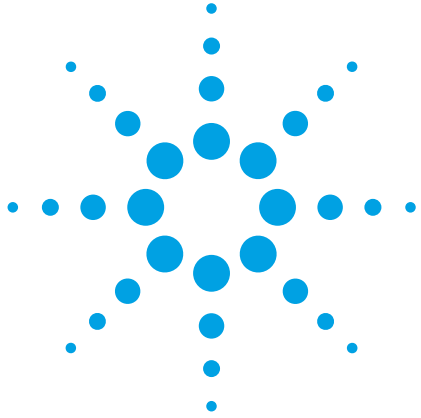
Agilent E2111G
VEE Pro 6.0 for HP-UX



Installing Guide

Agilent Technologies

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About this Manual

This manual explains how to install Agilent VEE on an HP Series 700 HP-UX system, version 10.20. The manual assumes you are familiar with HP-UX. System administration information for HP-UX is not provided.

This manual uses the following typographical conventions:

Getting Started	Italicized text is used for book titles and for emphasis.
`File`	Computer font represents text that you will see on the screen, including menu names, features, buttons, or text that you have to enter.
`dir` *`filename`*	In this context, the text in computer font represents an argument that you type exactly as shown, and the italicized text represents an argument that you must replace with an actual value.
`File` ⇒ `Open`	The "⇒" is used in a shorthand notation to show the location of VEE features in the menu. For example, "`File` ⇒ `Open`" means to select the `File` menu and then select `Open`.
`Sml | Med | Lrg`	Choices in computer font, separated with bars (`|`), indicate that you should choose one of the options.
Press **Enter**	In this context, bold represents a key to press on the keyboard.
Press **Ctrl + O**	Represents a combination of keys on the keyboard that you should press at the same time.

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Installing VEE

Installing VEE

This chapter explains system requirements and installation procedures to install VEE Pro version 6.0 in an HP-UX system, version 10.20. It describes installation steps to install VEE on a stand-alone system or on a clustered system. The information in this manual assumes you are familiar with HP-UX. System administration information for HP-UX is not provided. This chapter includes:

- System Requirements
- Installation Overview
- Installing VEE 6.0

System Requirements

This section describes system requirements for installing VEE Pro 6.0 on HP-UX, including:

- Version Requirements
- Hardware Requirements
- Additional Software Requirements
- Interface Cards and Instrument I/O

Version Requirements

VEE 6.0 runs on version 10.20 of HP-UX. VEE 6.0 does not run on the 10.0x or 11.x HP-UX versions.

NOTE

There are many patches for HP-UX for version 10.20. If you have questions about patches, call Hewlett-Packard. However, no patches are known to affect installing and using VEE Pro.

Hardware Requirements

- A Series 700 HP-UX workstation with a CD-ROM drive and 64 MB RAM.
- At least 80 MB free space on the hard disk that contains the `/opt` directory.
- At least 20 MB swap space in addition to the swap space required to run other parts of HP-UX (e.g., X Windows and other applications).
- At least a 17-inch display with at least SVGA capability (e.g., 1024 x 768 resolution). An *equivalent* gray-scale display can be used.

Additional Software Requirements

- X11 Windows (may ship with HP-UX product).
- HP VUE or HP CDE (optional) (may ship with HP-UX product).
- For instrument I/O, the Agilent I/O Libraries must be installed.

NOTE

The Agilent I/O Libraries installation is done separately from the VEE installation and can be done before or after VEE installation. Follow the instructions in the *Agilent I/O Libraries Installation Guide*. (**Note:** The I/O Libraries book is part of several products. It may mention books and features that are not in the VEE product. Please ignore any irrelevant references.)

