
Preface

This topic provides instructions for starting and using the Netfinity® Manager™ Advanced System Management service. This service enables you to access, configure, and manage your IBM® Netfinity Advanced System Management Processor. These instructions include detail on how to install the configuration utilities and device drivers that the Netfinity Advanced System Management processor requires. This section is intended for anyone who will install and use the Netfinity Advanced System Management processor with Netfinity Manager or Client Services for Netfinity Manager.

This topic also provides instructions on using the Netfinity Advanced System Management processor without Netfinity Manager.

Notes:

1. The Advanced System Management service, installed when you install Netfinity Manager, provides the most extensive functionality available with your Netfinity Advanced System Management processor. Netfinity Manager is included with this server. If you do not install Netfinity Manager, many of the advanced features of the Netfinity Advanced System Management processor will not be available to you. For information on how to install Netfinity Manager, see the Netfinity Manager information included on your *IBM Netfinity Documentation* CD.
2. This section of this *Server Library* explains how to use the Advanced System Management service with the Netfinity Advanced System Management processor that is included with your server. This service can also be used to manage other Advanced System Management hardware, including:
 - PC Server Advanced System Management Adapter Option
 - Netfinity Advanced System Management PCI Adapter (included with the Netfinity 7000 M10 server, and available as an option for use with servers that include the Netfinity Advanced System Management processor)

The features available with the Advanced System Management service vary depending on the Advanced System Management hardware that you are managing. For detailed information on using the Advanced System Management service with Advanced System Management hardware other than the Netfinity Advanced System Management processor, see the documentation that is included with the option or the documentation that is included with the server.

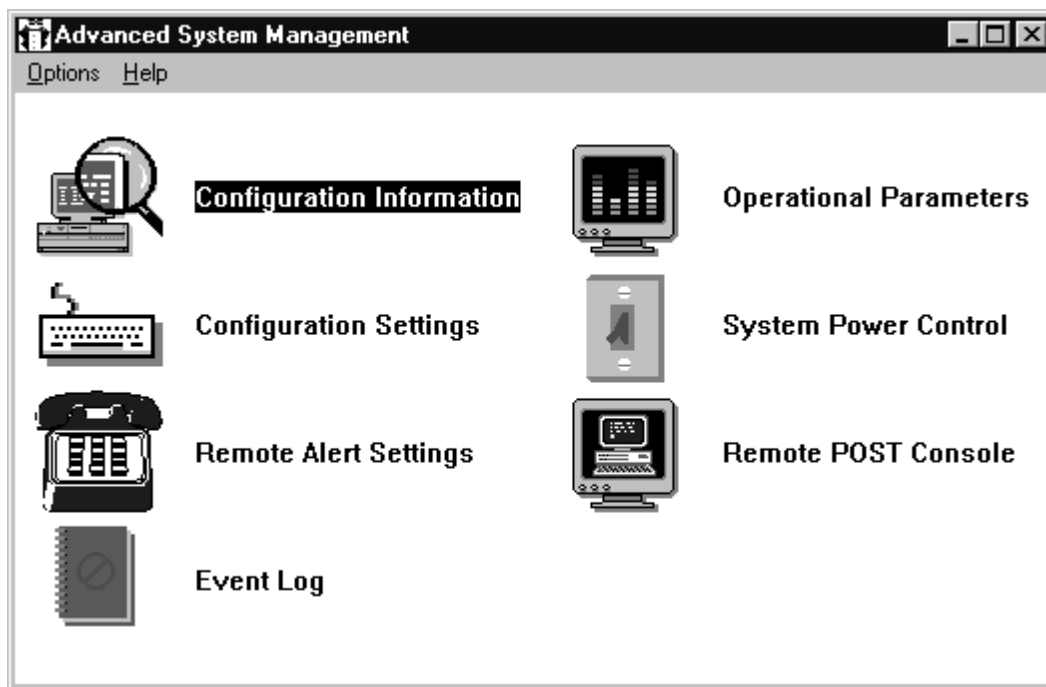
With the Advanced System Management service, you can configure system-management events (such as POST, loader, and operating-system timeouts or critical temperature, voltage, and tamper alerts). If any of these events occurs, the Advanced System Management service can be configured to automatically forward a Netfinity alert in one of four ways:

- To another Netfinity system using a modem
- To a standard numeric pager
- To an alphanumeric pager
- To another Netfinity system using a network connection (available only when using Advanced System Management service with a Netfinity Advanced System Management PCI Adapter)

With this service, you can use your system's modem to dial out and directly access and control a remote system's Advanced System Management PCI Adapter or Advanced System Management Processor. If the remote system has a Netfinity

Advanced System Management PCI Adapter installed and the adapter is connected to a Transmission Control Protocol/Internet Protocol (TCP/IP) network, you can use the Dynamic Connection Manager service (installed when you installed Netfinity Manager and the Advanced System Management service) to open a TCP/IP link with the Netfinity Advanced System Management PCI Adapter from your Netfinity Manager system. Finally, if your Netfinity Advanced System Management PCI Adapter or Advanced System Management Processor is connected to an Advanced System Management (ASM) Interconnect network, or if the remote Netfinity Advanced System Management PCI Adapter adapter or Advanced System Management Processor to which you have connected using your system's modem or TCP/IP connection is connected to an ASM Interconnect network, you can use this connection to access and manage the Advanced System Management PCI Adapter or Advanced System Management Processor of any other system that is connected to the ASM Interconnect network.

Figure 1. The Advanced System Management service



Installing Device Drivers

This chapter describes how to install device drivers for the Netfinity Advanced System Management processor.

1. If you plan to install Netfinity Manager, you must install the required device drivers *before* you install Netfinity Manager.
2. For a list of supported operating systems, see <http://www.pc.ibm.com/us/netfinity/> on the World Wide Web.
3. If you plan to install Windows NT from diskette (using ServerGuide), you must also use the ServerGuide Diskette Factory CD to create Advanced System Management device driver diskettes for use during the operating system installation process.

Required Device Drivers

The following device drivers are required:

- For OS/2 operating system: IBMSPO.DLL and IBMSPO.SYS
- For Microsoft Windows NT operating system: IBMSPW.DLL and IBMSPW.SYS
- For Novell NetWare operating system: IBMSPN.NLM

Device-Driver Installation Instructions

The device drivers necessary for the Netfinity Advanced System Management processor to function properly can be installed in one of two ways:

- Using the ServerGuide Netfinity Applications CD (OS/2 and Windows NT only).
To install the device drivers with the ServerGuide Netfinity Applications CD, follow the instructions that are provided on the CD.
- Using the ServerGuide Diskette Factory CD to create the diskettes that you will need to install the device drivers (OS/2, Windows NT, NetWare, or UNIXWare).
You will need to create the *Netfinity Advanced System Management Device Driver Diskette*.

Note: This diskette contains device-driver information for all operating systems that are supported on Netfinity servers that include Netfinity Advanced System Management processor hardware.

Follow the instructions that are provided on the ServerGuide Diskette Factory CD.

If you are installing OS/2 or Windows NT you can use the ServerGuide Netfinity Applications CD to install the device drivers. You will not need to perform the specified additional steps to finish installing the device drivers.

Note: If you are installing NetWare or UNIXWare, you must use device driver diskettes created using the ServerGuide Diskette Factory CD.

If you choose to use Diskette Factory to create diskettes and manually install the device drivers, use the following instructions to complete the device driver installation.

1. Insert the diskette that is labelled *Netfinity Advanced System Management Device Driver Diskette* into the primary diskette drive.

Note: For additional information, review the README file on the diskette.

2. Open a system-specific window or full screen.
3. Type the following command; then, press **Enter**:
 - For OS/2 operating system: `a:\os2\setup`
 - For Microsoft Windows NT operating system: `a:\nt\setup`
 - For Novell NetWare operating system: `load a:\netware\setup`
4. You will receive a prompt indicating the location (path and directory) where the device drivers (files) will be placed, and asking you if you want the files to be placed in a different location.
 - If you want the files to be placed in the indicated directory, press **Enter**.
 - If you want the files to be placed in a different directory, type the desired directory name and then press **Enter**. Be sure to use a valid directory name, and include the complete path, when the prompt appears.

5. The required device drivers (files) for your operating system will be copied onto the hard disk, in the directory that you selected in step 4.
 - For the OS/2 operating system, the CONFIG.SYS file will be updated.
 - For Microsoft Windows NT operating system, the registry is updated and all device drivers are loaded automatically. The device drivers will run immediately.
 - For Novell NetWare operating system, the AUTOEXEC.NCF file will be updated.
6. Remove the diskette from the diskette drive.
7. If you have the Microsoft Windows NT operating system you have completed the device-driver installation procedure.
8. If you have the OS/2 operating system or the Novell NetWare operating system:
 - a. Perform the shutdown procedure for your operating system. Refer to your operating system documentation for instructions.
 - b. Press Ctrl+Alt+Del to restart your server. The device drivers are loaded automatically. The device drivers will run immediately. You have completed the device-driver installation procedure.
1. To obtain the most current device drivers for your server, go to <http://www.ibm.com/support/> on the World Wide Web and download the files to your server.
2. You can install IBM Update Connector, included on the ServerGuide Netfinity Applications CD, to enable automatic device driver and BIOS updates on your systems.

Note: The update support provided by Update Connector varies depending on the operating system running on your server.

Using the Netfinity Advanced System Management Processor with Netfinity Manager

This section describes how to start the Netfinity Advanced System Management service and use it to change configuration, modem, network, and automatic dialout settings of the Netfinity Advanced System Management Processor that is included with your server.

Using the Advanced System Management service

This topic provides instructions for starting and using the Netfinity® Manager™ Advanced System Management service. This service enables you to access, configure, and manage your IBM® Netfinity Advanced System Management Processor. These instructions include detail on how to install the configuration utilities and device drivers that the Netfinity Advanced System Management processor requires. This section is intended for anyone who will install and use the Netfinity Advanced System Management processor with Netfinity Manager or Client Services for Netfinity Manager.

Starting the Netfinity Advanced System Management Service

To start the Advanced System Management service, double-click on the **Advanced System Management** icon in the Netfinity Service Manager window. Then double-click any of the selections available in the Advanced System Management window to access the function or configuration information that you need.

- Double-click **Configuration Information** to view detailed information about the Advanced System Management Processor, including random-access memory (RAM) microcode, read-only memory (ROM) microcode, and device-driver information. If you are managing the Advanced System Management Processor of a server, you will also have access to extensive system information. For more information on Configuration Information, see “Configuration Information” on page 5.
- Double-click **Configuration Settings** to configure many features of the Netfinity Advanced System Management Processor. These features include system identification data, dial-in security settings, the time and date reported by the Netfinity Advanced System Management Processor clock, timeout and delay values, and advanced modem settings. For more information on Configuration Settings, see “Configuration Settings” on page 5.
- Double-click **Remote Alert Settings** to configure the Netfinity Advanced System Management Processor alert forwarding functions. For more information on Remote Alert Settings, see “Remote Alert Settings” on page 19.
- Double-click **Event Log** to view the contents of the Advanced System Management adapter or processor Event Log. Information about all remote access attempts and dialout events that have occurred is recorded in the Netfinity Advanced System Management adapter or processor Event Log. For more information on the Event Log, see “Event Log” on page 24.
- Double-click **Operational Parameters** to view the current values or status of many system components monitored by the Netfinity Advanced System Management Processor. For more information on Operational Parameters, see “System Operational Parameters” on page 25.
- Double-click **System Power Control** to instruct the Netfinity Advanced System Management Processor to turn the system off, restart the system, or turn the system on. For more information on System Power Control, see “System Power Control” on page 26.
- Double-click **Remote POST Console** to use the Netfinity Advanced System Management Processor to remotely monitor, record, and replay all textual output generated during POST on a remote system that has a supported

Netfinity Advanced System Management Processor. For more information on using Remote POST, see “Remote POST Console” on page 28.

To update the microcode on your Netfinity Advanced System Management Processor, from the **Options** pull-down menu, select **Update Microcode...** and then select **System Management Subsystem**. For more information on updating microcode, see “Updating Netfinity Advanced System Management Processor Microcode” on page 29.

Remote management using a serial, TCP/IP, or ASM Interconnect connection

If you want to use your system's modem, TCP/IP, or ASM Interconnect network connection to access and manage the Advanced System Management adapter or processor on a remote system, use Dynamic Connection Manager to:

- establish a serial connection with the remote system
- use Dynamic Connection Manager to establish a TCP/IP or ASM Interconnect link with the Netfinity Advanced System Management PCI Adapter that is installed in the remote server
- or use Dynamic Connection Manager to establish an ASM Interconnect link with the Advanced System Management Processor that is installed in the remote server

Then, start the Advanced System Management service. You can also use Dynamic Connection Manager to establish a null modem connection to another system. Finally, you can use Dynamic Connection Manager to establish a serial or TCP/IP connection with a remote Netfinity Advanced System Management PCI Adapter and then "pass through" that Netfinity Advanced System Management PCI Adapter and remotely access and manage any Advanced System Management adapter or processor that is connected to the remote Netfinity Advanced System Management PCI Adapter using an ASM Interconnect network.

