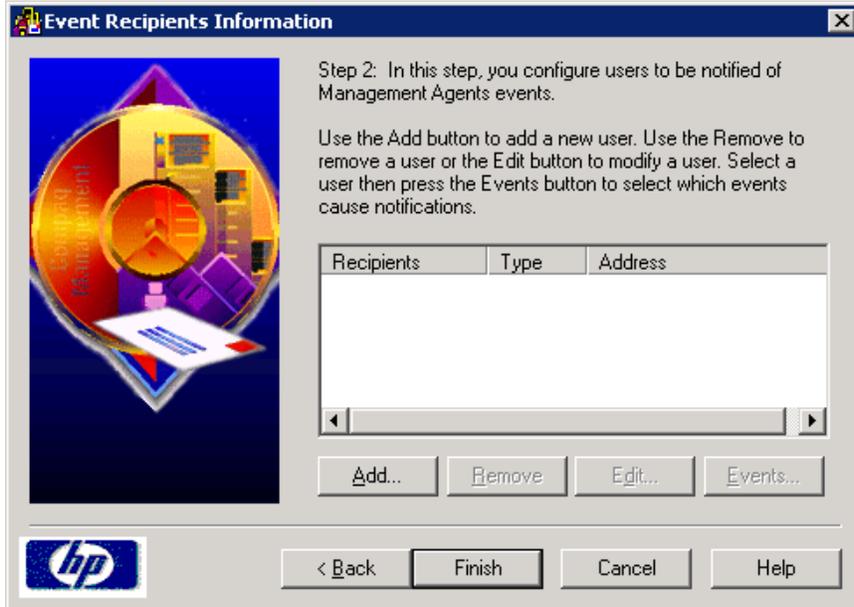
- 4) Enter the following (Figure 457). Server name can be found in Appendix E: Server Configuration Checklist (Server Hardware Information, Row 1):
  - From address: <server name >@va.gov
  - Mail server: <server name>
  - Reply address: <server name>@va.govClick **Next**. This step may fail if a port is not open. Contact the IM in this case.

**Figure 457: Main (SMTP) Server Information**



5) Click **Add** (Figure 458).

**Figure 458: Event Recipients Information**

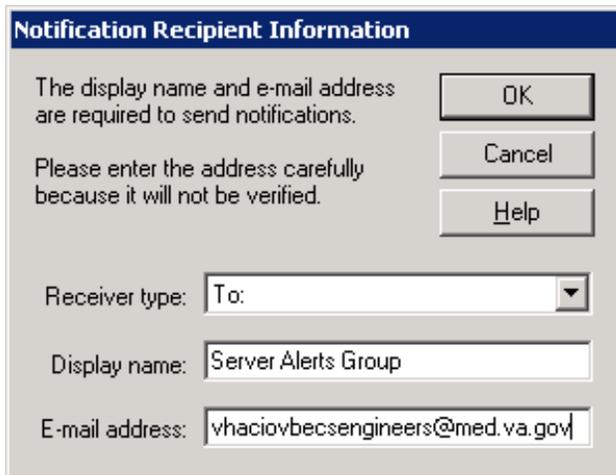


6) Enter the following (Figure 459):

- Receiver type: leave as "To:"
- Display name: Server Alerts Group
- E-mail address: Email address [from Appendix E: Server Configuration Checklist (Contact Information, VBECS Service support email address)]

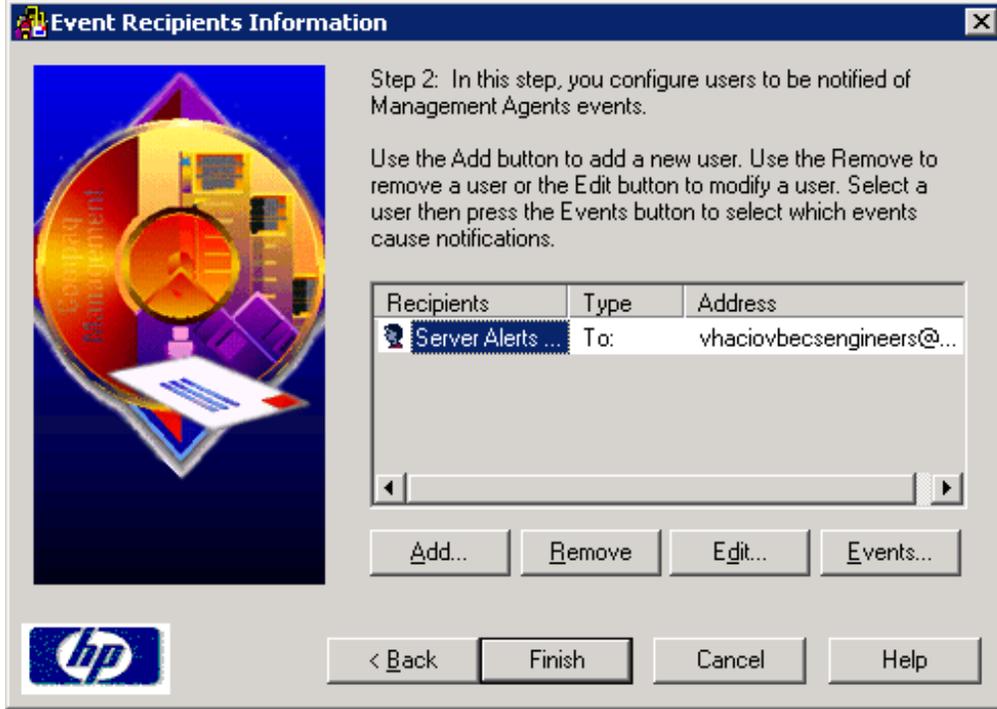
Click **OK**.

**Figure 459: Notification Recipient Information**



7) Click **Finish** to save and close (Figure 460).

**Figure 460: Event Recipients Information**



8) **2** Log into Server 2 with your Windows ID.

9) Click **Start, All Programs, HP Management Agents, Event Notifier Config.**

10) Click **Next** (Figure 461).

**Figure 461: Welcome to the Event Notifier Configuration Wizard**

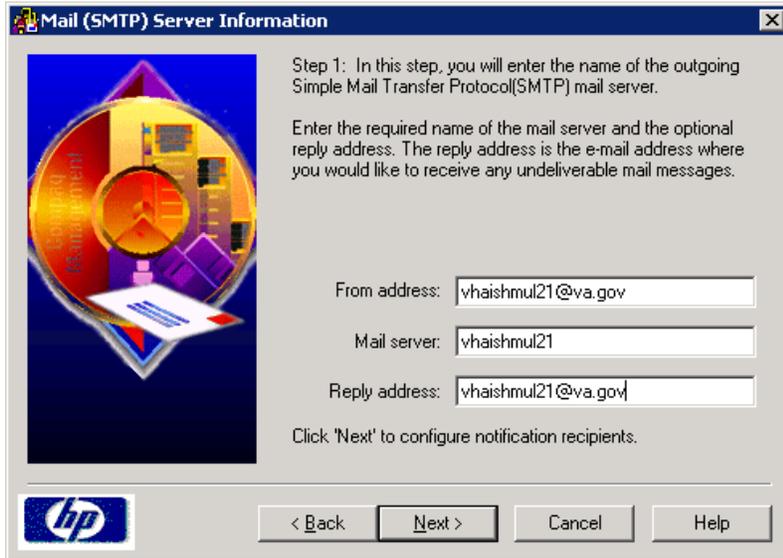


11) Enter the following (Figure 462) Server name can be found in Appendix E: Server Configuration Checklist (Server Hardware Information, Row 3):

- From address: <server name >@va.gov
- Mail server: <server name>
- Reply address: <server name>@va.gov

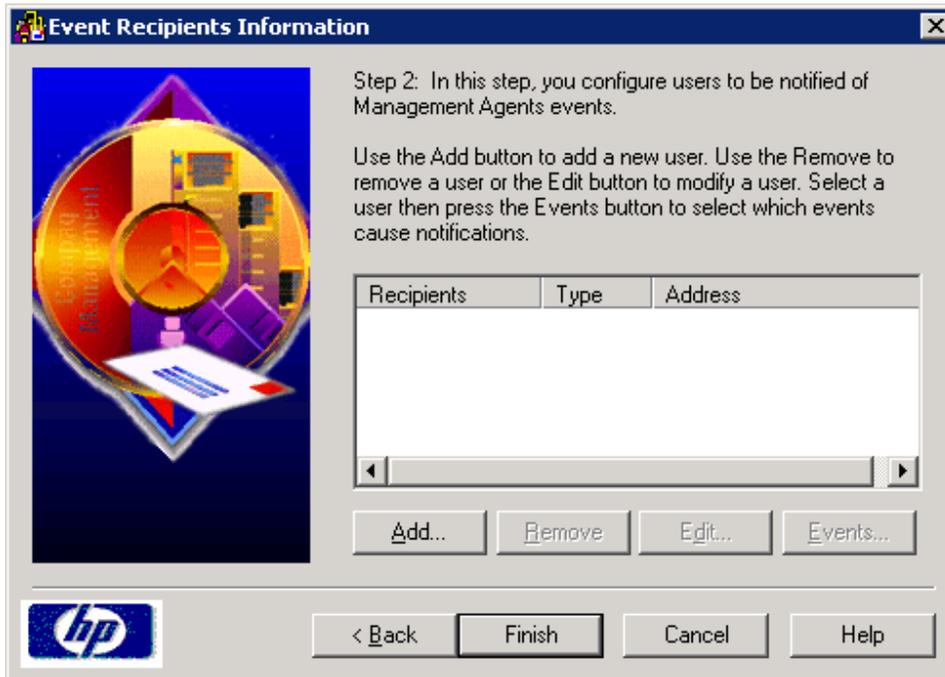
Click **Next**. This step may fail if a port is not open. Contact the IM in this case.

**Figure 462: Main (SMTP) Server Information**



12) Click **Add** (Figure 463).

**Figure 463: Event Recipients Information**

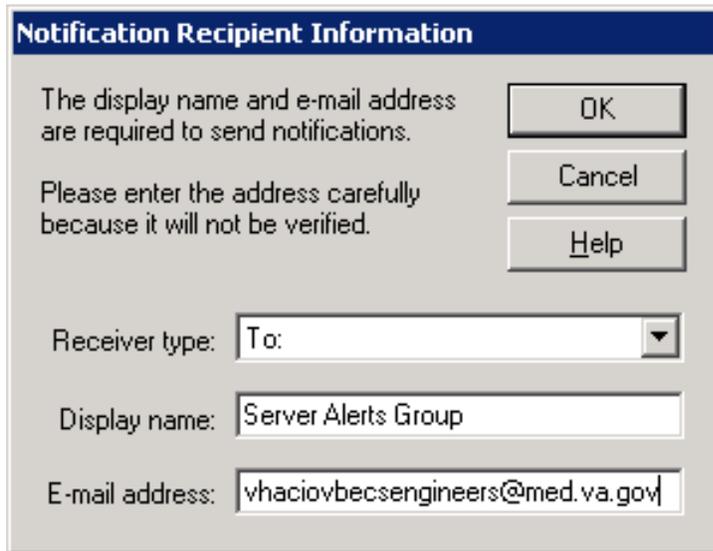


13) Enter the following (Figure 464):

- Receiver type: leave as “To:”
- Display name: Server Alerts Group
- E-mail address: Email address [from Appendix E: Server Configuration Checklist (Contact Information, VBECS Service support email address)]

Click **OK**.

**Figure 464: Notification Recipient Information**



The display name and e-mail address are required to send notifications.

Please enter the address carefully because it will not be verified.

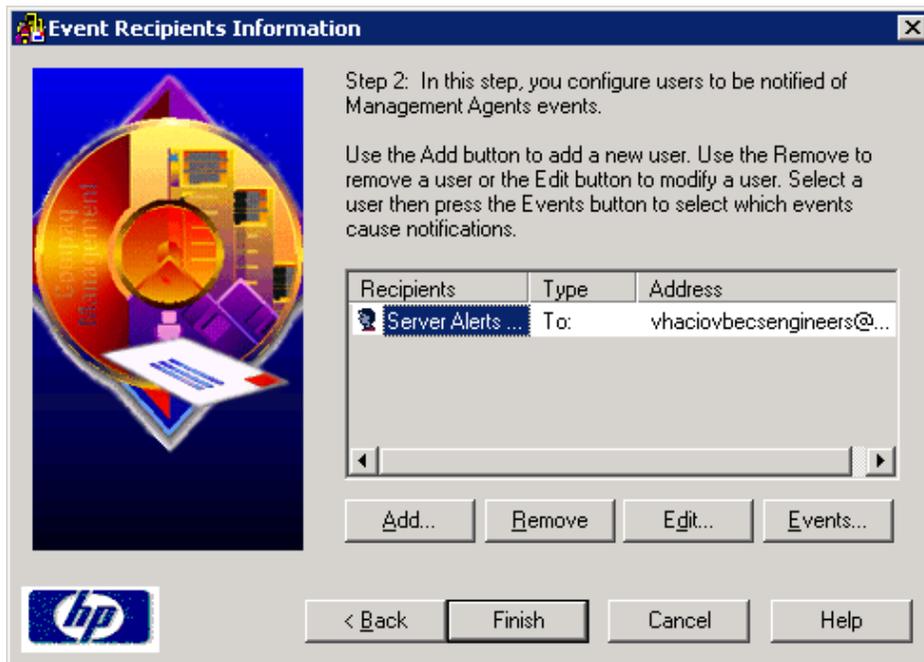
Receiver type: To:

Display name: Server Alerts Group

E-mail address: vhaciobecsengineers@med.va.gov

14) Click **Finish** to save and close (Figure 465).

**Figure 465: Event Recipients Information**



Step 2: In this step, you configure users to be notified of Management Agents events.

Use the Add button to add a new user. Use the Remove to remove a user or the Edit button to modify a user. Select a user then press the Events button to select which events cause notifications.

Recipients	Type	Address
Server Alerts ...	To:	vhaciobecsengineers@...

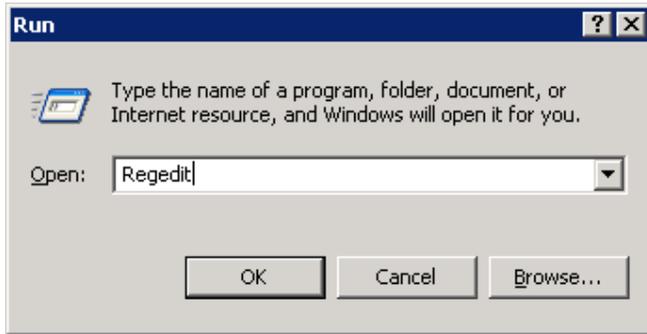
Add... Remove Edit... Events...

< Back Finish Cancel Help

### 13 Configure Microsoft Operations Management

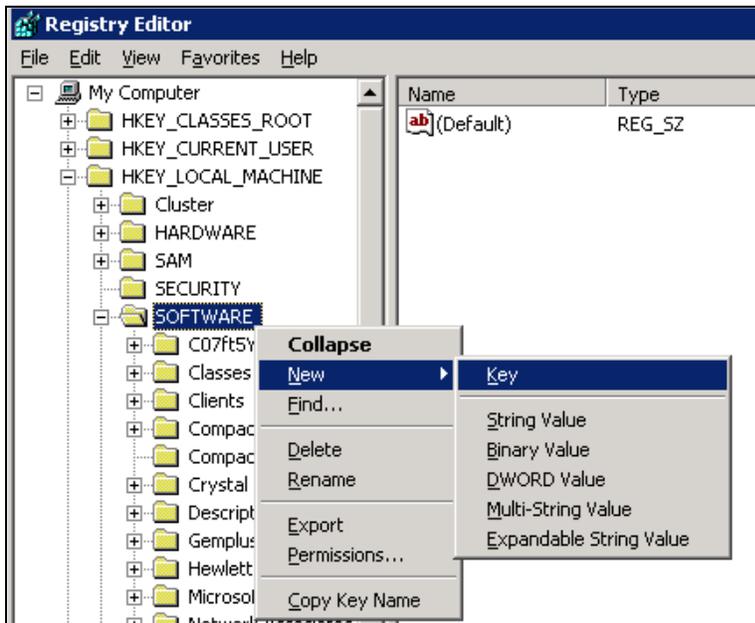
- 1) To configure Microsoft Operations Management (MOM), add an ID to the local administrators group:
  - a) 1 Log into Server 1 with your Windows ID.
  - b) Click **Start, Run**. Enter **Regedit** and click **OK** (Figure 466).

Figure 466: Run



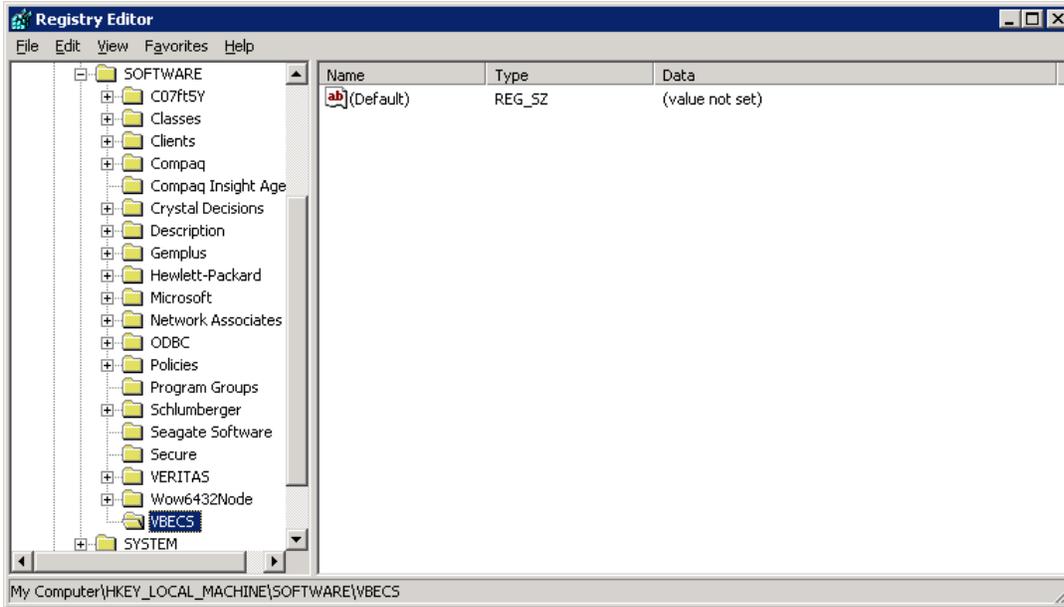
- c) Navigate to **HKEY\_LOCAL\_MACHINE\SOFTWARE**. Right click **HKEY\_LOCAL\_MACHINE\SOFTWARE**. Select **New, Key** (Figure 467).

Figure 467: Create a New Key



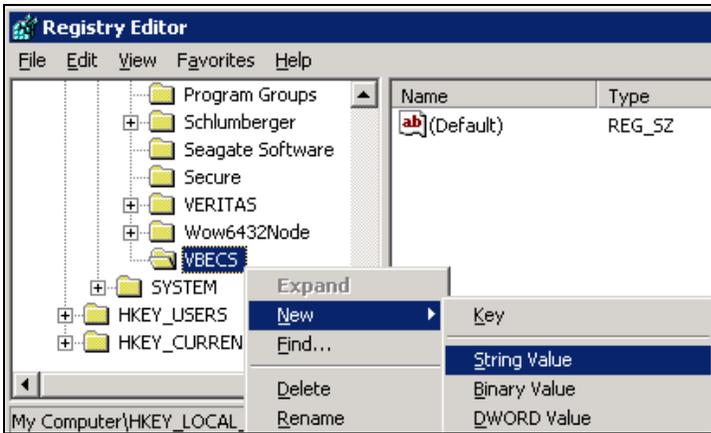
d) Name the key “VBECS” (Figure 468).

