WHITE PAPER

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CONTENTS

Compaq Insight Asynchronous Management in a Microsoft Windows NT Environment

This document provides the procedures for installing Compaq Insight Manager (v2.30) and Insight Asynchronous Management in a Windows NT environment. The procedures include the steps to perform the following:

- *Installing Compaq Insight Manager on a Management PC running Microsoft Windows NT*

- *Installing and configuring Remote Access Service*

- *Configuring Compaq Insight Management Agents*

Compaq Insight Manager, Compaq Insight Management Agents, and Compaq Insight Asynchronous Management provide server status information and the means for remotely monitoring and controlling servers. Using the facilities provided by these products, you can monitor all hardware subsystems in Compaq servers such as environmental systems, disk storage, and system memory. For example, the Full-Spectrum Fault Management feature prevents faults before they happen, keeps the system up and running in the unlikely event of a failure, and delivers rapid server recovery to normal operation after a fault.

These Compaq products provide many options. Properly configuring them can be a complicated process. Compaq strongly recommends that you carefully read and follow the procedures in this document as closely as possible.

COMPAQ

NOTICE

The information in this publication is subject to change without notice.

Compaq Insight Asynchronous Management in a Microsoft Windows NT Environment

CUSTOMIZING COMPAQ INSIGHT ASYNCHRONOUS MANAGEMENT

The flexibility of the Internet standard point-to-point protocol (PPP) allows you to set up many different configurations for a combination of servers and Management PCs running a variety of operating systems. Compaq has spent an extensive amount of time testing interoperability issues and has developed default values for many different environments. Compaq recommends using these default values and the instructions provided in this document to minimize the complexity associated with this feature.

PREPARING TO INSTALL

Before you configure the Asynchronous Management Feature on your servers and Management PC, perform the following steps shown on the worksheet on page 5. Regardless of the operating system, this should ease the configuration process.

- **Verify Modems are Working**

  Verify that the modems are dialing and answering correctly. Refer to the documentation which came with your modem for verification procedures.

- **Determine Phone Numbers**

  You must assign a phone number to each server and Management PC to be configured. Gather the phone numbers and enter them in the worksheet provided later in this section.

- **Determine Security Information**

  Select the System ID/User Name and Password used on the Management PC. This ID and password are for security authentication of dial connections to the server. The ID must be a valid Windows NT account with appropriate RAS authorization. The System ID/User Name and Password used on the Management PC must match those used on the server.

- **Gather IP Addresses**

  You must assign a unique TCP/IP address to each server and Management PC. This address uses a format of four decimal numbers separated by dots. Determine the IP addresses needed and enter them into the provided worksheet.
      Example: 192.168.1.1.

Compaq Insight Manager

Management PC

Compaq Insight Manager

Managed Server
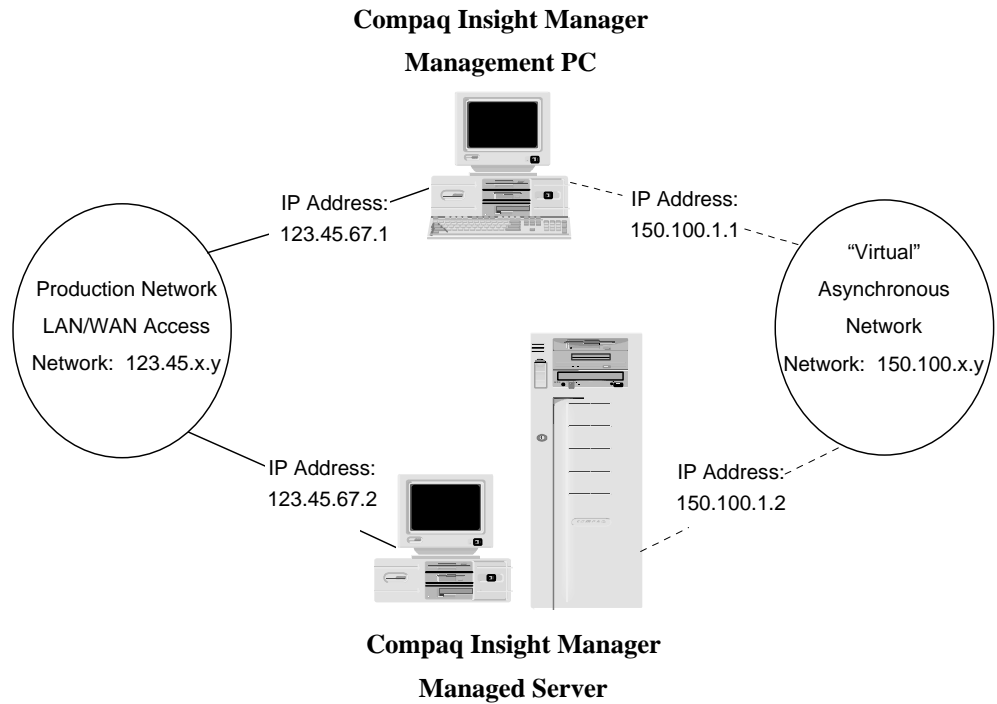
Figure 1. IP Addressing for Asynchronous Management Using Compaq Insight Manager