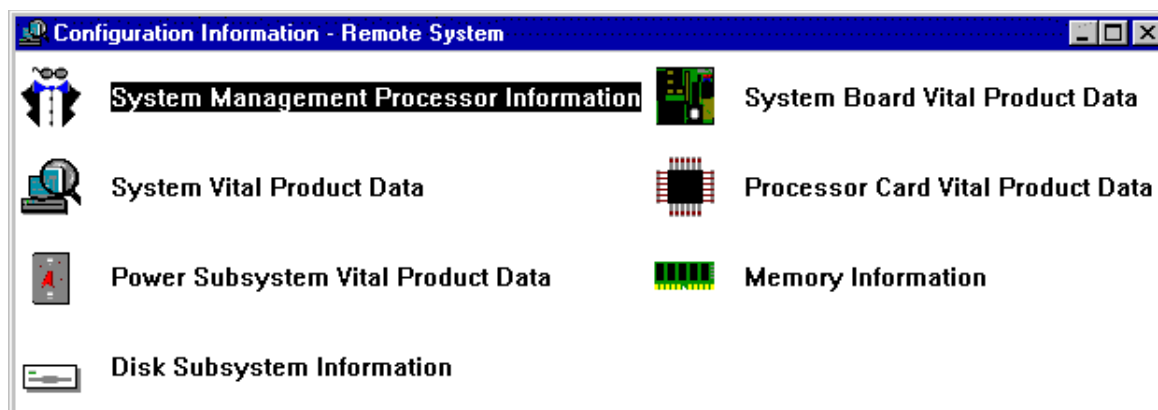
1. Be sure to check the **System Management Processor** check box in the Netfinity Dynamic Connection Manager window when you create the Dynamic Connection Control entry. If this check box is not checked, the connection with the remote Netfinity Advanced System Management PCI Adapter will fail. Null modem connections and TCP/IP link entries do not require that this box be checked.
2. TCP/IP linking over a network connection is available only when you are using Advanced System Management and Dynamic Connection Manager to directly access a Netfinity Advanced System Management PCI Adapter that is connected to your network.
3. ASM Interconnect connections are available only when:
 - you are using Advanced System Management and Dynamic Connection Manager to directly access the Netfinity Advanced System Management PCI Adapter installed in your own system (Netfinity 7000 M10 only).
 - you are using Advanced System Management and Dynamic Connection Manager to access an Advanced System Management adapter or processor that is connected to the same ASM Interconnect network that your Advanced System Management adapter or processor is connected to **or**
 - you have first established a serial connection, null modem connection, or TCP/IP link with a remote Netfinity Advanced System Management PCI Adapter that is connected to other Advanced System Management adapters or processors on an ASM Interconnect network.

4. When using Dynamic Connection Manager to configure a Dynamic Connection entry for use by the Advanced System Management service, be sure to enter the Login ID and Password for access to the Advanced System Management processor or adapter in a remote system, not the User ID and Password for access to Netfinity Manager services on the remote system.
5. When creating a Dynamic Connection Manager entry to establish a null modem connection with an Advanced System Management processor or adapter in a remote system, make sure that the **Port Baud Rate** value (configured using the Dynamic Connection Manager service) is set to match the **Baud Rate** value (configured using the Advanced System Management service) of the target system. If the **Port Baud Rate** and the **Baud Rate** values do not match, the connection will fail.
6. If you are connected through a modem and the serial connection is broken, Dynamic Connection Manager will detect the loss of the carrier and will then display No carrier detected in the window. Dynamic Connection Manager will then attempt to re-establish the serial connection automatically.

Configuration Information

The Configuration Information window contains detailed information about the Netfinity Advanced System Management Processor, including RAM microcode, ROM microcode, and device-driver information.

Figure 2. The Configuration Information window



Configuration Settings

Use the input fields in the Configuration Settings window to configure many features of the Netfinity Advanced System Management Processor. These features include system identification data, dial-in security settings, the time and date reported by the Netfinity Advanced System Management Processor clock, timeout and delay values, advanced modem settings, and network settings.

The Configuration Settings window contains the following groups or fields:

- System Identification
- Dial-in settings
- System Management Processor Clock
- POST timeout
- Loader timeout
- O/S timeout
- Power off delay

This window also includes the **Modem** button and the **Network** button. Click **Modem** to open the Modem Settings window (see “Modem Settings” on page 11). Click **Network** to open the Network Settings window (see “Network Settings” on page 17).

Note: Network Settings configuration is supported only on the Netfinity Netfinity Advanced System Management PCI Adapter. If you are not using the Netfinity Advanced System Management Processor to access or manage a Netfinity Netfinity Advanced System Management PCI Adapter, the **Network** button will not be available.

The System Identification Group

The System Identification group contains two fields to help you identify the system that contains the Netfinity Advanced System Management Processor.

Field	Description
Name	Use this field to provide a name for the system, the name of the system user, or the name of a contact. This information is included with forwarded Netfinity alerts and with messages that are sent to alphanumeric pagers to help you identify the system that generated the alert.
Number	Use this field to identify the system with a specific serial or identification number, to record the phone number used to dial into the system, or to provide the phone number of a contact. This information is included with forwarded Netfinity alerts and with messages that are sent to alphanumeric pagers to help you identify the system that generated the alert.

Figure 3. The Configuration Settings window

Configuration Settings - Remote System

System Identification

Name :

Number :

Dial-in settings

User profile to configure :

Login ID :

Last login : 07/30/98 03:15:45p

Read only access

Dial back enabled

Number :

System Management Processor Clock

Time : : :

Date : / /

Set clock

POST timeout : disabled

Loader timeout : disabled

O/S timeout : disabled

Power off delay : seconds

To change the information provided by these fields:

1. In the **Name** or **Number** field, type the system information that you want to record.
2. Click **Apply** to save this information.

The Dial-In settings Group

Use the selections available in the Dial-In settings group to enable or disable dial-in support, and to enable users to dial in and access the Netfinity Advanced System Management Processor. The Dial-In settings group contains the following items.

Item	Description
User profile to configure	Use the spin buttons to select the user profile that you want to configure. This service supports up to 12 separate profiles on servers.
Login ID	Type in this field the login ID that will be used by the remote user. Up to 12 Login IDs can be configured. (This field is case sensitive.) Note: A Login ID <i>must</i> be specified to remotely access the Netfinity Advanced System Management Processor.
Set Password	A password must be provided along with the Login ID to allow a remote user to access the Netfinity Advanced System Management Processor. After providing a Login ID, click on Set Password to open the Set Password window. (The fields in the Set Password window are case sensitive.) Note: This password must be five to eight characters in length and must contain at least one nonalphanumeric character.
Last login	Shows the date and time of the last successful login by a remote user.
Read only access	If the Read only access check box is checked, the user whose profile is selected will not be able to alter any of the Netfinity Advanced System Management Processor settings when access is granted. The user will, however, be able to see all currently configured settings and values, except passwords.
Dial back enabled	If the Dial back enabled check box is checked, the Netfinity Advanced System Management Processor will automatically terminate the connection as soon as the user whose profile is selected logs in, and will then use the telephone number that is entered in the Number field to dial out and attempt to connect with a remote system.

If necessary, click **Modem** to access the Modem Settings window (see “Modem Settings” on page 11). From the Modem Settings window, you can specify modem settings and dialing settings.

To create a new login ID for a remote user:

1. In the **Login ID** field, type the ID that will be used by the remote user. This ID can be up to eight characters.
2. Remote users must provide a password along with a login ID in order to access the Netfinity Advanced System Management Processor. Click **Set Password** to open the Set Password window.

From the Set Password window:

- a. In the **Enter Password** field, type a password.

Note: This password must be five to eight characters in length and must contain at least one nonalphanumeric character.

- b. In the **Re-enter Password** field, type the same password that you typed in the **Enter Password** field.
 - c. Click **OK** to save this password and close the Set Password window.
3. Click **Apply** to save the new user ID.

Note: For security purposes, change the user name and password using the Netfinity Advanced System Management Processor.

If you update the Netfinity Advanced System Management Processor microcode, the default user name (USERID) and password (PASSWORD) are reset. If you had previously changed them, you will need to change them again.

To delete the currently selected login ID:

1. Use the spin buttons beside the **User ID to configure** field to select a previously configured User profile.
2. Click the **Login ID** field.
3. Using the Backspace or Delete key, delete the currently displayed login ID.
4. Click **Apply** to remove the user ID.

The System Management Processor Clock Group

Use the fields in the System Management Processor Clock group to set the time and date that is reported by the Netfinity Advanced System Management Processor.

Note: The System Management Processor Clock is separate from and independent of the system clock. Changes made to this setting will have no effect on the system clock.

To change the time or date:

1. Verify that there is a check in the **Set System Management Processor Clock** check box. This check box *must* be checked to enable the Netfinity Advanced System Management processor to change the currently stored time and date values.
2. Use the spin buttons beside each field to set the time or date.
 - The **Time** fields represent, when viewed from left to right, hours, minutes, and seconds.
 - The **Date** fields represent, when viewed from left to right, month, date, and year.
3. Click **Apply** to save the new time and date.

POST Timeout

The **POST timeout** field shows the number of seconds that the Netfinity Advanced System Management Processor will wait for the system power-on self-test (POST) to complete before logging a POST Timeout event. If POST takes longer than the configured amount of time to complete and the **POST timeout** check box (found in the **Enabled Alerts** group of the Remote Alert Settings window) is checked, the Netfinity Advanced System Management Processor will automatically restart the system one time and will attempt to forward an alert to all enabled Remote Alert Entries. Once the system is restarted, **POST timeout** is automatically disabled, until the system is properly shut down and restarted.

Note: If you do not check this check box and a POST timeout is detected, the system will restart, but no alert will be forwarded.

To set the POST timeout value, use the spin buttons beside the **POST timeout** field to set the number of seconds that the Netfinity Advanced System Management Processor will wait for POST to complete. Then, click **Apply** to save this value. The maximum POST timeout value that you can set is 7650 seconds. Set this value to 0 to disable POST timeout detection.

For more information on the Remote Alert Settings window, see “Remote Alert Settings” on page 19.

Loader Timeout

The **Loader timeout** field shows the number of seconds that the Netfinity Advanced System Management Processor will wait for the system loading process to complete before logging a Loader Timeout event. The Loader Timeout measures the amount of time that passes between the completion of POST and the end of operating system (O/S) startup. If this takes longer than the configured amount of time to complete and the **Loader timeout** check box (found in the **Enabled Alerts** group of the Remote Alert Settings window) is checked, the Netfinity Advanced System Management Processor will automatically restart the system one time and will attempt to forward an alert to all enabled Remote Alert Entries. Once the system is restarted, **Loader timeout** is automatically disabled, until the system is properly shut down and restarted.

Note: If you do not check this check box and a Loader timeout is detected, the system will restart, but no alert will be forwarded.

To set the Loader timeout value, use the spin buttons beside the **Loader timeout** field to set the number of seconds that the Netfinity Advanced System Management Processor will wait between POST completion and O/S startup before responding to a timeout event. Then, click **Apply** to save this value. The maximum Loader timeout value that you can set is 7650 seconds. Set this value to 0 to disable Loader timeout detection.

For more information on the Remote Alert Settings window, see “Remote Alert Settings” on page 19.

O/S Timeout

A periodic signal is sent from the Netfinity Advanced System Management Processor to the O/S to confirm that the O/S is running properly. The O/S Timeout event occurs when the O/S does not respond to the signal within 6 seconds. The **O/S timeout** field shows the number of seconds that the Netfinity Advanced System Management Processor will wait between O/S timeout checks. If the O/S fails to respond within 6 seconds, the Netfinity Advanced System Management Processor will attempt to restart the system, and if the **O/S timeout** check box (found in the **Enabled Alerts** group of the Remote Alert Settings window) is checked, the Netfinity Advanced System Management Processor will automatically restart the system one time and will attempt to forward an alert to all enabled Remote Alert Entries.

Note: If you do not check this check box and an O/S timeout is detected, the system will restart, but no alert will be forwarded.

To set the O/S timeout value, use the spin buttons beside the **O/S timeout** field to set the number of seconds that the Netfinity Advanced System Management PCI Adapter will wait between O/S timeout checks. Then, click **Apply** to save this value. The maximum O/S timeout value that you can set is 255 seconds. Set this value to 0 to disable O/S timeout detection.

For more information on the Remote Alert Settings window, see “Remote Alert Settings” on page 19.

Power Off Delay

The **Power off delay** field shows the number of seconds that the Netfinity Advanced System Management Processor will wait for the system operating-system shutdown process to complete before turning off the system.

When the Netfinity Advanced System Management Processor initiates a shutdown procedure and the **Power off** check box (found in the **Enabled Alerts** group of the Remote Alert Settings window) is checked, the Netfinity Advanced System Management Processor will automatically attempt to forward an alert to all enabled Remote Alert Entries. This alert is forwarded after the system is turned off and the **Power off delay** time has passed.

To set the power off delay value, use the spin buttons beside the **Power off delay** field to set the number of seconds that the Netfinity Advanced System Management Processor will wait for the system operating-system shutdown to complete before turning off the system. Then, click **Apply** to save this value. The maximum Power off delay value that you can set is 9999 seconds. Set this value to 0 to disable the Power Off Delay.

For more information on the Remote Alert Settings window, see “Remote Alert Settings” on page 19.

Other Configuration Settings Functions

The Configurations Settings window also includes three additional buttons:

Button	Description
Refresh	Click Refresh to update all data that is shown in the Configuration Settings window, including date, time, and last login.
Reset	Click Reset to set <i>all</i> Advanced System Management settings to their default values, including configuration settings, dialout settings, and advanced dialout settings. Important: All previously configured Netfinity Advanced System Management settings will be permanently lost.
Cancel	Click Cancel to close this window without saving any changes.

Modem Settings

Use the Modem Settings window to specify modem and dialing settings. To open this window, click **Modem** in the Configuration Settings window (see “Configuration Settings” on page 5).