**Figure 468: VBECS Key**



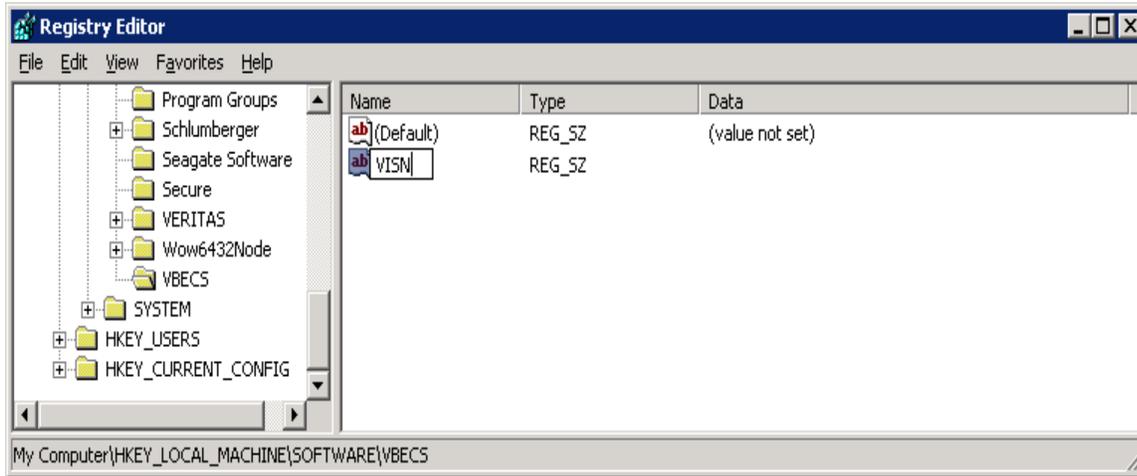
e) Right click the VBECS folder and select **New, String Value** (Figure 469).

**Figure 469: New String Value**



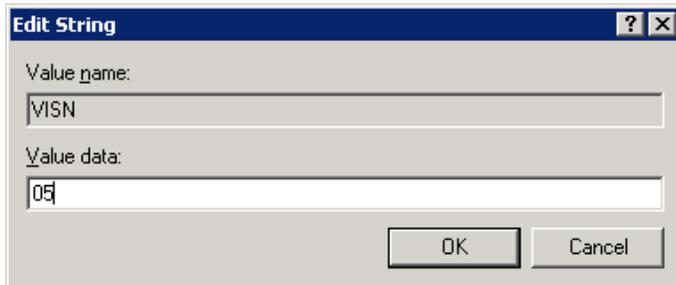
- f) Name the string value “VISN.” Double click **VISN** (Figure 470).

**Figure 470: VISN String Value**



- g) In the **Value data** field, enter your VISN number [from Appendix D: Blood Bank Configuration Checklist (Contact Information)]. If you are in VISN 1–9, insert “0” before your VISN number. If EPS, enter “EPS.” Click **OK** (Figure 471). Close the Registry Editor.

**Figure 471: Example of Edit String**

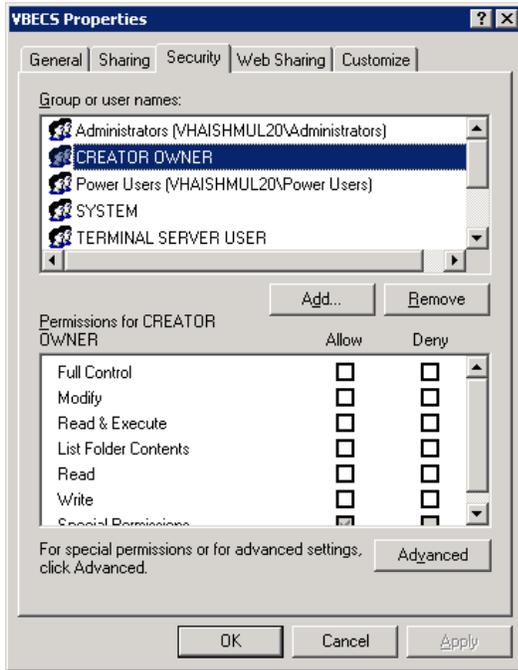


**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 2) To configure auditing so that MOM can monitor the VBECs production files:
  - a) Click **Start, Windows Explorer** and navigate to C:\Program Files\Vista\VBECs.
  - b) Right click the VBECs folder and select **Properties**.

c) Click the **Security** tab. Click **Advanced** (Figure 472).

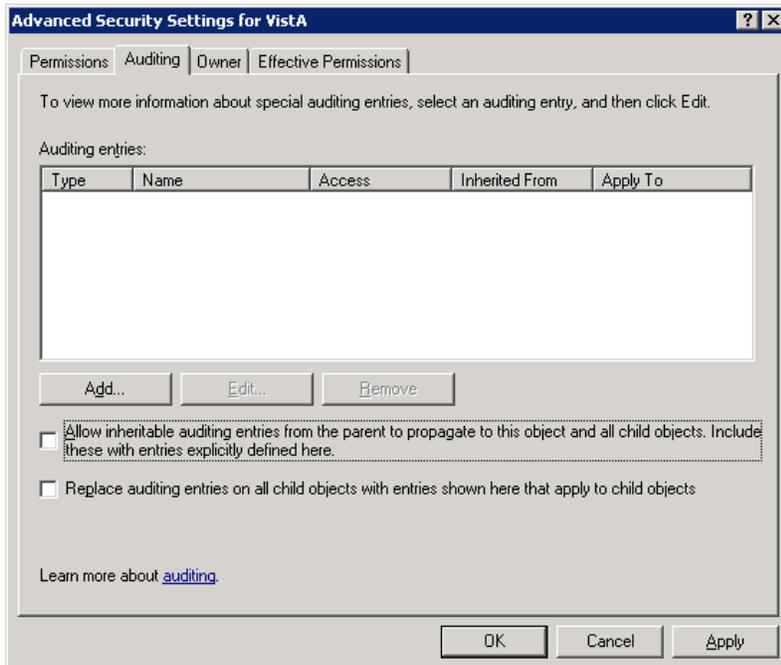
**Figure 472: Example of Security Tab**



d) Click the **Auditing** tab.

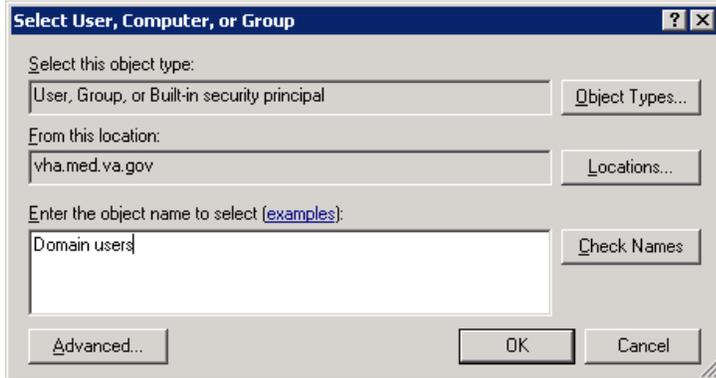
e) If checked, uncheck the **Allow inheritable...** check box. Click **Add** (Figure 473).

**Figure 473: Advanced Security Settings for VistA**



f) Enter **Domain Users** in the **Enter the object name to select** field. Click **OK** (Figure 474).

**Figure 474: Example of Selecting a User, Computer, or Group**



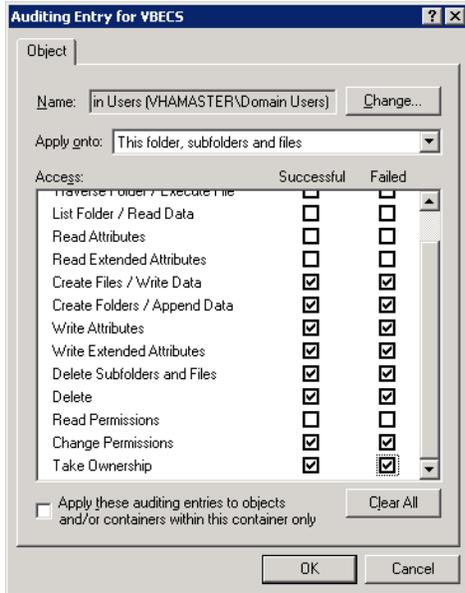
g) In the Auditing Entry window (Figure 475), check the **Successful** and **Failed** check boxes for:

- Create Files / Write Data
- Create Folders / Append Data
- Write Attributes
- Write Extended Attributes
- Delete Subfolders and Files
- Delete
- Change Permissions
- Take Ownership

All others should be clear.

h) Click **OK** (Figure 475).

**Figure 475: Example of Auditing Entries**

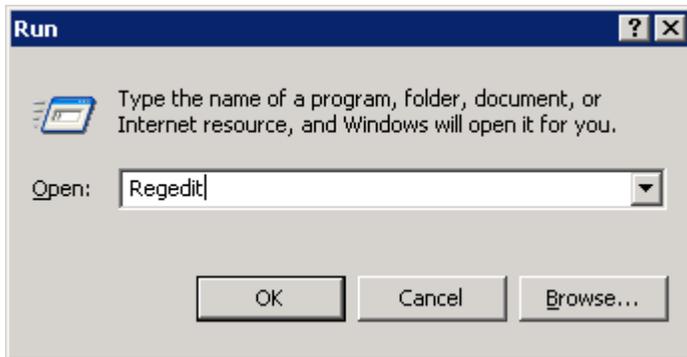


- i) Click **OK** twice to close all windows.

**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

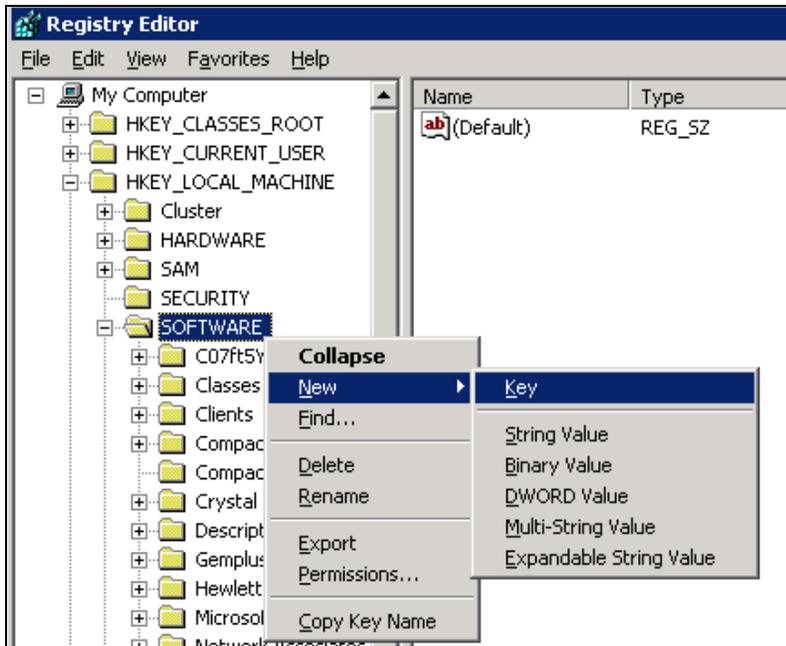
- 3) Continue on the other server:
  - a) ② Log into Server 2 with your Windows ID.
  - b) Click **Start, Run**. Enter **Regedit** and click **OK** (Figure 476).

**Figure 476: Run**



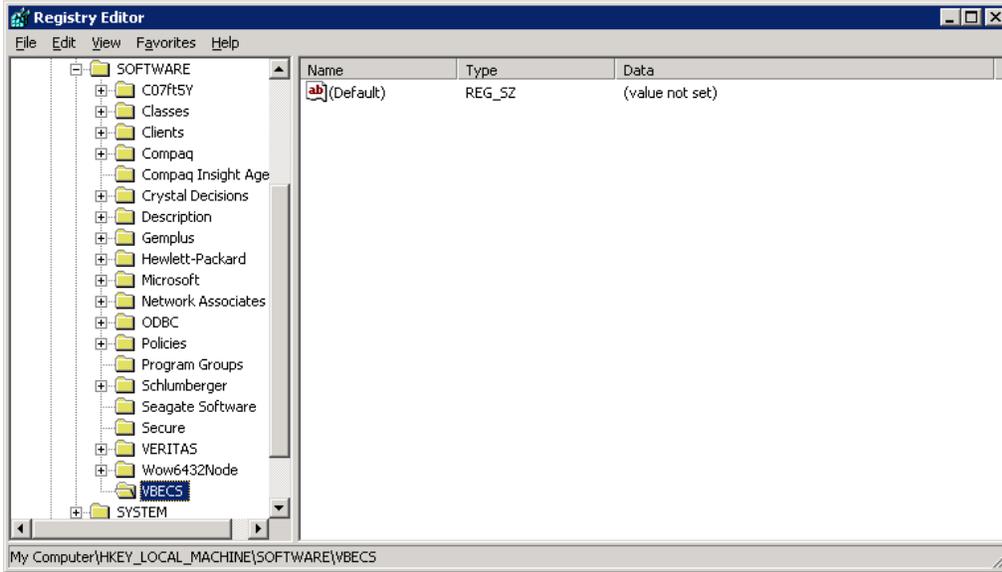
- c) Navigate to **HKEY\_LOCAL\_MACHINE\SOFTWARE**. Right click **HKEY\_LOCAL\_MACHINE\SOFTWARE**. Select **New, Key** (Figure 477).

**Figure 477: Create a New Key**



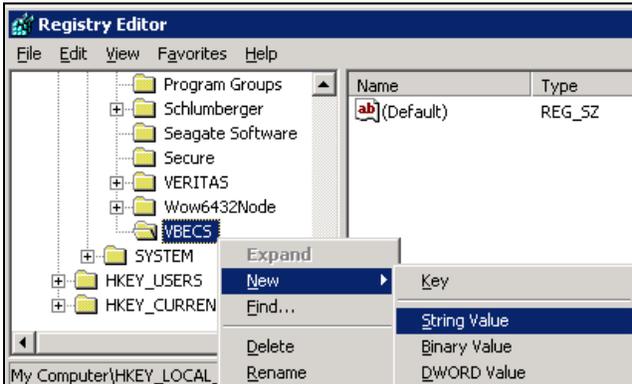
d) Name the key “VBECS” (Figure 478).

**Figure 478: VBECS Key**



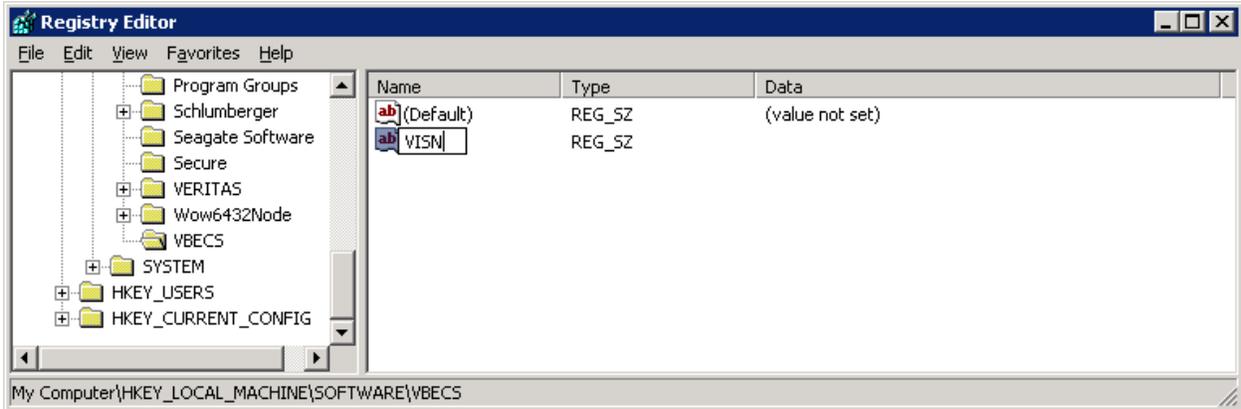
e) Right click the VBECS folder. Select **New, String Value** (Figure 479).

**Figure 479: New String Value**



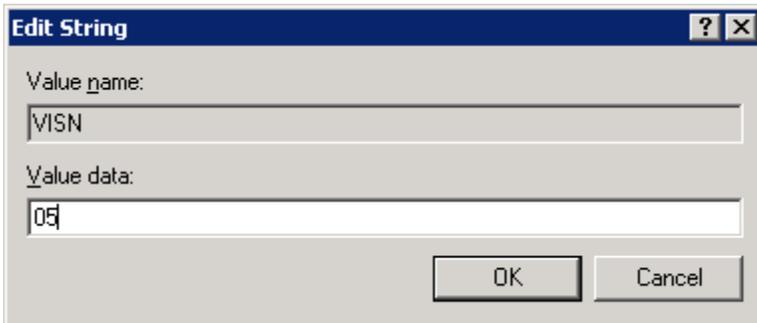
f) Name the string value “VISN.” Double click **VISN** (Figure 480).

**Figure 480: VISN String Value**



g) In the **Value data** field, enter your VISN number [from Appendix D: Blood Bank Configuration Checklist (Contact Information)]. If you are VISN 1–9, insert “0” before your VISN number. If EPS, enter “EPS.” Click **OK** (Figure 481). Close the Registry Editor.

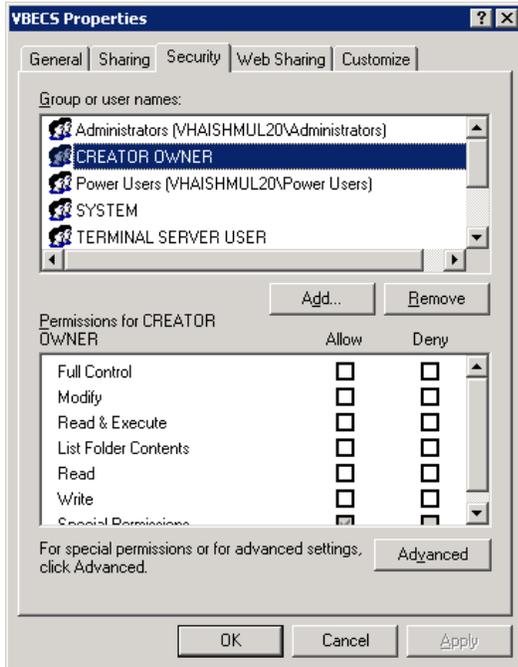
**Figure 481: Example of Edit String**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- 4) To configure auditing so that MOM can monitor the VBECS production files:
  - a) Click **Start, Windows Explorer** and navigate to the C:\Program Files\Vista\VBECS directory.
  - b) Right click the VBECS folder and select **Properties**.
  - c) Click the **Security** tab. Click **Advanced** (Figure 482).

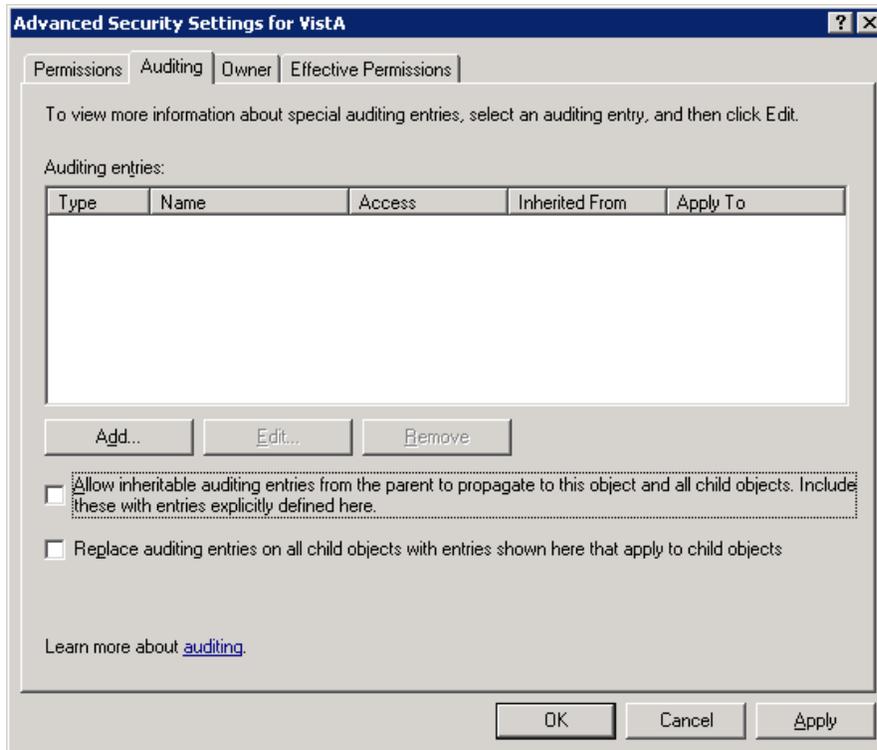
**Figure 482: Example of Security Tab**



- d) Click the **Auditing** tab.

