
Installing HP VEE for HP-UX

— |

| —

— |

| —

Notice

The information contained in this document is subject to change without notice.

Hewlett-Packard Company (HP) shall not be liable for any errors contained in this document. *HP makes no warranties of any kind with regard to this document, whether expressed or implied. HP specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.* HP shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory, in connection with the furnishing of this document or the use of the information in this document.

Warranty Information

A copy of the specific warranty terms applicable to your Hewlett-Packard product can be obtained from your local Sales and Service Office.

Restricted Rights Legend

U. S. Government Restricted Rights. The Software Documentation have been developed entirely at private expense. They are delivered and licensed as *commercial computer software* as defined in DFARS 252.227-7013 (Oct. 1988), DFARS 252.211-7015 (May 1991) or DFARS 252.227-7014 (Jun 1995), as a *commercial item* as defined in FAR 52.101(a), or as *Restricted computer software* as defined in FAR 52.227-19 (Jun 1987) (or any equivalent agency regulation or contract clause), whichever is applicable. You have only those rights provided for such Software and Documentation by the applicable FAR or DFARS clause or the HP standard software agreement for the product involved.

Printing History

Edition 1 - March 1997

Copyright © 1997 Hewlett-Packard Company. All Rights Reserved.

This document contains information which is protected by copyright. All rights are reserved. Reproduction, adaptation, or translation without prior written permission is prohibited, except as allowed under the copyright laws.

Microsoft[®], MS-DOS[®], Windows[®], and MS Windows[®] are U.S. registered trademarks of Microsoft Corporation. Windows NT[®] is a U.S. trademark of Microsoft Corporation.

UNIX[®] is a registered trademark in the United States and other countries, licensed exclusively through X/Open Company Limited.

About this Manual

This manual explains how to install HP VEE on an Series 700 HP-UX system. The applicable versions of HP-UX are 9.x, 10.01, and 10.20. The manual assumes you are familiar with HP-UX. No attempt is made to provide system administration information for HP-UX.

Typographical Conventions Used in this Manual

Example	Represents
<i>HP VEE Advanced Programming Techniques</i>	Italicized words are used for book titles and for emphasis.
File	Computer font represents text you will see on the screen, including menu names, features, buttons, toolbar button names, or text you have to enter.
dir <i>filename</i>	In this context, the word in computer font represents text you type exactly as shown, and the italicized word represents an argument that you must replace with an actual value.
File \Rightarrow Open	The " \Rightarrow " is used in a shorthand notation to show the location of HP VEE features in the menus. For example, " File \Rightarrow Open " means to select the File menu and then select Open .
Flat Sunken Raised	Choices in computer font, separated with a bar (), indicate that you should choose one of the options.
Return	The keycap font graphically represents a key on the keyboard.
Press Ctrl + O	Represents a combination of keys on the keyboard that you should press at the same time.
Dialog Box	Bold font indicates the first instance of a word defined in the glossary.

Contents

1. Installing HP VEE

Orientation	1-3
Version Requirements	1-3
Hardware Requirements	1-4
Additional Software Requirements	1-4
Interface Cards and Instrument I/O	1-5
Versions 9.x and 10.x	1-5
Version 10.x Addition	1-6
An Overview of the Installation	1-6
Impact on Previous Versions of HP VEE	1-7
Installation Commands	1-7
The HP VEE 4.0 Envirnoments	1-8
Installation Media	1-9
Installing HP VEE on HP-UX 9	1-10
Installing from CD-ROM	1-10
Overview	1-10
Installation Steps for CD-ROM	1-11
Installing from DAT Tape	1-12
Installation Steps for DAT Tape	1-12
Installing HP VEE on HP-UX 10	1-14
Installing from CD-ROM	1-14
Overview	1-14
Installation Steps on a Stand-Alone System	1-15
Installation Steps on a Clustered System	1-17

