

HUBwatch

Installation and Configuration

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This book explains how to install and start the HUBwatch management software. It also explains how to configure network modules for HUBwatch management.

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Operating System and Version: MS-DOS V6.0 or higher
Microsoft Windows V3.1 or higher
OpenVMS V5.4 or higher
OSF/1 AXP V2.0 or higher

Software Version: HUBwatch for Windows V3.1
HUBwatch for OpenVMS V3.1
HUBwatch for OSF/1 AXP V3.1

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Preface

Purpose of This Book

This manual explains how to install and start the HUBwatch™ application under the Microsoft® Windows™, OpenVMS™, and OSF/1™ operating systems. HUBwatch manages the DEChub™ family of products. HUBwatch for OpenVMS also manages the GIGAswitch™ family of products.

This manual also explains how to configure SNMP agents and network modules so that the HUBwatch software can manage them.

Finding GIGAswitch Information

If you are using the HUBwatch software to manage a GIGAswitch, refer to the documentation supplied with the GIGAswitch system for GIGAswitch configuration information.

Finding Firmware Information

Each of your hubs and modules need to run the most recently released version of the firmware. Because Digital is continuously improving the quality of the DEChub product family, periodic releases of firmware will become available. To find information about the latest firmware releases:

- Contact your local Digital reseller or your local Digital sales office.
- Read the README file found in the /pub/DEC/hub900 directory at <ftp.digital.com>.

Firmware updates are customer installable. To register for automatic notification of new firmware releases, return the Business Reply Card supplied with this product, or send your name, title, and mailing address to dechub_notice@lkg.dec.com.

Organization of This Book

This book is organized as follows:

- Chapter 1 describes how to install and start the HUBwatch for Windows software and the online tutorial. It includes hardware and software requirements.
- Chapter 2 describes how to install and start the HUBwatch for OpenVMS software. It includes hardware and software requirements. It also includes installation troubleshooting information.
- Chapter 3 describes how to install and start the HUBwatch for OSF/1 AXP software. It includes hardware and software requirements.
- Chapter 4 describes configuration considerations before you configure modules.
- Chapter 5 describes configuration procedures for SNMP agents and network modules.
- Appendix A describes how to run the HUBwatch for OpenVMS and OSF/1 AXP software as an add-on application to the POLYCENTER network management platform. It also describes how to launch HUBwatch for Windows from HP OpenView.
- Appendix B describes how to run the HUBwatch for Windows software with the SLIP (Serial Line Internet Protocol) protocol.
- Appendix C explains how to run the HUBwatch for Windows software with a PATHWORKS network.
- Appendix D gives troubleshooting information for the HUBwatch for Windows installation.
- Appendix E lists the modules you can manage with the HUBwatch software.

Related Documentation

The following table lists documentation that is related to the HUBwatch software. See the ordering information at the back of this manual.

DEChub and HUBwatch Documentation:

DEChub 90 Owner's Manual

DEChub 900 MultiSwitch Owner's Manual

HUBwatch for Windows Use

DECbridge Documentation:

DECbridge 90 Owner's Manual

DECbridge 90FL Owner's Manual

DECbridge 900MX Installation

DECbrouter Documentation:

DECbrouter 90T1 Owner's Manual

DECbrouter 90T2 Owner's Manual

DECbrouter 90T2A Owner's Manual

DECrepeater Documentation:

DECrepeater 90C Owner's Manual

DECrepeater 90FA Owner's Manual

DECrepeater 90FL Owner's Manual

DECrepeater 90FS Installation and Configuration

DECrepeater 90T Owner's Manual

DECrepeater 900GM Installation and Configuration

DECrepeater 900FP Installation and Configuration

DECrepeater 900TM Installation

DECserver Documentation:

DECserver 90L Owner's Manual

DECserver 90L+ Owner's Manual

DECserver 90TL and 90M Owner's Manual

DECserver 900TM Installation

Other Documentation:

DECwanrouter 90/150/250 Management

GIGAswitch System Manager's Guide

DECconnect System Planning and Configuration Guide

DECconcentrator 900MX Installation and Configuration

Bridge Extended LAN Reference

DECagent 90 User Information

Open DECconnect Building Wiring Components and Application Catalog

Conventions

This book uses the following conventions.

Convention	Meaning
<Return>	A key name enclosed in angle brackets indicates that you press that key. In this example, you would press the Return key.
<i>Italic type</i>	Emphasizes important information, indicates variables, and indicates complete titles of documents.
Boldface type	Boldface type in examples indicates user input.
Monospaced type	Text that the system displays on the screen.
Click on	To press and release a mouse button when the pointer is positioned on an active object.
[]	Brackets contain default responses to prompts. To accept the default response to a prompt, simply press Return.
Ctrl/x	Indicates that you press the Control key while you type the key represented by <i>x</i> .
Ethernet	The term <i>Ethernet</i> is used in this manual to refer to the IEEE 802.3 standard.
Token Ring	The term <i>Token Ring</i> is used in this manual to refer to the IEEE 802.5 standard.
00.00.00.00	Represents an IP address in examples and figures.
08-00-2B-00-00-00	Represents a MAC address in examples and figures.

Documentation Comments

If you have comments or suggestions for this book or any of the HUBwatch documents, you can submit them in two ways:

- Mail the Reader's Comment form on the last page of this document to the address on the reverse side of the form.
- If you have access to the Internet, mail your comments electronically to the HUBwatch writing group within Digital at the following address:

doc_quality@lkg.mts.dec.com

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HUBwatch for Windows Installation

Overview

In This Chapter

This chapter provides information for installing the HUBwatch for Windows application. It includes the following topics:

- Pre-installation considerations.
- Installing HUBwatch for Windows.
- Installing the HUBwatch online tutorial
- Post-installation tasks.

HUBwatch Software References

In this book, the term "HUBwatch" refers to the HUBwatch for Windows, HUBwatch for OpenVMS, and HUBwatch for OSF/1 AXP software.

Valid Configurations

You can install the HUBwatch for Windows software in the following configurations:

- To run as a standalone application:
- To run under Hewlett-Packard's HP OpenView™ software.

Pre-Installation Considerations

Introduction

Before starting the installation procedure, you need:

- The correct hardware.
- The latest firmware.
- The correct software.
- A complete HUBwatch installation kit.

Hardware Requirements

The HUBwatch software should be able to accommodate any configuration that meets the hardware requirements in this section. For details about specific devices and software packages recommended for Microsoft Windows, refer to the Windows Version 3.1 or higher Application Reference List and Hardware Compatibility List.

- A 386 processor running at a minimum of 33 megahertz or a 486 processor running at a minimum of 25 megahertz.
- A minimum of 8 megabytes of random-access memory (RAM). Additional memory improves performance.
- A 3½-inch 1.44-megabyte diskette drive.
- A minimum of 5 megabytes of available disk space.
- A mouse that is compatible with Windows Version 3.1 or higher. It is recommended that you use a mouse with HUBwatch. If you do not use a mouse, then you will not have point-and-click control over network elements.
- A color VGA or SVGA monitor.

Pre-Installation Considerations

Optional Hardware: If you plan to use in-band communications, you need a network interface card (NIC) with an NDIS driver. You can use the SLIP (Serial Line Internet Protocol) protocol for out-of-band communications, in which case you do not need a network card.

Firmware Requirements

Each of your hubs and modules needs the most recently released version of the firmware. See the HUBwatch release notes for the minimum revision software that HUBwatch supports.

Because Digital is continuously improving the quality of the DEChub product family, periodic releases of firmware will become available. To find information about the latest firmware releases:

- Contact your local Digital reseller or your local Digital sales office.
- Read the README file found in the /pub/DEC/hub900 directory at ftp.digital.com.

Firmware updates are customer installable. To register for automatic notification of new firmware releases, return the Business Reply Card supplied with this product, or send your name, title, and mailing address to dechub_notice@lkg.dec.com.

Software Requirements

You need the following software to install HUBwatch for Windows:

- MS-DOS® Version 6.0 or higher
- Microsoft Windows Version 3.1 or higher
- An NDIS driver for the network interface card (if you plan to use in-band communications)
- A working WINSOCK Version 1.1 compatible network stack (for example, PATHWORKS) or an NDIS device driver if you plan to use the network stack that HUBwatch supplies.

Workgroup for Windows Requirements

If you use Workgroup for Windows and plan to install HUBwatch for Windows, you must have PATHWORKS V5.1 installed on your system.

Pre-Installation Considerations

HP OpenView Requirement

If you have HP OpenView installed on your system and plan to use HUBwatch from OpenView, select Set up for HP OpenView when prompted for an installation option. This option installs all the necessary files; there is no additional setup to perform.

For More Information: See Step 2: Selecting the Installation Option to read about the available installation options. See Appendix A for the steps you follow to launch HUBwatch from HP OpenView.

Is the Distribution Kit Complete?

The HUBwatch installation kit should contain the following items:

- HUBwatch management station software on two 3½-inch 1.44-megabyte diskettes.
- HUBwatch online tutorial software on one 3½-inch 1.44-megabyte diskette.
- A README.TXT file on disk 1. This file provides information about product features and may contain last-minute installation information. Please read this file before installing HUBwatch.
- *HUBwatch Installation and Configuration* book (this book).
- *HUBwatch for Windows Use* book.

Installing HUBwatch for Windows

About This Procedure

The steps described in this procedure assume you are installing HUBwatch and the network (the first option on the Main menu). The steps for installing just HUBwatch or just the network are a subset of these steps.

For PATHWORKS Users: Users of PATHWORKS Version 4.1 higher with a DECnet-only network will need to install HUBwatch and the network. Choose NDIS network and SLIP when asked for the type of network to install. If you have a TCP/IP network configured, choose install HUBwatch only as your install option. Appendix C has additional instructions about using HUBwatch with PATHWORKS.

Step 1: Starting the Procedure

Do the following to start the installation procedure.

Step	Action
1	Turn on your personal computer (PC) and run Windows.
2	Put the HUBwatch diskette 1 in drive A (or drive B, as appropriate).
3	Choose the Run option from the Program Manager's File menu.
4	Enter A:INSTALL in the Command Line field of the Run text box.
5	Choose the OK button.

Result: The HUBwatch installation Main menu appears.

Stopping the procedure: To stop the procedure at any time, press Esc. You return to the procedure's Main menu.

Installing HUBwatch for Windows

Step 2: Selecting the Installation Option

Select one of the following installation options when the Main menu appears.

Option	Result
Install HUBwatch and network	Installs HUBwatch and installs and configures the network. If you want, this option will automatically update AUTOEXEC.BAT and install the HUBwatch icon. Use this option if you do not have a TCP/IP network configured.
Install HUBwatch only	Installs HUBwatch and, if you want, automatically updates AUTOEXEC.BAT and installs the HUBwatch icon. If your PC does not have an IP network, you can install HUBwatch, but you cannot run it. Use this option if you are upgrading your HUBwatch software or if you already have a TCP/IP network configured.
Install and configure the network	Installs and configures an IP network on your PC. Use this option if you want to use the TCP/IP network stack that the HUBwatch distribution kit contains.
Install HUBwatch icon	Creates an icon for starting HUBwatch and allows you to place it in an existing Windows icon group or in its own group. The alternative to starting HUBwatch with an icon is to run HUBWATCH.EXE from the File Manager or Program Manager.
Set path to User Data file	Modifies the AUTOEXEC.BAT file's SET HUBWATCH_LIBRARY command, which points to the directory for the file HW_AGENT.DAT containing agent information needed by HUBwatch (see step 5). The installation places this file in the \USERDATA subdirectory of the directory you select for HUBwatch. This menu choice allows different users to have their own versions of this file. HUBwatch edits the file, invisibly to the user, when you enter agent information into the HUBwatch Community Table window.
Set up for HP OpenView	Installs the required files so you can launch HUBwatch from the HP OpenView application.
Set network configuration parameters	Allows you to modify your network configuration parameters.
Exit	Exits from the installation.

Installing HUBwatch for Windows

Step 3: Specifying the Installation Files Location

Take the following steps to specify the drive and directory in which you want the installation files to reside.

Step	Action
1	<p>A window asks you to select a drive to receive the software and displays the available space on each fixed drive. Choose the drive where you want the files to reside.</p> <p>Result: A window asks you to choose an installation directory and displays the default directory C:\HUBWATCH. If you choose a nonexistent directory, the procedure creates it for you. The procedure also creates subdirectories under the main installation directory</p> <p>For More Information: See <i>Are the Files Where They Belong?</i> in this chapter.</p>
2	<p>Choose the directory where you want to install HUBwatch.</p> <p>Result: The procedure copies the files to the directory.</p> <p>If you previously installed the HUBwatch IP network, a window informs you that a file named PWTCP.INI already exists and asks you if you want to replace it. That file contains the network configuration parameters. Do not replace it if you only intend to change one or two of your network configuration parameters. You will have the opportunity to change them later in the installation procedure.</p>

Step 4: Selecting an Icon Option

Choose one of the following when the Install Icon menu appears.

Choice	Result
Install icon in HUBwatch Windows Group	Creates the HUBwatch icon and the HUBwatch application group. Places the icon in the group. When you open Windows, the HUBwatch group will be the top group.
Install icon in an existing group	Displays a list of the existing Windows application groups. When you select a group, the procedure creates the HUBwatch icon and places it in the selected group.
Don't install icon	Unless an icon already exists for HUBwatch, you must start it by running HUBWATCH.EXE from the File Manager or Program Manager.

Installing HUBwatch for Windows

Step 5: Do You Want to Modify System Files?

After you select your icon option, a window informs you that changes may be necessary in your AUTOEXEC.BAT and CONFIG.SYS files. In particular, the environment variable HUBWATCH_SYSTEM should be set to the directory where you are installing HUBwatch, and the environment variable HUBWATCH_LIBRARY should be set to the path of your user data file. Choose one of the following file modification methods.

Choice	Result
Go ahead and modify	The procedure creates a backup copy of the file with the extension 0x, where x is an integer. Then the procedure asks you for the information it needs and edits the file.
Create example files	The procedure allows you to modify the file, but assists you by first creating sample files named AUTOEXEC.EXM and CONFIG.EXM. If you select this option, you must remember to make the modifications yourself when you exit from the installation procedure.
Bypass these changes	The procedure does not modify or create any files. Select this option <i>only</i> if you have previously installed HUBwatch, and you chose the same drive and directory this time.

File Editing for HUBwatch Version 1.0 Users: If you previously used HUBwatch Version 1.0 and did not use either the EWRK3.DOS or DEPCA.DOS network driver, manually edit AUTOEXEC.BAT to add REM at the beginning of the LD line that loaded your network driver.

Step 6: Selecting the Boot Drive and System File Path

A window asks you to indicate the drive from which the system boots. This is the drive whose root directory contains the AUTOEXEC.BAT and CONFIG.SYS files. Do the following.

Step	Action	Result
1	Enter the boot drive and click on OK.	Windows displays the paths to the AUTOEXEC.BAT and CONFIG.SYS (or AUTOEXEC.EXM and CONFIG.EXM) files and allow you to modify the paths, if necessary.
2	Indicate the correct paths and click on OK.	The Set Network Configuration Parameters dialog box appears.

Installing HUBwatch for Windows

Step 7: Specifying Network Configuration Parameters

Do the following to provide the network parameters.

Step	Action
1	<p>Supply the following information (get this information from your system or network administrator):</p> <ul style="list-style-type: none">• The name of your PC.• The IP address of your PC.• The IP address of the default gateway (a router or brouter).• Your local IP domain name.• The IP address of the network name server.• The network subnet mask.• Your user name. <p>Result: A window asks you to specify the type of network with which you will be using HUBwatch.</p>
2	<p>Select one of the following and click on OK:</p> <ul style="list-style-type: none">• NDIS network and SLIP - Sets up NDIS and SLIP services• SLIP network only - Sets up SLIP services only <p>Result: If you selected an NDIS network, a window asks you to specify the type of network card you will be using. Go to step 3 in this table. Otherwise go to step 8 of this procedure.</p>
3	<p>Choose one of the following:</p> <ul style="list-style-type: none">• EtherWORKS 3 network card - Places the driver EWRK3.DOS and the data file EWRK3.PRO in the \IPSTACK subdirectory of your HUBwatch directory.• Ethernet (depca) network card - Places the driver DEPCA.DOS and the data file DEPCA.PRO in the \IPSTACK subdirectory of your HUBwatch directory.• Other - Choose this option if you plan to use a non-Digital network card. When you choose this option, a window appears with a list of available network drivers. Select the appropriate driver. If the driver you want to use does not appear on the list, select other asks you to supply the path to and the file name of the driver for your network interface card. Enter the information and click on OK. You need a properly defined PROTOCOL.INI file in the same directory as the network driver. See Appendix D for further instructions about using a non-Digital network card and editing the PROTOCOL.INI file. <p>Result: A window appears informing you that to use HUBwatch you must first start your new network by running file STRTNDIS.BAT, if you installed an NDIS network, or STRTSLIP.BAT, if you installed a SLIP network only. The window asks whether you want the command to run the file added to AUTOEXEC.BAT.</p> <p>Important: If you do not put the network startup command in AUTOEXEC.BAT, you will have to remember to execute the command before starting Windows.</p>

Installing HUBwatch for Windows

Special File Editing Considerations: Depending on the options you choose, you may have to do some special editing.

1. If you earlier chose to update the AUTOEXEC.BAT file yourself, rather than have the procedure do it automatically, the command will be added to the file AUTOEXEC.EXM, and not to AUTOEXEC.BAT.
2. Although choosing to install an NDIS network also allows you to run a SLIP network, you cannot automatically add the STRTSLIP startup command to AUTOEXEC.BAT (or AUTOEXEC.EXM) unless you chose to install a SLIP network only.

Step 8: Specifying the Network Startup Command Location

Specify where you want to place the network startup command. Do the following.

Step	Action
1	Choose whether to put the network startup command in AUTOEXEC.BAT (or AUTOEXEC.EXM). Result: A list of the files modified by the installation procedure appears, including files that the procedure creates.
2	Click on OK to dismiss the list of files. Result: The Main menu appears.
3	If you want to have an HW_AGENT.DAT file different from other users, choose Set Path to User Data File. Result: A window asks for the path to the user data file.
4	Enter the path you want and click on OK. Result: The choices shown in step 5 of this installation procedure appear. Do steps 5 through 7. The Main menu appears.

Step 9: Exiting the Installation Procedure

From the Main menu, choose Exit and click on OK.

Result: One of the following occurs.

- If you installed a network, a message informs you to run the network startup file (STRTNDIS.BAT or STRTSLIP.BAT, depending on the type of network you chose) to connect your PC to the network. Click on OK to dismiss the message.
- If you chose to modify AUTOEXEC.BAT yourself, a message reminds you to do it before starting HUBwatch. You also need to reboot your computer for the modifications to take effect.

Installing the Online Tutorial

Introduction

The HUBwatch distribution kit includes an online tutorial. Using real-life simulations it presents highlights of the software features.

Steps: Installing

Do the following to install the online tutorial.

Step	Action
1	Put the HUBwatch tutorial diskette in drive A (or drive B, as appropriate).
2	Choose the Run option from the Program Manager's File menu.
3	Enter A:SETUP in the Command Line field of the Run text box. Result: A dialog box prompts you to enter a directory specification.
4	Press Return to accept the default directory or enter a directory where you want to install the tutorial files. Result: The tutorial icon appears in the same program group as the HUBwatch icon. Click on the icon to start the tutorial.

Steps: Using

Do the following to move through the tutorial.

Click on This Button...	To...
→ (right arrow)	Move to the next window
← (left arrow)	Move to the previous window
Jump	Either of the following: <ul style="list-style-type: none">• Display a window with a list of topics. Click on the topic you want.• Set the speed of the mouse cursor.
Quit	Exit the tutorial.

Moving Text Boxes: Text boxes with instructional information appear in some tutorial windows. To move the text boxes, position the mouse cursor on the text box title bar, press MB1 and drag the text box to a new location.

Post-Installation Tasks

Introduction

After you complete the installation, confirm that the HUBwatch files are in the correct directory and then start the application.

Are the Files Where They Belong?

The HUBwatch installation procedure creates a default directory structure. Check this to confirm that the HUBwatch files are in the correct directory.

The following table lists the directories and their contents, unless you specified otherwise during the installation procedure.

This Directory...	Contains...
C:\HUBWATCH	HUBWATCH.EXE and other files used by HUBwatch, including the subdirectories \USERDATA and \IPSTACK.
C:\HUBWATCH\USERDATA	The user's Agent file, HW_AGENT.DAT, unless you have specified a different directory for this file.
C:\HUBWATCH\IPSTACK	The network service files, if you installed the HUBwatch network.

Starting HUBwatch for Windows

Steps

Do the following to start HUBwatch.

Step	Action
1	<p>Start the network. If you installed the network using the HUBwatch installation procedure, do one of the following:</p> <ul style="list-style-type: none">• For NDIS networks, type: <i>hubwatch-drive:\hubwatch-path\IPSTACK\STRTNDIS</i> Example: <i>c:\nets\hubwatch\ipstack\strtndis</i>.• For SLIP networks, see Appendix B.• For PATHWORKS networks, see Appendix C.• If managing DECbrouters 90T1, 90T2, or 90T2A on a PATHWORKS network, see Appendix C before starting the application.
2	<p>Supply startup information. You can use a text box or command line parameters. See the procedures in the following sections.</p> <p>If you supply only an IP address the first time you start HUBwatch, the application uses default values for the remaining parameters. The default community name is public. If the requested agent has a different community name, you must specify that community.</p>
3	<p>After you initially start HUBwatch, add entries for the agents you want to use by using the Add Agent window. Then you can invoke HUBwatch with the name of an agent from the Agent List window, instead of using an IP address.</p> <p>Adding Agent Information: See Adding Agent Information in Chapter 5 for details about using the Add Agent window.</p>

Starting HUBwatch for Windows

Steps: Starting HUBwatch with a Text Box

Do the following to start HUBwatch using a text box.