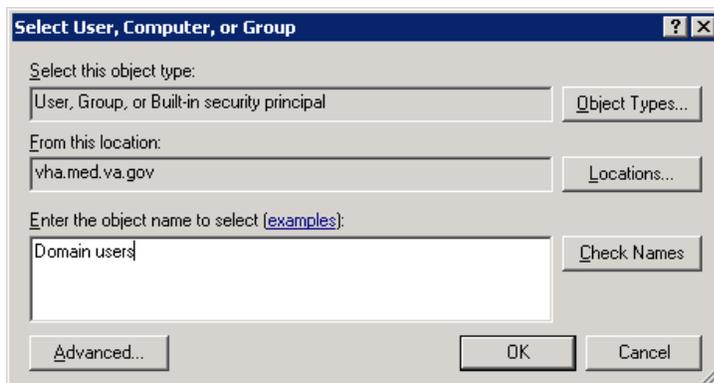
- e) If checked, uncheck the **Allow inheritable... defined here** check box. Click **Add** (Figure 483).

**Figure 483: Advanced Security Settings for VistA**



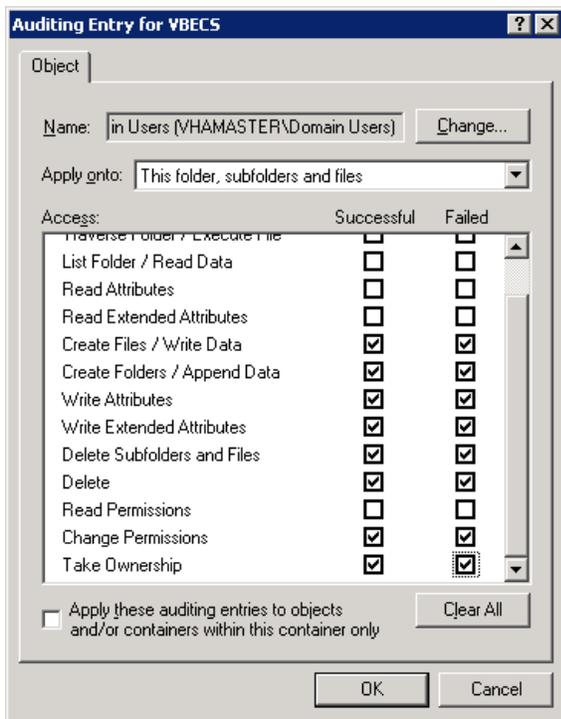
- f) Enter **Domain Users** in the **Enter the object name to select** field. Click **OK** (Figure 484).

**Figure 484: Example of Selecting a User, Computer, or Group**



- g) In the Auditing Entry for VBECS window (Figure 485), check the **Successful** and **Failed** check boxes for:
- Create Files / Write Data
  - Create Folders / Append Data
  - Write Attributes
  - Write Extended Attributes
  - Delete Subfolders and Files
  - Delete
  - Change Permissions
  - Take Ownership
- All others should be clear.
- h) Click **OK** (Figure 485).

**Figure 485: Example of Auditing Entries**



- i) Click **OK** twice to close all windows.

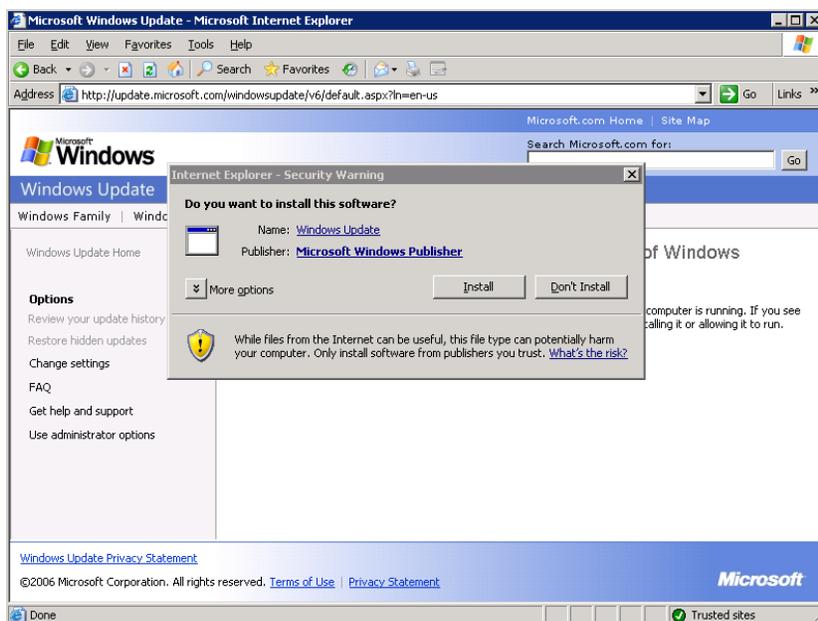
**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## 14 Apply Windows Updates

To apply the latest approved Windows updates:

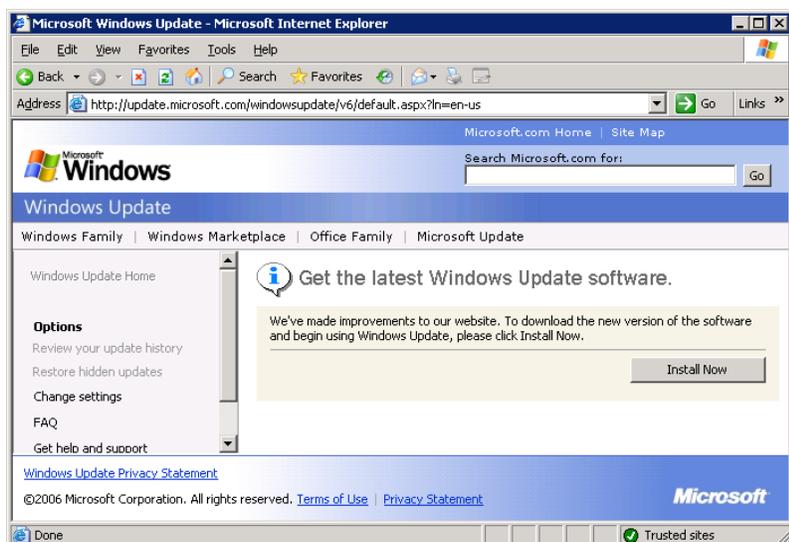
- 1) **1** Log into Server 1 with your Windows ID. Click **Start, Internet Explorer**. Click **OK** on warnings.
- 2) Click **Tools, Windows Update** to navigate to the Windows Update Web site. Click **Install** (Figure 486).

**Figure 486: Microsoft Windows Update – Microsoft Internet Explorer**



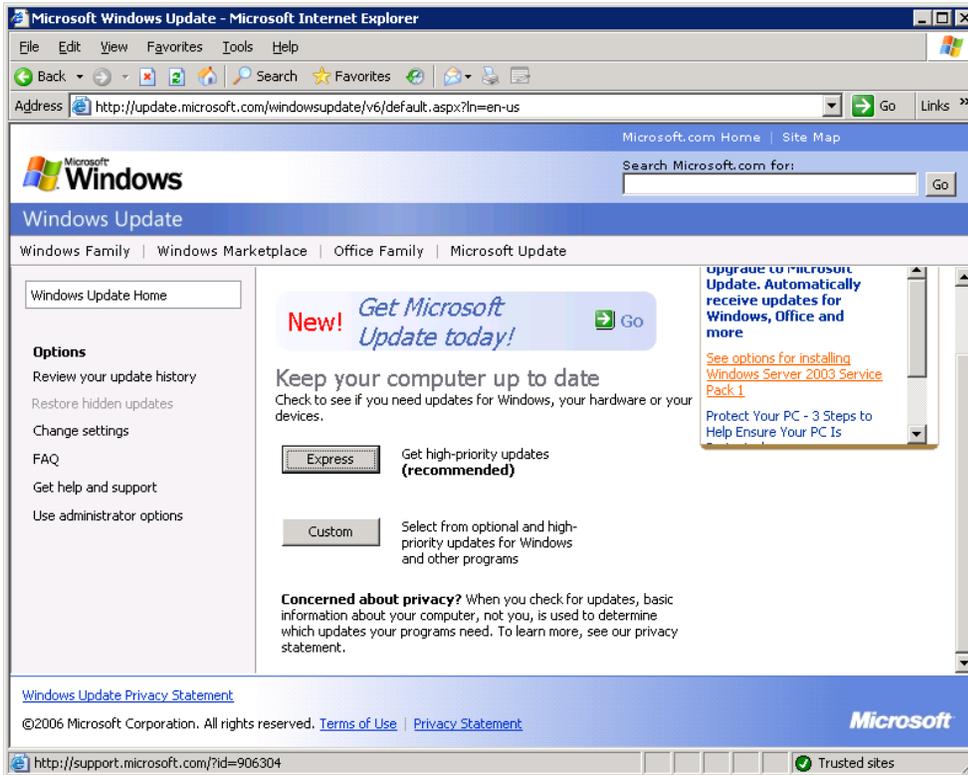
- 3) Click **Install Now** (Figure 487).

**Figure 487: Microsoft Windows Update – Microsoft Internet Explorer**



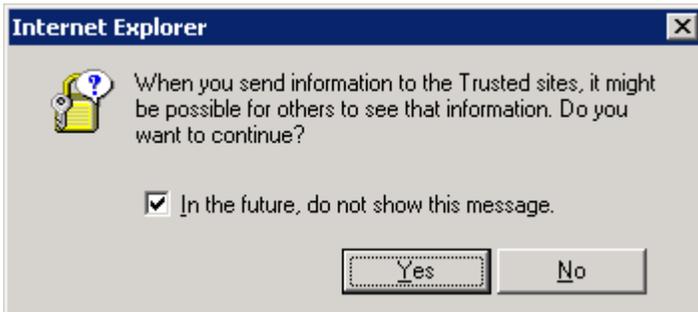
4) Click **Express** (Figure 488).

**Figure 488: Microsoft Windows Update – Microsoft Internet Explorer**



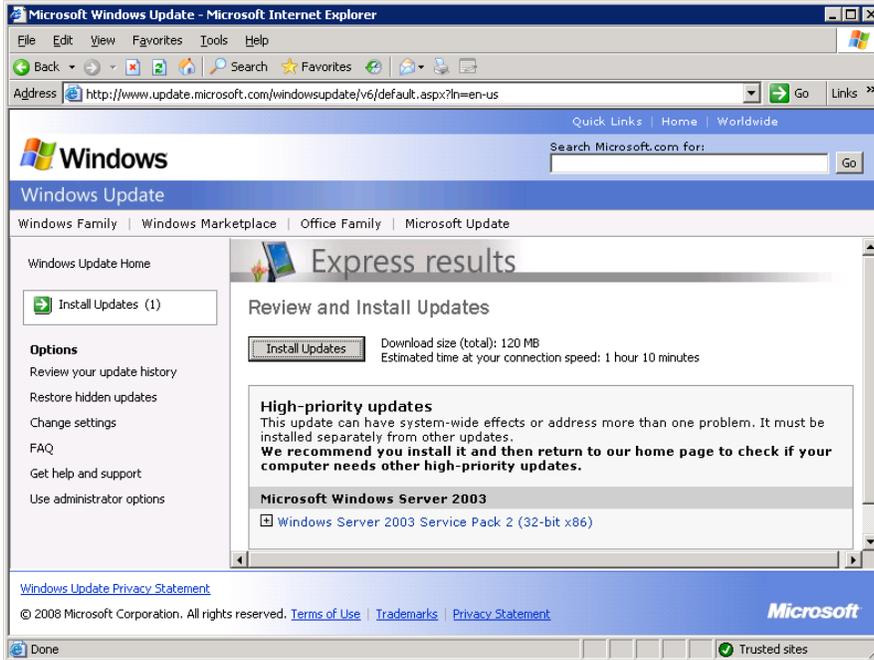
5) Click **Yes** (Figure 489).

**Figure 489: Confirmation Window**



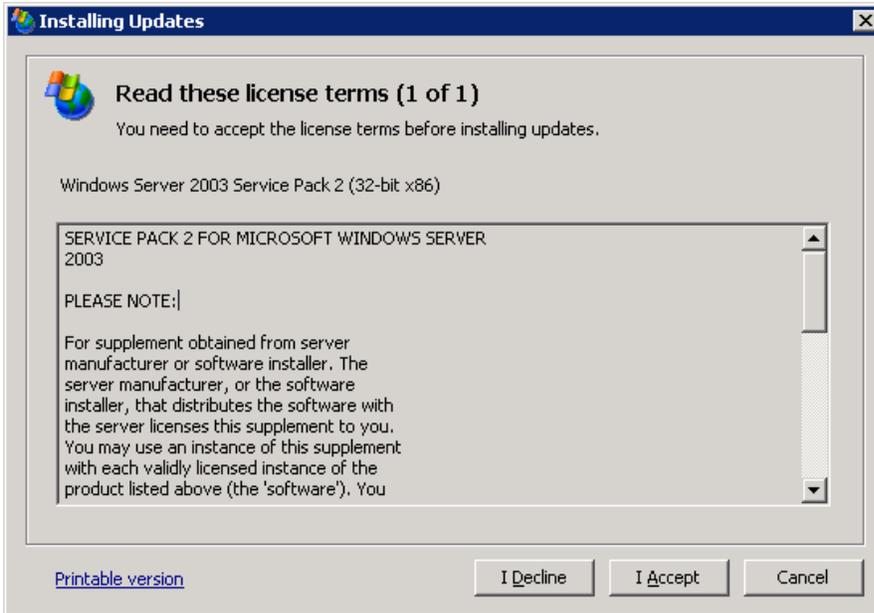
6) Click **Install Updates** to install Service Pack 2 (Figure 490).

**Figure 490: Service Pack 2**



7) Click **I Accept** (Figure 491).

**Figure 491: Installing Updates**



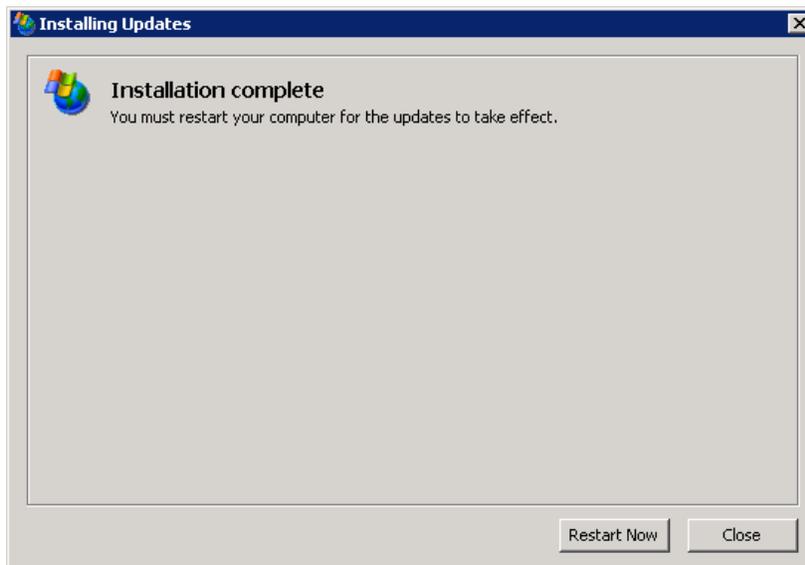
8) Click **Next** (Figure 492).

**Figure 492: Service Pack 2 install**



9) Click **Restart Now** (Figure 493).

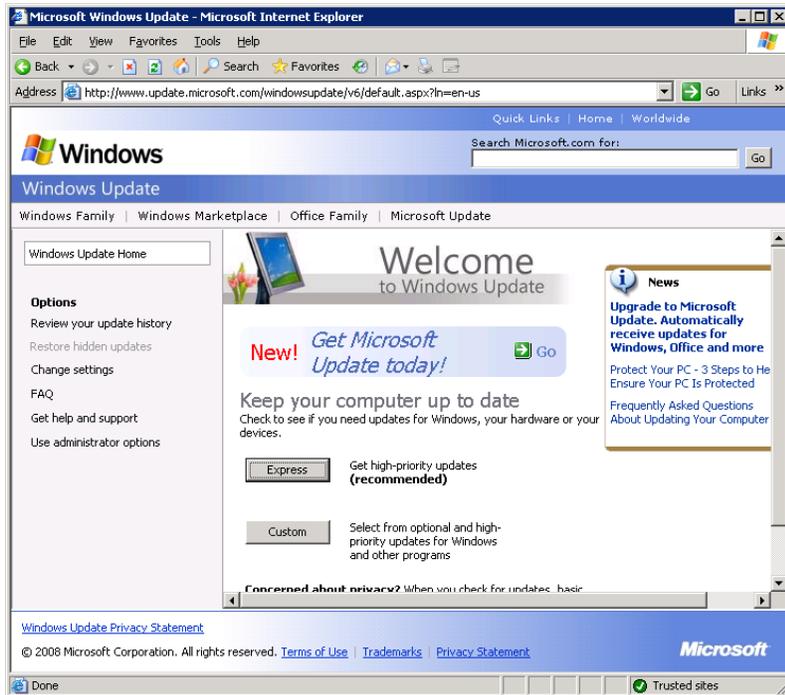
**Figure 493: Installing Updates**



10) ❶ After restarting, log back into Server 1 with your Windows ID. Click **Start, Internet Explorer**. Click **OK** on warnings.

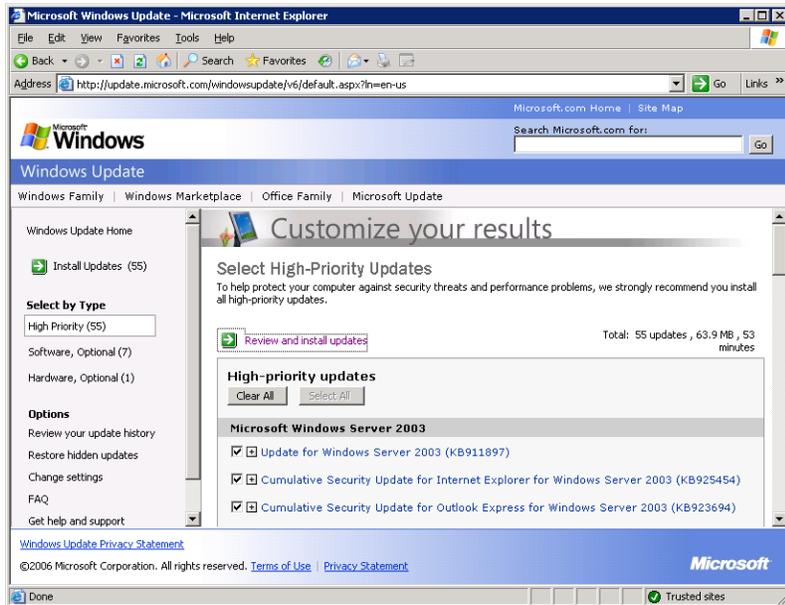
11) Click **Tools, Windows Update** to navigate to the Windows Update website. Click **Custom** (Figure 494).