2. After You Have Installed HP VEE

Verifying the Installation	2-3
Where to Go from Here	2-4
Additional Information for Programmers	2-5
About the .veeio File	2-5
Color Planes and HP VEE	2-5
Local-Language Keyboard Support in HP VEE	2-6
Help Viewer	2-6
Environment Variables	2-7
Printing Help Viewer Contents	2-7

Additional Information for Programmers

Index

Installing HP VEE

Installing HP VEE

This chapter explains the requirements for installing HP VEE Version 4.0 (hereafter called HP VEE unless the version designation is required). It also describes the installation procedure according to your type of HP-UX system (for example, a cluster server), your version of HP-UX (for example, version 10.20), and your installation media (for example, a CD-ROM). (Chapter 2 examines things you can do after you perform the installation.)

Orientation

While this manual is rather lengthy, you will not use all of it. The intent was to develop a document that discussed all the scenarios for installing HP VEE. Therefore, you should work through the following sections and specific steps according to your situation, needs, and experience.

Version Requirements

HP VEE runs on all 9.x versions of HP-UX. It also runs on the the 10.01 and 10.20 versions. HP VEE does not run on the 10.00 version, and there is no support for clustered clients on the 10.01 version. The primary difference between the 9.x versions and any 10.xx version is the structure of the file system, and this impacts the HP-UX commands you use to install HP VEE.

NOTE

There were many patches for HP-UX between versions 10.01 and 10.20. If you have questions about patches, call your HP support person. However, no patches are known to affect installing and using HP VEE.

Hardware Requirements

- A Series 700 HP-UX workstation that has an EISA slot.
- 64 MB RAM
- At least 80 MB free space on the hard disk that contains `/usr/lib` on version 9.x or `/opt` on version 10.x.
- At least 20 MB swap space in addition to the swap space required to run other parts of HP-UX; for example, X11 Windows or another application.
- At least a 17-inch display with at least Super VGA capability; for example, 1024x768 resolution. An *equivalent* gray-scale display can be used.
- Install drive. This is probably a CD-ROM drive. (It could be a DAT tape drive if you have the optional DAT tape.)
- An HP LaserJet printer with at least 2 MB RAM is recommended.

Additional Software Requirements

You need to have, or account for, the following software:

- You need one of the following:
 - X11 Windows (may ship with your HP-UX product).
 - HP VUE (optional) (may ship with your HP-UX product).
- To do instrument I/O, you must install the HP I/O Libraries. This installation is done separately from this installation. It can be done before or after this installation. (See the *Installing the HP I/O Libraries* manual.)

Interface Cards and Instrument I/O

HP VEE supports many interface cards that let you perform instrument I/O. The number and type of cards can change over time. For complete information, contact your HP sales office to obtain a recent list of supported cards. With this in mind, HP VEE is known to support the following interface cards.

Versions 9.x and 10.x

HP VEE internal I/O supports the following interfaces using HP Instrument Drivers and Direct I/O:

- HP E2070 HP-IB Interface for Series 700 Computers
- HP E2071 High Speed HP-IB Interface for Series 700 Computers
- HP Model 745i, or V743 Built-in HP-IB Port
- HP E2074 GPIO Interface for Series 700 Computers
- HP Model V743 VXIbus
- HP E1489 MXI Interface for the Series 700 Computers
- HP Series 700 Built-in RS-232 Interface
- HP Interpreted SCPI (**iscpi**) Interface for Series 700
- HP Series 700 Built-in LAN interface or add-on LAN card

Version 10.x Addition

HP VEE supports the following interfaces using *VXIplug&play* Drivers:

- HP E2070 HP-IB Interface for Series 700 Computers
- HP E2071 High Speed HP-IB Interface for Series 700 Computers
- HP Model 745i, or V743 Built-in HP-IB Port
- HP Model V743 VXIbus
- HP E1489 MXI Interface for the Series 700 Computers
- HP Series 700 Built-in LAN interface or add-on LAN card

NOTE

HP VEE does *not* support the GPIO or RS-232 interfaces for *VXIplug&play* on HP-UX 10.x.