NOTE: The IP address associated with the Asynchronous Management interface and the IP address associated with the Network Interface Card (NIC) must be on different network segments. For example, if your NIC has an IP address of 123.45.67.1 and the subnetwork mask is 255.255.0.0, then your Asynchronous Management interface must be on a network segment other than 123.45.x.y (where 123.45 represents the network segment).

In addition, the IP addresses you assign to both the Management PC and server for Asynchronous Management must be on the same network segment. For example, if your Asynchronous Management interface on the Management PC has an address of 150.100.1.1 and a subnetwork mask is 255.255.0.0, then your Asynchronous Management interface on the server must have an IP address of 150.100.*x.y* (where 150.100 represents the network segment). The IP address used for Asynchronous Management is used only for the dial connection and need not be consistent with addresses normally used by your organization.

INSIGHT ASYNCHRONOUS MANAGEMENT WORKSHEET

Management PC information
Gather the following information for each Management PC on your Asynchronous Management network.

Phone Number: _____

Asynchronous IP Address: _____

Second Asynchronous IP Address: _____
(required for Windows NT console only)

System ID/User Name: _____
(required for Windows NT console only)

Password: _____
(required for Windows NT console only)

Insight Agent information
Gather the following information for each server on your Asynchronous Management network:

Server Name: _____

Phone Number: _____

Asynchronous IP Address: _____

Second Asynchronous IP Address: _____
(required for NT servers only)

System ID/User Name: _____

Password: _____

INSTALLING COMPAQ INSIGHT MANAGER UNDER MICROSOFT WINDOWS NT

Setup Requirements

The following items are required to install Insight Manager on a Management PC running Microsoft Windows NT:

- Disk space - 27 Megabytes (8 Megabytes for programs, 19 Megabytes for databases)
- Any NIC supported by Microsoft Windows NT
- SNMP and TCP/IP protocol stack properly installed. Refer to the *Microsoft Windows NT TCP/IP Manual* for more information.
- Hayes-compatible Modem if you are using Asynchronous Management, Remote Console, or Alarm Forwarding.

    NOTE: Compaq recommends that you install the same modem (the same model number from the same manufacturer) on both the server and Management PC.

Installation Procedure

NOTE: You must first install and configure the Windows NT Remote Access Service (RAS) on the Windows NT PC before you set up Insight Asynchronous Management.

1. Log on to Windows NT.

2. Place the SmartStart CD into the CD-ROM drive or the Insight Manager Diskette #1 into the diskette drive.

3. Select *Run* from the Program Manager's File menu.

4. Type [cd drive]:\CIM\INSTALL\SETUP or [diskette drive]:\SETUP and select *OK*. After a few seconds of initialization, a registration window displays.

5. Fill in the registration information and select the *Continue* button.

6. To confirm the registration information, press *OK* on the confirmation window.

7. Press *Retry* to change the registration information.

    NOTE: If you have a previous version of Insight Manager installed, a screen appears to inform you that the old version exists and will be inaccessible if you continue.

8 . Select *OK* to continue with the installation and upgrade your previous version, or select *Cancel* to quit the installation, exit, and preserve your old version before installing version 2.30.

If you selected *OK*, Setup displays a menu of installation options:

> Install Compaq Insight Manager 2.30

Select this option to install Insight Manager or upgrade a previous version of Insight Manager.

> Install SMS Launch Support

Select this option to install Insight Management with Systems Management Server (SMS).

By default, the first option is enabled. You may choose any combination of installation options and tailor the installation to your needs.

9 . Select *OK* to continue.
A screen displays and prompts you for the directory where you want to install Insight Manager 2.30.