Figure 4. The Modem Settings window

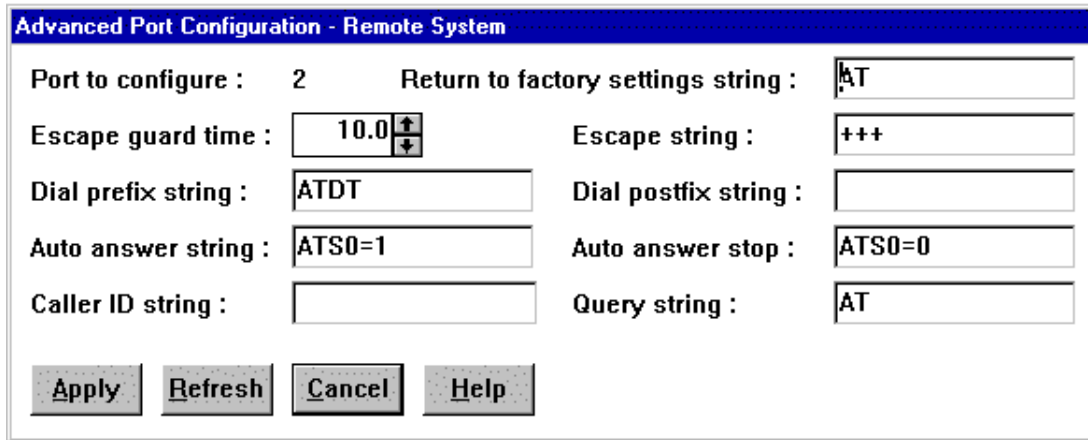
The Port Configuration Group

Use the Port Configuration group to specify and configure the modem that will be used to forward an alert when a Netfinity Advanced System Management Event occurs. The Port Configuration group contains the following items.

Item	Description
Port to configure	Use the spin buttons to select the port that your modem is configured to use. This spin button will show only values that are available for use by your Netfinity Advanced System Management Processor. The port that you select to use affects the availability of the modem for use by either the Netfinity Advanced System Management PCI Adapter or the operating system. The ports that are available to the system or to the Advanced System Management service vary depending on your hardware configuration. For information on what ports are available see "Advanced System Management port reference" on page 14.
Baud rate	Use the spin buttons to specify the baud rate of the modem.
Port selected	This check box indicates whether the port number currently displayed in the Port to configure field is the port that is currently designated for use by the Netfinity Advanced System Management Processor. Check this check box if you want to configure the Netfinity Advanced System Management Processor to use the currently displayed port number.
Initialization string	Type the initialization string that will be used for the specified modem. A default string is provided (ATE0). Do not change this string unless your dialout functions are not working properly. If you need to change the initialization string, see "Initialization String Guidelines" on page 17.

Item	Description
Hangup string	Type the initialization string that will be used to instruct the modem to disconnect. A default string is provided (ATH0). Do not change this string unless your dialout functions are not working properly. If you need to change the initialization string, see "Initialization String Guidelines" on page 17.
Advanced button	Click this button to open the Advanced Port Configuration window.

Figure 5. The Advanced Port Configuration window



The Advanced Port Configuration window contains the following items.

Item	Description
Caller ID string	Type the initialization string that will be used to get Caller ID information from the modem.
Return to factory settings string	Type the initialization string that returns the modem to its factory settings when the modem is initialized. The default is AT&F0.
Query string	Type the initialization string that is used to find out if the modem is attached. The default is AT.
Escape string	Type the initialization string that returns the modem to command mode when it is currently talking to another modem (connected). The default is +++.
Escape guard time	Type in this field the length of time before and after the escape string is issued to the modem. This value is measured in 10 millisecond intervals. The default value is 1 second.
Dial prefix string	Type the initialization string that is used before the number to be dialed. The default is ATDT.
Dial postfix string	Type the initialization string that is used after the number is dialed to tell the modem to stop dialing. The default is the Carriage Return character or ^M.
Auto-answer string	Type the initialization string that is used to tell the modem to answer the phone when it rings. The default is to answer after two rings or ATS0=2.
Auto-answer stop	Type the initialization string that is used to tell the modem to stop answering the phone automatically when it rings. The default is ATS0=0.

Advanced System Management port reference

The port that you select to use affects the availability of the modem for use by either the Netfinity Advanced System Management PCI Adapter or the operating system. The ports that are available to the system or to the Advanced System Management service vary depending on your hardware configuration.

- If the system has an Advanced System Management Processor only, use this table to determine which ports are available.

Physical ports (as labeled)	A	B	C
Ports available to Advanced System Management	Port 1 shared	N/A	Port 2 dedicated
Ports available to operating system	COM 1 shared	COM 2	N/A

- If the system has an Advanced System Management PCI Adapter only, use this table to determine what ports are available.

Physical ports (as labeled)	A	B	MODEM	COM_AUX
Ports available to Advanced System Management	N/A	N/A	Port 1 shared	Port 2 dedicated
Ports available to operating system	COM 1	COM 2	COM 3 shared	N/A

- If the system has an Advanced System Management PCI Adapter and an Advanced System Management Processor, use this table to determine what ports are available.

Physical ports (as labeled)	A	B	C	MODEM	COM_AUX
Ports available to Advanced System Management	Port 1 shared	N/A	Port 2 dedicated	N/A	N/A
Ports available to operating system	COM 1 shared	COM 2	N/A	N/A	N/A

1. Shared ports are recognized by the operating system when the system is running. Shared ports are recognized by the Advanced System Management PCI Adapter or Processor when the server is starting up or turned off. The shared port will also be recognized by the system, but not by the Advanced System Management PCI Adapter or Processor, when started with DOS
2. In a system with the Advanced System Management PCI Adapter only (for example, the Netfinity 7000 M10), the device driver must be running for the operating system to recognize COM3.

The Dialing Settings Group

Use Dialing Settings to specify settings related to the modem, and to configure the modem that is used to forward an alert when a Netfinity Advanced System Management event occurs. The Dialing Settings group contains the following items.

Item	Description
Dial-in enabled	<p>Check this check box to enable remote users to dial into and access the Netfinity Advanced System Management Processor. If this box is unchecked, remote users will be unable to remotely access the Netfinity Advanced System Management Processor. Click Apply after checking or unchecking this check box to save the new setting.</p>
Dialout retry limit	<p>Use the spin buttons to select the number of additional times that the Netfinity Advanced System Management processor will attempt to forward an alert.</p> <p>The Dialout retry limit applies only to attempts to forward the alert information to an alphanumeric pager. If you are forwarding the alert information to either a Netfinity system or a numeric pager, only one attempt will be made to forward this information.</p> <p>The maximum value for this field is 8.</p>
Dialout retry delay	<p>Use the spin buttons to specify the number of seconds that Netfinity Advanced System Management will wait before retrying a dialout attempt.</p> <p>The minimum value for this field is 30 seconds, and the maximum value is 240 seconds.</p>
Own port on startup	<p>Check this check box to reserve a serial port for exclusive use by the Netfinity Advanced System Management Processor. If the Netfinity Advanced System Management Processor is built into your system, checking this box will reserve one of your system serial ports. If the Netfinity Advanced System Management Processor is an adapter, checking this box will reserve one of the adapter's integrated communications ports. Click Apply after checking or unchecking this check box to save the new setting.</p> <p>Note: Check this box if you are configuring your system for dial-in access. If this check box is not checked, you will be unable to dial into this system unless the Netfinity Advanced System Management Processor has reclaimed the port for a dialout. If you want to configure the Netfinity Advanced System Management Processor to always be dial-in enabled, regardless of whether the system is currently powered on, you must check this check box. When this check box is checked, you cannot configure the specified port for use by your system.</p>
Dialout number spacing	<p>If you have configured more than one Remote Alert Entry to forward alerts, the Netfinity Advanced System Management Processor will attempt to contact each of these entries sequentially. Use the spin buttons to specify the number of seconds for the Netfinity Advanced System Management Processor to wait between dialout attempts for separate Remote Alert Entries.</p> <p>The minimum value for this field is 15 seconds, and the maximum value is 120 seconds.</p>
Dial-in delay (minutes)	<p>The Dial-in delay (minutes) field shows the number of minutes that must pass after an incorrect User ID or Password has been used in five successive dial-in attempts before valid dial-in access will be permitted. After the fifth successive login failure, dial-in access is disabled for the number of minutes that you specify, the Netfinity Advanced System Management Processor adds an entry in the Event Log noting that dial-in access was suspended due to five successive login failures, and the Netfinity Advanced System Management Processor attempts to forward an alert if the Tamper Enabled Alerts check box has been checked.</p> <p>The minimum value for this field is 4 minutes, and the maximum value is 240 minutes.</p>

Initialization String Guidelines

If you need to provide a new initialization string, refer to the user's guide that came with your modem. Your initialization string must contain commands that configure your modem as follows:

- Command echoing OFF
- Online character echoing OFF
- Result codes ENABLED
- Verbal result codes ENABLED
- All codes and Connect messages with BUSY and DT detection
- Protocol identifiers added — LAPM/MNP/NONE V42bis/MNP5
- Normal CD operations
- DTR ON-OFF hang-up, disable AA and return to command mode
- CTS hardware flow control
- RTS control of receive data to computer
- Queued and nondestructive break, no escape state

Note: The abbreviations in these commands have the following meanings:

AA	auto answer
CD	carrier detect
CTS	clear to send
DT	data transfer
DTR	data terminal ready
LAPM	link access protocol for modems
MNP	microcom networking protocol
RTS	ready to send

Network Settings

Use the Network Settings window to specify network settings on the Netfinity Netfinity Advanced System Management PCI Adapter. To open this window, click **Network** from the Configuration Settings window (see "Configuration Settings" on page 5).

Note: This window is only available when you are using the Netfinity Advanced System Management service to manage a system that has a Netfinity Netfinity Advanced System Management PCI Adapter, or if you have used Dynamic Connection to establish a TCP/IP link with a Netfinity Netfinity Advanced System Management PCI Adapter. If you are not connected to a system that has a Netfinity Netfinity Advanced System Management PCI Adapter, this window will not be available.

Figure 6. The Network Settings window

The Network Settings window contains the following items.

Item	Description
Network interface spinbox	Use the spin buttons to select a network interface to configure. When you have selected the network interface that you want to use, check the Interface selected check box.
Host name	Type the TCP/IP host name that will be used by the Netfinity Netfinity Advanced System Management PCI Adapter.
IP address	Type the IP address that will be used by the Netfinity Netfinity Advanced System Management PCI Adapter.
Subnet mask	Type the subnet mask that will be used by the Netfinity Netfinity Advanced System Management PCI Adapter.
Gateway	Type the TCP/IP address of the gateway that will be used by the Netfinity Netfinity Advanced System Management PCI Adapter.
Line type	Use the spin buttons to select the line type that will be used by the Netfinity Netfinity Advanced System Management PCI Adapter. Available selections are Ethernet, PPP, and Token Ring. Check the Routing check box if needed.
Data rate	Use the spin buttons to select the data rate that will be used by the Netfinity Netfinity Advanced System Management PCI Adapter. Available selections are AUTO, 4M, 16M, 10M, and 100M.
Duplex	Use the spin buttons to select the duplex method that will be used by the Netfinity Netfinity Advanced System Management PCI Adapter. Available selections are AUTO, FULL, and HALF.

Item	Description
MTU size	Type the maximum transmission unit (MTU) value that will be used by the Netfinity Netfinity Advanced System Management PCI Adapter.
MAC address	Type the media access control (MAC) address of the network adapter that will be used by the Netfinity Netfinity Advanced System Management PCI Adapter.

After making any changes to these settings, first click **Apply** to save the changes; then, click **Restart** to restart the Netfinity Netfinity Advanced System Management PCI Adapter so that the changes will take effect. Changes to Network Settings will not take effect until the adapter has been restarted.

Remote Alert Settings

Use the Remote Alert Settings window to configure the Netfinity Advanced System Management adapter or processor alert forwarding functions. If you configure a Remote Alert Entry, the Netfinity Advanced System Management adapter or processor will attempt to forward an alert to a remote Netfinity system (through a serial connection or a network connection), a numeric pager, or an alphanumeric pager when any of the events selected from the **Enabled Alerts** group occurs. This alert will contain information about the nature of the event that occurred, the time and date at which the event occurred, and the name of the system that generated the alert.

You can configure the Netfinity Advanced System Management adapter or processor to forward alerts to multiple pagers or Netfinity Manager systems in response to individual critical and noncritical dialout events. Therefore, the **Dialout status** text will read DIALOUT ON as soon as the first alert forwarding operation begins, change to DIALOUT OFF when the first alert forwarding operation is completed, change to DIALOUT ON again when the second alert forwarding operation begins, change to DIALOUT OFF when the second alert forwarding operation is completed, and so on. If you click **Stop Dialout**, the Netfinity Advanced System Management Processor abandons the currently active alert forwarding operation, and moves to the next one.

Your Netfinity Advanced System Management Processor can be configured for up to six separate Remote Alert Entries.

Figure 7. The Remote Alert Settings window

Remote Alert Settings - Remote System

Remote Alert Entry Information

Name : []

Number : [] PIN : []

Type : Numeric [] Entry enabled [Delete]

Dialout status : DIALOUT OFF [Stop Dialout]

Enabled Alerts

Critical

- Temperature
- Multiple fan failure
- Voltage
- Power failure
- Tamper
- Hard disk drive
- Voltage regulator module failure

System

- POST timeout
- Loader timeout
- Q/S timeout
- Power off
- Power on
- Application
- PFA

Non-critical

- Temperature
- Single fan failure
- Voltage

[Apply/Add] [Refresh] [Cancel] [Help]

Remote Alert Entry Information Group

To edit or create a Remote Alert Entry:

1. In the **Name** field, type the name of the person or system to which the alert will be forwarded. The information in the **Name** field is strictly for your use in identifying the Remote Alert Entry. If you are editing a previously configured Remote Alert Entry, select the entry that you want to edit from the **Name** selection list.
2. In the **Number** field, type a telephone number (if you are forwarding the alert to a pager or to a Netfinity system that is using a serial link) or an IP address (if you are forwarding the alert to a system that is using a network adapter; this feature is supported only with a Netfinity Netfinity Advanced System Management PCI Adapter) that will be used to forward the alert.