Step	Action
1	<p>Start HUBwatch in one of the following ways:</p> <ul style="list-style-type: none">From the application group where the HUBwatch icon resides, double click on the following HUBwatch icon.  <ul style="list-style-type: none">From the File Manager, double click on HUBWATCH.EXE.From the File Manager or the Program Manager, choose Run. A text box asks you to enter a command. Enter: <code>drive:path\hubwatch</code>. Do not use any parameters. <p>Result: A text box requests the following information about the agent you want (get this information from your network administrator).</p> <ul style="list-style-type: none"><i>IP Address</i> - an integer in the format <i>d.d.d.d</i> where <i>d</i> is a decimal number less than 256.<i>Agent Name</i>- the name assigned to the agent module (this field is case sensitive). Example: agent1.<i>Community</i>-The community name used in requests to the agent. The default is public.<i>Timeout</i> - The number of seconds that the PC waits for a response after sending a request to the agent. The default is 5 seconds.<i>Retries</i> - The number of times that the PC resends a request to the agent after a timeout. The default is 1. <p>Required Information: Only the IP address is required when starting HUBwatch for the first time. Subsequently only the IP address or the agent name is required; all other information is optional.</p>
2	<p>Enter the IP address or the name of the agent you are invoking, together with any other information you want to supply, and click on OK.</p> <p>Result: The Hub Front Panel window appears.</p> <p>The Hub Front Panel window differs, depending on whether you started HUBwatch with the IP address of a DEChub 900 MultiSwitch (MS), a DECagent 90, or a standalone module. The <i>HUBwatch for Windows Use</i> book has pictures of the Hub Front Panel windows that appear for the DEChub 900MS and the DECagent 90.</p>

Starting HUBwatch for Windows

Steps: Starting HUBwatch with Command Line Parameters

Do the following to start HUBwatch using command line parameters.

Step	Action
1	From the Program Manager menu or the File Manager menu, choose Run. Result: A text box asks you to enter a command.
2	Enter the following command: <pre>drive:path\HUBWATCH -x ip-address -a agent-name -c community -t n -r n</pre> Command Variables: The command variables are: <ul style="list-style-type: none">• <i>drive</i> - the drive where HUBWATCH.EXE resides. If the current drive is the correct drive, you do not need to enter the drive.• <i>path</i> - the location of HUBWATCH.EXE. If the current directory is the correct directory, you do not need to enter the path.• <i>-x ip-address</i> - an integer in the format <i>d.d.d.d</i>, where <i>d</i> is a decimal number less than 256. The IP address is required the first time you start HUBwatch. Once you add entries for the agents you want to use to the Agent List window (see Adding Agent Information in Chapter 4), you can enter this command with an agent's name and no IP address.• <i>-a agent-name</i> - the name assigned to the agent module (for example, agent1). You need not include the agent name if you include its IP address.• <i>-c community</i> - the community name used in requests to the agent. The default is public.• <i>-t n</i> - the number of seconds that the PC waits for a response after sending a request to the agent. The default is five seconds.• <i>-r n</i> - the number of times that the PC resends a request to the agent after a timeout. The default is 1. Required Information: Only the drive, path and IP address or agent name are required parameters. Result: The Hub Front Panel window appears. The Hub Front Panel window differs, depending on whether you started HUBwatch with the IP address of a DEChub 900 MultiSwitch (MS), a DECagent 90, or a standalone module. The <i>HUBwatch for Windows Use</i> book has pictures of the Hub Front Panel windows that appear for the DEChub 900MS and the DECagent 90.

Files Changed and Created During Installation

Files Changed and Created During Installation

Introduction

During installation, HUBwatch changes some of your system files, if you select that option. This section lists the commands added to the system files.

Files Changed

The installation procedure changes the following files.

In This File...	HUBwatch Makes This Change...
AUTOEXEC. BAT	Sets the following environment variables. SET HUBWATCH_SYSTEM=C:\HUBWATCH SET HUBWATCH_LIBRARY=C:\HUBWATCH\USERDATA SET WSAVERS=1.1
CONFIG.SYS	Removes packet driver information if you previously used HUBwatch for Windows Version 1.1
SYSTEM.INI	Adds network driver information if you chose to install HUBwatch and the network. Example for PATHWORKS V4.1: network.drv=PCSA.DRV Example for PATHWORKS V5.0: network.drv=PATHWRKS.DRV
OVWIN.INI (For HP OpenView only)	HUBWOV=C:\HUBWATCH\HUBWOV\HUBWOV.EXE New File Created: The installation procedure also creates the HUBWOV.INI file in a \HUBWATCH\HUBWOV subdirectory. This file specifies the location of the HUBwatch icon files and the HUBWATCH.EXE file.
WIN.INI	Adds the path for the HUBWATCH.EXE file for use with HP OpenView.

Files Changed and Created During Installation

Files Created

The installation procedure creates the following files.

This File...	Does This..
PWTCP.INI	Sets up the system's IP address and related information if you chose to install the HUBwatch network stack.
STRTNDIS.BAT	Starts the NDIS network.
STRTSLIP.BAT	Starts the SLIP network.
STOPNET.BAT	Stops the network.

2

HUBwatch for OpenVMS Installation

Overview

Introduction

This chapter describes how to install the HUBwatch for OpenVMS software using the VMSINSTAL procedure.

In This Chapter

The chapter includes the following topics:

- Pre-installation requirements.
- Pre-installation tasks.
- VMSINSTAL overview.
- Installing HUBwatch for OpenVMS.
- Installation error messages.
- Post-installation tasks.
- Starting HUBwatch for OpenVMS as a standalone application.

HUBwatch Software References

In this book, the term "HUBwatch" refers to the HUBwatch for Windows, HUBwatch for OpenVMS and HUBwatch for OSF/1 AXP software.

Overview

Valid Configurations

You can install the HUBwatch software in the following configurations.

- To run as a standalone application.
- To run HUBwatch as an application under POLYCENTER™ or DECmcc™ Version 1.2 network management software. (Unless otherwise noted, further references to POLYCENTER also apply to DECmcc Version 1.2.)

Pre-Installation Requirements

Installation Time

On OpenVMS VAX™ systems, the HUBwatch software installation procedure takes approximately 10 minutes. If you are running the DEC™ TCP/IP Services for OpenVMS VAX, you may need more time

DEC TCP/IP Services for OpenVMS Information: See Pre-Installation Tasks in this chapter for information about using it with HUBwatch.

Hardware Requirements

For a list of VAXstations that are compatible with HUBwatch, refer to the HUBwatch for OpenVMS VAX Software Product Description (SPD 45.74.00-XX).

Software Requirements

The system must have the following software installed and operating:

- OpenVMS VAX operating system Version 5.4 or later.
- DECwindows™ Motif® Version 1.1 or later.
- OpenVMS DECwindows Motif Bookreader™ Version 4.0 or later.
- DEC TCP/IP Services for OpenVMS VAX Version 2.0 or later, or TGV MultiNet™ Version 3.2 or later.

To verify that you have the DEC TCP/IP Services for OpenVMS software, type UCX at the system prompt. The UCX prompt appears (UCX>). Press Ctrl/Z to return to the system prompt.

Pre-Installation Requirements

Verifying Product Version Numbers: Do the following to verify your product version numbers.

For This Product...	Enter This Command...
OpenVMS VAX software	\$ SHOW SYSTEM Result: The version appears in the first line of output.
DECwindows Motif	From the Session Manager window, click on the Help menu and choose On Version.
OpenVMS DECwindows Motif Bookreader™	From the Help menu, select Product Information.
DEC TCP/IP Services for OpenVMS	\$ UCX UCX> SHOW VERSION
TGV MultiNet	\$ MULTINET SHOW/VERSION

Optional Software

To use HUBwatch with the POLYCENTER network management platform, you must have one of the following products installed:

- POLYCENTER Framework Version 1.3 or later.
- POLYCENTER Network Manager 200 Version 1.3.
- POLYCENTER Network Manager 400 Version 2.3.
- DECMcc Director Version 1.2.
- DECMcc Basic Management System Version 1.2.
- DECMcc Enterprise Management Station Version 2.2.

Firmware Requirements

Each of your hubs and modules needs the most recently released version of the firmware. See the HUBwatch release notes for the minimum revision firmware that HUBwatch supports.

Because Digital is continuously improving the quality of the DEChub product family, periodic releases of firmware will become available. To find information about the latest firmware releases:

- Contact your local Digital reseller or your local Digital sales office.
- Read the README file found in the /pub/DEC/hub900 directory at ftp.digital.com.

Firmware updates are customer installable. To register for automatic notification of new firmware releases, return the Business Reply Card supplied with this product, or send your name, title, and mailing address to dechub_notice@lkg.dec.com.

Pre-Installation Requirements

Memory Requirements

See the HUBwatch Software Product Description (SPD) for the recommended minimum memory requirements for HUBwatch. See the HUBwatch release notes for virtual memory requirements.

Do the following to check available memory, global sections, and global pages.

To Check...	Enter This Command...
System memory	\$ SHOW MEM
Global sections	\$ WRITE SYS\$OUTPUT F\$GETSYI ("FREE_GBLSECTS")
Global pages	\$ WRITE SYS\$OUTPUT F\$GETSYI ("FREE_GBLPAGES")

Disk Space Requirements

See the HUBwatch release notes for the recommended minimum disk space for HUBwatch. Make sure that you have enough free blocks on the system disk. Otherwise, the installation fails.

Finding Free Block Amount: To find out how many free blocks exist on the system disk, enter:

```
$ SHOW DEVICE SYS$SYSDEVICE:
```

If the number of required blocks exceeds the number of free blocks, clear space on the system disk.

Pre-Installation Requirements

Account Privileges and Quotas

See the HUBwatch release notes for the recommended process quotas and SYSGEN parameter values. You need system privileges for the account from which you plan to install HUBwatch to change system parameters..

Do the following to view and change these values.

To See Current...	Enter These Commands...	And Change Values With These Commands...
System privileges	<pre>\$ SHOW PROCESS /PRIVILEGES</pre>	<pre>\$ SET PROCESS/PRIV=ALL</pre>
Process quotas	<pre>\$ SET DEFAULT SYS\$SYSTEM \$ RUN SYS\$SYSTEM:AUTHORIZE UAF> SHOW</pre>	<p>If you do not have the required quotas, enter:</p> <pre>UAF> MODIFY user-name - _UAF> /quota-name=value</pre> <p>Press Ctrl/Z to return to the system prompt. You must log out and log in again for the new values to take effect.</p>
SYSGEN parameters	<pre>\$ SET DEFAULT SYS\$SYSTEM \$ RUN SYS\$SYSTEM:SYSGEN SYSGEN> SHOW /ALL</pre>	<pre>SYSGEN> SET param-name - _SYSGEN> value SYSGEN> WRITE CURRENT</pre> <p>Press Ctrl/Z to return to the system prompt. You must reboot the system for the new values to take effect.</p>

Pre-Installation Tasks

Introduction

This section describes the tasks you perform before you start the installation procedure.

Read the Release Notes

A number of installation requirements will not be known exactly until after this book is printed. The HUBwatch release notes list those requirements. Do not install HUBwatch unless your system satisfies those requirements. Step 3 in *Installing HUBwatch for OpenVMS* explains how to install and print the release notes. Be sure to read them before completing the HUBwatch installation.

Requirements in Release Notes: The installation requirements listed in the release notes include minimum values for the following:

- Disk space.
- Process quotas.
- SYSGEN parameters.
- Virtual memory.

For POLYCENTER Users: If you plan to run HUBwatch as an add-on application to POLYCENTER, you must use the minimum values required for POLYCENTER if they are higher than those listed in the HUBwatch Release Notes. Refer to the POLYCENTER documentation. (Unless otherwise noted, further references to POLYCENTER also apply to DECmcc.)

Is the Distribution Kit Complete?

The HUBwatch installation kit should contain the following items:

- One TK50 tape cartridge labeled HUBWAT.
- *HUBwatch Installation and Configuration* book (this book).
- *HUBwatch Use* book.

If any item is missing, contact your local Digital representative.

Pre-Installation Tasks

Back Up the System Disk

Before starting the installation procedure, back up the disk onto which you will install the HUBwatch software. Use the following command to back up the disk.

```
$ BACKUP/IMAGE/VERIFY/LOG SYS$SYSDEVICE:[*...]*.*;* -  
_ $ backup-device:SYSTEM.SAV /SAVE
```

Command Variable: The *backup-device* variable is the device to which you are copying the HUBwatch files.

Install the HUBwatch License

You cannot use HUBwatch software unless the HUBwatch license is installed. To check for the HUBwatch license, type:

```
$ SHOW LIC HUBWATCH
```

Installing the License: If the license is installed, see *Installing HUBwatch* in this chapter. Do the following if the license is not installed.

Step	Action
1	Obtain the HUBwatch Product Authorization Key (PAK) delivered with the software distribution kit.
2	Log in to the system account.
3	Enter the following command to start the OpenVMS VAX license command procedure: \$ @SYS\$UPDATE:VMSLICENSE.COM
4	In response to the prompts, enter the information from the PAK.

Set Up DEC TCP/IP Services for OpenVMS VAX

If you are running DEC TCP/IP Services for OpenVMS VAX, enter the following OpenVMS commands before installing HUBwatch.

```
$ create sys$sysdevice:[ucx$snmp]ucx$snmp.log  
<Ctrl/Z>  
$ set file /version_limit=5 sys$sysdevice:[ucx$snmp]ucx$snmp.log  
$ purge sys$sysdevice:[ucx$snmp]*.log
```

Purge Time: If you have a large number of log files, the purge command may take up to an hour to execute.

VMSINSTAL Overview

Introduction

VMSINSTAL is an interactive procedure that displays a series of questions. You use the VMSINSTAL command procedure to install the HUBwatch software on an OpenVMS VAX system. This procedure copies files from the distribution media to the installation disk.

Additional Information: See the OpenVMS/VAX documentation for a complete description of VMSINSTAL. See to the HUBwatch release notes for a list of files and logical names that the HUBwatch installation procedure adds or modifies.

VMSINSTAL Guidelines

Basic guidelines for using VMSINSTAL are as follows:

- After each question, the default response, if there is one, appears in brackets ([]). At the end of each question, either a colon (:) or a question mark (?) appears. Respond in one of the following ways.
 - To get help after a question, type a question mark (?). After the help display, the same question reappears.
 - To select the default response, press Return.
 - To enter information, type it immediately after the colon or question mark and press Return.

You can type Y for Yes and N for No.

- To abort the installation procedure at any time, press Ctrl/Y.

The installation procedure deletes all files that it has created up to that point and returns to the Digital Command Language (DCL) level. Invoke VMSINSTAL again to restart the installation procedure.

Installing HUBwatch for OpenVMS

Installing HUBwatch for OpenVMS

Step 1: Starting the Procedure

Do the following to start the HUBwatch installation procedure.

Step	Action
------	--------

1 Log in to the system account.

Result: The system prompt appears.

2 Mount the HUBwatch distribution tape on the tape drive. For instructions about mounting and removing a TK50 tape cartridge, see the system documentation.

3 Start VMSINSTAL with the following command.

```
$ @SYS$UPDATE:VMSINSTAL HUBWATCH device-name: OPTIONS N
```

Command Variables: The VMSINSTAL command variables are as follows.

- HUBWATCH names the save set on the distribution media.
- *device-name*: names the device where the distribution media is mounted (for example, MKB300:).
- OPTIONS N provides the option of printing the on-line HUBwatch release notes. If you are reinstalling the same version of HUBwatch software and you have already read the release notes, you can omit OPTIONS N.

Result: The procedure displays the following.

```
VAX/VMS Software Product Installation Procedure Vn.n.
```

```
It is dd-mmm-yyy at hh:mm.
```

```
Enter a question mark (?) at any time for help.
```

```
The procedure displays a message like the following to tell you what processes are active on your system.
```

```
%VMSINSTAL-W-ACTIVE, The following processes are still active:
```

```
    DAVID
    DECV$TE_0118
    DINANT
    DECV$BANNER
    DECV$MWM
    NML_8299
```

```
* Do you want to continue anyway [NO]?
```

4 Type Yes and press Return.

Result: The procedure continues; go to *Step 2: Confirming System Disk Backup*.

Installing HUBwatch for OpenVMS

Step 2 - Confirming System Disk Backup

The procedure displays the following message:

```
* Are you satisfied with the backup of your system disk [YES]?
```

Do one of the following:

- If you are not satisfied with the backup, type N and press Return to terminate the installation procedure. Then back up your system disk and reenter the VMSINSTAL command:

```
$ @SYS$UPDATE:VMSINSTAL HUBWATCH device-name: OPTIONS
```

If you stop the procedure to back up the system disk and then restart the procedure, the procedure displays the introductory prompts.

- If your system disk is fully backed up, press Return to answer Yes. The procedure continues; go to *Step 3: Reading the Release Notes*.

Step 3: Reading the Release Notes

After you confirm the system backup status, the procedure displays the following messages:

```
The following products will be processed:
```

```
HUBWATCH V3.1
```

```
Beginning installation of HUBWATCH V3.1 at 09:15
```

```
%VMSINSTAL-I-RESTORE, Restoring product saveset A. . .
```

If you included OPTIONS N in the VMSINSTAL command, the procedure displays a list of options.

```
Release notes included with this kit are always copied to SYS$HELP.  
Additional Release Notes Options:
```

1. Display release notes
2. Print release notes
3. Both 1 and 2
4. None of the above

```
* Select option [2]:
```

```
* Queue name [SYS$PRINT]:
```

Installing HUBwatch for OpenVMS

Do the following to select a release note option.

Step	Action
------	--------

1 Select the release note option you want.

Result: The procedure displays the following message:

```
* Do you want to continue the installation [NO]?
```

2 Type Yes and press Return.

Result: The following messages appear:

```
%VMSINSTAL I - RELMOVED, The product's release notes have been
moved to SYS$HELP
```

```
-----
HUBwatch for OpenVMS for VAX - V3.1
VMSINSTAL installation procedure
```

```
Copyright © 1994 by
DIGITAL EQUIPMENT CORPORATION, Littleton Mass, USA
All rights reserved
-----
```

```
Product:          HUBWATCH
```

```
Producer:         DEC
```

```
Version           3.1
```

```
Release Date:
```

```
* Does this product have an authorization key registered and
loaded?
```

3 Type Yes and press Return.

Result: The procedure continues; go to *Step 4: Do You Want to Run the IVP?*.

Step 4 : Do You Want To Run the IVP?

The installation verification procedure (IVP) verifies that all files from the distribution kit are in the proper directories, that the release notes are in the SYS\$HELP directory, and that the HUBwatch software can be started.

After you select the release notes option, the procedure displays the following prompt:

```
* Do you want to run the IVP after the installation [YES]
```

Type Yes and press Return if you want the IVP to run automatically. The installation procedure will start the IVP after all other tasks are complete (see *Step 8: Provide SNMP Information*). If you prefer to start the IVP manually, see *Post-Installation Tasks* in this chapter.

Installing HUBwatch for OpenVMS

Step 5: Purging Files

When the procedure continues, it displays the following prompt:

```
* Do you want to purge files replaced by this installation [YES]?
```

Press Return to answer Yes. The procedure continues with HUBwatch-specific questions; go to *Step 6: Answering HUBwatch-Specific Questions*.

Step 6 : Answering HUBwatch-Specific Questions

The procedure displays the following messages:

The logical name HUBWATCH\$LIBRARY should be defined as the directory which contains or which will contain the HUBwatch agents file and the HUBwatch events agents file.

SYS\$STARTUP:HUBWATCH\$STARTUP.COM will define the system-wide logical name HUBWATCH\$LIBRARY as SYS\$LOGIN. To assign a different system-wide translation for HUBWATCH\$LIBRARY, enter it below. You may also edit SYS\$STARTUP:HUBWATCH\$STARTUP.COM at a later time.

```
* System-wide translation for HUBWATCH$LIBRARY: [SYS$LOGIN]:
```

Do the following to answer the installation questions.

