

Installation Guide

Version T-2002.12, December 2002

Version T-2002.09, September 2002

Version 2002.05, June 2002

Version 2002.03, March 2002

Comments?

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Preface

This preface includes the following sections:

- [What's New in This Release](#)
- [About This Guide](#)
- [Customer Support](#)

This guide contains installation instructions for four releases of Synopsys tools—versions T-2002.12, T-2002.09, 2002.05, and 2002.03. The version T-2002.09, 2002.05, and 2002.03 instructions in this guide are also the basis for quality releases. For the latest product-specific installation information for quality releases, see the product release notes.

Important:

Install each version of the software in a new directory. Do not install different versions of Synopsys software in the same directory.

What's New in This Release

For information about new features and changes in specific Synopsys tools, see the individual product documentation. For links to Synopsys documentation, see “Related Publications” in the next section.

About This Guide

The *Installation Guide* provides the basic information and procedures required to install Synopsys tools.

Audience

This guide is written for system administrators responsible for installing Synopsys software tools.

Related Publications

For additional information about Synopsys tools, see

- Synopsys Online Documentation (SOLD), which is included with the software for CD users or is available to download through the Synopsys Electronic Software Transfer (EST) system
- Documentation on the Web, which is available through SolvNet at <http://solvnet.synopsys.com>
- The Synopsys MediaDocs Shop, from which you can order printed copies of Synopsys documents, at <http://mediadocs.synopsys.com>

Conventions

The following conventions are used in Synopsys documentation.

Convention	Description
Courier	Indicates command syntax.
<i>Courier italic</i>	Indicates a user-defined value in Synopsys syntax, such as <i>object_name</i> . (A user-defined value that is not Synopsys syntax, such as a user-defined value in a Verilog or VHDL statement, is indicated by regular text font italic.)
Courier bold	Indicates user input—text you type verbatim—in Synopsys syntax and examples. (User input that is not Synopsys syntax, such as a user name or password you enter in a GUI, is indicated by regular text font bold.)
[]	Denotes optional parameters, such as <i>pin1 [pin2 ... pinN]</i>
	Indicates a choice among alternatives, such as <i>low medium high</i> (This example indicates that you can enter one of three possible values for an option: low, medium, or high.)
_	Connects terms that are read as a single term by the system, such as <i>set_annotated_delay</i>
Control-c	Indicates a keyboard combination, such as holding down the Control key and pressing c.
\	Indicates a continuation of a command line.
/	Indicates levels of directory structure.
Edit > Copy	Indicates a path to a menu command, such as opening the Edit menu and choosing Copy.

Customer Support

Customer support is available through SolvNet online customer support and through contacting the Synopsys Technical Support Center.

Accessing SolvNet

SolvNet includes an electronic knowledge base of technical articles and answers to frequently asked questions about Synopsys tools. SolvNet also gives you access to a wide range of Synopsys online services including software downloads, documentation on the Web, and “Enter a Call to the Support Center.”

To access SolvNet,

1. Go to the SolvNet Web page at <http://solvnet.synopsys.com>.
2. If prompted, enter your user name and password. (If you do not have a Synopsys user name and password, follow the instructions to register with SolvNet.)

If you need help using SolvNet, click SolvNet Help in the Support Resources section.

Contacting the Synopsys Technical Support Center

If you have problems, questions, or suggestions, you can contact the Synopsys Technical Support Center in the following ways:

- Open a call to your local support center from the Web by going to <http://solvnet.synopsys.com> (Synopsys user name and password required), then clicking “Enter a Call to the Support Center.”
- Send an e-mail message to support_center@synopsys.com.
- Telephone your local support center.
 - Call (800) 245-8005 from within the continental United States.
 - Call (650) 584-4200 from Canada.
 - Find other local support center telephone numbers at http://www.synopsys.com/support/support_ctr.

Preface

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1

Preparing for Installation

This chapter provides information about steps to complete before you install Synopsys tools.

The chapter contains the following sections:

- [Checking Your Hardware and Software Configuration](#)
- [Acquiring a License](#)
- [Finding Your Site Identification Number](#)
- [Creating the Synopsys Root Directory](#)
- [Defining the SYNOPSIS Environment Variable](#)

Checking Your Hardware and Software Configuration

You must check your hardware and software configuration (including patch requirements) before you attempt to load any Synopsys tools.

Supported Platforms and Operating Systems

[Table 1-1](#) lists the supported platforms, operating systems, and corresponding Synopsys platform keywords for the T-2002.12, T-2002.09, 2002.05, and 2002.03 releases. Many platforms require operating system (OS) patches, including year 2002 patches. For detailed information, see the Qualified Runtime System Configuration page on the Synopsys Web site. Go to

http://www.synopsys.com/products/sw_platform.html

and click Qualified Runtime System Configuration.

This Web page provides information about supported hardware, operating systems, and required OS patches. If the required patch described in the Qualified Runtime System Configuration is not available from the platform vendor, install the most recent patch instead.

Table 1-1 Supported Platforms, Operating Systems, and Keywords

Platform	Operating system	Synopsys platform keywords	Windows environment
HP	HP-UX 11.0, 11.11 (11i)	hp32 (32-bit mode) hp64 (64-bit mode)	CDE CDE
Sun	Solaris 7, 8	sparcOS5 (32-bit mode) sparc64 (64-bit mode)	CDE
IBM	AIX 4.3.3	rs6000 ¹	CDE
Intel IA-32	Red Hat Linux 6.2, 7.2 ²	linux (32-bit mode)	GNOME

1. Synopsys rs6000-based products are no longer available on CD. They will be available for download by EST at a later date. For availability, check with your Synopsys sales representative.

2. Synopsys Linux-based products are compiled under Red Hat Linux 7.2. Support for Red Hat Linux 6.2 is limited. For details, see [“Support for MainWin GUI Problems on Red Hat Linux 6.2”](#) on page 1-4.

HP-UX Requirements

The HP-UX operating system has the following requirements:

- Local (non-NFS) file systems must be configured for long file names.

See the `/etc/convertfs` man page for details.

- The `chown` privilege must be switched off.

To switch off `chown`, enter

```
% setprivgrp -n chown
```

See the `setprivgrp` man page for details.

IBM AIX 4.3.3 RS/6000 Platform

Beginning September, 2002, the RS/6000-based tools are no longer available on CD. Products that support RS/6000 will be available to download through EST at a later date.

For availability, check with your Synopsys sales representative.

Support for MainWin GUI Problems on Red Hat Linux 6.2

All products are binary compatible with Red Hat Linux 6.2 except the MainWin GUI-based products—BCView, MemWrap, PathMill, PrimePower, TetraMAX, Library Compiler, and Design Vision—which have separately available executable files that provide support for Red Hat Linux 6.2. (For more information on how to obtain these executable files, see SolvNet article 002208, “How to Obtain Red Hat Linux 6.2 GUI Binaries for v2002.05-SP1 and v2002.09.”)

If you want to run PathMill, PrimePower, TetraMAX, or Library Compiler without the GUI, these products are binary compatible with Red Hat Linux 6.2 in shell mode. The special executable files are not necessary.

Red Hat Linux 7.2 Shared Object File Problem

If you receive an error about libncurses.so.4 (cannot open shared object file: no such file or directory) when you run a Synopsys tool on a Red Hat 7.2 platform, install the ncurses4 package. This package is available on the Red Hat CD, or you can download it from the Red Hat FTP server at

`ftp://ftp.redhat.com/pub/redhat/linux/7.2/en/os/i386/RedHat/RPMS/ncurses4-5.0-4.i386.rpm`

64-Bit Mode on HP-UX and Solaris Platforms

The Synopsys tools now support 64-bit operation on HP-UX and Solaris platforms. When you run the tools in 64-bit mode, the upper limit for virtual address space is extended beyond the 4-gigabyte limit imposed by the 32-bit mode, allowing you to process larger designs. With both the 32-bit and 64-bit platforms installed, you have the flexibility to run either 32-bit or 64-bit applications without running out of memory.

You can install the 64-bit version of the Synopsys tools in the same root directory as the 32-bit version or in a separate directory. When both 32-bit and 64-bit `dc_shell` executable files are installed and you specify `dc_shell`, the first executable file in the `PATH` environment is invoked.

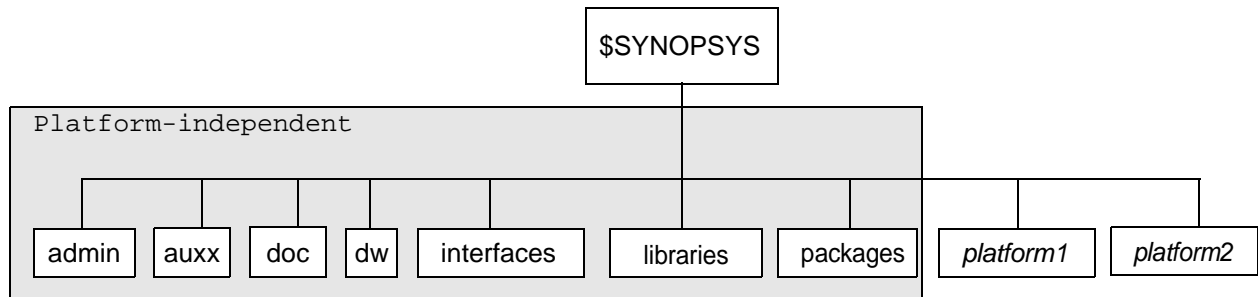
Note:

If you attempt to use the 64-bit mode on a 32-bit platform, you will see an error message.

Multiple-Platform Installation

When you install files on a network that connects different platforms, the result is the directory tree shown in [Figure 1-1](#).

Figure 1-1 Illustration of a Multiple-Platform Installation



Each Synopsys product includes a platform-independent package (indicated by the shaded box in [Figure 1-1](#)) containing files common to all platforms. When you select multiple platforms, the installation script installs one platform-independent package and a platform-dependent package for each selected platform.

If you have previously installed a product and want to add another platform,

1. Rerun the installation script for the product.
2. In the installation script,
 - Answer **n** to the query about installing the platform-independent package.
 - Specify the new platform when queried about which platform to install.

Products and Platforms

[Table 1-2](#) lists the products and their supported platforms. For the latest product-specific platform information, see the release notes for your tool.

Table 1-2 Products and Supported Platforms

Product	Product ID	Platform keyword
AMPS	amps	sparcOS5, hp32
Arcadia	arc	sparcOS5, sparc64, hp32, hp64, rs6000
CoCentric Fixed-Point Designer	fxd	sparcOS5, hp32, linux
CoCentric System Studio	css	sparcOS5, hp32, linux gccsparcOS5
COSSAP	cos	sparcOS5, hp32, rs6000
Floorplan Compiler	fpc	sparcOS5, sparc64, hp32, hp64
Formality	fm	sparcOS5, sparc64, hp32, hp64, rs6000, linux
FPGA Compiler II	fc2	sparcOS5, hp32
NanoSim (including ADFMI, NanoSim Integration with VCS, turboWave, Verilog-A, and VTRAN)	ns	sparcOS5, sparc64, hp32, hp64, rs6000, linux
PathMill	pm	sparcOS5, sparc64, hp32, hp64, rs6000
PowerArc	pa	sparcOS5, hp32
PowerMill (including ADFMI, VTRAN, and turboWave)	pw	sparcOS5, sparc64, hp32, hp64, rs6000
PrimePower	pp/pps	sparcOS5, hp32, linux

Table 1-2 Products and Supported Platforms (Continued)

Product	Product ID	Platform keyword
PrimeTime	pt/pts	sparcOS5, sparc64, hp32, hp64, linux
RailMill	rm	sparcOS5, sparc64, hp32, hp64, rs6000
Synthesis	syn	sparcOS5, sparc64, hp32, hp64, rs6000, linux
TetraMAX	tx/txs	sparcOS5, sparc64, hp32, hp64, linux, gccsparcOS5
TimeMill (including ADFMI, VTRAN, and turboWave)	tm	sparcOS5, sparc64, hp32, hp64, rs6000

Note:

Products that support the RS/6000 platform will be available by EST at a later date. For more information, see [“IBM AIX 4.3.3 RS/6000 Platform” on page 1-4.](#)

Disk Space Requirements

[Table 1-3](#) lists the amount of disk space required to install the various Synopsys tools. Each CD also includes this information in the top-level README.*product_name* file.

Table 1-3 Disk Space Requirements

Synopsys product	Required size in MB (approximate)
AMPS	
Platform independent	35
Per platform	110

Table 1-3 Disk Space Requirements (Continued)

Synopsys product	Required size in MB (approximate)
Arcadia	
Platform independent	3
Per platform	400
CoCentric Fixed-Point Designer	
Platform independent	1
Per platform	20
CoCentric System Studio	
Platform independent	700
Per platform	600
COSSAP online documentation	85
COSSAP	
Platform independent	1
Per platform	600
Floorplan Compiler	
Platform independent	50
Per platform	400
Formality	
Platform independent	102
Per platform	132
FPGA Compiler II	
Platform independent	150
Per platform	100
NanoSim	
Platform independent	50
Per platform	350
Online documentation (English)	455
Online documentation (Japanese)	175-180
PathMill	
Platform independent	11
Per platform	172

Table 1-3 Disk Space Requirements (Continued)

Synopsys product	Required size in MB (approximate)
PowerArc	
Platform independent	50
Per platform	300
PowerMill	
Platform independent	50
Per platform	300
PrimePower	
Platform independent	492
Per platform	122
PrimeTime	
Platform independent	300
Per platform	350
RailMill	
Platform independent	3
Per platform	250
Synthesis tools	
Platform independent	290
Per platform	760
TetraMAX (overlay)	
Platform independent	9
Per platform	40
TetraMAX (stand-alone)	
Platform independent	9
Per platform	112
TimeMill	
Platform independent	50
Per platform	300

Memory Requirements

The UNIX kernel defines hard per-process limits on the maximum amount of memory that can be used, and the `limit` command creates soft limits. If ignored, these limits can cause processes (jobs) to fail even when sufficient memory is available. For more information, see [“Memory” on page 22-2](#).

[Table 1-4](#) lists the general guidelines for the minimum amount of physical memory and swap space (virtual memory) required to run Synopsys tools.

Table 1-4 Minimum Memory Requirements

Tool	Physical memory (MB)	Swap space (MB)
AMPS	256 Recommended: 1G	512 Recommended: 2G
Arcadia	256	512
CoCentric Fixed-Point Designer	64	140
CoCentric System Studio	256	512
COSSAP	128	512
Floorplan Compiler	256	512
Formality ¹	256	512
FPGA Compiler II	64	140
NanoSim	150	256
PathMill	256 Recommended: 1G	512 Recommended: 2G
PowerArc	150	256
PowerMill	150	256

Table 1-4 Minimum Memory Requirements (Continued)

Tool	Physical memory (MB)	Swap space (MB)
PrimePower	128	256
PrimeTime	150	256
RailMill	256	512
Synthesis tools	128	256
TetraMAX ²	256	512
TimeMill	150	256

1. For large designs, the expected amount of required memory is approximately 1 million bytes per 2,000 gates.

2. Physical memory and swap space requirements are dependent on design size. The above figures assume that design size is less than 1 million (equivalent NAND) gates.

Physical Memory Requirements for Synthesis, PrimeTime, and Design Budgeting

To run the synthesis, PrimeTime, or design budgeting tools efficiently, the physical memory must equal 25 to 50 percent of the swap space. For example, if you have 128 MB of swap space, you need at least 32 MB of physical memory. You might need as much as 64 MB, however. The more physical memory you have, the more quickly your job runs.

Swap Space Requirements for Synthesis Tools

The amount of swap space required by the synthesis tools depends on the size and type of each circuit design.

Use the following formula to help you determine the minimum amount of available swap space required for HDL designs:
 $16.3 \text{ MB} + (5.9 \times (\text{size of the design in K gates}))$.

For example, a 5K-gate design requires $16.3 + (5.9 \times 5) = 45.8$ MB of available swap space.