An Overview of the Installation

You must be the *root* user to install HP VEE. Stated differently, you must have *superuser* or *system administration* privileges. Performing an installation requires knowledge of system administration. If you have no system administration experience, HP recommends you have a qualified person perform the installation. As well, if your HP-UX system is a client in a diskless cluster, the system administrator for the cluster must install HP VEE and make HP VEE available on your system.

Impact on Previous Versions of HP VEE

If your system has HP VEE 3.2, or an earlier version, installing HP VEE 4.0 replaces your old HP VEE executable file, examples, and such. Your **veeio** and **veerc** files are retained.

To keep a previous version of HP VEE, move the directories in and below **/usr/lib/veetest**(for versions 9.x) or **/opt/veetest**(for versions 10.x) to another location. After you install HP VEE 4.0, to run the previous version, use the **-d** command-line option to specify the location of the old (renamed) directory.

Installation Commands

9.x Systems	Use the /etc/update program to install HP VEE. If you need detailed information on the /etc/update program, refer to the <i>HP-UX System Administration Tasks</i> manual.
10.01 and 10.20 Systems	Use the swinstall program to install HP VEE on stand-alone systems, and use the swcluster program to install HP VEE on clustered systems (the latter requires version 10.20). If you need information on the swinstall or swcluster programs, refer to the <i>HP-UX System Administration Tasks</i> manual.

The HP VEE 4.0 Envirnoments

The HP VEE product, regardless of type of media, contains the HP VEE development environment and the HP VEE run-time environment (called *HP VEE RunTime*). Installing the development environment gives you all HP VEE functionality, including the run-time environment. After you develop HP VEE programs, and you want to use those programs on other HP-UX systems, you need to install the run-time environment on those systems.

The steps presented later for installing HP VEE mention both commands (installing the development environment or installing the run-time environment). You simply install the environment you need. The license for the installing the run-time environment is unrestricted.

NOTE

Do not install the development environment on an HP-UX system and then subsequently install the run-time environment on that system. Install the run-time environment only on those systems that will run fully developed and operating HP VEE programs. The run-time environment has very limited functionality.

NOTE

The media you obtained has the HP VEE development and run-time environments. You also received media containing the HP I/O Libraries, which you install via a separate process (refer to the *Installing the HP I/O Libraries for HP VEE for HP-UX* for further information about the libraries). Make sure you install the Version 4.0 environments and libraries. You cannot use the HP I/O Libraries for a previous version of HP VEE with the 4.0 version.

Installation Media

You will probably have a CD-ROM. (You could have an optional DAT tape.) This manual accounts for both versions of HP-UX and both types of media via separate sections. Depending on your version and media, look for the following sections:

- Installing HP VEE on HP-UX 9, Installing from CD-ROM.
- Installing HP VEE on HP-UX 9, Installing from DAT.
- Installing HP VEE on HP-UX 10, Installing on a Stand-Alone System (can be via CD-ROM or DAT tape).
- Installing HP VEE on HP-UX 10, Installing on a Clustered System (can be via CD-ROM or DAT tape).

With this in mind, move on to the appropriate section.

Installing HP VEE on HP-UX 9

Use this section if you have Version 9.x of HP-UX. Skip ahead to the appropriate type of media.

Installing from CD-ROM

Overview

The HP VEE installation CD-ROM contains a mountable file system. The HP-UX **update** program expects the CD-ROM to be mounted on your file system. Your system must meet the following prerequisites before you mount the CD-ROM on your file system:

- The **cdfs** subsystem must be in your kernel. Use the HP-UX **SAM** program to verify the **cdfs** subsystem is in your kernel. If it isn't, use **SAM** to add it.
- There must be an empty directory to use as a mount point. This example procedure assumes a directory called **/cdrom**. Your mount directory can have a different name. If needed, you can create this directory with the following command:

```
mkdir /cdrom
```
- There must be a block-mode device special file on your system for the CD-ROM drive. This special file may already exist in the **/dev/dsk** directory. If you do not find it there, you can create one with the **mknod** command. When using the **mknod** command you must supply a major number. Use **7** for a SCSI CD-ROM drive. The following procedure assumes a block-mode device special file name of **/dev/dsk/cdrom**. Your special file can have a different name.