Step	Action
1	<p>Do one of the following:</p> <ul style="list-style-type: none">• Press Return to accept the default translation for HUBWATCH\$LIBRARY.• Enter a different translation and press Return. <p>Result: The procedure displays the following:</p> <p>The logical name HUBWATCH\$ALARM_FILES may be defined as the directory which will be used for HUBwatch event polling and alarm logfiles.</p> <p>SYS\$STARTUP:HUBWATCH\$STARTUP.COM will define the system-wide logical name HUBWATCH\$ALARM_FILES as SYS\$SYSTEM. To assign a different system-wide translation for HUBWATCH\$ALARM_FILES enter it below. You may also edit SYS\$STARTUP:HUBWATCH\$STARTUP.COM at a later time.</p> <pre>* System-wide translation for HUBWATCH\$ALARM_FILES: [SYS\$SYSTEM]:</pre>

Installing HUBwatch for OpenVMS

Step	Action
2	<p>Do one of the following:</p> <ul style="list-style-type: none">• Press Return to accept the default translation for HUBWATCH\$ALARM_FILES.• Enter a different translation and press Return. <p>Result: The procedure then displays the following:</p> <p>The HUBwatch poller is a background process which queries a list of DEChubs and DEChub modules for selected MIB information. This information is then used by the HUBwatch alarms component. The poller may be started manually at any time by using the</p> <pre>WATCH /POLLER START [/FILE=<alarm_agents_file>]</pre> <p>DCL command, or it may be started automatically in the HUBwatch system startup procedure SYS\$STARTUP:HUBWATCH\$STARTUP.COM.</p> <pre>* Automatically start the HUBwatch poller? (YES NO) [YES]</pre>
3	<p>Do one of the following:</p> <ul style="list-style-type: none">• Press Return if you want to start the poller automatically when you start HUBwatch.• Enter No and press Return if you do not want the poller started automatically. If you enter No, you can start the poller later by entering the command <pre>\$ WATCH /POLLER START [/FILE=alarm-agents-file]</pre> <p>Result: If you chose to start the poller automatically, the procedure displays the following.</p> <p>The HUBwatch poller reads agent information from a file. If the poller is interactively invoked through the WATCH/POLLER START command, and an alarmed agents file is not specified, then it will use HUBWATCH\$LIBRARY:HUBWATCH_ALARMED_AGENTS.DAT. When the poller is invoked through HUBWATCH\$STARTUP.COM, it uses the SYS\$MANAGER directory.</p> <p>To use a different filename, enter it below. You may also edit SYS\$STARTUP:HUBWATCH\$STARTUP.COM at a later time.</p> <pre>* HUBwatch poller agents file:[SYS\$MANAGER:HUBWATCH_ALARMED_AGENTS.DAT]</pre>

Installing HUBwatch for OpenVMS

Step	Action
4	<p>Do one of the following:</p> <ul style="list-style-type: none">• Press Return to accept the default file name.• Enter a different file name and press Return. <p>Result: If you are running a version of OpenVMS prior to V6.0, the procedure displays a message similar to the following:</p> <pre>ATTENTION SYSTEM MANAGER: After HUBwatch installation completes, you must add the following line to SYS\$MANAGER:SYSTARTUP_V5.COM \$ @SYS\$STARTUP:HUBWATCH\$STARTUP.COM</pre> <p>If you are running OpenVMS Version 6.0 or later, the procedure displays a message similar to the following:</p> <pre>ATTENTION SYSTEM MANAGER: After HUBwatch installation completes, you must add the following line to SYS\$MANAGER:SYSTARTUP_VMS.COM \$ @SYS\$STARTUP:HUBWATCH\$STARTUP.COM</pre> <p>The procedure then displays a message similar to the following and pauses:</p> <pre>ATTENTION HUBwatch USERS: If HUBwatch V2.0 or earlier is in use at this site, users should make a backup copy of their agents file before running HUBwatch V3.1. HUBwatch V3.1 will automatically convert agents files into a new format. However, this new format is not compatible with earlier versions of HUBwatch. * Press <Return> to continue.</pre>
5	<p>Press Return.</p> <p>Result: The procedure continues; go to <i>Step 7: Reading Installation Messages</i>.</p>

Installing HUBwatch for OpenVMS

Step 7: Reading Installation Messages

The procedure then displays the following informational messages:

```
%HUBWATCH-I-NOMOREQUES, No more questions will be asked
during the installation phase.
%HUBWATCH-I-COMPTIME, HUBwatch installation will typically
complete in about 5 minutes.

%VMSINSTAL-I-RESTORE, Restoring product save set B ...

%HUBWATCH-I-FILES, Copying image file...

%HUBWATCH-I-FILES, Copying DECwindows UID files...

%HUBWATCH-I-FILES, Copying message, options, TELNET launch and data
files...

%HUBWATCH-I-FILES, Copying help files and documentation
questionnaire...

        If any users on the system are using HELP right now,
        the installation will be delayed for up to 5 minutes.

... HUBwatch HELP installed.
```

If the POLYCENTER or DECmcc network management application is installed on your system, the procedure displays the following messages:

```
To launch HUBwatch from DECmcc version 1.2, all DECmcc users
need to modify their own MCC_RESOURCE.DAT file according
to the instructions in MCC_SYSTEM:MCC_HUBWATCH.COM.
```

```
DECmcc version 1.3 users will be able to launch HUBwatch
directly from DECmcc's Applications menu with no other
changes necessary.
```

Installing HUBwatch for OpenVMS

The procedure then displays this message:

```
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target
directories...
```

```
-----
HUBwatch for OpenVMS for VAX, V3.1
Installation verification procedure.
```

```
Copyright © 1994 by
DIGITAL EQUIPMENT CORPORATION, Littleton, Mass, USA
All rights reserved.
-----
```

Step 8: Providing SNMP Information

The procedure then prompts you to provide SNMP information. The procedure displays the following message:

```
Hit the <Return> key for help on any of the following questions,
or type <CTRL/Z> to exit the verification procedure.
```

```
* What is the IP address of the SNMP agent?
```

Do the following to supply the SNMP information.

Step	Action
1	Enter the IP address in the format <i>d.d.d.d</i> , where <i>d</i> is a decimal number less than 256. Then press Return. Result: The procedure displays the following message. * What is the r/w Community Name for the agent [public]?
2	Press Return to use the default name of public or enter the community name of the agent and press Return. The community name is case sensitive. Result: The procedure continues with the IVP if you specified this in step 4 of the installation procedure. Otherwise, the installation procedure completes.

Installing HUBwatch for OpenVMS

Step 9: Running the IVP

When the procedure starts the IVP, it displays the following messages:

```
Device:   WSA1:  [exec]
Node:     0
Transport: LOCAL
Server:   0
Screen:   0
```

HUBwatch will now be run on the above display.

When the front-panel view for your hub comes up, move the pointer to the `File` menu, and press and hold mouse button 1. Slide the pointer down to `Exit` in the menu which will appear below File, and release mouse button 1.

If HUBwatch fails to come up, check that the display information shown above is correct...

* Hit the <Return> key to start HUBwatch or <Ctrl/z> to abort:

Installing HUBwatch for OpenVMS

Do the following to run the IVP.

Step	Action
------	--------

1 Press Return.

Result: The procedure continues by starting HUBwatch. HUBwatch begins by displaying hub management and configuration information.

Example:

```
WATCH /AGENT 00.00.00.00 -  
      /COMMUNITY="public" -  
      /TIMEOUT=5 /RETRIES=2 /VIEW=PHYSICAL
```

```
(I) HUBWATCH$LIBRARY = SYS$LOGIN
```

Result: The procedure displays the following.

```
HUBwatch for OpenVMS Revision 3.1
```

If you have not previously installed and used HUBwatch, you receive warning messages like the following (which you can ignore):

```
(W) Current agent not in the agent table  
(W) Unresolved agent node IP name  
(W) Agent type DETMM found for 00.00.00.00
```

As part of the IVP, HUBwatch software displays the Hub Front Panel window. The Hub Front Panel window differs, depending on whether you started HUBwatch with the IP address of a DEChub 900 MultiSwitch (MS), a DECagent 90, a GIGAswitch, or a standalone module. The *HUBwatch Use* book has pictures of the Hub Front Panel windows that appear for the DEChub 900MS and the DECagent 90.

2 Exit the Hub Front Panel window. Click on the File menu and then click on Exit.

Result: The procedure displays the following.

```
The HUBwatch events viewer will now be verified.  
When the HUBwatch viewer window appears on the display, move  
the pointer to the `File` menu, and press and hold mouse button 1.  
Slide the pointer down to `Exit` in the menu which will appear  
below File, and release mouse button 1.
```

```
* Hit the <Return> key to start the events viewer, or <ctrl/z> to  
  abort:
```

```
$ WATCH /VIEWER
```

3 Press Return to verify the events viewer.

Result: The HUBwatch software displays the Events Viewer window.

4 Exit the Events Viewer window. Click on the File menu and then click on Exit.

Result: The procedure completes and displays the following messages.

```
Exiting HUBwatch
```

```
HUBwatch V3.1 Installation verification complete.
```

```
Installation of HUBWATCH V3.1 completed at 09:58
```

```
VMSINSTAL procedure done at 09:58
```

Installation Error Messages

Introduction

This section lists the HUBwatch-specific error messages that you may receive while installing the application. Each message in this section is followed by an explanation and a recommended user action.

HUBWATCH-E-BADVMSVER

Message Text: HUBWATCH-E-BADVMSVER, This kit requires version 5.4 or later of OpenVMS VAX.

Explanation: Your version of OpenVMS VAX is too low.

User Action: Install OpenVMS VAX Version 5.4 or later before installing HUBwatch.

HUBWATCH-E-INSGBLPGS

Message Text: HUBWATCH-E-INSGBLPGS, Insufficient global pages. HUBwatch needs at least *nnn* free global pages.

HUBWATCH-I-CURGBLPGS, Only *nn* global pages are available.

Explanation: You do not have the minimum required global pages as specified in the release notes for the HUBwatch installation.

User Action: Increase the SYSGEN GBLPAGES parameter and reboot the system before installing HUBwatch. Increase the GBLPAGES by at least the current value plus the number listed in the release notes.

HUBWATCH-E-INSGBLSCT

Message Text: HUBWATCH-E-INSGBLSCT, Insufficient global sections. HUBwatch needs at least *nn* free global sections.

HUBWATCH-I-CURGBLSCT, Only *nn* global sections are available.

Explanation: You do not have sufficient available global sections to install HUBwatch.

User Action: Increase the SYSGEN GBLSECTIONS parameter to at least the number listed in the release notes and reboot the system before you install HUBwatch.

Installation Error Messages

HUBWATCH-E-INSSYSSPC

Message Text: HUBWATCH-E-INSSYSSPC, Insufficient space on system disk to install HUBwatch.

HUBWATCH-I-TOTSYSSPC, *nnn*,000 blocks are needed.

Explanation: You do not have sufficient free blocks on the system disk to install HUBwatch.

User Action: Clear enough space on the system disk before you install HUBwatch (see the release notes for disk requirements).

HUBWATCH-E-UCXNOTFOUND, SYS\$LIBRARY:UCX\$IPC_SHR.EXE:

Message Text: HUBWATCH-E-UCXNOTFOUND, SYS\$LIBRARY:UCX\$IPC_SHR.EXE network software not found on system.

HUBWATCH-I-UCXREQ, DEC TCP/IP Services for VMS (UCX) is prerequisite software for HUBwatch.

Explanation: Prerequisite software, DEC TCP/IP Services for OpenVMS VAX, is not installed on the system.

User Action: Install DEC TCP/IP Services for OpenVMS VAX before you install HUBwatch (see *Software Requirements* in Chapter 2).

HUBWATCH-W-ERRMCC

Message Text: HUBWATCH-W-ERRMCC, Error copying DECmcc launch files to MCC_COMMON:

Explanation: HUBwatch detected that POLYCENTER or DECmcc was installed on the system, but it could not copy the HUBwatch launch files (MCC_HUBWATCH.COM and MCC_APPL_HUBWATCH.DEF) to the MCC_COMMON directory. Instead, HUBwatch copied those files to the SYS\$LIBRARY: directory.

User Action: At a later time, copy those files to the MCC_COMMON directory.

Installation Error Messages

HUBWATCH-W-HELPIUSE

Message Text: HUBWATCH-W-HELPIUSE, System HELP library in use. HUBwatch help not installed.

Explanation: An individual is using OpenVMS Help; therefore, the installation procedure cannot add HUBwatch Help to the OpenVMS Help library at this time.

User Action: Add help for the HUBwatch startup command, WATCH/AGENT, at a later time. Use the following command:

```
$ LIBRARY /REPLACE /HELP SYS$HELP:HELPLIB SYS$HELP:HUBWATCH.HLP
```

Post-Installation Tasks

Introduction

This section describes post-installation procedures.

About the IVP

If you did not select to run the installation verification procedure (IVP) when installing HUBwatch, you must run it before using HUBwatch to verify that the software is ready. You can also run the IVP after a system failure to ensure that HUBwatch is still ready.

IVP Failure: If the IVP fails, run it again. If it still fails, contact your Digital representative.

Running the IVP Separately

Do the following to run the IVP separately from the installation procedure.

Step	Action
1	<p>Enter the following command:</p> <pre>\$ @SYS\$TEST:HUBWATCH\$IVP</pre> <p>Result: The following messages appear:</p> <pre>----- HUBwatch for OpenVMS for VAX, V3.1 Installation verification procedure. Copyright © 1994 by DIGITAL EQUIPMENT CORPORATION, Littleton, Mass, USA All rights reserved. ----- Hit the <Return> key for help on any of the following questions, or type <CTRL/Z> to exit the verification procedure. * What is the IP address of the SNMP agent?</pre>
2	<p>Enter the IP address in the format <i>d.d.d.d</i>, where <i>d</i> is a decimal number less than 256. Then press Return.</p> <p>Result: The procedure displays the following:</p> <pre>* What is the r/w Community Name for the agent?</pre>
3	<p>Enter the community name for the agent, (for example, "public"). The community name is case sensitive.</p> <p>Result: The procedure displays the following:</p> <pre>* Hit the <Return> key to start HUBwatch or <ctrl/z> to abort:</pre>

Post-Installation Tasks

Step	Action
4	<p>Press Return to start HUBwatch.</p> <p>Result: The procedure displays the following:</p> <pre>Device: WSA1: [exec] Node: 0 Transport: LOCAL Server: 0 Screen: 0</pre> <p>HUBwatch will now be run on the above display. When the front-panel view for your hub comes up, move the pointer to the `File` menu, and press and hold mouse button 1. Slide the pointer down to `Exit` in the menu which will appear below File, and release mouse button 1.</p> <p>If HUBwatch fails to come up, check that the display information shown above is correct...</p> <p>* Hit the <Return> key to start HUBwatch or <ctrl/z> to abort:</p>
5	<p>Press Return.</p> <p>Result: The procedure then continues by starting HUBwatch. HUBwatch begins by displaying hub management and configuration information.</p> <p>Example:</p> <pre>WATCH /AGENT 00.00.00.00 - /COMMUNITY="public" - /TIMEOUT=5 /RETRIES=2 /VIEW=PHYSICAL (I) HUBWATCH\$LIBRARY = SYS\$LOGIN</pre> <p>The procedure then displays the following:</p> <pre>HUBwatch for OpenVMS Revision 3.1</pre> <p>If you have not previously installed and used HUBwatch, you will receive warning messages like the following, which you can ignore:</p> <pre>(W) Current agent not in the agent table (W) Unresolved agent node IP name (W) Agent type DETMM found for 00.00.00.00</pre> <p>As part of the IVP, HUBwatch software displays the Hub Front Panel window. The Hub Front Panel window differs, depending on whether you started HUBwatch with the IP address of a DEChub 900 MultiSwitch (MS), a DECagent 90, or a standalone module. The <i>HUBwatch Use</i> book has pictures of the Hub Front Panel windows that appear for the DEChub 900MS and the DECagent 90.</p>

Post-Installation Tasks

Step	Action
6	<p>Exit the Hub Front Panel window. Click on the File menu and then click on Exit.</p> <p>Result: The procedure displays the following:</p> <p>The HUBwatch events viewer will now be verified.</p> <p>When the HUBwatch viewer window appears on the display, move the pointer to the `File` menu, and press and hold mouse button 1. Slide the pointer down to `Exit` in the menu which will appear below `File`, and release the mouse button.</p> <p>* Hit the <Return> key to start the events viewer, or <ctrl/z> to abort:</p> <pre>\$ WATCH /VIEWER</pre>
7	<p>Press return to verify the events viewer.</p> <p>Result: The HUBwatch software displays the Events Viewer window.</p>
8	<p>Exit the Events Viewer window. Click on the File menu and then click on Exit.</p> <p>Result: The procedure displays the following:</p> <pre>Exiting HUBwatch HUBwatch V3.1 Installation verification complete.</pre>

Installing HUBwatch Help Files Separately

If anyone on the system was using OpenVMS help while you were installing HUBwatch, the installation did not add HUBwatch help to the OpenVMS help library. To add help for the HUBwatch startup command, WATCH/AGENT, at a later time, use the following command:

```
$ LIBRARY /REPLACE /HELP SYS$HELP:HELPLIB SYS$HELP:HUBWATCH.HLP
```

Editing the System Startup Command Procedure

To start HUBwatch after the installation is complete, you must add the following line to SYS\$MANAGER:SYSTARTUP_V5.COM or, for OpenVMS Version 6.0 or later, SYS\$MANAGER:SYSTARTUP_VMS.COM:

```
$ @SYS$STARTUP:HUBWATCH$STARTUP.COM
```

Post-Installation Tasks

Modifying DECmcc Version 1.2 Files

To launch HUBwatch from DECmcc Version 1.2, all DECmcc users need to modify their own MCC_RESOURCE.DAT files according to the instructions in MCC_SYSTEM:MCC_HUBWATCH.COM.

Users of POLYCENTER Version 1.3 or later can launch HUBwatch from the POLYCENTER Applications menu without editing any files.

For More Information: See Appendix A for details about using HUBwatch with the POLYCENTER software.

Starting HUBwatch as a Standalone Application

Starting HUBwatch as a Standalone Application

Introduction

This section describes how to start HUBwatch for OpenVMS as a standalone application. Appendix A describes how to start HUBwatch as an add-on application to the POLYCENTER Network Management platform.

Command Syntax

Use the following command to start HUBwatch:

```
$ WATCH/AGENT agent-name or ip-address/COMMUNITY=comm-string
_ $ /RETRIES=n /TIMEOUT=n /VIEW=logical (or physical)
```

Command Use: When you start HUBwatch, you can use all or part of the full startup command depending on whether you previously used HUBwatch to add entries for the agents you want to use to the Agent List box in the Community window.

For More Information: See Adding Agent Information in Chapter 4 for information about adding agent entries.

Command Variables

These are the start command variables.

This Variable...	Specifies..
<i>agent-name</i>	The name assigned to the agent module Example: agent1.
<i>ip-address</i>	The Internet address in the form <i>d.d.d.d</i> , <i>d</i> being a decimal number less than 256.
<i>comm-string</i>	The name assigned to the community. When you enter the community name, use quotation marks Example: Community="public".
/RETRIES= <i>n</i>	An integer that sets the number of retries allowed.
/TIMEOUT= <i>n</i>	The timeout period in seconds.
/VIEW= <i>n</i>	Whether a logical or physical view of the hub appears in the Hub Front Panel window. The physical view is the default.

The First Time You Start HUBwatch

The first time you invoke HUBwatch, the startup command must at least include an agent's IP address.

Example: \$ WATCH/AGENT 00.00.00.00

Starting HUBwatch as a Standalone Application

HUBwatch will use default values for the remaining parameters. (The default community name is public. If the requested agent has a different community name, you must specify that name.)

Starting Subsequent HUBwatch Sessions

Once you are running HUBwatch, add entries for the agents you want to use with the Add Agent window. Then, you can invoke HUBwatch with the name of an agent from the Agent List box.

Example: `$ WATCH/AGENT HUBMAN`

Information About Adding Agents: See Adding Agent Information in Chapter 4.

Initial Display

When you execute the startup command, the Hub Front Panel window appears. The Hub Front Panel window differs, depending on whether you started HUBwatch with the IP address of a DEChub 900 MultiSwitch (MS), a DECagent 90, a GIGAswitch, or a standalone module. The *HUBwatch Use* book has pictures of the DEChub 900MS and DECagent 90 Hub Front Panel windows.

Steps

Do the following to start HUBwatch.

Step	Action
1	Is the logical name HUBWATCH\$LIBRARY defined as the directory that contains or will contain the Agent file, HUBWATCH_AGENTS.DAT? <ul style="list-style-type: none">• If yes, go to step 2.• If no, define the logical name as the correct directory. See the <i>HUBwatch Use</i> book for details.
2	Are you currently using HUBwatch V2.0 or earlier? <ul style="list-style-type: none">• If no, go to step 3.• If yes, make a backup copy of your Agents file before running HUBwatch Version 3.1. The first time you add or delete an agent in your Agents file, HUBwatch Version 3.1 automatically converts the Agents file into a new format. The new format is not compatible with earlier versions of HUBwatch. The Agents file is located in HUBWATCH\$LIBRARY:HUBWATCH_AGENTS.DAT
3	Enter the HUBwatch start command.

Starting the Poller and the Events Viewer

Introduction

The HUBwatch poller is a background process which queries a list of DEChubs and DEChub modules for selected MIB information. This information is then used by the HUBwatch alarms component

The events viewer allows you to view this information.

Poller Command Syntax

Use the following command to start the poller:

```
$ WATCH/POLLER START [FILE=alarmed-agents-file-name]
```

Command Variable: The FILE=*alarmed-agents-file-name* variable tells HUBwatch to read the specified file without starting the Alarms Setup window.

Disabling the Poller: To disable the poller, enter the following command:

```
$ WATCH/POLLER STOP
```

Events Viewer Command Syntax

Use the following command to start the events viewer:

```
$ WATCH/VIEWER
```


3

HUBwatch for OSF/1 AXP Installation

Overview

Introduction

This chapter describes how to install the HUBwatch for OSF/1 AXP software using the `setld` utility.

In This Chapter

This chapter includes the following topics:

- Pre-installation requirements
- Installing HUBwatch for OSF/1 AXP
- Post-installation tasks
- Starting HUBwatch for OSF/1 AXP as a standalone application.

HUBwatch Software References

In this book, the term HUBwatch refers to the HUBwatch for Windows, the HUBwatch for OpenVMS, and the HUBwatch for OSF/1 AXP software.

Valid Configurations

You can install the HUBwatch software in the following configurations.

- To run as a standalone application.
- To run HUBwatch as an application under POLYCENTER Manager on NetView network management software.

Pre-Installation Requirements

Pre-Installation Requirements

Installation Time

On OSF/1 AXP systems, the HUBwatch installation procedure takes approximately 10 minutes.

Is Distribution Kit Complete?

The HUBwatch installation kit should contain the following items.

- One CD-ROM optical disk
- A CD-ROM Booklet and CD-ROM read first letter
- *HUBwatch Installation and Configuration* book (this book)
- *HUBwatch for Windows Use* book

If any item is missing, contact your local Digital representative.

Back Up the System Disk

Before starting the installation procedure, back up the system disk onto which you will install the HUBwatch software. See the DEC OSF/1 AXP system documentation for instructions.

Hardware Requirements

You need the following:

- Software distribution device (if installing from media).
Locate the CD-ROM drive for the CD-ROM software distribution media. The CD-ROM booklet or the documentation for the CD-ROM driver you are using explains how to load the CD-ROM media.
- Terminal to communicate with the operating system and respond to prompts from the installation procedure.

See the HUBwatch for OSF/1 AXP V3.1 Software Product Description (SPD 46.65.xx) for additional hardware requirements.

Memory Requirements

The system on which you are installing the software must have a minimum of 64MB of memory.

Pre-Installation Requirements

Disk Space Requirements

To install the software, there must be a minimum of 25,000 Kbytes of free space. Space used in specific subdirectories is as follows.

Subdirectory	Space Used
/usr/kits	20,000 Kbytes
/usr/lib	4,000 Kbytes
/usr/man	20 Kbytes

Checking available space: To find out whether you have enough free space, use the `df` command. For example:

```
# df /usr/kits <Return>
```

If the space required exceeds the space available, clear sufficient space.