Accessing Memory Beyond 2 GB With 32-Bit Synopsys Tools

In general, UNIX-based systems support a maximum memory of 2 GB for 32-bit processes. However, the following Synopsys tools can extend memory beyond 2 GB:

- Behavioral Compiler
- Design Compiler
- DFT Compiler
- Floorplan Compiler
- Floorplan Manager
- Formality
- HDL Compiler (Presto Verilog)
- NanoSim
- Physical Compiler
- Power Compiler
- PowerArc
- PowerMill
- PrimeTime
- TetraMAX
- TimeMill

- VHDL Compiler

Note:

Available memory is space not used by the OS, the windowing system, or other applications.

To access memory beyond 2 GB,

1. Do one of the following, depending on the platform you are using:
 - For HP-UX,
Make sure your server has HP-UX 11.0 (or later) loaded.
 - For Solaris,
Make sure your server has Solaris 7 (or later) loaded.
2. Make sure your server has at least 4 GB of memory (physical and swap space) available.

Note:

Physical memory equals data size plus stack size, and stack size is used before data size. Therefore setting stack size to a large value causes problems for designs that need to go over 2 GB. If you set the stack size too high, you cannot get enough memory for your data. To check the settings, use the `limit` command at the system prompt. For more information, see [“Memory” on page 22-2](#).

3. Make sure the system you are using does not have restrictions that prevent you from using more than 2 GB of memory.
4. Create unlimited data size in the shell that you are using: C, Bourne, Korn or Bash. If there are systemwide limits on the data size you can create, you can remove them or override them. You can do this in one of two ways:

- Enter one of the following commands:

For C shell,

```
% limit datasize 3800000
```

For Bourne, Korn, or Bash shell,

```
# ulimit -s -d 3800000
```

- Modify the kernel of your server. This approach allows everyone using your server to extend memory beyond 2 GB.

Note:

On HP-UX systems, you will see a data size of 2 GB. This value is accurate. After your process reaches the 2-GB limit, the Synopsys product extends the address space.

Acquiring a License

The Synopsys Common Licensing (SCL) system provides a single, common licensing base for all Synopsys tools. The SCL software and the documentation describing how to install and configure it are separate from the tools that use it.

Before you can use the Synopsys tools, you must do the following:

- If you have not already done so, retrieve your license keys from the SmartKeys Web page.
- Install the SCL software.

Note:

Installation of Synopsys tools and SCL is not order dependent. You can install SCL before or after you install your Synopsys tools. However, you cannot use your Synopsys tools until you have installed, configured, and started SCL.

Obtaining Your License Keys

To obtain your license key file from SmartKeys,

1. Go to the SmartKeys Web page at
<http://www.synopsys.com/smartkeys>
2. On the SmartKeys Web page, click Key Retrieval.
3. In the Key Retrieval box, enter the following information:
 - Your site ID. This is the numeric site ID that identifies your customer site. If you have synthesis, test, or VHDL simulation tools installed, you can obtain the site ID by viewing your site_info file: `$SYNOPSYS/admin/license/site_info`.
 - Your host ID (optional). To obtain a license key file for a single host, enter its host ID. To obtain license keys for all hosts at the specified site, leave this field blank.
 - Your e-mail address. The default is your Synopsys e-mail address. This is the address that your key file will be sent to.
4. Click Continue to submit your request.

Installing Synopsys Common Licensing Software

You need to install, configure, and start a single copy of SCL software for all Synopsys tools. If you don't have the SCL software, you can download it by EST or FTP: See the http://www.synopsys.com/keys/#download_SCL Web page.

Alternatively you can order the SCL software CD from the Synopsys MediaDocs Shop at <http://mediadocs.synopsys.com>.

If you already have SCL running, you do not need to reinstall it. However, if you are updating your license key file, you need to notify the SCL daemons that the license file has changed. See the SCL documentation for instructions on this process.

Note:

Do not install SCL into an existing directory. You must install SCL into a stand-alone directory.

For more information about licensing, see the following documents:

- *Licensing Quick Start*
- *Licensing Installation and Administration Guide*

Soft copies of the *Licensing Quick Start* document and the *Licensing Installation and Administration Guide* are available in Portable Document Format (PDF) from http://www.synopsys.com/keys/#Info_SCL.

Finding Your Site Identification Number

Before you install any Synopsys product CD, locate and make a note of your Synopsys site identification number. Enter your site ID when prompted during the installation process.

Your site ID was shipped in the package with your Synopsys tools, or if you download the software, it is in your Synopsys Order Notification e-mail. If you have trouble locating it, contact your Synopsys sales representative.

Creating the Synopsys Root Directory

To create a new directory tree for the T-2002.12, T-2002.09, 2002.05, or 2002.03 Synopsys release, enter

```
% mkdir -p /usr/synopsys/productversion
```

To set the permissions on the new directory tree, enter this command:

```
% chmod 755 /usr/synopsys/productversion
```

Important:

Install each version of the software in a new directory. Do not install different versions of Synopsys software in the same directory.

Defining the SYNOPSIS Environment Variable

Set the `SYNOPSIS` environment variable (`$SYNOPSIS`) in the shell that you are using: C, Bourne, Korn, or Bash. In the following examples, the `root_directory` argument is the name of the Synopsys root directory.

If you are using C shell, enter the following command to set the `SYNOPSIS` environment variable:

```
% setenv SYNOPSIS root_directory
```

If you are using the Bourne, Korn, or Bash shell, enter the following command to set the `SYNOPSIS` environment variable:

```
# SYNOPSIS=root_directory; export SYNOPSIS
```


2

Downloading and Installing the Software

This chapter provides information about downloading and installing Synopsys tools.

The chapter contains the following sections:

- [Downloading and Installing the Software by EST](#)
- [Performing EST Installation](#)
- [Installing Product Files From a CD](#)
- [Installing Tools in the Right Sequence](#)

Downloading and Installing the Software by EST

You can download Synopsys software in two ways:

- By FTP
- From the Web

For help with download problems, contact the Synopsys Electronic Software Transfer department:

E-mail support: est-adm@synopsys.com

Telephone support: 650-584-1631

To access the online EST Troubleshooting Guide, go to <http://www.synopsys.com/cgi-bin/est.cgi>.

Caution!

Install each version of the software in a new directory. Do not install different versions of Synopsys software in the same directory.

Using the Product Files

Depending on file size, product files are packaged by one of three processes, tar, tar.Z, or tar.gz. These instructions cover each process.

The product files use the following naming convention:

For .tar files

productname_productversion_common.tar

productname_productversion_platform.tar

For tar.Z files

```
productname_productversion_common.tar.Z  
productname_productversion_platform.tar.Z
```

For tar.gz files

```
productname_productversion_common.tar.gz  
productname_productversion_platform.tar.gz
```

For each tool you want to install, substitute the appropriate product ID and version for *productname_productversion* and platform keyword for *platform*. (See [“Products and Platforms” on page 1-7.](#))

Important:

For each product except SOLD, you must install one common file (platform-independent package) and one or more platform-specific files. (See [Figure 1-1 on page 1-6.](#)) For SOLD, install one common file only.

Downloading the Files by FTP

To download the files by FTP,

1. For each tool, you must create a separate empty directory to download your product files into. For example,

```
% mkdir /tmp/product  
% cd /tmp/product
```

2. Start an FTP session to ftp.synopsys.com:

```
% ftp ftp.synopsys.com
```

3. Enter your SolvNet user name and password.

4. At the ftp prompt, enter the following commands:

```
ftp> binary
ftp> cd rev
ftp> cd productname_productversion
ftp> get productname_productversion_common.tar
ftp> get productname_productversion_platform.tar
```

For a list of supported platforms and products for the T-2002.09, 2002.05, and 2002.03 releases, see [Table 1-2 on page 1-7](#).

5. Download the files into the directory you just created.
6. For installation instructions, see [“Performing EST Installation” on page 2-5](#).

Downloading the Files From the Web

To download files from the Web,

1. For each tool, you must create a separate temporary directory to download your product files into. For example,

```
% mkdir /tmp/product
% cd /tmp/product
```

2. Go to the Electronic Software Transfer (EST) Web page at <http://www.synopsys.com/cgi-bin/est.cgi>
3. Click the Authenticated Access button.
4. Enter your SolvNet user name and password.
5. Read the legal page and, if you agree, click “Yes, I agree to the above terms.”
6. Click the rev folder.

7. Click the file folder for the product and version you want to install.
8. Download the files into the temporary directory.

Note:

For each product, you must download one common file (platform-independent package) and one or more platform-specific files.

9. For installation instructions, see [“Performing EST Installation,”](#) next.

Performing EST Installation

To install the software,

1. Untar the .tar files, or untar and uncompress the tar.Z or tar.gz files. For example,

For tar files

```
% tar xvf productname_productversion_common.tar  
% tar xvf productname_productversion_platform.tar
```

For tar.Z files

```
% cat productname_productversion_common.tar.Z | uncompress | tar xvf -  
% cat productname_productversion_platform.tar.Z | uncompress | tar xvf -
```

or

```
% zcat productname_productversion_common.tar.Z | tar xvf -  
% zcat productname__productversion_platform.tar.Z | tar xvf -
```

For tar.gz files

```
% gzip -dc productname_productversion_common.tar.gz | tar xvf -  
% gzip -dc productname_productversion_platform.tar.gz | tar xvf -
```

Substitute the appropriate product ID and version for *productname_productversion* and platform keyword for *platform*. (See [“Products and Platforms” on page 1-7.](#))

2. Execute the following command to install the software:

```
% ./install.now
```

To install Synopsys tools, it is recommended that you log on as root or have system administrator privileges. You need write permission for the installation directory.

3. Answer the installation program prompts.

Important:

When you are prompted to choose a location for installing the software, do not select the temporary files directory. You must specify a new directory. Do not install different versions of Synopsys software in the same directory.

Repeat steps 1 through 3 for each tool you want to install.

Installing Product Files From a CD

Use the same installation procedure to transfer the files from each CD (or CD set) to your system.

To install a CD,

1. Mount the CD.
2. Run the installation script.
3. Unmount the CD.

Complete information about these steps is given in the following sections.

Mounting the CD

Mounting the CD might require root access privileges. If you do not have root access privileges, see your system administrator for instructions on mounting the CD. If you have the proper privileges, complete the following steps.

To mount the CD,

1. Place the CD in the CD drive.
2. Create a CD directory. For example, enter

```
% mkdir /cdrom
```

3. Mount the CD by using the appropriate command for your operating system. For example, enter

```
% mount -o ro /dev/dsk/c2t1d4s0 /cdrom
```

Note:

Mounting instructions are different for each platform. See your system documentation for the correct CD mounting commands.

Also, for sparcOS5 with vold (the volume management daemon for managing CD and floppy devices), the /cdrom directory already exists and the CD is automatically mounted. Therefore, use `cd /cdrom/cdrom0` instead of `cd /cdrom` (and use `eject` to unmount the CD).

Installing the Software From the CD

The following steps apply only to tools that use the standard installation. For CD installation of FPGA Compiler II, see [“Installing the Software” on page 11-3](#).

To install the software,

1. Move to the CD-ROM directory. For example, enter

```
% cd /cdrom
```

2. View the README.1ST file on the CD for more information. View the README.*productname* file for the most up-to-date disk space requirements.

3. Enter the installation command.

```
% ./install.now
```

4. Answer the installation program prompts.

If you receive an UNCOMPRESS/TAR ERROR during the installation script, rerun the installation command, using the `-i` option to correct the problem. For example, enter

```
% ./install.now -i
```

[Example 2-1](#) shows a sample Synopsys media installation script for v2002.05 of the synthesis tools; it applies to installation by EST and from the CD. Other v2002.05 tools are installed in a similar manner.

Note:

To perform an overlay installation for PrimePower or TetraMAX, when you are prompted to select the product you want to install, enter **pp** (for PrimePower) or **tx** (for TetraMAX). To perform a stand-alone installation, enter **pps** (for PrimePower stand-alone) or **txs** (for TetraMAX stand-alone).

Example 2-1 Synopsys Media Installation Script for the Synthesis Tools

Synopsys Media Installation

Instructions: The list within {} shows the choices for a given option. The entry within [] shows the default selection when you hit the Return key. You can cancel the installation by entering quit when prompted for input.

The current mounted Synopsys CD file system is 2002.05.

```
VERSION:      2002.05
PRODUCTS:    syn sf3 sf4 pc
PLATFORMS:   sparcOS5
PART NUMBER: XXXXXX
```

Install 2002.05 release? {y,n} [y] **y**

Enter the full path to the directory where you want to install Synopsys 2002.05 products. If the directory does not exist, it will be created. [/usr/synopsys]: **/usr/synopsys/2002.05**

Creating Synopsys root directory /usr/synopsys/2002.05 ...

Select Synopsys product(s) to install:

```
{
  syn - Core Synthesis Tools
  sf3 - Synopsys Integrator for Falcon Framework MentorC
  sf4 - Synopsys Integrator for Falcon Framework MentorD
  pc  - DALI (Protocol Compiler)
}
```

Enter the list of product(s) to install [syn]: **syn sf3 pc**

Product(s) selected: syn sf3 pc

Platform Independent Package for a particular product contains support files that are common to all the platforms. You must install this package for each product if you are installing it to the /usr/synopsys/2002.05 directory for the first time.

Install Platform Independent Package for syn? {y,n} [y]: **y**

Install Platform Independent Package for sf3? {y,n} [y]: **y**

Install Platform Independent Package for pc? {y,n} [y]: **y**

Platform(s) selected: sparcos5

Here is your final selection for installing Synopsys Tools:

VERSION: 2002.05
PRODUCTS: syn sf3 pc
PLATFORMS: sparcos5

Synopsys Media Directory (from) : /cdrom
Synopsys Install Directory (to) : /usr/synopsys/2002.05

Platform Independent Package(s) for : syn sf3 pc

Disk space required : 1138 MB
Disk space available : 12918 MB

If all the information is correct, continue with the installation.

Install? {y,n} [y]: **y**

Starting Installation ... Please do not interrupt.

INSTALLING syn product, platform_independent package, 2002.05 version.
uncompress < ./syn.taz | (cd /usr/synopsys/2002.05; tar xvfp -)
sparcos5

INSTALLING syn product, sparcos5 package, 2002.05 version.
uncompress < ./sparcos5/syn.taz | (cd /usr/synopsys/2002.05; tar xvfp -)

INSTALLING sf3 product, platform_independent package, 2002.05 version.
uncompress < ./sf3.taz | (cd /usr/synopsys/2002.05; tar xvfp -)

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```
sparcos5
INSTALLING sf3 product, sparcos5 package, 2002.05 version.
  uncompress < ./sparcos5/sf3.taz | (cd /usr/synopsys/2002.05; tar xvfp - )
INSTALLING pc product, platform_independent package, 2002.05 version.
  uncompress < ./sf3.taz | ( cd /usr/synopsys/2002.05; tar xvfp - )
sparcos5
INSTALLING pc product, sparcos5 package, 2002.05 version.
```

Installing Design Compiler ...

Installing Module Compiler ...

Installing power_estimate ...

Installing Library Compiler ...

Installing BC View ...

Installing MemWrap ...

Installing Design Vision ...

Installing Physical Compiler ...

Synopsys Integrator for Falcon Framework Installation Script

Platform [sparcos5]: **sparcos5**

Falcon Framework Version [C]: **C**

Synopsys root directory [/usr/synopsys/2002.05]: **/usr/synopsys/2002.05**

Synopsys integrator directory [

/usr/synopsys/2002.05/sparcos5/syn/interfaces/mentorC]:

Synopsys Site Identification Number appears on the upper right corner
of your Synopsys License Key Certificate.

-n Synopsys Site Identification Number [Hit return for 000]: 000

Synopsys License Administrator is a person who must be contacted for Synopsys product related administrative tasks at your site.

-n Local Synopsys License Administrator [Hit return for customer]:

License Administrator Contact is the current phone number and/or Email address of customer.

-n License Administrator Contact [Hit return for ###-#### and/or user@email]:

Created site file /usr/synopsys/2002.05/admin/license/site_info.

Done.

You must now continue with the product-specific installation procedures, install the Synopsys keys, and start the license servers.

For more information, refer to ./README.{syn sf3 pc} file(s) and the Installation Guide version 2002.05.

Thank you ...

Example 2-2 shows a sample Synopsys media installation script for version T-2002.09 of the PrimeTime tools; it applies to installation by EST and from the CD. Other version T-2002.09 tools are installed in a similar manner.

Example 2-2 Synopsys Media Installation Script for PrimeTime

Synopsys Media Installation

Instructions: The list within {} shows the choices for a given option. The entry within [] shows the default selection when you hit the Return key. You can cancel the installation by entering quit when prompted for input.

The current mounted Synopsys CD file system is T-2002.09.