10. Fill in the information and select *OK* to continue.

11. If you did not select to install Microsoft SMS Launch Support, skip to step 13. Otherwise, continue.

Setup prompts you for the location of the SMS executable files (such as *SMS.EXE*), usually located in a directory such as *C:\SMS\SITE.SRV\X86.BIN*.

Provide this path and select *OK* to continue, or select *Cancel* to abort the SMS installation.

12. Setup asks you for the administrative account name and password for the SMS database. Do not confuse this with the administrative account/password for the NT administrator.

Enter the information, and select *OK* to continue. Selecting *Cancel* aborts the SMS installation.

NOTE: Setup copies two files (*ADDCIM.SQL, DELCIM.SQL*) to your SMS directory and invokes the ISQL utility to insert some Insight Manager information into the SMS database. In the future, if you need to uninstall Insight Manager from SMS, use the *DELCIM.SQL* query script with the ISQL utility. This removes the Insight Manager information from SMS.

13. If you are upgrading an old version of Insight Manager, you are prompted to upgrade your databases and forms.

14. A final screen displays that recaps everything done by the Insight Manager Setup program. Take note of any instructions given on this screen and follow them after setup is completed.

    Select *OK* to proceed.

15. Check the PATH statement in your *AUTOEXEC.BAT* file and remove any references to earlier versions of Insight Manager.

    Setup adds the location of the current version to the PATH statement automatically.

    NOTE: You must restart the Management PC before running Insight Manager.

16. After the installation has completed, start Insight Manager and select *Server List* from the Setup menu.

17. Select the *IP Server List* button. If you have a host file and want Insight Manager to use it, select the *Update from HOSTS Fil*e button.

    Insight Manager prompts you for a path and name for the HOSTS file.

SETTING UP INSIGHT ASYNCHRONOUS MANAGEMENT UNDER WINDOWS NT

You must first install and configure the Windows NT Remote Access Service (RAS) on the Windows NT PC before you set up Insight Asynchronous Management

Installing Remote Access Service

1. Open the Windows Control Panel and select the *Network* option.

2. Select the *Add Software* button.

3. Select the *Remote Access Service* item from the drop-down list of selections, then select the *Continue* button.

   You are prompted for the location of your Windows NT CD-ROM. If you installed from CD-ROM, the default location is entered for you.

4. RAS is installed. After installation, you must add and configure a COM port for RAS to use. When prompted, select the port you wish RAS to use. Proceed to step 4 below.

Configuring Remote Access Service

1. If you previously installed the Remote Access Service, open the Control Panel application and select the *Network* option.

2. Select the *Remote Access Service* from the list of installed Network Software, and select the *Configure* button.

3. Select a port entry from the list, and select the *Configure...* button.

   You can now specify and configure modems to be used by Insight Manager and the Remote Access Service.

4. If you have not already done so, specify the type of modem that you are using. You must configure the Port Usage section to *Dial out and receive calls*.

5. Select the *OK* button when you are done.

6. If you are not already there, select the *Network* button to display the Network Configuration screen.

7. For the Dial out Protocols, disable the *IPX* protocol and enable the *TCP/IP* protocol.

8. For the Server Settings, disable the *IPX* protocol and enable the *TCP/IP* protocol.

9. Change the Encryption Settings to *Allow any authentication including clear text.*

10. Select the *Configure...* button next to the *TCP/IP protocol* option.

11. On the RAS Server TCP/IP Configuration screen, select the *Use static address pool* option.

12. Configure an IP address pool to be used by the Remote Access Service. You must specify a range of at least 2 addresses. Refer to the Asynchronous IP Address and Second Asynchronous Address in the Management PC information section of the Insight Asynchronous Management Worksheet for these values. For example, you could configure the Begin address to be 192.168.1.1 and the End address to be 192.168.1.2.

13. Enable the option *Allow remote clients to request a predetermined IP address.*

    NOTE: The Begin IP address specified above is the IP address assigned to the PPP port. Configure this address as a trap destination address for all of the servers that send remote alerts to this machine through Insight Asynchronous Management.

14. The installation of the Remote Access Service is now complete. Select the *OK* button to exit TCP/IP Configuration.

15. Select the *OK* button to exit Network Configuration.

16. Select the *Continue* button to exit the Remote Access Setup screen.

17. Select the *OK* button to close the Network Settings Control Panel. The new network settings are automatically reconfigured.