Firmware Requirements

Each of your hubs and modules needs the most recently released version of the firmware. See the HUBwatch release notes for the minimum revision firmware that HUBwatch supports.

Because Digital is continuously improving the quality of the DEChub product family, periodic releases of firmware will become available. To find information about the latest firmware releases:

- Contact your local Digital reseller or your local Digital sales office.
- Read the README file found in the /pub/DEC/hub900 directory at <ftp.digital.com>.

Firmware updates are customer installable. To register for automatic notification of new firmware releases, return the Business Reply Card supplied with this product, or send your name, title, and mailing address to dechub_notice@lkg.dec.com.

Software Requirements

The system must have the following software installed and operating.

- DEC OSF/1 AXP V2.0 or V2.1 operating system including the following subsets (* indicates any subset subversion number):

- OSFBASE2*
- OSFX11*
- OSFCLINET2*
- OSFINET2*

Pre-Installation Requirements

Optional Software

To use HUBwatch for OSF/1 AXP software with POLYCENTER network management software, you must have POLYCENTER Manager on NetView for DEC OSF/1 AXP V2.1. Refer to the HUBwatch for OSF/1 AXP Software Product Description (SPD 46.65.xx) for details.

License Requirements

You cannot use the HUBwatch software unless the HUBwatch license is installed. To check for the HUBwatch license, as root, type:

```
# lmf list <Return>
```

Example: The following is an example of the display that indicates what licenses are installed.

Product	Status	Users:	Total	Active
HUBWATCH-FOR-OSF	active	unlimited		
OSF-DEV-USR	active	unlimited		
OSF-DEV	active	unlimited		
DECNET-OSF/1	active	unlimited		

Installing the License: If the license is not installed, do the following.

Step	Action
1	Obtain the HUBwatch Product Authorization Key (PAK) delivered with the software distribution kit.
2	Log in as superuser on the system where you are installing the software.
3	Invoke LMF as follows. <pre># lmf register</pre> Result: The LMF utility displays a blank template and a file name.
4	Use vi or another editor to insert the information from the HUBwatch PAK into the template.
5	Exit from the editor.
6	Enter the following command to copy the license details from the License Database (LDB) to the kernel cache: <pre># lmf reset</pre>

Pre-Installation Requirements

Step	Action																									
7	<p>Check the license by entering the following command. # lmf list <Return></p> <p>Result: The system displays the following message.</p> <table><thead><tr><th>Product</th><th>Status</th><th>Users:</th><th>Total</th><th>Active</th></tr></thead><tbody><tr><td>HUBWATCH-FOR-OSF</td><td>active</td><td>unlimited</td><td></td><td></td></tr><tr><td>OSF-DEV-USR</td><td>active</td><td>unlimited</td><td></td><td></td></tr><tr><td>OSF-DEV</td><td>active</td><td>unlimited</td><td></td><td></td></tr><tr><td>DECNET-OSF/1</td><td>active</td><td>unlimited</td><td></td><td></td></tr></tbody></table>	Product	Status	Users:	Total	Active	HUBWATCH-FOR-OSF	active	unlimited			OSF-DEV-USR	active	unlimited			OSF-DEV	active	unlimited			DECNET-OSF/1	active	unlimited		
Product	Status	Users:	Total	Active																						
HUBWATCH-FOR-OSF	active	unlimited																								
OSF-DEV-USR	active	unlimited																								
OSF-DEV	active	unlimited																								
DECNET-OSF/1	active	unlimited																								

LMF Information: For information on using LMF, and for LMF error messages, see the Guide to Software License Management and the *lmf(8)* reference page.

Installing HUBwatch for OSF/1 AXP From the Distribution Media

Installing HUBwatch for OSF/1 AXP From the Distribution Media

Introduction

This section explains how to install HUBwatch for OSF/1 software on the local system from the CD-ROM.

Read the Release Notes Before You Install: Before installing the software, read the HUBwatch release notes. The HUBwatch release notes are in the file `\usr\kits\HUBwatch\hubwatch.release_notes`.

Steps

To install the HUBwatch for OSF/1 AXP software, do the following.

Step	Action
1	Log on as superuser (login name root) to the system where you are installing HUBwatch software.
2	Make sure that you are at the root (/) directory by entering the following command: <pre># cd /</pre>
3	Specify the <code>/cdrom</code> directory to be the mount point for the distribution file system. Example: If your drive is <code>ral</code> , enter the following: <pre># mount -dr /dev/ral/cdrom</pre>
4	Enter <code>setld</code> with the <code>-l</code> option (for the load function) and the directory of the mounted file system where the HUBwatch subset resides. Example: If the directory for the savesets is <code>/cdrom/AXP/hubwatch/bin</code> , enter the following: <pre># setld -l /cdrom/AXP/hubwatch/bin</pre> Result: The installation procedure displays the following information and prompt: <pre>The subsets listed below are optional: There may be more optional subsets than can be presented on a single screen. If this is the case, you can choose subsets screen by screen or all at once on the last screen. All of the choices you make will be collected for your confirmation before any subsets are installed. 1) HUBwatch for OSF/1 AXP V3.1 Or you may choose one of the following options: 2) ALL of the Above 3) CANCEL selections and redisplay menus 4) EXIT without installing any subsets Enter your choices or press RETURN to redisplay menus. Choices (for example, 1 2 4-6):</pre>

Installing HUBwatch for OSF/1 AXP From the Distribution Media

Step	Action
5	<p>Enter your choice and press Return.</p> <p>Result: The installation procedure prompts you to verify your choice with the following message.</p> <pre>You are installing the following optional subsets: HUBwatch for OSF/1 AXP V3.1 Is this correct? (y/n):</pre>
6	<p>Enter Yes and press Return.</p> <p>Result: The procedure displays the following.</p> <pre>Checking file system space required to install selected subsets: File system space checked OK. HUBwatch for OSF/1 AXP V3.1 Copying from . cdrom/AXP/hubwatch/bin (disk) Working...Fri Oct 28 14:46:19 EDT 1994 Verifying Configuring "HUBwatch for OSF/1 AXP V3.1" (HBWTCH310) Installation Configuration for (HBWTCH310) HUBwatch for OSF/1 AXP V3.1 Rebuilding the whatis data structures for man -k and apropos. Rebuild complete. Do you want to install the necessary files for launching HUBwatch from POLYCENTER Manager on NetView for DEC OSF/1 AXP V2.1 (y/n):</pre>

Installing HUBwatch for OSF/1 AXP From the Distribution Media

Step	Action
7	<p>Do you want to run HUBwatch as an add-on to a POLYCENTER Manager on NetView for DEC OSF/1 AXP V2.1?</p> <ul style="list-style-type: none">• If yes, enter Yes and press Return. Result: The system displays the following message. <pre>THERE ARE NO MORE QUESTIONS TO ANSWER The installation will continue automatically from this point. The installer is ADVISED to read all notes printed during the installation process for important information on the proper operation of (HBWTCH310) HUBwatch for OSF/1 AXP V3.1 The installation and configuration of HUBwatch has completed. Copyright (c) Digital Equipment Corporation, 1994 All Rights Reserved. Unpublished rights reserved under the copyright laws of the United States. #</pre>• If no, enter No and press Return. Result: The system displays the following message. <pre>You have chosen NOT to configure your system to run HUBwatch for OSF/1 AXP V3.1 from POLYCENTER Manager on Netview for DEC OSF/1 AXP on this system at this time. When you decide to configure HUBwatch for OSF/1 AXP V3.1 to run from POLYCENTER Manager on Netview for DEC OSF/1 AXP on this system, issue the command: setld -c HBWTCH310 INSTALL THERE ARE NO MORE QUESTIONS TO ANSWER The installation will continue automatically from this point. The installer is ADVISED to read all notes printed during the installation process for important information on the proper operation of (HBWTCH310) HUBwatch for OSF/1 AXP V3.1 The installation and configuration of HUBwatch has completed. Copyright (c) Digital Equipment Corporation, 1994 All Rights Reserved. Unpublished rights reserved under the copyright laws of the United States. #</pre>

Installing HUBwatch for OSF/1 from a Remote Installation Server

Introduction

This section explains how to install HUBwatch from a remote installation server (RIS). The installation procedure loads the HUBwatch files on a disk on the system where you perform the installation.

Read the Release Notes Before You Install: Before installing the software, read the HUBwatch release notes. The HUBwatch release notes are in the file `/usr/kits/HUBwatch/hubwatch.release_notes`.

Steps

To install HUBwatch for OSF/1 from a RIS (where the subsets reside in a `/etc/ris` distribution area), do the following.

Step	Action
1	Log on as superuser.
2	Make sure that you are at the root (<code>/</code>) directory by entering the following command: <pre># cd /</pre>
3	Enter <code>setld</code> with the <code>-l</code> option (for the load function) and the name of the RIS server system where the HUBwatch subsets reside. Example: If you are loading HUBwatch subsets from a RIS distribution area on the node <code>BIGSYS</code> , enter the following command. <pre># setld -l bigsys:</pre>

Installing HUBwatch for OSF/1 from a Remote Installation Server

Step	Action
4	<p>The installation procedure displays the names of the subsets available on the remote system and asks you to specify the subsets you want to load as follows:</p> <p>The subsets listed below are optional:</p> <p>There may be more optional subsets than can be presented on a single screen. If this is the case, you can choose subsets screen by screen or all at once on the last screen. All of the choices you make will be collected for your confirmation before any subsets are installed.</p> <p>1) HUBwatch for OSF/1 AXP V3.1</p> <p>Or you may choose one of the following options:</p> <p>2) ALL of the Above 3) CANCEL selections and redisplay menus 4) EXIT without installing any subsets</p> <p>Enter your choices or press RETURN to redisplay menus.</p> <p>Choices (for example, 1 2 4-6):</p>
5	<p>Enter your choice and press Return.</p> <p>Result: The procedure displays the following.</p> <pre>HUBwatch for OSF/1 AXP V3.1 (HBWTCH310) Copying from . BIGSYS Working....Fri Oct 28 14:46:19 EDT 1994 Verifying Configuring "HUBwatch for OSF/1 AXP V3.1" (HBWTCH310) Installation Configuration for (Hbwtch310) HUBwatch for OSF/1 AXP V3.1 Rebuilding the whatis data structures for man -k and apropros. Rebuild complete. Do you want to install the necessary files for launching HUBwatch from POLYCENTER Manager on NetView for DEC OSF/1 AXP V2.1 (y/n):</pre>

Installing HUBwatch for OSF/1 from a Remote Installation Server

Step	Action
6	<p>Do you want to run HUBwatch software as an add-on to a POLYCENTER Manager on NetView for DEC OSF/1 AXP V2.1?</p> <ul style="list-style-type: none">• If yes, enter Yes and press Return. THERE ARE NO MORE QUESTION TO ANSWER. The installation will continue automatically from this point. The installer is ADVISED to read all notes printed during the installation process for important information on the proper operation of (HBWTCH310) HUBwatch for OSF/1 AXP V3.1 The installation and configuration of HUBwatch has completed. Copyright (c) Digital Equipment Corporation, 1994 All Rights Reserved. Unpublished rights reserved under the copyright laws of the United States. #• If no, enter No and press Return. Result: The procedure displays the following. You have chosen NOT to configure your system to run HUBwatch for OSF/1 AXP V3.1 from POLYCENTER Manager on Netview for DEC OSF/1 AXP on this system at this time. When you decide to configure HUBwatch for OSF/1 AXP V3.1 to run from POLYCENTER Manager on Netview for DEC OSF/1 AXP on this system, issue the command: <pre>setld -c HBWTCH310 INSTALL</pre>THERE ARE NO MORE QUESTION TO ANSWER. The installation will continue automatically from this point. The installer is ADVISED to read all notes printed during the installation process for important information on the proper operation of (HBWTCH310) HUBwatch for OSF/1 AXP V3.1 The installation and configuration of HUBwatch has completed. Copyright (c) Digital Equipment Corporation, 1994 All Rights Reserved. Unpublished rights reserved under the copyright laws of the United States. #

Reinstalling or Upgrading the HUBwatch for OSF/1 AXP Software

Deleting Subsets

On OSF/1 AXP systems, before reinstalling HUBwatch software or upgrading to a new version, you must delete the existing HUBwatch subsets, manual reference pages, and SNMP agent examples.

To delete the existing subsets, enter the `setld` command followed by the names of the subsets

Command Example

This example shows how to delete the HUBwatch for OSF/1 AXP V3.1 subsets.

```
# setld -d HBWTCH310
```

Installation Errors

Conditions That Cause Installation Problems

If errors occur during the installation, the system displays failure messages. Errors can occur if any of the following conditions exist:

- The operating system version is incorrect
- The prerequisite software version is incorrect.
- There is insufficient disk space
- The system parameter values for successful installation are insufficient.

Where to Find Error Message Descriptions

See the DEC OSF/1 AXP documentation on system messages, recovery procedures, and the DEC OSF/1 AXP software installation. See *Software Requirements* in this chapter for information about system software requirements.

Post-Installation

Post-Installation

Introduction

After you install HUBwatch for OSF/1, run the Installation Verification Procedure (IVP) to verify that the software is available on your system. You might also want to run the IVP after a system failure to be sure that users can access HUBwatch.

IVP Command

Enter the following command to run the IVP:

```
# setld -v HBWTCH310
```

Starting HUBwatch for OSF/1 as a Standalone Application

Starting HUBwatch for OSF/1 as a Standalone Application

Command Syntax

Use the following command syntax to start HUBwatch.

```
# hubwatch -x IP-address -c comm-string \  
> -a agent-name -r retry-count -t timeout -l
```

Command Variables

The following are the command variables for the start command.

Step	Action
<i>IP-address</i>	The internet address in the form <i>d.d.d.d</i> , <i>d</i> being a decimal less than 256.
<i>comm-string</i>	The name assigned to the community. When you enter the community name, use quotation marks. Example: "public"
<i>agent-name</i>	The name assigned to the agent module, Example: agent1.
<i>retry-count</i>	An integer that sets the number of retries allowed.
<i>timeout</i>	The timeout period in seconds.

4

Preparing for Configuration

Configuration Overview

Introduction

Before you can use the HUBwatch software to manage your hub and network modules, become familiar with the SNMP agents that HUBwatch uses and the hub configuration procedures described in this chapter.

In This Chapter

This chapter contains the following topics:

- SNMP agents.
- Configuring hubs.

Terminology

The configuration chapters in this book apply to all operating systems under which the HUBwatch software runs. The following terminology applies to all configuration chapters.

This Term...	Is the Same As This on Windows...	And This on OpenVMS...
Window	Window	Window and dialog box
Click on <i>option</i>	Click on <i>option</i>	Click on the <i>option</i> button
Menu	Menu	Pull-down

SNMP Agents

Introduction

Before using the HUBwatch software to manage your hub or network modules, you must determine the correct SNMP agent for each module you want to manage.

Agent Selection Guidelines

The agent you choose depends on the types of modules and hub that you will manage with the HUBwatch software. The following rules apply:

- A DEChub 90 requires a DECagent 90. A DECagent 90 can up to 16 interconnected hub communities and 64 network modules.
- The recommended agent for managing DECrepeaters 90C, 90FA, 90T, and 90T+ when installed in the DEChub 900MS is the DEChub 900MS Hub Manager.
- You can also use a DECagent 90 to manage DECrepeaters 90C, 90FA, 90T, and 90T+. If the DECagent 90 is not in the same hub as the repeater module, you must install a DECbridge 90 or 90FL in the same hub as the repeater.

HUBwatch Agent Requirements

The following table lists the agents that HUBwatch uses and their requirements.

This Agent...	Requires...
DEChub 900MS Hub Manager - In-band management	IP services module in the hub
DEChub 900MS Hub Manager - Out-of-band management	SLIP support at the remote host
DECagent 90 - In-band management	If managing a repeater in a remote hub DEChub 90, requires a DECbridge 90 or 90FL installed in the repeater's hub
DECagent 90 - Out-of-band management	SLIP support at the remote host
Built-in agent for:	No requirements
• 900-series modules	
• DECbrouter 90T1, 90T2, or 90Ta	
• DECrepeater 90FS or 90TS	
• DECserver 90TL or 90M	

DECagent 90 in a DEChub 900MS

If you lack the necessary IP services module for the Hub Manager or SLIP support from a remote host, you can use a DECagent 90 (on the same LAN segment) in a DEChub 900MS to manage the following:

- DECbridges 90 and 90FL.
- DECrepeaters 90C, 90FA, 90FL, 90T, and 90T+.
- DECservers 90L and 90L+.

Recommendation: Use a Hub Manager to manage 90-series repeaters in a DEChub 900MS unless the Hub Manager does not have an IP address.

Standalone Modules and Their Agents

The following table lists the modules that you can install as standalone (not installed DEChub 900MS or DEChub 90) and require specific SNMP agents.

WHEN This Module Is Standalone...	THEN Use This Agent...
DECagent 90	Built-in agent
DECbridge 90 or 90FL	DECagent 90 on the same LAN segment
DECbrouer 90T1, 90T2, or 90T2A	Built-in agent
DECrepeater 90FS or 90TS	Built-in agent
DECserver 90L or 90L+	DECagent 90 on the same LAN
DECserver 90TL, 90M, or 900TM	Built-in agent
All other 900-series modules that HUBwatch can manage	Built-in agent; installed in a DEChub ONE

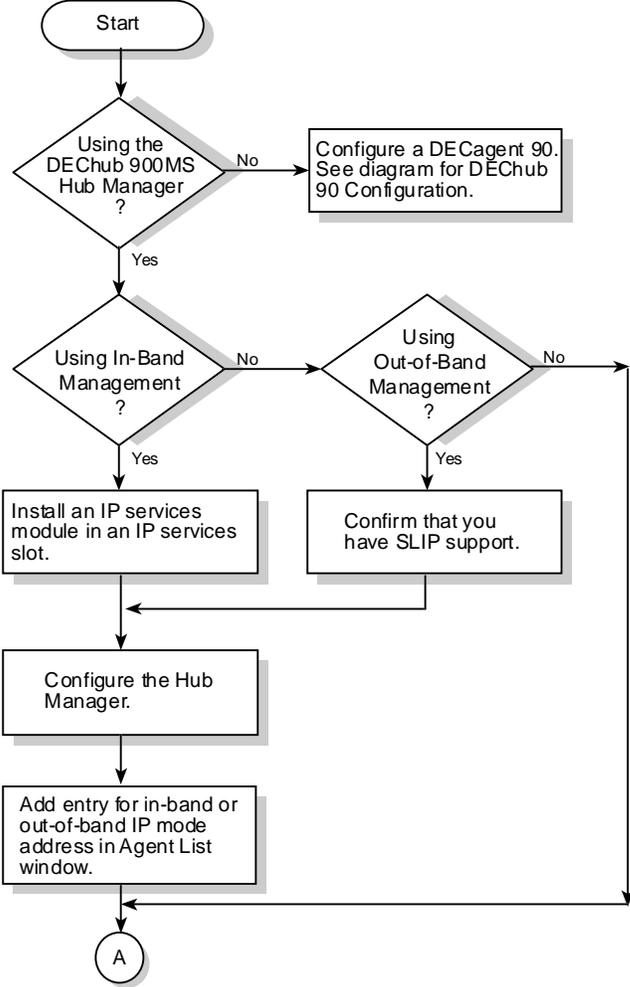
Configuring Hubs

Introduction

The type of hub or module you want HUBwatch to manage determines the configuration procedures you use. The diagrams in this section illustrate these procedures. Chapter 4 contains the procedures for configuring your network modules as SNMP agents and for HUBwatch management.

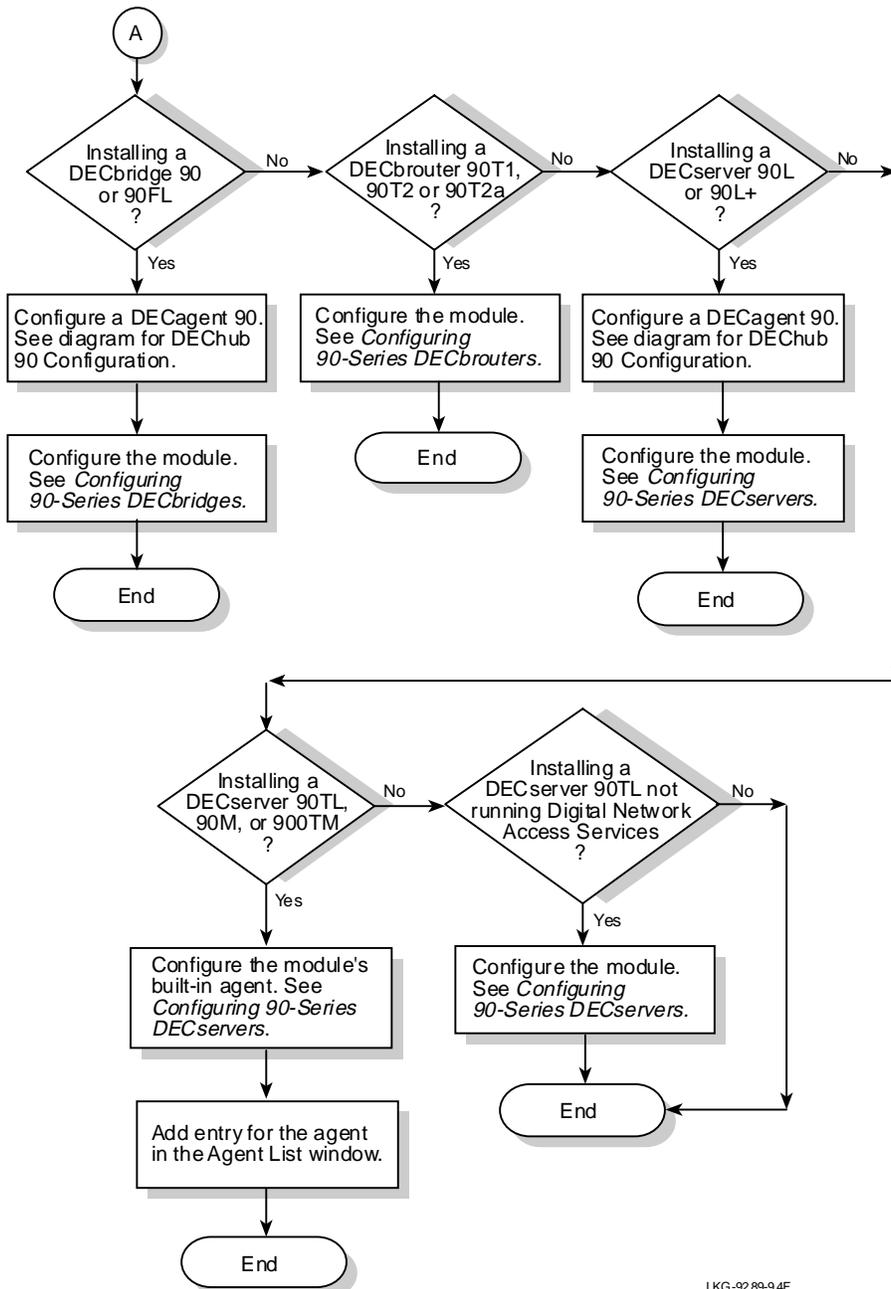
Diagram: DEChub 900MS Configuration

This diagram illustrates the steps you take when you configure a DEChub 900MS.