```
VERSION:      T-2002.09
PRODUCTS:    pts
PLATFORMS:   sparcOS5 sparc64
```

PART NUMBER: XXXXXX

Install T-2002.09 release? {y,n} [y] **y**

NOTE: The product(s) pts on this CD-ROM must be installed in a standalone directory.

Enter the full path to the directory where you want to install Synopsys T-2002.09 products. If the directory does not exist, it will be created. [/usr/synopsys]: /usr/synopsys/T-2002.09

Select Synopsys product(s) to install:

```
{
  pts - PrimeTime_StandAlone
}
```

Enter the list of product(s) to install [pts]: **pts**

Product(s) selected: pts

The Platform Independent Package for a particular product contains support files that are common to all the platforms.

You must install this package for each product if you are installing it to the /usr/synopsys/T-2002.09 directory for the first time.

Install Platform Independent Package for pts? {y,n} [y]: **y**

Select platform(s) to install:

```
{
  sparcOS5 (for Solaris 7, 8)
  sparc64 (for Solaris 7, 8; 64bit Kernel)
}
```

Enter the list of platform(s) to install [sparcOS5]: **sparcOS5**
sparcos5

Platform(s) selected: sparcos5

Here is your final selection for installing Synopsys Tools:

VERSION: T-2002.09
PRODUCTS: pts
PLATFORMS: sparcos5

Synopsys Media Directory (from) : /cdrom
Synopsys Install Directory (to) : /usr/synopsys/T-2002.09

Platform Independent Package(s) for : pts

Disk space required : 290 MB
Disk space available : 10063 MB

If all the information is correct, continue with the installation.

Install? {y,n} [y]: y

Starting Installation ... Please do not interrupt.

INSTALLING pts product, platform_independent package, T-2002.09 version.
uncompress < ./pts.taz | (cd /usr/synopsys/T-2002.09; tar xvfp -) sparcos5
INSTALLING pts product, sparcos5 package, T-2002.09 version.
uncompress < ./sparcos5/pts.taz | (cd /usr/synopsys/T-2002.09; tar xvfp -)

Installing PrimeTime ...

Synopsys Site Identification Number appears on the upper right corner of your Synopsys License Key Certificate.

-n Synopsys Site Identification Number [Hit return for 000]:
000

Synopsys License Administrator is a person who must be contacted for Synopsys product related administrative tasks at your site.

-n Local Synopsys License Administrator [Hit return for ryang]:

License Administrator Contact is the current phone number and/or Email address of ryang.

-n License Administrator Contact [Hit return for ###-#### and/or user@email]:

Created site file /usr/synopsys/T-2002.09/admin/license/site_info.

Done.

You must now continue with the product-specific installation procedures, install the Synopsys keys, and start the license servers.

Chapter 2: Downloading and Installing the Software

For more information, refer to `./README.{pts}` file(s) and the Installation Guide.

Thank you ...

Unmounting the CD

To unmount the CD,

1. Move to another directory. For example, enter

```
% cd /tmp
```

2. Unmount the CD by using the appropriate command for your operating system. For example, enter

```
% umount /cdrom
```

Note:

If you are running the volume management daemon, use the `eject` command to unmount the CD.

3. Remove the CD from the drive.

Installing Tools in the Right Sequence

The order in which you install the Synopsys tools is important. For example, install these tools in the following sequence:

1. Synthesis tools
2. TetraMAX
3. Synopsys Online Documentation (SOLD)

Note:

To run the Synopsys tools, you must have installed Synopsys Common Licensing (SCL) software. For details about Synopsys licensing software, see the *Licensing Quick Start* document and the *Licensing Installation and Administration Guide*.

The following chapters discuss the installation of these tools.

3

Installing the Synopsys Synthesis Tools (version 2002.05)

This chapter contains the following sections:

- [Synthesis Tools](#)
- [Installing the Software](#)
- [Configuring the Synthesis Tools](#)
- [Installing Optional Tools](#)
- [Verifying the Synthesis Tools Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).

- Define the `SYNOPTSYS` environment variable (see [“Defining the SYNOPTSYS Environment Variable”](#) on page 1-19).
- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Beginning with the 2002.05 release, PrimeTime no longer overlays the synthesis tools.

Synthesis Tools

The Synopsys synthesis tools include the following:

- Core synthesis tools
 - Automated Chip Synthesis
 - BCView
 - Behavioral Compiler
 - CoCentric SystemC Compiler
 - Design Analyzer
 - Design Compiler
 - Design Vision
 - DesignWare
 - DFT Compiler
 - EDIF 2 0 0 Interface
 - Floorplan Manager
 - HDL Compiler (Presto Verilog)

- Library Compiler
- Module Compiler
- Physical Compiler
- Power Compiler
- Protocol Compiler
- VHDL Compiler
- Synopsys Integrator for Falcon Framework
 - Mentor C version
 - Mentor D version

If you have purchased any of these tools, you must install the Synthesis tools suite.

Even though the synthesis tools install as a suite, individual products within the suite might not be available on all platforms. [Table 3-1](#) shows the supported platform for each synthesis tool. (For the most recent information about supported platforms for a specific tool, see the product-specific release note.)

Table 3-1 Synthesis Tools and Supported Platforms

Synthesis tools	sparcOS5	sparc64	hp32	hp64	linux	rs6000
Automated Chip Synthesis	x	x	x	x	x	x
BCView	x		x		x	x
Behavioral Compiler	x	x	x	x	x	x
CoCentric SystemC Compiler	x				x	
Design Analyzer	x		x		x	x

Table 3-1 Synthesis Tools and Supported Platforms (Continued)

Synthesis tools	sparcOS5	sparc64	hp32	hp64	linux	rs6000
Design Compiler	x	x	x	x	x	x
Design Vision	x		x		x	x
DesignWare	x	x	x	x	x	x
DFT Compiler	x	x	x	x	x	x
EDIF 2.0.0 Interface	x	x	x	x	x	x
Floorplan Manager	x	x	x	x	x	x
HDL Compiler (Presto Verilog)	x	x	x	x	x	x
Library Compiler ¹	x	x	x	x	x	x
Module Compiler	x	x	x	x	x	x
Physical Compiler	x	x	x	x	x	x
Power Compiler	x	x	x	x	x	x
Protocol Compiler	x		x			x
VHDL Compiler	x	x	x	x	x	x

1. The Library Compiler GUI is not supported on sparc64 or hp64 platforms.

Installing the Software

To download and install the synthesis tools from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST”](#) on page 2-2.

To transfer the files from the Synthesis CD to your system, follow the installation procedure described in [“Installing Product Files From a CD”](#) on page 2-6.

On the sparcOS5 platform, you can choose to install either version C (sf3) or D (sf4) of the Synopsys Integrator for Falcon Framework product, but not both. On the hp32 platform, you can install only version D (sf4).

[Example 2-1 on page 2-9](#) shows a sample Synopsys media installation script for the synthesis tools.

Configuring the Synthesis Tools

This section describes how to

- Set up the systemwide defaults for the synthesis tools
- Set up the synthesis tools for each user

Setting Up the Systemwide Defaults

If you are using the Design Analyzer product, you can customize the display for all users at a site by modifying the Design Analyzer application defaults (app-defaults) file. This file is placed in the following location during installation:

```
$SYNOPSYS/admin/setup/Design_analyzer
```

To see a list of available colors for the Solaris 7 and 8 platforms, enter

```
% more /usr/openwin/lib/X11/rgb.txt
```

For all other platforms, enter

```
% more /usr/lib/X11/rgb.txt
```

To see a list of available fonts, enter

```
% xlsfonts | more
```

To install the changes, copy the modified app-defaults file into the systemwide app-defaults location, which varies from site to site. To find the systemwide location at your site, contact your system administrator.

Note:

You must have root access privileges to install this systemwide defaults file.

If your app-defaults location is in X11 (a common location), install the Design_analyzer file by entering a command similar to the one in the following example:

```
% cp $SYNOPSYS/admin/setup/Design_analyzer /usr/openwin/lib/X11/app-defaults
```

```
% cp $SYNOPSYS/admin/setup/Design_analyzer /usr/lib/X11/app-defaults
```

Setting Up the Synthesis Tools for Each User

To set up a new synthesis tools user,

1. Add the synthesis executable directory to the `PATH` environment variable.

If you are using the C shell, add the following line to the `.cshrc` file:

```
set path=($SYNOPSYS/platform/syn/bin $path)
```

If you are using the Bourne, Korn, or Bash shell, add the following line to the `.profile`, `.kshrc`, or `.bashrc` file:

```
PATH=$SYNOPSYS/platform/syn/bin:$PATH
export PATH
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

When you install the synthesis files, a copy of the synthesis setup file is placed in `$SYNOPSYS/admin/setup/.synopsys_dc.setup`. The `.synopsys_dc.setup` file contains the system defaults for the synthesis tools. You can modify this file to customize the settings for your environment.

2. Place a `.synopsys_dc.setup` file in the user’s home directory.

If you are using the C shell, enter

```
% cp $SYNOPSYS/admin/setup/.synopsys_dc.setup ~/.synopsys_dc.setup
```

If you are using the Bourne, Korn, or Bash shell, enter

```
# cp $SYNOPSYS/admin/setup/.synopsys_dc.setup $HOME/.synopsys_dc.setup
```

You can modify this file to customize the settings for each user.

3. To use a graphical user interface (GUI), such as Design Analyzer, you must also add the X Window System executable files to the `PATH` environment variable.

If you are using the C shell, add the following line to the `.cshrc` file:

```
set path=(/usr/dt/bin /usr/bin/X11 $path)
```

For Solaris 7 or 8, add

```
set path=(/usr/dt/bin /usr/openwin/bin $path)
```

If you are using the Bourne, Korn, or Bash shell, add the following line to the .profile, .kshrc, or .bashrc file:

```
PATH=/usr/dt/bin:/usr/bin/X11:$PATH  
export PATH
```

For Solaris 7 or 8, add

```
PATH=/usr/dt/bin:/usr/openwin/bin/X11:$PATH  
export PATH
```

You can customize the GUI display for an individual user by adding color and font definitions to the .Xdefaults file in each user's login directory. Values defined in the .Xdefaults file override the values in the systemwide app-defaults file.

Additional SystemC Compiler SetUp for Each User

To set up a CoCentric SystemC Compiler user, in addition to the other synthesis settings, you must define the absolute path to a C++ compiler and the compiler options.

If you are using the C shell, add the following lines to the .cshrc file:

```
setenv SYSTEMC_CPP "compiler_home options"
```

If you are using the Bourne, Korn, or Bash shell, add the following lines to the .profile, .kshrc, or .bashrc file:

```
SYSTEMC_CPP=compiler_home options  
export SYSTEMC_CPP
```

For the GNU C++ Compiler (version 2.95.2 or later), replace *compiler_home* with the absolute path to the GNU C++ Compiler, and replace *options* with the typical compiler options you use. For example,

```
setenv SYSTEMC_CPP "/usr/local/bin/gcc -E -C"
```

For the Sun SparcWorks C++ Compiler (version 5.0 or later), replace *compiler_home* with the absolute path to Sun SparcWorks C++ Compiler, and replace *options* with the typical compiler options you use. For example,

```
setenv SYSTEMC_CPP "/usr/local/bin/cc -E -xCC -Xc"
```

The SystemC Compiler default path to the SystemC library include files is \$SYNOPSIS/auxx/systemc/include. To define a different path to the SystemC library include files, specify the `-I` option for SYSTEMC_CPP. For example,

```
setenv SYSTEMC_CPP "/usr/local/bin/gcc -E -C  
-I/my_systemc/include"
```

Configuring the Browser for Physical Compiler and Design Vision Online Help

The Physical Compiler and Design Vision online Help systems are browser-based HTML Help systems. For optimal viewing, use Netscape Navigator version 4.78 for UNIX. These Help systems are not supported in Netscape Navigator version 6 or later.

Both Help systems make extensive use of Java, JavaScript, and style sheets. In your browser preferences, select the Advanced category and make sure that

- The Enable Java, Enable JavaScript, and Enable Style Sheets options are all selected
- The Enable Java Plugin option is deselected

You can open either Help system from within its respective GUI tool or open it stand-alone in Netscape Navigator.

Installing Optional Tools

The synthesis media installation script automatically installs most of the synthesis tools. However, the following tools require manual setup or installations:

- Synopsys Integrator for Falcon Framework
- Power Compiler VPOWER

Installing Synopsys Integrator for Falcon Framework

To complete the setup for the Synopsys Integrator for Falcon Framework product, set the `SYNOPSIS_IFF_ROOT` environment variable to point to the Synopsys integrator directory.

When asked for the Falcon Framework version, enter

- C if you selected the sf3 product from the installation script
- D if you selected the sf4 product from the installation script

Note:

You can install Falcon Framework version C or D, but not both. Version C is supported only on the Solaris 7, 8 (sparcOS5) operating system; version D is supported on both HP-UX 11.0, 11.1i (hp32) and Solaris 7, 8 (sparcOS5) operating systems.

If you are using the C shell, add the following line to the `.cshrc` file:

```
setenv SYNOPSIS_IFF_ROOT $SYNOPSIS/platform/syn/interfaces/mentorC
```

If you are using the Bourne, Korn, or Bash shell, add the following lines to the `.profile` file:

```
SYNOPSIS_IFF_ROOT=$SYNOPSIS/platform/syn/interfaces/mentorC  
export SYNOPSIS_IFF_ROOT
```

Replace *platform* with one of the following: hp32 or sparcOS5.

Installing Power Compiler VPOWER

VPOWER is the Power Compiler interface to VCS, the Cadence Verilog-XL and NC-Verilog simulators, and the MTI Verilog simulator. VPOWER contains user tasks that allow you to monitor toggle activity during simulation and to output the information in a form readable by Power Compiler. To use VPOWER, link the user tasks to the executable file of your simulator.

The following sections describe the steps for linking VPOWER with Verilog-XL and VCS simulators only. For information about linking VPOWER with other simulators, see the *Power Compiler User Guide*.

Verilog-XL Simulator

The following procedure describes how to link VPOWER to a version of the Verilog-XL simulator that contains the standard features you normally use at your site and includes the toggle count utilities needed for Power Compiler.

Note:

You must perform this installation on a machine that has access to your Verilog-XL simulator vendor distribution.

Consult your Verilog system administrator to obtain the following information before beginning the VPOWER installation:

- The directory path to your Verilog .o, .a, and .h files
- The directory location of your central Verilog distribution, for obtaining a current site copy of the veriusers.c file

This installation requires modification of your veriusers.c file. By obtaining a current site copy of the veriusers.c file, you can be sure to include any current site modifications when you modify this file.

To install VPOWER,

1. Change to the Synopsys vpower directory.
2. Modify a copy of your site veriusers.c file.
3. Link the VPOWER user tasks to the simulation executable file.
4. Copy the linked executable file.

The following sections describe these steps.

Changing to the Synopsys power Directory. All directories listed are relative to the root of the vpower directory: `$$SYNOPSIS/auxx/syn/power/vpower`.