18. When prompted, select the *Don't Restart Now* button.

19. Select the *Services* option in Control Panel.

20. Select the *Remote Access Server* from the list of installed Services.

21. Select the *Startup...* button and change Startup Type to Automatic if it is not already selected.

22. Select the *OK* button to exit the Service screen.

23. Select *Close* to exit the Services Control Panel.

24. Open the Remote Access Admin application. This application resides in the Remote Access Service group.

25. From the Main Menu, select *Users→Permissions.*

26. Select the user account you wish to use to deliver asynchronous alarms to the Management PC. Refer to the *System ID/User Name* in the Managment PC Information section of the worksheet on page 5 for this information.

27. Enable the *Grant Dialin Permission to User* check box. Set the Call Back option to *No Call Back.*

28. Select *OK* to close the window. Close the Remote Access Admin application.

29. Shutdown and Restart the machine by selecting *File → Shutdown* from Program Manager. The Remote Access Service automatically starts each time you start the Management PC.

Setting Up the RAS Phone Book

After you install the Remote Access Service, you must create a phonebook with the Remote Access application before you can use Insight Asynchronous Management. Compaq Insight Manager gets a list of servers that support Insight Asynchronous Management from this phonebook.

1 . Open the Remote Access application. This application resides in the Remote Access Service group or you can launch it from the Compaq Insight Manager button bar.
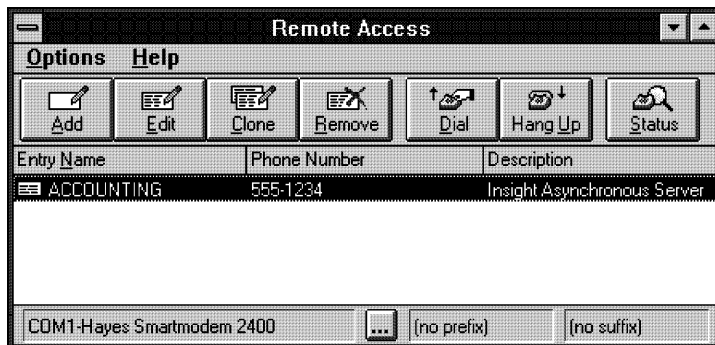
2 . If there are no entries in the phonebook, you are requested to enter one. If you already have entries in the phonebook, select the *Add* button to create a new entry. The Edit Phone Book Entry screen displays.
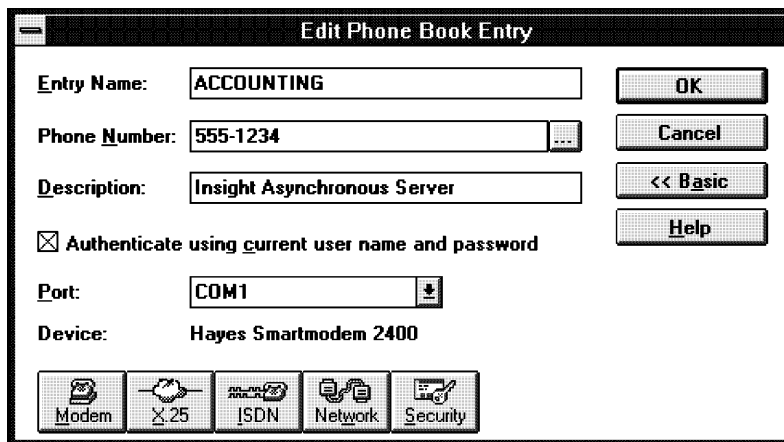
3 . Enter the server name in the Entry Name field. DO NOT USE ANY SPACES. Spaces prevent Compaq Insight Manager from recognizing the server entry. Refer to the Server Name in the Insight Agent information section of the Insight Asynchronous Management Worksheet for this value.

4 . Enter the Phone Number to be dialed to call this server. You may also enter a description to assist in identifying this server. Refer to the Phone Number in the Insight Agent information section of the Insight Asynchronous Management Worksheet for this value.

5 . You may ignore the *Authenticate using current user name and password* option. Compaq Insight Manager does not use this setting.

6 . For NT Servers, select the *Advanced>>* button to display the advanced options.

