Lucent Technologies
Bell Labs Innovations

OneVision Definity G3 Fault Management Optivity Enterprise

Integration for HP OpenView on HP 9000 and Sun OS

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About This Book

Book Overview

Introduction

This book explains how to install the integration software that allows your Optivity Enterprise® screens to recognize OneVision™ objects.

Audience

This book is intended for DEFINITY® G3 customers who use Optivity Enterprise and OneVision DEFINITY G3 Fault Management to manage their DEFINITY G3s on the Hewlett Packard OpenView® Windows and Network Node Manager 3.31 network management system (NMS).

What you should know

Before you use this book, you should already understand:

- The network management system (NMS) on which Fault Management resides.
- The DEFINITY G3 configuration
- Bay Networks Optivity Enterprise

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Credentials

- DEFINITY G3 Fault Management is ISO 9001 certified.
- Lucent Technologies is an HP OpenView Solution Partner; and Fault Management is listed in the HP OpenView Solutions catalog.
- Lucent Technologies has a reseller agreement and a technology exchange program with Bay Networks, Inc.

OneVision Documents

Your OneVision documentation package includes the following books:

Title	Number
OneVision DEFINITY G3 / Optivity Enterprise Installation and Integration (This book)	585-229-115
OneVision DEFINITY G3 Fault Management Installation and Integration for HP OpenView ■ *on an HP9000,* OR ■ *on a SunOS*	 585-229-104 585-229-105
OneVision DEFINITY G3 Proxy Agent Installation and Connectivity	585-229-107

Your documentation package also includes online documentation that is loaded onto your workstation when you install the software.

Formatting conventions

The following kinds of formatting in this book identify special information.

Format of text	Type of information
Bold	Indicates buttons or menu selections. Example: Click ***OK***. Select ***Monitor > DEFINITY***.
Bold constant width	Words or characters that you type. Example: Enter ***attov_doc***.
[Bracketed text]	Placeholders for information that you supply. Example: Enter ***public!g3mgt![client string]*** means that you type public!g3mgt! exactly as shown, but determine the value of the client string.
`constant width`	Text that displays on your screen. Example: `Installation complete`.

Format of text	Type of information
Enter	The word "enter" means to type the word shown in constant width type, then press the Enter key. Example: Enter ***attov_doc*** means type `attov_doc` and then press the Enter key.
italic type	Specialized terms and titles of books.
Key names	All keys are shown in small type. Example: Press Enter. The keys on your keyboard may not be labeled exactly as they are in this book.

System Overview

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Chapter Overview

In this chapter

- OneVision
- Optivity
- The Integration Software
- Autodiscovery
- Network Environment

OneVision

Introduction

OneVision Network Management Solutions integrates the applications required for the global management of multivendor networks, systems, applications, and communications.

Types of applications

The OneVision family of applications includes:

- DEFINITY G3 Proxy Agent
- DEFINITY G3 Fault Management

Proxy Agent

The Proxy Agent acts as an interpreter between a DEFINITY G3 PBX and Fault Management software.

The following table describes what Proxy Agents do:

Stage	Description
1	Receive information from DEFINITY G3 PBXs.
2	Translate the information into SNMP (Simple Network Management Protocol).
3	Send the translated information to your network management system (NMS) where it is available to Fault Management.

Proxy Agents also provide administrative access for up to 15 DEFINITY G3 PBXs.

Fault Management

Fault Management is a graphical user interface that allows you to manage your entire enterprise network from a single management platform. It allows you to manage a DEFINITY G3 PBX as a node on your network just as you would any other device on your network.

Fault Management allows you to:

- Monitor the fault conditions of your DEFINITY G3 PBX
- Display reports about those fault conditions
- Sort the reports according to your business needs
- Create an enterprise-wide database of configuration errors and alarms

Other components

For the OneVision applications to work properly, these components of your system also must be operational:

Component	What it does
DEFINITY G3 PBX	Moves information between communication equipment
Network management system (NMS)	Makes DEFINITY G3 information available to Fault Management

See also

For more information about Fault Management and the Proxy Agent, see the documents listed on page vi.

Optivity

Introduction

Optivity Enterprise is a suite of applications from Bay Networks that help you manage large enterprise networks consisting of router-, hub-, and switch-based internetworks.