Note: Depending on your paging service, you might need to increase the amount of time that this alert action waits after dialing the telephone number before it transmits the numeric data. To increase the amount of time that will pass before the numeric data is transmitted, add one or more commas (,) to the end of the telephone number. Each comma will cause the modem to wait two seconds before transmitting the numeric data.

3. In the **PIN** field, type the personal identification number required by your alphanumeric pager provider. This field will be active only if you select Alphanumeric in the **Type** field.

4. From the **Type** selection list, select the type of connection that the Netfinity Advanced System Management Processor will attempt to make in order to forward the event notification. You can select Numeric (for standard pagers), Alphanumeric (for alphanumeric pagers), Netfinity Serial (for using a serial link to connect to a remote Netfinity system), or Netfinity IP (for using a TCP/IP link to connect to a remote Netfinity system; available only on systems with a Netfinity Advanced System Management PCI Adapter).
5. Check the **Entry enabled** check box to activate this Remote Alert Entry. If the **Entry enabled** check box is not checked, no alerts will be forwarded to this entry.
6. Select dialout events from the **Enabled Alerts** group. If any of the checked events occurs, the Netfinity Advanced System Management Processor will use the telephone number or IP address specified in the **Number** field to forward an alert describing the event using the method selected in the **Type** field. For detailed information about these events, see “Enabled Alerts Group”.
7. Click **Apply/Add** to save these settings.

To remove a Remote Alert Entry, select the name of the entry from the **Name** selection list and then click **Delete**.

Enabled Alerts Group

Use the selections available in the Enabled Alerts group to specify which events will result in all currently configured Entries being contacted by the Netfinity Advanced System Management adapter or processor. Any selected items will, if detected by the Netfinity Advanced System Management Processor, result in an alert describing the event being forwarded, using the method selected in the **Type** field, to the recipient specified by the Remote Alert Entry in the **Name** field.

If the alert is being forwarded to a pager, Netfinity Advanced System Management will include information about the event that triggered the alert. If the alert is forwarded to a numeric (or standard), pager, the page will include a code number that corresponds to the triggering event. If the alert is forwarded to an alphanumeric pager, the page will include both a code number and a text string that describe the triggering event. For more information on the numeric codes and text strings that are transmitted to pagers, refer to the following tables.

The Enabled Alerts group is divided into the Critical, Non-critical, and System groups. The Critical Enabled Alerts group contains the following items.

Item	Description (if checked)	Numeric code	Text string
Temperature	The Netfinity Advanced System Management Processor will forward an alert and then automatically initiate a system shutdown if any monitored temperature exceeds its threshold value.	00	SYSTEM SHUTDOWN DUE TO TEMPERATURE
Voltage	The Netfinity Advanced System Management Processor will forward an alert if the voltages of any monitored power sources fall outside their specified operational ranges.	01	SYSTEM SHUTDOWN DUE TO VOLTAGE
Tamper	The Netfinity Advanced System Management Processor will add an entry in the Event Log if six consecutive remote login attempts fail.	02	SYSTEM TAMPER ALERT

Item	Description (if checked)	Numeric code	Text string
Voltage regulator module failure	The Netfinity Advanced System Management Processor will forward an alert and then automatically initiate a system shutdown if the voltage regulator module (VRM) fails.	06	VRM FAILURE
Multiple fan failure	The Netfinity Advanced System Management Processor will forward an alert (if two or more) of the system cooling fans fail <i>and</i> will automatically initiate a system shutdown.	03	MULTIPLE SYSTEM FAN FAILURES
Power failure	The Netfinity Advanced System Management Processor will forward an alert if the system power supply fails.	04	POWER SUPPLY FAILURE
Hard disk drive	The Netfinity Advanced System Management Processor will forward an alert if one or more of the hard disk drives in the system fail.	05	DASD FAULT

The Non-critical Enabled Alerts group contains the following items.

Item	Description (if checked)	Numeric code	Text string
Temperature	The Netfinity Advanced System Management Processor will forward an alert if any monitored temperature exceeds its threshold value. However, unlike the Critical Temperature event, this Alert will <i>not</i> initiate a system shutdown automatically.	12	NON-CRITICAL TEMPERATURE THRESHOLD EXCEEDED
Voltage	The Netfinity Advanced System Management Processor will forward an alert if any monitored voltage exceeds its threshold value.	13	NON-CRITICAL VOLTAGE THRESHOLD EXCEEDED
Single fan failure	The Netfinity Advanced System Management Processor will forward an alert if one of the system cooling fans fails.	11	SINGLE FAN FAILURE

The System Enabled Alerts group contains the following items.

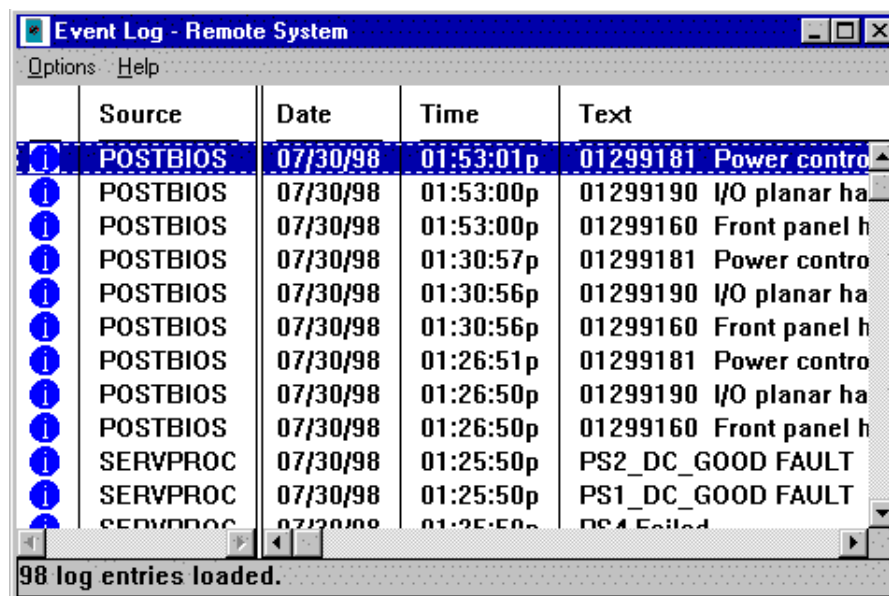
Item	Description (if checked)	Numeric code	Text string
POST timeout	The Netfinity Advanced System Management Processor will forward an alert if the POST timeout value (specified in the Configuration Settings window) is exceeded.	20	POST/BIOS WATCHDOG EXPIRED. SYSTEM RESTARTED
Loader timeout	The Netfinity Advanced System Management Processor will forward an alert if the Loader timeout value (specified in the Configuration Settings window) is exceeded.	26	LOADER WATCHDOG EXPIRED. SYSTEM RESTARTED

Item	Description (if checked)	Numeric code	Text string
O/S timeout	The Netfinity Advanced System Management Processor will forward an alert if the O/S timeout value (specified in the Configuration Settings window) is exceeded.	21	OPERATING SYSTEM WATCHDOG EXPIRED. SYSTEM RESTARTED
Power off	The Netfinity Advanced System Management Processor will forward an alert if the system is turned off.	23	SYSTEM COMPLEX POWERED OFF
Power on	The Netfinity Advanced System Management Processor will forward an alert if the system is turned on.	24	SYSTEM COMPLEX POWERED ON
Application	The Netfinity Advanced System Management Processor will forward an alert if it receives a Netfinity alert (Netfinity can forward alerts directly to the Netfinity Advanced System Management Processor using the Alert Manager Forward Alert to System Management Subsystem action).	22	APPLICATION LOGGED EVENT
PFA®	The Netfinity Advanced System Management Processor will forward an alert if it receives a Predictive Failure Analysis (PFA) alert from the system.	27	PFA

Event Log

Use Event Log to open the Event Log window. This window contains all entries that are currently stored in the Netfinity Advanced System Management adapter or processor Event log. Information about all remote access attempts and dialout events that have occurred is recorded in the Netfinity Advanced System Management adapter or processor Event log.

Figure 8. The Event Log window



Note: If you are using the Netfinity Advanced System Management service with your server, the event log will also include POST error messages.

The following functions are available from the Options menu in the Event Log window:

Load Refreshes the contents of the Event Log window.

Print to File

Saves the contents of the Event Log window to a text file.

Print to Printer

Sends the contents of the Event Log window to a printer attached to your system.

Clear Log Erases all entries that are currently stored in the Event Log (including any entries that are not currently visible in the Event Log window).

Note: Once you use **Clear Log** to erase the entries in the Event Log, they are permanently erased and cannot be retrieved.

System Operational Parameters

The System Operational Parameters window shows the current values or status of many system components monitored by the Netfinity Advanced System Management adapter or processor. Available values include:

- Power supply voltages (including +5 V dc, +12 V dc, +3.3 V dc, -12 V dc)
- Current temperatures and threshold levels for system components such as far-end adapter, center adapter, microprocessors, system board, and hard disk drive backplane.
 1. Monitored system components vary by Netfinity Advanced System Management adapter or processor.
 2. VRM voltages are monitored, but not displayed.
- System state (including O/S started, O/S running, POST started, POST stopped (error detected), and system powered off/state unknown).
- System power status (on or off).
- Power on hours—the total number of hours that the system has been turned on. (This is a cumulative count of all running hours, not a count of hours since the last system restart).

Figure 9. The System Operational Parameters window

System Operational Parameters - My System						
Temperatures (degrees celsius)						
	Value	Warning Reset	Warning	Soft Shutdown	Hard Shutdown	
Center card	31.00	39.00	47.00	52.00	57.00	▲
Microprocessor 1	34.00	42.00	47.00	53.00	58.00	
Microprocessor 2	34.00	41.00	50.00	57.00	62.00	▼

Voltages			System Status	
Source	Value	Warning Reset		
+5 Volt	5.13	[4.90, 5.25]	System Power	ON
-5 Volt	-5.04	[-4.90, -5.25]	Power-on Hours	290
+3 Volt	3.36	[3.26, 3.43]	Start-up Count	24
+12 Volt	12.03	[11.50, 12.60]	System State	O/S activity detected
-12 Volt	-11.80	[-10.92, -13.20]	Fan 1	83%
			Fan 2	77%
			Fan 3	76%

Note: Some temperature monitors are available on some IBM systems only.

System Power Control

Use the System Power Control window to instruct the Netfinity Advanced System Management Processor to turn off the server, restart the server, or turn on the server. To initiate any of the power control options, you must first check the **Enable power control options** check box. If this check box is unchecked, the **Power Control Options** field will not be available.

Figure 10. The System Power Control window

The following System Power Control functions are available at all times.

Function	Description
Power off with O/S shutdown	Performs an O/S shutdown before removing power from the system.
Power off now	Immediately removes power from the system.
Restart the system with O/S shutdown	Performs an O/S shutdown, removes power from the system, and then restores power to the system.
Restart the system now	Immediately removes power from the system, and then restores power to the system.

If you are connected to the Netfinity Advanced System Management adapter or processor through a modem or TCP/IP link, the **Power on now** selection will also be available. This function turns on the server and allows the microprocessor to perform POST, loading, and O/S startup procedures.

To initiate a Power Control Option:

1. Check the **Enable power control options** check box.
Note: To initiate any of the power control options, you must first check the **Enable power control options** check box. If this check box is unchecked, the **Power Control Options** field will not be available.
2. From the **Power Control Options** field, select the Power Control Option you want to activate.
3. Click **Apply**.

Remote POST Console

You can use the Netfinity Advanced System Management Remote POST Console function to remotely monitor, record, and replay all text generated during POST. To monitor and record the POST data on a remote system:

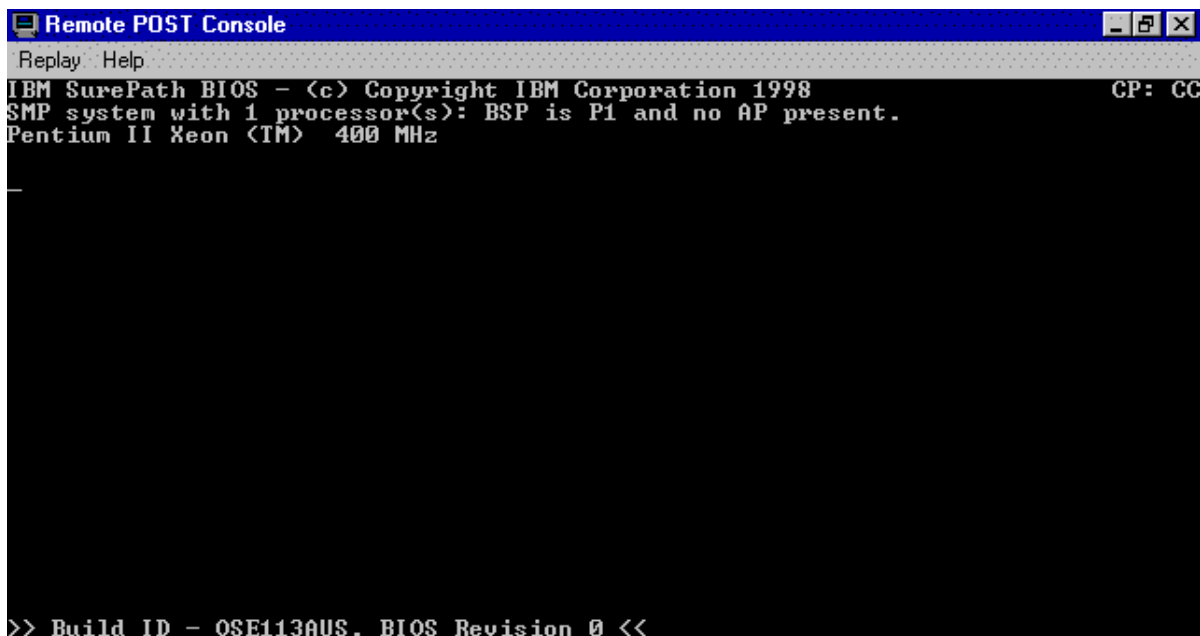
1. Connect to the Netfinity Advanced System Management Processor on the remote system.
2. Open the Remote POST window.
3. Restart the remote system (using the Netfinity Advanced System Management System Power Control functions).