For further information about the HP-UX **update** program, refer to the *Installing and Updating HP-UX* manual.

Installation Steps for
CD-ROM

1. Insert the CD-ROM in your CD-ROM drive.
2. Log in as superuser (**root**).
3. Mount the CD-ROM. For example:

```
/etc/mount /dev/dsk/cdrom /cdrom -t cdfs
```

4. Run the **update** program either interactively or non-interactively:
 - To install HP VEE interactively, execute the following command:

```
/etc/update
```

Then answer the **update** prompts as follows:

- a. Select: **Change Source or Destination ->**
- b. Select: **From Tape Device to Local System ...** (*yes, even for CD-ROM*)
- c. Enter the file name for the update image in the **Source** field as follows:
 - i. For the development environment, enter:

```
/cdrom/HP-UX9/veetest.s700.updt
```

- ii. For the run-time environment, enter:

```
/cdrom/HP-UX9/veerun.s700.updt
```

- d. Press the **Done** softkey: **(f4)**
- e. Select: **Select All Filesets on the Source Media ->**
- f. Select: **Start Loading Now ...**
- g. Answer **(Y)** when asked to confirm.

The **update** program will tell you when it is done. It will take 5-10 minutes. Then go to Step 5.

- To install HP VEE non-interactively, execute one of the following commands:
 - a. For the development environment, enter:

```
/etc/update -s /cdrom/HP-UX9/veetest.s700.updt VEETEST
```

b. For the run-time environment, enter:

```
/etc/update -s /cdrom/HP-UX9/veerun.s700.updt VEERUN
```

The **update** program will tell you when it is done. It will take 5-10 minutes. Then go to Step 5.

5. Review the update log file for any error or warning messages by executing the following command:

```
view /tmp/update.log
```

6. Unmount the CD-ROM. For example:

```
/etc/umount /cdrom
```

Once you have completed the HP VEE software installation, you may run HP VEE. The next chapter has some information about this.

Installing from DAT Tape

Installation Steps for DAT Tape

1. Insert the HP VEE installation tape into the drive. *Wait for the busy light to stop flashing.*
2. Log in as superuser (**root**) on either a cluster server or a stand-alone system. Note that you cannot install HP VEE from a diskless node.
3. Run the **update** program interactively or non-interactively:
 - To install HP VEE interactively, execute the following command:

```
/etc/update
```

Then answer the **update** prompts as follows:

- a. If your source device is not **/dev/update.src**:
 - i. Select: **Change Source or Destination ->**
 - ii. Select: **From Tape Device to Local System...**

- iii. Enter the device file for your tape drive, and then press the **Done** softkey: **(F4)**.

(Refer to your *HP-UX System Administration Tasks* manual for help with creating device files.)

- b. Select: **Select All Filesets on the Source Media ->**
- c. Select: **Start Loading Now ...**
- d. Answer **(Y)** when asked to confirm.

The **update** program will tell you when it is done. It may take up to 10 minutes. Then go to step 4.

- To install HP VEE non-interactively, execute one of the following commands:
 - a. Install the development environment:

```
/etc/update -s source_device VEETEST
```

- b. Install the run-time environment:

```
/etc/update -s source_device VEERUN
```

The **update** program will tell you when it is done. It will take about 5-10 minutes. Then go to step 4.

4. Review the update log file for any error or warning messages by executing the following command:

```
view /tmp/update.log
```

5. Remove the installation tape from the drive.

Once you have completed the HP VEE software installation, you may run HP VEE. The next chapter has some information about this.