You can manage the devices on your network, including DEFINITY G3 Proxy Agents and their client DEFINITY G3 PBXs, from a single location.

Optivity screens

You can launch Fault Management and telnet to the Proxy Agent from the following Optivity screens:

- Enterprise Command Center (ECC)
- Enterprise Health Advisor (EHA)

See also

For more information about Optivity, see your Optivity Enterprise documentation.

The Integration Software

Introduction

The integration software allows you to open Fault Management from your network map and your Optivity screens.

Benefits of integration

Integrating Fault Management and Optivity provides the following benefits for your company:

- Network managers have a consistent approach for managing enterprise networks
- The OpenView autodiscovery feature automatically integrates Fault Management and Proxy Agents with your NMS
- All users can use their current HP OpenView NMS
- Optivity users can launch Fault Management and telnet to the Proxy Agent from Optivity screens

Autodiscovery

Introduction

OneVision autodiscovery completes the following tasks automatically:

- Searches for DEFINITY G3 Proxy Agent and client objects and adds the appropriate icons to the DEFINITY G3 network map
- Shows the relationship between each Proxy Agent and its client DEFINITY G3 PBXs
- Updates the SNMP configuration database
- Updates the OpenView object database

Finding Proxy Agents

OneVision autodiscovery can find information about only those Proxy Agents that are running. If an icon for a Proxy Agent does not display on the network map, check with your system administrator to determine if the Proxy Agent has been started and if it is running.

Changing client objects

OneVision autodiscovery reads all client information from the Proxy Agent. Therefore, if you need to change the settings for a client object, do so on the Proxy Agent's Change Clients screen.

If you change the client without also changing the Proxy Agent, autodiscovery will overwrite your change.

NOTE:
Do not administer a client on more than one Proxy Agent. If you do, the network map will not show the true state of the connectivity between the client and the Proxy Agent.

How to move a client to a different Proxy Agent

To move a client object from one Proxy Agent to another:

Step	Action
1	Telnet to the Proxy Agent that the client is currently associated with.
2	Stop the Proxy Agent, delete the client on the Change Clients screen, and restart the Proxy Agent.
3	Telnet to the Proxy Agent that you want to move the client to.
4	Stop the Proxy Agent, add the client to the Change Clients screen, and restart the Proxy Agent.

NOTE:
If you complete steps 3 and 4 first, the network map will be incorrect until you complete steps 1 and 2.

See also

For more information about the following topics, see your Proxy Agent installation guide or Proxy Agent online user guide:

- Starting and stopping the Proxy Agent
- Change Clients screen
- Adding or deleting clients

Network Environment

Introduction

Before you install the integration software, make sure that your network environment is correctly set up.

Required hardware

Lucent Technologies does not explicitly certify any hardware, but does support Fault Management and the Proxy Agent on any Sun Sparc hardware that is certified for HP OpenView.

This hardware must include RAM memory, as follows:

- For the first user, 96 Mbytes
- For *each* additional user, 32 Mbytes

Required software

- Hewlett Packard OpenView and Network Node Manager, release 3.31
- One of the following operating systems:
  - SunOS 4.1.3
  - HP-UX 9.05
- OneVision DEFINITY G3 Fault Management, release 1.2.1
- OneVision DEFINITY G3 Proxy Agent, release 1.2.1
- Optivity Enterprise, release 7.1

Installation

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Chapter Overview

In this chapter

- What to Install First
- How to Install the Integration Software
- Troubleshooting Tips

What to Install First

Introduction

Before you install the integration software, install all the required software listed on page 8.

Installation sequence

Install your software in the following sequence:

Step	Software
1	Your network software: your operating system and HP OpenView
2	Your applications: OneVision (Proxy Agent and Fault Management) and Optivity **Note:** You can install OneVision and Optivity in any sequence. However we recommend that you install the OneVision software in the following order: a. Proxy Agent b. Fault Management
3	Your integration software

To install OneVision software

See your OneVision documentation for the installation procedures. These documents are listed on page vi.

How to Install the Integration Software

When to install

Install the integration software after all the other required software have been installed.

Procedure

To install the integration software:

Step	Action
1	Insert the tape into the tape drive.
2	Log into the operating system as root.
3	Enter the following command to change directories: **`cd /tmp`**
4	Enter the following: **`tar xvf [device name]`** Example: `tar xvf /dev/rst0`
5	Enter the following: **`./Install`**

Troubleshooting Tips

Introduction When you install the integration package, you may see the following error messages.

