

# VCS MX Installation Notes

## Version D-2010.06

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This document contains instructions about installing the VCS MX (VHDL Simulation and Verilog Simulation) tool.

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The instructions in this chapter also apply to VCS MXi.

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## Media Availability and Supported Platforms

The VCS MX tool is available by EST or on CD. Obtain the appropriate binary executable files based on the operating system you need. [Table 1-1](#) shows the supported platforms for this release.

*Table 1-1 Platforms and Keywords*

| Platform   | Operating system                            | Synopsys platform keyword                                 | Additional keywords |
|------------|---|---|---------------------|
| x86_64     | Red Hat Enterprise Linux v4, 5 <sup>1</sup> | amd64 (64-bit mode)<br>linux (32-bit mode) <sup>2</sup>   | amd64_32            |
| x86_64     | SUSE Enterprise Linux v9, 10 <sup>1</sup>   | suse64 (64-bit mode)<br>suse32 (32-bit mode) <sup>2</sup> | suse64_32           |
| x86_64     | Solaris 10                                  | x86sol64 (64-bit mode)<br>x86sol32 (32-bit mode)          |                     |
| IBM RS6000 | AIX 5.3                                     | rs6000 (32-bit mode)<br>aix64 (64-bit mode)               |                     |
| x86        | Red Hat Enterprise Linux v4, 5 <sup>1</sup> | linux (32-bit mode) <sup>2</sup>                          |                     |
| x86        | SUSE Enterprise Linux v9, 10 <sup>1</sup>   | suse32 (32-bit mode)                                      |                     |
| Sun SPARC  | Solaris 9, 10 <sup>1</sup>                  | sparc64 (64-bit mode)<br>sparcOS5 (32-bit mode)           | sparc64_32          |

1. *Binary-compatible hardware platform or operating system. Note, however, that binary compatibility is not guaranteed. See <http://www.synopsys.com/products/platforms> for the latest information.*

2. *Binary-compatible hardware platform or operating system. Note, however, that binary compatibility is not guaranteed. See <http://www.synopsys.com/products/platforms> for the latest information.*

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## 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 VCS MX tool can extend memory beyond 2 GB.

Note:

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

To access memory beyond 2 GB,

1. Make sure your server has Solaris 9 (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 “Configuring the Environment” in *Installing Synopsys Tools*.

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 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.

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## Installing the Software

VCS MX 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 VCS MX, see “Downloading the Software” in *Installing Synopsys Tools*

To install VCS MX by EST or from the CD, follow the procedures described in *Installing Synopsys Tools*

Example 1-1 in *Installing Synopsys Tools* shows a Synopsys media installation script for the synthesis tools. VCS MX is installed in a similar manner.

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

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## Setting the Environment Variables

This section discusses the following environment variables:

- VCS\_HOME

- SNPSLMD\_LICENSE\_FILE

It is recommended that you place these variables in your \$HOME/.cshrc or \$HOME/.profile file as your default settings.

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## Setting the VCS\_HOME Environment Variable

Follow these steps.

1. Set the VCS\_HOME environment variable in the shell that you are using in which the *root\_directory* argument is the name of the VCS MX root directory.
  - If you are using the C shell, enter

```
% setenv VCS_HOME /vcs_mx/build/vcs_mx/vcs_mxD-2010.06
```
  - If you are using the Bourne shell, enter

```
% VCS_HOME=/vcs_mx/build/vcs_mx/vcs_mxD-2010.06
export VCS_HOME
```
2. Add the directory containing the VCS MX executable files to the PATH environment variable.
  - If you are using the C shell, add the following line to the .cshrc file:

```
set path=($VCS_HOME/bin $path)
```
  - If you are using the Bourne, Korn, or Bash shell, add the following line to the .profile or .kshrc file:

```
PATH= (path:$VCS_HOME/bin)
export PATH
```

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## 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 VCS MX installation.

For information about downloading and installing SCL, see Chapter 30, “Synopsys Common Licensing (version 10.9.2)” in *Installing Synopsys Tools*. For detailed instructions on setting the license variable, see “Setting Up the Licensing Environment” on page 30-8 in *Installing Synopsys Tools*.

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## Verifying the VCS MX Installation

To verify the VCS MX installation,

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

```
% cp -r $VCS_HOME/doc/examples/basic-hdl/verilog/comp_run .  
% cd ./comp_run  
% vcs ./addr4.v -R -debug
```

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

2. Run the DVE GUI on each installed platform by entering

```
% dve
```

3. Exit the GUI by choosing File > Exit in the DVE window.