Installing HP VEE on HP-UX 10

Use this section if you have Version 10.01 or 10.20 of HP-UX.

Installing from CD-ROM

Overview

The HP VEE installation CD-ROM contains a mountable file system. The HP-UX 10 installation programs expect the CD-ROM to be mounted on your file system. Your system must meet the following prerequisites before you mount the CD-ROM on your file system:

- The **cdfs** subsystem must be in your kernel. Use the HP-UX **SAM** program to verify the **cdfs** subsystem is in your kernel. If it isn't, use **SAM** to add it.
- There must be an empty directory to use as a mount point. This example procedure assumes a directory called **/cdrom**. Your mount directory can have a different name. If needed, you can create this directory with the following command:

```
mkdir /cdrom
```

- There must be a block-mode device special file on your system for the CD-ROM drive. This special file may already exist in the **/dev/dsk** directory. If you do not find it there, you can create one with the **mknod** command. When using the **mknod** command you must supply a major number. Use **7** for a SCSI CD-ROM drive. The following procedure assumes a block-mode device special file name of **/dev/dsk/cdrom**. Your special file can have a different name.

If you are installing HP VEE on a standalone system, use the **swinstall** program (next section). If you are installing HP VEE on a clustered system, use the **swcluster** program (follows the next section.) For further information about the HP-UX installation utilities, refer to the *HP-UX System Administration Tasks* manual.

Installation Steps on a
Stand-Alone System

To install HP VEE on a stand-alone system:

1. Insert the CD-ROM in your CD-ROM drive.
2. Log in as superuser (**root**).
3. Mount the CD-ROM. For example:

```
/etc/mount /dev/dsk/cdrom /cdrom -t cdfs
```

Go to Step 4 to install the software interactively. Go to Step 5 to install the software non-interactively.

4. To install the software interactively:
 - a. Execute the following command:

```
swinstall
```

- b. The **Specify Source** dialog box appears.

In the **Source Depot Path ...** field, enter one of the following:

- i. Install the development environment:

```
/cdrom/HP-UX10/veetest.s700.depot
```

- ii. Install the run-time environment:

```
/cdrom/HP-UX10/veerun.s700.depot
```

then click on **OK**.

- c. The **SD Install-Software Selection** dialog box appears listing the product bundle (check this against your media package; for example, **E2111D**).
 - i. Click on the product name in the list field to highlight the bundle.
 - ii. Click on **Actions** \Rightarrow **Mark For Install** to select the HP VEE bundle for installation.
 - iii. Click on **Actions** \Rightarrow **Install (analysis) ...** to begin the analysis process.

- iv. The **Install Analysis** dialog box appears. The analysis ensures the process will be successful. The analysis status reads **Ready** if there are no problems. If the analysis fails, click on the **Logfile** button for information.
 - v. When the analysis status reads **Ready**, click on **OK** to start the installation.
 - d. The **Install Window** dialog box appears indicating the installation status. The HP VEE software is installed when the **Complete** field displays **100%**. This will take about 5-10 minutes.
 - i. If the program prompts you about problems, click on the **Logfile** button for information.
 - ii. Click on **Done** to return to the **SD Install-Software Selection** dialog box.
 - e. Click on **File** \Rightarrow **Exit**.
 - f. Go to Step 6.
5. To install the software non-interactively:
- a. Execute one of the following commands:
 - i. Install the development environment:

```
swinstall -s /cdrom/HP-UX10/veetest.s700.depot VEETEST
```

- ii. Install the run-time environment:

```
swinstall -s /cdrom/HP-UX10/veerun.s700.depot VEERUN
```

- b. The **swinstall** program tells you when it's done. Installation takes about 5-10 minutes.
- c. To check for errors or warnings that might have occurred during installation, you can review the logfile using the following command:

```
view /var/adm/sw/swagent.log
```
- d. Go to Step 6.

6. Unmount the CD-ROM. For example:

```
/etc/umount /cdrom
```

Once you have completed the HP VEE software installation, you may run HP VEE. The next chapter has some information about this.

