FAA San Diego Call Center

Server Build Documentation

Cisco Server Model 7845-I2

Prepared For:
FAA San Diego

Prepared By:
AT&T

Version 1.1
September 6, 2008

Table of Contents

Executive Summary

The purpose of this document is to provide a guideline to the setup of Cisco server (Model: IBM Based 7845-I2) for application deployment in the Cisco IPCC environment. This guide will address the areas of setup based on best practices provided from Cisco Systems with any modifications required for equipment deployment in the **FAA San Diego** environment.

With new hardware, even with the same part number, you may have revisions of the accompanying software that may affect this guide. Please contact AT&T if this happens and this document will be updated to reflect these changes.

It is also suggested to contact Cisco or log on to www.cisco.com and find the latest supported versions of the server setup software.

This guide has been designed to be usable by both an experienced IT engineer or one with less experience in the area of server setup. This document was designed to help the engineer through the many choices you have during setup to achieve a designated configuration for Cisco IPCC environment on a Windows Server 2003 operating system.

Requirements

1. System Power
    a. The power supplying the system must be able to support the server's requirements: Rated line voltage 100-127 VAC and 200-240 VAC & Rated input current 10A (100 VAC), 10A (120 VAC), and 5A (200 VAC)
    b. UPS protection is strongly suggested for this server if it will be in production, along with Windows 2003 agents to respond to an outage with a graceful shutdown.
2. HVAC & Operating environments
    a. The system should be set up in a cool, dry area for optimal operation. Range of 50° to 95° F (10° to 35° C) at 0 - 3000 feet (0 - 914.4 meters) with an altitude derating of 0.75° C per 1000 ft to 10,000 ft (3048 m)
    b. Cooling should be able to handle a BTU rating of BTU/hr 3390
    c. Maximum altitude 7000 ft (2133 m)
3. Input and Output
    a. Keyboard, Video and Mouse or a KVM connection is required.
    b. Network Connection
        i. The Ethernet cable should be connected to an active network connection on a network switch.
        ii. Speed and Duplex **MUST** be set on both the server and switch to match (Not Auto). This deployment has been tested at 100/full and testing is continuing with 1000/full. At the time of this document, the gigabit/full has not been certified.
        iii. Prior to installing the server, you should collect what the IP address, Subnet Mask, Default Gateway, DNS Server, and WINS server will be.
        iv. All TCP/IP ports should be open and accessible to the client devices that they will be supporting; a more granular list is based on what application will be installed on the system.
        v. **SNMP** version, Community strings, and security levels.
        vi. Windows Active Directory access if joining a Windows Domain
4. Hardware Manufacturers & Microsoft Media
    a. Server setup disk (Required for RAID setup) must have a minimum of 2 hard drives for mirrored operation (RAID 1).
    b. Microsoft Windows Server 2003 R2 Enterprise Edition Disks
    c. Product Key for Windows 2003

Server Specifications

This section has been based on the Cisco® MCS 7845-I2 (IBM) Media Convergence Server, which is a high-availability server platform for Cisco Unified Communications solutions.

- Two Intel 5140 Xeon 2.33-GHz processors, a 1333-MHz front side bus (FSB), and 4 MB of Level 2 cache
- 4-GB ultra-fast fully buffered 667-MHz PC2-5300 double-data-rate 2 (DDR2) Error Checking and Correcting (ECC) memory with Chipkill protection (Must be installed in pairs)
- IBM ServeRAID 8k Redundant Array of Independent Disks (RAID) Controller with 256-MB memory and battery-backed caching
- Dual-port Gigabit Ethernet controller (embedded)
- Quick-deployment third-party rail kit
- Support for up to eight small form-factor hot-plug hard drives
- Hot-plug redundant power supplies
- Hot-plug redundant fans
- IBM LightPath Diagnostics to assist in identifying failed components
- IBM Slimline Remote Supervisor Adaptor II (RSA II)
- The adapter continuously monitors system environmental elements (temperatures and voltages); operating system status; and critical system components such as processors, voltage regulator modules (VRMs), memory, fans, power supplies, and power backplanes (where supported by the system).
- Video compression hardware is built in, eliminating drivers.
- Faster graphics support makes monitoring and control more efficient.
- RSA II SlimLine supports Secure Sockets Layer (SSL) and Lightweight Directory Access Protocol (LDAP).
- The adapter is integrated with IBM Director and Director Agent.
- Built-in LAN and serial connectivity supports virtually any network infrastructure.
- Multiple alerting functions warn systems administrators of potential problems via e-mail, pager support, LAN, or Simple Network Management Protocol (SNMP).
- The adapter installs on the system planar using a dedicated connector, eliminating the need to use a PCI-X slot.
- The RSA II SlimLine features are similar to the RSA II with the exception of the following features:
  - The reset button is not accessible from the back of the system.
  - A mini-USB cable is no longer required; the device uses an internal USB bus. The system has a designated systems management Ethernet port, activated only when RSA II SlimLine is installed.
  - An external AC adapter is not required (the device uses standby power from system power supplies).
  - Status LEDs are not externally viewable.
  - The RSA II SlimLine no longer supports the prior RSA II interconnect function.

This document and the information it contains is for FAA San Diego's use only and is not for resale and/or revenue generation purposes to third parties.

Application Support

The Cisco MCS 7845-I2 can run any of the following Cisco applications:

- Cisco Unified Communications Manager
- Cisco Emergency Reporter-Up to 30,000 Cisco Unified IP phones per server
- Cisco Unified Intelligent Contact Management Enterprise
- Cisco Unified Contact Center Enterprise
- Cisco Unified Customer Voice Portal
- Cisco Unified MeetingPlace Express
- Cisco Unity® Unified Messaging

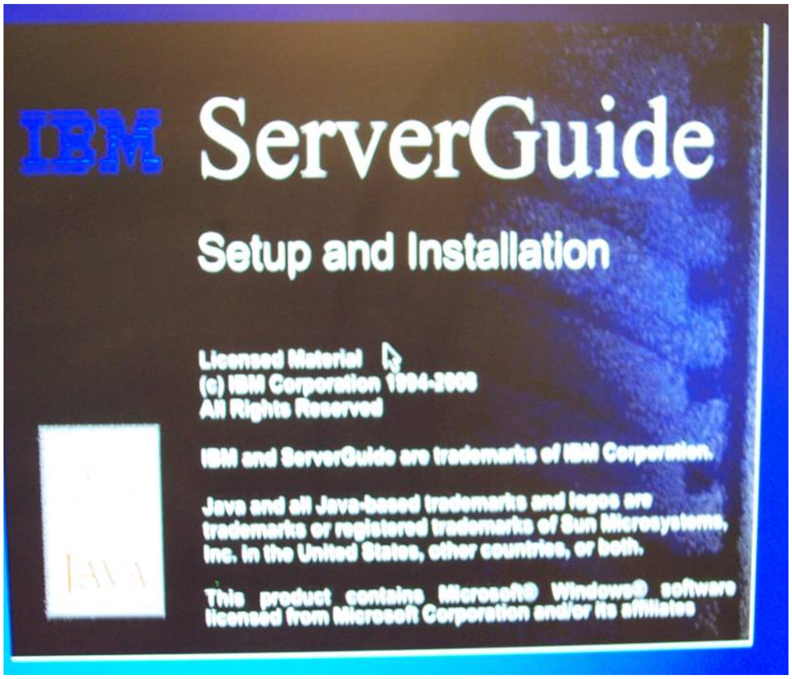
Preparing for Server Setup

1. You will need the following information during the install. This should be collected prior to starting the installation.
    a. Drive Information
        i. RAID Type: RAID 1 only supported by Cisco (2 Drives Minimum)
    b. Customer Information
        i. Username
        ii. Computer Name
        iii. Organization
        iv. Password for Server
        v. Domain name that it will attach to
        vi. Login & Password for a Windows AD Domain account that can add systems domain is needed
    c. Software Information
        i. Software Media (Server setup and Windows 2003 R2)
        ii. Patches for Windows Server 2003 R2 (Current list at www.cisco.com)
        iii. Product ID (Windows 2003 Serial Number)
    d. Network Information
        i. IP address
        ii. Subnet Mask
        iii. Default Gateway
        iv. DNS Server
        v. WINS server

This document and the information it contains is for FAA San Diego's use only and is not for resale and/or revenue generation purposes to third parties.

Server Setup & Partitioning Guide

1. Using the ServerGuide CD that came with the system, go through the following screens.



IBM ServerGuide

Setup and Installation

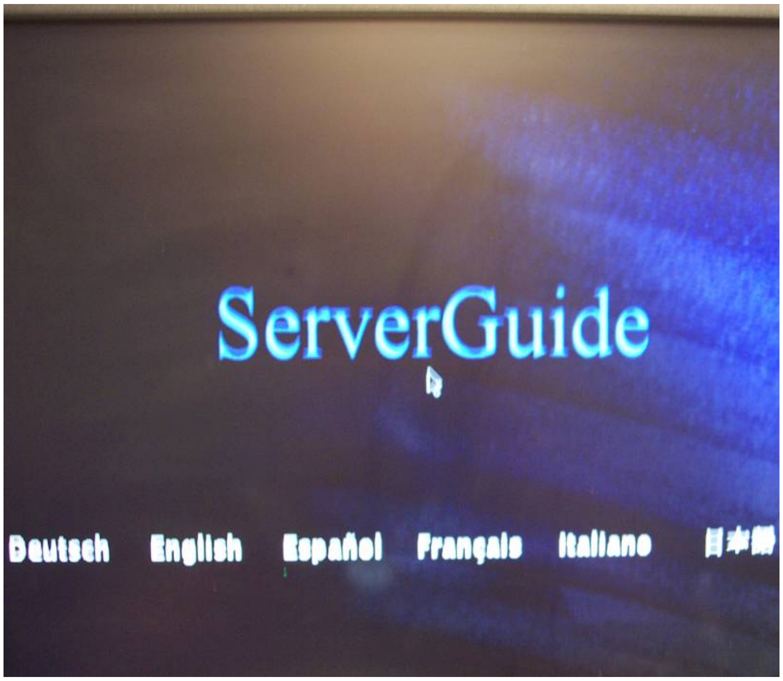
Licensed Material
(c) IBM Corporation 1994-2008
All Rights Reserved

IBM and ServerGuide are trademarks of IBM Corporation.

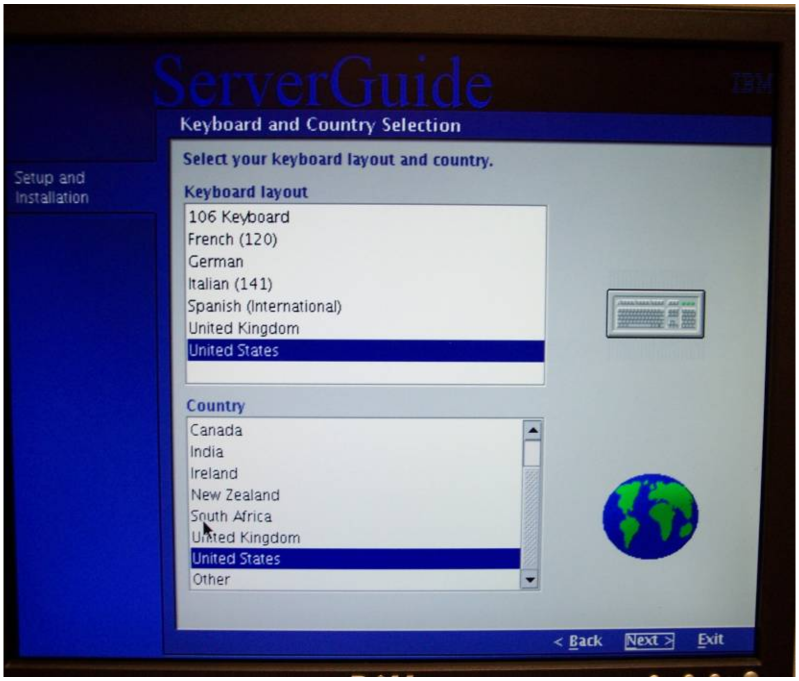
Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

This product contains Microsoft® Windows® software licensed from Microsoft Corporation and/or its affiliates

2.
   a. This should be the first screen you see after putting in the IBM Server Guide CD.



3.
   a. Choose language “English.”

4. 

Keyboard and Country Selection

Select your keyboard layout and country.

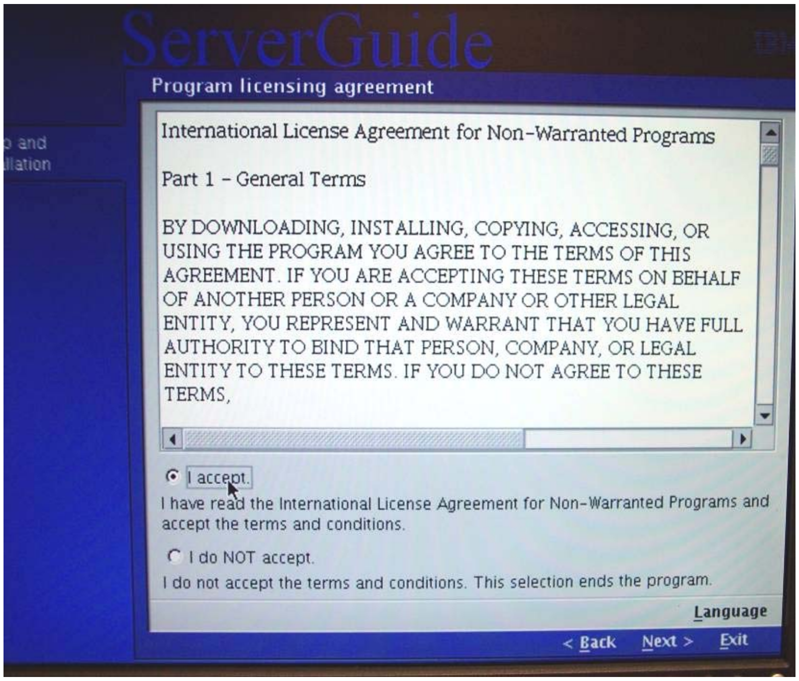
Keyboard layout

106 Keyboard
French (120)
German
Italian (141)
Spanish (International)
United Kingdom
United States

Country

Canada
India
Ireland
New Zealand
South Africa
United Kingdom
United States
Other

a. Under Keyboard & Country Choose **United States.**

5. 

