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# Chapter 3

## HUBwatch for Digital UNIX Installation

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### Overview

#### Introduction

This chapter provides information for installing the HUBwatch for Digital UNIX software by using the `setld` utility.

#### In This Chapter

This chapter includes the following topics:

- Preinstallation requirements.
- Installing HUBwatch for Digital UNIX.
- Post-installation tasks.
- Starting HUBwatch for Digital UNIX as a standalone application.

#### 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 NetView network management software.

## Preinstallation Requirements

### Installation Time

On Digital UNIX systems, the HUBwatch installation procedure takes approximately 10 minutes.

### Is the 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-me 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 Digital UNIX system documentation for instructions.

### Hardware Requirements

You need the following hardware:

- 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 Digital UNIX Version 4.1 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 64 megabytes of memory.

## Disk Space Requirements

To install the software, there must be a minimum of 33,020 kilobytes of free space. Space used in specific subdirectories is as follows.

Subdirectory	Space Used
/usr/kits	28,000 Kbytes
/usr/lib	5,000 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.

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.

- Digital OSF/1 Version 2.0 or Version 2.1 and Digital UNIX Version 3.01 or Version 3.1 operating system including the following subsets (\*any subset subversion number):
  - OSFBASE2\* or OSFBASE3\*
  - OSFX11\*
  - OSFCLINET2\* or OSFCLINET3\*
  - OSFINET2\* or OSFINET3\*

## Preinstallation Requirements

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### Optional Software

To use HUBwatch for Digital UNIX software with POLYCENTER network management software, you must have POLYCENTER NetView for Digital UNIX. Refer to the HUBwatch for Digital UNIX 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 example displays what licenses are installed.

Product	Status	Users	Total	Active
HUBWATCH-FOR-OSF	active	unlimited		

**Installing the License:** If the license is not installed, complete the following steps.

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. <b># lmf register</b> <b>Result:</b> 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: <b># lmf reset</b>
7	Check the license by entering the following command. <b># lmf list &lt;Return&gt;</b> <b>Result:</b> The system displays the following message..

  

Product	Status	Users	Total	Active
HUBWATCH-FOR-OSF	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.

## Reinstalling or Upgrading the HUBwatch for Digital UNIX Software

### Deleting Subsets

On Digital UNIX 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 Digital UNIX Version 3.1 subsets.

```
# setld -d HBWTCH310
```

## Installing HUBwatch for Digital UNIX from the Distribution Media

### Introduction

This section explains how to install HUBwatch for Digital UNIX 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 in the file `usr/kits/HUBwatch/hubwatch.release_notes`.

### Steps

To install the HUBwatch for Digital UNIX software, complete the following steps:

Step	Action
1	Log in 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: <code># cd /</code>

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## Installing HUBwatch for Digital UNIX from the Distribution Media

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Step	Action
3	<p>If your CD-ROM optical disc is not already in its caddy, follow the instructions in the <i>Compact Disc User's Guide</i>.</p> <p>To determine the drive where the CD-ROM device is located, use the following command:</p> <pre># file /dev/rrz*c</pre> <p>Information from the file command is displayed.</p> <p><b>Example:</b></p> <pre>/dev/rrz1c: character special (8/1026) SCSI #0 RZ25 disk #8 (SCSI ID #1) /dev/rrz2c: character special (8/2050) SCSI #0 RZ25 disk #16 (SCSI ID #2) /dev/rrz3c: character special (8/3074) SCSI #0 RZ26 disk #24 (SCSI ID #3) /dev/rrz4c: character special (8/4098) SCSI #0 RRD42 disk #32 (SCSI ID #4)</pre> <p>In this output from the file command, RRD indicates the CD-ROM device.</p> <p>To mount the distribution media, enter the following command. The following example shows that the CD-ROM device is located on the c partition of the rz4 disk.</p> <pre># mount -rd /dev/rz4c /mnt</pre>