7 . Select the *Network configuration* icon.
The Network Protocol Settings screen displays.
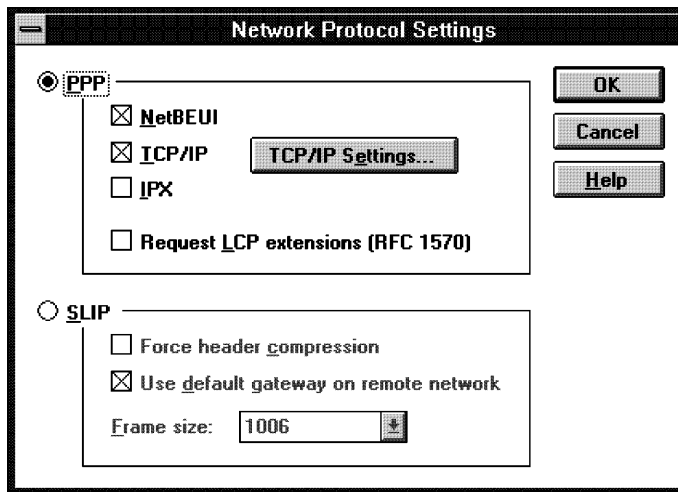
8 . Enable the *PPP* option, then enable the *TCP/IP* protocol and disable the *IPX* protocol.

9 . Disable the *Request LCP extension (RFC 1570).*

10. Select the *TCP/IP Settings...* button.
The PPP TCP/IP Settings screen displays.
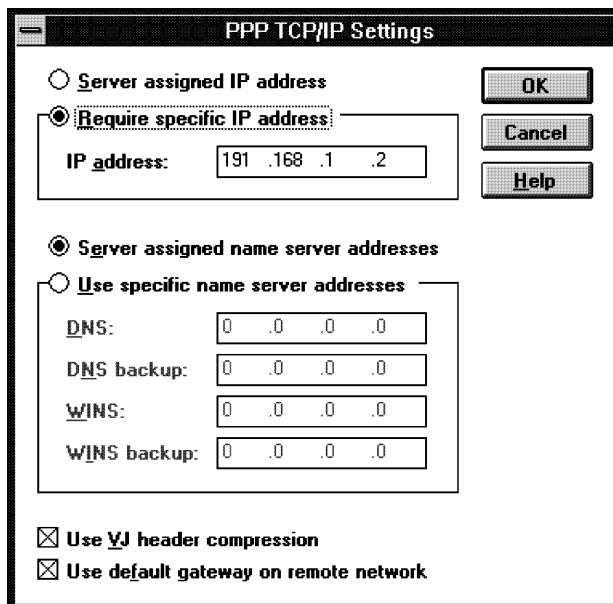
11. Select the *Require specific IP address* option.

12. You must then enter an IP address.
    This IP address should be the same one selected as the Begin address of the IP address pool
    specified in step 11 in the previous section, "Configuring the Remote Access Service". Refer
    to the Asynchronous IP address in the Management PC information section of the Insight
    Asynchronous Management Worksheet for this value.

13. Enable the *Server assigned name server addresses* option.

14. Enable the *Use VJ header compression* option.

15. Enable the *Use default gateway on remote network* option.

16. Select *OK* to exit the PPP TCP/IP Settings screen.

17. Select *OK* to exit the Network Protocol Settings Screen.

18. Select the *Security* button.
    The Security Settings screen displays.
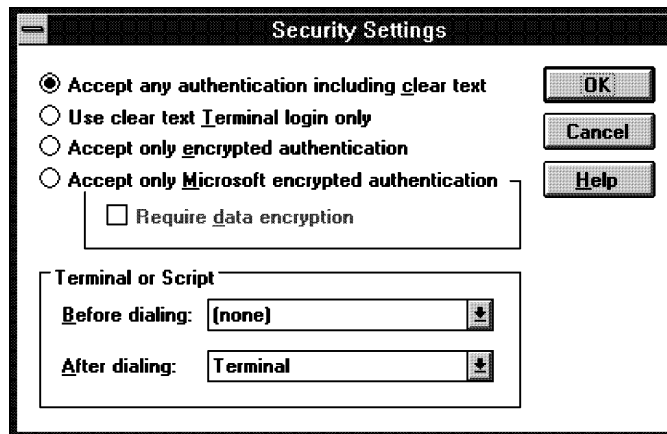
19. Enable the *Accept any authentication including clear text* option.