Program licensing agreement

International License Agreement for Non-Warranted Programs

Part 1 - General Terms

BY DOWNLOADING, INSTALLING, COPYING, ACCESSING, OR USING THE PROGRAM YOU AGREE TO THE TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING THESE TERMS ON BEHALF OF ANOTHER PERSON OR A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT AND WARRANT THAT YOU HAVE FULL AUTHORITY TO BIND THAT PERSON, COMPANY, OR LEGAL ENTITY TO THESE TERMS. IF YOU DO NOT AGREE TO THESE TERMS,

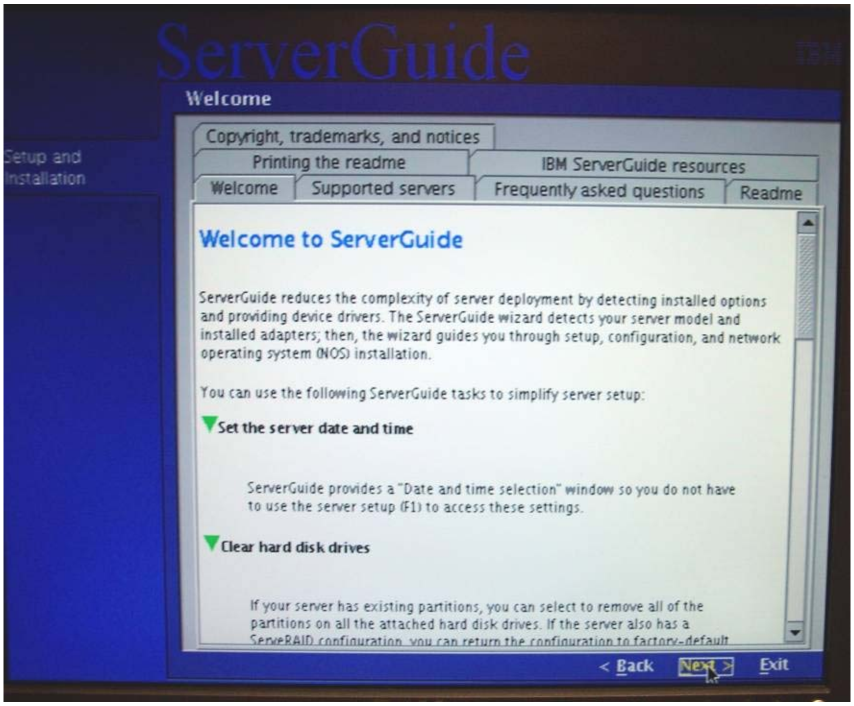
● I accept.

I have read the International License Agreement for Non-Warranted Programs and accept the terms and conditions.

○ I do NOT accept.

I do not accept the terms and conditions. This selection ends the program.

a. Accept License Agreement (please review agreement), then select <NEXT>.

6. 

Welcome to ServerGuide

ServerGuide reduces the complexity of server deployment by detecting installed options and providing device drivers. The ServerGuide wizard detects your server model and installed adapters; then, the wizard guides you through setup, configuration, and network operating system (NOS) installation.

You can use the following ServerGuide tasks to simplify server setup:

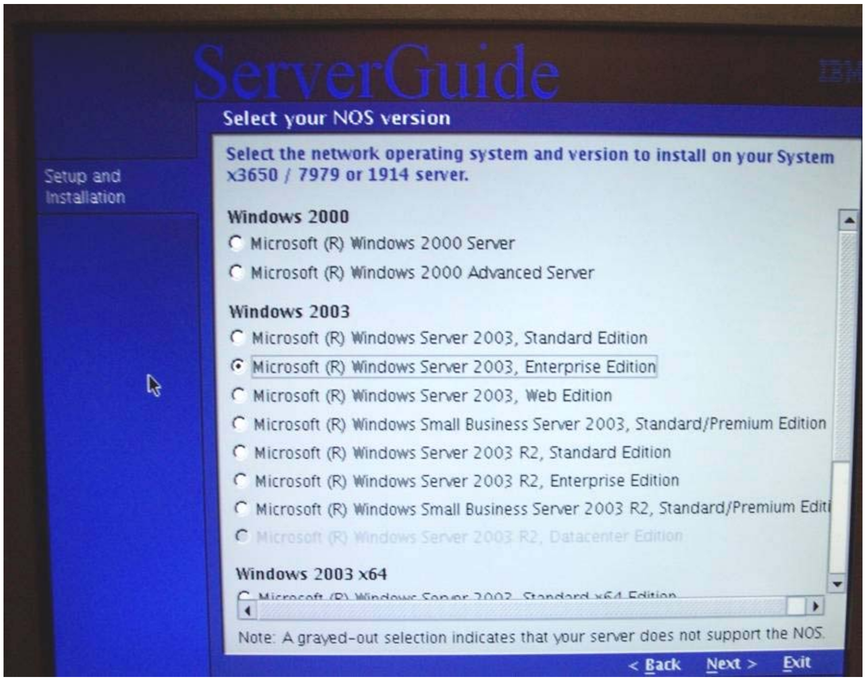
Set the server date and time

ServerGuide provides a "Date and time selection" window so you do not have to use the server setup (F1) to access these settings.

Clear hard disk drives

If your server has existing partitions, you can select to remove all of the partitions on all the attached hard disk drives. If the server also has a ServeRAID configuration, you can return the configuration to factory-default

   a. Welcome information (please review), then select <NEXT>.

7. 

Select the network operating system and version to install on your System x3650 / 7979 or 1914 server.

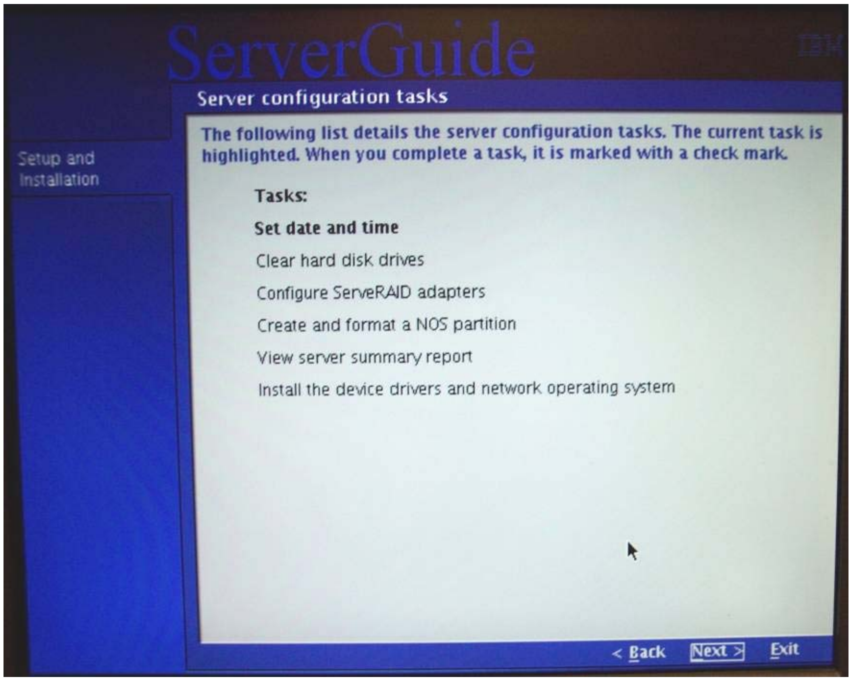
Windows 2000
○ Microsoft (R) Windows 2000 Server
○ Microsoft (R) Windows 2000 Advanced Server

Windows 2003
○ Microsoft (R) Windows Server 2003, Standard Edition
● Microsoft (R) Windows Server 2003, Enterprise Edition
○ Microsoft (R) Windows Server 2003, Web Edition
○ Microsoft (R) Windows Small Business Server 2003, Standard/Premium Edition
○ Microsoft (R) Windows Server 2003 R2, Standard Edition
○ Microsoft (R) Windows Server 2003 R2, Enterprise Edition
○ Microsoft (R) Windows Small Business Server 2003 R2, Standard/Premium Editi
○ Microsoft (R) Windows Server 2003 R2, Datacenter Edition

Windows 2003 x64
○ Microsoft (R) Windows Server 2003, Standard x64 Edition

Note: A grayed-out selection indicates that your server does not support the NOS.

   a. Select Microsoft Windows Server 2003 **R2** Enterprise Edition, then select <NEXT>.

8. 

Server configuration tasks

The following list details the server configuration tasks. The current task is highlighted. When you complete a task, it is marked with a check mark.

Tasks:

Set date and time

Clear hard disk drives

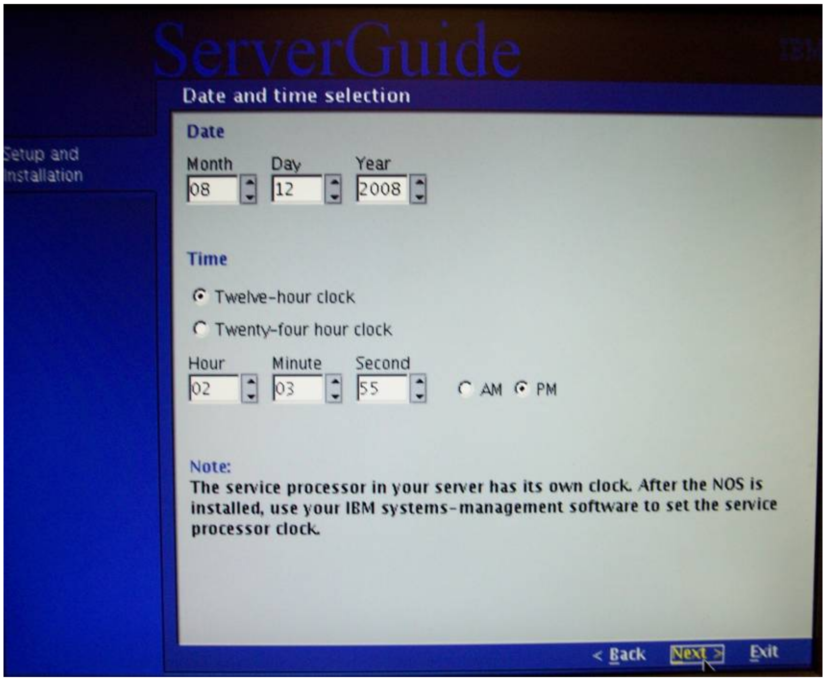
Configure ServeRAID adapters

Create and format a NOS partition

View server summary report

Install the device drivers and network operating system

   a. Select <NEXT>.

9. 

Date and time selection

Date

Month 08 Day 12 Year 2008

Time

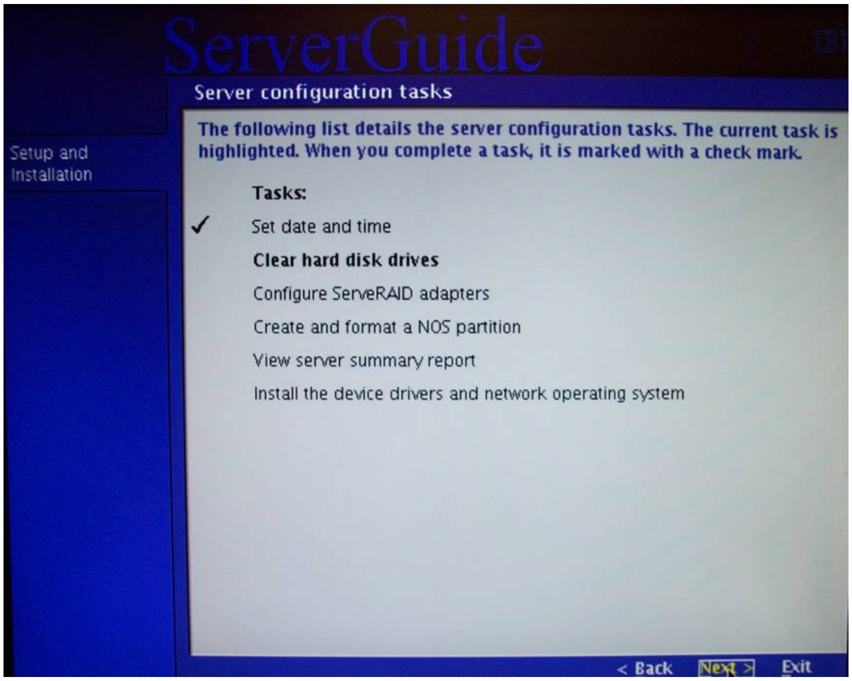
● Twelve-hour clock

○ Twenty-four hour clock

Hour 02 Minute 03 Second 55 ○ AM ● PM

Note:
The service processor in your server has its own clock. After the NOS is installed, use your IBM systems-management software to set the service processor clock.

   a. Set current local date & time (12-Hour Clock), then select <NEXT>.

10. 

Server configuration tasks

The following list details the server configuration tasks. The current task is highlighted. When you complete a task, it is marked with a check mark.