**Figure 494: Express**



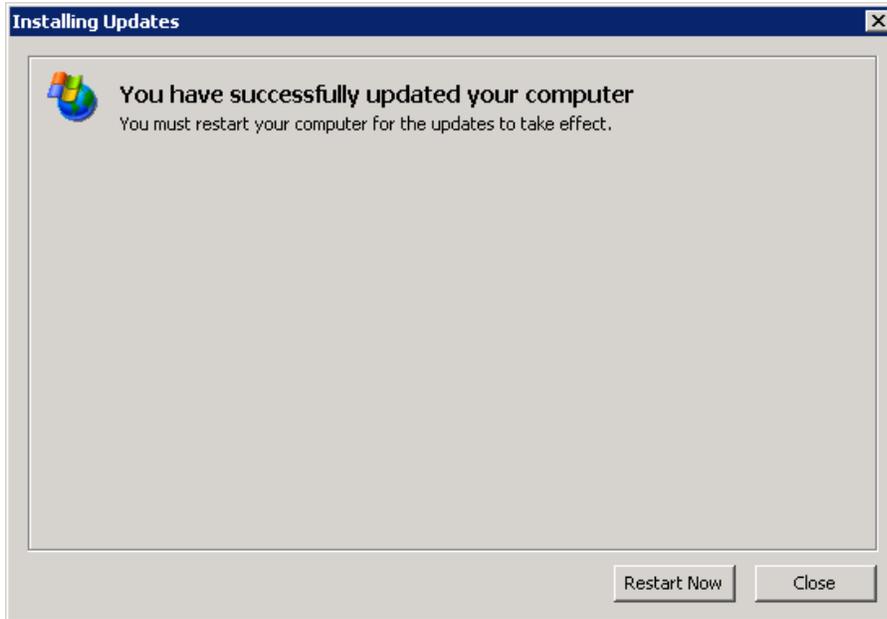
12) Select all updates except for Windows Internet Explorer 7.0 for Windows Server 2003. Click **Install Updates** (Figure 495).

**Figure 495: Example of Installing Updates**



13) Click **Restart Now** (Figure 496).

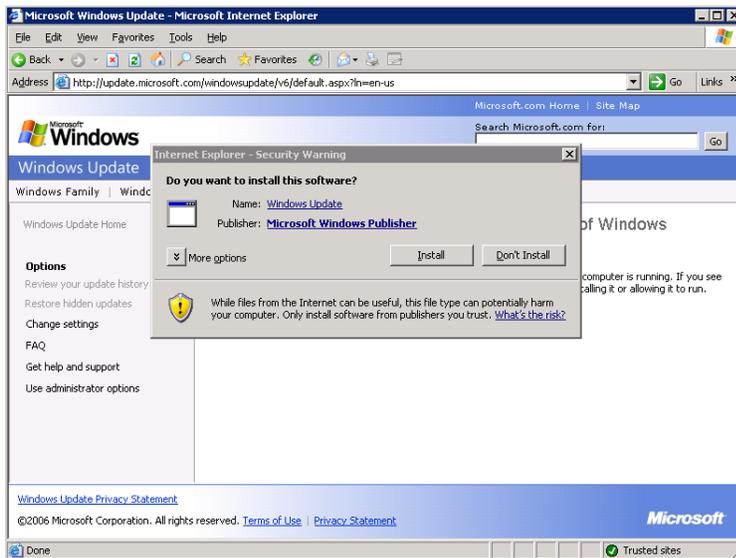
**Figure 496: Installing Updates**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

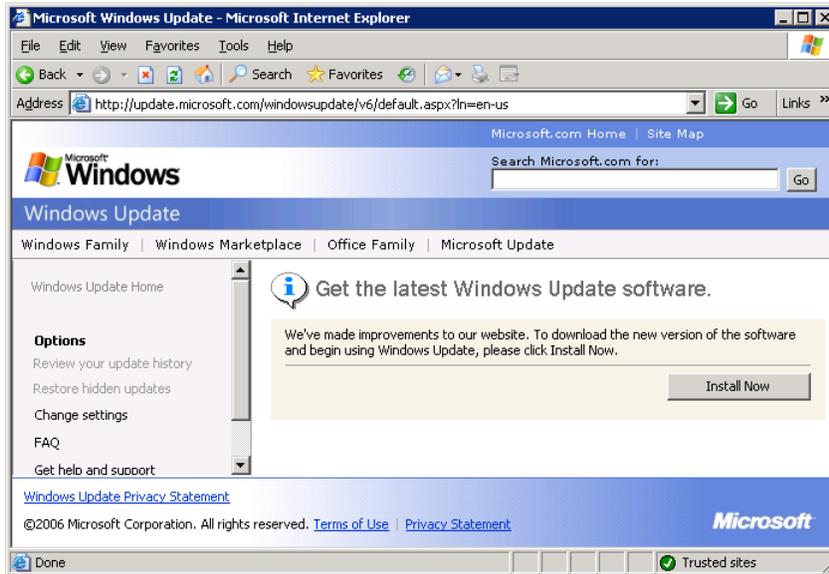
- 14) ② Log into Server 2 with your Windows ID. Click **Start, Internet Explorer**. Click **OK** on warnings that appear.
- 15) Click **Tools, Windows Update** to navigate to the Windows Update Web site. Click **Install** (Figure 497).

**Figure 497: Microsoft Windows Update – Microsoft Internet Explorer**



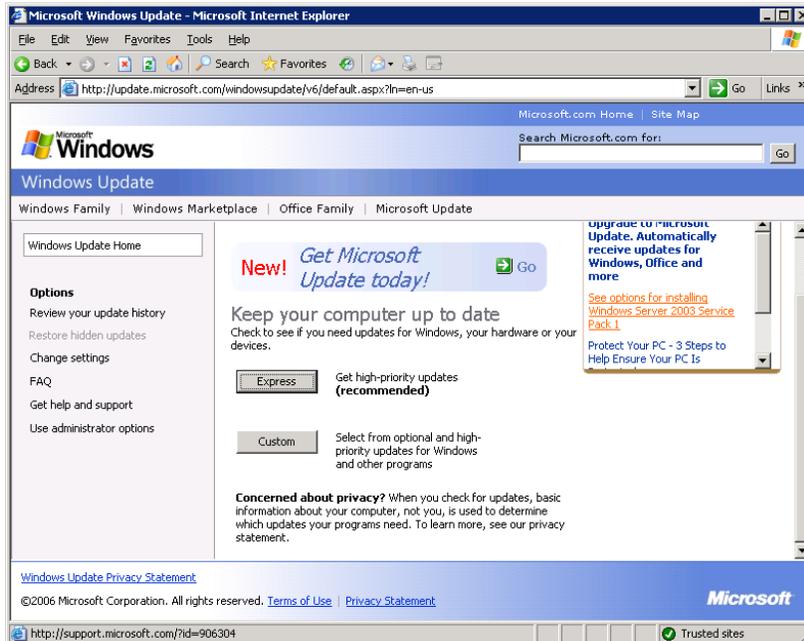
16) Click **Install Now** (Figure 498).

**Figure 498: Microsoft Windows Update – Microsoft Internet Explorer**



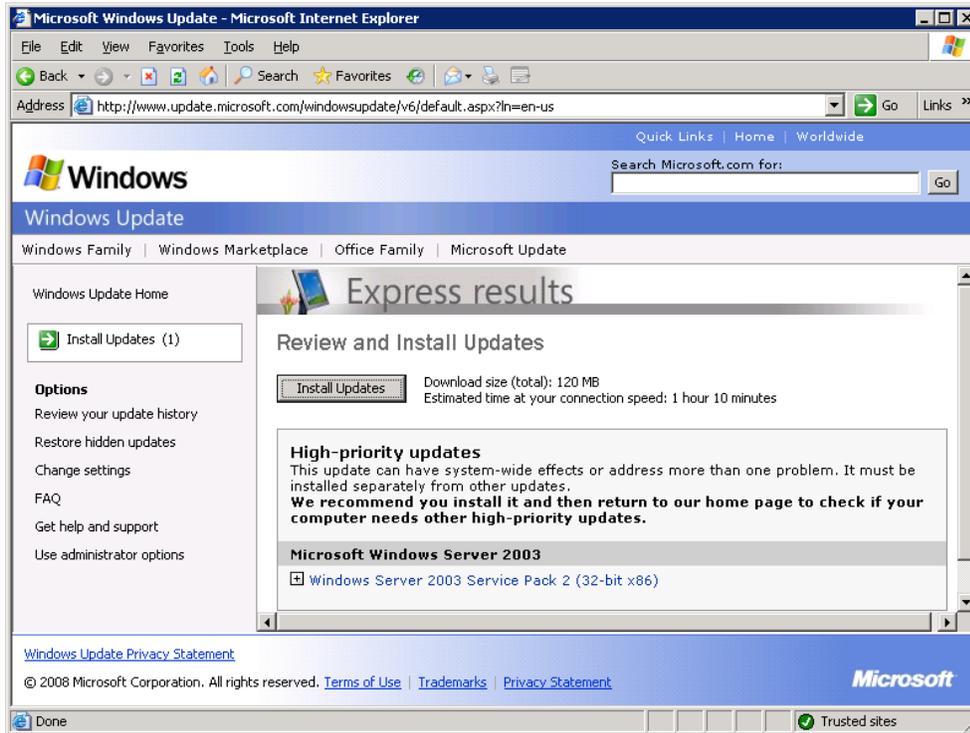
17) Click **Express** (Figure 499).

**Figure 499: Microsoft Windows Update – Microsoft Internet Explorer**



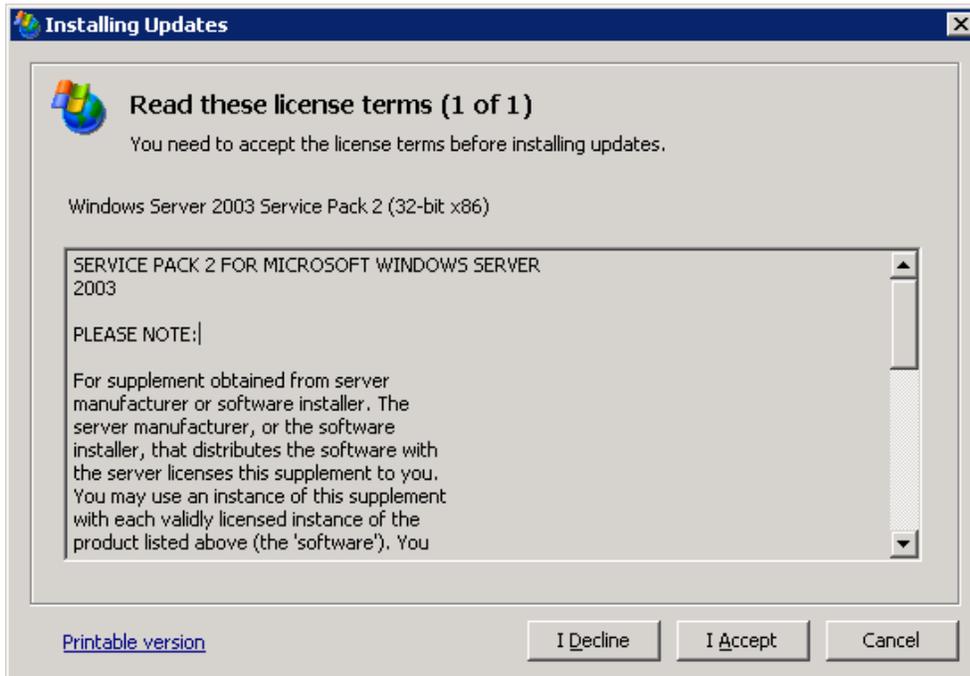
18) Click **Install Updates** (Figure 500).

**Figure 500: Microsoft Windows Update – Microsoft Internet Explorer**



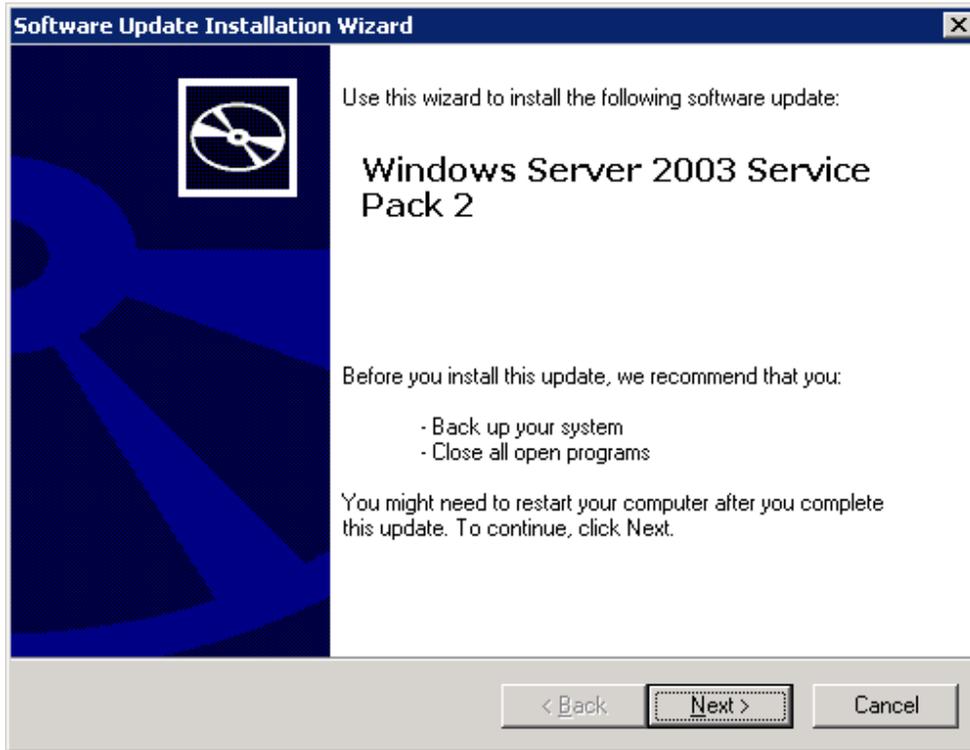
19) Click **I Accept** (Figure 501).

**Figure 501: Installing Updates**



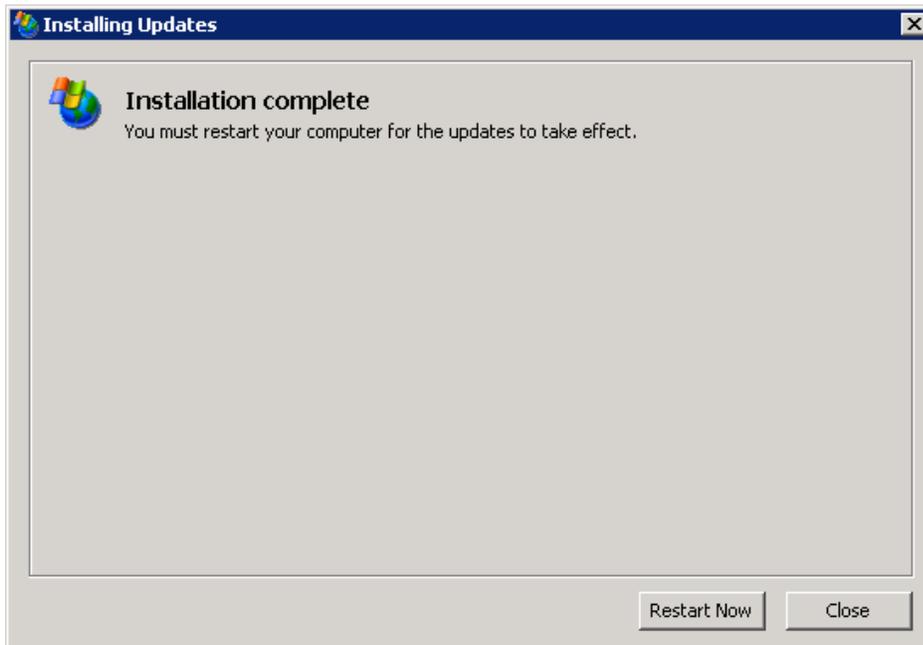
20) Click **Next** (Figure 502).

**Figure 502: Software Update Installation Wizard**



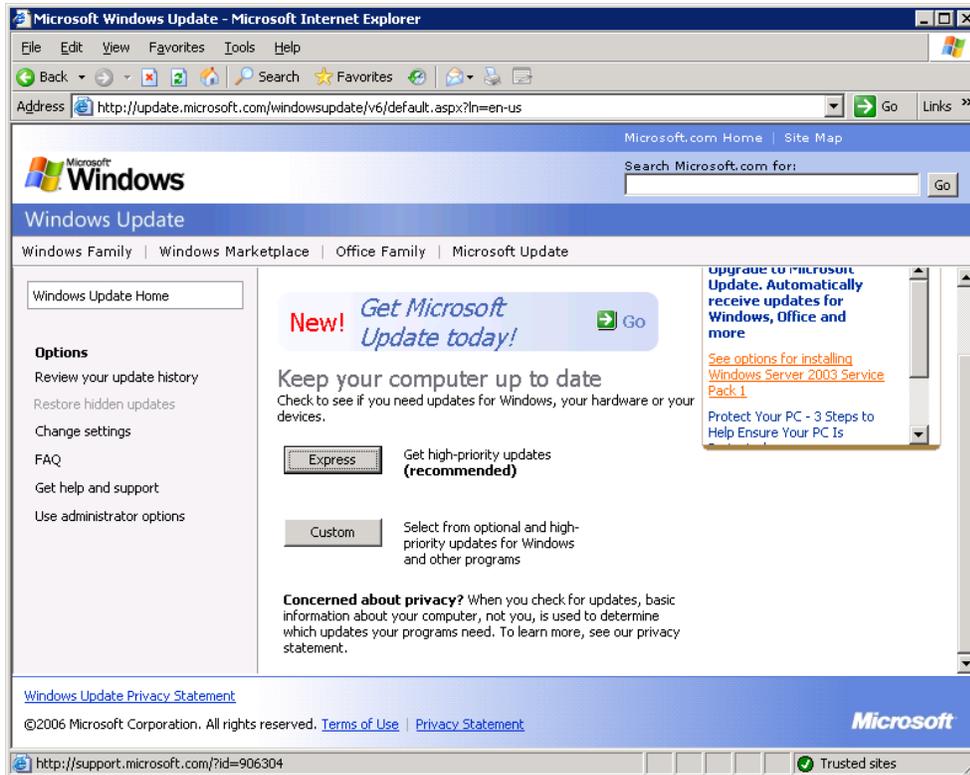
21) Click **Restart Now** (Figure 503).

**Figure 503: Installing Updates**



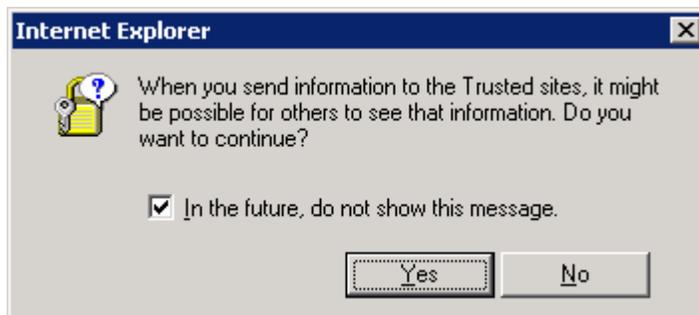
- 22) ② After restarting, log back into Server 2 with your Windows ID. Click **Start, Internet Explorer**. Click **OK** on warnings.
- 23) Navigate to the Windows Update Web site. Click **Custom** (Figure 504).