Installation Steps on a
Clustered System

1. Insert the CD-ROM in your CD-ROM drive.
2. Log in as superuser (**root**).
3. Mount the CD-ROM. For example:

```
/etc/mount /dev/dsk/cdrom /cdrom -t cdfs
```

4. Run the **swcluster** program using verbose mode:

```
swcluster -i -vvv
```

5. The **Select Alternate Root Path** dialog box appears. Click on **OK** to accept the current entries.
6. The **Specify Source** dialog box appears.
 - a. In the **Source Depot Path ...** field, enter

```
/cdrom/HP-UX10/veetest.s700.depot
```

- b. Click on **OK**.
7. The **SD Install-Software Selection** dialog box appears listing the product bundle (check this against your media package; for example, E2111D).
 - a. Click on the product name in the list field to highlight the bundle.
 - b. Click on **Actions** \Rightarrow **Mark For Install** to select the HP VEE bundle for installation.
 - c. Click on **Actions** \Rightarrow **Install (analysis) ...** to begin the analysis process.
8. The **Install Analysis** dialog box appears. The analysis ensures the process will be successful. The analysis status reads **Ready** if there are no problems. If the analysis fails, click on the **Logfile** button for information.

- a. When the analysis status reads **Ready**, click on **OK** to start the installation.
- b. A **Confirmation** dialog box appears. Click on **Yes** to start the installation.

Now, the windows that were opened while running **swcluster** will close and further processing will occur with log messages going to the terminal window from which you started **swcluster**. Installation time varies depending on the number of clients on the cluster. This is typically 15-20 minutes.

9. To review the logfile for error or warning messages that might have occurred during installation, execute the following command:

```
view /var/adm/sw/swagent.log
```

10. Unmount the CD-ROM. For example:

```
/etc/umount /cdrom
```

Once you have completed the HP VEE software installation, you may run HP VEE. The next chapter has some information about this.

After You Have Installed HP VEE

After You Have Installed HP VEE

Once you have finished installing HP VEE, verify the installation and perform other tasks as they pertain to your system and situation.

Verifying the Installation

Start HP VEE as follows:

1. Log onto HP-UX, and start X11 (or HP VUE) if they are not already running.
2. At the prompt in an active X11 or HP VUE window, type:

veetest

If you move HP VEE to a non-default directory, you must start HP VEE using the command **veetest -d /MySpecialDir**.

Shortly, you'll see the HP VEE window.

The *Getting Started with HP VEE* manual, which shipped with your product, has a complete description of the HP VEE window, the parts of the window, how to start and stop HP VEE, and how to develop simple HP VEE programs. If you are unfamiliar with HP VEE, you should begin with this manual.

To exit HP VEE, click on **File**, then click on **Exit** in the resulting pull-down menu. The HP VEE window disappears.

Where to Go from Here

Once you have installed HP VEE, you can get information as follows. Be aware that much of the information is online. Again, the *Getting Started with HP VEE* manual has a complete description of how to get additional information.

- A foldout that came with your product describes *What's New in HP VEE 4.0*.
- The back covers of manuals contain a guide to using the HP VEE window.
- How to use HP VEE is described in the online help for HP VEE:
 - Click on **Help**.
 - Select **Contents** and click.
 - You get a list of help areas; for example, **How Do I ...**, **Tell Me About ...**, and **Reference**. Double-click on an area to get more information or topics.
- The *HP VEE Advanced Programming Techniques* manual has information as per title.
- The *Controlling Instruments with HP VEE* manual explains how to make HP VEE interact with instruments.

Additional Information for Programmers

The following sections provide information of interest to HP VEE programmers.

About the .veeio File

HP VEE contains a file called `/usr/lib/veetest/config/d.veeio` on HP-UX 9, and `/opt/veetest/config/d.veeio` on HP-UX 10. This ASCII file contains some example configuration information (for example, hardware type and addresses) for communicating with external instruments. As shipped, it contains several entries that are used to run some of the programs in the **examples** directory.