Tasks:

✓ Set date and time

Clear hard disk drives

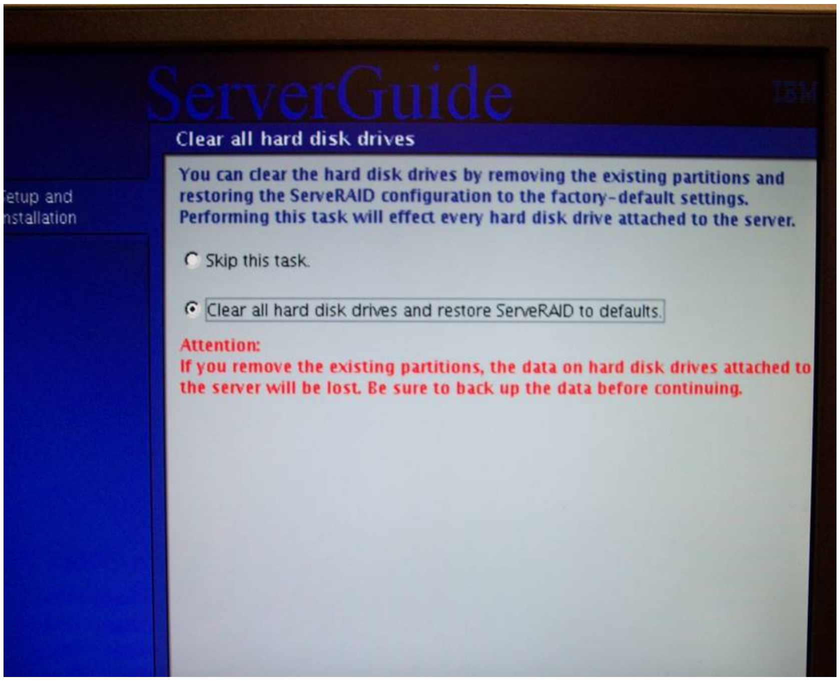
Configure ServeRAID adapters

Create and format a NOS partition

View server summary report

Install the device drivers and network operating system

   a. Please review tasks, then select <NEXT>.

11. 

Clear all hard disk drives

You can clear the hard disk drives by removing the existing partitions and restoring the ServeRAID configuration to the factory-default settings. Performing this task will effect every hard disk drive attached to the server.

○ Skip this task.

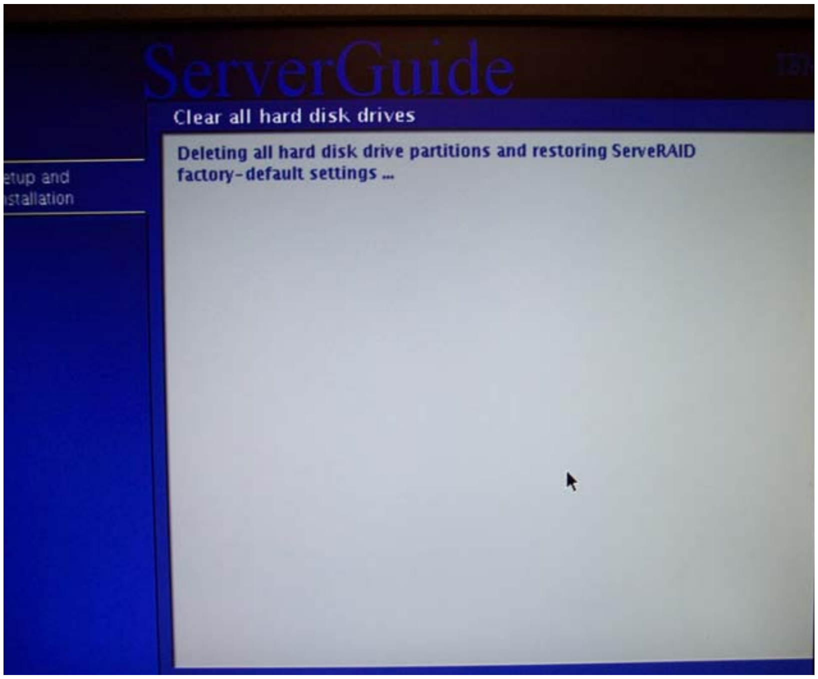
● Clear all hard disk drives and restore ServeRAID to defaults.

Attention:
If you remove the existing partitions, the data on hard disk drives attached to the server will be lost. Be sure to back up the data before continuing.

   a. Select the “Clear Drive Info” button then select <NEXT>.

This document and the information it contains is for FAA San Diego’s use only and is not for resale and/or revenue generation purposes to third parties.

12.

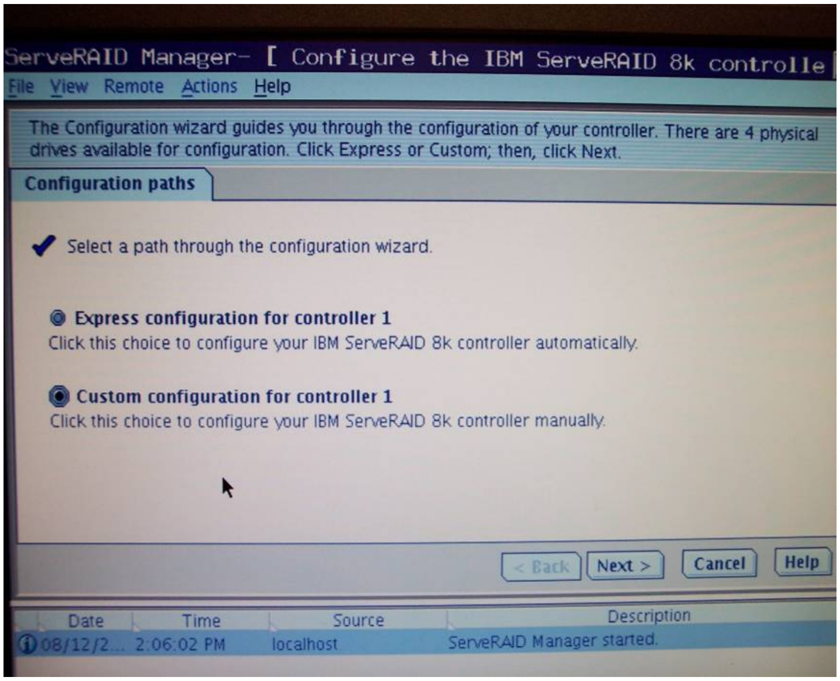


Clear all hard disk drives

Deleting all hard disk drive partitions and restoring ServeRAID factory-default settings ...

a. The ServerRAID Manager software will now load. (An automated Firmware upgrade will happen at this point if your RAID firmware is out of date.)

13.



The Configuration wizard guides you through the configuration of your controller. There are 4 physical drives available for configuration. Click Express or Custom; then, click Next.

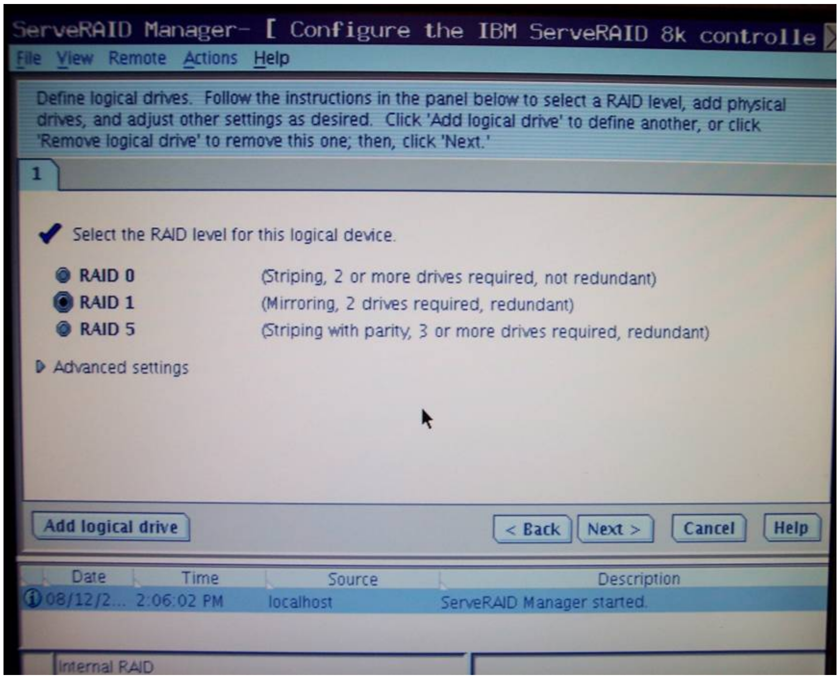
✓ Select a path through the configuration wizard.

○ **Express configuration for controller 1**
Click this choice to configure your IBM ServeRAID 8k controller automatically.

● **Custom configuration for controller 1**
Click this choice to configure your IBM ServeRAID 8k controller manually.

Date	Time	Source	Description
08/12/2...	2:06:02 PM	localhost	ServeRAID Manager started.

a. Select **Custom**, then select <NEXT>.

14. 

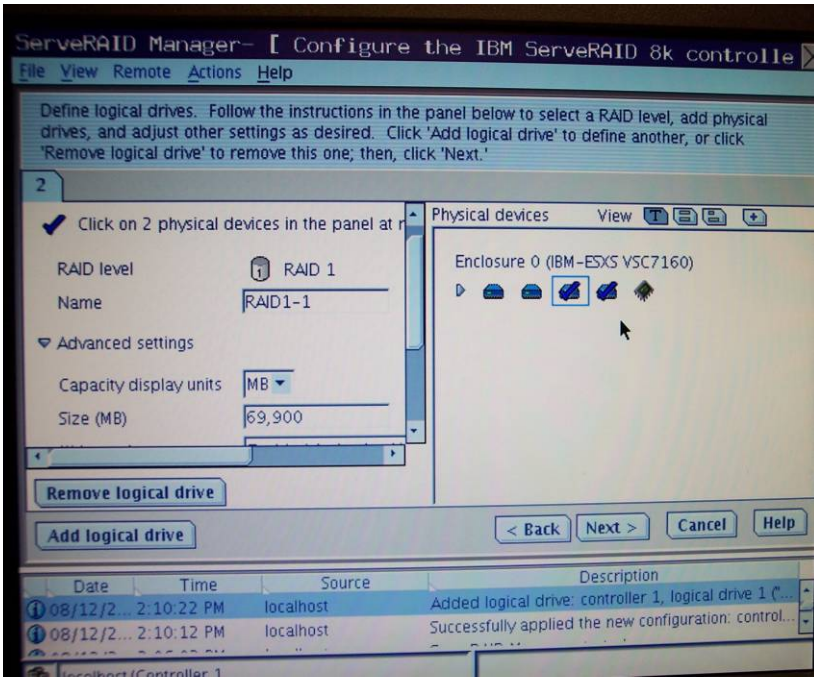
Define logical drives. Follow the instructions in the panel below to select a RAID level, add physical drives, and adjust other settings as desired. Click 'Add logical drive' to define another, or click 'Remove logical drive' to remove this one; then, click 'Next.'

✓ Select the RAID level for this logical device.

○ RAID 0	(Striping, 2 or more drives required, not redundant)
● RAID 1	(Mirroring, 2 drives required, redundant)
○ RAID 5	(Striping with parity, 3 or more drives required, redundant)

```
08/12/2...  2:06:02 PM  localhost  ServeRAID Manager started.
```

   a. Select **RAID 1** button, then select <NEXT>.

15. 

Define logical drives. Follow the instructions in the panel below to select a RAID level, add physical drives, and adjust other settings as desired. Click 'Add logical drive' to define another, or click 'Remove logical drive' to remove this one; then, click 'Next.'

✓ Click on 2 physical devices in the panel at r

RAID level: RAID 1

Name: RAID1-1

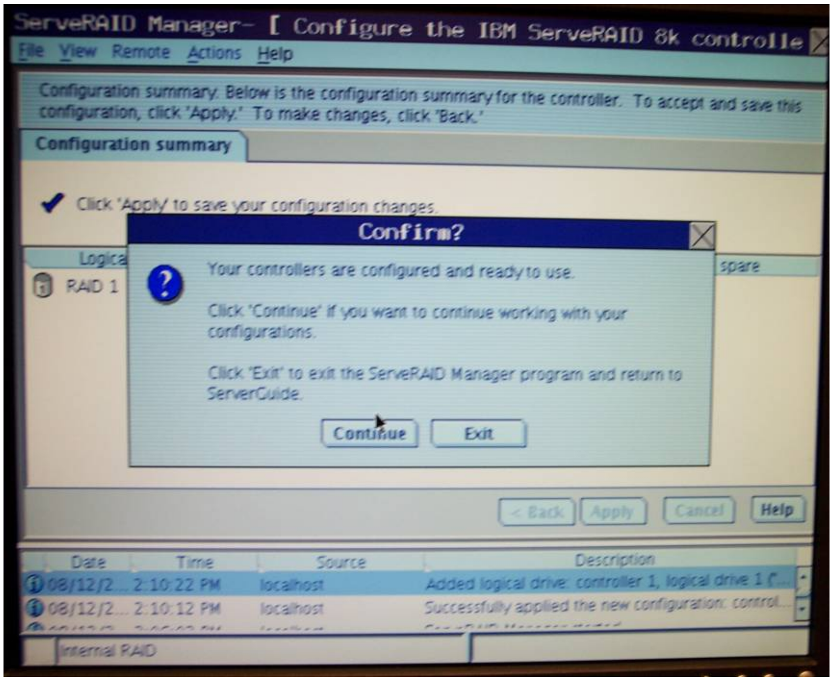
Advanced settings

Capacity display units: MB

Size (MB): 69,900

```
08/12/2...  2:10:22 PM  localhost  Added logical drive: controller 1, logical drive 1 ("...
08/12/2...  2:10:12 PM  localhost  Successfully applied the new configuration: control...
```

   a. Select Drive **0 & 1** for the mirror, then select <NEXT>.

16. 

Configuration summary. Below is the configuration summary for the controller. To accept and save this configuration, click 'Apply.' To make changes, click 'Back.'

✓ Click 'Apply' to save your configuration changes.

Confirm?