**Figure 504: Custom Windows Update**



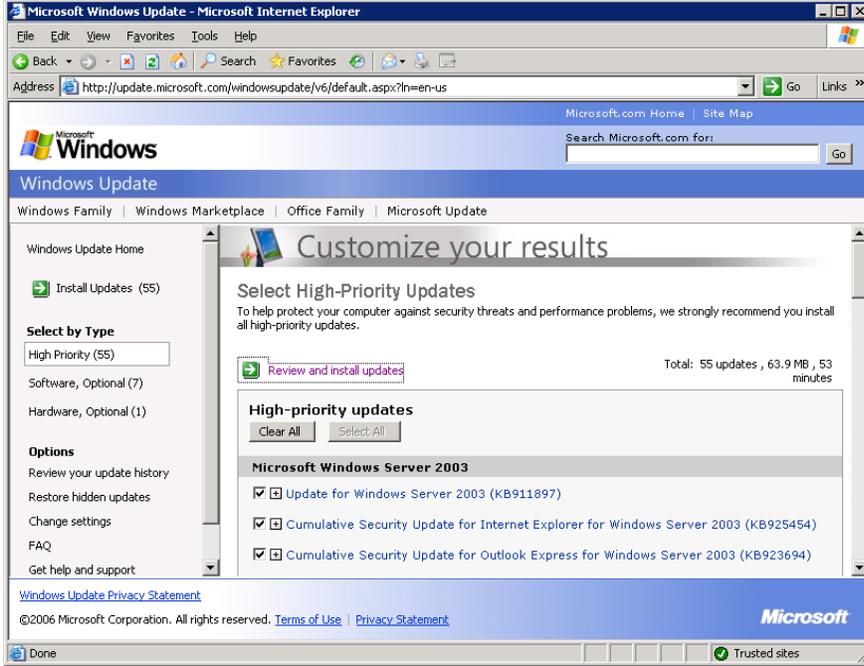
- 24) Click **Yes** (Figure 505).

**Figure 505: Confirmation Window**



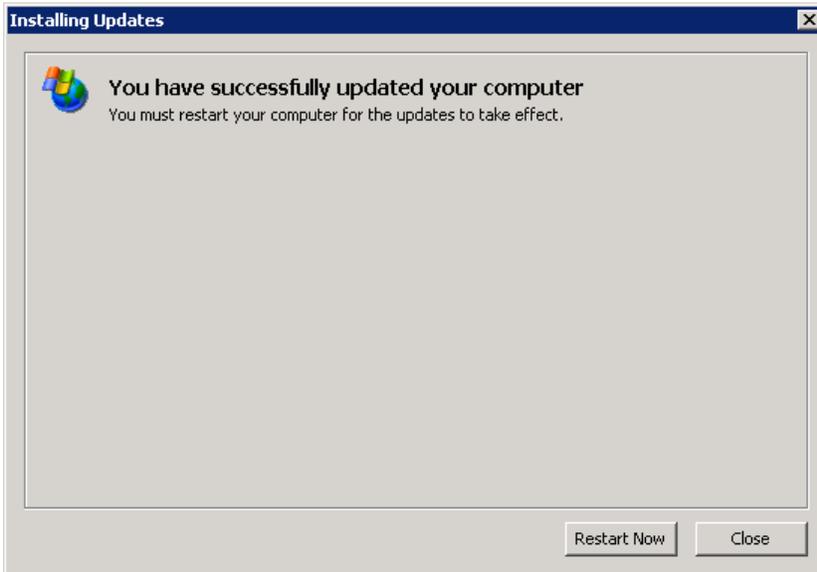
25) Select all updates except for Windows Internet Explorer 7.0 for Windows Server 2003. Click **Install Updates** (Figure 506).

**Figure 506: Example of Installing Updates**



26) Click **Restart Now** to restart the server (Figure 507).

**Figure 507: Installing Updates**



**Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## 15 Delete the InitialUser ID and Installation Files

Delete the InitialUser ID to eliminate security risks:

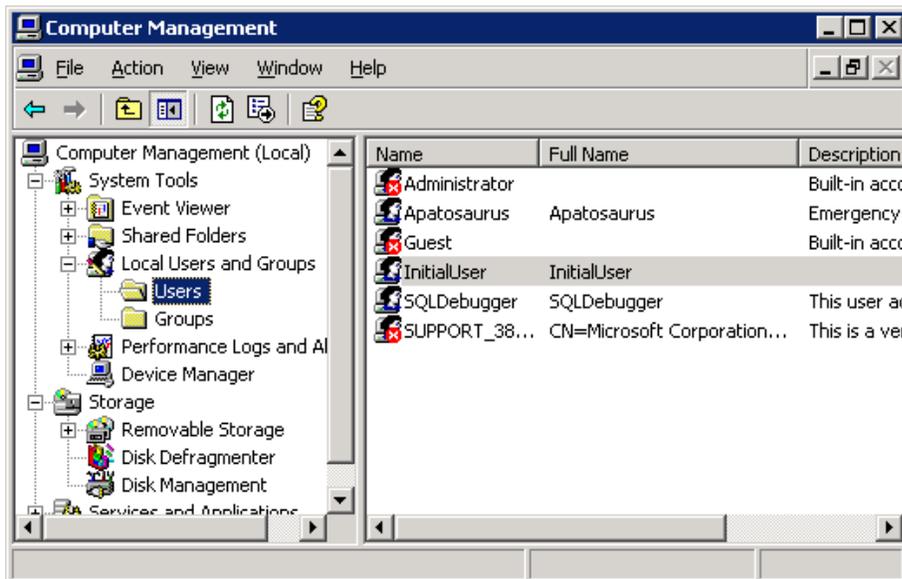
- 1) **1** Log into Server 1 with your Windows ID. Click **Start, Administrative Tools, Computer Management** (Figure 508).

**Figure 508: Computer Management**



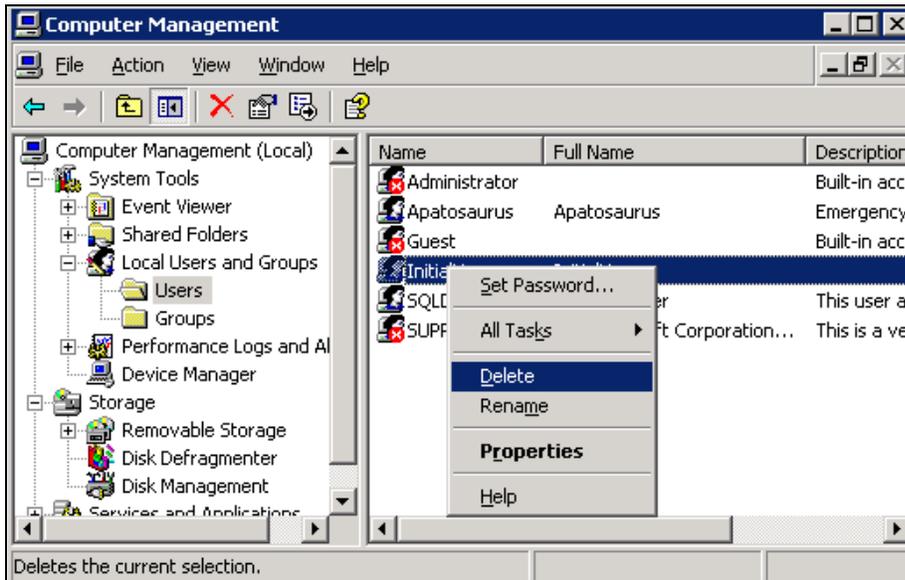
- 2) Click **Users** under Local Users and Groups (Figure 509).

**Figure 509: Computer Management**



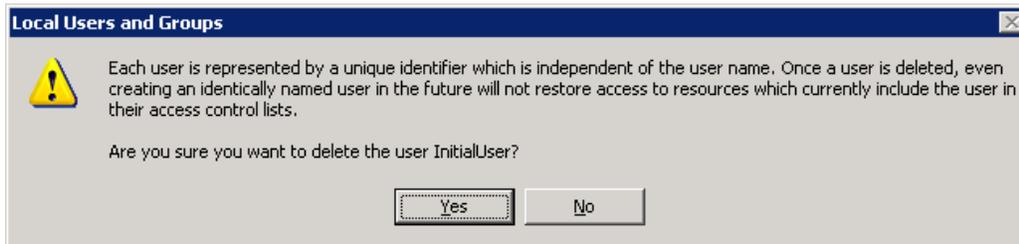
3) Right click **InitialUser**. Select **Delete** (Figure 510).

**Figure 510: Computer Management**



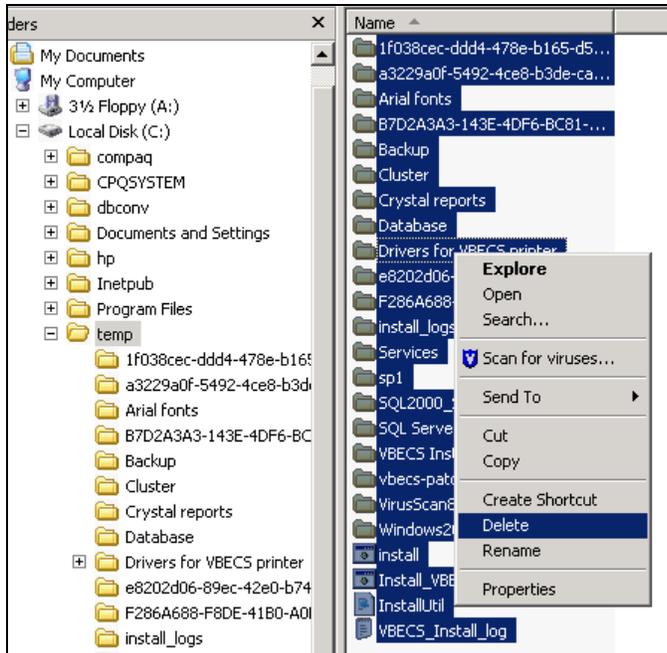
4) Click **Yes** (Figure 511).

**Figure 511: Warning**



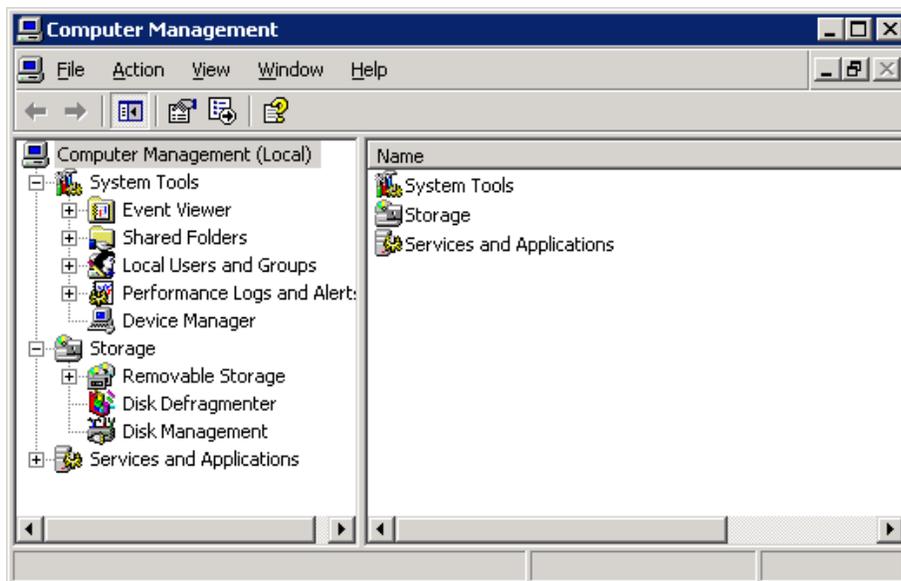
- 5) Close the Computer Management screen.
- 6) Click **Start, Windows Explorer**.
- 7) Navigate to the c:\temp folder. Select all contents, right click and select **Delete** (Figure 512).

**Figure 512: Temp folder**



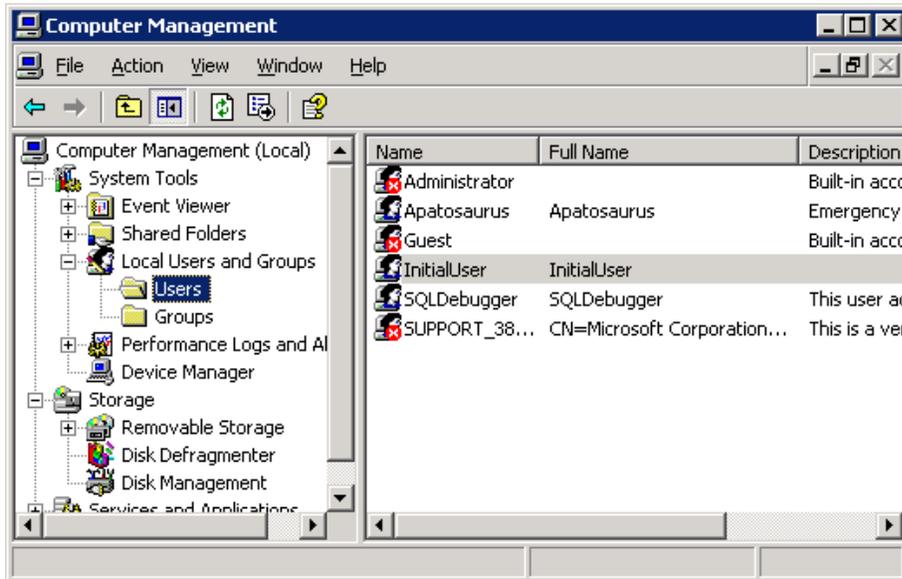
- 8) Log off the server.
- 9) **2** Log into Server 2 with your Windows ID. Click **Start, Administrative Tools, Computer Management** (Figure 513).

**Figure 513: Computer Management**



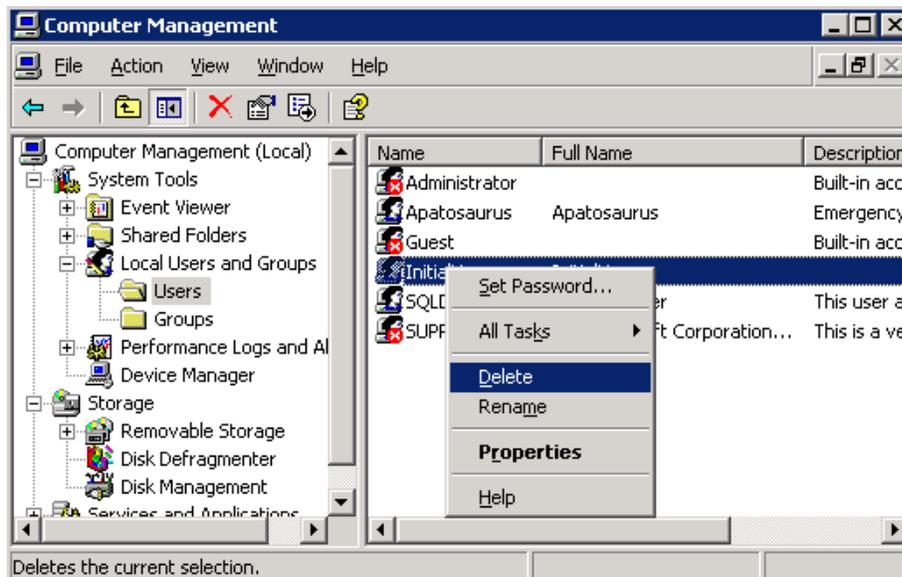
10) Click **Users** under Local Users and Groups (Figure 514).

**Figure 514: Computer Management**



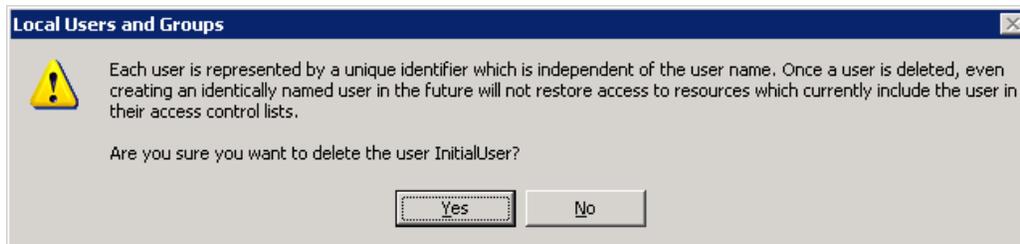
11) Right click **InitialUser**. Select **Delete** (Figure 515).

**Figure 515: Computer Management**



12) Click **Yes** (Figure 516).

**Figure 516: Warning**

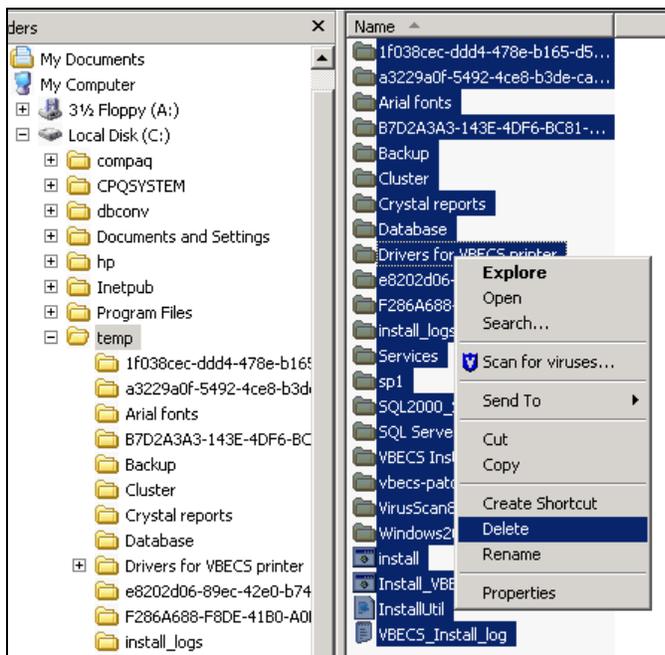


13) Close the Computer Management screen.

14) Click **Start, Windows Explorer**.

15) Navigate to the c:\temp folder. Select all contents, right click and select **Delete** (Figure 517).

**Figure 517: Temp folder**



16) Log off the server.

## 16 Send Part 3 to the Information Resource Management Staff

- 1) Notify the site by email that Part 3 is complete.
- 2) Mail the initialed and dated hard copy of Part 3 to the site Blood Bank staff [Appendix D: Blood Bank Configuration Checklist (Contact Information, Address)].
- 3) The IRM staff may proceed with Database conversion at this point.

# Glossary

Acronym, Term	Definition
<b>.NET</b>	Microsoft's framework for Web services and component software (pronounced "dot net"). .NET is composed of both a development and a runtime environment.
<b>C#</b>	The computer language that VBECS is written in (pronounced "C sharp").
<b>File Transfer Protocol (FTP)</b>	A communication mechanism that facilitates the transfer of data between machines. The servers will function as FTP servers for the duration of the setup.
<b>IIS</b>	Internet Information Services.
<b>IRM</b>	Information Resource Management.
<b>Local Area Network (LAN)</b>	A computer network that spans a relatively small area.
<b>MOM</b>	Microsoft Operations Management.
<b>RAID</b>	Redundant Array of Independent (or Inexpensive) Disks. A category of disk drives that employ two or more drives in combination for fault tolerance and performance.
<b>Remote Desktop Connection (formerly Terminal Services)</b>	The connectivity tool used to access VBECS on the server.
<b>Subnet</b>	An independent segment of a network.
<b>Uninterruptible Power Supply (UPS)</b>	A power supply that includes a battery to maintain power in the event of a power outage.
<b>Veterans Health Information Systems and Technology Architecture (VistA)</b>	Formerly the Decentralized Hospital Computer Program (DHCP) of the Veterans Health Administration (VHA), Department of Veterans Affairs (VA). VistA software, developed by the VA, is used to support clinical and administrative functions at VA Medical Centers nationwide. It is written in M and, via the Kernel, runs on all major M implementations regardless of vendor. VistA is composed of packages that undergo a verification process to ensure conformity with name spacing and other VistA standards and conventions.
<b>Virtual LAN (VLAN)</b>	A logical subgroup within a local area network that is created via software rather than by a physical separation. The VLAN helps contain network traffic and facilitates administration.
<b>VBECS</b>	VistA Blood Establishment Computer Software.
<b>VISN</b>	Veterans Integrated Service Network.
<b>Windows Server 2003</b>	The operating system that will run on the server on which VBECS is being deployed.
<b>Windows XP</b>	The operating system that will run on the workstation used to access VBECS.

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# Appendices

## Appendix A: Contacts

Name, Team, Role	Telephone Numbers		Fax	Email
	Primary	Secondary		
Robert Wright (Implementation Manager)	602-795-1361	N/A	Manual connection, call first	Robert.A.Wright@va.gov
Niki Brace (Project Manager)	708-786-5905	N/A	708-786-5814	niki.brace2@va.gov
Carl Jensen (Hardware Architect)	708-786-5958	N/A	708-786-5814	carl.jensen2@va.gov

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## **Appendix B: Blood Bank Hardware Checklist**

Note: This document is available separately for easy copying and printing.