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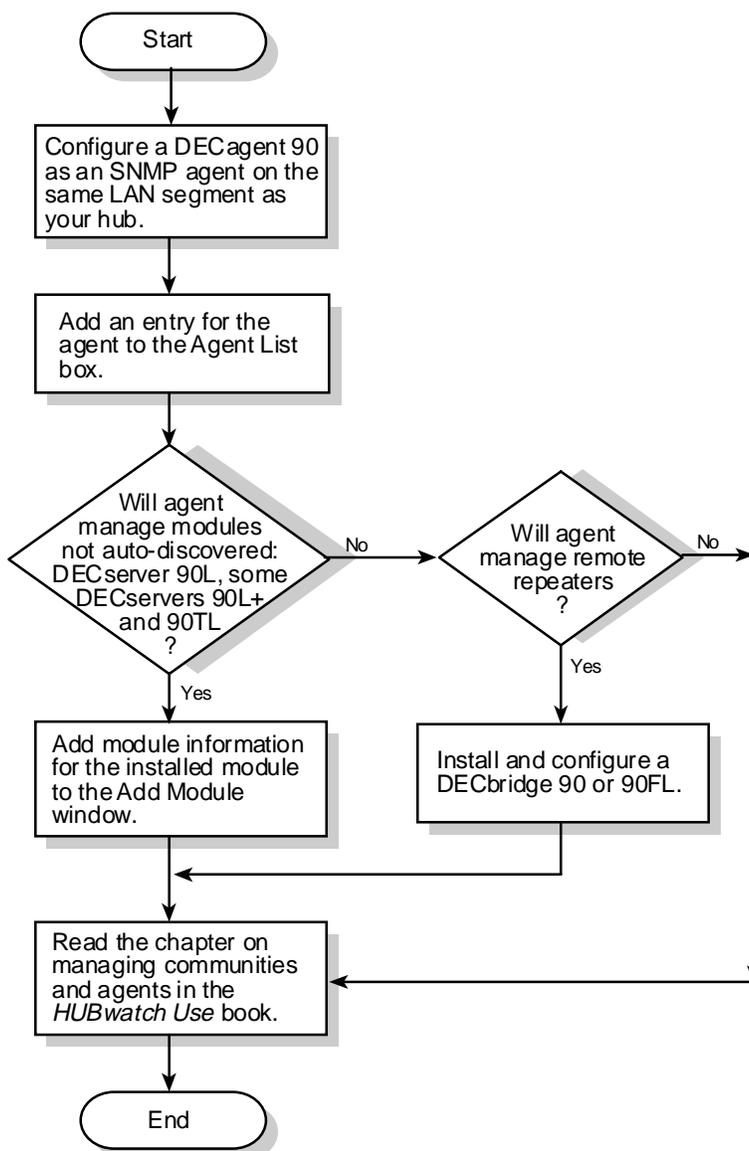
Configuring Hubs



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Diagram: DEChub 90 and DECagent 90 Configuration

This diagram illustrates the steps you take when you configure a DEChub 90 or configure a DECagent 90 in a DEChub 900MS. See *DECagent 90 in a DEChub 900MS* in this chapter for information about using a DECagent 90 in a DEChub 900MS

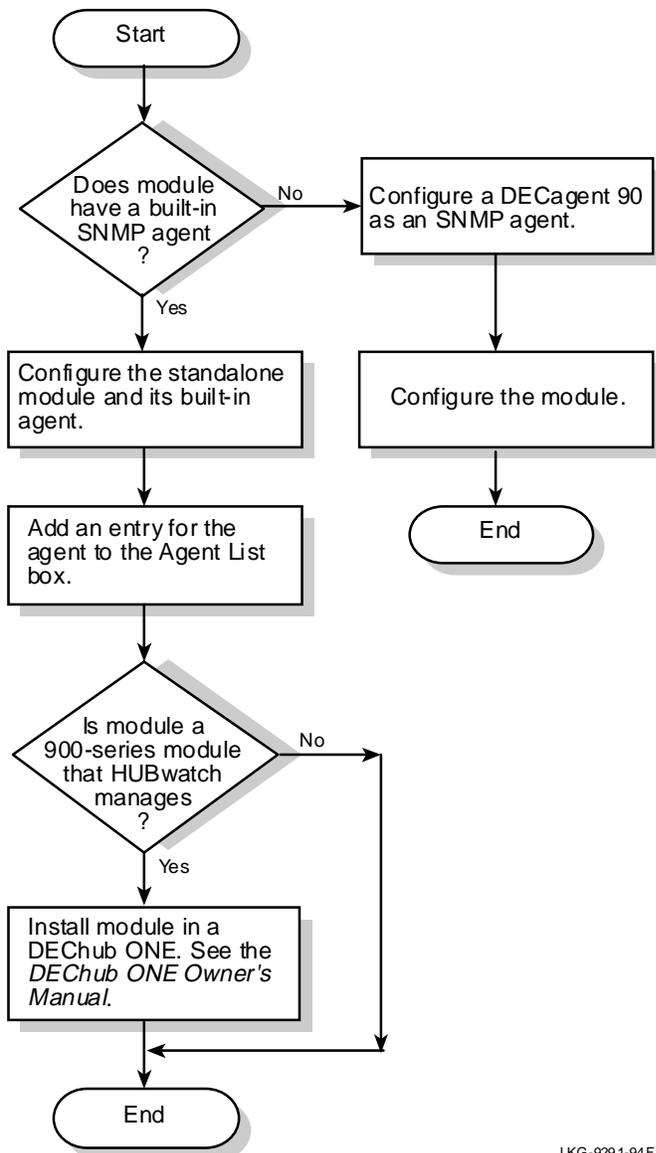


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Configuring Hubs

Diagram: Standalone Module Configuration

This diagram illustrates the steps you take when you configure standalone modules.



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5

Network Module Configuration

Overview

Introduction

Once you know which modules you want the HUBwatch application to manage and have determined the SNMP agent that the module requires, you are ready to configure the module. To configure the network modules for use with HUBwatch, you must install and start the HUBwatch application.

In This Chapter

This chapter covers the following topics:

- Configuration considerations.
- Configuring SNMP agents.
- Adding agent information.
- Adding module information.
- Configuring 900-series modules.
- Configuring a DECagent 90.
- Configuring 90-series DECbridges.
- Configuring 90-series DECbrouters.
- Configuring 90-series DECrepeaters.
- Configuring 90-series DECservers.

Configuration Considerations

Modules Not Manageable In This HUBwatch Version

The HUBwatch software does not manage the following modules. If, however, you install them in a hub, they appear on the Hub Front Panel window.

- DECmau 900TL.
- DECrepeaters 900SL and 900TL.
- DECpacketprobe 90.

When You Configure

After you install a network module, you need to configure it so that HUBwatch can manage it. Make sure that:

- You have the latest firmware.
- The required SNMP agent for the module is configured.
- The agent information is added to HUBwatch.

To configure the module for HUBwatch management, you:

- Complete the module-specific procedures described in this chapter.
- Add module-specific information using the Add Module window, if required.
- Read the *HUBwatch Use* book for information about using the interface.

References

See the following for more information about SNMP agents and related procedures.

IF You Need to Know About...	THEN See This Section...
Selecting the correct SNMP agent	<i>SNMP Agents</i> in Chapter 4
Adding agent information to HUBwatch	<i>Adding Agent Information</i> in this chapter
Adding module information to HUBwatch	<i>Adding Module Information</i> in this chapter

Configuring SNMP Agents

Introduction

This section describes the SNMP agent configuration procedures for:

- The DEChub 900MS Hub Manager.
- 900-Series Modules.
- The DECagent 90.
- DECbrouters 90T1, 90T2 and 90T2A.
- DECrepeaters 90FS and 90TS.
- DECservers 90TL, 90M, and 900TM.

DEChub 900MS Hub Manager Requirements

If you have a DEChub 900MS, you can manage the modules in the hub through the DEChub 900MS Hub Manager. The Hub Manager permits both in-band and out-of-band management.

In-Band Management Requirements: For in-band management, you need to install an IP services module in the hub that provides the IP interface for the Hub Manager. The IP services module must be reachable from the HUBwatch management station. Currently, the following modules are capable of providing IP services:

- DECbridge 900MX.
- DECconcentrator 900MX.
- DECrepeater 90FS and 90TS.
- DECrepeaters 900GM, 900FP, and 900TM.
- DECswitches 900EE and 900EF.
- PEs switch 900TX.

Out-of-Band Management Requirements: Out-of-band management uses the OBM port on the DEChub 900MS (the DEChub 900MS hardware documentation describes the OBM port). The OBM port supports the SLIP protocol only.

To enable management of the hub through the DEChub 900MS Hub Manager, you must create a minimum default configuration for the Hub Manager. When you configure the Hub Manager for both in-band and out-of-band management, you must supply different IP addresses for the in-band and out-of-band paths.

Configuring SNMP Agents

Procedure: DEChub 900MS Hub Manager Configuration

You can use a DECagent 90 to manage some modules in the DEChub 900MS (see *DECagent 90 in a DEChub 900MS*) although you cannot manage a module through both agents at the same time. If you are going to manage modules in a DEChub 900MS through a DECagent 90 only, you do not need to perform any of the following steps.

Do the following to configure the Hub Manager.

Step	Action								
1	Connect a terminal to the DEChub 900MS setup port. The setup port is an RJ45 connector located on the hub.								
2	Set the terminal parameters as follows. <table border="1"><thead><tr><th>Parameter</th><th>Setting</th></tr></thead><tbody><tr><td>Transmit speed</td><td>9600 baud</td></tr><tr><td>Character format</td><td>8 bits, no parity</td></tr><tr><td>Stop bits</td><td>1</td></tr></tbody></table> <p>Note: There is no flow control. Some terminal parameter settings, such as smooth scroll, may cause problems.</p>	Parameter	Setting	Transmit speed	9600 baud	Character format	8 bits, no parity	Stop bits	1
Parameter	Setting								
Transmit speed	9600 baud								
Character format	8 bits, no parity								
Stop bits	1								
3	If you have not yet installed an IP services module in the hub, do so now. <p>Multiple IP Services Modules: If you have more than one module that can provide IP services in the hub, put the one used as the IP interface into a slot with a larger number to ensure that it gets higher priority for power.</p>								
4	At the terminal prompt, press Return or Ctrl/C. <p>Result: The DEChub 900MS Main menu appears</p> <p>Reference: See the DEChub 900MS hardware documentation for information about using the DEChub 900MS Main menu.</p>								
5	Are you using in-band management? <ul style="list-style-type: none">• If no, go to step 6.• If yes, do the following:<ol style="list-style-type: none">a. Select the option for setting the in-band management IP address.b. Enter the IP address for in-band management in the form <i>ddd.ddd.ddd.ddd</i>, where the maximum value of <i>ddd</i> is 255.c. Enter the slot number of the module that will supply the IP services for the Hub Manager. <p>Moving the IP Services Module: If you later move the IP services module to a different slot, you must reconfigure the hub to utilize the new slot by performing the steps in this procedure again.</p>								

Configuring SNMP Agents

Step	Action
6	<p>Are you using out-of-band management?</p> <ul style="list-style-type: none">• If no, go to step 7.• If yes, do the following:<ol style="list-style-type: none">a. Select the option for setting the out-of-band management IP address.b. Enter the IP address for out-of-band management in the form <i>ddd.ddd.ddd.ddd</i>, where the maximum value of <i>ddd</i> is 255. <p>Important: <i>The IP addresses for in-band and out-of-band management must differ.</i></p>
7	<p>Do you want a read-write community name other than "public"?</p> <ul style="list-style-type: none">• If no, go to step 8.• If yes, do the following:<ol style="list-style-type: none">a. Select the option for setting the SNMP community name.b. Enter the read-write community name. The community name consists of 4 to 32 printable characters and functions as a password giving a sending SNMP entity read-write access to the Hub Manager.
8	<p>Is there a router between the HUBwatch management station and the module that provides the IP interface?</p> <ul style="list-style-type: none">• If no, you are finished with the procedure.• If yes, do the following:<ol style="list-style-type: none">a. Select the option for redirect mode.b. Enter the slot number of the IP services module. The module's Main menu appears (see the module's hardware documentation).c. Select the option for setting the in-band gateway address.d. Enter the IP address for the default gateway address in the form <i>ddd.ddd.ddd.ddd</i>, where the maximum value of <i>ddd</i> is 255.
9	<p>Start HUBwatch and add an entry for the Hub Manager using the Add Agent window.</p> <p>Adding Agent Information: See Adding Agent Information in this chapter.</p>

Configuring SNMP Agents

Procedure: 900-Series Module Configuration

Perform the following procedure on each 900-series module manageable by HUBwatch (see Appendix E) to configure it as an SNMP agent.

Step	Action								
1	Install the module in a DEChub ONE or a DEChub 900MS.								
2	Connect a terminal to the setup port on the DEChub ONE or the DEChub 900MS. References: See the DEChub ONE hardware documentation or the DEChub 900 MultiSwitch hardware documentation for information about using the setup port.								
3	Set the terminal parameters as follows. <table border="1"><thead><tr><th>Parameter</th><th>Setting</th></tr></thead><tbody><tr><td>Transmit speed</td><td>9600 baud</td></tr><tr><td>Character format</td><td>8 bits, no parity</td></tr><tr><td>Stop bits</td><td>1</td></tr></tbody></table>	Parameter	Setting	Transmit speed	9600 baud	Character format	8 bits, no parity	Stop bits	1
Parameter	Setting								
Transmit speed	9600 baud								
Character format	8 bits, no parity								
Stop bits	1								
4	Access the module's Installation menu. How you access the menu depends on whether the module is in a DEChub 900MS or a DEChub ONE. If the module is in a DEChub ONE, press Return at the terminal. If the module is in a DEChub 900MS, do the following: <ol style="list-style-type: none">Select the option for redirect mode on the DEChub 900MS Installation menu.Enter the slot number of the module. The module's Installation menu appears. References: See the DEChub 900MS hardware documentation for information about redirect mode. See the module's hardware documentation for information about the module's Installation menu.								
5	Are you using in-band management? <ul style="list-style-type: none">If no, go to step 6.If yes, do the following:<ol style="list-style-type: none">Select the menu option for setting the in-band IP address.Enter the in-band IP address in the form <i>ddd.ddd.ddd.ddd</i>, where the maximum value of <i>ddd</i> is 255.Return to the Hub Manager Installation menu.								
6	Are you using out-of-band management? <ul style="list-style-type: none">If no, go to step 7.If yes, do the following:<ol style="list-style-type: none">Select the menu option for setting the out-of-band IP address.Enter the out-of-band IP address in the form <i>ddd.ddd.ddd.ddd</i>, where the maximum value of <i>ddd</i> is 255. <p>Important: <i>The IP addresses for in-band and out-of-band management must differ.</i></p>								

Configuring SNMP Agents

Step	Action
7	<p>Do you want a read-write community name other than "public"?</p> <ul style="list-style-type: none">• If no, you are finished with this procedure; exit the Installation menu.• If yes, do the following:<ol style="list-style-type: none">a. Select the menu option for setting the community name.b. Enter the read-write community name.c. The community name consists of 4 to 32 printable characters and functions as a password giving a sending SNMP entity read-write access to the module.d. If there is a router between the HUBwatch management workstation and the module, select the menu option for setting the in-band gateway address.e. Enter the IP address for the default gateway in the form <i>ddd.ddd.ddd.ddd</i>, where the maximum value of <i>ddd</i> is 255.

Procedure: DECagent 90 Agent Configuration

The DECagent 90 permits both in-band and out-of-band management. If you have a DEChub 900MS, Digital recommends that you manage it and its installed modules with the Hub Manager. If you lack the necessary IP services module or SLIP support for the Hub Manager, you can use the DECagent 90 to manage the following when you install them in a DEChub 900MS:

- DECbridges 90 and 90FL.
- DECrepeaters 90C, 90FA, 90FL, 90T, and 90T+.
- DECservers 90L and 90L+.

Do the following to configure the DECagent 90 as an SNMP agent.

Step	Action
1	<p>Are you installing the DECagent 90 in a DEChub 90?</p> <ul style="list-style-type: none">• If yes, install it in slot 7 or 8 for a single backplane hub configuration, and slot 7, 8, 15, or 16 for an extended hub.• If no, there are no slot restrictions.
2	<p>Turn the power on and connect a terminal to the DECagent 90 setup port.</p> <p>Reference: See the DECagent 90 hardware documentation for information about the setup port.</p>
3	<p>At the terminal, press Return a few times.</p>
4	<p>Enter the module console password, if prompted to do so. The Main menu appears</p> <p>Reference: See the DECagent 90 hardware documentation for information about using the Main menu.</p>

Configuring SNMP Agents

In-band Management: For in-band management, create a minimum default configuration for your DECagent 90 module. Do the following.

Step	Action
1	Select the menu option for setting the IP address.
2	Enter the IP address in the form <i>ddd.ddd.ddd.ddd</i> , where the maximum value of <i>ddd</i> is 255. A prompt allowing you to enter an optional default gateway appears after you enter the IP address. Considerations: Consider the following. <ul style="list-style-type: none">• If your network has a BOOTP server that is set up to recognize the DECagent 90s MAC address, the DECagent 90s startup procedure will find the IP address and display it in the IP Address fields. In that case, you do not need to enter an IP address. Press Return to accept the address shown.• If the BOOTP server was set up to recognize the MAC address after you started the DECagent 90, the DECagent 90 will issue a BOOTP request for its IP address if you enter zero (0.0.0.0) at the IP address prompt. You will then be asked to restart the DECagent 90 module so that the BOOTP request can be issued.• If you attempt to set the DECagent 90 IP address to an address that is in a community trap address table, a warning message appears. If you want to use this address for the agent, you must remove it from the community trap address table. See the DECagent 90 hardware documentation.
3	Enter the IP address of the default gateway you want, or press Return if you do not want to specify a default gateway.
4	Do you want a read-write community name other than "public"? <ul style="list-style-type: none">• If no, you are finished with this procedure.• If yes, do the following:<ol style="list-style-type: none">a. Select the menu option for setting the community name.b. Enter the read-write community name. The community name consists of 4 to 32 printable characters and functions as a password giving a sending SNMP entity read-write access to the DECagent 90.

Out-of-Band Management: For out-of-band management, do the following.

Step	Action
1	Select the menu option for switching to SLIP mode.
2	Disconnect the cable from the terminal to the DECagent 90.
3	Connect the DECagent 90s serial port, directly or through a modem, to a station that supports SLIP.

Configuring SNMP Agents

Procedure: DECbrouter 90T1, 90T2, or 90T2A Configuration

If you have not already executed the DECbrouter first-time startup configuration, you will be asked a series of System Configuration Dialog questions. Refer to the DECbrouter documentation for more information about the System Configuration Dialog.

Do the following on each DECbrouter 90T1, 90T2, or 90T2A module to configure its built-in SNMP agent.

Step	Action
------	--------

- 1 Connect a terminal to the setup port of the DECbrouter.
- 2 See if the brouter is running the IP protocol on the Ethernet port and to check its IP address and network mask, issue the following privileged mode commands to the brouter console.

```
Router# ENABLE <Return>
```

```
Password <Return>
```

```
Router# SHOW IP INTERFACE ETHERNET 0 <Return>
```

Result: The brouter will either respond with "Internet protocol processing disabled" or display detailed information about Internet processing on the Ethernet port.

- 3 If needed, enable IP or change the address or network mask. Do the following:
 - a. Issue the following privileged command to the brouter console.

```
Router# CONFIG <Return>
```

Result: The following message appears.

```
Configuring from terminal, memory, or network [terminal]?
```

- b. Press Return to select terminal.

Result: The following messages appear:

```
Enter configuration commands, one per line.
```

```
Edit with DELETE, CTRL/W, and CTRL/U; end with CTRL/Z
```

- c. Enter the following commands.

```
Router# INTERFACE ETHERNET 0 <Return>
```

```
Router# IP ADDRESS ddd.ddd.ddd.ddd mmm.mmm.mmm.mmm <Return>  
<Ctrl/Z>
```

- The *ddd.ddd.ddd.ddd* variable is the Ethernet port's IP address.
- The *mmm.mmm.mmm.mmm* variable is the port's network mask.