The first time each user runs HP VEE, HP VEE automatically copies the `d.veeio` file to that user's `$HOME` directory as `.veeio`. There is nothing that you, the system administrator, need to do to configure the `.veeio` file. Users will add to this file as they configure additional drivers.

Color Planes and HP VEE

Your computer is equipped with a certain number of display planes (usually 1, 4, 6, or 8). X11 uses the information in these display planes to color your application's window. If you have more than one application running (each in its own window), and you notice the screen colors changing as you move from one application's window to another, then one of two things may be happening. Either all the applications, together, use more colors than one set of planes can handle, or one or more of the applications allocates its own private color map (for example, HP BASIC/UX).

After You Have Installed HP VEE

Additional Information for Programmers

HP VEE uses at least 100 colors (this varies depending which colors your program actually uses), so you may experience this behavior when HP VEE is one of your applications. The symptoms are: when you are in the HP VEE window, the HP VEE colors will be correct for HP VEE, but may be wrong in other application's windows. When you move to another application's window, the colors will be correct for that application, but may be wrong for HP VEE. *This is typical X11 behavior—it is not a problem with HP VEE.*

For further information, refer to the “Configuring HP VEE” appendix in *HP VEE Advanced Programming Techniques* manual.

Local-Language Keyboard Support in HP VEE

You can configure HP VEE to accept input from local-language keyboards and to display most local-language characters. *If your users will run HP VEE on a system that has a non-USASCII keyboard, you must configure HP VEE to support the local language keyboard before your users use HP VEE.* Please refer to the “Configuring HP VEE” appendix in *HP VEE Advanced Programming Techniques*. This appendix includes information on supported keyboards and how to configure HP VEE for those keyboards.

Help Viewer

The Help viewer used for this version of HP VEE affects how certain environment variables are set. It also affects the printer configuration for printing Help information.

Environment Variables

Specific environment variables are set when you run HP VEE so the Help viewer will run correctly on your system. HP VEE sets the value for the **HHHOME** environment variable to the default installation directory. There is no environment variable that you can set that lets you find the Help viewer if you move HP VEE to a non-default directory.

If you move HP VEE to a non-default directory, you must start HP VEE with the command **veetest -d /mySpecialDir**.

The following table lists the variables set for the Help viewer and their values:

Environment Variable	Value	Used For
HHHOME	~installDir (default directory is /opt/veetest in HP-UX 10, /usr/lib/veetest in HP-UX 9)	This directory contains the Help viewer executable, the HP VEE online help file, and the "How to Use Help" file.
XPPATH	~installDir/xprinter (default directory is /opt/veetest in HP-UX 10, /usr/lib/veetest in HP-UX 9)	The Help viewer looks here to find the configuration files it uses when you use the Help viewer's File ⇒ Print command.

Printing Help Viewer Contents

To print HP VEE Help viewer contents to a printer, you must first configure the printer. The following procedure creates a **.Xpdefaults** file in your home directory so that you only need to configure a printer once. It is vital that you click on **Save** before and after configuring your new printer as stated in the procedure.

1. If the Help window is not open, click on **Help ⇒ Contents** in HP VEE.
2. In the Help window, click on **File ⇒ Printer Setup** and immediately click on **Save**.
3. Change the **Output to** box to **Printer**.
4. Click on **Install** and then click on **Add Printer**.
5. Highlight the desired printer and click on **Define New Port**.
6. Select the port, or click on **Spooler** to add a new port. Click on **Dismiss** when you are done.

After You Have Installed HP VEE

Additional Information for Programmers

7. Highlight the desired port and click on **Add Selected**.
8. Click on **Dismiss** until you exit.
9. Click on **Options** to change printers.
10. Click on **Save** to update the **.Xpdefaults** file with your changes.
11. Click on **Apply** to have your changes take immediate effect and close the dialog box.

The printer is now configured.