Installing and Setting up Magellan

This document explains how to install Magellan and set up licensing and the environment to run the tool.

In This Document

Installing Magellan

Magellan is only available from the Synopsys FTP site. Before you download Magellan, contact your Synopsys Applications Consultant for specific download instructions and license keys.

Using the Synopsys Installer

To install Magellan, first download the Synopsys Installer. For more information on using this tool, see the Synopsys Installation Guide on the Synopsys Web site.

System Requirements

Before installing Magellan, be sure you have the following operating system and tool versions installed on your workstation:

- Solaris™ 2.9 or later (32- or 64-bit)
- SUSE Linux Enterprise Server 9 (32-bit)
- SUSE Linux Enterprise Server 9 (64-bit)—Verilog only
- RHEL v4 (32-bit)
- RHEL v4 (64-bit AMD Opteron)
- VCS 2006.06-SP2-6 or later

  or

  VCS MX 2006.06-SP2-6 or later (for VHDL and mixed-language designs)
- Vera 2005.06-SP1-3 or later (only needed if you are using Vera biasing)
- Debussy, Novas 2006.10v2 and later
- Synopsys Common Licensing (SCL) v10.9.x and later

  Synopsys common licensing software is available on a separate CD. The SCL documentation set, available on the SCL CD and on the Synopsys FTP server (ftp://ftp.synopsys.com), includes the following publications:

- Licensing QuickStart

  This booklet provides instructions for obtaining an electronic copy of your license key file and for installing and configuring SCL on UNIX and Windows NT.

- Licensing Installation and Administration Guide

  This guide provides information about installation and configuration, key concepts, examples of license key files, maintenance, and troubleshooting.

For larger designs, it is desirable to have the following configuration:

- 4 GB of RAM
- 2 processors

Magellan creates multiple processes during formal searches. It runs on single-processor machines, but you see the best performance on machines with multiple processors.

Downloading the Software

The Magellan distribution includes one common package and multiple platform-specific packages. Download the common package and the specific packages you need for the platforms where you run Magellan. You can overlay multiple platform packages in the same location. There is one set of packages for Verilog users (*releaseName*`-base`) and another set of packages for VHDL or mixed-language users (*releaseName*`-full`).

To download the Magellan software:

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

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

2 Enter `anonymous` as your login name:

```
ftp> anonymous
```

3 Enter your e-mail address as your password.

Your FTP session starts.

4 Set the transfer mode to `binary`:

```
ftp> binary
```

5 Change to the `pub` directory:

```
ftp> cd pub
```

6 Change to the full or base release directory. The release directory name is provided to you by your Synopsys Applications Consultant or CAE. For example:

Verilog users:

```
ftp> cd MG_2006.06-SP2-base
```

VHDL users:

```
ftp> cd MG_2006.06-SP2-full
```

7 Use the `get` command to download the release tar files and mg_INSTALL_README.txt file. The actual release file names are provided by your Synopsys Applications Consultant or CAE. What follows is just an example that shows the naming conventions. For example:

```
ftp> get mg_vMG_2006.06-SP2-common.tar
ftp> get mg_vMG_2006.06-SP2-suse64.tar
ftp> get mg_vMG_2006.06-SP2-suse32.tar
ftp> get mg_INSTALL_README.txt
```

8 Log off the FTP server:

```
ftp> quit
```

Installing Magellan

Before you can install Magellan, you need to download the software from the Synopsys FTP site (see “Downloading the Software” on page 3).

To install Magellan:

1 Navigate to the directory where you want to install Magellan. Note that Magellan needs up to 1.7 GB of disk space when installed.

2 Untar the release files. For example, enter:

```
% tar xf mg_vMG_2006.06-SP2-common.tar
% tar xf mg_vMG_2006.06-SP2-suse64.tar
% tar xf mg_vMG_2006.06-SP2-suse32.tar
```

3 Run the Synopsys Common Installer either in command-line or GUI mode.

```
% install.now
```

Answer the questions as prompted.

```
% install -gui
```

When you are finished with the installation process, set your MG_HOME environment variable to this location.

Setting up Magellan

Make sure Synopsys Common Licensing (SCL) is installed (see “System Requirements” on page 2).

Setting up Licensing

Before continuing, make sure you’ve received license keys from your Synopsys Applications Consultant. To set up licensing:

1 Locate and open the license key file on your license server.

2 Add the Magellan license key information to the license file.

For example:

```
INCREMENT Magellan snpslmd 1.0 31-jan-2002 10 \
   2CACC0E1A2A475EBE36F ISSUED=01-jan-2002 ck=102 \
   SN=TK:60463 START=01-jan-2002
```

If you received your license key information via e-mail, you can copy the information directly from the e-mail to the license file.

The `INCREMENT` line defines the license to use Magellan. For a complete description of the license file and the `INCREMENT` line, see the *Licensing Installation and Administration Guide*.

3 To read the new license key information, run the `lmreread` utility (see the *FLEXlm™ End-User Manual).*

4 To check for available licenses, use the `lmstat` utility. For example, to check for all active licenses, at the UNIX prompt:

```
% lmstat -a
```

Note If you add the `-waitlic` switch to your `mgsh` invocation, Magellan waits for a license if none is currently available instead of exiting. For example:

```
% mgsh -waitlic
```

Configuring Environment and Path Variables

Set the following environment variables in each shell that runs Magellan.

Note To avoid unexpected failures that are difficult to debug, set your stacksize and datasize limits in the shell to unlimited. If there are hard limits in place, see your system administrator.

MG_HOME Indicates the directory where Magellan is installed.