To change to the Synopsys vpower directory,

1. Make sure the environment variable `$$SYNOPSIS` is set.

```
% echo $$SYNOPSIS
```

If it is not set, set it to the correct value.

```
% setenv $$SYNOPSIS root_directory
```

2. Change to the Synopsys vpower directory.

```
% cd $$SYNOPSIS/auxx/syn/power/vpower
```

Modifying the veriuser.c File. To modify the veriuser.c file to define the new toggle count utilities,

1. Change to the vx1/vx1.sample directory, and review the sample veriuser.c file, which shows the edits you will have to make.

```
% cd vx1/vx1.sample
```

2. Copy your current site version of veriuser.c into the sample directory. To copy veriuser.c, you must know the directory location of your central Verilog distribution.

```
% cp site_location_dir_path/veriuser.c .
```

By using a current site copy of veriuser.c, you ensure that any existing customizations are included in the VPOWER installation.

3. As shown in the sample veriuser.c file, make the following changes in your current site copy of veriuser.c:

- Add the following line:

```
# include "tc_extern.h"
```

- Add the following user tasks:

```
{usertask, 0, 0, 0, tc_set, tc_set_sync, "$toggle_set", 1},  
{usertask, 0, 0, 0, tc_start, 0, "$toggle_start", 1},  
{usertask, 0, 0, 0, tc_stop, 0, "$toggle_stop", 1},  
{usertask, 0, 0, 0, tc_reset, 0, "$toggle_reset", 1},  
{usertask, 0, 0, 0, tc_compatibility, 0, "$toggle_count", 1},  
{usertask, 0, toggle_report_check, 0, toggle_report, 0, "$toggle_report", 0},  
{usertask, 0, 0, 0, read_lib_saif, tc_lib_sync, "$read_lib_saif", 1},  
{usertask, 0, 0, 0, read_rtl_saif, tc_set_sync, "$read_rtl_saif", 1},
```

- Comment out the following line:

```
char *veriuser_version_str = "";
```

4. Save your modified veriuser.c file.
5. Exit your text editor and remain in the sample directory to link the executable file.

Linking User Tasks to the Simulation Executable File.

VPOWER provides two ways to link the user tasks to your simulator executable file: by using the vconfig utility or by using a UNIX makefile. Each method links your simulator to the VPOWER user tasks. Choose the method that you find familiar or comfortable.

Using vconfig to Link the Executable File. The vconfig utility creates a script called cr_vlog. The cr_vlog script links your Verilog-XL simulator's executable file to the VPOWER user tasks. You must define the name of the executable file created by cr_vlog, for example, verilog_toggle.

To use the vconfig method to link your executable file,

1. Use your vconfig utility or an equivalent utility to generate the cr_vlog script or an equivalent script.
2. In the script, set an environment variable pointing to the directory of the generated library archive. For example (if you are using Solaris 7 or later),

```
setenv PPLILIB "../..lib-sparcOS5/libvpower.a"
```

3. In cr_vlog, look for the line that includes the math libraries:

```
-lm \
```

4. Add a line above this line to include the libvpower.a library. For example,

```
$PPLILIB \  
-lm \
```

5. Run cr_vlog.

```
% cr_vlog
```

This script links your executable file to the VPOWER user tasks and creates the customized executable file called verilog_toggle. For details about linking the programmable language interface (PLI) by using the vconfig utility, see the *Power Compiler User Guide*.

Proceed to [“Copying the Linked Executable File” on page 3-16](#).

Using a Makefile to Link the Executable File. Using the UNIX make command, you can use a makefile to link your Verilog-XL executable file to the VPOWER user tasks. The makefile creates a modified executable file called verilog_toggle.

Two makefiles exist: Makefile.sol and Makefile.hp.

To use the makefile method to link your executable file,

1. Using a text editor such as vi, edit the appropriate makefile to set variable values for VERILOG_LIB and VERILOG_INC.

Modify the lines in the makefile to read according to your data. For example, enter

```
VERILOG_LIB = path1  
VERILOG_INC = path2
```

where *path1* is the path to your Verilog distribution .o and .a files, and *path2* is the path to your Verilog distribution .h files.

The VERILOG_LIB variable must point to the directory path of the vlog.o and omnitasks.o files. The VERILOG_INC variable must point to the directory path of the acc_user.h and veriusers.h files.

2. Save the modified makefile and exit your text editor.
3. Use the make utility to link the executable file.

```
% make -f Makefile.platform
```

The *platform* extension is sol or hp.

The make command uses the modified makefile to link your executable file, creating a customized executable file called verilog_toggle.

Copying the Linked Executable File. After you create your customized executable file, change the permissions so that the file is not writable, and copy it to a directory suitable for group access.

Enter the following commands at the UNIX prompt:

```
% chmod ogu-w verilog_toggle
```

This removes write access to other, group, and user.

```
% cp verilog_toggle site_verilog_bin_location
```

This copies the file to the site_verilog_bin_location directory for group access.

VCS Simulator

The following procedure describes how to link VPOWER to a version of VCS that contains the standard features you normally use at your site and includes the toggle count utilities needed for Power Compiler.

Note:

The PLI library has been tested with VCS version 3.0 and later versions.

To install VPOWER,

1. Change to the Synopsys vpower directory.
2. Modify a copy of the PLI table file.
3. Compile the simulation executable file.

The following sections describe these steps.

Changing to the Synopsys vpower Directory. All directories listed are relative to the root of the vpower directory: \$SYNOPTSYS/auxx/syn/power/vpower.

1. Make sure the environment variable `$SYNOPSIS` is set.

```
% echo $SYNOPSIS
```

If it is not set, set it to the correct value.

```
% setenv $SYNOPSIS synthesis_root_directory
```

2. Change to the Synopsys vpower directory.

```
% cd $SYNOPSIS/auxx/syn/power/vpower
```

Modifying the PLI Table File. To modify the PLI table file (vpower.tab) to define the new toggle count utilities,

1. Change to the vcs/vcs.sample directory, and review the sample vpower.tab file, which shows the edits you will have to make.

```
% cd vcs/vcs.sample
```

2. Make the necessary changes to the vpower.tab file.

Compiling the Simulation Executable File. VCS is a compiled simulator, so you must compile your designs along with VCS libraries to make a simulation executable file. To add PLI functionality to the simulation executable file, you need to link an extra PLI library when you compile your designs.

For Solaris the appropriate PLI library is

```
../../../../lib-sparcOS5/libvpower.a
```

You normally get a VCS simulation executable file by entering the following command at the UNIX prompt:

```
% vcs -Mupdate your_verilog_design_files compiler_options
```

To link with the PLI library, enter

```
% vcs -Mupdate \  
-P $SYNOPSYS/auxx/syn/power/vpower/vcs/vcs.sample/vpower.tab \  
your_verilog_design_files compiler_options \  
$SYNOPSYS/auxx/syn/power/vpower/lib-sparcOS5/libvpower.a
```

This generates an executable file called `simv` that includes PLI functionality.

Note:

You can copy `vpower.tab` and `libvpower.a` into any file locations that are convenient for you.

Verifying the Synthesis Tools Installation

Note:

The Synopsys Common Licensing (SCL) software must be installed and `SNPSLMD_LICENSE_FILE` or `LM_LICENSE_FILE` must be defined before you can verify the synthesis tools installation. For information on installing SCL, see [“Acquiring a License” on page 1-15](#).

To verify installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke, for example, Design Compiler, Library Compiler and Design Analyzer or Design Vision by entering the following commands on a licensed machine:

```
% $SYNOPSYS/platform/syn/bin/dc_shell
```

```
% $SYNOPTSYS/platform/syn/bin/lc_shell
```

```
% $SYNOPTSYS/platform/syn/bin/design_analyzer
```

```
% $SYNOPTSYS/platform/syn/bin/design_vision
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)). Note that not all dc_shell-based tools install on all platforms listed under “Synthesis.” For information about tool-specific platform support, see the documentation for your product.

Note:

You can also verify other synthesis tools. Use the preceding command and replace the executable file name with the name of another synthesis tool.

If you get the correct prompt, or if a GUI appears, the installation was successful.

4

Installing AMPS (version 2002.03)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up AMPS for Each User](#)
- [Verifying the AMPS Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Define the SYNOPSIS environment variable (see [“Defining the SYNOPSIS Environment Variable”](#) on page 1-19).
- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Installing the Software

To download and install AMPS from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

To install the AMPS software from the CD, follow the installation procedure described in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-2 on page 2-12](#) shows a Synopsys media installation script for PrimeTime. AMPS is installed in a similar manner.

The AMPS tool is on the PathMill CD. AMPS is a stand-alone product and cannot be installed over an existing Synopsys product, including a prior version of AMPS. You must create a new directory for AMPS.

Setting Up AMPS for Each User

To set up a new AMPS tool user, add the AMPS directory containing the executable file to the PATH environment variable.

If you are using the C shell, add the following line to the `.cshrc` file:

```
set path=($SYNOPTSYS/platform/amps/bin $path)
```

If you are using the Bourne, Korn, or Bash shell, add the following line to the `.profile` or `.kshrc` file:

```
PATH=$SYNOPTSYS/platform/amps/bin:$PATH  
export PATH
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

Verifying the AMPS Installation

To verify the AMPS installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the tool by entering the following command:

```
% $SYNOPSYS/platform/amps/bin/amps
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms”](#) on page 1-7).

If you see information about the product version, production date, and copyright, the installation was successful.

3. Run the AMPS GUI on each installed platform by entering the following command:

```
% $SYNOPSYS/platform/amps/bin/amga
```

4. Exit the GUI by choosing File > Exit in any GUI window.

5

Installing Arcadia (version 2002.05)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up Arcadia for Each User](#)
- [Verifying the Arcadia Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Installing the Software

To download and install Arcadia from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

To install the Arcadia software from the CD, follow the installation procedure described in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-1 on page 2-9](#) shows a Synopsys media installation script for the synthesis tools. Arcadia is installed in a similar manner.

Arcadia is a stand-alone product and cannot be installed over an existing Synopsys product, including a prior version of Arcadia. You must create a new directory for Arcadia.

Note:

The installation procedure for Arcadia has changed with this release. Arcadia now installs by using the `install.now` script.

Setting Up Arcadia for Each User

To set up a new Arcadia tool user,

- If you are using the C shell, source the `CSHRC_platform` file located in the install directory.

```
% cd install dir
% source CSHRC_platform
```

The install script for Arcadia creates a `CSHRC_platform` file for each platform installed. The term *platform* is replaced with the platform you installed.

The CSHRC_platform file contains the line

```
set path=(/install_directory/platform/arc/bin $path)
```

where *install_directory* is the directory in which the tool has been installed.

If you don't source the CSHRC_platform file, copy the preceding line and set the path from that file.

- If you are using the Bourne or Korn shell, add the following line to the .profile file or .kshrc file:

```
PATH=/install_directory/platform/arc/bin:${PATH}
export PATH
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

Verifying the Arcadia Installation

To verify the Arcadia installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the tool by entering the following command:

```
% DBCONVERT --version
```

If you see information about the product version, production date, and copyright, the installation was successful.

3. Run the Arcadia GUI on each installed platform by entering the following command:

```
% $SYNOPSIS/platform/arc/bin/sviewer
```

4. Exit the GUI by choosing File > Exit in any GUI window.

6

Installing CoCentric Fixed-Point Designer (version 2002.05)

This chapter contains the following sections:

- [Installing the Software](#)
- [Installing the SystemC Software](#)
- [Setting Up CoCentric Fixed-Point Designer for Each User](#)
- [Verifying the CoCentric Fixed-Point Designer Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Define the `SYNOPSYS` environment variable (see [“Defining the SYNOPSYS Environment Variable”](#) on page 1-19).

- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Note:

For detailed information on operating systems and acquiring patches, see [“Supported Platforms and Operating Systems”](#) on page 1-2.

GUI support is available if you are running CoCentric Fixed-Point Designer on the Red Hat Linux 7.2 platform.

Installing the Software

To download and install CoCentric Fixed-Point Designer from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST”](#) on page 2-2.

To install the CoCentric Fixed-Point Designer software from the CD, follow the installation procedure described in [“Installing Product Files From a CD”](#) on page 2-6. [Example 2-1 on page 2-9](#) shows a Synopsys media installation script for the synthesis tools. CoCentric Fixed-Point Designer is installed in a similar manner.

Installing the SystemC Software

During the CoCentric Fixed-Point Designer installation process, a compressed tar file containing the compiled version of SystemC 2.0.1 was copied to `$SYNOPSIS/ccfxd`.

To install SystemC,

1. Copy the `$SYNOPSIS/ccfxd/SystemC-2.0.1.bin.tar.Z` file to the directory in which you want to install SystemC.
2. Uncompress and untar the file.
3. Set the `SYSTEMC_HOME` environment variable to point to the SystemC 2.0.1 installation directory.

Setting Up CoCentric Fixed-Point Designer for Each User

Set the systemwide defaults for each user according to the user's shell and operating system. [Table 6-1](#) lists the path name and description of systemwide defaults for CoCentric Fixed-Point Designer.

Note:

If you are using CoCentric Fixed-Point Designer with CoCentric System Studio, you must set the corresponding System Studio environment variables.

Table 6-1 CoCentric Fixed-Point Designer Systemwide Defaults

Path name	Description
SYNOPSYS	Identifies the installation directory for Synopsys tools.
SYNOPSYS_CCFXD	Identifies the CoCentric Fixed-Point Designer installation directory, for example, \$SYNOPSYS/sparcOS5/ccfxd.
SYSTEMC_HOME	Identifies the SystemC installation directory.
COSSAP_DIR	Identifies the COSSAP installation directory, for example, \$SYNOPSYS/sparcOS5/cossap. (This variable is needed if you are running CoCentric Fixed-Point Designer with COSSAP.)
CCFXD_KEYS	Specifies the complete file name of the license file. If CCFXD_KEYS is not set, the tool searches for other license keys in the following order: COSSAP_KEYS SNPSLMD_LICENSE_FILE LM_LICENSE_FILE

The CoCentric Fixed-Point Designer installation script creates the following files and puts them into the \$SYNOPSYS/admin/install directory:

- environ.csh (C shell)
- environ.sh (Bourne, Korn, or Bash shell)

You might need to modify these files to customize the settings for your environment.

To add CoCentric Fixed-Point Designer to each user's environment, add the following commands to the end of each user's startup file.

- If you are using the C shell, add this command to the end of the `.cshrc` file:

```
source $SYNOPSIS/admin/install/ccfxd/bin/environ.csh
```

- If you are using the Bourne, Korn, or Bash shell, add the following line to the `.profile`, `.kshrc`, or `.bashrc` file:

```
. $SYNOPSIS/admin/install/ccfxd/bin/environ.sh
```

Verifying the CoCentric Fixed-Point Designer Installation

To verify the CoCentric Fixed-Point Designer installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the tool by entering the following command:

```
% ccfxd
```

If CoCentric Fixed-Point Designer is correctly installed, this command invokes the tool, displays the welcome screen, and then opens CoCentric Fixed-Point Designer Studio.

7

Installing CoCentric System Studio (version 2002.05)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up CoCentric System Studio for Each User](#)
- [Verifying the CoCentric System Studio Installation](#)
- [Troubleshooting Startup Problems](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Define the `SYNOPSYS` environment variable (see [“Defining the SYNOPSYS Environment Variable”](#) on page 1-19).

- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Note:

CoCentric System Studio works with certain versions of Solaris and HP-UX platforms in combination with a C++ compiler. A new platform, Solaris 7 or 8 (32-bit mode) with the GCC compiler, is available for the CoCentric System Studio tool. To install this version of CoCentric System Studio, use gccsparcOS5 as the platform keyword.

For detailed information on operating systems and acquiring patches, see [“Supported Platforms and Operating Systems”](#) on page 1-2.

GUI support is available if you are running CoCentric System Studio on the Red Hat Linux 7.2 platform.