Interface Cards and Instrument I/O

Panel Drivers and Direct I/O

VEE internal I/O supports these interfaces with Panel Drivers or Direct I/O:

- E2070C GPIB interface for Series 700 computers
- E2071C High Speed GPIB interface for Series 700 computers
- E2078A High-Performance GPIB interface for HP-UX 10.20
- HP Model 745i, or V743 built-in GPIB port
- E2074 GPIO interface for Series 700 computers
- HP Model V743 VXIbus
- E1489 MXI interface for Series 700 computers
- HP Series 700 built-in RS-232 interface
- Interpreted SCPI (I-SCPI) interface for Series 700 computers
- HP Series 700 Built-in LAN interface or add-on LAN card

VXIplug&play Drivers

VEE supports these interfaces using VXI*plug&play* Drivers:

- E2070C GPIB interface for Series 700 computers
- E2071C High Speed GPIB interface for Series 700 computers
- E2078A High-Performance GPIB interface for HP-UX 10.20
- HP Model 745i, or V743 built-in GPIB port
- HP Model V743 VXIbus
- E1489 MXI interface for Series 700 computers
- HP Series 700 built-in LAN interface or add-on LAN card

Installation Overview

This section summarizes procedures to install VEE 6.0 on HP-UX, including:

- System Administrator Privileges
- Saving/Running Previous Versions of VEE
- Installation Commands
- VEE 6.0 Environments

System Administrator Privileges

To install VEE, you must be the `root` user and have *superuser* or *system administrator* privileges. If you do not have system administrator privileges, Agilent recommends you have a qualified person perform the installation. If your HP-UX system is a client in a diskless cluster, the system administrator for the cluster must install VEE and make VEE available on your system.

Saving/Running Previous Versions of VEE

If your system has an earlier version of VEE, installing VEE 6.0 replaces old VEE executable file, examples, etc. However, `veeio` and `veerc` files are retained.

To save a previous version of VEE, move the directories in and below `/opt/veetest` to another location. After you install VEE 6.0, to run the previous version, use the `-d` command-line option to specify the location of the old (renamed) directory.

Installation Commands

Use the `swinstall` program to install VEE on stand-alone systems and use the `swcluster` program to install VEE on clustered systems. For information on the `swinstall` or `swcluster` programs, see *the HP-UX System Administration Tasks* manual.

VEE 6.0 Environments

The VEE 6.0 product includes the VEE development environment and the VEE run-time environment (*VEE Pro RunTime*). Installing the development environment provides all VEE 6.0 functionality, including the run-time environment. After you develop VEE programs, to run the programs on other HP-UX systems you must first install the run-time environment on these systems.

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, operational VEE programs. The run-time environment has limited functionality.

NOTE The media you received includes both development and run-time environments. You also received media containing the Agilent I/O Libraries, which you must install via a separate process. Be sure you install the appropriate VEE 6.0 environments and I/O Libraries. Do not use the I/O Libraries for a previous version of VEE with VEE 6.0.

Installing VEE Pro 6.0 on HP-UX

This section shows how to install VEE Pro 6.0 on HP-UX stand-alone or clustered systems.

Installation Prerequisites

The VEE 6.0 installation CD contains a mountable file system. The HP-UX installation programs expect the CD to be mounted on your file system. Your system must meet the following prerequisites before you can mount the CD 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 is not, 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 `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 VEE 6.0 on a stand-alone system, use the `swinstall` program (see "Installation Steps for a Stand-Alone System"). If you are installing VEE 6.0 on a clustered system, use the `swcluster` program (see "Installation Steps for a Clustered System"). For information about HP-UX installation utilities, see the *HP-UX System Administration Tasks* manual.