Refer to the hardware tables and check the hardware. Complete the Hardware Checklist, and return a copy to the IM.

### **1 Hardware for Workstations, Printers, and Scanners**

This table describes the hardware related to the workstations, printers, and scanners.

#### **Hardware for Workstations, Printers, and Scanners**

<b>Hardware</b>	<b>Quantity</b>	<b>Description</b>
<b>Workstations</b>	3 or more	Desktop 3GH, 512MB RAM, floppy, CD, 17" flat panel monitor, USB keyboard, USB optical mouse
<b>Barcode Scanners</b>	3 or more	Hand Held 4600
<b>Printers</b>	1	Report/Forms Printer - HP LaserJet 9040dn
	1	Zebra R4MPlus Z4M00-2001-0020

## 2 Checklist

There is one of each component unless otherwise specified. Complete this checklist to verify that all pieces of hardware are present, are in good condition, and match the description. Add information such as model and serial numbers where requested. Return a copy of the checklist to the IM (see Appendix A: Contacts). When hardware does not match the description, notify the IM immediately.

### Contact Information

Site Name:	
Contact Name:	Phone Number:
Fax Number:	Email:

### Workstations and Peripherals (Blood Bank Site)

#### Workstations

Initial If Okay	Workstation Number	Model Number	Serial Number
	1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		

#### Peripherals

Initial If Okay	Peripherals	
	USB keyboard (1 per workstation)	
	USB optical mouse (1 per workstation) (no trackball)	
	Hand Held barcode scanner (1 per workstation)	Model Number (same for all): 4600 Serial Number:



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## Appendix C: Server Hardware Checklist

Note: This document is available separately for easy copying and printing.

Refer to the hardware tables and check the hardware. Complete the Server Hardware Checklist, and return a copy to the IM.

### 1 Server Hardware

This table describes the server hardware that must be verified. The components listed arrive assembled in one large box.

#### Server Hardware

Hardware	Quantity	Description
<b>Servers</b>	2	Server 3.0 GHz 4 MB (Xeon)
	2	3.25 GB RAM
	2	RPC W/NEMA 5-15 cord US
	4	36 GB 15K U320 pluggable hard drive
<b>Shared Storage Components</b>	1	Shared storage unit (clustering)
	9	72 GB 15K U320 pluggable hard drive
<b>SDLT Tape Drive Components</b>	1	400 GB Internal Tape Drive (HP Ultrium 460)
	1	Rack mount kit
	5	SDLT I pre-labeled data cartridge
	1	Cable Offset 12ft Ext VHDCI/WIDE
<b>Rack Components</b>	2	12' KVM console cable
	1	Integrated keyboard and monitor
	1	Rack: shock pallet
	1	42 side panel (graphite metallic)
	1	600mm stabilizer kit (graphite)
	2	Rack-mountable power distribution unit, 24A low-voltage 32 outlets
	2	Blanking panels (multi graphite)
	1	Grounding kit
	1	1x4 port switch box

## 2 Checklist

There is one of each component unless otherwise specified. Complete this checklist to verify that all pieces of hardware are present, are in good condition, and match the description. Add information such as model and serial numbers where requested. Return a copy of the checklist to the IM (see Appendix A: Contacts). When hardware does not match the description, notify the IM immediately.

### Contact Information

Site Name:	
Contact Name:	Phone Number:
Fax Number:	Email:
Domain Name:	

### Components for the Server Rack (Assembled)

#### Servers and Components

Initial If Okay	Servers and Components	Model Number	Serial Number
	Server 1		
	Server 2		
	Power cords (2)	N/A	N/A
	36 GB hard drive (4)		

#### Shared Storage Components

Initial If Okay	Shared Storage Components
	Shared storage unit
	72 GB 15K U320 pluggable drive (9)

#### Tape Drive

Initial If Okay	Tape drive
	Ultrium internal tape drive
	4 data cartridges

#### Other

Initial If Okay	Other
	Integrated keyboard and monitor



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## Appendix D: Blood Bank Configuration Checklist

Note: This document is available separately for easy copying and printing.

IRM staff must complete the “Requested Information” column of this checklist. Consult your network administrator for the appropriate values.

Because VBECS is a medical device, the server and printers must be isolated on a VLAN. The workstations are not part of the medical device and must not be in the VLAN, but they need static IP addresses to access the VLAN. See the Prepare for Installation section of *Vista Blood Establishment Computer Software (VBECS) Installation Guide* for more information about this requirement.

Complete and send a copy of this checklist to the IM. (See Appendix A: Contacts for the fax number.)

### Contact Information

Site Name:	
Contact Name:	Phone Number:
Fax Number:	Email:
Address (to which the Remote Install Team must send the signed copy of Part 3):	
Blood Bank VISN Number or Region number (if data center installation):	

Our server is multi-divisional.

### Printer

Please check the box below if your site will not be using the HP LaserJet 9040. Also, please specify the printer that you will be using. Please provide a driver for the printer prior to installation time.

Our site will use the following printer: \_\_\_\_\_

### Local Groups

VBECS requires the creation of three Active Directory groups.

**DC** At a data center, these groups will reside in the data center domain (*nn* is the two-digit data center identifier; *xxx* is the site location identifier):

- *Rnnxxx*VbecsAdministrators
- *Rnnxxx*VbecsUsers
- *Rnn*VbecsServerAdmins (globals server administrator group)

At a local site installation, both groups will reside in the VISN domain (*nn* is the two-digit VISN identifier; *xxx* is the site identifier):

- *Vnnxxx*VbecsUsers
- *Vnnxxx*VbecsAdministrators
- *Vnnxxx*VbecsServerAdmins

For example, Hines would create V12HINVbecsUsers and V12HINVbecsAdministrators.

*Configure both groups as Global, Security. Each site will be responsible for managing its groups.*

Record your group names in Table 1.

**Table 1: Group Names**

VBECS User Group:
VBECS Administrator Group:
VBECS Server Admins Group:

**Data Conversion**

Specify the Windows ID of the individual who will be executing the data conversion:

\_\_\_\_\_

**Blood Bank Hardware Information**

Row	Hardware	Requested Information
1	Workstation 1 name	
2	Workstation 1 IP address	
3	Workstation 2 name	
4	Workstation 2 IP address	
5	Workstation 3 name	
6	Workstation 3 IP address	
7	Workstation 4 name	
8	Workstation 4 IP address	
9	Workstation 5 name	
10	Workstation 5 IP address	
11	Workstation 6 name	
12	Workstation 6 IP address	
13	Workstation 7 name	
14	Workstation 7 IP address	
15	Workstation 8 name	
16	Workstation 8 IP address	
17	Workstation 9 name	
18	Workstation 9 IP address	
19	Workstation 10 name	

Row	Hardware	Requested Information
20	Workstation 10 IP address	
21	Zebra Printer IP address	
22	Laser printer name	
23	Laser printer IP address	

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## Appendix E: Server Configuration Checklist

Note: This document is available separately for easy copying and printing.

Server support staff must complete the “Requested Information” column of this checklist. Consult your network administrator for the appropriate values.

Because VBECS is a medical device, the server and printers must be isolated on a VLAN. The workstations are not part of the medical device and must not be in the VLAN, but they need static IP addresses to access the VLAN. See the Prepare for Installation section of *Vista Blood Establishment Computer Software (VBECS) Installation Guide* for more information about this requirement.

Complete and send a copy of this checklist to the IM. (See Appendix A: Contacts for the fax number.)

### Contact Information

Site Name:	
Contact Name:	Phone Number:
Fax Number:	Email:
VBECS service support email address for notice of problems with VBECS Services and MOM alerts. Please create an email group in Outlook and enter it here. Make sure that any staff that supports VBECS are added to this group.(2980, #5):	
Windows IDs of VBECS Installers (local staff and Remote Install Team):	

### Backup Exec

This guide documents the installation and configuration of Backup Exec to back up the VBECS database. If your site chooses to use an alternate backup strategy, check the box and document the strategy to meet FDA requirements.

Our site will use an alternate backup strategy.

### Network Interface Card (NIC) Speed and Duplex Setting

By default, the speed setting on NICs is set to “auto detect.” While they work at this speed, NICs function best when they are set to be consistent with the speed on switch ports. Enter the speed of your switches below:

Switch Port Speed: \_\_\_\_\_

## Multi-Divisional Sites

If the site is multi-divisional (the VBECS system will serve multiple blood banks), check the box.

Our server is multi-divisional.

## Domain Information

Row	Domain Attributes	Attribute Values
1	Domain Name: VHAMASTER (For a data center, replace VHAMASTER with r01, r02, r03, or r04.)	
2	Subnet Mask	
3	Default Gateway	
4	DNS Entries	
5	WINS Entries	
6	Local Active Directory Group Name for common users (see Local Groups, Group names in Appendix D: Blood Bank Configuration Checklist)	
7	Local Active Directory Group Name for VBECS Administrator users (see Local Groups, Group names in Appendix D: Blood Bank Configuration Checklist)	
8	VHAMaster Active Directory Group Name for VBECS common users (to be filled out by Implementation Team)	
9	VHAMaster Active Directory Group Name for VBECS Administrator users (to be filled out by Implementation Team)	
10	Terminal Server License Servers (data center only)	

## Server Hardware Information

Name the servers “VHA<site ID><NOD, CLU, or SQL><Z1 or Z2>.” Use “NOD” for server nodes, “CLU” for the cluster, or “SQL” for SQL Server. Use “Z2” for the second node of the cluster. For example, servers at Hines would be:

- Server 1: VHAHINNODZ1
- Server 2: VHAHINNODZ2
- Cluster: VHAHINCLUZ1
- Virtual server network: VHAHINSQLZ1

All IP addresses must be static.

Row	Hardware	Requested Information
1	Server 1 name	
2	Server 1 IP address	
3	Server 2 name	
4	Server 2 IP address	
5	Cluster name	
6	Cluster IP address	

Row	Hardware	Requested Information
7	SQL Server Virtual Server Network Name	
8	SQL Server Virtual Server IP Address	
9	Subnet Mask	

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## Appendix F: VLAN Requirements

Since VBECS is a medical device, VBECS servers and printers must be placed in a VLAN. *Do not turn on the VLAN until installation is complete.*

This table details the communication requirements for the VLAN. Figure 518 depicts how VBECS resides in the network.

**Table 1: VLAN Requirements**

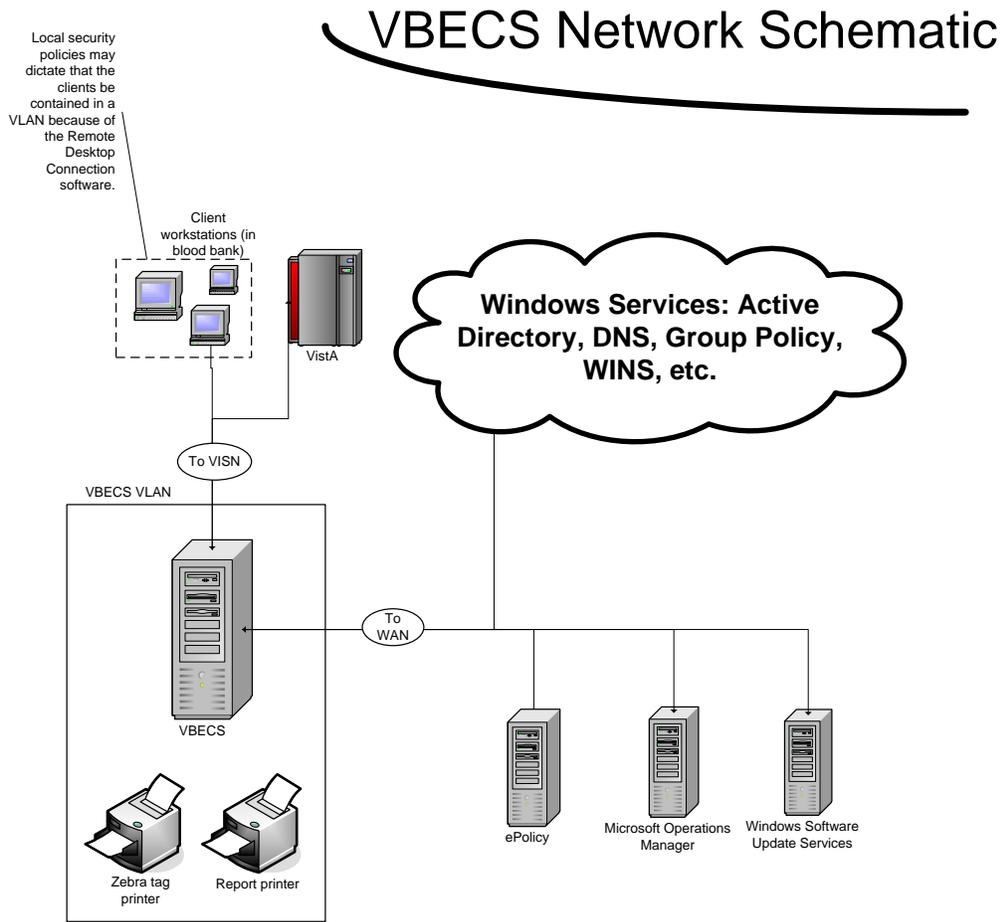
Servers	IP Address	Notes
VHAMASTER WINS servers	10.3.29.33 10.3.29.34 10.39.129.200	
va.gov domain controllers	10.3.21.197 10.3.30.1 10.2.21.27 10.204.1.10 10.3.21.193	
med.va.gov domain controllers	10.2.21.26 10.4.229.41 10.3.30.2 10.3.21.194 10.30.20.27	
VHAMASTER domain controllers	10.4.229.2 10.5.21.192 10.4.21.192 10.6.21.192 10.2.21.192 10.191.10.7 10.6.197.13 10.1.21.192 10.3.27.33 10.3.21.192 10.224.151.15 10.190.40.20 10.40.198.21 10.63.196.55 10.15.32.250 10.189.77.230 10.222.228.3 10.189.110.3 10.61.192.172 10.61.192.139 10.189.1.1 10.224.151.90 10.208.13.14 10.3.30.25 10.189.37.217 10.189.46.203	Due to DNS "round robinning," all VHAMASTER domain controllers must be accessible.
Local WINS servers	See your network administrator	
Local VISN domain controllers	See your network administrator	Due to DNS "round robinning," all local domain controllers must be accessible.
VBECS workstations	See Appendix D: Blood Bank Configuration Checklist	

Servers	IP Address	Notes
VBECS printers (label and report)	See Appendix D: Blood Bank Configuration Checklist	If the printers reside at the same location as the servers, just place them in the same VLAN.
VistA servers	See your network administrator	
Microsoft Operations Manager	10.3.31.51, 10.3.31.52	
ePolicy	10.0.0.0/8, 10.204.9.190	Centralized ePolicy server for VBECS
VBECS Development Support	10.3.21.77	In case development team needs to research a problem.
SMTP Support	N/A	Each VBECS server has SMTP installed on it. Ensure that SMTP communication is permitted in your ACL.

**Table 2: Port listing**

Service	Port	Notes
DNS	53	
ePolicy	8180, 8181, 8079, 8082, 8080, 8443, 8444	This is a central resource used to update virus definition files and configure virus scans.
FTP	20, 21	
Group Policy	445	
HL7 Production Listener	21994	
HL7 Test Listener	21993	
Kerberos	88	
LDAP	389	
Microsoft Global Catalog	3289	
Microsoft Operations Management Server	1270	This is a central resource used to monitor our systems.
Printer	9100	
Remote Desktop Connection	3389	
SMTP	25	
VBECS VistALink Production Listener	21992	
VBECS VistALink Test Listener	21991	
WINS	135, 137	
Windows Software Update Services	8530	This is a central resource used to update Windows patches.

**Figure 518: VBECS Network Diagram**



VBECS best fits into the **domain limited** model described in *Medical Device Isolation Architecture Guide*. The system will have to communicate with Microsoft resources on the network as well as centralized resources such as ePolicy, Microsoft Operations Manager, Vista, and Windows Software Update Services.

VBECS itself is written in C# .NET and uses SQL Server for its database. Clients will access VBECS through Remote Desktop Connection.

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## Appendix G: Instructions for Capturing Screen Shots for Installation Records

Throughout the installation guide, the user is asked to capture screen shots at various points in the installation to confirm that the installation was performed correctly. These points are indicated by the

camera icon:  .

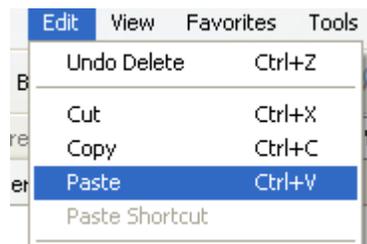
To capture a screen shot:

- 1) Open a blank document (for example, in Microsoft Wordpad: click **Start, Run**. Enter **wordpad** and press **OK**) and save it as (click **File, Save As**) “Installation Validation Record mmddyy,” or another easily identified file name.

 *If you wish to place a document on both servers for ease of copying and pasting, assign file names similar to “Installation Validation Record Server1 mmddyy” and “Installation Validation Record Server2 mmddyy.”*

- 2) When the screen you wish to capture is displayed, press the **Print Screen** key.
- 3) In the Installation Validation Record document, place the cursor where you want to insert the picture.
- 4) Click  (the paste icon) or select **Edit, Paste** (Figure 519).

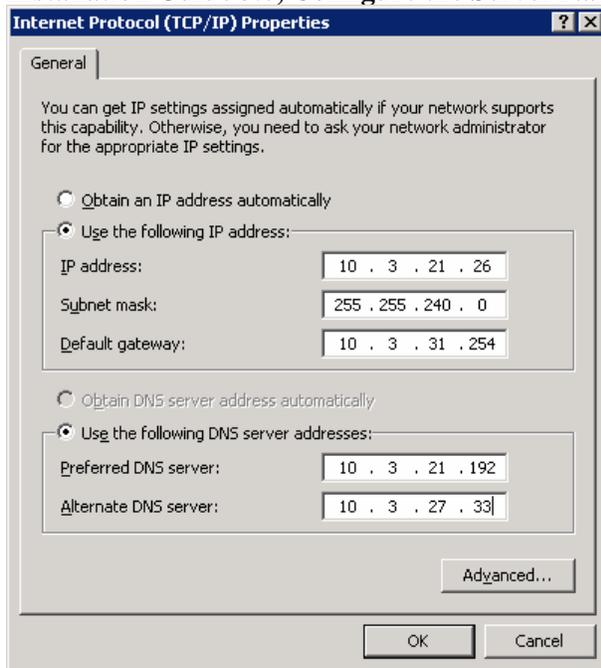
**Figure 519: Paste**



- 5) Label the screen shot within the document, for example, **Installation Guide 3.0, Configure the Server Name and IP Address, Step 4i, Server 1**.
- a) Insert the caption above the screen shot as “Installation Guide *n.n*, Section Name, Step Number, Server Name.”
- *n.n* is the version number of the installation guide.
  - “Section Name” and “Step Number” are the name of the section and number of the step in the installation guide that require the screen shot.
  - “Server Name” is the name of the server on which the screen shot was captured (see the example in Figure 520).

**Figure 520: Example of Screen Shot**

**Installation Guide 3.0, Configure the Server Name and IP Address, Step 4i, Server 1**



## Appendix H: Password List

Note: This document is available separately for easy copying and printing.

Throughout the installation, the installer will be prompted to enter different user IDs and passwords. The VBECS development team must supply these passwords to the installer prior to beginning the installation. Complete the password column on this form prior to starting.

Note that the two-digit VISN identifier replaces “XX.” For VISNs 1–9, insert “0” before the VISN number (e.g., VHA05VbecsCluster). For EPS installations, replace “XX” with “EPS.”