## Installing HUBwatch for Digital UNIX from the Distribution Media

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Step	Action
4	<p>Enter setld with the -l option (for the load function) and the directory of the mounted file system where the HUBwatch subset resides.</p> <p><b>Example:</b> <b># setld -l /mnt</b></p> <p><b>Result:</b> The installation procedure displays the following information and prompt:</p> <p>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.</p> <p>1) HUBwatch for Digital UNIX V4.1 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</p>



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## Installing HUBwatch for Digital UNIX from the Distribution Media

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Step	Action
5	<p>Enter your choice and press Return.</p> <p><b>Result:</b> The installation procedure prompts you to verify your choice with the following message.</p> <p>You are installing the following optional subsets:</p> <p style="padding-left: 40px;">HUBwatch for Digital UNIX Version 4.1</p> <p>Is this correct? (y/n):</p>
6	<p>Enter Yes and press Return.</p> <p><b>Result:</b> The procedure displays the following message.</p> <p>Checking file system space required to install selected subsets: File system space checked OK.</p> <p>HUBwatch for Digital UNIX Version 4.1</p> <p style="padding-left: 40px;">Copying from. cdrom/AXP/hubwatch/bin (disk) Working....Fri Oct 27 14:46:19 EDT 1995 Verifying Configuring "HUBwatch for Digital UNIX Version 4.1" (HBWTCH410) Installation Configuration for (HBWTCH410) HUBwatch for Digital UNIX Version 4.1</p> <p>Rebuilding the whatis data structures for man -k and ap- ropos.</p> <p>Rebuild complete.</p> <p>Do you want to install the necessary files for launching HUBwatch from POLYCENTER NetView for Digital UNIX Version 2.1 (y/n):</p>

## Installing HUBwatch for Digital UNIX from the Distribution Media

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Step	Action
7	<p>Do you want to run HUBwatch as an add-on to a POLYCENTER NetView for Digital UNIX Version 2.1?</p> <ul style="list-style-type: none"><li>• If yes, enter Yes and press Return. <b>Result:</b> The system displays the following message. THERE ARE NO MORE QUESTIONS TO ANSWER</li></ul> <p>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 (HBWTCH410) HUBwatch for Digital UNIX Version 4.1.</p> <p>The installation and configuration of HUBwatch has completed.</p> <p>Copyright (c) Digital Equipment Corporation, 1995 All Rights Reserved. Unpublished rights reserved under the copyright laws of the United States.</p> <p>#</p> <ul style="list-style-type: none"><li>• If no, enter No and press Return. <b>Result:</b> The system displays the following message. You have chosen NOT to configure your system to run HUBwatch for Digital UNIX Version 4.1 from POLYCENTER Netview for Digital UNIX on this system at this time.</li></ul> <p>When you decide to configure HUBwatch for Digital UNIX Version 4,1 to run from POLYCENTER Netview for Digital UNIX on this system, issue the command:</p> <pre>setld -c HBWTCH410 INSTALL</pre> <p>THERE ARE NO MORE QUESTIONS TO ANSWER</p> <p>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 (HBWTCH410) HUBwatch for Digital UNIX Version 4,1.</p>

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## Installing HUBwatch for Digital UNIX from the Distribution Media

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<b>Step</b>	<b>Action</b>
7 (cont.)	Copyright (c) Digital Equipment Corporation, 1995 All Rights Reserved. Unpublished rights reserved under the copyright laws of the United States
8	After the subsets are installed, unmount the distribution media by entering the following command: # <b>umount /mnt</b>

## Installing HUBwatch for Digital UNIX 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 onto 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 Digital UNIX from a RIS (where the subsets reside in a `/etc/ris` distribution area), complete the following steps.

