System Studio Installation Notes
Version A-2007.09
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These installation notes present the latest information about installing System Studio in the following sections.

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 1-4).
- Define the `SYNOPSYS` environment variable (see “Defining the SYNOPSYS Environment Variable” on page 1-4).

Note:

For detailed information on operating systems and acquiring patches, see “Supported Platforms and Keywords” on page 1-2.

See also http://www.synopsys.com/install for additional installation and licensing information.

Media Availability and Supported Platforms

When System Studio is initially released, it is available by electronic software transfer download. At a later date, it becomes available on DVD (or CD depending on image size). Obtain the appropriate binary executable files based on the operating system you need. Table 1-1 shows the supported operating systems and keywords for this release. See http://www.synopsys.com/products/sw_platform.html for latest information.

Table 1-1 Supported Platforms and Keywords

Platform	Operating system	Synopsys platform keyword
AMD Opteron	Red Hat Enterprise Linux v3, v4[1]	linux (32-bit mode)[2]
IA-32 (X86)	Red Hat Enterprise Linux v3, 41	linux (32-bit mode)2
Sun SPARC	Solaris 9, 101	sparcOS5 (32-bit mode) gccsparcOS5 (32-bit mode)

1. Binary-compatible hardware platform or operating system. Note, however, that binary compatibility is not guaranteed.

2. The 32-bit (x86) Linux software is binary compatible with Intel EM64T or AMD Opteron running Red Hat Enterprise Linux. Note, however, that binary compatibility is not guaranteed.

Disk Space and Memory Requirements

The System Studio tool has the following minimum memory requirements:

- Physical Memory – 256 MB (1GB is recommended)
- Swap space – 512 MB (2GB are recommended)

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

The disk space requirement varies, depending on the platform and tool selected for installation. During the installation process, Synopsys Installer displays the required disk space.

Installing the Software

System Studio uses the Synopsys Installer tool, which allows you to use a graphical user interface (GUI) or a text script. For information about downloading Synopsys Installer and System Studio, see “Synopsys Product File Download Methods” on page 1-17.

To install System Studio by EST or from the DVD (or CD depending on image size), follow the procedures described in “Installing Products with the Synopsys Installer” on page 1-29.

Example 1-1 on page 1-35 shows a Synopsys media installation script for the synthesis tools. System Studio is installed in a similar manner.

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

Setting Up the User Environment

To set up the user environment, you must specify the location of the executable file, set the license environment variable, and if necessary, you must also analyze the VHDL files.

Specifying the Executable File Location

Set the defaults for each user according to the user’s shell and operating system. Table 1-2 lists the path name and description of systemwide defaults for System Studio.

Table 1-2 System Studio Systemwide Defaults

Path name	Description
SYNOPSYS_CCSS	Identifies the System Studio installation directory. For example, $SYNOPSYS/sparcOS5/ccss.
CCSS_SIM_DIR	Path to the directory for code generation and simulation results (defaults to $HOME/ccss/sim)
CCSS_KEYS	Specifies the complete file name of the license file. If CCSS_KEYS is not set, the tool searches for other license keys in the following order: - SNPSLMD_LICENSE_FILE - LM_LICENSE_FILE

For C Shell Users

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

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

   Add the following line to the .cshrc file:

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

   Replace *platform* with the appropriate platform (see "Supported Platforms and Keywords" on page 1-2).

   Note:

   You can define CCSS_SIM_DIR, but if it is not set, the GUI provides a reasonable default.

2. Point to your license key file by adding one of the following lines to your ~/.cshrc file:

   setenv CCSS_KEYS /path/to/synopsys.lic

3. Set up the paths to the correct C++ compiler, debugger, and `gmake` command as follows:

   - If you are using the linux or gccsparcOS5 platform, use the GNU tools that are shipped with the product.

     Add the following line to your ~/.cshrc file:

     ```
     source $SYNOPSYS_CCSS/../gnupackages/source_me.csh
     ```

   - If you are using the sparcOS5 or hp32 platform and the paths to the C++ compiler, debugger, and `gmake` command are not already included in your ~/.cshrc file, or if you need to use a different (but compatible) compiler, debugger, or gmake tool, 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

   ```
   % 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):

   ```
   SYNOPSYS_CCSS=ccss_home/platform/ccss
   ```

```
export SYNOPSYS_CCSS

CCSS_SIM_DIR=ccss_sim_dir
export CCSS_SIM_DIR


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

Replace *platform* with the appropriate platform (see Table 1-1 on page 1-2).

Note:

You can define CCSS_SIM_DIR, but if it is not set, the GUI provides a reasonable default.

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. Set up the paths to the correct C++ compiler, debugger, and `gmake` command as follows:

   - If you are using the linux or gccsparcOS5 platform, use the GNU tools that are shipped with the product.

     Add the following line to your setup file:

     ```
     . $SYNOPSYS_CCSS/../gnupackages/source_me.sh
     ```

   - If you are using the sparcOS5 or hp32 platform and the paths to the C++ compiler, debugger, and `gmake` command are not already included in your setup file, or if you need to use a different (but compatible) compiler, debugger, or gmake tool, add the following line to your setup file:

     ```
     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

   ```
   $. $HOME/setup_file
   ```

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

Setting the SNPSLMD_LICENSE_FILE Environment Variable

You must install the SCL software and define the `SNPSLMD_LICENSE_FILE` variable before you can verify the System Studio installation. See the *Synopsys Common Licensing Installation Notes* at *http://www.synopsys.com/install* for information about downloading and installing SCL.

Analyzing VHDL Files

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 $SYNOPSYS_CCSS/packages/vsscli/src/
% vhdlan -nc ccss_vsscli_package.vhdl
% cd $SYNOPSYS_CCSS/packages/bittrue/vhdlsynopsys/src/
% vhdlan -nc CCSS_PACKAGE_SYNOPSYS.vhdl \
      LIB_0_0_1_PACKAGE_SYNOPSYS.vhdl
```

Verifying the System Studio Installation

To verify the 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 &
   ```

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 27000
   ```

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 1-2). 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_KEYS/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 System Studio or 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.