Message 1 `Optivity Path environment variable (LNMSHOME) not set up.`

Cause: The Optivity environment is not set correctly.

Solution: Make sure that Optivity has been installed. If it was, either of the following actions may resolve the error.

- Login as root, and then enter **LNMS_ENABLE**.
- Set the LNMSHOME variable to the Optivity base directory. The default is /usr/lnms.

Message 2 `Optivity Configuration Directory (path) not found.`

Cause: The home directory for Optivity does not contain a configuration directory.

Solution: Install Optivity.

Messages 3 `Optivity ECC Directory ($LNMSECC) not found.`

Cause: The home directory for Optivity does not contain a registration directory.

Solution: Install Optivity.

Message 4

`Install of G3FM/Optivity Integration Package failed.`

Cause: Your system could not write the integration package to the configuration or the registration directory.

Solution: Check the following:

- Are you logged in as root?
- Is the Optivity directory out of space?
- Is your disk functioning properly?

Messages 5, 6, & 7

Depending on your operating system, you may see one of these messages:

- `G3FM/Optivity Integration Package requires HP-UX 09.05`
- `G3FM/Optivity Integration Package requires SunOS 4.1.3`
- `G3FM/Optivity Integration Package requires SunOS 4.1.3 or HP-UX 09.05`

Cause: Your operating system is incompatible with the integration package.

Solution: Install the correct version of HP OpenView.

Integration

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Chapter Overview

Introduction This chapter explains how to integrate Fault Management with your NMS.

In this chapter

- OneVision Objects
- Network Types
- How to Integrate Manually
- How to Set Up Autodiscovery for a Private Network
- How to Create a Network Map Manually
- Troubleshooting Tips

OneVision Objects

Description

OneVision objects are programming modules that contain DEFINITY G3 data and the instructions to display that data.

Types of objects

Autodiscovery reads the following types of OneVision objects:

Object	Description
Proxy Agent	The computer that translates DEFINITY G3 PBX data into SNMP. Your network can have multiple Proxy Agent objects.
client	A DEFINITY G3 PBX that is associated with a Proxy Agent. You can associate up to 15 client objects with each Proxy Agent.

Network Types

Introduction

Your network type determines how OneVision objects are integrated with the network.

Types of networks

Your network is one of the following types:

Network	Description
Private	A communications network that is used exclusively by one customer. These networks can be nationwide in scope and typically serve large corporations or government agencies.
Public	A communications network that is operated by common carriers or telecommunications administrations and leased to the public.

Why you need to know the network type

Your network type determines whether autodiscovery integrates OneVision objects into your network automatically.

If you have a public network, autodiscovery can configure your SNMP configuration database and create a DEFINITY G3 map that shows your current network view.

If you have a private network, or if you want to create your own network map, you must complete these tasks yourself.

How to determine your network type

To find out what type of network you have:

Step	Action
1	Open the SNMP Configuration window in OpenView. (See your OpenView documentation if you need help.)
2	What is the name in the Community field? ■ If it is `public`, you have a public network ■ If it is not `public`, you have a private network

How to Integrate Manually

When to use

You need to integrate OneVision objects manually only if you have a private network or if you want to create a DEFINITY G3 map yourself.

What tools to use

You use the OpenView SNMP configuration window to configure OneVision objects.

What to configure

You need to configure the SNMP database for all of the Proxy Agent objects on your network.

Since autodiscovery reads all client objects from the Proxy Agent, you do not have to configure the SNMP database for client objects. We recommend that you use the Proxy Agent to configure all client objects.

Procedural overview

Use the following procedures to integrate your private network:

- Set up autodiscovery for a private network
- Create a network map for OneVision

See also You also may find procedures in the following manuals helpful.

Use this manual ...	For information specific to ...
HP OpenView user guide	Your network
Fault Management installation guide	Integrating OneVision objects (Chapter 3)

How to Set Up Autodiscovery for a Private Network

When to use

Use the following procedure if you have a private network and if you want autodiscovery to configure Proxy Agent objects automatically.

Procedure

Start on the appropriate network map.