Step	Action
1	Log in as superuser.
2	Make sure that you are at the root ( <code>/</code> ) directory by entering the following command: <code># cd /</code>
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. <b>Example:</b> If you are loading HUBwatch subsets from a RIS distribution area on the node BIGSYS, enter the following command. <code># setld -l bigsys:</code>

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## Installing HUBwatch for Digital UNIX from a Remote Installation Server

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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 Digital UNIX Version 4.1</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><b>Result:</b> The procedure displays the following messages.</p> <pre>HUBwatch for Digital UNIX Version 4.1 (HBWTCH410)      Copying from. BIGSYS       Working....Fri Oct 27 14:46:19 EDT 1995     Verifying Configuring "HUBwatch for Digital UNIX Version 4.1" (HBWTCH410)     Installation Configuration for (HBWTCH410) HUBwatch for Digital UNIX Version 4.1 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 NetView for Digital UNIX Version 2.1 (y/n):</pre>

## Installing HUBwatch for Digital UNIX from a Remote Installation Server

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Step	Action
6	<p>Do you want to run HUBwatch software as an add-on to a POLYCENTER NetView for Digital UNIX Version 2.1?</p> <ul style="list-style-type: none"><li>• If yes, enter Yes and press Return.</li></ul> <pre>THERE ARE NO MORE QUESTIONS TO ANSWER.</pre> <p>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 (HBWTCH410) HUBwatch for Digital UNIX Version 4.1.</p> <p>The installation and configuration of HUBwatch has completed.</p> <p>Copyright (c) Digital Equipment Corporation, 1995 All Rights Reserved. Unpublished rights reserved under the copyright laws of the United States.</p> <pre>#</pre> <ul style="list-style-type: none"><li>• If no, enter No and press Return.</li></ul> <p><b>Result:</b> The procedure displays the following.</p> <pre>You have chosen NOT to configure your system to run HUBwatch for Digital UNIX Version 4.1 from POLYCENTER Netview for Digital UNIX on this system at this time. When you decide to configure HUBwatch for Digital UNIX Version 4,1 to run from POLYCENTER Netview for Digital UNIX on this system, issue the command:     setld -c HBWTCH410 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 (HBWTCH410) HUBwatch for Digital UNIX Version 4.1. The installation and configuration of HUBwatch has completed. Copyright (c) Digital Equipment Corporation, 1995 All Rights Reserved. Unpublished rights reserved under the copyright laws of the United States.</pre> <pre>#</pre>

## **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 Digital UNIX documentation on system messages, recovery procedures, and the Digital UNIX software installation. See Software Requirements in this chapter for information about system software requirements.

## 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 HBWATCH410
```



## Starting HUBwatch for Digital UNIX as a Standalone Application

### Set the Environment Variables

Before you enter the start command, set the environment variable `HUBWATCH_LIBRARY` to the directory where the `hubwatch_agents` file resides. Use the appropriate set command for your shell. For example, the C shell uses `setenv`, and the Bourne shell uses `set`.

If you plan to perform firmware upgrades of hubs and hub modules using the HUBloader application, other environment variables must be set. HUBloader is part of the HUBwatch kit and requires that the DEChub Consolidated Firmware kit also be installed on your system. You will need to set `HUBWATCH_LOAD` to the directory where the DEChub Consolidated Firmware kit's firmware and `dcfiles.dat` files are located. For example, `/usr/kits/HUBfirmware/firmware` if you take the DEChub Consolidated Firmware kit's installation defaults. Set `HUBWATCH_HUBLOADER` to the directory where you want the HUBloader application to create the `status` message log and the load from `agents list` files. You need write access to this directory.

#### Command Example:

```
# setenv HUBWATCH_LIBRARY /usr/users/xyz
```

#### 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.

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

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## 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 15.20.110.73`

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 SNMP Agents 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

Complete the following steps 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? <ul style="list-style-type: none"><li>• If yes, go to step 2.</li><li>• If no, define the logical name as the correct directory. See the <i>HUBwatch Use</i> book for details.</li></ul>
2	Are you currently using HUBwatch Version 2.0 or earlier? <ul style="list-style-type: none"><li>• If no, go to step 3.</li><li>• If yes, make a backup copy of your Agents file before running HUBwatch Version 4.1. The first time you add or delete an agent in your Agents file, HUBwatch Version 4.1 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.</li></ul>
3	Enter the HUBwatch start command.

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