

Saber® Installation Guide

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SYNOPSIS®

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Installing Saber

This document contains specific information to prepare for and verify installation of Saber as well as links to installation instructions.

Install the latest version of Saber in a folder that does not contain an existing installation. A common license can serve multiple versions of Saber.

Note: The installation instructions in this document are the most up-to-date available at the time of production. However, for the latest updates and installation information, see Saber release notes or documentation on [SolvNet](#).

This document contains the following sections:

- [Media Availability and Supported Platforms](#)
- [Disk Space and Memory Requirements](#)
- [Installing the Software](#)
- [Setting Up the User Environment](#)
- [Verifying the Saber Installation](#)
- [Accessing Saber Documentation](#)

Media Availability and Supported Platforms

Important: Retrieve your license keys from the SmartKeys Web page. To access the SmartKeys webpage, click the SmartKeys link from the [Download Center](#).

For detailed licensing information, see the [Synopsys Licensing QuickStart Guide](#).

Chapter 1: Installing Saber

Media Availability and Supported Platforms

The Saber tool is available by electronic software transfer (EST) download or as tangible media (DVD or CD, depending on the image size). Obtain the appropriate binary executable files based on the operating system (OS) you need.

Table 1 lists the supported compute platforms, operating systems, corresponding Synopsys platform keywords, and window environments for this release. Many platforms require operating system patches.

For detailed information, see the Supported Platforms Guide page on the Synopsys Web site. Go to <http://www.synopsys.com/qsc> and select the appropriate foundation for your release. This Web page provides information about supported hardware, operating systems, and required OS patches. If the required patch described on this page is not available from the platform vendor, install the most recent patch instead.

Table 1 Supported Platforms, Operating Systems, and Keywords

Platform	Operating system	Synopsys platform keyword	Window environment
x86_64	Microsoft Windows XP Professional		Microsoft Windows
x86	Red Hat Enterprise Linux v4, 5 ¹	linux (32-bit mode) ²	GNOME
x86	SUSE Linux Enterprise Server v10, 11 ¹ Note: Supported only on IA-32 and AMD Opteron	suse32 (32-bit mode)	KDE
Sun SPARC	Solaris 9, 10 ¹	sparc64 (64-bit mode) sparcOS5 (32-bit mode)	CDE
x86	Microsoft Windows XP Professional Windows Vista Windows 7		Microsoft Windows

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

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. See <http://www.synopsys.com/qsc> for the latest information on supported platforms.

Disk Space and Memory Requirements

Ensure that you have a minimum of 700 MB of free space for a full installation of Saber on a single platform. The disk space requirement varies depending on the platform and the tool selected for installation. [Table 2](#) shows the minimum space required for installing each product on a particular platform.

Table 2 Disk Space and Memory Requirements (in Megabytes)

Platform	Software (maximum)	Default temporary directory location	Minimum disk space to run the installer	Temporary disk space during installation
Sun Solaris	1470	/var/tmp	520	700
Linux	1500	/tmp	480	650
Windows	1310	%TEMP% or %HOME%\Local Settings\Temp	700	600

Note: If there is not enough disk space in the default temporary directory, set the environment variable in one of the following ways and launch the Saber Installer program:

```
setenv IATEMPDIR /home/my_user_name/tmp or  
export IATEMPDIR=/home/my_user_name/tmp or  
change the Windows system environmental variable %TEMP%.
```

Installing the Software

Ensure to close any open Saber applications before proceeding with the installation.

To install Saber by EST or from the DVD or CD, follow these procedures:

- [Installing for the First Time](#)
- [Installing Incrementally](#)
- [Cancelling Installation](#)

- [Installing from Command Line in Silent Mode](#)
- [Uninstalling the Software](#)

Installing for the First Time

To install Saber for the first time:

1. Initiate the Saber installation in one of the two ways:

If you are installing from...	then...
--------------------------------------	----------------

EST	Download the Saber release to a temporary directory. You can obtain the latest Saber download instructions from the Release Library, which is accessible through SolvNet. Double click the installer.exe. The Saber installer automatically pre-installs the required software. If the pre-install software already exists, the installer continues with installing Saber. Proceed with Step 3 of this procedure.
a CD	Proceed with Step 2 of this procedure.