All POST data will be displayed in and recorded by the Remote POST Console as the remote system completes POST. While you are monitoring POST on a remote system, all local keystrokes are relayed automatically to the remote system, enabling you to interact with the POST process on the remote system.

To review data after POST completes, disconnect from the remote system and use the Replay functions.

A window similar to the illustration the figure below appears. Depending on the operating system that you use, your window might contain different information.

Figure 11. The Remote POST window



Use the selections available in the Replay menu to replay the text that was captured during the last Remote POST operation. All text that was displayed by the remote system during POST will be displayed as it appeared on the remote system.

- To begin playing the recorded POST data, or to resume playing the recorded POST data after stopping playback, click **Replay Last POST**.
- To halt playback of the recorded POST data, click **Stop**.
- To resume viewing the recorded POST data from the beginning, click **Restart**.
- Select **Fast**, **Medium**, or **Slow** to specify the speed at which the recorded POST data is displayed in the Remote POST window.

Note: Remote POST data can be replayed only when you are *not* connected to a Netfinity Advanced System Management adapter or processor on a remote system.

Updating Netfinity Advanced System Management Processor Microcode

Notes:

1. If you update the Netfinity Advanced System Management Processor microcode, the default user name (USERID) and password (PASSWORD) are reset. If you had previously changed them, you will need to change them again. For more information, see "Configuration Settings" on page 5.
2. To obtain the current Netfinity Advanced System Management Processor microcode diskette image for your operating system, go to <http://www.pc.ibm.com/support/> on the World Wide Web and download the image to your server.
3. If you want the IBM ServerGuide program to update your Netfinity Advanced System Management Processor microcode automatically through IBM Update Connector, follow the instructions included with ServerGuide.

To update the Netfinity Advanced System Management Processor microcode:

1. From the **Options** menu, click **Update Microcode...** and then click **System Management Subsystem**.
2. A file selection window opens.
3. Use the file selection window to select the source disk drive (or diskette drive) and directory where the Netfinity Advanced System Management Processor microcode update is located.
4. Click **OK** to continue.
5. Warning notices will appear, asking you to verify that you want to continue. Click **OK** to continue or **Cancel** to stop the microcode update process.

When you have verified that you want to proceed with updating the Netfinity Advanced System Management Processor microcode, the Netfinity Advanced System Management service will apply the microcode update to the Netfinity Advanced System Management Processor.

During this process, some of the monitoring functions of the Netfinity Advanced System Management Processor (such as the environmental monitors) will be disabled. After you have completed the microcode update all system monitoring will resume.

Using the Dynamic Connection Manager service

Dynamic Connection Manager is an updated and enhanced version of the Serial Connection Control service that is included with Netfinity Manager. This enhanced version of Serial Connection Control is installed with Netfinity Manager 5.2.1 or later only if the Advanced System Management option is selected during installation. If you do not select the Advanced System Management installation option when installing Netfinity Manager 5.2.1 or later, Serial Connection Control will be installed instead of Dynamic Connection Manager. For information on Serial Connection Control, see the Serial Connection Control chapter of your *Netfinity Manager User's Guide*.

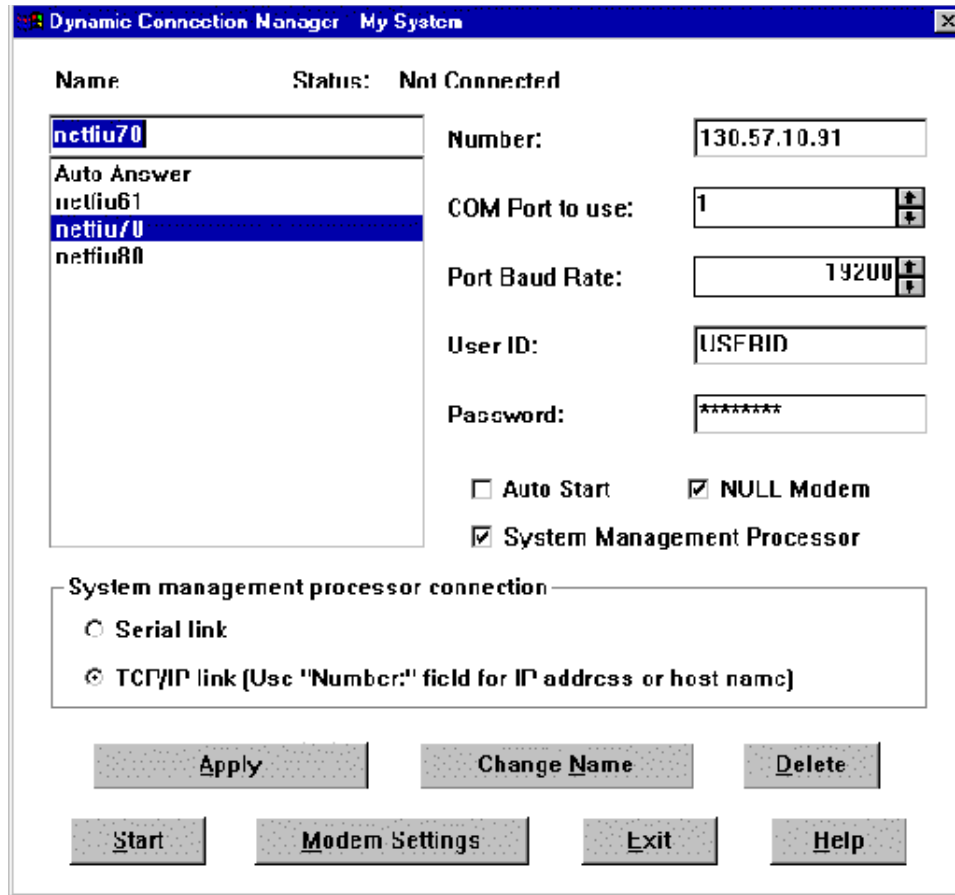
Note: If you did not select the Advanced System Management option when you installed Netfinity Manager, you must reinstall Netfinity Manager and select the Advanced System Management option to enable Dynamic Connection Manager.

Like Serial Connection Control, Dynamic Connection Manager enables you to remotely access another Netfinity Manager system using a modem installed in your system. Once properly configured, you can access and manage other Netfinity Manager systems using only a modem, just as if they were attached to your LAN. If you use Dynamic Connection Manager to connect with a system running Netfinity Manager, you can then use the remote system's Remote System Manager to pass through that system and manage any other Netfinity Manager system on the remote system network.

Also, if your system is not attached to a LAN, the Netfinity Manager Dynamic Connection Manager service will enable your system administrator to manage your system using any Netfinity Manager application without having to visit your office or interrupt your work.

In addition to the functions provided by the Serial Connection Control service, you can use Dynamic Connection Manager to link directly to the TCP/IP or Advanced System Management (ASM) Interconnect network subsystem included with the Advanced System Management PCI Adapter or Processor. Once this link is established, you can use the Advanced System Management service to directly access, monitor, configure, and manage the Advanced System Management PCI Adapter or Processor regardless of whether the server in which it is installed is currently on or operating.

Figure 12. Dynamic Connection Manager



1. Your system must have a properly installed and configured modem that supports at least 9600 baud to use Dynamic Connection Manager serial linking functions.
2. Your system must be attached to a TCP/IP network and you must enable the TCP/IP protocol driver (enabled during installation). If it is not currently enabled, use Network Driver Configuration to enable it) to use Dynamic Connection Manager TCP/IP linking function.
3. Your system must be attached to an Advanced System Management (ASM) Interconnect network to use Dynamic Connection Manager ASM Interconnect linking function.

Note: Dynamic Connection Manager enables you to use a serial or TCP/IP connection to connect to a remote Advanced System Management adapter or processor, and then use the ASM Interconnect function to "pass through" and connect to other Advanced System Management adapters or processors on the remote system ASM Interconnect network. For more information, see "Advanced System Management Interconnect pass-through management" on page 39.

Modem configuration

Before you can use the Dynamic Connection Manager serial lining functions to access remote systems or to enable remote access of your own system, you must ensure that your modem is properly configured.

To configure your system's modem:

1. Click **Modem Settings** from the Dynamic Connection Manager window.
This will open the Modem Settings window.

2. Use the spin buttons to select the **COM Port** for the modem that you are configuring.

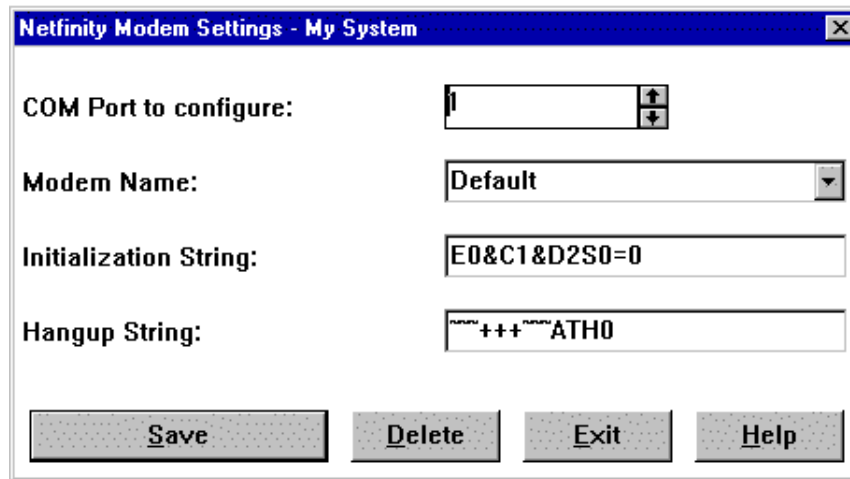
Use the spin buttons beside the **COM Port to configure** field to select the modem's COM port.

3. Select a **Modem Name**, or type in a new one.

Select from the **Modem Name** field the name of your system modem, or type in a new one. Netfinity Manager comes preconfigured with settings for some popular modem types. However, if your modem is not listed in the **Modem Name** field, or if you do not know what kind of modem your system has, select **Default**. If your modem does not function properly when using the **Default** settings, see "Initialization string guidelines" on page 39.

Note: Selecting a preconfigured Modem Name or **Default** will automatically fill in the other modem configuration information.

Figure 13. Dynamic Connection Manager — Modem Settings window



4. If you typed in a modem name, type in the proper initialization string for your system modem.

If you selected one of the preconfigured Modem Names, this field will be filled in for you. However, you might need to edit this field if Netfinity Manager did not come with preconfigured settings for your modem. If you need more information, see "Initialization string guidelines" on page 39.

5. Type in the proper hangup string for your system modem.

The **Hangup string** field contains the command that will be sent to the modem to instruct it to close the connection to the phone line. This string will function properly on most modems. If your modem does not respond correctly to the default hangup string, see the documentation that came with your modem for more information.

6. Click **Save** to save these settings and enable this modem to be used by the Dynamic Connection Manager.

Enabling remote access

Once you have configured your modem for use with Dynamic Connection Manager, you must grant access to your system to your network administrator or other authorized users. Authorized users can then use Dynamic Connection Manager to access your system. To grant access to your system:

1. Click **Auto Answer** from the **Name** Selection list to set the Dynamic Connection Manager service to Auto Answer mode.
2. Use the Security Manager service to configure a User ID and Password combination for the authorized user to type in when logging on to your system.

To set the Dynamic Connection Manager service to Auto Answer mode:

1. Start the Netfinity Manager Dynamic Connection Manager service.
2. Click **Auto Answer** in the Dynamic Connection Manager **Name** field.

The Auto Answer setting will enable the Dynamic Connection Manager service to automatically answer incoming phone calls through the modem. Once it has answered the telephone, it will attempt to establish a link with the calling system.

3. Click **Null Modem** if the connection will be established using a null modem connection.

Note: The **Null Modem** checkbox *must* be checked if remote systems will be using a null modem connection to communicate with this system.

4. Set the Dynamic Connection Manager User ID and Password.

Use the Security Manager service to configure a User ID and Password combination for the authorized user to type in when logging on to your system. When remote users dial into the modem on this system, they will need to provide a User ID and a Password to get access to the Netfinity Manager services on this system. For information on how to configure Netfinity Manager User ID and Password combinations, see the Security Manager chapter of your *Netfinity Manager User's Guide* (included with ServerGuide).

5. Click **Start**.

Once you click **Start**, the Dynamic Connection Manager service will begin waiting for an incoming call. Once "Waiting for call" appears in the Dynamic Connection Manager window status field, you can click **Exit**. Dynamic Connection Manager will continue to wait in the background for incoming calls.

Note: If you want the Dynamic Connection Manager service to automatically start and begin waiting for incoming calls when Netfinity Manager is started, click **Auto Answer**, and then click the **Auto Start** check box.

Once you have configured your system's modem for use with the Dynamic Connection Manager service, you can create Serial Connection entries that will enable you to remotely access other Netfinity Manager systems.

Creating Dynamic Connection Manager entries

Dynamic Connection Manager entries are added by filling in the appropriate fields in the Dynamic Connection Manager window. You can create two types of entries:

- Netfinity Manager connections

Create a Netfinity Manager connection to use Dynamic Connection Manager and your modem to establish a serial connection with the Dynamic Connection Manager service or the Serial Connection Control service on remote systems running Netfinity Manager. Once you establish this connection, you can use

Netfinity Manager services to remotely monitor and manage the remote system just as if it were attached to your network.