20. Select *OK* to exit the Security Settings screen.

21. Select *OK* to exit the Edit or Add Phone Book Entry screen.

Asynchronous Management Server Setup

The following procedure describes how to add an Insight Asynchronous Management server to the Responsible Server List.

NOTE: You must install and configure the Remote Access Service (RAS) and the RAS phone book before you can follow these procedures. Refer to the procedure, "Installing Remote Access Service," earlier in this section. If you re-install RAS, you must also re-install Compaq Insight Manager.

1 .   Start Insight Manager.

2 .   In the menu bar, select *Setup → ServerList.*

3 .   Select the *PPP Server List* button in the Server List Setup dialog box.
The PPP Server List dialog box shows a list of all servers that were entered in the Remote Access application described in the section "Setting Up the RAS Phone Book" earlier in this section.

4 .   Select the *Login Options* button. In the PPP Login Options for NT dialog box, you can set up the Login Name and optional Password used to authenticate the Insight Asynchronous Management connection.

   NOTE: You must *manually* enter the Login Name and Password. *Deselect* the check box labeled *Use Current NT User Name and Password.*

5 .   Select the *OK* button to close the dialog and keep the entries.

6 .   To add an Insight Asynchronous Management server(s) to the list, select one or more from the list box. All selected servers are added to the Responsible Server List.

7 .   Select the *OK* button to close the dialog box. The selected addition takes place.

Refer to the Insight Agent guides to set up the servers to send traps via Asynchronous Management to the Management PC.

Accepting Alarms from Windows NT Servers

1 .   Add the server to the Responsible Server List as described in "Asynchronous Management Server Setup" earlier in this section.

2 .   Add the server to the IP Server List as described in Chapter 3 of the *Insight Manager User Guide*, under "Modifying the IP Server List". **Use the IP address of the** *server's* **network adapter**. If it has more than one adapter, use the adapter to which IP is bound first. You can determine this on the server by selecting the *Network* option from the Control Panel and configuring the TCP/IP protocol.

3 .   Select *Server Setup* from the Task List.

4 .   Enable *PPP* as the Network Transport Protocol and select the *OK* button.

CONFIGURING INSIGHT AGENTS ON MONITORED SERVERS

Windows NT Agent Configuration

This section describes the procedures necessary to configure Insight Asynchronous Management support for Compaq Insight Management Agents.

After the agents are installed, install and configure the Windows NT Remote Access Service (RAS) on the Windows NT server console before you set up Insight Asynchronous Management.

NOTE: Compaq recommends that you install the same modem (the same model number from the same manufacturer) on both the server and Management PC.

Installing Remote Access Service

1 . Open the Windows Control Panel, and select the *Network* option.

2 . Select the *Add Software* button.

3 . Select the *Remote Access Service* item from the drop-down list of selections.

4 . Select the *Continue* button.
     You are prompted for the location of your Windows NT CD-ROM. If you installed from CD-ROM, the default location is entered for you.

5 . RAS is installed.
     After installation, you must add and configure a port for RAS to use. When prompted, select the port you wish RAS to use. Proceed to step 4 below.

Configuring Remote Access Service

1 . If you have already installed the Remote Access Service, open the Control Panel application and select the *Network* option.

2 . Select the *Remote Access Service* from the list of installed Network Software and select the *Configure* button.

3 . Select a port entry from the list and select the *Configure...* button.

4 . Specify and configure the modems used by Compaq Insight Manager and the Remote Access Service.

     If you have not already done so, specify the type of modem that you are using. You must configure the Port Usage section to "Dial out and receive calls."

     Select the *OK* button when you are done.

5 . If you are not already there, select the *Network...* button.
The Network Configuration screen displays.

6 . In the Dial Out Protocols section, disable the IPX protocol and enable the *TCP/IP* protocol.

7 . In the Server Settings section, disable the IPX protocol and enable the *TCP/IP* protocol.

8 . Change the Encryption Settings to *Allow any authentication including clear text.*

9 . Select the *Configure...* button next to the TCP/IP protocol option.

10. On the RAS Server TCP/IP Configuration screen, select the *Use static address pool* option.
Configure an IP address pool to be used by the Remote Access Service. You must specify a
range of at least 2 addresses (refer to the *Asynchronous IP Address* and *Second Asynchronous
Address* in the Insight Agents Information section of the Insight Asynchronous Management
Worksheet). For example, you could configure the Begin address to be 192.168.1.1 and the
End address to be 192.168.1.2.