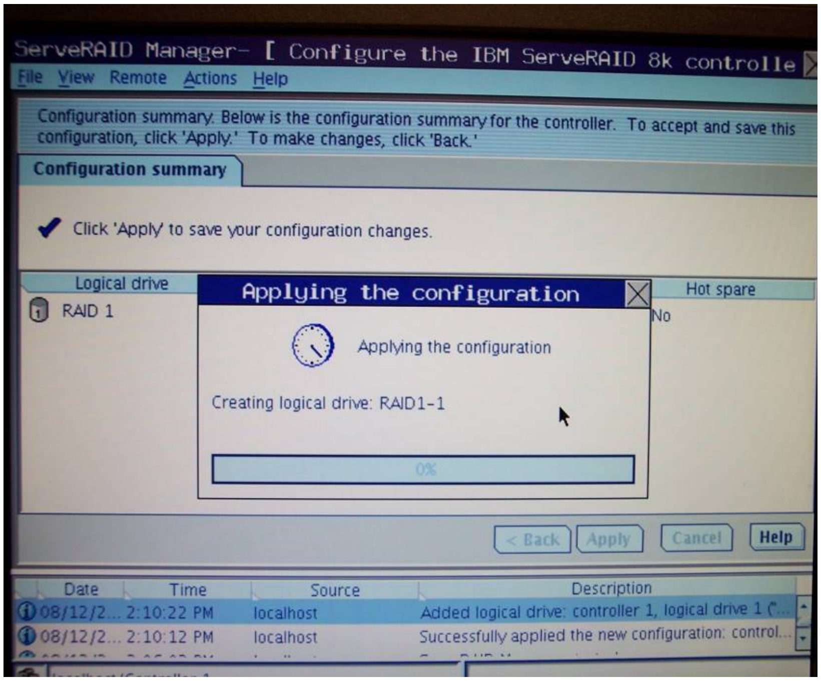
Your controllers are configured and ready to use.

Click 'Continue' if you want to continue working with your configurations.

Click 'Exit' to exit the ServeRAID Manager program and return to ServerGuide.

```
08/12/2... 2:10:22 PM   localhost   Added logical drive: controller 1, logical drive 1 (...
08/12/2... 2:10:12 PM   localhost   Successfully applied the new configuration: control...
```

a. Select <Continue>.

17. 

Configuration summary. Below is the configuration summary for the controller. To accept and save this configuration, click 'Apply.' To make changes, click 'Back.'

✓ Click 'Apply' to save your configuration changes.

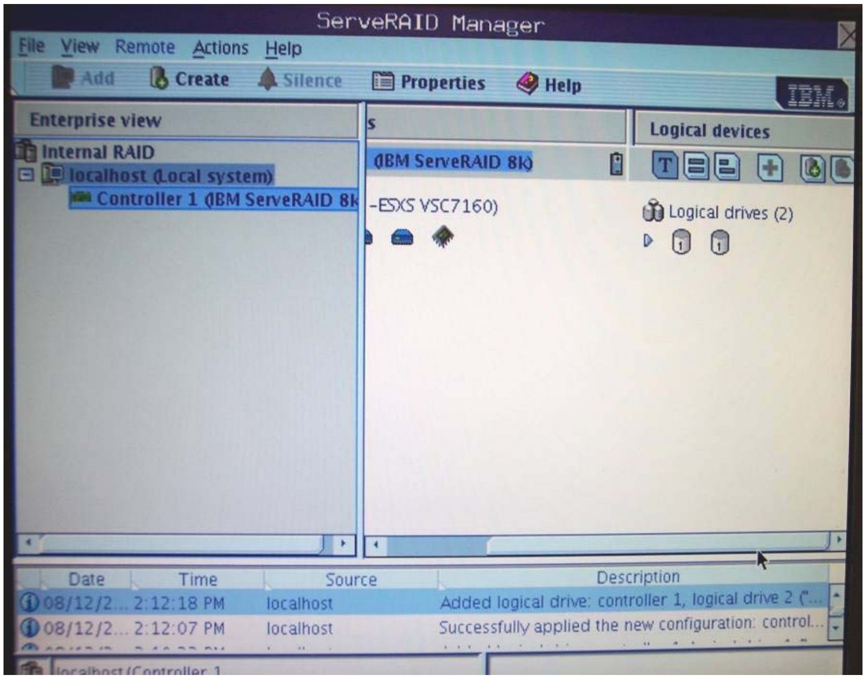
Applying the configuration

Applying the configuration

Creating logical drive: RAID1-1

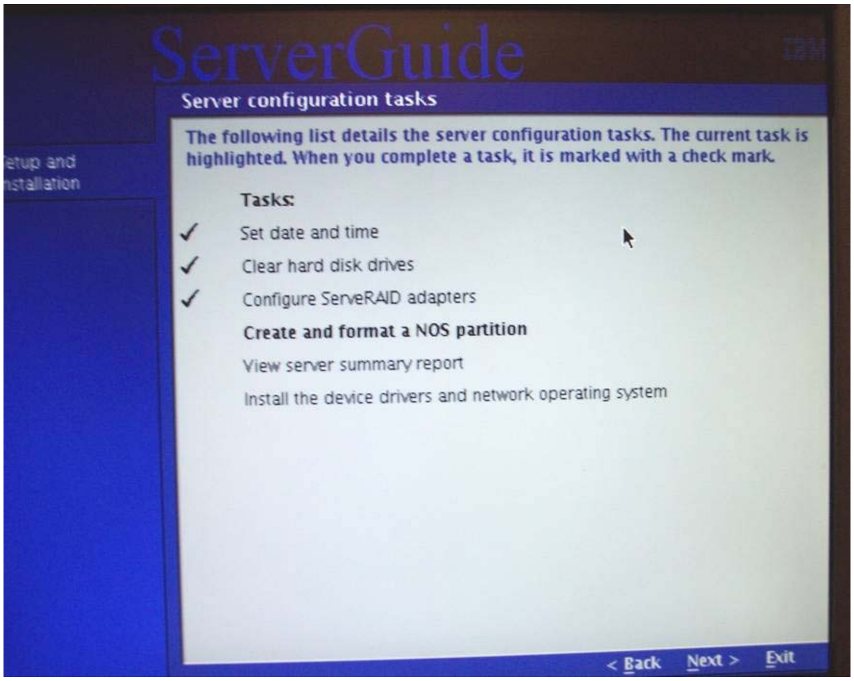
```
08/12/2... 2:10:22 PM   localhost   Added logical drive: controller 1, logical drive 1 (...
08/12/2... 2:10:12 PM   localhost   Successfully applied the new configuration: control...
```

a. Build should be completed in less than a minute.

18. 

```
Date          Time         Source      Description
08/12/2...    2:12:18 PM   localhost   Added logical drive: controller 1, logical drive 2 ("...
08/12/2...    2:12:07 PM   localhost   Successfully applied the new configuration: control...
```

a. You will repeat the process for the second pair of Drives **2 and 3**. When you have finished Drives 2 and 3, you may exit the application. (Click the X in the upper right corner of the screen, or select File → Exit.

19. 

Server configuration tasks

The following list details the server configuration tasks. The current task is highlighted. When you complete a task, it is marked with a check mark.

Tasks:

✓ Set date and time

✓ Clear hard disk drives

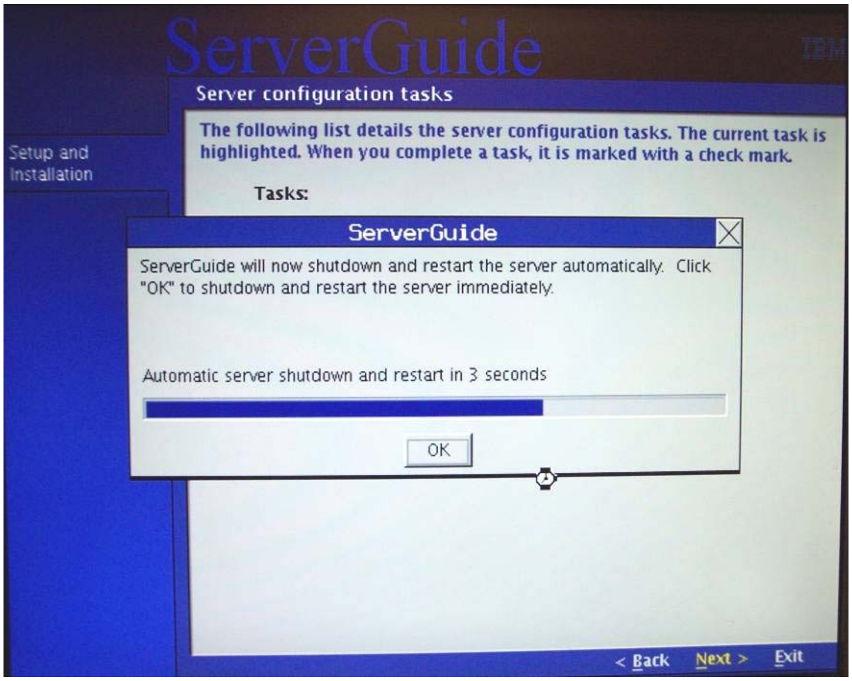
✓ Configure ServeRAID adapters

Create and format a NOS partition

View server summary report

Install the device drivers and network operating system

a. Review tasks, then select <NEXT>.



Server configuration tasks

The following list details the server configuration tasks. The current task is highlighted. When you complete a task, it is marked with a check mark.

Tasks:

ServerGuide

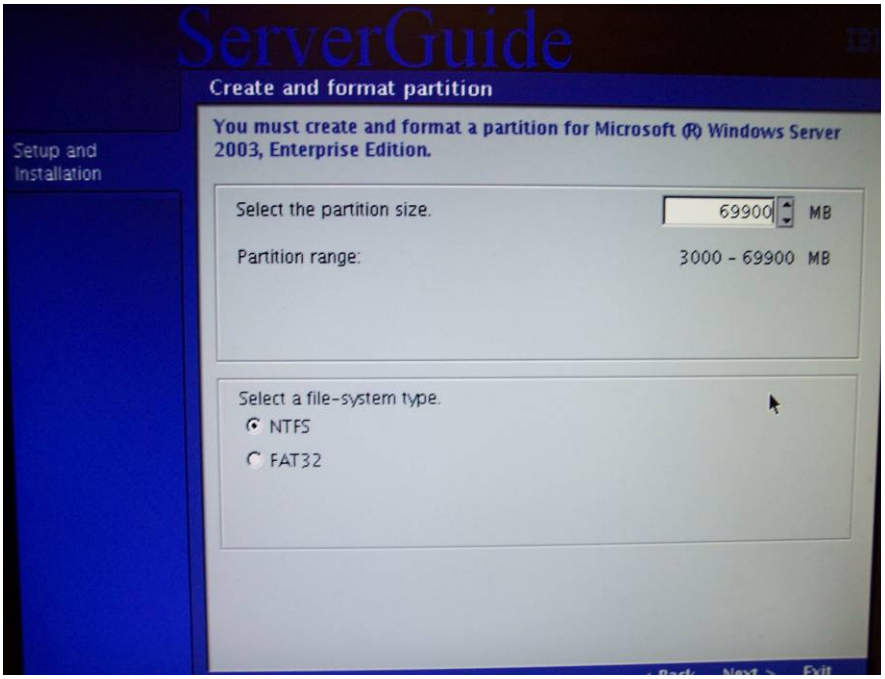
ServerGuide will now shutdown and restart the server automatically. Click "OK" to shutdown and restart the server immediately.

Automatic server shutdown and restart in 3 seconds

OK

20.

   a. You can expect many reboots during this setup. Leave the CD in the system if it was not ejected prior to this point.



Create and format partition

You must create and format a partition for Microsoft (R) Windows Server 2003, Enterprise Edition.

Select the partition size. 69900 MB

Partition range: 3000 - 69900 MB

Select a file-system type.

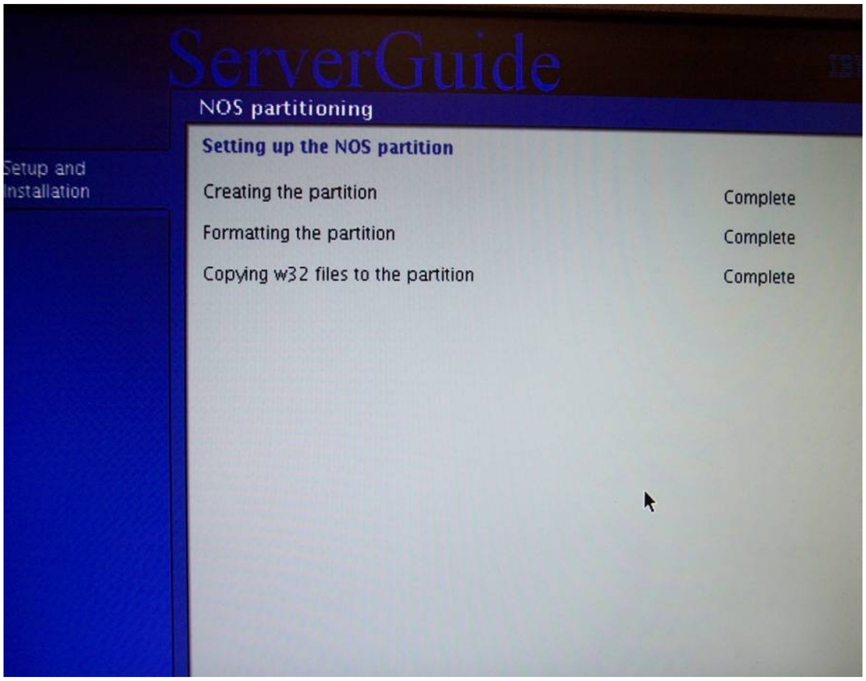
● NTFS

○ FAT32

21.

   a. This is part of the OS setup. Select the maximum amount of space and choose NTFS as the format type.

This document and the information it contains is for FAA San Diego's use only and is not for resale and/or revenue generation purposes to third parties.

22. 