### Password List

User ID	Password	Purpose of ID
InitialUser		Initial login
VHAXXVbecsCluster (RXXVBESVCCLU01 for data centers)		The cluster and services will run under it.
VHAXXVbecsSQL (RXXVBESVCSQL01 for data centers)		SQL Server will run under it.
VHAXXVbecsBackup		Backup Exec will run under it.
SA		SA password for SQL

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## **Appendix I: VBECS Installation CD Contents**

Use this list to verify the contents of your VBECS CD:

Volume in drive C is CDrive

Volume Serial Number is D68E-C4C7

Directory of c:\temp

```
08/04/2008 01:33 PM <DIR> .
08/04/2008 01:33 PM <DIR> ..
08/04/2008 01:33 PM <DIR> Backup
08/04/2008 01:33 PM <DIR> Database
07/19/2008 10:59 AM      36,943 install.bat
07/19/2008 10:59 AM      2,260 Install_VBECS.bat
08/04/2008 01:32 PM <DIR> Services
08/04/2008 01:33 PM <DIR> VBECS Installation
      3 File(s)      39,203 bytes
```

Directory of c:\temp\Backup

```
08/04/2008 01:33 PM <DIR> .
08/04/2008 01:33 PM <DIR> ..
07/19/2008 09:38 AM      338 copyDB.bat
      1 File(s)      338 bytes
```

Directory of c:\temp\Database

```
08/04/2008 01:33 PM <DIR> .
08/04/2008 01:33 PM <DIR> ..
07/19/2008 09:55 AM 25,802,240 PACKAGED_VBECS_DB.BAK
07/19/2008 09:55 AM 10,731 utilsp_DeployNewDb.sql
07/19/2008 09:55 AM 325 utilsp_DeployVBECS.sql
      3 File(s) 25,813,296 bytes
```

Directory of c:\temp\Services

08/04/2008 01:32 PM <DIR> .  
08/04/2008 01:32 PM <DIR> ..  
08/04/2008 01:32 PM <DIR> VBECS  
08/04/2008 01:32 PM <DIR> VBECS Service Monitor  
08/04/2008 01:31 PM <DIR> VBECS Test  
0 File(s) 0 bytes

Directory of c:\temp\Services\VBECS

08/04/2008 01:32 PM <DIR> .  
08/04/2008 01:32 PM <DIR> ..  
08/04/2008 01:32 PM <DIR> WinServices  
0 File(s) 0 bytes

Directory of c:\temp\Services\VBECS\WinServices

08/04/2008 01:32 PM <DIR> .  
08/04/2008 01:32 PM <DIR> ..  
08/04/2008 01:32 PM <DIR> VBECS CPRS HL7 Client Monitor  
08/04/2008 01:32 PM <DIR> VBECS CPRS HL7 Listener  
08/04/2008 01:32 PM <DIR> VBECS HL7 Multi Listener  
08/04/2008 01:32 PM <DIR> VBECS Patient Merge HL7 Listener  
08/04/2008 01:32 PM <DIR> VBECS Patient Update HL7 Listener  
08/04/2008 01:32 PM <DIR> VBECS Scheduled Report Runner  
08/04/2008 01:32 PM <DIR> VBECS VistALink RPC XML Listener  
0 File(s) 0 bytes

Directory of c:\temp\Services\VBECS\WinServices\VBECS CPRS HL7 Client Monitor

08/04/2008 01:32 PM <DIR> .  
08/04/2008 01:32 PM <DIR> ..  
12/20/2007 10:12 PM 626,688 VBECS.AppResources.dll

06/16/2008 03:12 PM 847,872 VBECS.Common.dll  
 06/16/2008 03:12 PM 278,528 VBECS.DAL.dll  
 04/30/2007 08:33 PM 24,576 VBECS.HL7.OpenLibrary.dll  
 06/16/2008 03:12 PM 57,344 VBECS.HL7AL.dll  
 04/30/2007 08:40 PM 20,480 VbecsCprsHL7ClientService.exe  
 07/07/2006 07:18 AM 581 VbecsCprsHL7ClientService.exe.config  
 12/20/2007 10:19 PM 40,960 VistALink.Client.dll  
 12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll  
 9 File(s) 2,179,653 bytes

Directory of c:\temp\Services\VBECS\WinServices\VBECS CPRS HL7 Listener

08/04/2008 01:32 PM <DIR> .  
 08/04/2008 01:32 PM <DIR> ..  
 06/16/2008 03:12 PM 4,431,872 Reports.dll  
 12/20/2007 10:12 PM 626,688 VBECS.AppResources.dll  
 06/16/2008 03:12 PM 1,032,192 VBECS.BOL.dll  
 06/16/2008 03:12 PM 847,872 VBECS.Common.dll  
 06/16/2008 03:12 PM 278,528 VBECS.DAL.dll  
 12/20/2007 10:14 PM 28,672 VBECS.HL7.Listener.Core.dll  
 04/30/2007 08:33 PM 24,576 VBECS.HL7.OpenLibrary.dll  
 12/20/2007 10:14 PM 61,440 VBECS.HL7.Parsers.dll  
 06/16/2008 03:12 PM 57,344 VBECS.HL7AL.dll  
 06/16/2008 03:12 PM 53,248 VBECS.VAL.dll  
 07/07/2006 07:18 AM 20,480 VbecsCprsHL7ListenerService.exe  
 07/07/2006 07:18 AM 596 VbecsCprsHL7ListenerService.exe.config  
 12/20/2007 10:19 PM 40,960 VistALink.Client.dll  
 12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll  
 14 File(s) 7,787,092 bytes

Directory of c:\temp\Services\VBECS\WinServices\VBECS HL7 Multi Listener

08/04/2008 01:32 PM <DIR> .  
 08/04/2008 01:32 PM <DIR> ..

06/16/2008 03:12 PM 4,431,872 Reports.dll  
 12/20/2007 10:12 PM 626,688 VBECS.AppResources.dll  
 06/16/2008 03:12 PM 1,032,192 VBECS.BOL.dll  
 06/16/2008 03:12 PM 847,872 VBECS.Common.dll  
 06/16/2008 03:12 PM 278,528 VBECS.DAL.dll  
 12/20/2007 10:14 PM 28,672 VBECS.HL7.Listener.Core.dll  
 04/30/2007 08:33 PM 24,576 VBECS.HL7.OpenLibrary.dll  
 12/20/2007 10:14 PM 61,440 VBECS.HL7.Parsers.dll  
 06/16/2008 03:12 PM 57,344 VBECS.HL7AL.dll  
 06/16/2008 03:12 PM 53,248 VBECS.VAL.dll  
 07/07/2006 07:18 AM 24,576 VbecsHL7ListenerService.exe  
 07/07/2006 07:18 AM 608 VbecsHL7ListenerService.exe.config  
 12/20/2007 10:19 PM 40,960 VistALink.Client.dll  
 12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll  
 14 File(s) 7,791,200 bytes

Directory of c:\temp\Services\VBECS\WinServices\VBECS Patient Merge HL7 Listener

08/04/2008 01:32 PM <DIR> .  
 08/04/2008 01:32 PM <DIR> ..  
 06/16/2008 03:12 PM 4,431,872 Reports.dll  
 12/20/2007 10:12 PM 626,688 VBECS.AppResources.dll  
 06/16/2008 03:12 PM 1,032,192 VBECS.BOL.dll  
 06/16/2008 03:12 PM 847,872 VBECS.Common.dll  
 06/16/2008 03:12 PM 278,528 VBECS.DAL.dll  
 12/20/2007 10:14 PM 28,672 VBECS.HL7.Listener.Core.dll  
 04/30/2007 08:33 PM 24,576 VBECS.HL7.OpenLibrary.dll  
 12/20/2007 10:14 PM 61,440 VBECS.HL7.Parsers.dll  
 06/16/2008 03:12 PM 57,344 VBECS.HL7AL.dll  
 06/16/2008 03:12 PM 53,248 VBECS.VAL.dll  
 07/07/2006 07:18 AM 20,480 VbecsPatientMergeHL7ListenerService.exe  
 07/07/2006 07:18 AM 596 VbecsPatientMergeHL7ListenerService.exe.config  
 12/20/2007 10:19 PM 40,960 VistALink.Client.dll  
 12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll

14 File(s) 7,787,092 bytes

Directory of c:\temp\Services\VBECs\WinServices\VBECs Patient Update HL7 Listener

08/04/2008 01:32 PM <DIR> .  
08/04/2008 01:32 PM <DIR> ..  
06/16/2008 03:12 PM 4,431,872 Reports.dll  
12/20/2007 10:12 PM 626,688 VBECs.AppResources.dll  
06/16/2008 03:12 PM 1,032,192 VBECs.BOL.dll  
06/16/2008 03:12 PM 847,872 VBECs.Common.dll  
06/16/2008 03:12 PM 278,528 VBECs.DAL.dll  
12/20/2007 10:14 PM 28,672 VBECs.HL7.Listener.Core.dll  
04/30/2007 08:33 PM 24,576 VBECs.HL7.OpenLibrary.dll  
12/20/2007 10:14 PM 61,440 VBECs.HL7.Parsers.dll  
06/16/2008 03:12 PM 57,344 VBECs.HL7AL.dll  
06/16/2008 03:12 PM 53,248 VBECs.VAL.dll  
07/07/2006 07:18 AM 20,480 VbecsPatientUpdateHL7ListenerService.exe  
07/07/2006 07:18 AM 596 VbecsPatientUpdateHL7ListenerService.exe.config  
12/20/2007 10:19 PM 40,960 VistALink.Client.dll  
12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll

14 File(s) 7,787,092 bytes

Directory of c:\temp\Services\VBECs\WinServices\VBECs Scheduled Report Runner

08/04/2008 01:32 PM <DIR> .  
08/04/2008 01:32 PM <DIR> ..  
06/16/2008 03:12 PM 4,431,872 Reports.dll  
12/20/2007 10:12 PM 626,688 VBECs.AppResources.dll  
06/16/2008 03:12 PM 1,032,192 VBECs.BOL.dll  
06/16/2008 03:12 PM 847,872 VBECs.Common.dll  
06/16/2008 03:12 PM 278,528 VBECs.DAL.dll  
04/30/2007 08:33 PM 24,576 VBECs.HL7.OpenLibrary.dll  
06/16/2008 03:12 PM 57,344 VBECs.HL7AL.dll  
06/16/2008 03:12 PM 53,248 VBECs.VAL.dll

07/07/2006 07:18 AM 24,576 VbecsScheduledReportRunner.exe  
07/07/2006 07:18 AM 508 VbecsScheduledReportRunner.exe.config  
12/20/2007 10:19 PM 40,960 VistALink.Client.dll  
12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll  
12 File(s) 7,700,988 bytes

Directory of c:\temp\Services\VBECs\WinServices\VBECs VistALink RPC XML Listener

08/04/2008 01:32 PM <DIR> .  
08/04/2008 01:32 PM <DIR> ..  
12/20/2007 10:12 PM 626,688 VBECs.AppResources.dll  
06/16/2008 03:12 PM 847,872 VBECs.Common.dll  
06/16/2008 03:12 PM 278,528 VBECs.DAL.dll  
06/16/2008 03:12 PM 53,248 VBECs.VAL.dll  
12/20/2007 10:19 PM 40,960 VistALink.Client.dll  
06/20/2006 05:21 AM 36,864 VistALink.Listener.Core.dll  
06/20/2006 05:21 AM 16,384 VistALink.Listener.Core.UnitTest.MockRpcContainer.dll  
06/20/2006 05:21 AM 16,143 VistALink.Listener.Core.xml  
04/30/2007 08:40 PM 24,576 VistALink.Listener.WinService.exe  
07/07/2006 07:18 AM 6,638 VistALink.Listener.WinService.exe.config  
12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll  
06/20/2006 05:21 AM 401,408 VistALink.OpenLibrary.UnitTest.dll  
12 File(s) 2,631,933 bytes

Directory of c:\temp\Services\VBECs Service Monitor

08/04/2008 01:32 PM <DIR> .  
08/04/2008 01:32 PM <DIR> ..  
12/20/2007 10:20 PM 40,960 VbecsServiceMonitor.exe  
07/07/2006 07:18 AM 4,389 VbecsServiceMonitor.exe.config  
12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll  
3 File(s) 327,973 bytes

Directory of c:\temp\Services\VBECs Test

```

08/04/2008 01:31 PM <DIR> .
08/04/2008 01:31 PM <DIR> ..
08/04/2008 01:31 PM <DIR> WinServices
          0 File(s)      0 bytes

```

Directory of c:\temp\Services\VBECs Test\WinServices

```

08/04/2008 01:32 PM <DIR> .
08/04/2008 01:32 PM <DIR> ..
08/04/2008 01:32 PM <DIR> VBECs Test CPRS HL7 Client Monitor
08/04/2008 01:32 PM <DIR> VBECs Test CPRS HL7 Listener
08/04/2008 01:31 PM <DIR> VBECs Test HL7 Multi Listener
08/04/2008 01:31 PM <DIR> VBECs Test Patient Merge HL7 Listener
08/04/2008 01:31 PM <DIR> VBECs Test Patient Update HL7 Listener
08/04/2008 01:31 PM <DIR> VBECs Test Scheduled Report Runner
08/04/2008 01:31 PM <DIR> VBECs Test VistALink RPC XML Listener
          0 File(s)      0 bytes

```

Directory of c:\temp\Services\VBECs Test\WinServices\VBECs Test CPRS HL7 Client Monitor

```

08/04/2008 01:32 PM <DIR> .
08/04/2008 01:32 PM <DIR> ..
12/20/2007 10:12 PM      626,688 VBECs.AppResources.dll
06/16/2008 03:12 PM      847,872 VBECs.Common.dll
06/16/2008 03:12 PM      278,528 VBECs.DAL.dll
04/30/2007 08:33 PM       24,576 VBECs.HL7.OpenLibrary.dll
06/16/2008 03:12 PM       57,344 VBECs.HL7AL.dll
04/30/2007 08:40 PM       20,480 VbecsCprsHL7ClientService.exe
07/07/2006 07:18 AM         581 VbecsCprsHL7ClientService.exe.config
12/20/2007 10:19 PM       40,960 VistALink.Client.dll
12/20/2007 10:19 PM      282,624 VistALink.OpenLibrary.dll
          9 File(s)    2,179,653 bytes

```

Directory of c:\temp\Services\VBECs Test\WinServices\VBECs Test CPRS HL7 Listener

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08/04/2008 01:32 PM <DIR> ..  
06/16/2008 03:12 PM 4,431,872 Reports.dll  
12/20/2007 10:12 PM 626,688 VBECs.AppResources.dll  
06/16/2008 03:12 PM 1,032,192 VBECs.BOL.dll  
06/16/2008 03:12 PM 847,872 VBECs.Common.dll  
06/16/2008 03:12 PM 278,528 VBECs.DAL.dll  
12/20/2007 10:14 PM 28,672 VBECs.HL7.Listener.Core.dll  
04/30/2007 08:33 PM 24,576 VBECs.HL7.OpenLibrary.dll  
12/20/2007 10:14 PM 61,440 VBECs.HL7.Parsers.dll  
06/16/2008 03:12 PM 57,344 VBECs.HL7AL.dll  
06/16/2008 03:12 PM 53,248 VBECs.VAL.dll  
07/07/2006 07:18 AM 20,480 VbecsCprsHL7ListenerService.exe  
07/07/2006 07:18 AM 596 VbecsCprsHL7ListenerService.exe.config  
12/20/2007 10:19 PM 40,960 VistALink.Client.dll  
12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll  
14 File(s) 7,787,092 bytes

Directory of c:\temp\Services\VBECs Test\WinServices\VBECs Test HL7 Multi Listener

08/04/2008 01:31 PM <DIR> .  
08/04/2008 01:31 PM <DIR> ..  
06/16/2008 03:12 PM 4,431,872 Reports.dll  
12/20/2007 10:12 PM 626,688 VBECs.AppResources.dll  
06/16/2008 03:12 PM 1,032,192 VBECs.BOL.dll  
06/16/2008 03:12 PM 847,872 VBECs.Common.dll  
06/16/2008 03:12 PM 278,528 VBECs.DAL.dll  
12/20/2007 10:14 PM 28,672 VBECs.HL7.Listener.Core.dll  
04/30/2007 08:33 PM 24,576 VBECs.HL7.OpenLibrary.dll  
12/20/2007 10:14 PM 61,440 VBECs.HL7.Parsers.dll  
06/16/2008 03:12 PM 57,344 VBECs.HL7AL.dll  
06/16/2008 03:12 PM 53,248 VBECs.VAL.dll

07/07/2006 07:18 AM 24,576 VbecsHL7ListenerService.exe  
 07/07/2006 07:18 AM 608 VbecsHL7ListenerService.exe.config  
 12/20/2007 10:19 PM 40,960 VistALink.Client.dll  
 12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll  
 14 File(s) 7,791,200 bytes

Directory of c:\temp\Services\VBECs Test\WinServices\VBECs Test Patient Merge HL7 Listener

08/04/2008 01:31 PM <DIR> .  
 08/04/2008 01:31 PM <DIR> ..  
 06/16/2008 03:12 PM 4,431,872 Reports.dll  
 12/20/2007 10:12 PM 626,688 VBECs.AppResources.dll  
 06/16/2008 03:12 PM 1,032,192 VBECs.BOL.dll  
 06/16/2008 03:12 PM 847,872 VBECs.Common.dll  
 06/16/2008 03:12 PM 278,528 VBECs.DAL.dll  
 12/20/2007 10:14 PM 28,672 VBECs.HL7.Listener.Core.dll  
 04/30/2007 08:33 PM 24,576 VBECs.HL7.OpenLibrary.dll  
 12/20/2007 10:14 PM 61,440 VBECs.HL7.Parsers.dll  
 06/16/2008 03:12 PM 57,344 VBECs.HL7AL.dll  
 06/16/2008 03:12 PM 53,248 VBECs.VAL.dll  
 07/07/2006 07:18 AM 20,480 VbecsPatientMergeHL7ListenerService.exe  
 07/07/2006 07:18 AM 596 VbecsPatientMergeHL7ListenerService.exe.config  
 12/20/2007 10:19 PM 40,960 VistALink.Client.dll  
 12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll  
 14 File(s) 7,787,092 bytes

Directory of c:\temp\Services\VBECs Test\WinServices\VBECs Test Patient Update HL7 Listener

08/04/2008 01:31 PM <DIR> .  
 08/04/2008 01:31 PM <DIR> ..  
 06/16/2008 03:12 PM 4,431,872 Reports.dll  
 12/20/2007 10:12 PM 626,688 VBECs.AppResources.dll  
 06/16/2008 03:12 PM 1,032,192 VBECs.BOL.dll  
 06/16/2008 03:12 PM 847,872 VBECs.Common.dll

06/16/2008 03:12 PM 278,528 VBECS.DAL.dll  
 12/20/2007 10:14 PM 28,672 VBECS.HL7.Listener.Core.dll  
 04/30/2007 08:33 PM 24,576 VBECS.HL7.OpenLibrary.dll  
 12/20/2007 10:14 PM 61,440 VBECS.HL7.Parsers.dll  
 06/16/2008 03:12 PM 57,344 VBECS.HL7AL.dll  
 06/16/2008 03:12 PM 53,248 VBECS.VAL.dll  
 07/07/2006 07:18 AM 20,480 VbecsPatientUpdateHL7ListenerService.exe  
 07/07/2006 07:18 AM 596 VbecsPatientUpdateHL7ListenerService.exe.config  
 12/20/2007 10:19 PM 40,960 VistALink.Client.dll  
 12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll  
 14 File(s) 7,787,092 bytes

Directory of c:\temp\Services\VBECS Test\WinServices\VBECS Test Scheduled Report Runner

08/04/2008 01:31 PM <DIR> .  
 08/04/2008 01:31 PM <DIR> ..  
 06/16/2008 03:12 PM 4,431,872 Reports.dll  
 12/20/2007 10:12 PM 626,688 VBECS.AppResources.dll  
 06/16/2008 03:12 PM 1,032,192 VBECS.BOL.dll  
 06/16/2008 03:12 PM 847,872 VBECS.Common.dll  
 06/16/2008 03:12 PM 278,528 VBECS.DAL.dll  
 04/30/2007 08:33 PM 24,576 VBECS.HL7.OpenLibrary.dll  
 06/16/2008 03:12 PM 57,344 VBECS.HL7AL.dll  
 06/16/2008 03:12 PM 53,248 VBECS.VAL.dll  
 07/07/2006 07:18 AM 24,576 VbecsScheduledReportRunner.exe  
 07/07/2006 07:18 AM 508 VbecsScheduledReportRunner.exe.config  
 12/20/2007 10:19 PM 40,960 VistALink.Client.dll  
 12/20/2007 10:19 PM 282,624 VistALink.OpenLibrary.dll  
 12 File(s) 7,700,988 bytes

Directory of c:\temp\Services\VBECS Test\WinServices\VBECS Test VistALink RPC XML Listener

08/04/2008 01:31 PM <DIR> .  
 08/04/2008 01:31 PM <DIR> ..