Step	Action
1	From the menu bar, select **Options > SNMP Configuration**. Result: The SNMP Configuration window opens. Existing nodes are listed at the top of the window.
2	Make sure the **Use Proxy to access Target** button is turned off. Hint: This button is in the OpenView SNMP Parameters panel in the lower half of the window.
3	Enter information into the fields that are described on the next page. Do not change any other fields.
4	Click **Add**, and then click **OK**.
5	Activate autodiscovery. Hint: See Chapter 4, "Autodiscovery" if you need help.

Fields for step 3

Use the following table to complete step 3 of the previous procedure.

Field	What you enter
Target	The host name or the IP address, whichever is in the host file.
Community	The community name
Set Community	Usually the same value as the Community field.

How to Create a Network Map Manually

Introduction

If you have a private network, you must create a DEFINITY G3 map manually. You do this by adding OneVision icons to your network map.

Where to find the procedures

You can find the appropriate procedures in Chapter 3 of your Fault Management installation guide.

To add this icon ...	See this section in your installation guide ...
Proxy Agent	Adding a Proxy Agent Icon
Client	Adding a PBX Icon

Troubleshooting Tips

Problem 1 Autodiscovery did not find a Proxy Agent that you know is on the network.

Cause: Autodiscovery does not recognize the Proxy Agent as a managed node.

Solution: Check the following:

- Is the Proxy Agent running? If not, start it and reactivate autodiscovery.
- Is the Proxy Agent version 1.2.1 or later? Autodiscovery does not recognize earlier versions.
- Is the Proxy Agent reachable from a node in the HP OpenView seed file? If not, add it manually. See your system administrator or your OpenView documentation if you need help.
- Does the active map have read/write permission? If not, change the permissions.

Problem 2 Your network has several Proxy Agents, and you administered the same client on at least two of them. But the network map shows an association only between the client and one of the Proxy Agents.

Cause: Autodiscovery can manage only one instance of a client. It disregards all but the last instance.

Solution:

- To associate one client with one Proxy Agent:

  Delete the client from all but one Proxy Agent.

- To associate one client with more than one Proxy Agent:

  Delete the client from all but one Proxy Agent. Then add the client to another Proxy Agent, giving it an unique client name.

Hint: If you need help, see "How to move a client to a different Proxy Agent" on page 7.

Autodiscovery

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Chapter Overview

In this chapter

- Automatic Activation
- Manual Activation
- Troubleshooting Tips

Automatic Activation

Types of automatic activation

There are two types of automatic activation:

- OpenView startup
- Proxy Agent trap

OpenView startup

Autodiscovery is activated automatically each time you start OpenView. Once OpenView is running, it activates autodiscovery periodicallly, or whenever you open another OpenView map.

Proxy Agent trap

Each time you start a Proxy Agent, it sends a startup trap that activates autodiscovery. Autodiscovery only requests client data from the Proxy Agent that sent the trap. Any other Proxy Agents on the network are polled according to the system defaults.

Startup features

You can:

- Activate autodiscovery manually, at any time
- Check an events log for autodiscovery activities

Manual Activation

Introduction

You can activate autodiscovery from an OpenView map that has read and write permissions any time OpenView is running.

Procedure

To activate autodiscovery, select **Monitor > DEFINITY > Execute Auto-Discovery** from the menu bar.

Troubleshooting Tips

Events Log

The Application Alert event log is an OpenView feature that lists autodiscovery's activities.

When to use

Use this events log for trouble shooting problems that may occur when you activate autodiscovery manually.

Status messages

The events log may contain any of the following status messages for autodiscovery:

Message	Description
Auto-Discovery requested by user	You activated autodiscovery manually.
Auto-Discovery currently in progress, current request ignored	Autodiscovery is currently running. The request to activate is denied.
Read Only Map - Auto-Discovery Terminated	You tried to activate autodiscovery from a read-only map.
Auto-Discovery not available with this configuration	You tried to run autodiscovery without the integration package.
Error Encountered - Auto-Discovery Terminated	Autodiscovery started, but stopped when it found an error.
Auto-Discovery Completed Successfully	Autodiscovery completed your request with no errors.

See also

See your OpenView documentation for more information about this events log.