NOS partitioning

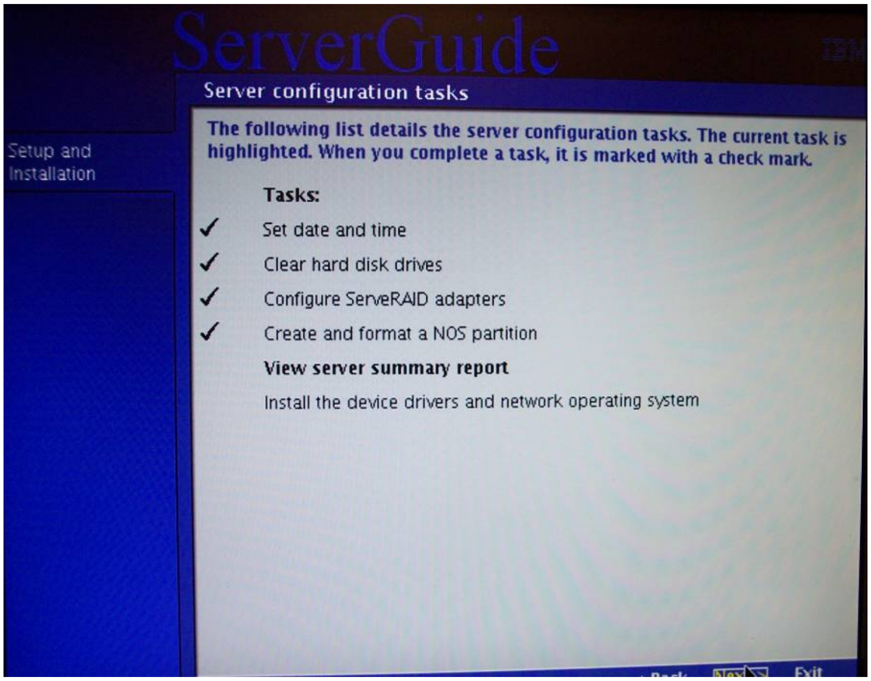
Setting up the NOS partition

Creating the partition Complete

Formatting the partition Complete

Copying w32 files to the partition Complete

a. Review Status Screen (All should say Complete), then select <NEXT>.

23. 

Server configuration tasks

The following list details the server configuration tasks. The current task is highlighted. When you complete a task, it is marked with a check mark.

Tasks:

✓ Set date and time

✓ Clear hard disk drives

✓ Configure ServeRAID adapters

✓ Create and format a NOS partition

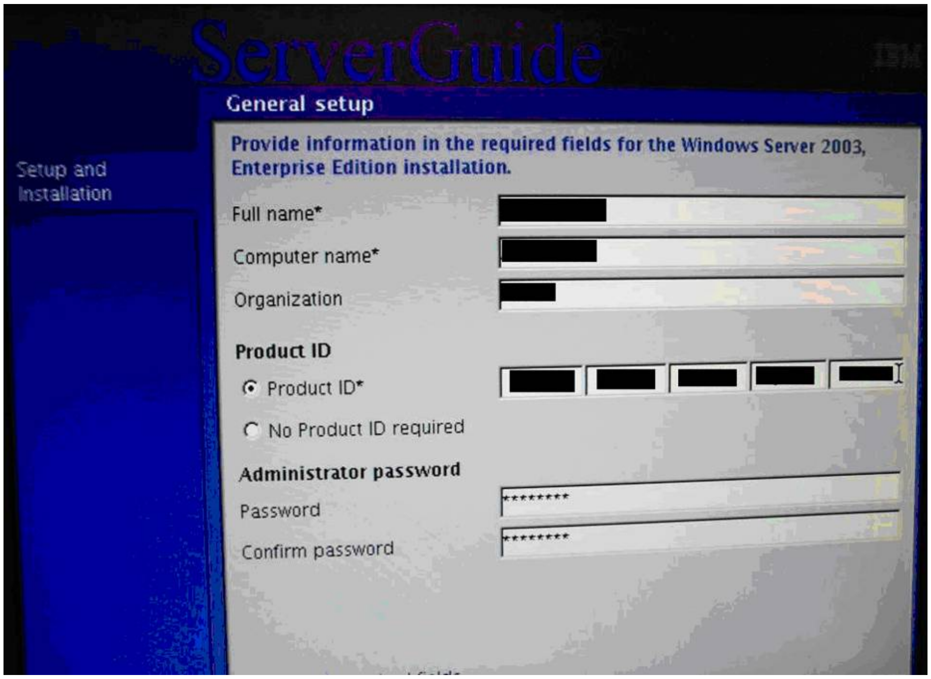
View server summary report

Install the device drivers and network operating system

a. Review Status Screen, then select <NEXT>.

This document and the information it contains is for FAA San Diego's use only and is not for resale and/or revenue generation purposes to third parties.

24.



General setup

Provide information in the required fields for the Windows Server 2003, Enterprise Edition installation.

Full name* [redacted]

Computer name* [redacted]

Organization [redacted]

Product ID

● Product ID* [redacted] [redacted] [redacted] [redacted] [redacted]

○ No Product ID required

Administrator password

Password ********

Confirm password ********

Enter the Following **FAA San Diego** information:

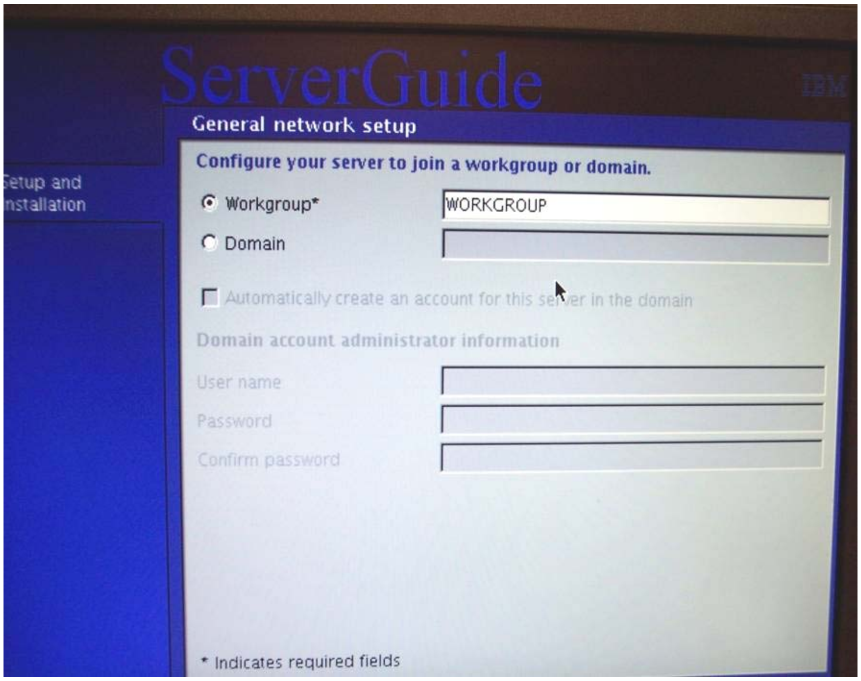
a. Username

b. Computer Name

c. Organization

d. Product ID (Windows 2003 Serial Number)

e. Password to be used (Remember Password!)

25. 

General network setup

Configure your server to join a workgroup or domain.

● Workgroup* WORKGROUP

○ Domain

□ Automatically create an account for this server in the domain

Domain account administrator information

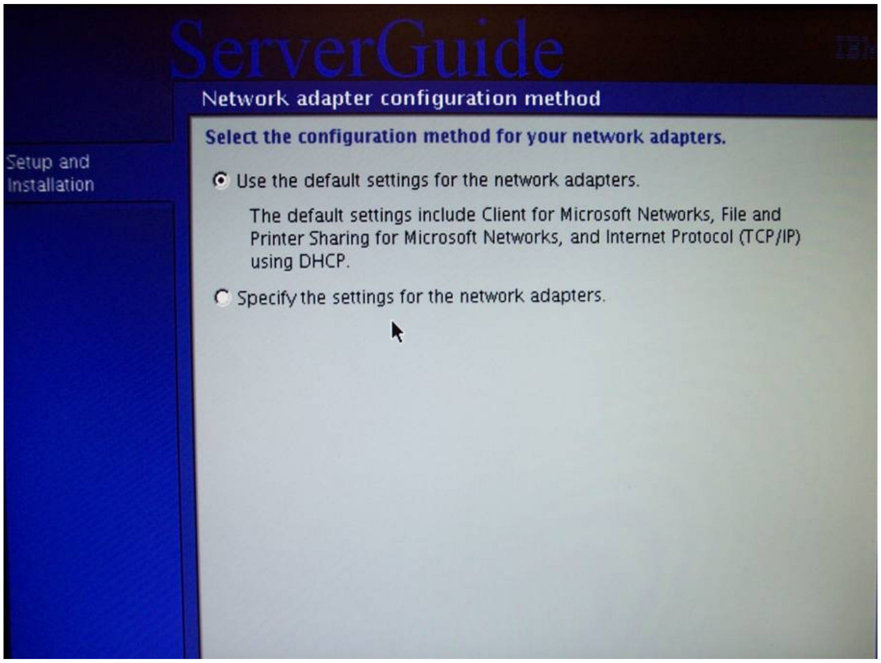
User name

Password

Confirm password

* Indicates required fields

a. You can use the default workgroup name and add the system to the domain later; otherwise you will need the Domain name that the system will attach to and a Login & Password for the Domain account that can add systems to the domain.

26. 

Network adapter configuration method

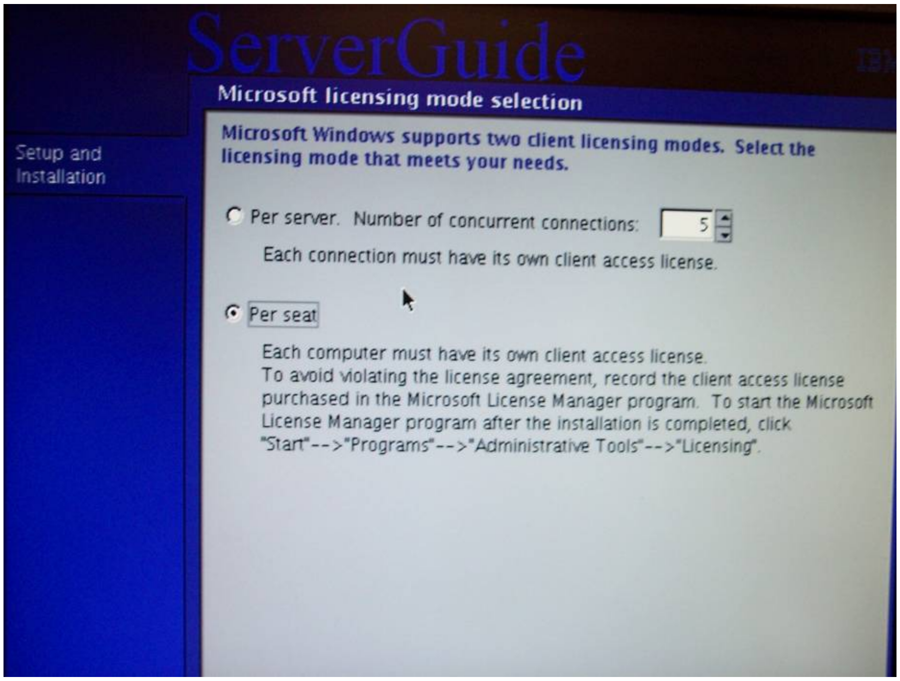
Select the configuration method for your network adapters.

● Use the default settings for the network adapters.

The default settings include Client for Microsoft Networks, File and Printer Sharing for Microsoft Networks, and Internet Protocol (TCP/IP) using DHCP.

○ Specify the settings for the network adapters.

a. Begin the setup of the network. If you have all the information, then you can do a custom install. If not, use the default install and add the information later. (We will continue as if selecting Default)



ServerGuide

Microsoft licensing mode selection

Microsoft Windows supports two client licensing modes. Select the licensing mode that meets your needs.

○ Per server. Number of concurrent connections: 5

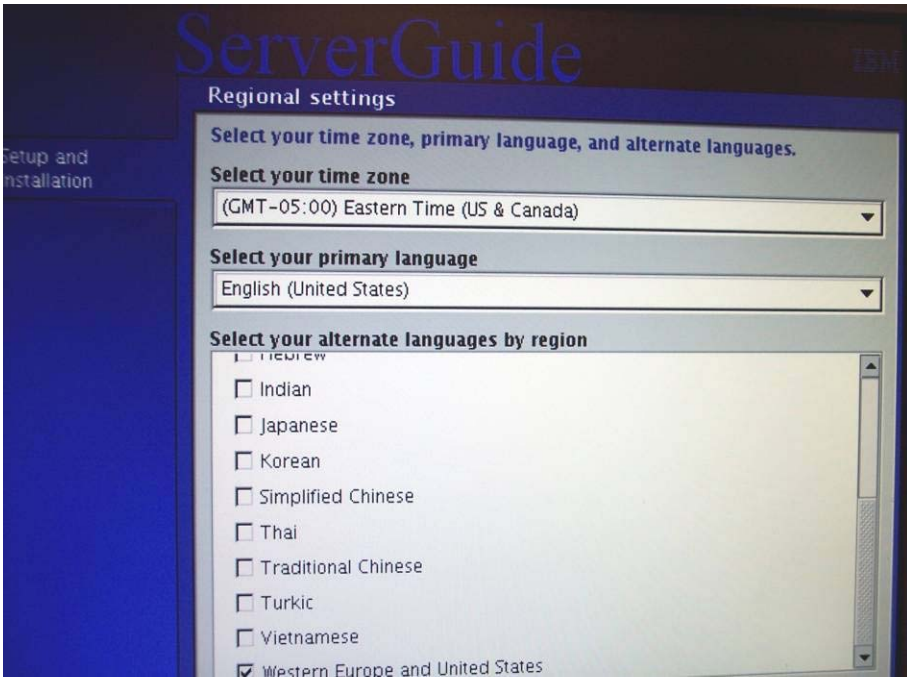
Each connection must have its own client access license.

● Per seat

Each computer must have its own client access license.
To avoid violating the license agreement, record the client access license purchased in the Microsoft License Manager program. To start the Microsoft License Manager program after the installation is completed, click "Start"-->"Programs"-->"Administrative Tools"-->"Licensing".

27.

a. The licensing will be based on what product you are installing, then select <NEXT>.



ServerGuide

Regional settings

Select your time zone, primary language, and alternate languages.