Configuring SNMP Agents

Step	Action
4	<p>If needed, enable the SNMP server and define an SNMP community string for the brouter. Do the following:</p> <ol style="list-style-type: none">Issue the following privileged command to the brouter console: Router# CONFIG <Return> Result: The following message appears: Configuring from terminal, memory, or network [terminal]?Press Return to select terminal. Result: The following message appears: Enter configuration commands, one per line. Edit with DELETE, CTRL/W, and CTRL/U; end with CTRL/ZEnter the following command: Router# SNMP-SERVER COMMUNITY <i>comm-string</i> RW <Return> Ctrl/Z> The <i>comm-string</i> variable is the community string for the brouter's SNMP server.
5	<p>Save this configuration in nonvolatile memory. Issue the following privileged command to the brouter console.</p> Router# WRITE MEMORY <Return>
6	<p>Verify the Internet and SNMP configuration of the brouter. Use the following command.</p> Router# SHOW CONFIG <Return> Result: At the end of each page of configuration information displayed, the brouter issues a "-More-" prompt. Press the space bar to get the next page of information or any other key to discontinue the display.

Configuring SNMP Agents

Procedure: DECrepeater 90FS and 90TS Configuration

Do the following to configure a DECrepeater 90FS or 90TS as an SNMP agent.

Step	Action								
1	Install the repeater in a DEChub ONE, a DEChub 90, or a DEChub 900MS.								
2	Connect a terminal to the repeater's setup port (see the repeater's hardware documentation) if the repeater is in a DEChub ONE or DEChub 90. Or connect a terminal to the DEChub 900MS setup port (see the DEChub 900 MultiSwitch hardware documentation) if the repeater is in a DEChub 900MS.								
3	Set the terminal parameters as follows. <table border="1"><thead><tr><th>Parameter</th><th>Setting</th></tr></thead><tbody><tr><td>Transmit speed</td><td>9600 baud</td></tr><tr><td>Character format</td><td>8 bits, no parity</td></tr><tr><td>Stop bits</td><td>1</td></tr></tbody></table>	Parameter	Setting	Transmit speed	9600 baud	Character format	8 bits, no parity	Stop bits	1
Parameter	Setting								
Transmit speed	9600 baud								
Character format	8 bits, no parity								
Stop bits	1								
4	Access the repeater's Main menu. How you access the menu depends on whether the repeater is in a DEChub ONE, a DEChub 90, or a DEChub 900MS. <ul style="list-style-type: none">• If the repeater is in a DEChub ONE or DEChub 90, press Return at the terminal.• If the repeater is in a DEChub 900MS, do the following:<ol style="list-style-type: none">a. Select the Redirect Mode option on the DEChub 900MS Main menu (see the DEChub 900MS hardware documentation).b. Enter the slot number of the repeater.c. The repeater's Main menu appears (see the repeater's hardware documentation).								
5	Are you using in-band management? <ul style="list-style-type: none">• If no, go to step 7.• If yes, do the following:<ol style="list-style-type: none">a. Select the menu option for setting the in-band IP address.b. Enter the in-band IP address in the form <i>ddd.ddd.ddd.ddd</i>, where the maximum value of <i>ddd</i> is 255.								
6	Do you want a read-write community name other than "public"? <ul style="list-style-type: none">• If no, go to step 8.• If yes, do the following:<ol style="list-style-type: none">a. Select the menu option for setting the community name.b. Enter the read-write community name. The community name consists of 4 to 32 printable characters and functions as a password giving a sending SNMP entity read-write access to the repeater.								

Configuring SNMP Agents

Step	Action
7	<p>Is there is a router between the HUBwatch management workstation and the repeater?</p> <ul style="list-style-type: none">• If no, go to step 9.• If yes, do the following.<ol style="list-style-type: none">a. Select the menu option for setting the in-band gateway address.b. Enter the IP address for the default gateway in the form <i>ddd.ddd.ddd.ddd</i>, where the maximum value of <i>ddd</i> is 255.
8	<p>Are you using out-of-band management?</p> <ul style="list-style-type: none">• If no, you are finished with the procedure.• If yes, do one of the following:<ol style="list-style-type: none">a. If the repeater is in a DEChub 900MS, the Hub Manager is the agent for out-of-band management. Configure the Hub Manager according to the instructions in the Procedure: DEChub 900MS Hub Manager <i>Configuration</i> section in this chapter.b. If the repeater is in a DEChub ONE or a DEChub 90, do the following to configure the module for out-of-band management:<ol style="list-style-type: none">i. Select the menu option for setting the out-of-band IP address.ii. Enter the out-of-band IP address in the form <i>ddd.ddd.ddd.ddd</i>, where the maximum value of <i>ddd</i> is 255.

Procedure: DECserver 90TL, 90M, or 900TM Configuration

Do the following procedure for each DECserver 90TL, 90M, or 900TM module to configure it as an SNMP agent.

Step	Action
1	<p>Set privileges on a DECserver 90TL, 90M, or 900TM port by connecting a terminal to port 1 and pressing Return until the following message appears.</p> <pre>Enter username:</pre>
2	<p>Enter a user name (can be any name) and press Return.</p> <p>Result: The following terminal server prompt appears:</p> <pre>Local></pre>
3	<p>Enter the SET PRIVILEGES command and the password.</p> <p>Example:</p> <pre>Local> SET PRIV <Return> Password> SYSTEM <Return> (Not echoed; SYSTEM is the factory-default password.)</pre>

Configuring SNMP Agents

Step	Action
4	Determine the terminal server's Internet address and subnet mask. Example: Local> SHOW INTERNET <Return> Internet Address: 11.21.215.13 Subnet Mask: 255.255.0.0
5	Have your network administrator verify that these are the correct values. If the values are incorrect, reset them on the terminal server module using either the DEFINE, SET, or CHANGE commands. Example: Local> DEFINE INTERNET SUBNET MASK 255.255.255.0 <Return> Local> DEFINE INTERNET ADDRESS 12.23.34.45 <Return>
6	Enter the SHOW command to display SNMP information. The displayed values should show the SNMP state is ENABLED, Address is set to either ANY or the address of the management workstation, and that the GET, GETNEXT, and SET are ENABLED for the given community. Example: Local> SHOW SNMP <Return> SNMP State: ENABLED Authentication Failure: ENABLED Community Name Address GET GETNEXT SET TRAP Any Any ENA ENA ENA DIS

Configuring SNMP Agents

Step	Action
7	<p>Are SNMP values set correctly?</p> <ul style="list-style-type: none">• If yes, go to step 8.• If no, use these commands to set the values as required: <pre>Local> CHANGE SNMP STATE ENABLED Local> CHANGE SNMP COMMUNITY public GET ENABLE Local> CHANGE SNMP COMMUNITY public GETNEXT ENABLE Local> CHANGE SNMP COMMUNITY public SET ENABLE Local> CHANGE SNMP COMMUNITY public ADDRESS ANY</pre> <p>OR</p> <pre>Local> CHANGE SNMP COMMUNITY public ADDRESS d.d.d</pre> <ul style="list-style-type: none">• <i>d.d.d</i> is the Internet address of the network management workstation running the HUBwatch software (for example, 11.22.33.44).• <i>public</i> is the default SNMP community. <p>Considerations: When entering this information, consider the following:</p> <ul style="list-style-type: none">• If you enter the address of a particular station, only that station will be able to use SNMP to communicate with the terminal server.• You may define a community string other than "public," but make sure that the community that you use here for the terminal server matches the community string that appears for the terminal server in the HUBwatch Agent List box (see Adding Agent Information in this chapter and you specify in the HUBwatch Add Module window (see Adding Module Information in this chapter).
8	<p>Did you change either the Internet address or subnet mask (step 5)?</p> <ul style="list-style-type: none">• If no, you are finished with the procedure.• If yes, reset the terminal server. Enter this command: <pre>Local> INIT DELAY nn</pre> <p>The delay time period (<i>nn</i>) can be from 0 to 1440 minutes.</p> <p>Result: The following message appears:</p> <pre>Local> -199- WARNING - Communications server shutdown in nn minutes</pre>

After You Configure SNMP Agents

After you configure the SNMP agents, do the following:

- Start the HUBwatch application and use the Add Agent window from the Community Table window to add agent information for the modules you configured as SNMP agents.
- Read the chapter that describes managing communities and agents in the *HUBwatch Use* book. You manage communities somewhat differently depending on whether the agent HUBwatch uses is a DECagent 90, a DEChub 900MS Hub Manager, or a module's built-in SNMP agent.

Adding Agent Information

When to Use

Add agent information to HUBwatch when:

- Configuring a DECagent 90 as an SNMP agent for in-band or out-of-band management.
- Configuring the DEChub 900MS Hub Manager for in-band or out-of-band management.
- Configuring a network module's built-in agent.

Which Windows to Use

When adding agent information to HUBwatch, you use the Community Table window and the Add Agent window.

Adding Agent Information

Community Table Window

This is the Community Table window. The Agent List box shows which agents are configured for the hub (the entries in the agent file). Depending on the operating system you use, this window may appear slightly different on your screen.

The screenshot shows the 'Community Table' window. At the top, it has a title bar with 'Community Table' and standard window controls. Below the title bar is the 'Identification' section, which includes a logo for 'CMNTY' and displays 'Current Agent: hub2' and 'Current Community: public'. The 'Agent' section contains a table with columns for Agent Type, Agent Name, IP Address, Community, and Select. The table lists three agents: DEcagent90 (hub1.com, 00.00.00.00, public), DEcagent90 (hub2.com, 00.00.00.00, private), and DEcagent90 (hub3.com, 00.00.00.00, private). To the right of the table are buttons for 'Make Current', 'Agent Options', 'Add', and 'Delete'. The 'Communities' section contains a table with columns for Index, Hub Type, Read-Only Community, Read-Write Community, and Select. The table lists four communities: 1 (public, public), 2 (smv, smv), 3 (wgh, wgh), and 4 (brl, brl). To the right of the table are buttons for 'Make Current', 'Add', and 'Delete'. At the bottom of the window are buttons for 'OK', 'Apply', 'Refresh', 'Cancel', and 'Help'.

Agent Type	Agent Name	IP Address	Community	Select
DEcagent90	hub1.com	00.00.00.00	public	<input type="checkbox"/>
DEcagent90	hub2.com	00.00.00.00	private	<input type="checkbox"/>
DEcagent90	hub3.com	00.00.00.00	private	<input type="checkbox"/>

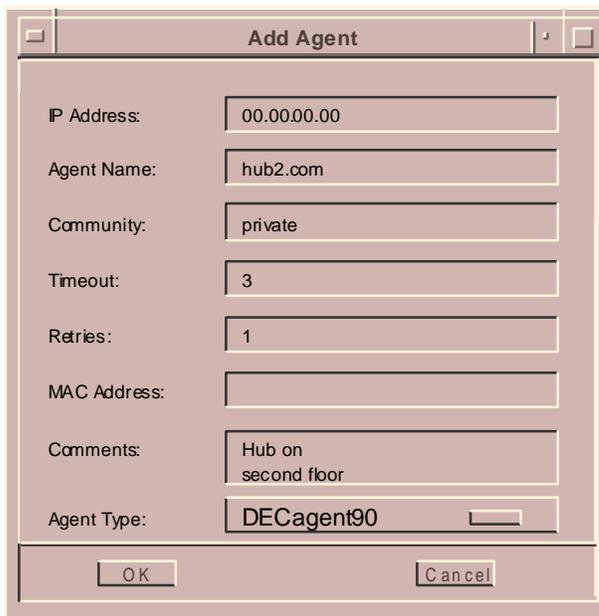
Index	Hub Type	Read-Only Community	Read-Write Community	Select
1		public	public	<input type="checkbox"/>
2		smv	smv	<input type="checkbox"/>
3		wgh	wgh	<input type="checkbox"/>
4		brl	brl	<input type="checkbox"/>

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Adding Agent Information

Add Agent Window

This is the Add Agent window that you use to add agent information to the agent file. Depending on the operating system you use, this window may appear slightly different on your screen.



The screenshot shows a dialog box titled "Add Agent". It contains the following fields and values:

- IP Address: 00.00.00.00
- Agent Name: hub2.com
- Community: private
- Timeout: 3
- Retries: 1
- MAC Address: (empty)
- Comments: Hub on second floor
- Agent Type: DECagent90

At the bottom of the dialog are "OK" and "Cancel" buttons.

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Steps: Adding Agent Information

Do the following to add agent information to HUBwatch.

Step	Action
1	From the Hub Front Panel, click on Community in the menu bar. Result: The Community menu appears.
2	Click on the Manage Table option. Result: The Community Table window appears. If you have not yet used the Community Table window to supply agent information, the fields in the window will be blank.

Adding Agent Information

Step	Action
3	Click on Add located next to the Agent List box. Result: The Add Agent window appears.
4	Supply the following information and click on OK to execute the change (unless indicated information is optional): <ul style="list-style-type: none">• IP address (required field).• Agent name.• Community name to use in HUBwatch SNMP requests; the default is "public."• A timeout value; the length of time that the network management station (NMS) waits for a response after sending a request to the agent. The default is 5 seconds.• The number of retries; the number of times that the NMS resends the request to the agent after a timeout. The default is 1.• MAC address, required if using the following:<ul style="list-style-type: none">– DECagent 90 if installed in a DEChub 900MS.– DECbridges 90 and 90FL if installed in a DEChub 900MS.– DECbrouters 90T1, 90T2, and 90T2A if not managed as standalone modules.– DECservers 90L and 90L+ if installed in a DEChub 900MS.– DECservers 90TL and 90M, if not managed as standalone modules.– DECserver 900TM, if not managed as a standalone module (recommended, not required).Look for the MAC address on the module's front or rear bezel (see the module's owner's manual for exact location).• Comments on the agent (for example, its physical location).• Agent type (for example, a DECagent 90). Result: The Add Agent window closes, HUBwatch adds the information to the agents file, and the Hub Front Panel remains displayed.

More Information

See the online help and the *HUBwatch Use* book for additional information about using the Community Table window and the Add Agent window.

Adding Module Information

When to Use

Add module information when configuring:

- DECbridges 90 and 90FL (not required if you install them in a DEChub 900MS with a Hub Manager configured).
- A DECserver 90L.
- Some DECservers 90L+ available prior to the release of HUBwatch Version 2.0. (If an installed DECserver 90L+ does not appear on the Hub Front Panel windows, you must supply the information manually. For a DECserver 90L+ that is autodiscovered, HUBwatch windows use the label 90L+2.)
- DECservers 90TL or 90M that are not running the DECserver Network Access Software.
- DECwanrouter 90 (to display it on the Hub Front Panel only; HUBwatch does not manage it).

What to Use

Use the Add Module window to add module information to HUBwatch.

Adding Module Information

Add Module Window

This is the Add Module window that you use to add module information to HUBwatch. Depending on the operating system you use, this window may appear slightly different on your screen.

Add Module:00.00.00.00

Identification

Slot 2

Slot: 2

Type: Empty

Name:

Enable Status Polling

Interface Information

MAC Address:

Password Information

Current Password:

New Password:

Management Information

IP Address:

Community:

Location:

Contact:

SNMP Retries:

SNMP Timeout:

OK Apply Cancel Help

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Adding Module Information

Special Conditions

When adding module information, check for the following conditions:

- DECagent 90 is used as an SNMP agent.

When you use a DECagent 90 as the SNMP agent, the Hub Front Panel window displays slots containing modules that are not autodiscovered as empty slots. Click on the empty slot where the module whose information you want to add is installed.

- DEChub 900MS Hub Manager is used as an SNMP Agent.

If you are using a Hub Manager as an agent for a DEChub 900MS, do not click on an empty slot. In this case, the Hub Front Panel window displays slots containing modules that are not autodiscovered with an icon labeled "Unknown." Click on the slot containing the "Unknown" icon that corresponds to the module whose information you want to add.

- DECserver 90TL is not running the Digital Network Access Services software.

Disable polling before adding a DECserver 90TL module that is not running the Digital Network Access Software (see *Configuring 90-Series DECservers* in this chapter).

Steps: Adding Module Information

Do the following to add module management information to HUBwatch.

Step	Action
1	From the Hub Front Panel window, click on the chassis slot where you want to add the module. Result: The module is highlighted.
2	From the Configuration menu, click on Add. Result: The Add Module window appears. The number of the selected slot appears on the window.
3	Click on Type. Result: A menu with a list of the available devices appears.

Adding Module Information

Step	Action
4	<p>Click on the desired device type.</p> <p>Result: The window displays an icon and highlights the additional fields required to add the module to your hub configuration. Fields not required for a particular module are grayed out. The fields are:</p> <ul style="list-style-type: none">• <i>MAC Address</i> - The module's Ethernet address.• <i>Enable Status Polling</i> - Turns status polling on or off. If using a DECagent 90 as the module's agent, click on Check to enable polling.• <i>Current Password</i> - The password required to use out-of-band management to manage the module.• <i>IP Address</i> - The module's or the module's management agent's Internet Protocol address.• <i>Community</i> - The community name to which the module or the module's agent belongs.• <i>Location</i> - The module's physical location (for example Taylor Street LAN).• <i>Contact</i> - The name of the person responsible for maintaining the module.• <i>SNMP Retries</i> - The number of times that the network management station (NMS) resends the requests to the agent after a timeout. The default is 2.• <i>SNMP Timeout</i> - The length of time that the NMS waits for a response after sending a request to the agent. The default is 5 seconds.
5	<p>Fill in the required fields (the fields not grayed out).</p> <p>Result: The Apply and OK buttons are highlighted.</p>
6	<p>Click on Apply or OK.</p> <p>Result: The Add Module window closes and the module appears on the Hub Front Panel.</p>

More Information

See the online help and the *HUBwatch Use* book for more information about using the Add Module window.

Configuring 900-Series Modules

Introduction

This section describes how to configure 900-series modules so that HUBwatch can manage them.

The DECserver 900TM: The DECserver 900TM requires a different procedure. See *Steps: DECserver 900TM Configuration* in this section.

References

See the following for procedures related to configuring 900-series module.

For This Information...	See This Section in Chapter 5...
Configuring a Hub Manager	<i>Procedure: DEChub 900MS Hub Manager Configuration</i>
Adding agent entries to HUBwatch	<i>Adding Agent Information</i>
Installing a module in the IP Interface Slot	<i>Procedure: DEChub 900MS Hub Manager Configuration</i>
Configuring a DECserver's built-in SNMP agent	<i>Procedure: DECserver 90TL, 90M, or 900TM Configuration</i>

Steps: 900-Series Module Configuration

Do the following to configure 900-series modules for HUBwatch management.

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 900MS	<ol style="list-style-type: none"> 1. Does the hub have a configured Hub Manager? <ul style="list-style-type: none"> • If yes, go to step 2. • If no, configure the Hub Manager. 2. Does an entry for the Hub Manager exist in the Agent List box in the Community Table window? <ul style="list-style-type: none"> • If yes, go to step 3. • If no, add an entry for the Hub Manager using the Add Agent window. 3. Will the module be the IP interface? <ul style="list-style-type: none"> • If yes, install it in the IP Interface slot. • If no, you are finished with the procedure.
Standalone module	<ol style="list-style-type: none"> 1. Install the module in a DEChub ONE. 2. Configure the built-in agent. 3. Add an entry for the built-in agent using the Add Agent window.

Configuring 900-Series Modules

Steps: DECserver 900TM Configuration

Do the following to configure a DECserver 900TM for HUBwatch management.

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 900MS	<ol style="list-style-type: none">1. Does the hub have a configured Hub Manager?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the Hub Manager.2. Does an entry for the Hub Manager exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add an entry for the Hub Manager using the Add Agent window.3. Configure the module's built-in agent.4. Add an entry for the module's built-in agent using the Add Agent window.
Standalone module	<ol style="list-style-type: none">1. Configure the module's built-in agent2. Add an entry for the built-in agent using the Add Agent window.

Configuring a DECagent 90

Introduction

This section explains how to configure a DECagent 90 so that HUBwatch can manage it.

References

See the following for procedures related to configuring the DECagent 90.

For This Information...	See This Section in Chapter 5...
Configuring a Hub Manager	<i>Procedure: DEChub 900MS Hub Manager Configuration</i>
Adding agent entries to HUBwatch	<i>Adding Agent Information</i>
Using the Add Module window	<i>Adding Module Information</i>

Additional Reference: See the *HUBwatch Use* book for information about bridge management.

DECagent 90 Configuration

Do the following to configure the DECagent 90 so HUBwatch can manage it.

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 900MS	<ol style="list-style-type: none"> 1. Does the hub have a configured Hub Manager? <ul style="list-style-type: none"> • If yes, go to step 2. • If no, configure the Hub Manager. 2. Does an entry for the Hub Manager exist in the Agent List box in the Community Table window? <ul style="list-style-type: none"> • If yes, go to step 3. • If no, add an entry for the Hub Manager using the Add Agent window. 3. Configure the DECagent 90 as an SNMP agent. 4. Add an entry for the DECagent 90 using the Add Agent window. 5. Will the DECagent 90 manage a repeater in a remote hub? <ul style="list-style-type: none"> • If no, you are finished with this procedure. • If yes, do the following: <ol style="list-style-type: none"> a. Install a DECbridge 90 or 90FL in the repeater's hub. b. Set bridge management to Enabled, if necessary, using the Bridge Summary window.

Configuring a DECagent 90

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 90	<ol style="list-style-type: none">1. Install the module in slot 7 or 8 of an 8-slot hub or slot 7, 8, 15, or 16 of a 16-slot hub.2. Configure the DECagent 90.3. Add an entry for the DECagent 90 using the Add Agent window.4. Will the DECagent 90 manage a repeater in a remote hub?<ul style="list-style-type: none">• If no, you are finished with the procedure.• If yes, do the following:<ol style="list-style-type: none">a. Install a DECbridge 90 or 90FL in the repeater's hub in slot 7 or 8 of an 8-slot hub or slot 7, 8, 15, or 16 in a 16-slot hub.b. Add module information for the bridge using the Add Module window.c. Set bridge hub management to on, if necessary, using the Bridge Summary window.
Standalone module	<ol style="list-style-type: none">1. Configure the DECagent 90.2. Add an entry for the DECagent 90 using the Add Agent window.3. Will the DECagent 90 manage a repeater in a remote hub?<ul style="list-style-type: none">• If no, you are finished with the procedure.• If yes, do the following:<ol style="list-style-type: none">a. Install a DECbridge 90 or 90FL in the repeater's hub in slot 7 or 8 of an 8-slot hub or slot 7, 8, 15, or 16 in a 16-slot hub.b. Add module information for the bridge using the Add Module window.c. Set bridge hub management to on, if necessary, using the Bridge Summary window.