OneVision Icons

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Chapter Overview

In this chapter

- About OneVision Icons
- Icons on OpenView Maps
- Icons on Optivity Screens
- How to Display Object Icons
- How to Start Fault Management
- How to Check the Health of OneVision Objects
- Client Lists
- How to Telnet to the Proxy Agent
- Troubleshooting Tips

See also

You can use menu selections to complete many of the procedures described in this chapter. See your OpenView or Optivity documentation for instructions.

About OneVision Icons

Introduction

OneVision icons provide easy access to the applications they represent.

Where OneVision icons display

The OneVision icons can display in the following places:

- Network maps
- Enterprise Command Center (ECC)
- Enterprise Health Advisor (EHA)

Categories of icon

OneVision icons are grouped by category.

Category	Description
Object	Represents a OneVision object; either a Proxy Agent or its client DEFINITY G3.
Domain	Groups object icons into a logical family of applications. Examples: On the network, an icon that opens a submap. On Optivity screens, a resource folder.

Icon labels

The labels for all OneVision object icons come from the Selection Name field in your network's configuration database. Therefore, the examples of icons in this book may have different labels than the ones on your network.

Alarm states

OneVision icons use color highlighting to represent the highest level of alarm associated with the OneVision object.

See the following documentation for more information.

Icon location	Document
Network map	OpenView documentation
Optivity screen	Optivity documentation

Icons on OpenView Maps

Domain icon

The following domain icon opens a submap that contains object icons for OneVision.

Proxy Agent icon

The object icon for the Proxy Agent opens a telnet session to the Proxy Agent.

Client icon

The object icon for a DEFINITY G3 client starts Fault Management.

Rearranging icons

You can rearrange the icons on a DEFINITY G3 map by using the Adjust mouse button to drag them to a new location.

See also

OpenView uses color to indicate a variety of icon states. See your OpenView documentation for an explanation of these colors.

Icons on Optivity Screens

Domain icon

The following domain icon is a resource folder that places OneVision icons into the Contents panel on the Enterprise Command Center.

You can set up the DEFINITY resource folder so it contains:

- A single OneVision icon of either type
- Multiple Proxy Agent icons
- Multiple client icons
- A combination of Proxy Agent and client icons

See also

See your Optivity documentation for information about how to set up resource folders.

Proxy Agent icons

The object icon for the Proxy Agent opens a telnet session to the Proxy Agent.

Client icons

The object icon for a DEFINITY G3 client starts Fault Management.

Where to find icons

You can find OneVision icons on the following Optivity screens:

Icon type	Optivity screen	Panel name
DEFINITY G3 resource folder	Enterprise Command Center	Resource
DEFINITY G3 Proxy Agent	Enterprise Command Center Enterprise Health Advisor	Contents Status
DEFINITY G3 Client	Enterprise Command Center Enterprise Health Advisor	Contents Status

How to Display Object Icons

From OpenView

Start on the appropriate OpenView network map.

Step	Action
1	Select the DEFINITY G3 Map icon.
2	Double-click the Select mouse button. Result: The submap displays all OneVision icons that are associated with the DEFINITY G3 map.

From the ECC screen

Start at the Enterprise Command Center.

Step	Action
1	Select the DEFINITY G3 folder in the Resource panel.
2	Double-click the Select mouse button. Result: The Contents panel displays all the OneVision object icons that are associated with the resource folder.

How to Start Fault Management

When to use

You can use client icons to start Fault Management after you have completed the previous procedure, “How to Display Object Icons.”

From OpenView

Start on the appropriate OpenView network map.

Step	Action
1	Select a DEFINITY G3 client icon.
2	Double-click the Select mouse button. Result: Optivity opens Fault Management for each of the clients you selected.

From the ECC screen

Start at the Enterprise Command Center.

Step	Action
1	Select a DEFINITY G3 client icon in the Contents panel. Hint: You can select up to five client icons at one time.
2	Drag your selection to either the Alarm or the View icon in the Tools panel.

Step	Action
3	Did you select more than one client icon? ■ If yes, Optivity displays a list of items that you can launch. Go to step 4. ■ If no, Optivity opens Fault Management and you have completed this procedure.
4	Select the clients from the list, and then click **Launch**. Result: Optivity opens Fault Management for each of the clients you selected.

From the EHA screen

Start at the Enterprise Health Advisor.