Installing the Software

To download and install CoCentric System Studio from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

To install the CoCentric System Studio software from the CD, follow the installation procedure described in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-1 on page 2-9](#) shows a Synopsys media installation script for the synthesis tools. CoCentric System Studio is installed in a similar manner.

Setting Up CoCentric System Studio for Each User

This section describes how to set up CoCentric System Studio for each user on Solaris and HP-UX platforms.

Set the systemwide defaults for each user according to the user’s shell and operating system. [Table 7-1](#) lists the path name and description of systemwide defaults for CoCentric System Studio.

Table 7-1 CoCentric System Studio Systemwide Defaults

Path name	Description
ccss_home	Absolute path to the directory created to contain the version of the System Studio software
ccss_sim_dir	Path to the directory for code generation and simulation results (defaults to \$HOME/ccss/sim)
compiler_home	Absolute path to the C++ compiler home directory (typically /opt/SUNWspro on Solaris and /opt/aCC on HP-UX)

Table 7-1 CoCentric System Studio Systemwide Defaults (Continued)

Path name	Description
debugger_home	Absolute path to the debugger home directory (typically /opt/SUNWspro on Solaris and /opt/langtools on HP-UX)
make_home	Absolute path to the make home directory (typically /usr/ccs on both Solaris and HP-UX)

For C-Shell Users

To use the C shell to set up a new CoCentric System Studio tool user,

1. Add the CoCentric System Studio executable directory to the PATH environment variable.

Add the following line to the .cshrc file:

```
setenv SYNOPSISYS_CCSS ccss_home/platform/ccss
setenv CCSS_SIM_DIR ccss_sim_dir
set path = ($SYNOPSISYS_CCSS/bin $path)
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

2. If the System Studio license file will not be installed in the default location, add the following line to your ~/.cshrc file:

```
setenv CCSS_KEYS lic_file
```

3. If the paths to the C++ compiler, debugger, and make command are not already included in your ~/.cshrc file, add the following line to your ~/.cshrc file:

```
set path = (compiler_home/bin make_home/bin $path)
```

4. Make these changes effective by logging out and logging in again or by entering the following command:

```
source ~/.cshrc
```

For Bourne Shell Users

To use the Bourne, Korn, or Bash shell to set up a new user,

1. In your \$HOME directory, add the following lines to the appropriate user setup file (.profile, .kshrc, or .bashrc).

```
SYNOPSISYS_CCSS=ccss_home/platform/ccss  
export SYNOPSISYS_CCSS
```

```
CCSS_SIM_DIR=ccss_sim_dir  
export CCSS_SIM_DIR
```

```
PATH=$SYNOPSISYS_CCSS/bin:$PATH  
export PATH
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

2. If the System Studio license file will not be installed in the default location, add the following lines to your setup file:

```
CCSS_KEYS=lic_file  
export CCSS_KEYS
```

3. If the paths to the C++ compiler, debugger, and `make` command are not already included in your setup file, add the following lines to it:

```
PATH=compiler_home/bin:make_home/bin:$PATH  
export PATH
```

4. Make these changes effective by logging out and logging in again, or by entering the command

```
. $HOME/setup_file
```

where *setup_file* is `.profile`, `.kshrc`, or `.bashrc`.

VHDL Simulation

If you intend to use the external simulation interface for VHDL cosimulation under the algorithmic domain of System Studio, you must ensure that the VHDL packages are analyzed before you use them. Your system administrator should analyze the files when System Studio is installed.

The relevant commands are

```
% cd ccss_home/platform/ccss/packages/vsscli/src

vhdlan -nc ccss_vsscli_package.vhdl

% cd ccss_home/platform/ccss/packages/bittrue/ \
  vhdlsynopsys/src

vhdlan -nc ccss_PACKAGE_SYNOPSYS.vhdl
\LIB_0_0_1_PACKAGE_SYNOPSYS.vhdl
```

where *ccss_home* is the System Studio installation directory.

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

Verifying the CoCentric System Studio Installation

To verify the CoCentric System Studio installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the tool by entering the following command:

```
% ccss &
```

If System Studio is correctly installed, this command invokes System Studio, displays the System Studio welcome screen, and then opens System Studio.

Troubleshooting Startup Problems

This section addresses common startup problems.

Key File Problems

To test the System Studio installation, start the System Studio Design Center. If the software does not start, check the contents of the key file as follows:

1. If you are using a network license file, check the first line of the key file and make sure the host name and the host ID match those of the machine on which the license is running.

```
SERVER hostname hostid 26585
```

2. If you are using a network license file, check the second line of the key file and make sure the path to snpslmd exists and is correct.

```
VENDOR snpslmd scl_root/platform/bin/snpslmd
```

In this line, *platform* is the operating system keyword (see [Table 1-1 on page 1-3](#)). Make sure there are no blank lines and no leading or trailing spaces in the license file.

3. For all types of license files, make sure that all System Studio users have read access to the key file.

Set the file permission for the key file with the following command:

```
% chmod 644 ccss_home/ccss/admin/license/CCSS.KEYS
```

Or, if you have defined the symbol `CCSS_KEYS`, use this command:

```
% chmod 644 $CCSS_KEYS
```

Then use the following command to check that the read access is correct:

```
% ls -l $SYNOPSYS_CCSS/../../ccss/admin/license/CCSS.KEYS
```

You should see a report something like this:

```
-rw-r--r-- 1 thisuser group 4623 Apr 26 11:09 CCSS.KEYS
```

Insufficient Interprocess Communication (IPC) Semaphores

When starting CoCentric System Studio or CoCentric DAVIS on Solaris 5.x platforms, if you see the following report,

```
sem_create->semget->IPC_CREATE: No space left on device  
GMA failed  
FATAL: Exec_ .../sparcOS5/ccss/bin/ccss_exec_ failed:status = 139
```

you need to increase the number of system semaphores. Add the following command to the `/etc/system` file (see the man page `system(4)` for details):

```
set semsys:seminfo_semmnu=0x100
```

After you change the `/etc/system` file, restart your system by using `boot -r`.

Caution!

Changing the `/etc/system` file incorrectly will prevent the system from starting.

8

Installing COSSAP (version 2002.05)

This chapter contains the following sections:

- [Installing the Software](#)
- [Running the COSSAP Installation Script](#)
- [Setting Up COSSAP for Each User](#)
- [Defining the Printers](#)
- [Verifying the COSSAP Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Define the `SYNOPSYS` environment variable (see [“Defining the SYNOPSYS Environment Variable”](#) on page 1-19).

- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Note:

If you need either the VHDL Code Generator or the HDL Simulation Interface, [“Installing Optional Tools”](#) on page 3-10.

Installing the Software

To download and install COSSAP from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST”](#) on page 2-2.

To install the COSSAP software from the CD, follow the installation procedure described in [“Installing Product Files From a CD”](#) on page 2-6. [Example 8-1](#) shows a sample Synopsys COSSAP media installation script.

Example 8-1 Synopsys COSSAP Media Installation Script

Synopsys Media Installation

Instructions: The list within {} shows the choices for a given option. The entry within [] shows the default selection when you hit the Return key. You can cancel the installation by entering **quit** when prompted for input.

The current mounted Synopsys CD file system is 2002.05.

```
VERSION:      2002.05
PRODUCTS:    cos
PLATFORMS:   sparcOS5 hp32
PART NUMBER: 00315-000 NA
```

```
Install 2002.05 release? {y,n} [y] y
```

Enter the full path to the directory where you want to install Synopsys 2002.05 products. If the directory does not exist, it will be created. [/usr/synopsys/2002.05]: **/usr/synopsys/2002.05**

Creating Synopsys root directory /usr/synopsys/2002.05 ...

Product(s) selected: cos

Platform Independent Package for a particular product contains support files that are common to all the platforms. You must install this package for each product if you are installing it to the /usr/synopsys/2002.05 directory for the first time.

Install Platform Independent Package for cos? {y,n} [y]: **y**

Select platform(s) to install:

```
{
  sparcOS5 (for Solaris 7,8)
  hp32
}
```

Enter the list of platform(s) to install [sparcOS5]: **sparcOS5**
sparcos5

Platform(s) selected: sparcos5

Here is your final selection for installing Synopsys Tools:

VERSION: 2002.05
PRODUCTS: cos
PLATFORMS: sparcos5

Synopsys Media Directory (from) : /cdrom
Synopsys Install Directory (to) : /usr/synopsys/2002.05

Platform Independent Package(s) for : cos

Disk space required : 600 MB
Disk space available : 2170 MB

If all the information is correct, continue with the installation.

Install? {y,n} [y]: **y**

Starting Installation ... Please do not interrupt.

INSTALLING cos product, platform_independent package, 2002.05 version.

```
uncompress < ./cos.taz | ( cd /usr/synopsys/2002.05; tar xvfp - )
sparcos5
INSTALLING cos product, sparcos5 package, 2002.05 version.
uncompress < ./sparcos5/cos.taz | (cd /usr/synopsys/2002.05; tar xvfp - )
```

Synopsys Site Identification Number appears on the upper right corner of your Synopsys License Key Certificate.

-n Synopsys Site Identification Number [Hit return for 000]: **000**

Synopsys License Administrator is a person who must be contacted for Synopsys product related administrative tasks at your site.

-n Local Synopsys License Administrator [Hit return for customer]:

License Administrator Contact is the current phone number and/or Email address of customer.

-n License Administrator Contact [Hit return for ###-#### and/or *user@email*]:

Created site file /usr/synopsys/2002.05/admin/license/ site_info.

Done.

You must now continue with the product-specific installation procedures, install the Synopsys keys, and start the license servers.

For more information, refer to ./README.{cos} file(s) and the Installation Guide: UNIX-Based Platforms.

Thank you ...

Running the COSSAP Installation Script

To complete the installation for COSSAP,

1. Change your current working directory to the Synopsys root directory.

```
% cd $SYNOPSYS
```

2. Run the COSSAP installation script on each platform on which you want to install COSSAP.

```
% platform/cossap/bin/install_cossap
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

The `install_cossap` script prompts you to confirm installation defaults or change the values. To use the defaults, press Return. To change values, enter new parameters.

The `install_cossap` script defines the `COSSAP_DIR` environment variable as `$SYNOPSYS/platform/cossap`, where *platform* is the platform keyword.

[Example 8-2](#) shows the `install_cossap` script for the `sparcOS5` platform.

Example 8-2 COSSAP Installation Script for sparcOS5

```
Enter the SYNOPSYS base install directory [/usr/synopsys/2002.05]: <return>
$SYNOPSYS is /usr/synopsys/2002.05
$COSSAP_DIR is /usr/synopsys/2002.05/sparcOS5/cossap
```

```
Do you want to continue with the installation {yes|no} [yes]? <return>
```

```
Setting up $COSSAP_DIR/admin/install. Note: A warning about
newsim.sim is usually OK
```

For running simulations COSSAP manages a 'netlist number' in a file which must be writeable for all COSSAP machines in your network. Please enter the path name [/usr/synopsys/2002.05/sparcOS5/cossap/admin/install/newsim.sim] :<return>
Enter the first netlist number { >200 } [201]: <return>
Netlist number set.

Do you want to add OpenWindows to the search path in the user's environment {yes|no} [no]: **yes**
Enter the OpenWindows home directory [/usr/openwin]: <return>
Do you want to add the Compiler directory to the search path in the user's environment {yes|no} [no]: **yes**
Enter the SPARCompiler root directory [/opt/SUNWspro]: <return>

Note: The vhdlan executable could not be found in the Synopsys
~~~~~ installation in order to analyze the COSSAP VHDL packages.

If you want to use the VHDL Code Generator (VCG) or the VHDL Simulation Interface (VSI) then you can analyze the COSSAP VHDL packages by installing the Synopsys Simulation CD and restarting the install\_cossap script on this machine using the -p option:

```
install_cossap -p
```

Installation completed.

Note: It is recommended that you check \$COSSAP\_DIR/admin/install/cshrc.user  
~~~~~ and \$COSSAP\_DIR/admin/install/profile.user to verify the correct setting of the environment.

To add COSSAP to the user's environment, include one of the following code fragments at the end of the user's .profile or .cshrc file:

```
.profile:  
SYNOPSYS=/usr/synopsys/2002.05; export SYNOPSYS  
if [ -f "${SYNOPSYS}/sparcOS5/cossap/admin/install/profile.user" ];then  
    . "${SYNOPSYS}/sparcOS5/cossap/admin/install/profile.user"  
fi
```

```
.cshrc:  
setenv SYNOPSYS /usr/synopsys/2002.05  
if ( -f "${SYNOPSYS}/sparcOS5/cossap/admin/install/cshrc.user" ) then  
    source "${SYNOPSYS}/sparcOS5/cossap/admin/install/cshrc.user"  
endif
```

To analyze the COSSAP VHDL packages in an existing COSSAP installation,

1. Install the Synopsys Simulation CD.
2. Run the `install_cossap` script with the `-p` option. For example,

```
% $SYNOPSYS/platform/cossap/bin/install_cossap -p
```

The `-p` option directs the script to analyze only the VHDL packages. The script does not perform the other installation steps.

Setting Up COSSAP for Each User

The COSSAP installation script creates the following files and places them in the `$COSSAP_DIR/admin/install` directory:

- `cshrc.user` (C shell)
- `profile.user` (Bourne or Korn shell)

You might need to modify these files to customize the settings for your environment.

Add COSSAP to each user's environment by adding the following commands to the end of each user's startup file:

- If you are using the C shell, add this command to the end of the `.cshrc` file:

```
source $SYNOPSYS/platform/cossap/admin/install/ \
cshrc.user
```

- If you are using the Bourne, Korn, or Bash shell, add the following line to the `.profile`, `.kshrc`, or `.bashrc` file:

```
. $SYNOPSYS/platform/cossap/admin/install/profile.user
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms”](#) on page 1-7).

Defining the Printers

You can customize the printers used by the Block Diagram Editor or the Data Visualization tool.

Block Diagram Editor

To define the printer used by the Block Diagram Editor tool, modify the following file:

```
$HOME/.synopsys_windows/win.ini
```

For details about how to modify this file to customize the printer choices for the Block Diagram Editor, see the section on customizing your printer in the *COSSAP Block Diagram Editor User Guide*.

Data Visualization Tool

For details about how to modify the printer choices for the Data Visualization tool, see the section on printing in the *CoCentric DAVIS User Guide*.

Verifying the COSSAP Installation

Before you start a COSSAP tool for the first time, you must verify the COSSAP environment as an ordinary user. After you log in, make sure that you have included the `cshrc.user` or `profile.user` file in your `.cshrc` or `.profile` file, as described in [“Setting Up COSSAP for Each User” on page 8-7](#).

To verify the COSSAP installation and licensing,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Create a default COSSAP project:

```
% scp default
```

This creates a new COSSAP project directory tree in `$HOME/cossap/default`.

3. Install one of the COSSAP Guided Tour examples in your project directory:

```
% cd $COSSAP_DIR/demos/gt_ex01
% ./README
% cdir
```

4. Run the COSSAP Block Diagram Editor and DAVIS GUIs by entering `cbde` and `davis`. If you are able to run these tools, the installation was successful.
5. To exit these tools, choose File > Exit Application.

For more information about the COSSAP Guided Tour examples, see *Getting Started With COSSAP*.

9

Installing Floorplan Compiler (version T-2002.12)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up Floorplan Compiler for Each User](#)
- [Verifying the Floorplan Compiler Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Define the SYNOPSYS environment variable (see [“Defining the SYNOPSYS Environment Variable”](#) on page 1-19).

- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Installing the Software

To download and install Floorplan Compiler from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST”](#) on page 2-2.

To install the Floorplan Compiler software from the CD, follow the installation procedure described in [“Installing Product Files From a CD”](#) on page 2-6. [Example 2-1 on page 2-9](#) shows a Synopsys media installation script for the synthesis tools. Floorplan Compiler is installed in a similar manner.