Configuring 90-Series DECbridges

Introduction

This section explains how to configure 90-series DECbridges so that HUBwatch can manage them.

Using a DECagent 90 for DECrepeaters: If you install the DECrepeaters 90C, 90FA, 90FL, 90T, or 90T+ in a DEChub 900MS and do not use a Hub Manager, you can manage these modules with a DECagent 90.

Remote Repeaters Require a DECbridge

If you use a DECagent 90 to manage remote repeaters, install a DECbridge 90 or 90FL in the same hub as the DECagent 90.

References

See the following procedures related to configuring 90-series DECbridges.

For This Information...	See This Section in Chapter 5...
Configuring a Hub Manager	<i>Procedure: DEChub 900MS Hub Manager Configuration</i>
Configuring a DECagent 90	<i>Procedure: DECagent 90 Agent Configuration</i>
Adding agent entries to HUBwatch	<i>Adding Agent Information</i>
Using the Add Module window	<i>Adding Module Information</i>

Additional Reference: See the *HUBwatch Use* book for information about bridge management.

Configuring 90-Series DECbridges

Steps: DECbridge 90 and 90FL Configuration

Do the following to configure a DECbridge 90 or 90FL so HUBwatch can manage it.

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 900MS that uses a Hub Manager.	<ol style="list-style-type: none">1. Does the hub have a configured Hub Manager?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the Hub Manager.2. Does an entry for the Hub Manager exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add an entry for the Hub Manager using the Add Agent window.3. Does a configured DECagent 90 exist on the same LAN segment?<ul style="list-style-type: none">• If yes, go to step 4.• If no, configure the DECagent 90.4. Does an entry for the DECagent 90 exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 5.• If no, add an entry for the agent using the Add Agent window.5. Is the DECagent 90 installed in the same hub as the bridge module?<ul style="list-style-type: none">• If yes go to step 6.• If no, do the following:<ol style="list-style-type: none">a. Create a DECagent 90 standalone community for the bridge using the Community Table window.b. Use the Add Module window to add the bridge to the DECagent 90 standalone community.6. Associate the bridge with the DECagent 90. Do the following:<ol style="list-style-type: none">a. Add an entry for the bridge's community using the Add Agent window. Enter the module's MAC address along with the DECagent 90's IP address.b. Set bridge hub management to on, if necessary, using the Bridge Summary window.

Configuring 90-Series DECbridges

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 900MS that does not use a Hub Manager	Follow the procedure for the DEChub 90.
DEChub 90	<ol style="list-style-type: none">1. Does a configured DECagent 90 exist on the same LAN segment?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the DECagent 90.2. Does an entry for the DECagent 90 exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add an entry for the DECagent 90 using the Add Agent window.3. Add the module information using the Add Module window.4. Set bridge hub management to on, if necessary, using the Bridge Summary window.

Configuring 90-Series DECbridges

WHEN the Module Is Installed in A...	THEN Do This...
Standalone module	<ol style="list-style-type: none">1. Does a configured DECagent 90 exist on the same LAN segment?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the DECagent 90.2. Does an entry for the DECagent 90 exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add an entry for the DECagent 90 using the Add Agent window.3. Create a DECagent 90 standalone community for the bridge.4. Add the bridge to the DECagent 90 standalone community using the Add Module window.5. Associate the bridge with the DECagent 90. Do the following:<ol style="list-style-type: none">a. Add an entry for the bridge's community using the Add Agent window. Enter the module's MAC address along with the DECagent 90's IP address.b. Set bridge hub management to on, if necessary, using the Bridge Summary window.

Configuring 90-Series DECbrouters

Introduction

This section explains how to configure 90-series DECbrouters so that HUBwatch can manage them.

References

See the following for procedures related to configuring 90-series DECbrouters.

For This Information...	See This Section in Chapter 5...
Configuring a Hub Manager	<i>Procedure: DEChub 900MS Hub Manager Configuration</i>
Configuring a DECagent 90	<i>Procedure: DECagent 90 Agent Configuration</i>
Adding agent entries to HUBwatch	<i>Adding Agent Information</i>
Adding module information to HUBwatch	<i>Adding Module Information</i>
Configuring DECbrouter built-in agents as SNMP agents	Procedure: DECbrouter 90T1, 90T2, or 90T2A Configuration

Steps: DECbrouter 90T1, 90T2, and 90T2A Configuration

Do the following to configure a DECbrouter 90T1, 90T2, or 90T2A so that HUBwatch can manage it.

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 900MS	<ol style="list-style-type: none"> Does the hub have a configured Hub Manager? <ul style="list-style-type: none"> If yes, go to step 2. If no, configure the Hub Manager. Does an entry for the Hub Manager exist in the Agent List box in the Community Table window? <ul style="list-style-type: none"> If yes, go to step 3. If no, add an entry for the Hub Manager using the Add Agent window. Configure the module's built-in agent. Add an entry for the built-in agent using the Add Agent window.

Configuring 90-Series DECbrouters

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 90	<ol style="list-style-type: none">1. Does a configured DECagent 90 exist on the same LAN segment?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the DECagent 90.2. Does an entry for the DECagent 90 exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add the agent using the Add Agent window.3. Configure the module's built-in agent.4. Add an entry for the built-in agent using the Add Agent window.
Standalone module	<ol style="list-style-type: none">1. Configure the module's built-in agent.2. Add an entry for the built-in agent using the Add Agent window.

Configuring 90-Series DECrepeaters

Introduction

This section explains how to configure 90-series DECrepeaters so that HUBwatch can manage them.

Note: If you install the DECrepeater 90C, 90FA, 90FL, 90T, or 90T+ in a DEChub 900MS and do not use a Hub Manager, you can manage the module with a DECagent 90.

References

See the following for procedures related to configuring 90-series DECrepeaters.

For This Information...	See This Section in Chapter 5...
Configuring a Hub Manager	<i>Procedure: DEChub 900MS Hub Manager Configuration</i>
Configuring a DECagent 90	<i>Procedure: DECagent 90 Agent Configuration</i>
Adding agent entries to HUBwatch	<i>Adding Agent Information</i>
Adding module information to HUBwatch	<i>Adding Module Information</i>
Configuring DECrepeater built-in agents as SNMP agents	<i>Procedure: DECrepeater 90FS and 90TS Configuration</i>

Steps: DECrepeaters 90C, 90FA, 90FL, 90T, 90T+ Configuration

Do the following to configure a DECrepeater 90C, 90FA, 90FL, 90T, or 90T+ so that HUBwatch can manage it.

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 900MS that uses a Hub Manager	<ol style="list-style-type: none"> Does the hub have a configured Hub Manager? <ul style="list-style-type: none"> If yes, go to step 2. If no, configure the Hub Manager. Does an entry for the Hub Manager exist in the Agent List box in the Community Table window? <ul style="list-style-type: none"> If yes, go to step 3. If no, add an entry for the Hub Manager using the Add Agent window.

Configuring 90-Series DECrepeaters

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 900MS that does not use a Hub Manager	<ol style="list-style-type: none">1. Does a configured DECagent 90 exist on the same LAN segment?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the DECagent 90.2. Does an entry for the DECagent 90 exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add the agent using the Add Agent window.3. Is the DECagent 90 in the repeater's hub?<ul style="list-style-type: none">• If yes, you are finished with this procedure.• If no, do the following:<ol style="list-style-type: none">a. Install a DECbridge 90 or 90FL in the repeater's hub.b. Add DECbridge 90 or 90FL information to HUBwatch using the Add Module window.
DEChub 90	<ol style="list-style-type: none">1. Does a configured DECagent 90 exist on the same LAN segment?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the DECagent 90.2. Does an entry for the DECagent 90 exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add the agent using the Add Agent window.3. Is the DECagent 90 in the repeater's hub?<ul style="list-style-type: none">• If yes, you are finished with this procedure.• If no, do the following:<ol style="list-style-type: none">a. Install a DECbridge 90 or 90FL in the repeater's hub. Use slot 7 or 8 of an 8-slot hub or slot 7, 8, 15, or 16 of a 16-slot hub.b. Add DECbridge 90 or 90FL information to HUBwatch using the Add Module window.
Standalone module	Not applicable. These DECrepeaters can operate as standalone modules; however, you cannot use HUBwatch to manage them.

Configuring 90-Series DECrepeaters

Steps: DECrepeater 90FS and 90TS Configuration

Do the following to configure a DECrepeater 90FS or 90TS so that HUBwatch can manage it.

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 900MS	<ol style="list-style-type: none">1. Does the hub have a configured Hub Manager?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the Hub Manager.2. Does an entry for the Hub Manager exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add an entry for the Hub Manager using the Add Agent window.3. Will the module be the IP interface?<ul style="list-style-type: none">• If no, you are finished with this procedure.• If yes, install it in the IP interface slot.
DEChub 90	<ol style="list-style-type: none">1. Does a configured DECagent 90 exist on the same LAN segment?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the DECagent 90.2. Does an entry for the DECagent 90 exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add the agent using the Add Agent window.3. Configure the module's built-in agent.4. Add an entry for the built-in agent using the Add Agent window.
Standalone module	<ol style="list-style-type: none">1. Configure the module's built-in agent.2. Add an entry for the built-in agent using the Add Agent window.

Configuring 90-Series DECservers

Introduction

This section describes how to configure 90-series DECservers so that HUBwatch can manage them.

References

See the following for procedures related to configuring 90-series DECservers.

For This Information...	See This Section in Chapter 5...
Configuring a Hub Manager	<i>Procedure: DEChub 900MS Hub Manager Configuration</i>
Configuring a DECagent 90	<i>Procedure: DECagent 90 Agent Configuration</i>
Adding agent entries to HUBwatch	<i>Adding Agent Information</i>
Adding module information to HUBwatch	<i>Adding Module Information</i>
Configuring DECserver built-in agents as SNMP agents	<i>Procedure: DECserver 90TL, 90M, or 900TM Configuration</i>

Additional Reference: For information about creating communities, see the *HUBwatch Use* book.

Steps: DECservers 90L and 90L+ Configuration

Do the following to configure a DECserver 90L or 90L+ so that HUBwatch can manage it.

Configuring 90-Series DECservers

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 900MS	<ol style="list-style-type: none">1. Does the hub have a configured Hub Manager?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the Hub Manager.2. Does an entry for the Hub Manager exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add an entry for the Hub Manager using the Add Agent window.3. Does a configured DECagent 90 exist on the same LAN segment?<ul style="list-style-type: none">• If yes, go to step 4.• If no, configure the DECagent 90.4. Does an entry for the DECagent 90 exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 5.• If no, add an entry for the DECagent 90 using the Add Agent window.5. Is the DECagent 90 installed in the same hub as the DECserver?<ul style="list-style-type: none">• If yes, go to step 6.• If no, do the following:<ol style="list-style-type: none">a. Create an 8-slot hub DECagent 90 community for the terminal server using the Community Table window.b. On the Hub Front Panel window, click on the slot that the terminal server occupies in the DEChub 900MS.c. Use the Add Module window to add the terminal server to the DECagent 90 community.6. Add an entry for the terminal server's community using the Add Agent window. Include the terminal server's MAC address and the DECagent 90's IP address.7. Add module information to HUBwatch for any DECservers 90L and 90L+ that were available before the HUBwatch V2.0 release using the Add Module window.

Configuring 90-Series DECservers

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 90	<ol style="list-style-type: none">1. Does a configured DECagent 90 exist on the same LAN segment?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the DECagent 90.2. Does an entry for the DECagent 90 exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add the agent using the Add Agent window.3. Add module information to HUBwatch for any DECservers 90L and 90L+ that were available before the HUBwatch V2.0 release using the Add Module window.
Standalone module	<ol style="list-style-type: none">1. Does a configured DECagent 90 exist on the same LAN segment?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the DECagent 90.2. Does an entry for the DECagent 90 exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add the agent using the Add Agent window.3. Create a DECagent 90 standalone community for the module.4. Use the Add Module window to add the module to the DECagent 90 standalone community.

Configuring 90-Series DECservers

Steps: DECservers 90TL and 90M Configuration

Do the following to configure a DECserver 90TL or 90M so that HUBwatch can manage it.

WHEN the Module Is Installed in A...	THEN Do This...
DEChub 900MS	<ol style="list-style-type: none">1. Does the hub have a configured Hub Manager?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the Hub Manager.2. Does an entry for the Hub Manager exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add an entry for the Hub Manager using the Add Agent window.3. Configure the module's built-in agent.4. Add an entry for the module's built-in agent using the Add Agent window.5. Add module information for any DECservers 90TL and 90M that are not running the DECserver Network Access Software using the Add Module window. Important: <i>Disable polling before adding the DECserver 90TL information.</i>
DEChub 90	<ol style="list-style-type: none">1. Does a configured DECagent 90 exist on the same LAN segment?<ul style="list-style-type: none">• If yes, go to step 2.• If no, configure the DECagent 90.2. Does an entry for the DECagent 90 exist in the Agent List box in the Community Table window?<ul style="list-style-type: none">• If yes, go to step 3.• If no, add the agent using the Add Agent window.3. Configure the module's built-in agent.4. Add an entry for the module's built-in agent using the Add Agent window.5. Add module information for any DECservers 90TL and 90M that are not running the DECserver Network Access Software using the Add Module window. Important: <i>Disable polling before adding the DECserver 90TL information.</i>

Configuring 90-Series DECservers

WHEN the Module Is Installed in A...	THEN Do This...
Standalone module	<ol style="list-style-type: none">1. Configure the module's built-in agent.2. Add an entry for the module's built-in agent using the Add Agent window.

A

HUBwatch as an Add-On Application

Overview

Introduction

This appendix explains:

- How to run HUBwatch for OpenVMS as an add-on application to the POLYCENTER Network Manager platform.
- How to run HUBwatch for Windows as an add-on application to the HP OpenView platform.
- How to run HUBwatch for OSF/1 AXP as an add-on application to the POLYCENTER Manager on NetView for DEC OSF/1 AXP platform.

Launching HUBwatch for OpenVMS from POLYCENTER

Launching HUBwatch for OpenVMS from POLYCENTER

Compatible DECmcc Versions

The instructions in this appendix also apply to DECmcc Version 1.2 and Version 1.3. To run HUBwatch from DECmcc Version 1.2, all DECmcc users need to modify their own MCC_RESOURCE.DAT files according to the instructions in MCC_SYSTEM:MCC_HUBWATCH.COM.

Steps: POLYCENTER Launch

Do the following to launch HUBwatch from the POLYCENTER Network Manager platform.

Step	Action
1	Enter the following command to invoke the POLYCENTER Network Manager software. \$ MANAGE/ENTERPRISE /INTERFACE=DECWINDOWS Result: The POLYCENTER Map window appears.
2	Enter domain information. Do the following (these instructions assume you opened a new domain): <ol style="list-style-type: none">Click on the File menu and choose an existing domain or open a new domain.Enter the domain name in the New Domain window (for example, Taylor Street) and click on OK.Return to the POLYCENTER Map window and click on the Lock icon in the menu bar to unlock the window. Result: The New Domain window appears.
3	Open the Add Entity - Enter Entity window. and do the following: <ol style="list-style-type: none">Click on the Edit menu and choose Toolbox.Click on the SNMP icon.Click on the desired Hub icon.At the SNMP Entry box, enter the IP name of the hub and click on Apply. Result: The following occurs: <ol style="list-style-type: none">The POLYCENTER Toolbox window appears.The Add Entity - Enter Entity Information window appears.The Hub icon is highlighted.A more detailed version of the Add Entity - Enter Entity Information window appears.

Launching HUBwatch for OpenVMS from POLYCENTER

Step	Action
4	<p>In the Add Entity window, do the following:</p> <ol style="list-style-type: none">Enter the IP address (for example, 12.14.213.56).Enter the Read Community Name (for example, public).Enter the Write Community Name (for example, public).Click on OK to apply the information. <p>Result: The software applies the information.</p>
5	<p>Move the pointer to the POLYCENTER Map window and click MB2 to populate the map.</p> <p>Result: POLYCENTER populates the map.</p>
6	<p>Click on the hub icon in the POLYCENTER Map window.</p> <p>Result: The Hub icon is highlighted.</p>
7	<p>Click on the Applications menu and choose HUBwatch.</p> <p>Result: The Hub Front Panel window appears; it may take several seconds.</p> <p>The Hub Front Panel window differs, depending on whether you entered the IP address of a DEChub 900 MultiSwitch (MS), a DECagent 90, or a standalone module. Refer to the <i>HUBwatch Use</i> book for pictures of the Hub Front Panel windows that appear for the DEChub 900MS and the DECagent 90.</p>

Launching HUBwatch for Windows from HP OpenView

Launching HUBwatch for Windows from HP OpenView

Steps

To start HUBwatch for Windows from the HP OpenView software, do the following.

Step	Action
1	Start the HP OpenView application.
2	Select Open from the File menu and open a map file. Result: The Internetwork View window appears.
3	Double click on the icon of the network you want to manage. Result: The Network View window appears.
4	Double click on the HUBwatch icon for the hub or module that you want to manage. Result: The HUBwatch application starts and displays the hub or module you selected.

Launching HUBwatch for OSF/1 AXP From POLYCENTER

Launching HUBwatch for OSF/1 AXP From POLYCENTER

Introduction

If you directed the HUBwatch installation procedure to install the POLYCENTER NetView files, the procedure performs all the necessary steps to integrate the HUBwatch software with the POLYCENTER Manager on NetView for DEC OSF/1 AXP application.

How to Launch

Select the HUBwatch application from the MONITOR pull-down menu.

B

HUBwatch for Windows and SLIP Protocol

Overview

In This Appendix

This appendix describes how to run HUBwatch with the SLIP protocol and how to exit from a SLIP session. This appendix includes the following topics:

- Running HUBwatch with a SLIP connection through a terminal server.
- Running HUBwatch with a SLIP connection to a DECagent 90.
- Running HUBwatch with a SLIP connection to a DEChub 900MS.

All SLIP Connections

All SLIP Connections

Steps: All SLIP Configurations

Do the following for all SLIP configurations.

Step	Action
1	Connect your PC to a DECagent 90, a DEChub 900MS, or a terminal server that supports SLIP through a serial port on your PC or through a modem.
2	If you are running Windows, you must exit from Windows to set up for using SLIP.
3	Use the CD command from the DOS prompt to make your \HUBWATCH\IPSTACK directory the default directory. Example: c: cd \hubwatch\ipstack
4	Ensure that the [TCPIP] section of file PWTCP.INI includes the following line: NetworkType = 2
5	Enter the SETHOST terminal emulator command using the following command: c: sethost

Using a SLIP Connection Through a Terminal Server

Using a SLIP Connection Through a Terminal Server

Introduction

This section explains how to create and exit from a SLIP connection using a terminal server. The examples that follow use the Local> prompt displayed by DECservers 90TL, 90M, and 900TM. Your prompt may differ.

Steps: Connecting Through a Terminal Server

Do the following to run HUBwatch with a SLIP connection to a terminal server.

Step	Action
1	Access the terminal server's prompt with one of the following methods: <ul style="list-style-type: none">• If you are using a modem, when you have made the connection to the terminal server, press Return until you get the Local> prompt.• If your PC is directly connected to a SLIP terminal server through a serial port, press Return until you get the Local> prompt.
2	Check that the MTU value is 1000 or greater. At the Local> prompt, enter the following command: <code>Local> show port slip</code> Changing the MTU value: Enter the following command: <code>Local> change port slip MTU number</code> If the MTU value is too low, the SLIP connection will not work.
3	At the Local> prompt, enter the following commands. <code>Local> clear port slip host</code> <code>Local> change port slip host ip-address-of-your-pc</code> <code>Local> change port flow control disable</code> <code>Local> connect slip</code> The <i>ip-address</i> variable is in the form <i>d.d.d.d</i> , where <i>d</i> is an integer from 0 to 255.
4	Exit the SETHOST program by pressing Ctrl/F10. Enter the following command at the DOS prompt to start your network: <code>c: strtslip</code> If you like, you can test your network here by entering the Ping command with the IP address of a network station that is known to be in working order.
5	Enter the following command at the DOS prompt to start Windows: <code>c: win</code>
6	Start HUBwatch, following the instructions in the <i>Starting HUBwatch for Windows</i> section in Chapter 1. HUBwatch should run as it does under IP networks, except that it will be somewhat slower.

Using a SLIP Connection Through a Terminal Server

Steps: Exiting the SLIP Session

Do the following to exit from your SLIP session.

Step	Action
1	Exit software. Do the following: <ol style="list-style-type: none">Exit from HUBwatch by selecting Exit from the File menu on the Hub Front Panel.Exit from Windows. For example, select Exit Windows from the Program Manager's File menu.
2	Enter the following command at the DOS prompt to stop your network: c: stopnet
3	Disconnect the SLIP connection. Do the following: <ol style="list-style-type: none">Enter the following command at the DOS prompt to run the SETHOST program again: c: sethostPress F5 to enter a Break character. Your modem must be configured to pass the Break character to the other modem.Enter the following command at the Local> prompt to find the number of your SLIP session: Local> show sessionsEnter the following command at the Local> prompt to disconnect your SLIP session: Local> disconnect session n The <i>n</i> variable is the number of your session.Enter the following command at the Local> prompt to disable the SLIP port: Local> set port slip disableEnter the following command at the Local> prompt to clear the SLIP address: Local> clear port slip host <p>It is not enough to disable the SLIP port (step e). You must also clear the address of the SLIP host (step f). Clearing the address prevents routing problems that can occur if you use the same IP address later on a different server port.</p>
4	If you are using a modem, enter the following command at the Local > prompt to log out: Local> logout
5	Press Ctrl/F10 at the Local> prompt to exit from the SETHOST program.

Using a SLIP Connection to a DECagent 90

Using a SLIP Connection to a DECagent 90

Steps: Connecting with SLIP to a DECagent 90

Do the following to run HUBwatch with a SLIP connection to a DECagent 90.