Select your time zone: (GMT-05:00) Eastern Time (US & Canada)

Select your primary language: English (United States)

Select your alternate languages by region

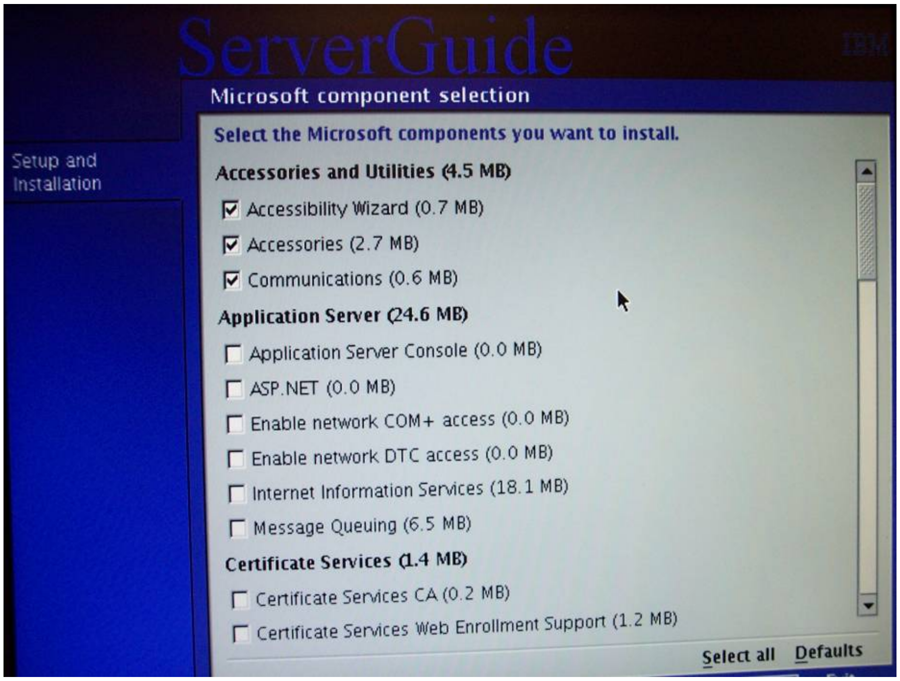
□ Hebrew
□ Indian
□ Japanese
□ Korean
□ Simplified Chinese
□ Thai
□ Traditional Chinese
□ Turkic
□ Vietnamese
☑ Western Europe and United States

28.

a. Select English and Western (Defaults), then select <NEXT>.

This document and the information it contains is for FAA San Diego's use only and is not for resale and/or revenue generation purposes to third parties.

29.



Microsoft component selection

Select the Microsoft components you want to install.

Accessories and Utilities (4.5 MB)

- ☑ Accessibility Wizard (0.7 MB)
- ☑ Accessories (2.7 MB)
- ☑ Communications (0.6 MB)

Application Server (24.6 MB)

- □ Application Server Console (0.0 MB)
- □ ASP.NET (0.0 MB)
- □ Enable network COM+ access (0.0 MB)
- □ Enable network DTC access (0.0 MB)
- □ Internet Information Services (18.1 MB)
- □ Message Queuing (6.5 MB)

Certificate Services (1.4 MB)

- □ Certificate Services CA (0.2 MB)
- □ Certificate Services Web Enrollment Support (1.2 MB)

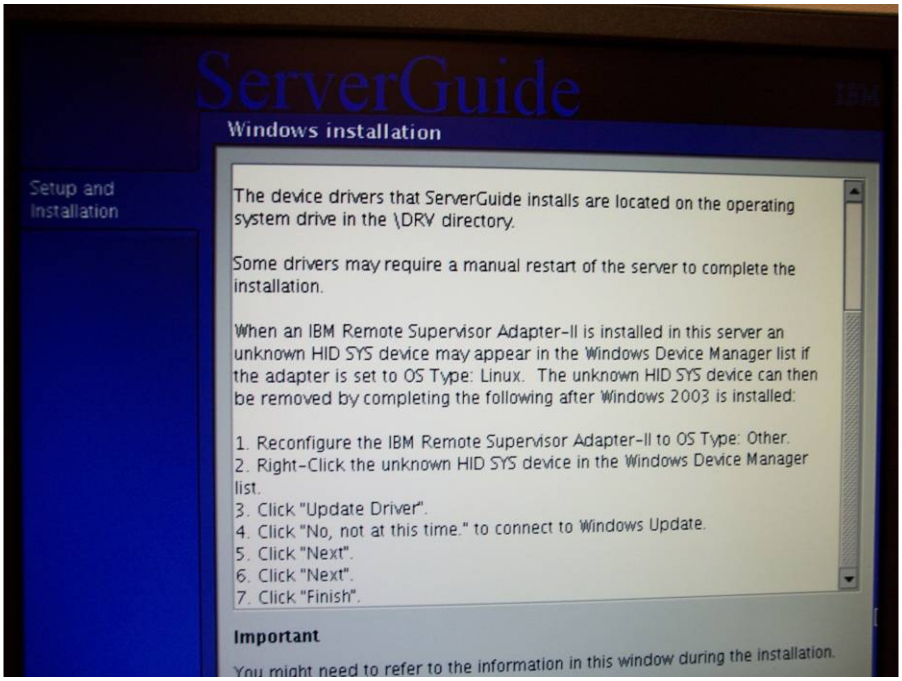
a. Under Microsoft Components Selection you will choose the following beyond the defaults:

i. **Simple Network Management Protocol (SNMP)**

ii. **WMI Windows Installer Provider**

Then select <NEXT>.

30.



Windows installation

The device drivers that ServerGuide installs are located on the operating system drive in the \DRV directory.

Some drivers may require a manual restart of the server to complete the installation.

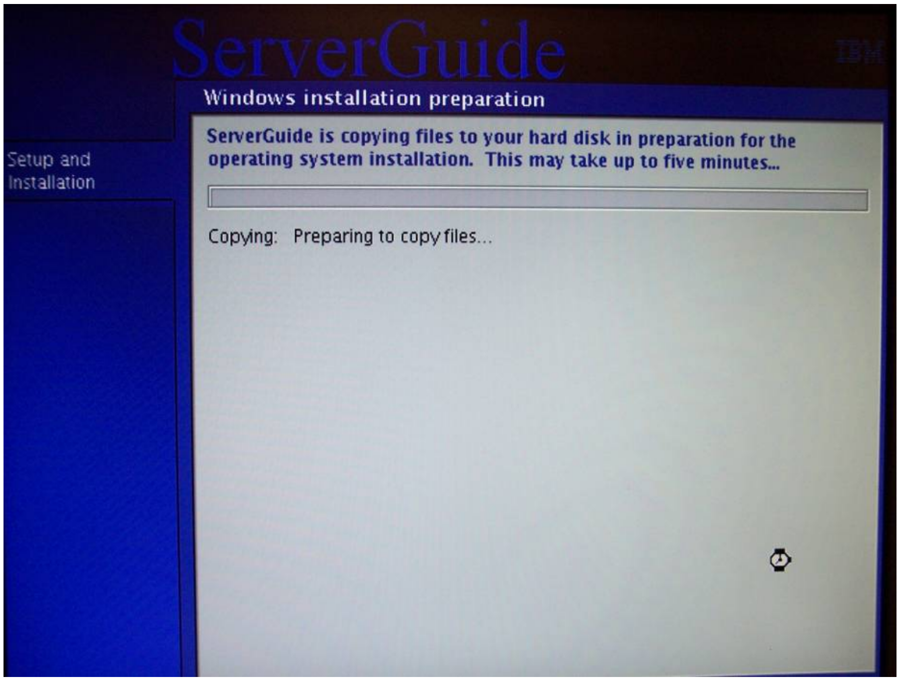
When an IBM Remote Supervisor Adapter-II is installed in this server an unknown HID SYS device may appear in the Windows Device Manager list if the adapter is set to OS Type: Linux. The unknown HID SYS device can then be removed by completing the following after Windows 2003 is installed:

1. Reconfigure the IBM Remote Supervisor Adapter-II to OS Type: Other.
2. Right-Click the unknown HID SYS device in the Windows Device Manager list.
3. Click "Update Driver".
4. Click "No, not at this time." to connect to Windows Update.
5. Click "Next".
6. Click "Next".
7. Click "Finish".

Important

You might need to refer to the information in this window during the installation.

a. This information contains instructions on how to access IBM drivers (should not be required during this installation), then select <NEXT>.

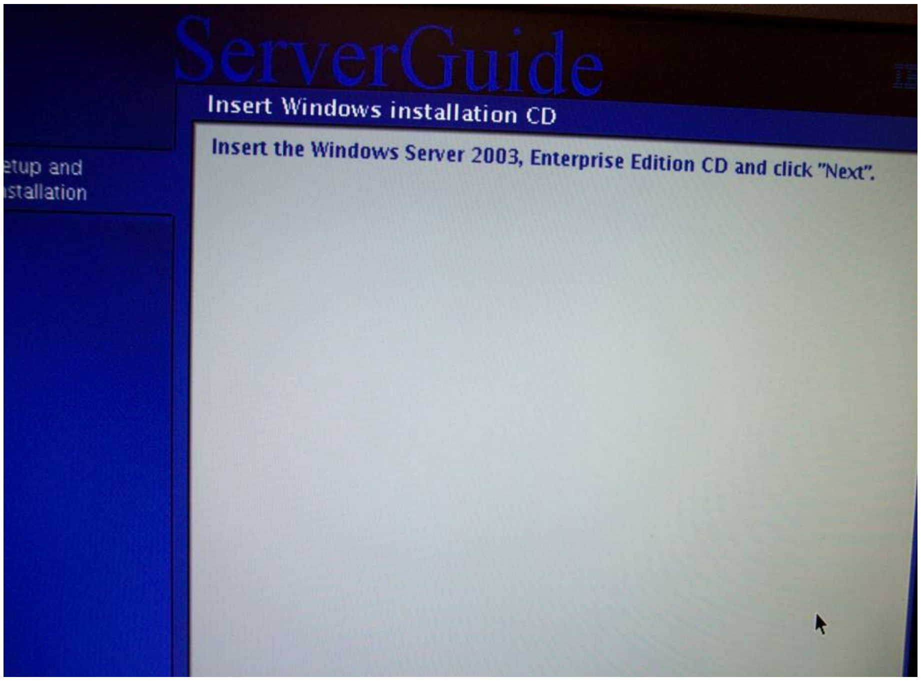
31. 

Windows installation preparation

ServerGuide is copying files to your hard disk in preparation for the operating system installation. This may take up to five minutes...

Copying: Preparing to copy files...

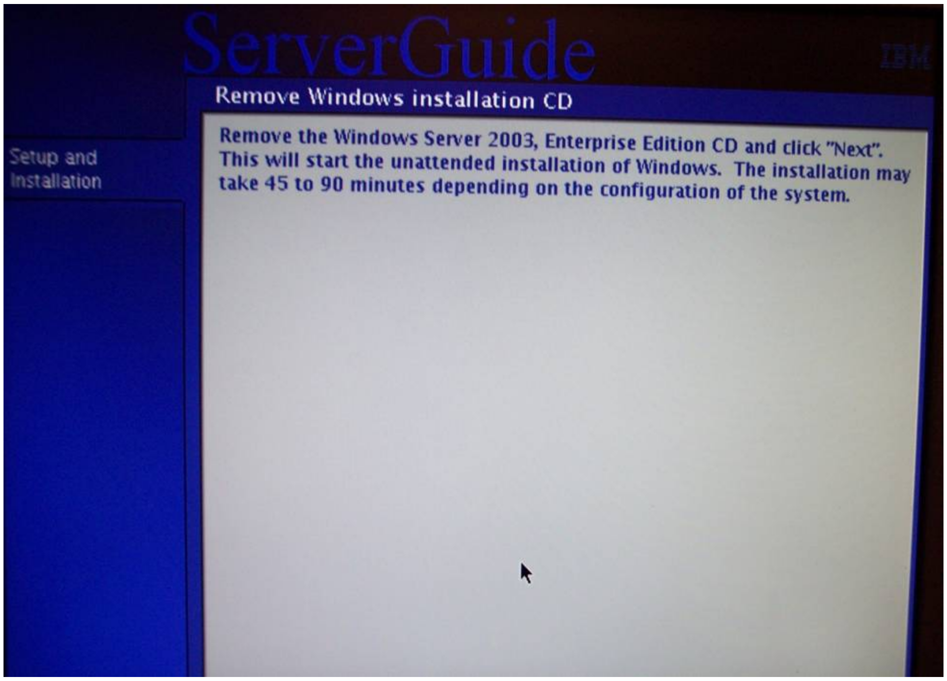
   a. Stand by for File copy, then select <NEXT>.

32. 

Insert Windows installation CD

Insert the Windows Server 2003, Enterprise Edition CD and click "Next".

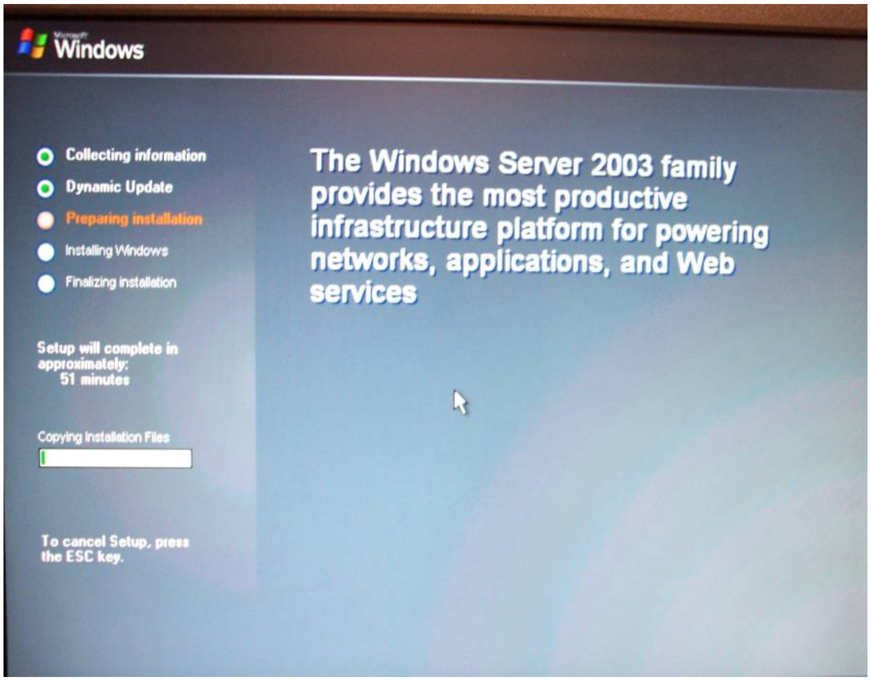
   a. Remove the Server Setup CD and put in Disk 1 of the Windows 2003 R2 CD, then select <NEXT>.