Setting Up Floorplan Compiler for Each User

To set up a new Floorplan Compiler tool user, add the Floorplan Compiler directory containing the executable file to the PATH environment variable.

If you are using the C shell, add the following line to the .cshrc file:

```
set path=($SYNOPSYS/platform/fpc/bin $path)
```

If you are using the Bourne, Korn, or Bash shell, add the following line to the .profile or .kshrc file:

```
PATH=$SYNOPSYS/platform/fpc/bin:$PATH  
export PATH
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms”](#) on page 1-7).

Configuring the Browser for Floorplan Compiler Online Help

The Floorplan Compiler online Help system is a browser-based HTML Help system. For optimal viewing, use Netscape Navigator version 4.78 for UNIX. This Help system is not supported in Netscape Navigator version 6 or later.

Floorplan Compiler Help makes extensive use of Java, JavaScript, and style sheets. In your browser preferences, select the Advanced category and make sure that

- The Enable Java, Enable JavaScript, and Enable Style Sheets options are all selected
- The Enable Java Plugin option is deselected

You can open the Help system from within the Floorplan Compiler GUI tool or stand-alone in Netscape Navigator.

Verifying the Floorplan Compiler Installation

To verify the Floorplan Compiler installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the tool by entering the following command:

```
% $SYNOPSIS/platform/fpc/bin/fpc_shell
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

If you see information about the product version, production date, and copyright, the installation was successful.

3. Exit `fpc_shell` by entering `exit` on the command line.
4. Run the Floorplan Compiler GUI on each installed platform by entering the following command:

```
% $SYNOPSIS/platform/fpc/bin/fpc_gui
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

5. Exit the GUI by choosing File > Exit in any GUI window.

10

Installing Formality (version T-2002.12)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up Formality for Each User](#)
- [Verifying the Formality Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Define the `SYNOPTSYS` environment variable (see [“Defining the SYNOPTSYS Environment Variable”](#) on page 1-19).
- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Installing the Software

To download and install Formality from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

To install the Formality software from the CD, follow the installation procedure described in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-2 on page 2-12](#) shows a Synopsys media installation script for the PrimeTime tool. Formality is installed in a similar manner.

Formality is a stand-alone product and cannot be installed over an existing Synopsys product, including a prior version of Formality. You must create a new directory for Formality.

Setting Up Formality for Each User

To set up a new Formality tool user, add the Formality directory containing the executable file to the `PATH` environment variable.

If you are using the C shell, add the following line to the `.cshrc` file:

```
set path=($SYNOPTSYS/platform/fm/bin $path)
```

If you are using the Bourne, Korn, or Bash shell, add the following line to the `.profile`, `.kshrc`, or `.bashrc` file:

```
PATH=$SYNOPTSYS/platform/fm/bin:$PATH  
export PATH
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

For information about the Synopsys setup file, see the *Formality User Guide*.

Verifying the Formality Installation

To verify the Formality installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the Formality shell by entering the following command:

```
% $SYNOPSYS/platform/fm/bin/fm_shell
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

If you see information about the product version, production date, and copyright, the installation was successful.

3. Exit `fm_shell` by entering `exit` on the command line.
4. Run the Formality GUI on each installed platform by entering the following command:

```
% $SYNOPSYS/platform/fm/bin/formality
```

5. Exit the GUI by choosing File > Exit in any GUI window.

11

Installing FPGA Compiler II (version 2002.05-3.7)

This chapter explains how to install FPGA Compiler II on a workstation running Solaris or HP-UX. For instructions on how to install FPGA Compiler II on a system running a Windows NT platform, see Appendix A, “[Installing FPGA Compiler II \(version 2002.05-FC3.7\) on Windows Platforms.](#)”

This chapter contains the following sections:

- [Product Support](#)
- [System Requirements](#)
- [Installing the Software](#)
- [Registering FPGA Compiler II](#)
- [Enabling Online Document Readers](#)

Product Support

The FPGA Solutions Web page is regularly updated. Check it for application notes, online Help updates, and other valuable information:

<http://www.synopsys.com/products/fpga/>

For additional installation instructions, go to

http://www.synopsys.com/products/fpga/install_fc2.htm

System Requirements

[Table 11-1](#) shows the minimum system requirements for UNIX installations of FPGA Compiler II.

Table 11-1 UNIX System Requirements

| Operating system | Memory | Disk space for installation |
|---|---|-----------------------------|
| Solaris 7, 8
(32-bit mode only) | 64 MB of RAM
140 MB of swap space ¹ | 100–150 MB |
| HP-UX 11.0, 11.11 (11i)
(32-bit mode only) | 64 MB of RAM
140 MB of swap space ¹ | 100–150 MB |

1. 200 MB of virtual memory (RAM + swap space) is recommended for most designs. Larger designs might require more memory.

Installing the Software

Mounting the CD might require root access privileges. If you do not have root access privileges, see your system administrator for instructions on mounting the CD.

To install FPGA Compiler II,

1. Mount the CD-ROM, following the instructions in [“Mounting the CD” on page 2-7](#).
2. Make sure that your licensing software is installed. For information on Synopsys Common Licensing (SCL) software, see [“Acquiring a License” on page 1-15](#).
3. Change directory to the UNIX directory of the CD-ROM. For example,

```
% cd /cdrom0/UNIX
```

4. Run the setup script `setup.csh` from the UNIX directory of the CD-ROM drive and follow the instructions.
5. For a typical shared installation, choose option 1 to install the software and set up the license path.
6. Next, choose option 1 for Solaris, option 2 for HP-UX, or option 3 for both platforms.
7. Enter the path to the network keys in the format `port@hostname` (for example, `26585@keyserv`).

Registering FPGA Compiler II

To register your copy of FPGA Compiler II, fill out the registration form included with the package software and fax it to the following number:

(650) 584-1747

Registering your new system ensures that you receive technical support, warranty coverage, special offers and promotions, and early notification of future FPGA products and services.

Enabling Online Document Readers

The *FPGA Compiler II User Guide* is available online in Portable Document Format (PDF).

To read this online document, you must have version 4.0 or later of Adobe Acrobat Reader with Search plug-in installed on your system. To install Acrobat Reader with Search plug-in, download the latest version of Acrobat Reader from the Adobe home page, at

<http://www.adobe.com>

For more information, see [“Downloading Acrobat Reader from the Web” on page 21-3](#).

12

Installing NanoSim (version 2002.03)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up NanoSim for Each User](#)
- [Verifying the NanoSim Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Installing the Software

To download and install NanoSim from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

To install the NanoSim software from the CD, follow the installation procedure described in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-2 on page 2-12](#) shows a Synopsys media installation script for PrimeTime. NanoSim is installed in a similar manner. The NanoSim subtools (ADFMI, NanoSim Integration with VCS, turboWave, Verilog-A, and VTRAN) are automatically installed with the NanoSim installation.

NanoSim can be installed as a stand-alone installation or with any of the tools (PowerMill, PowerArc, and TimeMill) it comes packaged with.

Setting Up NanoSim for Each User

To set up a new NanoSim tool user,

- If you are using the C shell, source the CSHRC_platform file located in the install directory.

```
% cd install dir
% source CSHRC_platform
```

The install script for NanoSim creates a CSHRC_platform file for each platform installed. The term **platform** is replaced with the platform you installed.

The CSHRC_platform file contains the line

```
set path=(/install_directory/platform/ns/bin $path)
```

where *install_directory* is the directory where the tool has been installed.

If you don't source the CSHRC_platform file, copy the above line and set the path from that file.

- If you are using the Bourne, Korn, or Bash shell, add the following line to the .profile, .kshrc, or .bashrc file:

```
PATH=/install_directory/platform/ns/bin:${PATH}  
export Path
```

Replace **platform** with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

Verifying the NanoSim Installation

To verify the NanoSim installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the tool by entering the following command:

```
% nanosim
```

If you see information about the product version, production date, and copyright, the installation was successful.

3. Run the NanoSim GUI on each installed platform by entering the following command:

```
% $SYNOPSYS/platform/ns/bin/nanosimgui
```

4. Exit the GUI by choosing File > Exit in any GUI window.

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Installing PathMill (version T-2002.12)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up PathMill for Each User](#)
- [Verifying the PathMill Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Define the `SYNOPTSYS` environment variable (see [“Defining the SYNOPTSYS Environment Variable”](#) on page 1-19).
- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Installing the Software

To download and install PathMill from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

To install the PathMill software from the CD, follow the installation procedure described in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-2 on page 2-12](#) shows a Synopsys media installation script for PrimeTime. PathMill is installed in a similar manner.

PathMill is a stand-alone product and cannot be installed over an existing Synopsys product, including a prior version of PathMill. You must create a new directory for PathMill.

Setting Up PathMill for Each User

To set up a new PathMill tool user, add the PathMill directory containing the executable file to the PATH environment variable.

If you are using the C shell, add the following line to the `.cshrc` file:

```
set path=($SYNOPTSYS/platform/pm/bin $path)
```

If you are using the Bourne, Korn, or Bash shell, add the following line to the `.profile` or `.kshrc` file:

```
PATH=$SYNOPTSYS/platform/pm/bin:$PATH  
export PATH
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

Verifying the PathMill Installation

To verify the PathMill installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the tool by entering the following command:

```
% $SYNOPSYS/platform/pm/bin/pathmill
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

If you see information about the product version, production date, and copyright, the installation was successful.

3. Run the PathMill GUI on each installed platform by entering the following command:

```
% $SYNOPSYS/platform/pm/bin/pathmill -ga
```

Note:

The PathMill GUI is available only on 32-bit platforms (sparcOS5 or hp32).

4. Exit the GUI by choosing File > Exit in any GUI window.

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Installing PowerArc (version 2002.03)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up PowerArc for Each User](#)
- [Verifying the PowerArc Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Installing the Software

To download and install PowerArc from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

To install the PowerArc software from the CD, follow the installation procedure described in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-2 on page 2-12](#) shows a Synopsys media installation script for PrimeTime. PowerArc is installed in a similar manner.

PowerArc can be installed as a stand-alone installation or with any of the tools (PowerMill, NanoSim, and TimeMill) it comes packaged with.

Setting Up PowerArc for Each User

To set up a new PowerArc tool user,

- If you are using the C shell, source the CSHRC_platform file located in the install directory.

```
% cd install_dir
% source CSHRC_platform
```

The install script for PowerArc creates a CSHRC_platform file for each platform installed. The term *platform* is replaced with the platform you installed.

The CSHRC_platform file contains the line

```
set path=(/install_directory/platform/ns/bin $path)
```

where *install_directory* is the directory where the tool has been installed.

If you don't source the CSHRC_platform file, copy the above line and set the path from that file.

- If you are using the Bourne, Korn, or Bash shell, add the following line to the .profile or .kshrc file:

```
PATH=/install_directory/platform/ns/bin:$PATH
export PATH
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

Verifying the PowerArc Installation

To verify the PowerArc installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the tool by entering the following command:

```
% pwarc
```

If you see information about the product version, production date, and copyright, the installation was successful.

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Installing PowerMill (version 2002.03)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up PowerMill for Each User](#)
- [Verifying the PowerMill Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Installing the Software

To download and install PowerMill from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

To install the PowerMill software from the CD, follow the installation procedure described in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-2 on page 2-12](#) shows a Synopsys media installation script for PrimeTime. PowerMill is installed in a similar manner. The PowerMill subtools (ADFMI, turboWave, and VTRAN) are automatically installed with the PowerMill installation.

PowerMill can be installed as a stand-alone installation or with any of the tools (PowerArc, NanoSim, and TimeMill) it comes packaged with.

Setting Up PowerMill for Each User

To set up a new PowerMill tool user,

- If you are using the C shell, source the CSHRC_platform file located in the install directory.

```
% cd install dir
% source CSHRC_platform
```

The install script for PowerMill creates a CSHRC_platform file for each platform installed. The term *platform* is replaced with the platform you installed.

The CSHRC_platform file contains the line

```
set path=(/install_directory/platform/ns/bin $path)
```

where *install_directory* is the directory where the tool has been installed.

If you don't source the CSHRC_platform file, copy the above line and set the path from that file.

- If you are using the Bourne, Korn, or Bash shell, add the following line to the .profile or .kshrc file:

```
PATH=/install_directory/platform/ns/bin:$PATH  
export PATH
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms”](#) on page 1-7).

Verifying the PowerMill Installation

To verify the PowerMill installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the tool by entering the following command:

```
% powrmill
```

If you see information about the product version, production date, and copyright, the installation was successful.

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Installing PrimePower (version 2002.05)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up PrimePower for Each User](#)
- [Verifying the PrimePower Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Define the `SYNOPTSYS` environment variable (see [“Defining the SYNOPTSYS Environment Variable”](#) on page 1-19).
- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Installing the Software

PrimePower can be installed as a stand-alone product or as an overlay to the 2002.05 version of the synthesis tools.

- Stand-alone

Install PrimePower stand-alone in its own directory.

- Overlay

Install PrimePower overlay in the same directory as the Synopsys synthesis tools.

Stand-Alone Installation

PrimePower stand-alone must be installed in its own directory and not over an existing synthesis release.

To perform stand-alone installation,

1. Download and install PrimePower from the Web or by FTP, following the instructions described in [“Downloading and Installing the Software by EST”](#) on page 2-2.

Or

Install the files from the PrimePower CD to your system, as explained in [“Installing Product Files From a CD”](#) on page 2-6. [Example 2-1 on page 2-9](#) shows a Synopsys media installation script for the synthesis tools. PrimePower is installed in a similar manner.

Note:

When you are prompted to select the product you want to install, enter **pps** to perform a stand-alone installation.

2. Make sure that your licensing software is installed. For information on SCL software, see [“Acquiring a License” on page 1-15](#).

Overlay Installation

You perform overlay installation in the directory in which you installed the Synopsys synthesis tools (\$SYNOPSIS). You must log in as the same user who installed the Synopsys synthesis tools so that you have write permission in the \$SYNOPSIS directory.

Note:

If you have not installed the Synopsys synthesis tools, install them before proceeding with overlay installation (see Chapter 3). If you do not have the synthesis tools installed, the installation of PrimePower overlay will not be allowed.

To perform overlay installation,

1. Download and install PrimePower from the Web or by FTP, following the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

Or

Install the files from the PrimePower CD to your system, as explained in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-1 on page 2-9](#) shows a Synopsys media installation script for the synthesis tools. PrimePower is installed in a similar manner.

Note:

When you are prompted to select the product you want to install, enter **pp** to perform an overlay installation.

2. Make sure your Synopsys license server and license key file are set up to work with the synthesis tools. If you encounter problems, see the SCL documentation, *Licensing Quick Start* and *Licensing Installation and Administration Guide*.

Setting Up PrimePower for Each User

To set up a new PrimePower tool user,

1. Add the PrimePower directory containing the executable file to the `PATH` environment variable.

If you are using the C shell, add the following line to the `.cshrc` file:

Stand-alone

```
set path=(/install_directory/platform/syn/bin $path)
```

Overlay

```
set path=($SYNOPSYS/platform/syn/bin $path)
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

If you are using the Bourne, Korn, or Bash shell, add the following line to the `.profile` or `.kshrc` file:

Stand-alone

```
PATH=/install_directory/platform/syn/bin:$PATH
export PATH
```

Overlay

```
PATH=$SYNOPSYS/platform/syn/bin:$PATH
export PATH
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms”](#) on page 1-7).

2. Place a `.synopsys_pp.setup` file in the user’s home directory.

If you are using the C shell, enter

```
% cp $SYNOPSYS/admin/setup/.synopsys_pp.setup ~/.synopsys_pp.setup
```

If you are using the Bourne, Korn, or Bash shell, enter

```
# cp $SYNOPSYS/admin/setup/.synopsys_pp.setup $HOME/.synopsys_pp.setup
```

You can modify this file to customize the settings for each user.

Verifying the PrimePower Installation

To verify the PrimePower installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the tool by entering the following command:

```
% pp_shell
```

If you see information about the product version, production date, and copyright, the installation was successful.

3. Exit `pp_shell` by entering `exit` on the command line.

4. Run the PrimePower GUI on each installed platform by entering the following command:

```
% primepower &
```

5. Exit the GUI by choosing File > Exit in any GUI window.

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Installing the PrimeTime Tools (version T-2002.09)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up PrimeTime for Each User](#)
- [Verifying the PrimeTime, stamp_compiler, and budget_shell Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory” on page 1-18](#)).
- Define the `SYNOPTSYS` environment variable (see [“Defining the SYNOPTSYS Environment Variable” on page 1-19](#)).

- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Installing the Software

To download and install PrimeTime from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST”](#) on page 2-2.

To install the PrimeTime software from the CD, follow the installation procedure described in [“Installing Product Files From a CD”](#) on page 2-6. [Example 2-2 on page 2-12](#) shows a Synopsys media installation script for PrimeTime.

PrimeTime is a stand-alone product and cannot be installed over an existing Synopsys product, including a prior version of PrimeTime. You must create a new directory for PrimeTime.

Note:

Beginning with the 2002.03 release of PrimeTime, you can no longer overlay PrimeTime on the synthesis tools.

Using the PrimeTime Budgeter

After installing PrimeTime, if you want to use the PrimeTime budgeter in the Automatic Chip Synthesis flow, add the following line to the `.synopsys_dc.setup` file in the synthesis directory:

```
set acs_bs_exec full_location_path_PT_executable
```

By default, Automatic Chip Synthesis uses the Design Compiler budgeter.

Setting Up PrimeTime for Each User

To set up a new PrimeTime user,

1. Add the PrimeTime directory containing the executable file to the `PATH` environment variable.

If you are using the C shell, add the following line to the `.cshrc` file:

```
set path=($SYNOPSYS/platform/syn/bin $path)
```

If you are using the Bourne, Korn, or Bash shell, add the following line to the `.profile`, `.kshrc`, or `.bashrc` file:

```
PATH=$SYNOPSYS/platform/syn/bin:$PATH  
export PATH
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

2. Place a `.synopsys_pt.setup` file in the user’s home directory.

If you are using the C shell, enter

```
% cp $SYNOPSYS/admin/setup/.synopsys_pt.setup ~/.synopsys_pt.setup
```

If you are using the Bourne, Korn, or Bash shell, enter

```
# cp $SYNOPSYS/admin/setup/.synopsys_pt.setup $HOME/.synopsys_pt.setup
```

You can modify this file to customize the settings for each user.

Verifying the PrimeTime, stamp_compiler, and budget_shell Installation

Note:

The Synopsys Common Licensing (SCL) software must be installed and `SNPSLMD_LICENSE_FILE` or `LM_LICENSE_FILE` must be defined before you can verify the PrimeTime tools installation. For information on installing SCL, see [“Acquiring a License” on page 1-15](#).

To verify installation of the PrimeTime, stamp_compiler, and budget_shell tools,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke any of the tools by entering one of the following commands on a licensed machine:

```
% $SYNOPSYS/platform/syn/bin/pt_shell
```

```
% $SYNOPSYS/platform/syn/bin/stamp_compiler
```

```
% $SYNOPSYS/platform/syn/bin/budget_shell
```

```
% $SYNOPSYS/platform/syn/bin/primetime
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

If you get the correct prompt, or if a GUI appears, the installation was successful.

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Installing RailMill (version 2002.05)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up RailMill for Each User](#)
- [Verifying the RailMill Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Installing the Software

To download and install RailMill from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

To install the RailMill software from the CD, follow the installation procedure described in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-1 on page 2-9](#) shows a Synopsys media installation script for the synthesis tools. RailMill is installed in a similar manner.

RailMill is a stand-alone product and cannot be installed over an existing Synopsys product, including a prior version of RailMill. You must create a new directory for RailMill.

Note:

The installation procedure for RailMill has changed. RailMill now installs by using the Synopsys `./install.now` script.

Setting Up RailMill for Each User

To set up a new RailMill tool user,

- If you are using the C shell, source the `CSHRC_platform` file located in the install directory.

```
% cd install dir
% source CSHRC_platform
```

The install script for RailMill creates a `CSHRC_platform` file for each platform installed. The term *platform* is replaced with the platform you installed.

The CSHRC_platform file contains the line

```
set path=(/install_directory/platform/rm/bin $path)
```

where *install_directory* is the directory where the tool has been installed.

If you don't source the CSHRC_platform file, copy the above line and set the path from that file.

- If you are using the Bourne, Korn, or Bash shell, add the following line to the .profile or .kshrc file:

```
PATH=/install_directory/platform/rm/bin:$PATH
export PATH
```

Replace *platform* with the appropriate platform (see [“Products and Supported Platforms”](#) on page 1-7).

Verifying the RailMill Installation

To verify the RailMill installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the tool by entering the following command:

```
% railmill
```

If you see information about the product version, production date, and copyright, the installation was successful.

3. Run the RailMill GUI on each installed platform by entering the following command:

```
% $SYNOPSYS/platform/rm/bin/chipviewer
```

4. Exit the GUI by choosing File > Exit, and clicking Yes in the dialog box.

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Installing TetraMAX (version T-2002.12)

This chapter contains the following sections:

- [Installing TetraMAX](#)
- [Setting Up the User Environment](#)
- [Verifying the TetraMAX Installation](#)

If you are installing TetraMAX stand-alone, to ensure a successful installation complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Define the `SYNOPSYS` environment variable (see [“Defining the SYNOPSYS Environment Variable”](#) on page 1-19).

- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License” on page 1-15](#)).

Installing TetraMAX

This section describes Synopsys license key requirements and the two types of installation for TetraMAX ATPG and TetraMAX IddQTest, version 2002.05:

- Stand-alone

Install TetraMAX stand-alone in its own directory.

- Overlay

Install TetraMAX overlay in the same directory as the 2002.05-SP2 synthesis tools.

License Key Requirements

TetraMAX version T-2002.12 uses the Synopsys Common Licensing (SCL) system. For information on installing SCL, see [“Acquiring a License” on page 1-15](#).

Note:

Optional features such as IddQTest, PatternMap, and transition delay fault ATPG each require a separate license. For specific information on the licenses required for TetraMAX options, install the product and see the online Help for the `get licenses` command.

64-Bit Mode on HP-UX and Solaris Platforms

In 64-bit mode, TetraMAX supports both the shell and GUI on HP-UX and Solaris platforms.

To invoke TetraMAX ATPG in 64-bit mode, use the `-64bit` switch:

```
% tmax -64bit [other options]
```

An alternative method is to set the `TMAX_64BIT` environment variable to true (or to any string other than null):

```
% setenv TMAX_64BIT true  
% tmax [other options]
```

Stand-Alone Installation

TetraMAX stand-alone is a complete installation of all TetraMAX applications. It must be installed in its own directory and not over an existing synthesis release.

To perform stand-alone installation,

1. Download and install TetraMAX from the Web or by FTP, as the described in [“Downloading and Installing the Software by EST” on page 2-2](#).

Or

Install the files from the TetraMAX CD to your system, as explained in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-1 on page 2-9](#) shows a Synopsys media installation script for the synthesis tools. TetraMAX is installed in a similar manner.

Note:

When you are prompted to select the product you want to install, enter **txs** to perform a stand-alone installation.

2. Make sure that your licensing software is installed. For information on SCL software, see [“Acquiring a License” on page 1-15](#).

Overlay Installation

Install TetraMAX version version T-2002.12 over version 2002.05-SP2 of the synthesis tools only. (Do not install it over any other versions of the synthesis tools.)

You perform overlay installation in the directory in which you installed the Synopsys synthesis tools (\$SYNOPSIS). You must log in as the same user who installed the Synopsys synthesis tools so that you have write permission in the \$SYNOPSIS directory.

Note:

If you have not installed the Synopsys synthesis tools, install them before proceeding with overlay installation (see [Chapter 3](#)). If you do not have the synthesis tools installed, the installation of TetraMAX overlay will not be allowed.

To perform overlay installation,

1. To download and install TetraMAX from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

Or

Install the files from the TetraMAX CD to your system, as explained in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-1 on page 2-9](#) shows a Synopsys media installation script for the synthesis tools. TetraMAX is installed in a similar manner.

Note:

When you are prompted to select the product you want to install, enter **tx** to perform an overlay installation.

2. Make sure your Synopsys license server and license key file are set up to work with the synthesis tools. If you encounter problems, see the SCL documentation, *Licensing Quick Start* and *Licensing Installation and Administration Guide*.

Optional Installation of IddQTest

The IddQTest option of TetraMAX is installed separately from TetraMAX ATPG and requires a special license.

To install IddQTest,

1. Run the same installation script again, but enter **idq** at the “Product(s) Selected” prompt.
2. For the IddQTest target directory, specify the location where you installed the TetraMAX overlay product.

Note:

The installation script does not allow you to install IddQTest into a TetraMAX stand-alone installation. To create a stand-alone installation of IddQTest, you must specify a completely separate directory. Once you have done this, manually copy IddQTest into the same directory as the TetraMAX stand-alone product.

Setting Up the User Environment

To successfully invoke TetraMAX, you must define a separate environment variable, `SYNOPSYS_TMAX`, and set the path to the directory where TetraMAX ATPG is installed.

Perform one of the following procedures for the UNIX version of TetraMAX. Note that these examples are for the C shell. Setups in other shells will differ.

- To set up the user environment by using an alias, enter

```
% setenv SYNOPSYS_TMAX $SYNOPSYS
% alias tmax '$SYNOPSYS_TMAX/bin/tmax \!*'
```

- To set up the user environment by using a path, enter

```
% setenv SYNOPSYS_TMAX $SYNOPSYS
% set path=($SYNOPSYS_TMAX/syn/bin $path)
```

Verifying the TetraMAX Installation

To verify installation of the TetraMAX tools,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the TetraMAX GUI by entering the following command on a licensed machine:

```
% $SYNOPSYS_TMAX/bin/tmax
```

If the GUI appears, the installation was successful.

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Installing TimeMill (version 2002.03)

This chapter contains the following sections:

- [Installing the Software](#)
- [Setting Up TimeMill for Each User](#)
- [Verifying the TimeMill Installation](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory”](#) on page 1-18).
- Have your license server running and have the appropriate license keys installed (see [“Acquiring a License”](#) on page 1-15).

Installing the Software

To download and install TimeMill from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

To install the TimeMill software from the CD, follow the installation procedure described in [“Installing Product Files From a CD” on page 2-6](#). [Example 2-2 on page 2-12](#) shows a Synopsys media installation script for PrimeTime. TimeMill is installed in a similar manner. The TimeMill subtools (ADFMI, turboWave, and VTRAN) are automatically installed with the TimeMill installation.

TimeMill can be installed as a stand-alone installation or with any of the tools (PowerArc, NanoSim, and TimeMill) it comes packaged with.

Setting Up TimeMill for Each User

To set up a new TimeMill tool user,

- If you are using the C shell, source the CSHRC_*platform* file located in the install directory.

```
% cd install_dir
% source CSHRC_platform
```

The install script for TimeMill creates a CSHRC_*platform* file for each platform installed. The term *platform* is replaced with the platform you installed.

The CSHRC_*platform* file contains the line

```
set path=(/install_directory/platform/ns/bin $path)
```

where `install_directory` is the directory where the tool has been installed.

If you don't source the `CSHRC_platform` file, copy the above line and set the path from that file.

- If you are using the Bourne, Korn, or Bash shell, add the following line to the `.profile`, `.kshrc`, or `.bashrc` file:

```
PATH=/install_directory/platform/ns/bin:${PATH}
export PATH
```

Replace `platform` with the appropriate platform (see [“Products and Supported Platforms” on page 1-7](#)).

Verifying the TimeMill Installation

To verify the TimeMill installation,

1. Make sure you are in a directory where you have read/write privileges:

```
% cd $HOME
```

2. Invoke the tool by entering the following command:

```
% timemill
```

If you see information about the product version, production date, and copyright, the installation was successful.

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Installing Synopsys Online Documentation (version T-2002.12)

This chapter contains the following sections:

- [About SOLD](#)
- [Acquiring and Installing the Acrobat Software](#)
- [Verifying Your Acrobat Software](#)
- [Installing SOLD](#)
- [Verifying the SOLD Installation](#)
- [Configuring SOLD for Each User](#)
- [Searching SOLD on Linux](#)

To ensure a successful installation, complete the following procedures before beginning the installation process:

- Create the Synopsys root directory (see [“Creating the Synopsys Root Directory” on page 1-18](#)).
- Define the `SYNOPTSYS` environment variable (see [“Defining the SYNOPTSYS Environment Variable” on page 1-19](#)).

The T-2002.12 version of SOLD contains documentation for the T-2002.12, T-2002.09, 2002.05, and 2002.03 releases. You can access the documentation by clicking the product name on the SOLD front panel.

About SOLD

This chapter describes how to install and verify Synopsys Online Documentation (SOLD). The SOLD CD and the SOLD directory contain document files in the cross-platform Adobe Portable Document Format (PDF), as well as Portable Document Index files (PDX) that enable full-text searching across all SOLD documents.

To read and search these files, you need version 4.0 or later of Adobe Acrobat Reader with Search plug-in or Adobe Acrobat. You can download Acrobat Reader with Search plug-in free of charge from the Adobe Web site. For more information, see [“Acquiring and Installing the Acrobat Software” on page 21-3](#).

Note:

To use the Search plug-in capability for the Linux platform, you must have Adobe Acrobat version 5.0. See [“Searching SOLD on Linux” on page 21-13](#).

The online documentation for COSSAP (COSSAP SOLD) is distributed to COSSAP customers on a separate CD. The installation instructions in this chapter apply to both SOLD and COSSAP SOLD.

Acquiring and Installing the Acrobat Software

You can acquire the Acrobat software in three ways:

- By downloading the freeware Acrobat Reader from the Web
- By installing the freeware Acrobat Reader from a CD
- By purchasing Adobe Acrobat

The following sections describe these options.

Downloading Acrobat Reader from the Web

To download Acrobat Reader from the Adobe Web site, go to <http://www.adobe.com/> and perform the following procedure. (The details of these instructions might change if Adobe modifies its Web site.)

1. Click the Get Acrobat Reader button.
2. On the Welcome page, click Get Acrobat Reader.
3. Follow the instructions under “Download Adobe Acrobat Reader.”

Note:

Change the platform value to the appropriate OS platform, and select the “Include option for searching PDF files” box.

4. Click DOWNLOAD.

5. Select the “Save to Disk” option.
6. Uncompress the tar.Z or use the gunzip utility for the tar.gz file.
For example,

```
% gzip -d solaris-506.tar.gz
```
7. Untar the resulting file. For example,

```
% tar xvf solaris-506.tar
```
8. Enter `./install` to start the installation script.

For more information, consult the `instguid.txt` installation guide that you get when you download Acrobat Reader.

Installing Acrobat Reader From a CD

If you do not have access to the World Wide Web, you can get a CD containing Acrobat Reader software from your Synopsys sales representative. You can also order the CD directly from Adobe for a nominal fee.

To install Acrobat Reader from a CD,

1. Mount the Acrobat Reader CD.
2. Change the directory to the mount point of the CD-ROM. For example,

```
% cd /cdrom
```
3. Change the directory to `acroread/unix/Rdr_srch` (`ACROREAD/UNIX/RDR_SRCH` on the HP platform). For example,