Installation Steps for a Stand-Alone System

To install VEE 6.0 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
   ```

4. Go to "Installing the Software Interactively" to install the software interactively. Go to "Installing the Software Non-Interactively" to install the software non-interactively.

Installing the Software Interactively

To install the software interactively:

1. Execute `swinstall`.
2. The `Specify Source` dialog box appears. In the `Source Depot Path...` field, enter *one* of the following:
   - `/cdrom/veetest.s700.depot` to install the **development environment.**
   - `/cdrom/veerun.s700.depot` to install the **run-time environment.**
3. Click `OK`.
4. The `SD Install-Software Selection` dialog box appears listing the product bundle (check this against your media package).
   a. Click the product name in the list field to highlight the bundle.
   b. Click `Actions` ⇒ `Mark For Install` to select the VEE bundle for installation.
   c. Click `Actions` ⇒ `Install (analysis)...` to begin the analysis process.

d. 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 the `Logfile` button for information.

e. When the analysis status reads `Ready`, click `OK` to start the installation.

5. The `Install Window` dialog box appears indicating the installation status. The VEE software is installed when the `Complete` field displays `100%`. (This takes about 5-10 minutes.) If the program prompts you about problems, click the `Logfile` button for information.

   a. Click `Done` to return to the `SD Install-Software Selection` dialog box.

   b. Click `File` ⇒ `Exit`.

   c. Unmount the CD-ROM (e.g., `/etc/umount /cdrom`).

NOTE This completes the installation steps for interactive software installation on a stand-alone system. See *Chapter 2 - After You Have Installed VEE* for information on running VEE 6.0.

Installing the Software Non-Interactively

To install the software non-interactively:

1. Execute *one* of the following commands:
   - `swinstall -s /cdrom/veetest.s700.depot VEETEST` to install the **development environment.**
   - `swinstall -s /cdrom/veerun.s700.depot VEERUN` to install the **run-time environment.**
2. Click `OK`.
3. The `swinstall` program tells you when it is done. Installation takes about 5-10 minutes. To check for errors or warnings that might have occurred during installation, you can review the log file using `view /var/adm/sw/swagent.log`.
4. Unmount the CD-ROM (e.g., `/etc/umount /cdrom`).

NOTE

This completes the installation steps for non-interactive software installation on a stand-alone system. See *Chapter 2 - After You Have Installed VEE* for information on running VEE 6.0.

Installation Steps for a Clustered System

1. Insert the CD 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 `OK` to accept the current entries.
6. The `Specify Source` dialog box appears.
   a. In the `Source Depot Path...` field, enter:

      ```
      /cdrom/veetest.s700.depot
      ```

   b. Click `OK`.
7. The `SD Install-Software Selection` dialog box appears listing the product bundle (check this against your media package).
   a. Click the product name in the list field to highlight the bundle.
   b. Click `Actions` ⇒ `Mark For Install` to select the VEE bundle for installation.
   c. Click `Actions` ⇒ `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 the `Logfile` button for information.

   a. When the analysis status reads `Ready`, click `OK` to start the installation.

   b. A `Confirmation` dialog box appears. Click `Yes` to start the installation.

      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 log file for error or warning messages that might have occurred during installation, execute:

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

10. Unmount the CD-ROM. For example:

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

NOTE This completes the installation steps for software installation on a clustered system. See *Chapter 2 - After You Have Installed VEE* for information on running VEE 6.0.

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After You Have Installed VEE

After You Have Installed VEE

When you have installed VEE, you can verify the installation and perform other tasks as required. This chapter gives guidelines for installation verification and other tasks, including:

- Verifying the Installation
- Installing in a Different Directory
- Where to go From Here
- Additional Information for Programmers

Verifying the Installation

To verify the VEE 6.0 installation:

1. Log onto HP-UX and start X11, HP CDE, or HP VUE, if it is not already running.

2. At the prompt in an active window, type `veetest` to cause the VEE window to appear.

NOTE If you move VEE to a non-default directory, you must start VEE using `veetest -d /MySpecialDir`.

NOTE The *VEE Pro User's Guide* includes a complete description of the VEE window, the parts of the window, how to start and stop VEE, and how to develop simple VEE programs. If you are not familiar with VEE, you can use this guide to get started.

3. To exit VEE, click `File` and then click `Exit` in the resulting pull-down menu.

Installing in a Different Directory

The swinstall process puts the VEE development environment files in the `/opt/veetest` directory. You are not prompted for any alternate installation directory. In rare cases, you might want to store the VEE files on a different disk. The recommended procedure for using a different installation directory is:

1. Install VEE in the default location. (`/opt/veetest`)
2. Move VEE's entire directory hierarchy to the desired location. For example:

```
mv /opt/veetest/* /MySpecialDir
rm /opt/veetest
```

3. Make a symbolic link from the default location to the new location. For example:

```
ln -s /MySpecialDir /opt/veetest
```

If you do not create a symbolic link to `/opt/veetest`, or if you rename the `/opt/veetest` directory, then:

- You will need to use the `-d` option when you run VEE. For example:

```
veetest -d /MySpecialDir
```

- To access the VEE example programs, you will need to use `Help` ⇒ `Open Example...` from the VEE menu. The "Open Program in VEE Window" buttons ("Guide to Examples" Help topic) will not work.

(These instructions show the "`veetest`" directory. The same procedure applies to the "`veerun`" directory, with the appropriate name change.)

Where to Go from Here

Once you have installed VEE, you can get information about VEE from the following sources:

- Descriptions about what is new in VEE 6.0 and how to use VEE 6.0 are also located in the online help. To access this help:
  - In the VEE menu bar, click `Help`.
  - Click `Contents and Index` to display a lists of help topics such as `What's New in VEE`, `How Do I...`, `Tell Me About...`, and `Reference`.
  - Double-click a topic to get more information and/or topics.
- The back covers of manuals contain a guide to using shortcuts in the VEE window.
- The *VEE Pro User's Guide* is the primary learning tools for all VEE programmers.
- The *VEE Pro Advanced Techniques* manual includes advanced programming information.

Additional Information for Programmers

This section provides additional information for VEE programmers, including:

- Color Planes and VEE
- Local-Language Keyboard Support in VEE
- Help Viewer

Color Planes and 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, 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, Rocky Mountain Basic).

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

For further information, see the *VEE Pro Advanced Techniques* manual.

Local-Language Keyboard Support in VEE

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

Help Viewer

X Resources

The appearance of the Help viewer can be controlled by an X resource file. If you want to alter colors, label text, or certain viewer behaviors, you can edit the X resource file and tell the viewer to use that edited file.

The default resource file is `/opt/veetest/config/HyperHelp`. This file contains a long list of properties and their values. For example, the property which controls the color of hyperlinks is:

```
HyperHelp*LinkColor:  forestgreen
```

If you wanted maroon text to indicate jumps, simply change the word "`forestgreen`" to the word "`maroon`" and resave the file.

If the system administrator gives you the necessary permissions, you can edit this X resource file in its default location. Alternately, you can copy the file to a writable location, such as your home directory.

To connect this X resource file to the Help viewer, you must set the `XAPPLRESDIR` variable in your environment. This variable should specify the full path to the directory containing your X resource file. For example, include the following line in your `.profile` file:

```
export XAPPLRESDIR=/opt/veetest/config
```

Environment Variables

Specific environment variables are set when you run VEE so the Help viewer will run correctly on your system. VEE sets the value for the `HHHOME` environment variable to the default installation directory.

NOTE

If you move VEE to a non-default directory, you must start VEE with `veetest -d /mySpecialDir`.

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

Table 1:

Environment Variable	Value	Used For
`HHHOME`	`~installDir` (default directory is `/opt/veetest`)	This directory contains the Help viewer program, and the VEE Help file.
`XPPATH`	`~installDir/xprinter` (default directory is `/opt/veetest`)	This directory contains the configuration files for the Help viewer's `File` ⇒ `Print` command.

Printing Help Viewer Contents

To print 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 you only need to configure a printer once.

NOTE

Be sure you click `Save` before and after configuring your new printer as stated in the procedure.

1. If the Help window is not open, click `Help` ⇒ `Contents and Index` in VEE.
2. In the Help window, click `File` ⇒ `Printer Setup` and immediately click `Save`.
3. Change the `Output Format` box to `Printer Specific`.
4. Click `Install` and then click `Add Printer`.

5. Highlight the desired printer and click `Define New Port`.
6. Select the port or click `Spooler` to add a new port. Click `Dismiss` when you are done.
7. Highlight the desired port and click `Add Selected`.
8. Click `Dismiss` until you exit.
9. Click `Options` to change printers.
10. Click `Save` to update the `.Xpdefaults` file with your changes.
11. Click `Apply` to have your changes take immediate effect and close the dialog box.
12. The printer is now configured.

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