- System Management Processor connections

Create a Netfinity Manager connection to use Dynamic Connection Manager to connect directly to a PC Server Advanced System Management Adapter, Netfinity Advanced System Management Processor, or Netfinity Advanced System Management PCI Adapter that is installed in one of your servers. If you use Dynamic Connection Manager to directly link to remote Advanced System Management hardware Netfinity Manager does not need to be running on the remote servers to use the Advanced System Management service to monitor and manage their Advanced System Management hardware.

Note: System Management Processor connections enable you to use *only* the Advanced System Management service. Other Netfinity Manager services will not be available on the remote system.

Creating Netfinity Manager Connection entries

To add a new Dynamic Connection Manager Netfinity Manager connection entry:

1. Assign a name to the entry.

Type in the **Name** field a unique name for the Dynamic Connection Manager entry that you are creating for an individual system. For example, type the System Name of the system that you are configuring for Dynamic Connection Manager access. However, the Name entry is purely descriptive, and can be anything.

2. Enter the remote system's telephone number.

Type in the **Number** field the telephone number of the system that you will be accessing. Be sure to include the area code and any prefixes that might be necessary to reach this system. For example, some phone systems require that you dial a 9 to get an external phone line.

Note: Do not use parentheses or hyphens in the telephone number.

3. Assign a COM Port.

Select the **COM Port** of the modem that you will be using to access the remote system.

4. Specify the modem baud rate.

Select the **Baud Rate** of the modem that you will be using to access the remote system.

- a. If your serial connections fail frequently, try lowering the baud rate. Higher baud rates are more sensitive to line noise.
- b. For best performance, select a baud rate that equal to or greater than your maximum modem speed.

5. Enter a user ID for logging on to the remote system.

Type in a user ID that will allow access to the remote system. This must match a User ID and Password combination that has been configured to allow access in the remote system's Security Manager.

6. Enter a password for logging on to the remote system.

Type in a password that will allow access to the remote system. This must match a User ID and Password combination that has been configured to allow access in the remote system's Security Manager.

7. Click **Null Modem** if the connection will be established using a null modem connection.

8. Save the Dynamic Connection Manager entry.
Click **Apply** to save this entry.

Creating System Management Processor Connection entries

To add a new Dynamic Connection Manager System Management Processor Connection entry:

1. Check the **System Management Processor** check box.

When you check this check box, the **System management processor connection** button group selections are enabled.

2. Select a **System management processor connection** type.

You can choose one of three connection types:

- Serial link

Select **Serial link** from the **System management processor connection** button group to use your modem to connect directly with the modem that is configured for use by the remote PC Sever Advanced System Management Adapter, Netfinity Advanced System Management PCI Adapter, or Netfinity Advanced System Management Processor.

- TCP/IP link

Select **TCP/IP link** from the **System management processor connection** button group to use your TCP/IP network connection to connect directly with the TCP/IP subsystem that is built into a IBM Netfinity Advanced System Management PCI Adapter that is attached to your network.

Note: TCP/IP links are available *only* with the IBM Netfinity Advanced System Management PCI Adapter

- Interconnect link

Select **Interconnect link** from the **System management processor connection** button group to access Advanced System Management adapters or processors that are connected to the IBM Netfinity Advanced System Management PCI Adapter on an ASM Interconnect network. ASM Interconnect connections do not require any additional configuration. If you are using the ASM Interconnect function, see “Accessing remote systems (Advanced System Management Interconnect links)” on page 38 for more information.

3. Assign a name to the entry.

Type in the **Name** field a unique name for the Dynamic Connection Manager entry that you are creating for an individual Advanced System Management Adapter or Processor. For example, use the System Name of the system in which the adapter or processor is installed. However, the Name entry is purely descriptive, and can be anything.

4. Enter an access number for the remote system.

Type in the **Number** field the telephone number (if you selected **Serial link** from the **System Management processor connection** button group) or the TCP/IP address (if you selected **TCP/IP link** from the **System Management processor connection** button group) of the Advanced System Management adapter or processor that you will be accessing. If you are configuring a serial link, be sure to include the area code and any prefixes that might be necessary to reach this adapter or processor. For example, some phone systems require that you dial a 9 to get an external phone line.

Note: Do not use parentheses or hyphens in the telephone number.

5. Assign a COM Port.

Select from the **COM Port to use** field the COM port of the modem or network adapter that you will be using to access the Advanced System Management adapter or processor.

6. Specify the port baud rate.

If you are configuring a serial link, specify baud rate of the modem that you will be using to access the remote system.

- a. If your serial connections fail frequently, try lowering the baud rate. Higher baud rates are more sensitive to line noise.
- b. For best performance, select a baud rate that equal to or greater than your maximum modem speed.

7. Enter a user ID for logging on to the remote Advanced System Management adapter or processor.

Type in a user ID that will allow access to the remote Advanced System Management adapter or processor. This must match a User ID and Password combination that has been configured, using the Advanced System Management service, to allow access to the Advanced System Management adapter or processor. For information on how to configure User ID and Password combinations for Advanced System Management, see “Remote management using a serial, TCP/IP, or ASM Interconnect connection” on page 4.

8. Enter a password for logging on to the remote Advanced System Management adapter or processor.

Type in a password that will allow access to the remote Advanced System Management adapter or processor. This must match a User ID and Password combination that has been configured, using the Advanced System Management service, to allow access to the Advanced System Management adapter or processor. For information on how to configure User ID and Password combinations for Advanced System Management, see “Remote management using a serial, TCP/IP, or ASM Interconnect connection” on page 4.

9. Click **Null Modem** if the connection will be established using a null modem connection.

10. Save the Dynamic Connection Manager entry.

Click **Apply** to save this entry.

Accessing remote systems (serial and TCP/IP links)

Once you have created one or more Dynamic Connection Manager entries, you can access remote systems.

Remote systems are accessed from the Dynamic Connection Manager window. To access a remote system:

1. Select from the **Name** field the Dynamic Connection Manager entry for the remote system that you want to access.
2. Click **Start** to initiate the serial connection process.

Once you have initiated the Dynamic Connection Manager process, your system will attempt to contact the remote system using either your modem or network adapter. Once it contacts the remote system, Dynamic Connection Manager will attempt to use the User ID and Password combination to access the remote system. If the connection is successful, you can add (or discover) the remote system with Remote System Manager. Then, you can remotely access and manage the remote system just as if it were part of your network.

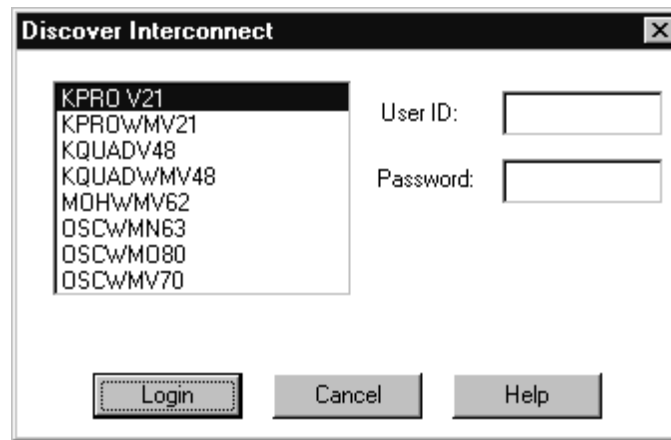
1. If you create a System Management Processor Connection you will be able to use only the Advanced System Management service. Once the link is established, start the Advanced System Management service by double-clicking on the **Advanced System Management** icon in your Netfinity Service Manager window.
2. To establish a Netfinity Manager Connection, the remote system *must* have its own Dynamic Connection Manager or Serial Connection Control service running in Auto Answer mode. If the remote system is not in Auto Answer mode, your telephone call will not be answered by the remote system modem.
3. If you want Dynamic Connection Manager to automatically start and attempt to access a specific remote system when Netfinity Manager is started, select the remote system entry, and then click the **Auto Start** check box. Only one entry can be configured to start automatically.

Accessing remote systems (Advanced System Management Interconnect links)

Unlike serial and TCP/IP links, ASM Interconnect links require no additional configuration prior to attempting to connect with other Advanced System Management adapters or processors on the ASM Interconnect network. To establish an ASM Interconnect link:

1. Check the **System Management Processor** check box.
When you check this check box, the **System management processor connection** button group selections are enabled.
2. Click **Interconnect Link** in the **System management processor connection** button group.
3. Click the **Discover** button to open the Discover Interconnect window.

Figure 14. Dynamic Connection Manager — Discover Interconnect window



The Discover Interconnect window displays a list of all Advanced System Management adapters or processors that are attached to and accessible through the ASM Interconnect network.

4. Select an Advanced System Management adapter or processor from the list displayed in the Discover Interconnect window.
5. Enter a user ID for logging on to the remote Advanced System Management adapter or processor.

Type in a user ID that will allow access to the remote Advanced System Management adapter or processor. This must match a User ID and Password

combination that has been configured, using the Advanced System Management service, to allow access to the Advanced System Management adapter or processor. For information on how to configure User ID/Password combinations for Advanced System Management, see “Remote management using a serial, TCP/IP, or ASM Interconnect connection” on page 4.

6. Enter a password for logging on to the remote Advanced System Management adapter or processor.

Type in a password that will allow access to the remote Advanced System Management adapter or processor. This must match a User ID and Password combination that has been configured, using the Advanced System Management service, to allow access to the Advanced System Management adapter or processor. For information on how to configure User ID and Password combinations for Advanced System Management, see “Remote management using a serial, TCP/IP, or ASM Interconnect connection” on page 4.

7. Click **Login** to establish the ASM Interconnect link with the selected Advanced System Management adapter or processor.

Advanced System Management Interconnect pass-through management

You can use the Dynamic Connection Manager to manage Advanced System Management adapters or processors that are attached to an ASM Interconnect network, even if your own system and IBM Netfinity Advanced System Management PCI Adapter are not attached to the same ASM Interconnect as the systems that you want to manage. To establish a pass-through ASM Interconnect link:

1. Configure and establish a serial or TCP/IP link with a IBM Netfinity Advanced System Management PCI Adapter that is attached to a remote ASM Interconnect network.

For information on how to configure and establish serial or TCP/IP links, see “Creating System Management Processor Connection entries” on page 36 and “Accessing remote systems (serial and TCP/IP links)” on page 37.

2. After the serial connection or TCP/IP link is established, click **Interconnect link** in the **System management processor connection** button group and then click **Discover**. The Discover Interconnect window will open and a list of Advanced System Management adapters and processors that are connected to the ASM Interconnect network that the remote IBM Netfinity Advanced System Management PCI Adapter to which you connected using the serial or TCP/IP link is displayed. Select and login to any of these systems, just as you would if they were attached to your own system on an ASM Interconnect network.

Initialization string guidelines

Although most modems use similar initialization string codes, there are differences from modem to modem. Therefore, it is very difficult to provide appropriate initialization strings for *all* modems. In some cases you might need to create your own initialization string for your modem. If you do, consult the documentation that comes with your modem for the appropriate initialization string codes.

- Required Initialization Codes

For a modem to operate correctly with the Netfinity Manager Dynamic Connection Manager service, the initialization string must configure the modem as follows:

- Command echoing OFF
- Online character echoing OFF

- Result codes ENABLED
- Verbal result codes ENABLED
- All codes and connect messages with BUSY and DT detection
- Protocol ind added - LAPM/MNP/NONE V42bis/MNP5
- Normal CD operations
- DTR ON-OFF hangup, disable AA and return to command mode
- CTS hardware flow control
- RTS control of received data to computer
- Queued and nondestructive break, no escape state
- Auto-answer off

Example:The initialization string for a U.S. Robotics Sportster modem using only the settings required for correct operation would be:

```
EOF1Q0V1X4&A3&C1&D2&H1&R2&Y3S0=0
```

- Additional Initialization Codes

In addition to the required initialization codes, you can optimize the operation of the Netfinity Manager Dynamic Connection Manager service by configuring your modem with the following additional settings:

- Speaker ON until carrier detected
- Software flow control disabled
- Auto-error control
- Variable data rate

Example:The initialization string for a U.S. Robotics Sportster modem using all the required and additional settings would be:

```
EOF1M1Q0V1X4&A3&C1&D2&H1&I0&K1&M4&
N0&R2&Y3S0=0
```

Configuring and using the Advanced System Management Processor without Netfinity Manager

This section describes how to use a configuration program that is include with ServerGuide to configure your Advanced System Management (ASM) PCI Adapter or Processor without using Netfinity Manager and the Advanced System Management service.

This section also describes how to use a terminal program and a modem to connect directly to the Advanced System Management Processor. When connected, you will be able to configure and use the Advanced System Management Processor to access a variety of monitor, configuration, and error log data.

Configuring the Advanced System Management hardware without Netfinity Manager

ServerGuide includes a configuration utility that enables you to configure your Advanced System Management (ASM) PCI Adapter or Processor without using Netfinity Manager and the Advanced System Management service. With the configuration utility, you can:

- Set Alert Settings to enable or disable alert functions
- Configure Dial In/Out settings
- Set General Settings, including the Name and Number that identifies this Advanced System Management hardware, the date and time reported by the ASM hardware, assorted time-out values, and schedule a time for the system to be turned on.
- Configure Modem settings
- Configure Network settings

You can start the configuration utility in one of two ways:

- Access the server system partition and start the Advanced System Management Configuration Utility

If you used ServerGuide to configure your Netfinity server **and** creation of a system partition is supported on your server (see *Learn About ServerGuide* for more information), the Advanced System Management Configuration Utility is available from the the system partition menu. Restart your server and press Alt+F1 at the proper time indicated during POST.