11. Enable the option to *Allow remote clients to request a predetermined IP address.*

NOTE: The Begin IP address specified above is the IP address assigned to the PPP port.
Configure this address as a trap destination address for all of the servers that send remote alerts
to this machine through Insight Asynchronous Management.

12. Installation of the Remote Access Service is now complete. Select the *OK* button to exit
TCP/IP Configuration.

13. Select *OK* to exit Network Configuration.

14. Select the *Continue* button to exit the Remote Access Setup screen.

15. Select the *OK* button to close the Network Settings Control Panel.
The new network settings are automatically reconfigured.

16. When prompted, select the *Don't Restart Now* button.

17. Select the *Services* option in the Control Panel.

18. Select the *Remote Access Server* from the list of installed Services.

19. Select the *Startup* button and change the *Startup Type* to Automatic if it is not already selected.

20. Select the *OK* button to exit the Service screen.

21. Select *Close* to exit the Services Control Panel.

22. Open the Remote Access Admin application. This application resides in the Remote access
Service group.

23. From the Main Menu, select *Users→Permissions.*

24. Select the user account you wish the Management PC to use to connect to the server using Asynchronous Management. Refer to the *System ID/User Name* in the Insight Agent Information section of the worksheet on page 5 for this information.

25. Enable the *Grant Dialin Permission to User* check box. Set the Call Back option to *No Call Back*.

26. Select *OK* to close the window. Close the Remote Access Admin application.

27. Shutdown and Restart the machine by selecting *File → Shutdown* from Program Manager. The Remote Access Service automatically starts each time you start the Management PC.

Configuring Insight Management Agents for Asynchronous Management

1 . Start the Compaq Insight Agents Control Panel, and select the *Advanced* button.

2 . Select the *Enable Asynchronous Management Traps* checkbox.

3 . Fill in the information for the remote Management PC.
   This information includes the phone number plus a user name and password to use when connecting. You have the option to configure the name of the domain on which the user account exists and the number of retries that should occur if the line is busy (refer to *Phone Number*, *System ID/User Name* and *Password* in the Management PC Information section of the Insight Asynchronous Management Worksheet).

TROUBLESHOOTING

The following section describes general troubleshooting procedures for Compaq Insight Manager.

Problem: **Server not manageable (indicated by a black status on the Server List)**
SOLUTIONS*:* 1 . Verify that the Insight Manager Community String for this server matches a
Community String configured at the server. Refer to the Insight Management
Agent guides for information on how to set the community string of the server.
2 . Make sure the correct IP address is listed in the IP Server List.
3 . Ensure that the network and server are operational.
4 . Ensure that the Windows NT user name specified in the Server List/PPP login
dialog has been granted appropriate dial-in access privileges through Remote
Access Services (RAS).
5 . Verify that the IP address specified in the management workstation's IP
address list corresponds to the IP address of the managed server's network
adapter.

Problem: **Server status unknown (indicated by a gray status on the Server List)**
SOLUTIONS*:* 1 . Verify that the server has Insight Agents 2.1 or greater installed.
2 . Verify that the server device drivers are the proper version for Insight Agents.
Refer to the Insight Manager Agent guides.

Problem: **Unable to perform Set operation**
SOLUTIONS*:* 1 . Verify that the Insight Manager Community String for this server matches the
control Community String configured at the server.
2 . Make sure that the Insight Agents set capability is enabled.

Problem: **TCP/IP Server(s) not in Server List**
SOLUTIONS*:* 1 . Verify that the server is correctly listed in the IP Server List.
2 . Verify that the TCP/IP software is loaded.

Problem: **Alarms not received**
SOLUTIONS*:* 1 . Ensure that this Management PC is listed as a trap destination of the managed
server. See specific Management Agent documentation for details.
2 . Verify that the name of the server sending the alarm appears on the
Insight Manager Server List screen.
3 . Verify that a valid Windows NT user name and password were specified in the
Server List/PPP login options on both the server and management workstation.
4 . Verify that CIM was installed *after* Remote Access Services (RAS) on the
management workstation.
5 . Verify that the server's network adapter ip address is in the IP Server List.

Problem: **Remote Reboot not working**
SOLUTIONS*:* 1 . Verify that the Insight Manager Community String for this server matches the
control Community String configured at the server.
2 . Verify that the Insight Management Agent's set capability is enabled.
3 . Verify that the Insight Management Agent's remote boot capability is enabled.