ESP Installation Notes
Version D-2009.12
December 7, 2009

These installation notes present information about installing ESP version D-2009.12 in the following sections:

- Media Availability and Supported Platforms
- Disk Space and Memory Requirements
- Installing the Software
- Setting Up the User Environment
- Verifying the ESP Installation

Note:

The installation instructions in this chapter are the most up-to-date available at the time of production. However, changes might have occurred. For the latest installation information, see the product release notes or documentation.

See also http://www.synopsys.com/Support/Licensing/Installation/Pages/default.aspx for additional installation and licensing information.

Media Availability and Supported Platforms

ESP is available by EST download upon initial software release, and at a later date on DVD (or CD depending on image size).

Table 1 shows the supported compute platforms, operating systems, Synopsys platform keywords, and windowing environments for this release.

Table 1 Supported Platforms, Operating Systems, and Keywords

Compute Platform	Operating System	Synopsys Platform Keyword	Windowing Environment
x86_64	Red Hat Enterprise Linux v4, 5[1]	amd64 (64-bit mode) linux (32-bit mode)[2]	GNOME
x86_64	SUSE Enterprise Linux v9, 10[1]	suse64 (64-bit mode) suse32 (32-bit mode)	KDE
x86_64	Solaris 10	x86sol64 (64-bit mode) x86sol32 (32-bit mode)	CDE
x86	Red Hat Enterprise Linux v4, 5[1]	linux (32-bit mode)[2]	GNOME
x86	SUSE Enterprise Linux v9,10[1]	suse32 (32-bit mode)	KDE
IBM RS6000	AIX 5.3	rs6000 (32-bit mode)	CDE
Sun SPARC	Solaris 9, 10[1]	sparc64 (64-bit mode) sparcOS5 (32-bit mode)	CDE

1. Binary-compatible hardware platform. Note, however, that binary compatibility is not guaranteed. For the latest information, see http://www.synopsys.com/Support/Licensing/SupportPlatform/ReleaseSupport and http://www.synopsys.com/Support/Licensing/SupportPlatform/Pages/PlatformsRoadmap.aspx

2. The 32-bit (x86) and 64-bit (x86_64) Linux software is binary compatible with the Intel EM64T or AMD Opteron running Red Hat Enterprise Linux. For C-Foundation platform support, see http://www.synopsys.com/Support/Licensing/SupportPlatform/ReleaseSupport/Pages/SupportFoundationC.aspx

Disk Space and Memory Requirements

The disk space requirement depends on the platform. Table 2 shows the maximum space required for ESP's installed image on a particular platform.

Table 2 Disk Space Requirements (in Megabytes)

Operating System	Megabytes
Red Hat Enterprise, Linux v4, 5	500
SUSE Enterprise, Linux 9, 10	500
Solaris 10	500
AIX 5.3	500
Solaris 9, 10	500

The ESP tool has the following minimum memory requirements:

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

Accessing Memory Beyond 2 GB With 32-Bit Tools

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

Note:

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

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.

1. Make sure your system has greater than 2GB of memory installed.
2. Make sure the system you are using does not have restrictions that prevent you from using more than 2 GB of memory.

3. Create unlimited data size in the shell that you are using: C, Bourne, Korn, or Bash. If there are system-wide 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 the C shell,

     ```
     % limit datasize 3800000
     ```

     For the 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.

Installing the Software

ESP uses the Synopsys Installer tool, which supports a graphical user interface (GUI) to simplify installation. The installer tool also allows you to use an installation text script.

To install ESP, download the Synopsys Installer tool from the Synopsys EST/FTP site and follow the installation guidelines described in the “Installing Synopsys Tools” document, located at http://www.synopsys.com/Support/Licensing/Installation/Pages/default.aspx.

The “Installing Synopsys Tools” document describes the installer tool installation along with general Synopsys installation guidelines. This ESP installation release note describes ESP specific installation information.

Note:
Download the latest version of the Synopys Installer even if you downloaded the installer for a previous release.

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

Setting Up the User Environment

To set up the user environment, you must specify the location of the executable file and set the license environment variable.

Specifying the Executable File Location

A platform-independent wrapper script is provided for ESP. This script automatically determines the operating system platform at runtime, which simplifies the setup required to use ESP.

The platform-independent wrapper script is located at *install_dir*/bin and includes the following options:

```
-32 | -64
```

Note:
If you select a platform executable file that is unavailable, an automatic switch is made to an available platform based on your current environment. No warning message is issued.

To set up the environment by using the platform-independent wrapper script, add the ESP bin directory to the `PATH` environment variable.

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

```
set path=(install_dir/bin $path)
```

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

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

Replace *install_dir* with the ESP installation directory.

Setting the SNPSLMD_LICENSE_FILE Environment Variable

You must install the Synopsys Common Licensing (SCL) software, retrieve your license key file, and define the `SNPSLMD_LICENSE_FILE` environment variable before you can verify the ESP installation.

For information about downloading SCL, installing SCL, or setting the license file variable, see the *Synopsys Licensing Quickstart Guide*, which is available at the following address:

http://www.synopsys.com/Support/Licensing/Licensing/Pages/default.aspx

Verifying the ESP Installation

This section descibes the ESP Shell installation verification procedure and the Formality ESP installation verification procedure.

Verifying the ESP Shell Installation

To verify the ESP Shell installation, run a small test case from the installation doc directory for the release.

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

   ```
   % cd $HOME
   ```

2. Obtain a copy of test source files.

   ```
   % mkdir ~/testinstall
   % cd ~/testinstall
   % cp ESP_install_dir/doc/esp/demo/install/* .
   ```

   where *ESP_install_dir* is the ESP Shell installation directory.

3. Run a test case.

   ```
   % esp_shell -f run_esp_shell.tcl
   ```

   or

   ```
   % ESP_install_dir/bin/esp_shell -f run_esp_shell.tcl
   ```

4. The esp_shell.log file created by the tool should look similar to the esp_shell.log.GOLD file.

Verifying the Formality ESP Installation

To verify the Formality ESP installation, run a small test case from the ESP installation directory for the release.

Formality ESP requires that both Formality and ESP be installed. You must also set the UNIX environment variable SYNOPSYS_ESP_ROOT to the ESP installation directory.

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

   ```
   % cd $HOME
   ```

2. Obtain a copy of test source files.

   ```
   % mkdir ~/testinstall
   % cd ~/testinstall
   % cp ESP_install_dir/doc/esp/demo/install/* .
   ```

   where *ESP_install_dir* is the ESP installation directory.

3. Run a test case.

   ```
   % fm_shell -esp -f run_fm_shell.tcl
   ```

   or

   ```
   % Formality_install_dir/bin/fm_shell -esp -f run_fm_shell.tcl
   ```

   where *Formality_install_dir* is the Formality installation directory.

4. The fm_shell.log file created by the tool should look similar to the fm_shell.log.GOLD file.