33. 

Remove Windows installation CD

Remove the Windows Server 2003, Enterprise Edition CD and click "Next". This will start the unattended installation of Windows. The installation may take 45 to 90 minutes depending on the configuration of the system.

a. The remaining processes are mostly automated and will require the system to reboot many times to create a system running Windows Server 2003 R2. Place the Windows Server R2 CD in the system, then select <NEXT>.

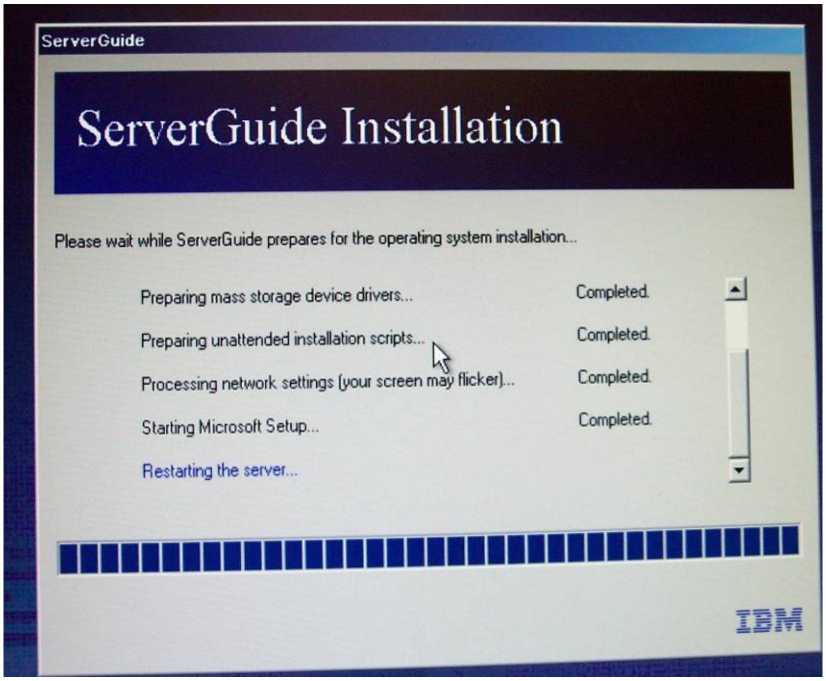
34. 

The Windows Server 2003 family provides the most productive infrastructure platform for powering networks, applications, and Web services

Setup will complete in approximately:
51 minutes

To cancel Setup, press the ESC key.

a. Automated – Please wait.



ServerGuide

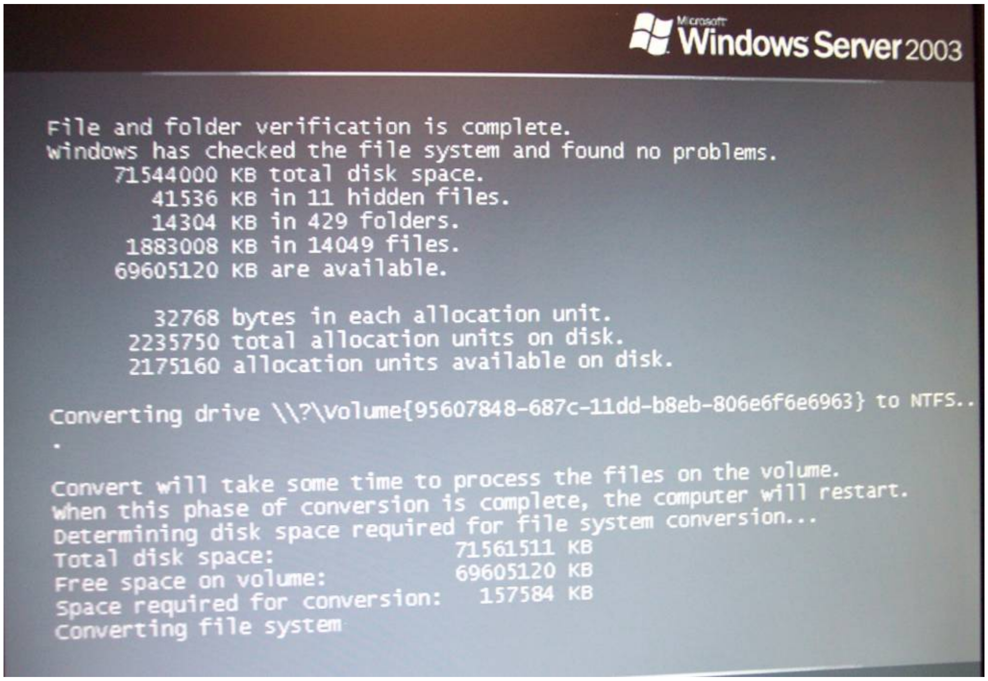
ServerGuide Installation

Please wait while ServerGuide prepares for the operating system installation...

```
Preparing mass storage device drivers...                      Completed.
Preparing unattended installation scripts...                  Completed.
Processing network settings (your screen may flicker)...      Completed.
Starting Microsoft Setup...                                   Completed.
Restarting the server...
```

35.

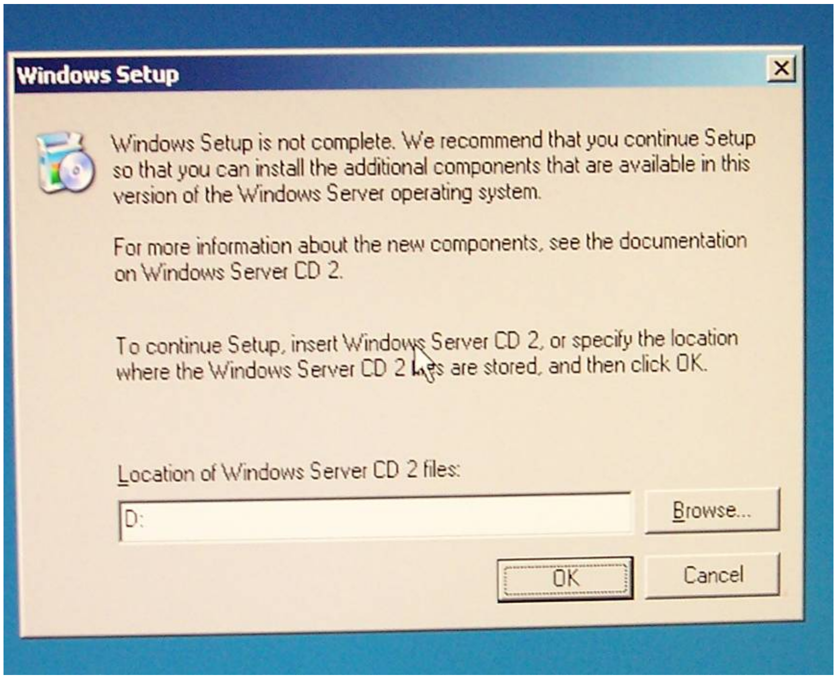
a. Automated – Please wait.



```
File and folder verification is complete.
Windows has checked the file system and found no problems.
     71544000 KB total disk space.
        41536 KB in 11 hidden files.
        14304 KB in 429 folders.
      1883008 KB in 14049 files.
     69605120 KB are available.

        32768 bytes in each allocation unit.
      2235750 total allocation units on disk.
      2175160 allocation units available on disk.

Converting drive \\?\Volume{95607848-687c-11dd-b8eb-806e6f6e6963} to NTFS..
.

Convert will take some time to process the files on the volume.
When this phase of conversion is complete, the computer will restart.
Determining disk space required for file system conversion...
Total disk space:                71561511 KB
Free space on volume:            69605120 KB
Space required for conversion:     157584 KB
Converting file system
```

36.

a. Automated – Please wait.

37. 

Windows Setup

Windows Setup is not complete. We recommend that you continue Setup so that you can install the additional components that are available in this version of the Windows Server operating system.

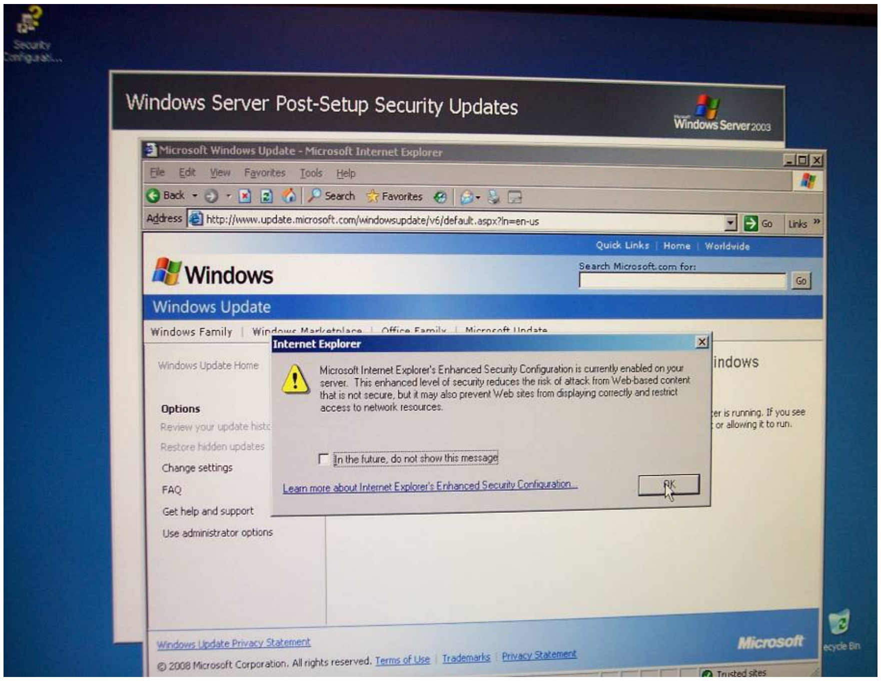
For more information about the new components, see the documentation on Windows Server CD 2.

To continue Setup, insert Windows Server CD 2, or specify the location where the Windows Server CD 2 files are stored, and then click OK.

Location of Windows Server CD 2 files:

D:

   a. Put in Windows Server 2003 R2 CD 2 and click OK.

38. 

Windows Server Post-Setup Security Updates

Microsoft Windows Update - Microsoft Internet Explorer

Address http://www.update.microsoft.com/windowsupdate/v6/default.aspx?ln=en-us

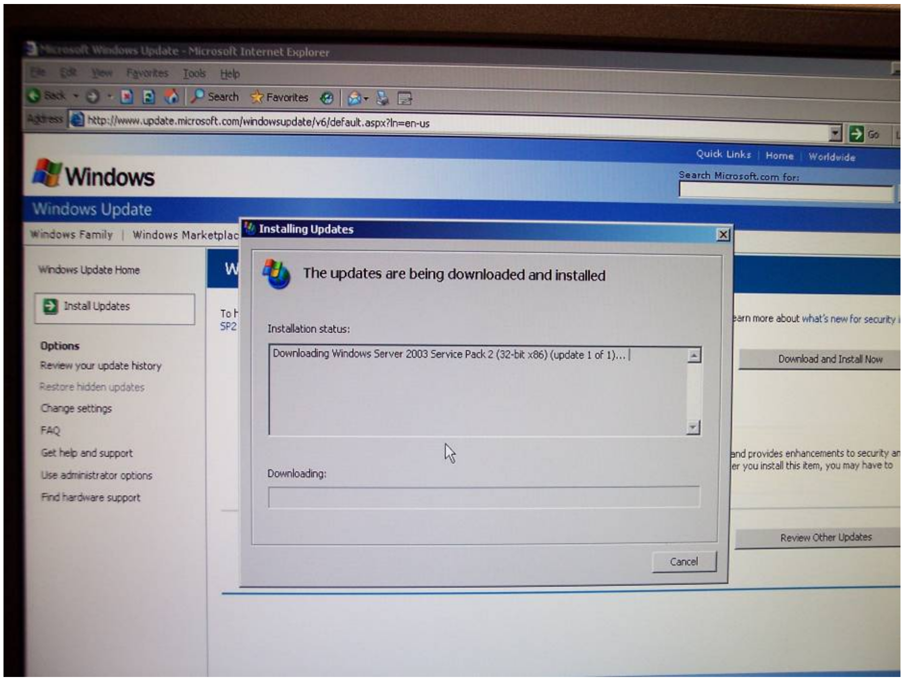
Internet Explorer

Microsoft Internet Explorer's Enhanced Security Configuration is currently enabled on your server. This enhanced level of security reduces the risk of attack from Web-based content that is not secure, but it may also prevent Web sites from displaying correctly and restrict access to network resources.

□ In the future, do not show this message

Learn more about Internet Explorer's Enhanced Security Configuration...

   a. When the OS is fully active, you will be presented with the Windows Server Post-Install Security Update screen and asked to install the latest updates. Exit this screen and **reboot** the server manually. This step will prevent any errors in the next few screens.