```
% cd acroread/unix/Rdr_srch
```

Be sure to install the software from the Rdr_srch directory. Using this directory ensures that the Search capability is enabled.

Note:

Acrobat doesn't support the search capability for Linux, so you will see a different directory if you are running Linux.

4. Enter `./install` (or `./INSTALL` for the HP platform) to start the installation script.

Using Adobe Acrobat

If you choose to purchase Adobe Acrobat (formerly called Acrobat Exchange), install it by following the instructions in the product documentation.

Adobe Acrobat allows you to alter PDF files in certain limited ways. For example, you can add annotations and hypertext links to PDF documents. With Acrobat Reader, you can view but not alter PDF files.

Verifying Your Acrobat Software

To view SOLD, you must have Acrobat version 4.x or later.

To search SOLD, you must have the Search plug-in. For information about searching SOLD on the Linux platform, see [“Searching SOLD on Linux” on page 21-13](#).

The following sections describe how to determine your current software configuration.

Checking the Version Number

If you are using 3.x or an earlier version of Acrobat, you must upgrade in order to view SOLD. Follow the instructions in [“Acquiring and Installing the Acrobat Software” on page 21-3](#).

To check the version number,

1. Open Acrobat Reader or Adobe Acrobat.
2. Choose Help > About Acrobat Reader (or Help > About Adobe Acrobat).
3. In the window that appears, verify that the words “Acrobat Reader 4.0” or “Adobe Acrobat 4.0” appear. (Later versions of Acrobat are also supported.)
4. Close the About screen by clicking anywhere in the window.

Checking for the Search Plug-In

If you are using Acrobat Reader without the Search plug-in, you must upgrade in order to have full-text searching capability in SOLD. The Search plug-in cannot be downloaded from the Adobe site as a separate file; to upgrade, you must download the entire Acrobat Reader with Search plug-in package. Follow the instructions in [“Acquiring and Installing the Acrobat Software” on page 21-3](#).

To check for the Search plug-in,

1. Open Acrobat Reader or Adobe Acrobat (if it is not already open).
2. Choose Help > About Plug-Ins to verify that Acrobat Search is on the list of installed plug-ins.

Installing SOLD

You can install SOLD by electronic software transfer (EST) or from the SOLD CD.

Contents of SOLD

The SOLD documentation set contains PDF document files, the index (PDX) files that enable full-text searching, and the UNIX installation scripts.

SOLD contains several collections of documents. Each collection describes a particular subject area and resides in its own directory. Each collection directory contains all the PDF files for the books in its subject area, as well as the index files for searching in that collection.

The README.1ST file in the SOLD directory and on the SOLD CD lists the contents of SOLD.

Installation Options

The SOLD installation procedure copies files from the SOLD directory (for EST) or SOLD CD into the appropriate places in the Synopsys root directory structure.

SOLD offers the following installation options:

- Full installation on hard drive
- Partial installation on hard drive
- No installation on hard drive (read from CD)

The installation script performs a full installation. Most sites use a full installation for shared access by many users. If disk space is at a premium, you can create a partial installation by removing unused directories after the installation is complete (see [“Partial Installation” on page 21-11](#)).

Electronic Software Transfer Installation

To download and install SOLD from the Web or by FTP, follow the procedures described in [“Downloading and Installing the Software by EST” on page 2-2](#).

Note:

To have access to the complete collections of SOLD, download all three files. The SOLD files use the following convention:

```
sold_T-2002.12_common.tar.Z  
sold_T-2002.12_ssd1.tar.Z  
sold_T-2002.12_ssd2.tar.Z
```

These files also contain the T-2002.12, T-2002.09, 2002.05, and 2002.03 documentation.

[Example 21-1](#) shows the SOLD media installation script; it applies to installation by EST and from the CD.

CD Installation

To install SOLD from the CD, follow the installation procedure described in [“Installing Product Files From a CD” on page 2-6](#).

[Example 21-1](#) shows the SOLD media installation script; it applies to installation by EST and from the CD. Note that the T-2002.12 release also contains the T-2002.09, 2002.05, and 2002.03 documentation.

Untar and uncompress the SOLD files before running install.now.

Example 21-1 Synopsys SOLD Media Installation

Instructions: The list within {} shows the choices for a given option. The entry within [] shows the default selection when you hit the Return key. You can cancel the installation by entering quit when prompted for input.

The current mounted Synopsys CD file system is T-2002.12.

```
VERSION:      T-2002.12
PRODUCTS:     ssd jsd
PLATFORMS:
PART NUMBER:  XXXXX
```

Install T-2002.12 release? {y,n} [y] **y**

Enter the full path to the directory where you want to install Synopsys T-2002.12 products. If the directory does not exist, it will be created. [/usr/synopsys/T-2002.12]: **/usr/synopsys/T-2002.12**

WARNING: /usr/synopsys/T-2002.12 directory already exists ...
Any products/platforms that you select for installation may overwrite the contents of this directory.

Continue with installation? {y,n} [y] **y**

Select Synopsys product(s) to install:

```
{
  ssd - Synopsys Online Documentation
  jsd - Japanese-language Synopsys Online Documentation
}
```

Enter the list of product(s) to install [ssd]: **ssd jsd**

Product(s) selected: ssd jsd

Please wait, validating installation...

If you continue, you will reinstall (some/all of) the T-2002.12 version of ssd.

Continue with installation? {y,n} [y] **y**

Here is your final selection for installing Synopsys Tools:

VERSION: T-2002.12
PRODUCTS: ssd jsd
PLATFORMS:

Synopsys Media Directory (from) : /cdrom
Synopsys Install Directory (to) : /usr/synopsys/T-2002.12

Platform Independent Package(s) for : ssd jsd

Disk space required : 498 MB
Disk space available : 55338 MB

If all the information is correct, continue with the installation.

Install? {y,n} [y]: **y**

Starting Installation ... Please do not interrupt.

Found Acrobat Reader at /usr/local/bin/acroread.
Use this executable to invoke SOLD? {y,n} [y] **y**

Installing Synopsys Online Documentation ...
Installing dw collection
...
Installing synth collection
Installing Japanese-language Synopsys Online Documentation ...
Installing jsold collection

Done.

You must now continue with the product-specific installation procedures,
install the Synopsys keys, and start the license servers.

For more information, refer to /cdrom/README.{ssd jsd} file(s) and
the Installation Guide version T-2002.12.

Thank you ...

Partial Installation

Because each collection directory is self-contained, partial installations of SOLD are possible.

To effect a partial installation of SOLD, perform a standard installation, then delete from `$SYNOPSIS/doc/online` those collection directories you do not need at your site.

Note:

Do not delete the `top.pdf` file; it contains the SOLD welcome screen. Do not delete the `solid` directory; it contains the *SOLD User Guide*.

Keep the remaining collection directories intact: Do not remove files from them or move the files in a collection relative to each other. Such modifications can cause hypertext links and the search mechanism to fail.

Verifying the SOLD Installation

Verify the installation by opening SOLD. To open SOLD, issue the command

```
% $SYNOPSIS/sold
```

If SOLD is correctly installed, this command invokes Acrobat and displays the SOLD welcome screen in the Acrobat window.

Configuring SOLD for Each User

The search engine uses index files to perform full-text search and retrieval on a document. SOLD provides an index file (index.pdx) with each collection.

When you open a document, the associated index file is automatically available to the search engine. However, to search SOLD before opening a document, you can manually make an index available to the search engine.


To manually make an index available to the search engine,

1. Choose Edit > Search > Select Indexes in the Acrobat window.
2. Click the Add button.
3. Navigate to one of the collection directories, for example, \$SYNOPSYS/doc/online/synth.
4. Select the index.pdx file.
5. With the index.pdx file selected, click the Apply button.

The selected index is added to the list of available indexes.

For information about using SOLD, see the *SOLD User Guide*. To access the *SOLD User Guide*, open SOLD and click the hypertext link labeled “Using Synopsys Online Documentation.”

Searching SOLD on Linux

The search plug-in capability for the Linux platform is available with version 5.0.5 of Acrobat Reader. If you do not have Acrobat Reader version 5.0.5 or later installed, only the Find command (Edit > Find) is available for searching the Linux version of SOLD. To locate information with the Find command, use the print version of a document. On the SOLD front panel, select a document set, then click the print version icon () next to the document you want to search.

22

Troubleshooting

This chapter contains the following sections:

- [Memory](#)
- [X Window System](#)
- [Graphical User Interface Printer Setup](#)

Memory

Some common memory problems and possible solutions are described in this section.

Why Do I Get an “out of memory” Message?

Here is a possible scenario: A large job is running on a machine that has abundant swap space. You try to run a Design Compiler job on this machine and assume that you don't need to be concerned about running out of swap space. But the application terminates with a fatal out-of-memory message before the machine runs out of swap space.

UNIX limits the amount of memory a job or process can consume while it is running. If a job reaches these limits before the system runs out of swap space, the job terminates with the fatal out-of-memory error message. These limits are built into the UNIX OS to prevent a single job or process from consuming all system resources (swap space, CPU time, number of processes, and so on), thereby depleting resources for other jobs. Some limits applicable to Synopsys applications are

- Data size—The maximum data size (including stack) for the process
- CPU time—The maximum CPU seconds per process
- Core dump size—The maximum size of a core dump

The data-size limit is the most important. It can be set at two levels:

- The system level

Limits are enforced for everyone who runs on that system.

- On a per-user basis

On all machines except those running HP-UX, you can change your personal limits by using the `limit` command (C shell) or `ulimit -s -d` command (Bourne, Korn, or Bash shell). On the HP-UX platform, only the system administrator can set the limits. Personal limits cannot exceed the systemwide limit. For example, the limits on a Sun client (Solaris 7) might look like this:

```
% limit
cputime          unlimited
filesize         unlimited
datasize        524280 kbytes
stacksize       8192 kbytes
coredumpsize    unlimited
descriptors     256
memorysize      unlimited
```

Note:

In this example, any jobs or processes started on the Sun client can grow to 524 MB before limits are enforced.

On some solaris systems, setting the data size to `unlimited` defaults to a data size of only 2 GB. To set a larger data size, set the data size explicitly. For example, set it to 3.8 GB by using the following command:

```
% limit datasize 3891 MB
```

If the data size is sufficient, check the stack size. A stack size that is larger than the default (8,192 KB) can cause the data size to be smaller than required. Because the stack size is taken at the beginning of the process, it uses memory that would normally be available for data. Therefore you should set the stack size higher than the default only when absolutely necessary.

Most system administrators do not adjust the limits unless they are confronted with problems. If you do not adjust the limits, it is possible for a tool requiring a lot of swap space (such as Design Compiler) to experience an out-of-memory problem.

Note, however, that it is possible to extend memory (physical and swap space). For more information, see [“Accessing Memory Beyond 2 GB With 32-Bit Synopsys Tools”](#) on page 1-13.

What Should I Do When an “out of memory” Error Occurs?

Make sure that you are not running out of swap space on the system. Use the `swap -l` command for Sun SPARC systems to obtain swap space information. For example,

```
% swap -l
swapfile          dev    swaplo  blocks  free
/dev/dsk/c0t3d0s1 32,25      8  822520  628872
```

To determine available swap space on systems other than Sun SPARC, contact your system administrator.

If you have enough swap space but still encounter OS limits, use the `limit` command to find out what the `datasize` variable is set to (for all machines except HP). The `limit` command displays user-level limits.

```
% limit
cputime          unlimited
filesize        unlimited
datasize        524280 kbytes
stacksize       8192 kbytes
coredumpsize    unlimited
descriptors     256
memorysize      unlimited
```

If your user-level data-size limit is too low, you can increase it by entering `limit datasize xxxxm` at the UNIX prompt, where `xxxx` is the number of megabytes and `m` stands for megabytes. For example,

```
% limit datasize 3891m
```

Note:

The `limit` command is a built-in C shell (`cs`) command. Make sure you are in `cs` before you execute `limit`.

For additional information about the `limit` command, see the appropriate man page. On HP systems you cannot change the user-level limits. User-level limits can be changed only at the system level.

The procedure for making limit changes varies from platform to platform. The system administrator at each site should be familiar with the procedure. If you still encounter problems, contact your ncuSynopsys technical representative.

X Window System

Some common X Window System problems and possible solutions are the following:

- If you cannot use the vi text editor in the xterm window, add an xterm entry in your `/etc/termcap` file.
- If, after an upgrade, you can no longer open Design Analyzer from your host, verify that the fonts assigned in `.synopsys_dc.setup` or the server default fonts are loaded. A fatal error results if the fonts are not available.
- Your `~/.xinitrc` script might not be read on startup because it is a C shell script. In this case, you must rewrite it as a Bourne (`/bin/sh`) script.

Graphical User Interface Printer Setup

By default, GUI applications show only one printer in the default printer dialog box. The default printer is defined by the `PRINTER` environment variable. To add additional printers to your GUI environment, use the `snps_addprinter` script to specify a printer that can be used with Synopsys GUI applications that are based on MainWin. For example, from the command line enter

```
% cd $SYNOPSYS/platform/mw/bin
% snps_addprinter my_printer1 my_printer2
```

Note:

The snps_addprinter utility works only with GUI applications based on MainWin, such as Design Vision, Library Compiler and TetraMAX. It does not work with older applications such as Design Analyzer or Formality.

If you have other problems with your GUI applications, contact Synopsys support.

A

Installing FPGA Compiler II (version 2002.05-FC3.7) on Windows Platforms

You can install the FPGA Compiler II software to run PC running Windows. The procedure is explained in the following sections:

- [Product Support](#)
- [System Requirements for Windows](#)
- [Installing FPGA Compiler II](#)
- [Registering FPGA Compiler II](#)
- [Enabling Online Document Readers](#)

Product Support

The FPGA Solutions page on the Synopsys World Wide Web site is regularly updated with the latest information. Check this page to find application notes, online help updates, and other valuable information:

<http://www.synopsys.com/products/fpga/>

For additional installation instructions, go to

http://www.synopsys.com/products/fpga/install_fc2.htm

System Requirements for Windows

[Table A-1](#) shows the minimum system requirements for installing FPGA Compiler II on Windows.

Table A-1 Windows System Requirements

| Operating system | Memory | Disk space for installation |
|---|--|---|
| Windows NT 4.0 (Service Pack 4 or later), Windows 98, Windows ME, or Windows 2000 | 32 MB of RAM
70 MB of swap space ¹ | 50–270 MB, depending on file system and partition size (50 MB for NTFS or small FAT partition and 270 MB for large FAT partition) |

1. 100 MB of virtual memory (RAM + swap space) is recommended for most designs. Larger designs might require more memory.

Installing FPGA Compiler II

You can install FPGA Compiler II on a PC running Windows by downloading the tool from the Web or installing it from the CD.

Note:

Make sure that your licensing software is installed. For information on Synopsys Common Licensing (SCL) software, see [“Acquiring a License” on page 1-15](#).

To install FPGA Compiler II from the Web,

- Go to

http://www.synopsys.com/products/fpga/download_fc2.html

and follow the instructions.

To install FPGA Compiler II from the CD, do the following:

1. Insert the FPGA Compiler II CD into your computer's CD drive.

In most cases, the setup program automatically starts. If the setup program does not start automatically, run setup.exe from the CD directory.

2. Follow the instructions on the screen.

As you move through the installation screens, note the following:

- You can install a subset of the available target devices to save disk space. To do this, select Custom in the Setup Type dialog box and follow the instructions.

- The program installation directory path cannot contain space characters.

Registering FPGA Compiler II

To register your copy of FPGA Compiler II, fill out the registration form included with the software package and fax it to the following number:

(650) 584-1747

Registering your new system ensures that you receive technical support, warranty coverage, special offers and promotions, and early notification of future FPGA products and services.

Enabling Online Document Readers

The *FPGA Compiler II User Guide* is available online in Portable Document Format (PDF). The setup program installs this document in the directory where you installed the software.

To read the Synopsys FPGA online document, you must have Adobe Acrobat Reader version 4.0 or later installed on your system. Install Acrobat Reader version 4.0 by one of the following methods:

- To install Acrobat Reader on a Windows system from within FPGA Compiler II, enter the following command:

```
CD_ROM_drive:\acrosrch\32bit\setup
```

- Download the latest Acrobat Reader from the Adobe home page, at

<http://www.adobe.com>

For more information, see [“Downloading Acrobat Reader from the Web”](#) on page 21-3.

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