- Start your system using an Advanced System Management Configuration Utility diskette

If your system does not have a system partition, you can use ServerGuide Diskette Factory to create an Advanced System Management Configuration Utility diskette. After you create this diskette, place it in the server diskette drive and then restart the server. The configuration utility starts automatically.

To use the configuration utility:

1. Insert the Advanced System Management CD-ROM into the CD-ROM drive and restart the system. If your system does not start from the CD-ROM, use POST/BIOS setup to configure the CD-ROM drive as a boot device. Please refer to the Server Library that was included with your system for additional information.
2. After your system starts, the main option menu will open. The main menu contains the following selections:
 - Hardware Status and Information
 - Configuration Settings
 - Exit Utility

Use the up and down arrow keys to highlight the options. Online help is available for each option by pressing F1 while the option is highlighted. General help is available by pressing F1 from one of the help windows. To select an option, highlight it and then press Enter.

3. Highlight and option and then press Enter.

- **Hardware Status and Information**
Select Hardware Status and Information for information on the current state of your Advanced System Management hardware. When you are finished viewing this information, press Esc to return to the main option menu.
- **Configuration Settings**
Select Configuration Settings to view or change the configuration settings of your Advanced System Management hardware. You can view or change Alert Settings, Dial In/Dial Out Settings, General Settings, Modem Settings, and Network Settings.

Alert Settings

Use this window to enable or disable all Critical, Non-Critical, and System alerts supported by your ASM hardware. For a description of each of these alerts and effect of enabling them, see “Remote Alert Settings” on page 19.

Use the arrow keys and the Tab key to move between the fields. Use the left and right arrow keys to enable or disable each of the alerts. For online help, press F1. When you have finished, press F6 to save and return to the main option menu. To return to the main option menu without saving, press Esc.

Dial In/Out Settings

This window is divided into two sections:

- Dial In (used to configure dial in settings)
- Dial Out (used to configure dial out settings).

To use the Dial In portion of this window, use the Tab key or the arrow keys to move the cursor to **User Profile to Configure**. Then use the left and right arrow keys to select a User Profile. Once you have selected a User Profile, you can set the following values:

- Login ID
- Password
- Dialback (enable or disable)
- Number (used for dialback only)
- Read Only Access (enable or disable)
- Dial In (enable or disable)
- Dial In Delay (minutes)

For a description of each of these values, see “The Dialing Settings Group” on page 15.

When you have finished, press F6 to save and return to the main option menu. To return to the main option menu without saving, press Esc.

To use the Dial Out portion of this window, use the Tab key or the arrow keys to move the cursor to **User Profile to Configure**. Then use the left and right arrow keys to select a User Profile. Once you have selected a User Profile, you can set the following values:

- Login ID
- Password
- Enable or disable the currently selected entry
- Number
- PIN
- Connection Type (numeric, alphanumeric, serial, TCP/IP)
- Description
- Dialout Retry Limit

- Dialout Number Spacing
- Dialout Retry Delay

For a description of each of these values, see “The Dialing Settings Group” on page 15.

When you have finished, press F6 to save and return to the main option menu. To return to the main option menu without saving, press Esc.

General Settings

Use the General Settings configuration window to:

- Set the identifying Name and Number for this Advanced System Management hardware
- Set the time and date of the ASM clock
- Schedule a time and date for the system to be automatically tunred on
- Specify POST, Loader, and O/S Timeout values or the Power Off Delay value.

The Name and Number are for your use, and can help you identify these systems on your network. The Name and Number values can be up to 15 characters in length.

Use the arrow keys and the Tab key to move between the fields. For online help, press F1. When you have finished entering the values, press F6 to save the values and return to the main option menu. To return to the main option menu without saving, press Esc.

Modem Settings

Use the Modem Settings window to configure the modem that is used by your ASM hardware. For descriptions of each of the Modem Settings values, see “Modem Settings” on page 11.

Network Settings

Use the Network Settings configuration window to set the network interface settings of the Advanced System Management PCI Adapter. You can set the following settings:

- Network Interface
- Enable (or Disable) the network interface
- Host Name
- IP Address
- Subnet Mask
- Gateway
- Line Type
- Routing
- Data Rate
- Duplex
- MTU Size
- MAC Address

For descriptions of each of the Network Settings values, see “Network Settings” on page 17.

Use the arrow keys and the Tab key to move between the fields. For online help, press F1. When you have finished entering the Network Settings values, press F6 to save the values and then press F9 to reset the Advanced System Management PCI Adapter. To return to the main option menu without saving, press Esc.

Note: The Advanced System Management PCI Adapter *must* be reset before changes to the Network Settings will take effect. Be sure to press F9 after you have changed Network Settings.

Using the Advanced System Management Processor without Netfinity Manager

This chapter describes how to use the Advanced System Management Processor without Netfinity Manager.

If you are unable to use Netfinity Manager to access and manage your Advanced System Management Processor, you can use a terminal program and a modem to connect directly to the Advanced System Management Processor. Connect this modem to serial port A (COM1) or management port C (COM2) to use the remote functions. For more information on configuring the Advanced System Management Processor modem, see “Modem Settings” on page 11.

When connected, you will be able to access a variety of monitor, configuration, and error log data. You can also:

- Turn the remote server on or off
- Shut down and restart the server
- Initiate remote video mode on the Advanced System Management Processor

Remote video mode enables you to remotely monitor all text generated during POST. All POST data will be displayed in the terminal program window as the remote system completes POST. While you are monitoring POST on the remote system, all local keystrokes are relayed automatically to the remote system, enabling you to use POST utilities (such as system configuration, redundant array of independent disks (RAID) mini-configuration program, and diagnostic programs) that can be accessed during POST.

Establishing a Direct Connection to the Advanced System Management Processor

To use a terminal program to establish a direct connection with the Advanced System Management Processor:

1. Use a terminal program to establish a connection with the Advanced System Management Processor modem.

Use the following modem settings:

Baud 57.6 k

Data Bits 8

Parity None

Stop Bits 1

Flow Control

Hardware

2. Dial the Advanced System Management Processor.
3. Log in to the Advanced System Management Processor.

When you have established a connection with the Advanced System Management Processor, you will be prompted for a user name and password. You must provide a user name and password combination that has been previously configured for use with the Advanced System Management Processor.

You can use one of two user name and password combinations:

- The default user name (USERID) and password (PASSWORD)
Note: The default user name and password are case sensitive. You must use *ALL CAPS*, and the "0" in PASSWORD, is the numeral zero.
- A user name and password that you define using the Advanced System Management Processor and Netfinity Manager

Note: For security purposes, change the user name and password using the Advanced System Management Processor. For more information, see "Configuration Settings" on page 5.

If you update the Advanced System Management Processor microcode, the default user name (USERID) and password (PASSWORD) are reset. If you had previously changed them, you will need to change them again.

Advanced System Management Processor Menus

When you log into the Advanced System Management Processor, the following main menu opens:

```
2 Monitors
3 Error Logs
4 Service Processor Configuration
5 System Services
6 System Power
7 Boot
B Remote Terminal Status
Y Disconnect Current Logon
Z Start Remote Video
```

To access a menu item, press the number or letter that corresponds to the information that you want to access. After you select a menu item, subsequent menus will offer more specific information that pertains to the selection you made from the main menu. To return to the main menu, press the Esc key.

Note:

- Selecting **Y Disconnect Current Logon** ends the current session and requires you to enter a new user name and password before continuing.
- Selecting **Read** displays the last entry.
- Selecting **Read Last** steps backwards through the entries.
- Selecting **Write** executes the command.

Menu Selection	Data Available for Viewing
Monitors	DASD backplane temperature, ambient temperature, microprocessor temperatures, voltage readings, voltage regulator module readings, fan status
Error Logs	Contents of system error log
Service Processor Configuration	Advanced System Management Processor modem configuration, dial-out entries, dial-out alerts, dial-in logins, system status, thresholds, system statistics, vital product data (VPD) information, and system state
System Services	Status of Advanced System Management Processor watchdog timers and event alerts sent to the host system.

Menu Selection	Data Available for Viewing
System Power	Current system power status, power-off configuration, and power-off delay values Note: You can use selections available from the System Power menu to power the system on or off. For more information, see “System Power Menu Selections”.
Boot	You can use selections available from the Boot menu to shut down and restart your system or to restart the Advanced System Management Processor. For more information, see “Boot Menu Selections” on page 50.
Remote Terminal Status	Current remote terminal status
Start Remote Video	Use Start Remote Video to enable your terminal program to remotely monitor and manage the server during POST. For more information, see “Using Remote Video Mode to Monitor and Access POST” on page 51.

When you are finished accessing the Advanced System Management Processor using a terminal program, select **Disconnect Current Logon** from the main menu and then use your terminal program to close the connection to the Advanced System Management Processor.

System Power Menu Selections

You can use the selections available from the System Power menu to:

- View data regarding the current server power status
- View data regarding the server power configuration
- Power the server off
- Power the server on

To access these functions:

1. Use a terminal program to establish a connection with the Advanced System Management Processor modem.
2. Log in to the Advanced System Management Processor.

When you have established a connection with the Advanced System Management Processor, you will be prompted for a user name and password. You must provide a user name and password combination that has been previously configured for use with the Advanced System Management Processor. You can use one of two user name and password combinations:

- The default user name (USERID) and password (PASSWORD)
Note: The default user name and password are case sensitive. You must use *ALL CAPS*, and the "0" in PASSWORD, is the numeral zero.
- A user name and password that you define using the Advanced System Management Processor and Netfinity Manager

Note: For security purposes, change the user name and password using the Advanced System Management Processor. For more information, see “Configuration Settings” on page 5.

If you update the Advanced System Management Processor microcode, the default user name (USERID) and password (PASSWORD) are reset. If you had previously changed them, you will need to change them again.

When you have logged into the Advanced System Management Processor, the following main menu opens:

2 Monitors
3 Error Logs
4 Service Processor Configuration
5 System Services
6 System Power
7 Boot
B Remote Terminal Status
Y Disconnect Current Logon
Z Start Remote Video

3. Select **6 System Power**.

The following System Power menu opens:

1 Current Power Status
2 Power Configuration
3 Power On
4 Power Off

4. Select a System Power menu item.

- Select **1 Current power Status** for information about the current server power status.
- Select **2 Power Configuration** for information about the server power configuration.
- Select **3 Power On** to turn the server on (if it is currently off).
- Select **4 Power Off** to turn the server off (if it is currently on).

Boot Menu Selections

You can use the selections available from the Boot menu to:

- Shut down the server operating system and then restart the server
- Restart the server immediately, without first performing an operating system shutdown
- Restart the Advanced System Management Processor

To access these functions:

1. Use a terminal program to establish a connection with the Advanced System Management Processor modem.
2. Log in to the Advanced System Management Processor.

When you have established a connection with the Advanced System Management Processor, you will be prompted for a user name and password. You must provide a user name and password combination that has been previously configured for use with the Advanced System Management Processor. You can use one of two user name and password combinations:

- The default user name (USERID) and password (PASSWORD)
Note: The default user name and password are case sensitive. You must use *ALL CAPS*, and the "0" in PASSWORD, is the numeral zero.
- A user name and password that you define using the Advanced System Management Processor and Netfinity Manager

Note: For security purposes, change the user name and password using the Advanced System Management Processor. For more information, see "Configuration Settings" on page 5.

If you update the Advanced System Management Processor microcode, the default user name (USERID) and password (PASSWORD) are reset. If you had previously changed them, you will need to change them again.

When you have logged into the Advanced System Management Processor, the following main menu appears:

```
2 Monitors
3 Error Logs
4 Service Processor Configuration
5 System Services
6 System Power
7 Boot
B Remote Terminal Status
Y Disconnect Current Logon
Z Start Remote Video
```

3. Select **7 Boot**.

The following Boot menu appears:

```
1 Reboot w/OS Shutdown
2 Reboot immediately
3 Restart SP
```

4. Select a Boot menu item.

- Select **1 Reboot w/OS Shutdown** to shut down the server operating system and then restart the server.
- Select **2 Reboot immediately** to restart the server immediately, without first shutting down the operating system.
- Select **3 Restart SP** to restart the Advanced System Management Processor.

Using Remote Video Mode to Monitor and Access POST

You can use a terminal program to remotely monitor all text generated during POST. All POST data will be displayed in the terminal program window as the remote system completes POST. While you are monitoring POST on the remote system, all local keystrokes are relayed automatically to the remote system, enabling you to use POST utilities (such as system configuration, RAID mini-configuration program, or diagnostic programs) that can be accessed during POST.

To use Remote Video Mode to monitor and access POST on the server:

1. Use a terminal program to establish a connection with the Advanced System Management Processor modem.
2. Log in to the Advanced System Management Processor.

When you have established a connection with the Advanced System Management Processor, you will be prompted for a user name and password. You must provide a user name and password combination that has been previously configured for use with the Advanced System Management Processor. You can use one of two user name and password combinations:

- The default user name (USERID) and password (PASSWORD)
Note: The default user name and password are case sensitive. You must use *ALL CAPS*, and the "0" in PASSWORD, is the numeral zero.
- A user name and password that you define using the Advanced System Management Processor and Netfinity Manager

Note: For security purposes, change the user name and password using the Advanced System Management Processor. For more information, see "Configuration Settings" on page 5.

If you update the Advanced System Management Processor microcode, the default user name (USERID) and password (PASSWORD) are reset. If you had previously changed them, you will need to change them again.

When you have logged into the Advanced System Management Processor, the following main menu appears:

```
2 Monitors
3 Error Logs
4 Service Processor Configuration
5 System Services
6 System Power
7 Boot
B Remote Terminal Status
Y Disconnect Current Logon
Z Start Remote Video
```

3. Start (or restart) the server.

- If the remote server is currently off:
 - a. Select **6 System Power** from the main menu.
 - b. Select **4 Power On** from the System Power menu.
- If the server is currently turned on, you must restart the server. You can use selections from the System Power menu or the Boot menu to restart the server in several ways.