Microsoft Windows Update - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://www.update.microsoft.com/windowsupdate/v6/default.aspx?ln=en-us
Go
Quick Links | Home | Worldwide
Search Microsoft.com for:
Windows
Windows Update
Windows Family | Windows Marketplac
Windows Update Home
Install Updates
Options
Review your update history
Restore hidden updates
Change settings
FAQ
Get help and support
Use administrator options
Find hardware support
Download and Install Now
Review Other Updates
Cancel

Installing Updates

The updates are being downloaded and installed

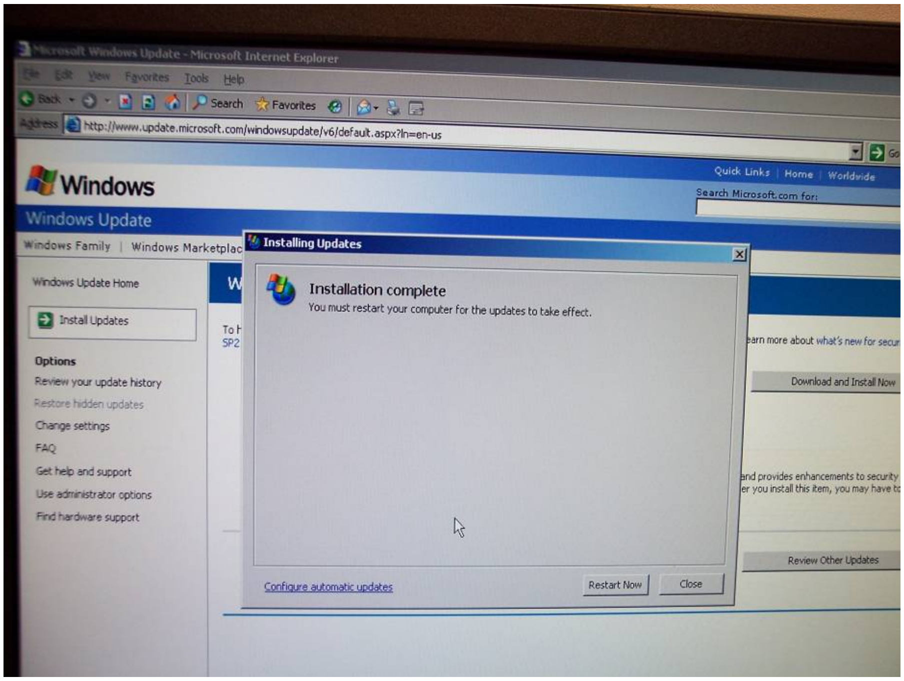
Installation status:

Downloading Windows Server 2003 Service Pack 2 (32-bit x86) (update 1 of 1)...

Downloading:

39.

a. After reboot, run Windows Update again and it will install SP2. Review the www.cisco.com site for current patches for the system. (All updates **MUST** be Cisco approved.)


Microsoft Windows Update - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://www.update.microsoft.com/windowsupdate/v6/default.aspx?ln=en-us
Go
Quick Links | Home | Worldwide
Search Microsoft.com for:
Windows
Windows Update
Windows Family | Windows Marketplac
Windows Update Home
Install Updates
Options
Review your update history
Restore hidden updates
Change settings
FAQ
Get help and support
Use administrator options
Find hardware support
Download and Install Now
Review Other Updates
Configure automatic updates
Restart Now
Close

Installing Updates

Installation complete

You must restart your computer for the updates to take effect.

40.

41. After the installation of SP2 and the other patches, exit Windows Update and reboot the system. Now the system should be ready for the application installation.

How to Join Standalone Servers to the Domain

1. **Step 1:** Right-click My Computer and select Properties > Network Identification Tab > Properties.
2. **Step 2:** Click Domain, then enter the Fully Qualified Domain Name.
3. The following components must be installed on servers that are members of the domain:
    a. Logger
    b. CallRouter
    c. AWs
    d. WebView Server
        i. Note: WebView must be installed on the same domain as the AW/HDS.
4. **Step 3:** Enter the Domain Administrator's username and password.
5. **Step 4:** Reboot the server and log in to the domain.

How to Customize Your Desktop

Customize your desktop on all ICM components.

1. **Step 1:** Create shortcuts on desktop, as detailed in the ICM/IPCC System Design Specification.
2. **Step 2:** Configure the command prompt:
    a. Open the command prompt from the desktop shortcut.
    b. Right-click in the title bar and select Defaults.
    c. On the Options tab, uncheck Insert Mode.
    d. Select the Font tab. Set the command prompt font size to 7x12.
    e. Select the Layout tab. Set the Command Prompt screen buffer to 200x9999.
3. **Step 3:** Set the Folder Options
    a. Open the Control Panel then open Folder Options.
    b. On the General tab, select Use Windows classic folders.
    c. On the View tab, select Display the full path for the address bar and title bar. Select Show hidden files and folders and uncheck Hide extensions for known file types.

Network Card Settings

1. To set up the network card settings:
    a. Select Start > Control Panel > Network Connections then, in the menu bar, click Advanced > Advanced Settings. The Advanced Settings dialog box appears.
    b. Use the following guidelines to configure network card settings:
        i. **Rename each Local Area Connection to private**, visible, and san as required.
            1. In the Advanced tab to the connection properties, configure the network (link) speed and duplex mode.
            2. For example: Set card to **100 MB** per second and **Full duplex**.
                a. **Warning:** Do not leave configuration set to **Auto mode**.
    c. In the Advanced tab, do the following:
        i. In the Connection section of the Adapters and bindings tab, sort the section so that the visible connection is at the top, the Private connection is second, and any remaining connections follow.
            1. For the **Private connection**, uncheck **File and Printer Sharing** for Microsoft Networks and Client for Microsoft Networks.
            2. **Move any disabled Bindings** for all connections to the bottom of the list.
    d. Persistent Static Routes
        i. For geographically distributed ICM software central controller sites, duplexed Call Router and Logger components have a Private IP WAN connection, used to communicate between Side A and Side B. Because Windows only allows **one default gateway** for each server (which sends the Private Network traffic to the Visible Network), you must add a set of **Static Routes** to all the servers running the **Call Router and Logger**.
        ii. On the Side A Call Router and Logger servers, enter route add <networknumber>mask<subnet mask><gateway IP> -p.

iii. For example:
1. On **Side A** servers, *enter route add 192.168.142.42 mask 255.255.255.192 192.168.141.126 -p.*
2. On **Side B** servers, enter *route add 192.168.141.64 mask 255.255.255.192 192.168.142.126 -p.*
3. The network number of the remote Private Network is 192.168.142.42
4. The subnet mask for this remote network is 255.255.255.192
5. The gateway address for the Private Network Adaptor is 192.168.141.126
6. Note: The -p option sets the route as persistent.

SNMP Management

SNMP management support is installed and enabled by default on ICM/IPCC Enterprise and Hosted Edition servers. However, to ensure seamless integration with the Microsoft native SNMP components, installation of the Microsoft Management and Monitoring Tools subcomponents is required.

1. To install these required subcomponents, from the Control Panel:
   a. Select Start > Settings > Control Panel > Add/Remove Programs > Add/Remove Windows Components
   b. Select Management and Monitoring Tools.
      i. Click Details.
      ii. Select Simple Network Management Protocol and WMI Windows Installer Provider.
      iii. Click OK then click Next to continue with the wizard to install these subcomponents.
         1. Note: You may need to have your Microsoft Windows 2003 Server CD handy to complete the installation.
      iv. When the installation is complete, click Finish.
2. If SNMP management support has already been installed and configured for this server, the existing configuration parameters should be collected so they can be used to configure the components installed by ICM SETUP. These parameters can be found on the property sheets associated with the Microsoft SNMP Service.
   a. To collect existing SNMP properties:
      i. On the Services MMC console, locate and select the SNMP Service in the list.
      ii. Select Start > Programs > Control Panel > Services.
      iii. Click Properties (or select the Properties context menu).
      iv. On the SNMP Service Properties dialog, select the Security tab.
         1. Note the following settings and configuration data:
            a. The state of the Send authentication trap checkbox.
            b. The Accepted community names.
            c. If Accept SNMP packets from these hosts is checked, collect the host names and/or IP addresses configured in the associated list box.
         2. Note: If host names (vs. IP addresses) have been configured, you need to determine the actual IP address of that host to configure the Cisco SNMP agents. For security reasons, using static addresses for management stations is preferred.
      v. Select the Traps tab on the SNMP Service Properties dialog box.
      vi. Collect the configured trap destinations and the associated community name.
         1. Note: If host names were for trap destinations, you need to determine the actual IP address of that host.
      vii. On the SNMP Service Properties dialog, select the Agent tab.
      viii. Collect the information from the Contact and the Location fields.
      ix. If the server has not been configured for SNMP manageability, engage in a dialog with the customer IT professionals to:
         1. Determine whether the customer desires SNMP manageability.
         2. Acquire the necessary configuration information to enable SNMP access.
         3. The necessary configuration information includes:
            a. The IP addresses of the management station(s).
               i. If using SNMP v1 or SNMP v2c:
               ii. Community names (if using SNMP v1 or SNMP v2c)
               iii. Trap destinations and the community name expected by each management station

iv. If using SNMP v3:
    1. User names
    2. Authentication protocol used (if authentication is required)
    3. Privacy protocol used (if privacy is required)
    4. Trap destinations and the user name expected by each management station
    5. The installed Microsoft Management Console Snap-In (Cisco SNMP Agent Management) is used to configure the SNMP properties. Please consult the ICM/IPCC SNMP User Guide for details.

Installing the Windows Firewall

1. Load the appropriate Service Pack. Do not manually configure the firewall; use theCiscoICMfwConfig application, which installs and configures the Windows firewall.
    a. For additional information, refer to the Security Best Practices Guide for Cisco ICM/IPCC Enterprise & Hosted Editions, Release7.0(0) (http://www.cisco.com/univercd/cc/td/doc/product/icm/icmentpr/icm70doc/coreicm7/config7/index.htm)
    b. For detailed information on supported platforms for ICM software, see the Cisco ICM/IPCCEnterprise & Hosted Editions Release 7.0(0) Hardware and System Software Specifications(Bill of Materials) (http://www.cisco.com/en/US/products/sw/custcosw/ps1001/products_user_guide_list.html)
    c. For additional information on the Windows Firewall see the:
    d. Windows Server 2003 Windows Firewall (WF) (http://www.microsoft.com/technet/prodtechnol/windowsserver2003/technologies/wf.mspx)Help: Windows Firewall How To...(http://www.microsoft.com/technet/prodtechnol/windowsserver2003/library/ServerHelp/005d7651-fefa-4e00-8f55-714fc0175fe1.mspx)

Remote Monitoring System Requirements

1. Follow the instructions below if you plan to use the Phone Home capabilities of Cisco Remote Monitoring System (RMS) software. The RMS software sends events to the Cisco Technical Assistance Center.
    a. Note: Enable the Phone Home system on servers running the Logger component
2. Drive Shares
    a. You **must** configure a **hidden share** folder on the **C drive of servers** running the **Logger** component in order for RMS Listeners to access Phone Home events.

Routing and Remote Access Configuration

1. If the **Logger** is utilizing Phone Home functionality using a modem, you must configure a Listener server for Routing and Remote Access. This provides dial-up access to the Listener for the Remote Monitoring System (page 94) and Phone Home functionality.
2. Typically a deployment also has one Peripheral Gateway that the Cisco Technical Assistance Center can access.
    a. Note: When monitoring pre-ICM 5.0(0) systems, you must use Windows 2000 as your operating system due to the NET BEUI requirements for RMS.
3. When Monitoring ICM 5.0(0) and ICM 6.0(0) systems using NET BEUI, you must have Windows 2000 as your operating system until you reconfigure the Logger to use TCP/IP. At this point, you can upgrade to Windows 2003.
    a. Refer to the Remote Monitoring Suite Administration Guide for Cisco ICM/IPCC Enterprise& Hosted Editions, Cisco Remote Monitoring Suite Release 2.1(0) for information concerning how to configure routing and remote access using the Routing and Remote Access Server Setup Wizard.

Automatic Updates

1. Refer to the Security Best Practices Guide for Cisco ICM/IPCC Enterprise & Hosted Editions, Release 7.0(0) (http://www.cisco.com/univercd/cc/td/doc/product/icm/icmentpr/icm70doc/coreicm7/config7/index.htm) for information on this setting.
2. Display Settings
    a. Through the Windows Control Panel Display dialog box:
        i. Ensure that no Screen Saver is selected.
        ii. Set the AW display for at least 1024 by 768 pixel resolution.
        iii. Set at least 65K colors and at least 60 MHz.
    b. System Properties
        i. Through the Windows Control System dialog box Advanced tab:
        ii. When setting virtual memory, set the initial and maximum total paging file sizes to the values recommended by the system.
        iii. For Startup and Recovery settings, set the value of the Time to display list of operating systems to 3 seconds.
        iv. On the Advanced tab of the System Properties dialog box, set the Performance Options to either Programs or Background Services.

Event Viewer Configuration

1. Configure the Event Viewer:
    a. For each type of event, set the Maximum log size to 8192 KB.
    b. Select Overwrite events as needed.
        1. Note: These settings are configured by the Security Template provided with automated hardening on Windows Server 2003. Refer to the Security Best Practices Guide for Cisco ICM/IPCCEnterprise & Hosted Editions, Release 7.0(0) (http://www.cisco.com/univercd/cc/td/doc/product/icm/icmentpr/icm70doc/coreicm7/config7/index.htm) for additional information.

Remote Control Options

2. Refer to the following documents for information on remote control options:
    a. Cisco ICM/IPCC Enterprise & Hosted Editions Release 7.0(0) Hardware and System Software Specifications (Bill of Materials) (http://www.cisco.com/en/US/products/sw/custcosw/ps1001/products_user_guide_list.html)
    b. Security Best Practices Guide for Cisco ICM/IPCC Enterprise & Hosted Editions, Release 7.0(0) (http://www.cisco.com/univercd/cc/td/doc/product/icm/icmentpr/icm70doc/coreicm7/config7/index.htm)

Connectivity Validation

1. Before you begin the ICM software installation process, you should validate network connectivity for all servers that are part of the ICM software system.
2. On each server:
    a. Validate the TCP/IP properties for each network card, including the DNS settings.
    b. Validate that you can ping each machine on the visible network.
    c. If applicable, validate that you can ping each private network connection.

Test remote access.

1. Note: Refer to the System Design Specification to confirm that the system topology is correct.