12/20/2007 10:12 PM	626,688	VBECs.AppResources.dll
06/16/2008 03:12 PM	847,872	VBECs.Common.dll
06/16/2008 03:12 PM	278,528	VBECs.DAL.dll
06/16/2008 03:12 PM	53,248	VBECs.VAL.dll
12/20/2007 10:19 PM	40,960	VistALink.Client.dll
06/20/2006 05:21 AM	36,864	VistALink.Listener.Core.dll
06/20/2006 05:21 AM	16,384	VistALink.Listener.Core.UnitTest.MockRpcContainer.dll
06/20/2006 05:21 AM	16,143	VistALink.Listener.Core.xml
04/30/2007 08:40 PM	24,576	VistALink.Listener.WinService.exe
07/07/2006 07:18 AM	6,638	VistALink.Listener.WinService.exe.config
12/20/2007 10:19 PM	282,624	VistALink.OpenLibrary.dll
06/20/2006 05:21 AM	401,408	VistALink.OpenLibrary.UnitTest.dll

12 File(s) 2,631,933 bytes

Directory of c:\temp\VBECs Installation

08/04/2008 01:33 PM	<DIR>	.
08/04/2008 01:33 PM	<DIR>	..
08/04/2008 01:33 PM	<DIR>	DBCONV
08/04/2008 01:33 PM	<DIR>	Production
08/04/2008 01:33 PM	<DIR>	Test

0 File(s) 0 bytes

Directory of c:\temp\VBECs Installation\DBCONV

08/04/2008 01:33 PM	<DIR>	.
08/04/2008 01:33 PM	<DIR>	..
08/04/2008 01:33 PM	<DIR>	Batch
08/04/2008 01:33 PM	<DIR>	DTS
08/04/2008 01:33 PM	<DIR>	IN

0 File(s) 0 bytes

Directory of c:\temp\VBECs Installation\DBCONV\Batch

08/04/2008 01:33 PM <DIR> .  
08/04/2008 01:33 PM <DIR> ..  
07/19/2008 09:40 AM 169 CopyComparisonFile.bat  
07/19/2008 09:40 AM 19,456 Data\_Comparison.XLS  
07/19/2008 09:40 AM 205 deletexls.bat  
3 File(s) 19,830 bytes

Directory of c:\temp\VBECs Installation\DBCONV\DTS

08/04/2008 01:33 PM <DIR> .  
08/04/2008 01:33 PM <DIR> ..  
07/19/2008 09:42 AM 3,879,424 ConversionPackageMultiDB.dts  
07/19/2008 09:42 AM 109,568 Data Comparison MultiDB.dts  
07/19/2008 09:42 AM 48,128 Last Entry in Log.dts  
07/19/2008 09:42 AM 49,152 Patient Count.dts  
07/19/2008 09:42 AM 94,208 Patient Data Report MultiDB.dts  
07/19/2008 09:42 AM 81,408 Patient Special Instructions Report MultiDB.dts  
07/19/2008 09:42 AM 81,920 Patient Test Report MultiDB.dts  
07/19/2008 09:42 AM 78,848 Patient Transfusion Comment MultiDB.dts  
07/19/2008 09:42 AM 81,408 Patient Transfusion Reaction MultiDB.dts  
07/19/2008 09:42 AM 86,528 Patient Transfusion Requirement Report MultiDB.dts  
07/19/2008 09:42 AM 235 rundts.bat  
11 File(s) 4,590,827 bytes

Directory of c:\temp\VBECs Installation\DBCONV\IN

08/04/2008 01:33 PM <DIR> .  
08/04/2008 01:33 PM <DIR> ..  
0 File(s) 0 bytes

Directory of \VBECs Installation\Production

08/04/2008 01:33 PM <DIR> .  
08/04/2008 01:33 PM <DIR> ..

```

08/16/2005 12:57 AM      471,040 HHActiveX.dll
06/16/2008 03:12 PM    4,431,872 Reports.dll
12/20/2007 10:12 PM      475,136 VBECS.Admin.exe
07/19/2008 10:20 AM        1,877 VBECS.Admin.exe.config
12/20/2007 10:12 PM    626,688 VBECS.AppResources.dll
06/16/2008 03:12 PM    1,032,192 VBECS.BOL.dll
06/16/2008 04:09 PM    1,160,310 VBECS.chm
06/16/2008 03:12 PM      847,872 VBECS.Common.dll
12/20/2007 10:12 PM    2,203,648 VBECS.Controls.dll
06/16/2008 03:12 PM      278,528 VBECS.DAL.dll
12/20/2007 10:12 PM    6,922,240 VBECS.exe
07/19/2008 10:20 AM        3,300 VBECS.exe.config
04/30/2007 08:33 PM     24,576 VBECS.HL7.OpenLibrary.dll
06/16/2008 03:12 PM     57,344 VBECS.HL7AL.dll
06/16/2008 03:12 PM     53,248 VBECS.VAL.dll
12/20/2007 10:19 PM     40,960 VistALink.Client.dll
12/20/2007 10:19 PM     282,624 VistALink.OpenLibrary.dll

```

17 File(s) 18,913,455 bytes

Directory of c:\temp\VBECS Installation\Test

```

08/04/2008 01:33 PM <DIR>      .
08/04/2008 01:33 PM <DIR>      ..
08/16/2005 12:57 AM      471,040 HHActiveX.dll
06/16/2008 03:12 PM    4,431,872 Reports.dll
12/20/2007 10:12 PM      475,136 VBECS.Admin.exe
07/19/2008 10:19 AM        1,877 VBECS.Admin.exe.config
12/20/2007 10:12 PM    626,688 VBECS.AppResources.dll
06/16/2008 03:12 PM    1,032,192 VBECS.BOL.dll
06/16/2008 04:09 PM    1,160,310 VBECS.chm
06/16/2008 03:12 PM      847,872 VBECS.Common.dll
12/20/2007 10:12 PM    2,203,648 VBECS.Controls.dll
06/16/2008 03:12 PM      278,528 VBECS.DAL.dll
12/20/2007 10:12 PM    6,922,240 VBECS.exe

```

07/19/2008 10:20 AM	3,300	VBECS.exe.config
04/30/2007 08:33 PM	24,576	VBECS.HL7.OpenLibrary.dll
06/16/2008 03:12 PM	57,344	VBECS.HL7AL.dll
06/16/2008 03:12 PM	53,248	VBECS.VAL.dll
12/20/2007 10:19 PM	40,960	VistALink.Client.dll
12/20/2007 10:19 PM	282,624	VistALink.OpenLibrary.dll
17 File(s) 18,913,455 bytes		

Total Files Listed:

236 File(s) 155,948,477 bytes 89 Dir(s)

## ***Appendix J: Backup Procedures for Data Centers***

If you use backup procedures that differ from those in this guide:

- Back up all folders and files in the  
\\<cluster name>\d\$\Program Files\Microsoft SQL Server\MSSQL\BACKUP directory.
- Maintain backups for at least seven days.

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## ***Appendix K: Installation Logs***

Parts of the installation produce logs, which can help resolve installation issues. The logs and their locations are as follows:

- Clustering
  - C:\temp\install\_logs\Cluster\_Install\_Log.txt
- SQL Server
  - C:\Windows\sqlstp.log (on the node that the install was executed from)
  - C:\Windows\setup.log (on the node that the install was executed from)
  - D:\Program Files\Microsoft SQL Server\MSSQL\LOG\errorlog (shared storage)
- VBECS
  - C:\temp\install\_logs\VBECS\_Install\_log.txt
- VBECS Windows Services
  - C:\Program Files\Vista\VBECS\WinServices\WinService\_Install\_Logs.txt
  - C:\Program Files\Vista\VBECS Test\WinServices\WinService\_Install\_Logs.txt

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## Appendix L: Implementing Integrated Lights Out

Integrated Lights Out (iLO) is a feature that allows for increased remote monitoring.

To implement iLO:

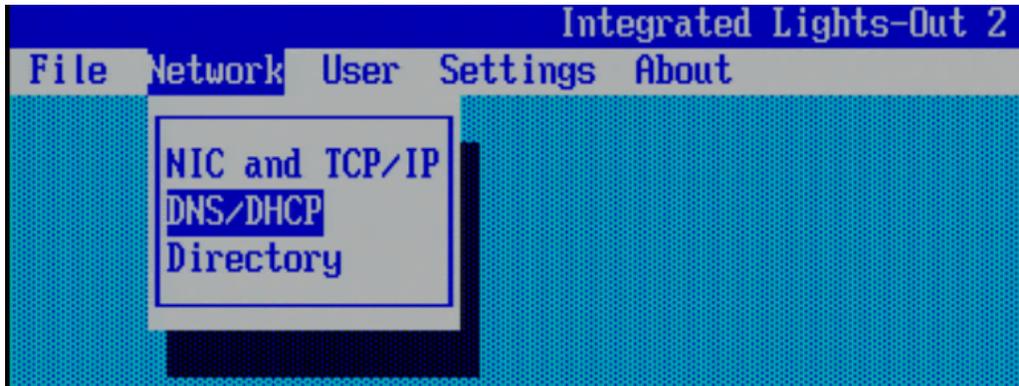
- 1) Attach the iLO ports on the back of each server to the VA network with an Ethernet cable.
- 2) Reboot Server 1 and watch the startup sequence. Press **F8** when prompted (Figure 521):

**Figure 521: Press F8 to enter iLO menu**



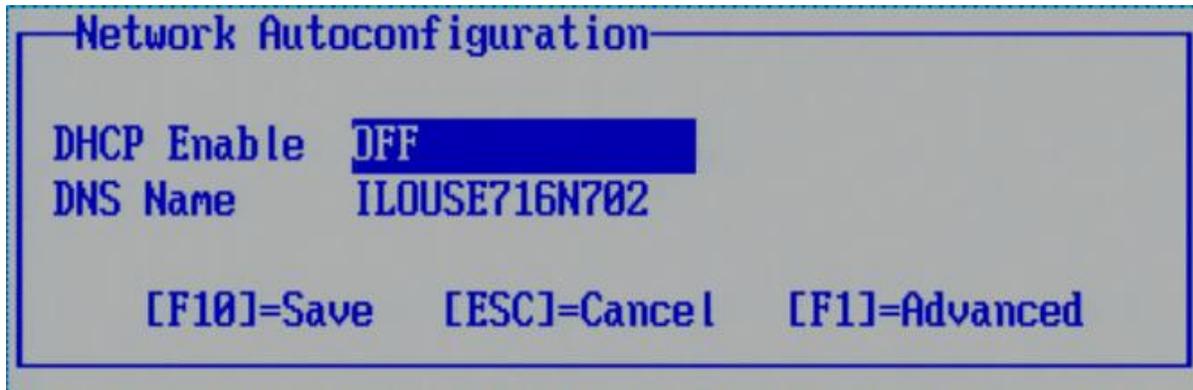
- 3) The iLO configuration screen will appear. With the arrow keys, select **Network, DNS/DHCP** (Figure 522).

**Figure 522: DNS/DHCP**



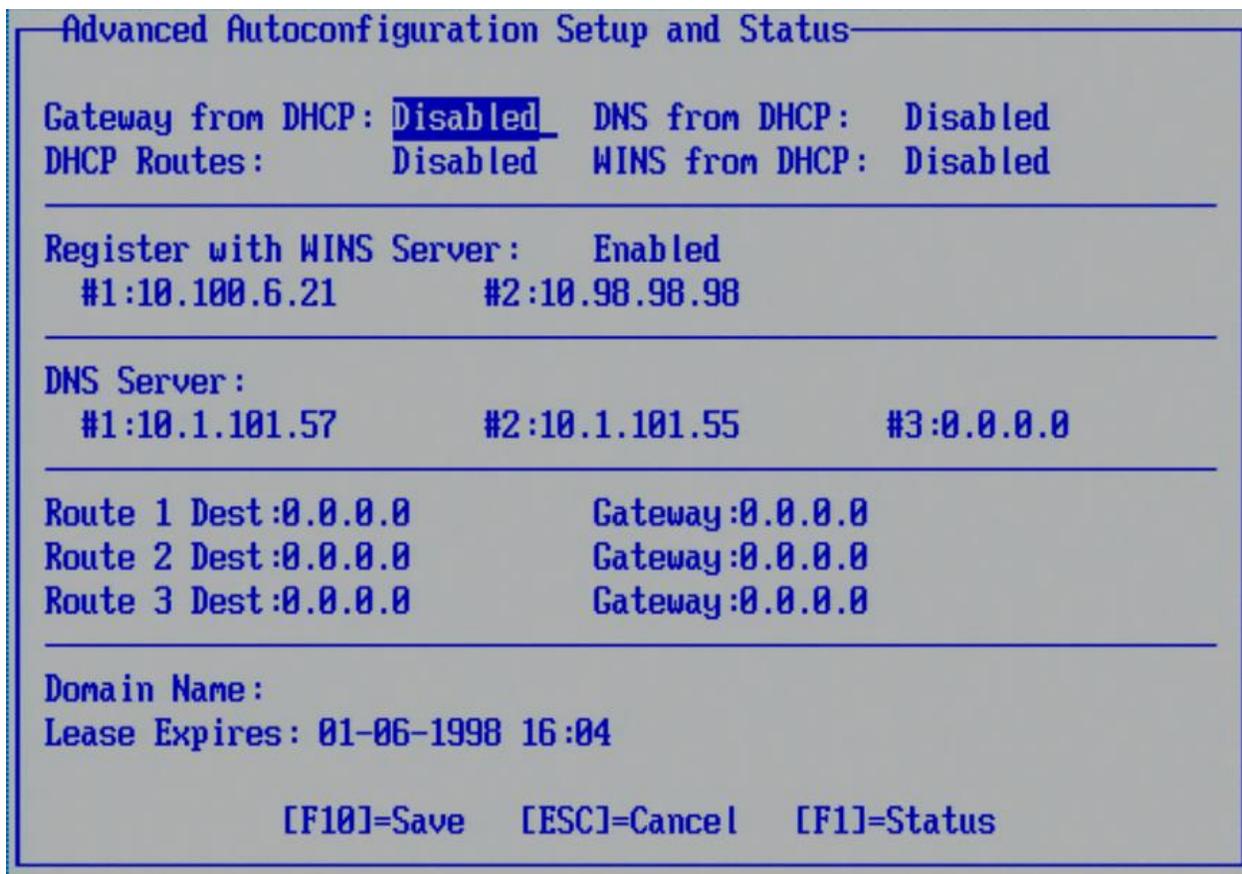
- 4) The Network Autoconfiguration screen launches. Turn off DHCP by pressing the space bar. Press **F1** to launch Advanced options (Figure 523).

**Figure 523: Disable DHCP**



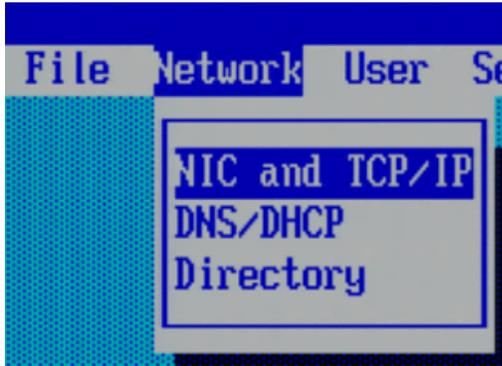
- 5) Disable DHCP in all 4 options in the top panel. If applicable, enter WINS addresses. Enter DNS server addresses. Press **F10** to save (Figure 524).

**Figure 524: Advanced**



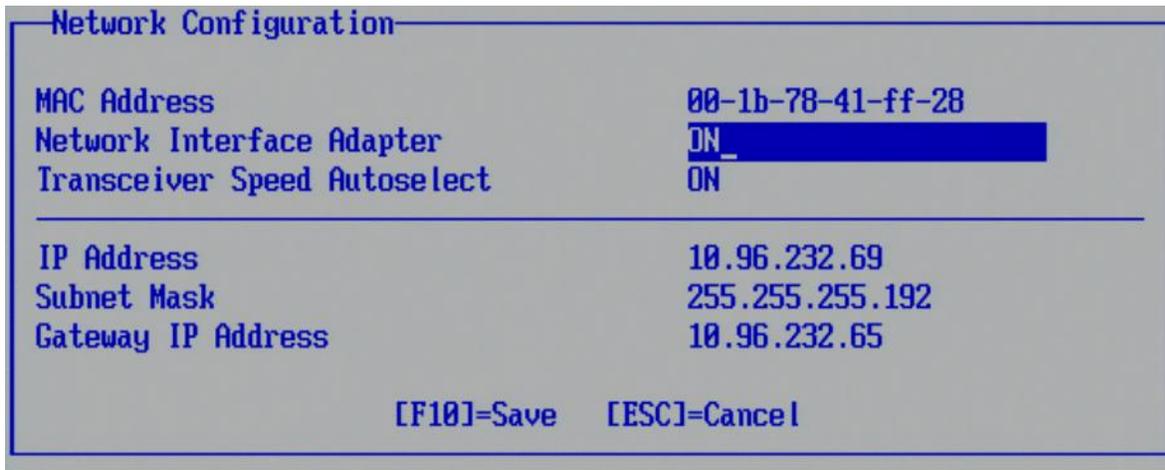
6) Select **Network, NIC and TCP/IP** (Figure 525).

**Figure 525: TCP/IP**



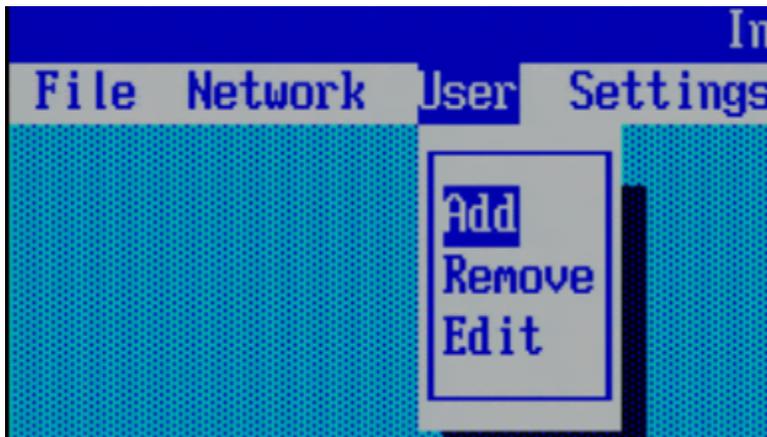
7) Enter a static IP address, subnet mask and default gateway. Press **F10** to save (Figure 526).

**Figure 526: Network**



8) Select **User, Add** (Figure 527).

**Figure 527: Add user**



- 9) Enter the following (Figure 528):
- User name: Administrator's first and last name
  - Login name: Network ID of the administrator
  - Password: A complex password consisting of letters, number and special characters with a minimum length of 8.

Press **F10** to save.

**Figure 528: Add a user**

```

Add User
-----
User name      Joe Administrator
Login name     vhaminadminj
Password       *****
Verify password *****

-----
                    Lights-Out Privileges

Administer User Accounts  Yes    Remote Console Access  Yes
Virtual Power and Reset   Yes    Virtual Media           Yes
Configure Settings        Yes

[F10] = Save   [ESC] = Cancel
  
```

- 10) Repeat Steps 8 and 9 to add additional administrators.  
 11) Press **Escape** to close iLO configuration.  
 12) Repeat this entire section on Server 2.



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