VCS_HOME Indicates the directory where VCS or VCS MX is installed. This is required for both Verilog and VHDL users.

SYNOPSYS_SIM Indicates the directory where VCS MX is installed. Do not set this variable. It is being phased out. VHDL users should instead set VCS_HOME to point to the directory where VCS MX is installed.

VERA_HOME Indicates the directory where Vera is installed. Vera is only required if you are using Vera biasing.

SYNOPSYS Indicates the directory where Design Compiler is installed. This is required if you are checking designs that have DesignWare Foundation Library parts instantiated.

LD_LIBRARY_PATH If you are testing a VHDL or mixed-language design, set this variable to `$MG_HOME/`*`platform`*`/ctg/lib:$LD_LIBRARY_PATH`, where *`platform`* is `sparcOS5`, `suse32`, or `linux`. This setting is for the simulator. Running a VHDL or mixed-language design in 64-bit mode in the simulator is currently not supported.

SNPSLMD_LICENSE_FILE The host name of the license server. Set this environment variable to *`port@host_name`*.

PATH Set this environment variable to `$MG_HOME/`*`platform`*`/ctg/bin:\ $SYNOPSYS_SIM/bin:$PATH`, where *`platform`* is `sparcOS5, sparc64, suse32`, `suse64, linux,` or `amd64`.

Note If you are using Vera biasing, add `$VERA_HOME/bin` to your path.

VCS and VCS MX require that you include `make` in your path. For Solaris, include `/usr/ccs/bin` in the path. For Linux, include `/usr/bin` in the path.

`MODELTECH` The path to Model Technology's ModelSim® VHDL simulator. Magellan only uses this environment variable when you use the `test.csh -mti` command. For more information, see the ModelSim documentation.

Caution On Solaris, do not set the optional VCS_CC environment variable for VCS to a 3.x version of gcc. This can cause the simulator to crash. VCS uses gcc 2.95.2 by default.

Setting up VCS MX

VCS MX use the synopsys_sim.setup file to configure its environment. This file maps VHDL design library names to specific host directories, sets search paths, and assigns values to simulation control variables. Magellan dynamically creates the synopsys_sim.setup file in your working directory and maps the logical library names to physical paths in this file. If this file already exists in your working directory, Magellan overwrites it. You should remove any synopsys_sim.setup file in your home or working directory because it can augment settings and cause problems.

If you want to set search paths or assign values to simulation control variables, add this information to a separate file. Name the file something other than synopsys_sim.setup. In the Design module of your Magellan project file, use a `set_design_info -scoSetupFile` command to point to this file. When Magellan builds the project, this information is added to the synopsys_sim.setup file that it creates. For more information on the synopsys_sim.setup file, see the *VCS MX User Guide.*

Testing the Installation

After you've installed and set up Magellan, run the test script that comes with the software. The `TestInstall.csh` script checks that all the required licenses are available, starts Magellan, builds a simple design, and runs a short test. If the script completes successfully, your installation is correct. To verify the Magellan installation, go to the Magellan installation directory and type `TestInstall.csh` at the UNIX prompt. If you do not specify either switch, the script checks a Verilog installation.

```
% TestInstall.csh [-verilog] [-vhdl]
```

Checking Licenses

You can check that you have all the licenses required to successfully run Magellan at any time. Magellan requires its own license and a license for either VCS or VCS MX. If you are using Vera biasing, you also need a Vera license. To check licenses:

1 From the UNIX prompt, start MG shell:

```
% mgsh
```

2 At the MG shell prompt:

```
mgsh> check_licenses
```

Magellan reports on all required licenses for Verilog and VHDL (see Figure 1).

Figure 1: Check Licenses Output

```
** Checking required licenses...
>> Checking feature: Magellan
>> Checking feature: Magellan-Sim
>> Checking feature: Magellan-TB
** All Licenses are accessible!
```

Note If you add the `-waitlic` switch to your `mgsh` invocation, Magellan waits for a license if none is currently available instead of exiting. For example:

```
% mgsh -waitlic
```

Checking Your Environment and Version of Magellan

To check your environment and version of Magellan:

```
% mgsh -ID
```

The `-ID` switch produces a report that shows the path to the mgsh executable you are pointing to, along with the build date and version number of Magellan. The report also shows information about the host machine and current settings for environment variables required to run Magellan (see Figure 2).

Figure 2: Magellan Environment and Version Report

```
Magellan Shell
---------------
/remote/release/nightly.Wed/sparcOS5/ctg/bin/mgsh

Magellan Version    -> MG_2006.06-Alpha1
Magellan Build Date -> May 24, 2006
Machine Name        -> casca
Machine OS          -> SunOS 5.8
Machine Type        -> sparcOS5
FLEXlm host ID      -> 83090375

Environment:
- $SNPSLMD_LICENSE_FILE -> 26585@raz:26585@daman
- $LM_LICENSE_FILE      -> **NOT SET**
- $MG_HOME              -> /remote/release/nightly.Wed
- $VCS_HOME             -> /u/ctg/tools/vcs_latest
- $SYNOPSYS             -> **NOT SET**
- $DEBUSSY_HOME         -> /u/ctg/tools/Debussy_latest
- $LD_LIBRARY_PATH(ctg) ->
/remote/release/nightly.Wed/sparcOS5/ctg/lib

If you need to renew your license, please email this
information to yourAccount Manager. To obtain contact
information for your Account Manager please email
pass@synopsys.com
```

Note For LD_LIBRARY_PATH, the report shows only the library path that is required to run Magellan.