To restart the server using System Power menu selection:

- a. Select **6 System Power** from the main menu.
- b. Select **3 Power Off** from the System Power menu.
- c. Once the server has powered off, select **4 Power On** to restore power to the server.

To restart the server using Boot menu selections:

- a. Select **7 Boot** from the main menu.
- b. Select either **1 Reboot w/OS Shutdown** or **2 Reboot immediately** to restart the server.

Note: For information on the System Power and Boot menus, see “System Power Menu Selections” on page 49 and “Boot Menu Selections” on page 50.

4. After you restart the server, return to the main menu and select **Z Start Remote Video**.

Once you have started Remote Video mode on the Advanced System Management Processor, all text generated during POST will be sent to your terminal window. Your terminal will also act as a fully-active remote session, enabling you to enter keyboard commands that will be sent to the remote server. In this way, you can enter key commands and key-combinations that access POST operations and utilities, such as system setup or the RAID mini-configuration program.

When you have finished using Remote Video mode, press Ctrl+R; then, press Ctrl+E; and then, press Ctrl+T. This will end Remote Video mode and return you to the main menu.

Setting up and using your Advanced System Management Interconnect Network

This appendix includes information on how to configure and connect your system to function within an Advanced System Management (ASM) Interconnect network. Your ASM Interconnect network can include as many as 12 individual ASM connections in a single bus. Once your systems are connected they use the ASM Interconnect network to share Advanced System Management information and resources. By connecting your Advanced System Management Processors and Advanced System Management PCI Adapters to an ASM Interconnect network, you can:

- Connect the Advanced System Management Processors and Advanced System Management PCI Adapters of up to 12 servers to a single ASM Interconnect bus.
- Share Advanced System Management resources, information, and alerts between multiple systems without having to add additional communications hardware or network interface adapters.
- Use an Advanced System Management PCI Adapter that is connected to your ASM Interconnect bus as an Ethernet or Token Ring gateway for your ASM Interconnect bus, enabling all Advanced System Management information generated by servers attached to the ASM Interconnect bus to be forwarded to other systems on your Ethernet or Token Ring network.

Note: To connect your Advanced System Management PCI Adapter to a Token Ring network you must purchase and install the IBM Netfinity Advanced System Management Token Ring Option (PN 36L9654). To purchase this option, please contact your IBM Authorized reseller.

To connect other systems to the ASM Interconnect network bus, you need an Advanced System Management Interconnect Cable Option (PN 03K9309). To purchase this option, please contact your IBM Authorized reseller.

Once you have installed the Advanced System Management Interconnect Cable option on each of the systems that will be connected to the ASM Interconnect network bus, you need to connect the systems together using standard Ethernet cable. When connecting your systems, be aware of the following setup and configuration considerations:

- The ASM Interconnect network must be set up as a bus, not as a ring. Make sure your servers are connected to the ASM Interconnect network in series, with a beginning point and an end point.
- The total length of all Ethernet cables connecting the systems in the ASM Interconnect network should not exceed 300 feet.
- Each Advanced System management PCI Adapter or Advanced System Management Processor that is connected to the ASM Interconnect network bus counts as 1 connection. For example, if you have installed an Advanced System Management PCI Adapter option in a system that has an Advanced System Management Processor, the Processor and the Adapter are connected to each other using an ASM Interconnect connection and each count as a connection on the ASM Interconnect network bus.

Advanced System Management Interconnect alert forwarding

Advanced System Management PCI Adapters and Advanced System Management Processors that are connected to an ASM Interconnect network share resources and system management information. This section provides information on how alerts are shared and forwarded in the ASM Interconnect network.

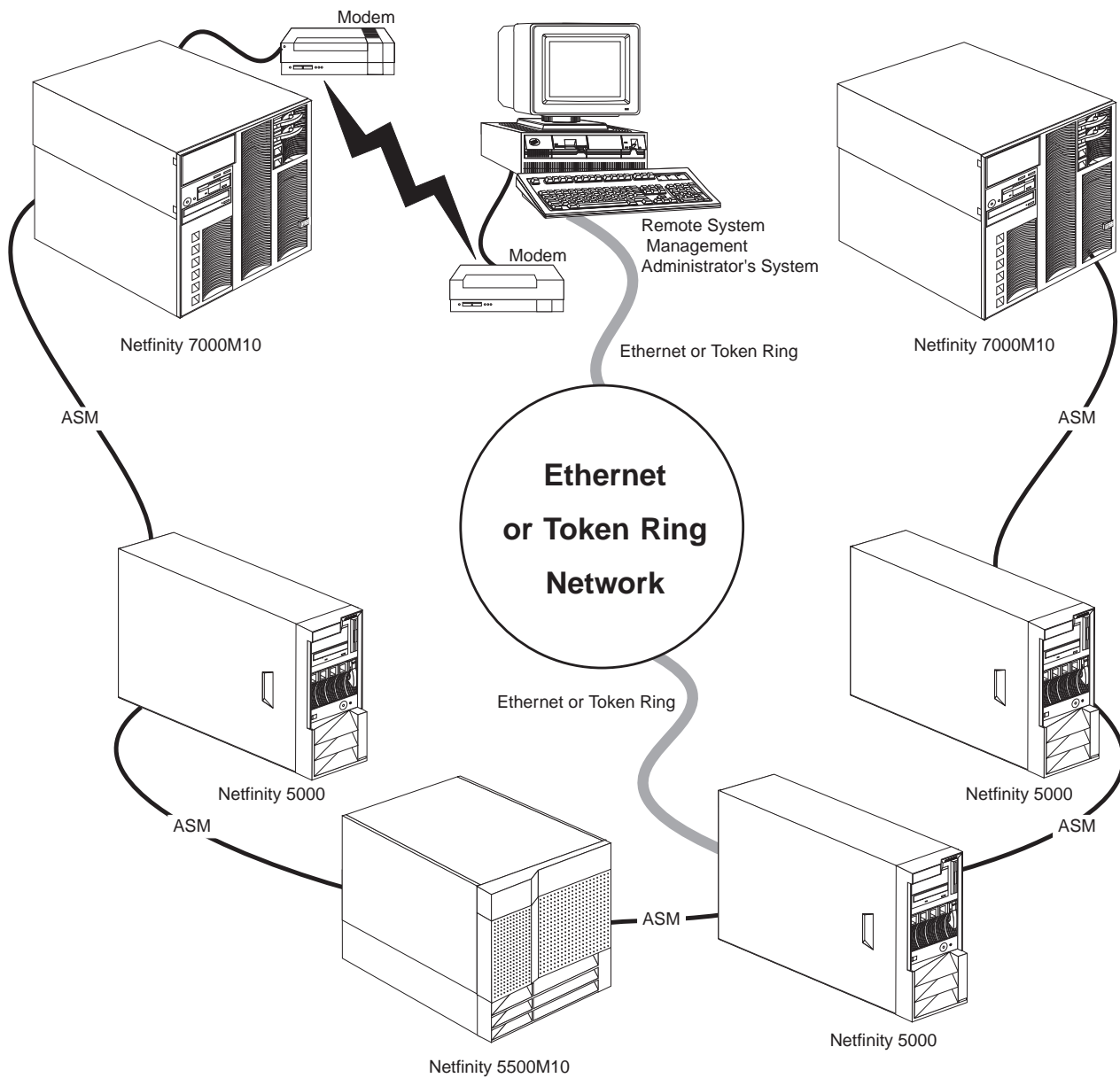
During normal operation, each Advanced System Management Processor or PCI Adapter on the ASM Interconnect network communicates with the other processors and adapters on the network. Processors or adapters that have a modem, Ethernet, or Token Ring connection "tell" the other processors and adapters that these communications resources are available for use by other systems on the ASM Interconnect network. These communications resources can now be used as ASM Interconnect network resources, enabling any Advanced System Management Processor or PCI Adapter on the ASM Interconnect network to send alerts to a modem or an IP address, even if they do not have a modem or network connection physically attached.

As they generate alerts, the alerts are forwarded to the Advanced System Management Processor or PCI Adapter on the ASM Interconnect network that has the communications resources necessary to forward the alert. If no system on the ASM Interconnect network meets the requirements, the alert is not forwarded and is discarded.

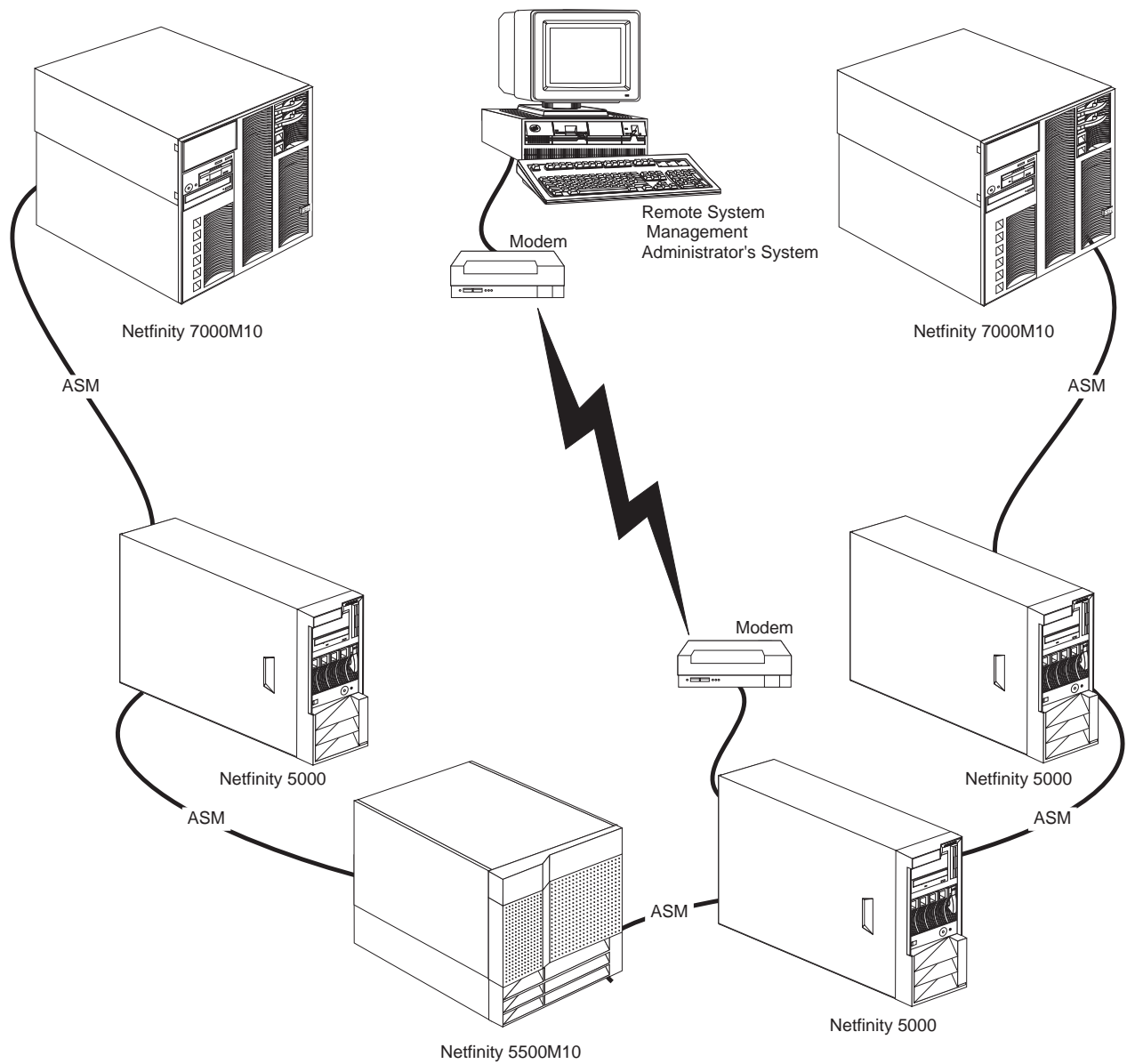
If multiple modems or multiple network connections exist in the ASM Interconnect network, you cannot specify which system will receive an alert or which will use its modem or network connection to forward the alert. If an alert is forwarded to another Advanced System Management Processor or PCI Adapter that is unable to deliver the alert (for example, the modem it is configured to use has failed or the network cannot resolve the destination IP address), the processor or adapter will attempt to forward the alert, to another system on the ASM Interconnect network that has the resources necessary to forward the alert as requested. If another system with the necessary resources is not available or the alert still cannot be forwarded it is discarded.

Sample Advanced System Management Interconnect configurations

The following illustrations present sample ASM Interconnect network configurations that you can use. In this example, a modem has been connected to the Advanced System Management PCI Adapter that is included with a Netfinity 7000 M10 and an Advanced System Management PCI Adapter option has been installed in a Netfinity 5000. In this case, the Netfinity 5000 with the Advanced System Management PCI Adapter will act as a network gateway, forwarding system management data generated by the other systems in the ASM Interconnect network bus to system management administration system connected to the network. The Netfinity 7000 M10 has been configured to use a modem to forward the system management data to the administrator as well, providing redundancy in case of network failure.



In this example, a modem has been connected to the Advanced System Management Processor in a Netfinity 5000. In this case, the Netfinity 5000 will use the modem to forward system management data generated by the other systems in the ASM Interconnect network bus to the remote system management administrator.



In this example, modems have been connected to the Advanced System Management PCI Adapter that is included with Netfinity 7000 M10 servers at each end of the ASM Interconnect network bus. Placing modems at opposite ends of the ASM Interconnect network bus ensures that if an ASM Interconnect connection in the bus fails all of the systems will still have access to a modem to forward system management data to the remote system administrator.