Step	Action
1	Select a DEFINITY G3 client icon in the appropriate Status panel. Hint: You can select only one client icon.
2	Drag your selection to the FaultSum icon in the Tools panel. Hint: The MonLevel icon is deactivated when you select a Proxy Agent or a client icon. Result: Optivity opens Fault Management for each of the clients you selected.

How to Check the Health of OneVision Objects

From OpenView

Use the previous procedure, “How to Start Fault Management,” to use Fault Management to check for alarm and error status.

From the EHA screen

Start at the Enterprise Command Center.

Step	Action
1	Select an icon from the Contents panel. Hint: You can select either a Proxy Agent or a client icon.
2	Drag your selection to the Alarm icon in the Tools panel. Result: The Enterprise Health Advisor opens. Optivity: ■ Places the icon into the appropriate Status panel ■ Assigns a colored background that indicates the severity level of any alarms

See also

For information about operational status and alarm severity, see your Optivity documentation.

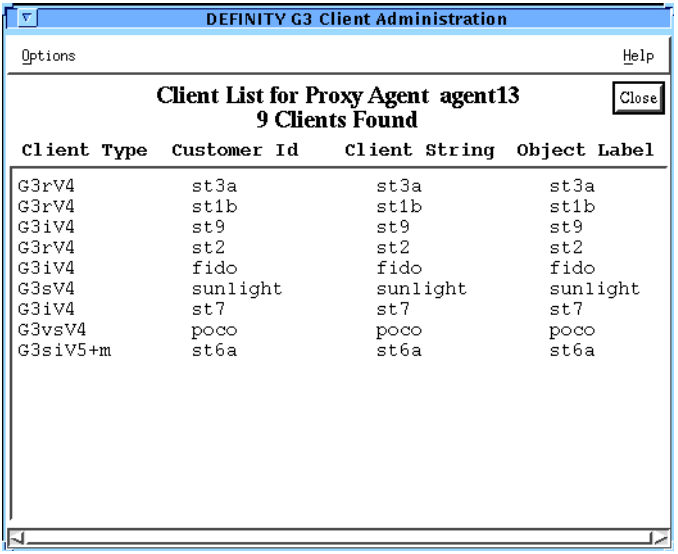
Client Lists

Introduction

Each Proxy Agent supports up to 15 client DEFINITY G3s. You can display a list of these clients from Optivity.

Sample window

The Client List for Proxy Agent window follows.



Field descriptions

Fields on the client list window are:

Field	Description	Example
Client Type	The type of DEFINITY G3	G3rV4
Customer ID	The name of the client DEFINITY G3, as recognized by the Proxy Agent	st3a
Client String	The third part of the community name. Must match the client string on the Proxy Agent's Clients form.	st3a
Object Label	The name under a OneVision icon	st3a

When to use

View a client list whenever you want to see a list of the clients that are associated with a Proxy Agent.

How to open a list

Start at the Enterprise Command Center or the Enterprise Health Advisor.

Step	Action
1	Select a Proxy Agent icon.
2	Select **View** from the menu bar. Result: The Client List for Proxy Agent window displays.

How to Telnet to the Proxy Agent

From OpenView

See Appendix B in your Fault Management installation guide.

From the ECC screen

Start at the Enterprise Command Center.

Step	Action
1	Select a Proxy Agent icon from the Contents panel.
2	Drag your selection to the Config icon in the Tools panel. Result: The system opens a telnet window.
3	Log into the Proxy Agent and complete the telnet prompts. Hint: If you need help, see Appendix B in your Fault Management installation guide.

Troubleshooting Tips

Problem 1 You opened the Client List for Proxy Agent window, but no data displays.

Cause: The client list feature does not recognize the Proxy Agent as a managed node.

Solution: Check the following:

- Is the network connection to the Proxy Agent down? If so, reconnect.
- Is the Proxy Agent running? If not, start it.
- Is the Proxy Agent version 1.2.1 or later? The client list feature does not recognize earlier versions.

Problem 2 The Client List for Proxy Agent window displays data, but it does not match the DEFINITY G3 map exactly.

Cause: The same client is associated with more than one Proxy Agent. But autodiscovery can manage only one instance of a client.

Solution: Delete the client from all but one Proxy Agent.

Hint: If you need help, see "How to move a client to a different Proxy Agent" on page 7.

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