Step	Action
1	Set up the Communications port. Do the following: <ol style="list-style-type: none">From the SETHOST Main menu, press F3 to access the Setup menu.From the Setup menu, select Communications.From the Communications menu, select Network Communications Port.From the Networks Communications Port menu, select the Comm Port you are using.Select the speed for the Comm Port. The speed you select will be the baud rate for the SLIP connection. Important: Be sure that the speed you select matches the baud rate in the [SLIP] section of the file TCP.INI in your <i>hubwatch-path</i>\IPSTACK directory.From the SETHOST Main menu, press Return to access the DECagent 90's menu.
2	From the DECagent 90's menu, select Start SLIP Connection and do the following: <ol style="list-style-type: none">Press Ctrl/F10 to exit from the SETHOST program.Enter the following command at the DOS prompt to start your network: c: strtslipIf you like, you can test your network here by entering the Ping command with the IP address of a network station that is known to be in working order.
3	Start Windows. Enter the following command at the DOS prompt: c: win
4	Start HUBwatch, following the instructions in <i>Starting HUBwatch for Windows</i> in Chapter 1. HUBwatch should run as it does under IP networks, except that it will be somewhat slower.

Steps: Exiting the SLIP Session

Do the following to exit from the SLIP session.

Step	Action
1	Exit from HUBwatch by selecting Exit from the File menu on the Hub Front Panel.
2	Exit from Windows. Example: Select Exit Windows from the Program Manager's File menu.
3	Enter the following command at the DOS prompt to stop your network: c: stopnet
4	Reset the DECagent 90.

Using a SLIP Connection to a DEChub 900MS

Using a SLIP Connection to a DEChub 900MS

Steps: Connecting with SLIP to a DEChub 900MS

Do the following to run HUBwatch with a SLIP connection to a DEChub 900MS.

Step	Action
1	Configure DEChub 900MS for out-of-band management following the instructions in Procedure: DEChub 900MS Hub Manager <i>Configuration</i> in Chapter 4.
2	From the DEChub 900MS Installation menu, set the OBM port speed. The speed you select will be the baud rate for the SLIP connection. Important: Be sure that the speed you select matches the baud rate in the [SLIP] section of the file TCP.INI in your <i>hubwatch-path</i> \IPSTACK directory.
3	Enter the following command at the DOS prompt to start your network: c: strtslip Test Your Network: You can test your network here by entering the Ping command with the IP address of a network station that is known to be in working order.
4	Enter the following command at the DOS prompt to start Windows: c: win
5	Start HUBwatch, following the instructions in the <i>Starting HUBwatch for Windows</i> section in Chapter 1. HUBwatch should run as it does under IP networks, except that it will be somewhat slower.

Steps: Exiting the SLIP Session

Do the following to exit from the SLIP session.

Step	Action
1	Exit from HUBwatch by selecting Exit from the File menu on the Hub Front Panel.
2	Exit from Windows. Example: Select Exit Windows from the Program Manager's File menu.
3	Enter the following command at the DOS prompt to stop your network: c: stopnet

C

HUBwatch for Windows with a PATHWORKS Network

Overview

In This Appendix

This appendix contains instructions for those who will be using HUBwatch with a PATHWORKS network.

Using HUBwatch with PATHWORKS

Using HUBwatch with PATHWORKS

Introduction

To use HUBwatch with a PATHWORKS network, you perform setup tasks first. There are additional tasks to perform if you plan to manage DECbrouters on a PATHWORKS network.

Setting Up Your TCP/IP Network with PATHWORKS

If you are running a TCP/IP network with PATHWORKS Version 5.0, no special instructions are needed for running HUBwatch. Make sure, however, that you have the TCP/IP network running before you start HUBwatch.

Steps: Setting Up Your DECnet Network with PATHWORKS

If you are running a DECnet network with PATHWORKS Version 5.0, do the following.

Step	Action
1	Use the HUBwatch installation procedure to install an IP (NDIS) network. Additional Information: See <i>Starting HUBwatch for Windows</i> , step 7 in Chapter 1.
2	Enter the following command at the DOS prompt, before starting HUBwatch: <code>c: hubwatch-drive:hubwatch-path\ipstack\strtndis</code> You are now ready to start HUBwatch.

Steps: Setting Up Your PATHWORKS Network

If you are running a network with PATHWORKS Version 4.1, do the following.

Step	Action
1	Use the HUBwatch installation procedure to install an IP (NDIS) network Additional Information: See <i>Starting HUBwatch for Windows</i> , step 7 in Chapter 1.
2	Enter the following commands at the DOS prompt, before starting HUBwatch: <code>c: pathworks-drive:pathworks-path\stopnet</code> <code>c: hubwatch-drive:hubwatch-path\ipstack\strtndis</code>

Using HUBwatch with PATHWORKS

Steps: Setting Up PATHWORKS for DECbrouters 90T1, 90T2, and 90T2A

To use the HUBwatch for Windows application to manage a DECbrouter 90T1, 90T2, or 90T2A on a PATHWORKS network, do the following before you start HUBwatch.

Step	Action
1	Choose the PIF Editor from the Windows Main menu.
2	Choose Open from the PIF Editor's File menu.
3	Open the following file. <i>hubwatch-drive:hubwatch-path\ipstack\sethost.pif</i>
4	Enter the following in the Program Filename field. <i>pathworks-drive:pathworks-directory\sethost.exe</i>
5	Enter the following in the Start-Up Directory field. <i>pathworks-drive:pathworks-directory</i>
6	Choose Save from the PIF Editor's File menu.
7	Exit from the PIF Editor.
	Example: Choose Exit from the File menu.

D

HUBwatch for Windows Installation Troubleshooting

Overview

Introduction

This appendix describes steps to take if HUBwatch for Windows will not start when you use the methods described in *Starting HUBwatch for Windows* in Chapter 1 or in Appendix B for running HUBwatch with SLIP.

If HUBwatch does not start, first check that your network is up and the hub or module to which you are trying to connect is in working order. If HUBwatch still does not start, check the HUBwatch installation.

In This Appendix

This appendix includes the following topics:

- Checking the network connection to the hub or module.
- Checking the HUBwatch installation.
- Checking the NDIS network installation.
- Checking the SLIP network installation.
- Checking the setup for a non-Digital network interface card.
- Checking the HP OpenView setup.

Checking the Network Connection to the Hub or Module

Checking the Network Connection to the Hub or Module

Steps

Do the following if HUBwatch does not start.

Step	Action
1	Ensure that you have the correct IP address and community name of a DECagent 90, DEChub 900 MultiSwitch, or standalone module on the network. Check with your network administrator.
2	Attempt to start HUBwatch again, using a correct IP address and community name.
3	If HUBwatch still does not start, use the Ping command to test whether your network is up and the object you are trying to connect to is in working order.
4	Use the CD command to make your \HUBWATCH\IPSTACK directory the default directory. Example: c: cd \hubwatch\ipstack
5	Enter the following command at the DOS prompt: c: ping ip-address An <i>ip-address</i> is of the form <i>d.d.d.d</i> , where <i>d</i> is an integer from 0 to 255. Example: c: ping 00.00.00.00
6	If the Ping command is successful, check that the HUBwatch installation procedure installed HUBwatch properly. See Checking the HUBwatch Installation in this chapter. If the network is not running, you receive a message that you were unable to connect to the object. If the network was installed by the HUBwatch installation procedure, check that the network was installed properly. <ul style="list-style-type: none">• See Checking the NDIS Network Installation in this chapter, if you installed an NDIS network.• See Checking the SLIP Network Installation in this chapter, if you installed SLIP.• See Checking a Non-Digital Network Interface Card Setup in this chapter, if you are using a non-Digital network interface card. If the network is running but the hub or module you specified in the Ping command is not operating properly, you receive a message that the object did not respond. In that case, see the hardware manual for the hub or module.

Checking the HUBwatch Installation

Checking the HUBwatch Installation

Steps

Do the following to check the HUBwatch installation.

Step	Action
1	<p>Ensure that the following files are in your top-level HUBwatch installation directory (the installation procedure places these in C:\HUBWATCH by default).</p> <ul style="list-style-type: none">• System files:<ul style="list-style-type: none">– HUBWATCH.EXE– HW_CONF.DAT– HW_MIB.DAT– HUB_MSG.MSF– HUBWATCH.ICO– QUESTION.TXT– READ_ME.TXT• Help files:<ul style="list-style-type: none">– AGENTWIN.HLP– BRIDWIN.HLP– BRUTWIN.HLP– CONWIN.HLP– FRONWIN.HLP– MAN.HLP– MENUWIN.HLP– RELINFO.HLP– REPTWIN.HLP– TSWIN.HLP
2	<p>Ensure that the HUBwatch Agent file, HW_AGENT.DAT, is in the directory you selected for your user data file. The installation procedure places this file in directory \USERDATA, under your top-level HUBwatch directory, by default.</p>

Checking the HUBwatch Installation

- 3 Ensure that the following lines have been added to your AUTOEXEC.BAT file, *before* the command, if any, that starts windows (the WIN command).

```
SET HUBWATCH_SYSTEM = drive:\hubwatch-directory-path  
SET HUBWATCH_LIBRARY = drive:\path\user-data-directory  
SET WSAVERS=winsock.dll-version-number
```

Example:

```
set hubwatch_system = c:\nets\hubwatch  
set hubwatch_library = c:\nets\hubwatch\userdata  
set wsavers=1.1
```

- 4 If you used the HUBwatch installation procedure to install your network, ensure that you have the directory IPSTACK under your top-level HUBwatch directory. Enter the following command at the DOS prompt.

```
c: dir \path-to-hubwatch-directory\IPSTACK
```

Checking the NDIS Network Installation

Checking the NDIS Network Installation

Steps

Do the following to check whether the network is properly installed if you used the HUBwatch installation procedure to install an NDIS network.

Step	Action
1	Does the subdirectory \IPSTACK in your HUBwatch directory contain the following files? <ul style="list-style-type: none">• PWTCP.INI• STRTNDIS.BAT• PROTOCOL.INI.• WINSOCK.DLL <ul style="list-style-type: none">• If yes, go to step 2.• If no, move the files from their current location to the subdirectory \IPSTACK.

Checking the NDIS Network Installation

Step	Action
2	<p>Ensure that the contents of PWTCP.INI include the following lines, in the indicated sections. The parameter names are case sensitive.</p> <pre>[TCPGLOBAL] UserName = <i>user-name</i> HostName = <i>pc-name</i> NetFiles = <i>drive:\path\IPSTACK</i> [TCPIP] IPAddress = <i>pc-ip-address</i> SubnetMask = <i>subnet-mask</i> DefaultGW0 = <i>default-gateway-ip-address</i> NetworkType = <i>network-type-identifier</i> [DNR] NameServer0 = <i>first-name-server-to-query-ip-address</i> Domain = <i>local-domain-ip-name</i></pre> <ul style="list-style-type: none">• An <i>ip-address</i> or a <i>subnet-mask</i> is of the form <i>d.d.d.d</i>, where <i>d</i> is an integer from 0 to 255.• <i>network-type-identifier</i> is 0 for Ethernet, 2 for SLIP. <p>Example:</p> <pre>[TCPGLOBAL] UserName = d_dinant HostName = daves_pc NetFiles = c:\hubwatch\ipstack [TCPIP] IPAddress = 00.00.00.00 SubnetMask = 00.00.00.00 DefaultGW0 = 00.00.00.00 NetworkType = 0 [DNR] NameServer0 = 00.00.00.00 Domain = dod.xxx.com</pre>

Checking the NDIS Network Installation

Step	Action
3	<p>Ensure that the contents of STRTNDIS.BAT include the following lines. (The REM lines are not included in STRTNDIS.BAT. They appear here only, for explanatory purposes.)</p> <pre>hubwatch-drive: CD \path-to-hubwatch-directory\IPSTACK SET PCSA = hubwatch-drive:path-to-hubwatch-directory\IPSTACK LD PROTMAN.DOS /i:hubwatch-drive:path-to-hubwatch- directory\IPSTACK REM the next commands save the current path in IPSTACK\OLDPATH.BAT IF %PATH% == "" GOTO no_path PATH > hubwatch-drive:\path-to-ipstack\OLDPATH.BAT GO TO path_done :no_path ECHO SET PATH => hubwatch-drive\path-to-ipstack\OLDPATH.BAT :path_done SET PATH = %PCSA%,%PATH% REM end of commands for saving the current path LD ndis-network-card-driver dllndis netbind schk tcpip REM the following two lines are required for TELNET tn bapi</pre> <p>When you change network cards: If you change the network card and use the installation program to modify your network parameters, check the STRTNDIS.BAT file to be sure that the line that loaded the previous driver begins with REM, as follows.</p> <pre>rem ld previous-network-card-driver</pre>

Checking the NDIS Network Installation

Step	Action
	STRTNDIS.BAT Example:
	<pre>c: cd \hubwatch\ipstack set PCSA = c:\hubwatch\ipstack ld protman.dos /i:c:\hubstack\ipstack if %path% == "" goto no_path path >c:\hubwatch\ipstack\oldpath.bat goto path_done :no_path echo set path =>c:\hubwatch\ipstack\oldpath.bat :path_done SET PATH=%PCSA%;%PATH% ld ewrk3.dos dllndis netbind schk tcpip tn bapi</pre>
4	Ensure that the protocol file appropriate to your network card was copied into file PROTOCOL.INI. Depending on the network option you selected at installation, the installation procedure copies the contents of file IPSTACK\EWRK3.PRO or IPSTACK\DEPCA.PRO to PROTOCOL.INI.

Checking the NDIS Network Installation

Step	Action
5	<p>Ensure that the file SYSTEM.INI in your WINDOWS directory is edited as follows:</p> <ul style="list-style-type: none">• In the [Boot] section, the NETWORK.DRV = <i>command</i> is as follows: <code>network.drv = pcsa.drv (for PATHWORKS V4.0)</code> or: <code>network.drv=pathwrks.drv (for PATHWORKS V5.0)</code>• In the [386Enh] section, the NETWORK = <i>command</i> is as follows: <code>network = *dosnet,*vnetbios,decpw.386</code>• If HUBwatch Version 1.0 was installed on your PC, the DEVICE VPKTDRVR.386 command, if present, will begin with a semicolon, to comment the line out, as follows: <code>;device vpktdrv.386</code>
6	<p>Ensure that your AUTOEXEC.BAT file is edited as follows.</p> <ul style="list-style-type: none">• It includes the following line, <i>before</i> the command, if any, that starts WINDOWS (the WIN command). <code>set WSAVERS=1.1</code>• If you added a network startup command to AUTOEXEC.BAT after using the HUBwatch installation procedure to install the network, the following line must appear <i>before</i> the command, if any, that starts WINDOWS: <code>strtnDIS</code>• If HUBwatch Version 1.0 was installed on your PC and you were running a packet driver, the line loading EWRK3.DOS or DEPCA.DOS will begin with REM. <p>Example:</p> <pre>rem ld ewrk3.dos</pre> <p>Important: If the network driver used with HUBwatch V1.0 was not ewrk3.dos or depca.dos, the installation procedure cannot automatically add REM to the LD line for you. It will be necessary for you to do this yourself.</p>

Checking the NDIS Network Installation

Step	Action
7	<p>Ensure that your CONFIG.SYS file is edited as follows.</p> <ul style="list-style-type: none">• If HUBwatch V1.0 was installed on your PC and you were running a packet driver, the following DEVICE command will begin with REM. <code>rem device = netdev.sys</code>• If HUBwatch V1.0 was installed on your PC and you were running an NDIS network, the following DEVICE commands will begin with REM. <code>rem device = protman.sys</code> <code>rem device = dis_pkt.gup</code> <code>rem device = netdev.sys</code>• If HUBwatch V1.0 was installed on your PC and you were running an NDIS network, CONFIG.SYS will contain one of the following DEVICE commands beginning with REM: <code>rem device = ewrk3.dos</code> <code>rem device = depca.dos</code> <p>Important: If the NDIS driver used with HUBwatch V 1.0 was not ewrk3.dos or depca.dos, the installation procedure cannot automatically add REM to the DEVICE line for you. It will be necessary for you to do this.</p>
8	<p>Ensure that you are not trying to run DECnet and HUBwatch at the same time, unless you are running PATHWORKS Version 5.0. If you are running PATHWORKS Version 4.0, enter the following commands at the DOS prompt before starting HUBwatch.</p> <pre>c: pathworks-path\stopnet c: hubwatch-path\strndis</pre>

Checking the SLIP Network Installation

Checking the SLIP Network Installation

Steps

Do the following to check whether your Digital IP network is properly installed if you used the HUBwatch installation procedure to install your SLIP network.

Step	Action
1	Ensure that subdirectory \IPSTACK in your HUBwatch directory contains the following files: <ul style="list-style-type: none">• PWTCP.INI• STRTSLIP.BAT• WINSOCK.DLL
2	Ensure that your AUTOEXEC.BAT file includes the following line <i>before</i> the command, if any, that starts WINDOWS (the WIN command): <pre>set WSAVERS=1.1</pre>
3	Ensure that the contents of file STRTSLIP.BAT include the following lines: <pre>hubwatch-drive: CD \path-to-hubwatch-directory\IPSTACK SET PCSA = hubwatch-drive:path-to-hubwatch-directory\IPSTACK SAVE SCHK.EXE /NDIS DLLASYNC.EXE TCPIP TN.EXE BAPI.EXE</pre> <p>Example:</p> <pre>c: cd \nets\hubwatch\ipstack set pcsa =c:\nets\hubwatch\ipstack save schk /ndis dllasync tcpip tn.exe bapi.exe</pre>
4	Ensure that the [TCPIP] section of file PWTCP.INI includes the following line: <pre>NetworkType = 2</pre>

Checking the SLIP Network Installation

Step	Action
5	<p>Ensure that the [SLIP] section of file PWTCP.INI includes the following lines:</p> <pre>CommPort = COMn Speed = <i>speed</i> ModemControl = no</pre> <ul style="list-style-type: none">• The <i>n</i> variable is the number of the COM port you are using for your SLIP connection. The default is COM1.• The <i>speed</i> variable is the baud rate your SLIP connection is using. The default is 9600.

Checking a Non-Digital Network Interface Card Setup

Checking a Non-Digital Network Interface Card Setup

Introduction

If you used the HUBwatch installation procedure to install your network and chose Other as the network interface card type, you need to check that your PC is properly set up for the network card.

Steps

Do the following to check your non-Digital interface card setup.

Step	Action
1	Ensure that the file <i>hubwatch-path</i> \IPSTACK\STRTNDIS.BAT includes the following line: <pre>LD <i>your-ndis-network-card-driver</i></pre> <p>The name of the driver should be the name you supplied during the installation procedure when you selected Other as the card type. If you change the network card and use the installation program to modify your network parameters, check the STRTNDIS.BAT file to be sure that the line that loaded the previous driver begins with REM, as follows:</p> <pre>rem ld <i>previous-network-card-driver</i></pre>
2	Ensure that the protocol file appropriate to your network card was copied into file <i>hubwatch-path</i> \IPSTACK\PROTOCOL.INI.
3	Before starting HUBwatch, start your network with the following command: <pre>c: strtndis</pre>

PROTOCOL.INI File Description

Your network card manufacturer supplies the network device driver and protocol file for your network card. The HUBwatch installation copies the contents of the protocol file into PROTOCOL.INI. Depending on the completeness of the protocol file that the manufacturer supplies, you may have to edit the PROTOCOL.INI file to ensure the network card functions properly.

PROTOCOL.INI File Guidelines

If you have trouble starting HUBwatch, check the PROTOCOL.INI file for the following:

- A [DATALINK] section exists. This section contains the settings for the network card. If you change any of these settings, edit the protocol.ini file to reflect these changes.
- All BINDINGS statements contain the device driver name as it appears in the name of the device driver section (usually the name of the executable file).
- A section exists for the device driver. The name of the section, appearing in brackets ([]) is usually the name of the device driver's executable file.

Checking a Non-Digital Network Interface Card Setup

- The DRIVERNAME line in the device driver section contains the name as specified in your network card documentation. This name is usually in uppercase and usually ends with a dollar sign (\$). This value is case sensitive; add it to the file exactly as specified in the documentation.
- The correct IRQ value is used. Some network cards do not automatically select an unused IRQ when installed. If you receive an IRQ error when trying to start HUBwatch, specify the correct IRQ in the file (see your network card documentation to determine how to specify the IRQ).

PROTOCOL.INI Example

This is an example of a PROTOCOL.INI file.

```
[protocol manager]
    DRIVERNAME = PROTMAN$
[DATA LINK]
    DRIVERNAME = DLL$MAC
    LG_BUFFERS = 14
    SM_BUFFERS = 6
    OUTSTANDING = 32
    BINDINGS = EWRK3.DOS
    DECPARM = C:\HUBWATCH\
[EWRK3.DOS]
    DRIVERNAME = EWRK3$
    IOADDRESS = 0x300
    RAMADDRESS = 0xD000
    MEMORYMODE = 2
    INTERRUPT = 5
    DIAGNOSTIC = 0
```

Checking the HP OpenView Setup

Checking the HP OpenView Setup

HUBwatch Does Not Launch From HP OpenView

If you receive error messages when you try to start HUBwatch from HP OpenView, increase the UDPMaxSock value in the [TCPIP] section of the PWTCP.INI file.

E

Modules That HUBwatch Manages

Manageable Modules

In This Appendix

This appendix lists the network modules that you can manage using HUBwatch, followed by those that you cannot manage with HUBwatch.

Modules That HUBwatch Manages

HUBwatch Version 3.1 can manage all 90-series modules and the following 900-series modules:

- DECbridge 900MX.
- DECconcentrator 900MX.
- DECrepeaters 900FP, 900GM, and 900TM.
- DECserver 900TM.
- DECswitches 900EE and 900EF.
- PEs switch 900TX.
- RoamAbout Access Point.

900-Series Modules That You Cannot Manage with HUBwatch

HUBwatch cannot manage the following 900-series modules at this time:

- DECmau 900TL.
- DECrepeater 900SL.

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