Note: On Windows platform, Saber requires Microsoft Visual C++ 2008 Redistributable - x86 9.0.30729 software to be installed before proceeding with the Saber installation.

2. Place the CD in the CD drive. The following events takes place depending on the platform on which you are installing the software:

Solaris or Linux	Windows
-------------------------	----------------

Most Solaris and Linux systems will automatically mount the CD. If the CD does not mount, see [Installing Synopsys Tools](#).

Execute the following commands to invoke the Saber installer:

```
%/cdrom/saber_version_platform
```

Or

```
% cd your_cd_path; ./  
saber_version_platform
```

The installation program should start automatically. If it does not, double-click the setup.exe executable file, located at the root level of the CD.

The Saber installer automatically pre-installs the required software. If the pre-install software already exists, the installer continues with installing Saber.

Note: Mounting the CD might require system administrator privileges.

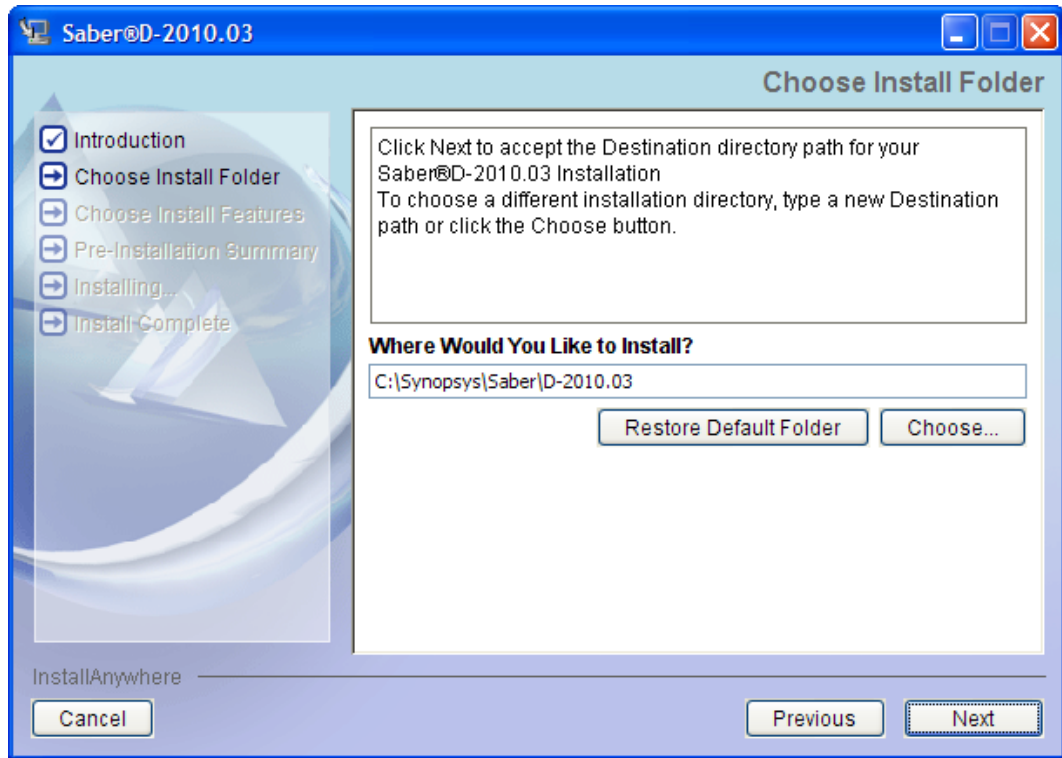
3. The Saber Installer window is launched displaying the *Introduction*:



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Installing the Software

4. Click **Next** to choose the installation folder. The **Choose Install Folder** window is displayed:



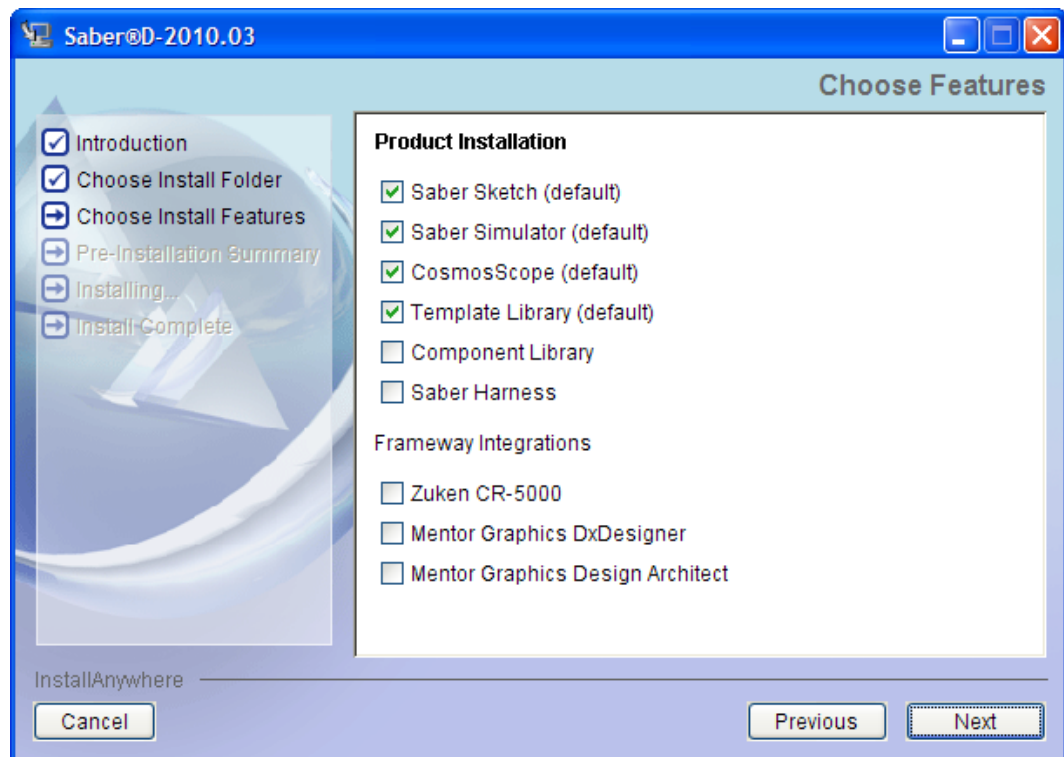
The default installation location is automatically resolved and displayed. You can choose to change the installation path by clicking the **Choose** button .

Note: Ensure that you have write permissions to the specified installation location.

The table below describes the default installation locations on different platforms:

Platform	Default install location
Windows	C:\Synopsys\Saber\<>version>
Solaris	/opt/Synopsys/Saber/<version>
Linux	/opt/Synopsys/Saber/<version>

5. Click **Next** and select the platform specific features you wish to install from the Choose Features window:



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Installing the Software

The following table describes the platform specific features available for installation:

Features	Install Type	Windows	Linux	Solaris
Saber Sketch	Default	X	X	X
Saber Simulator	Default	X	X	X
CosmosScope	Default	X	X	X
Template Library	Default	X	X	X
Component Library ¹	Optional	X	X	X
Saber Harness	Optional	X	-	-
Zuken CR-5000 ²	Optional	X	-	-
Mentor Graphics DxDesigner	Optional	X	-	-
Mentor Graphics Design Architect	Optional	X	X	X

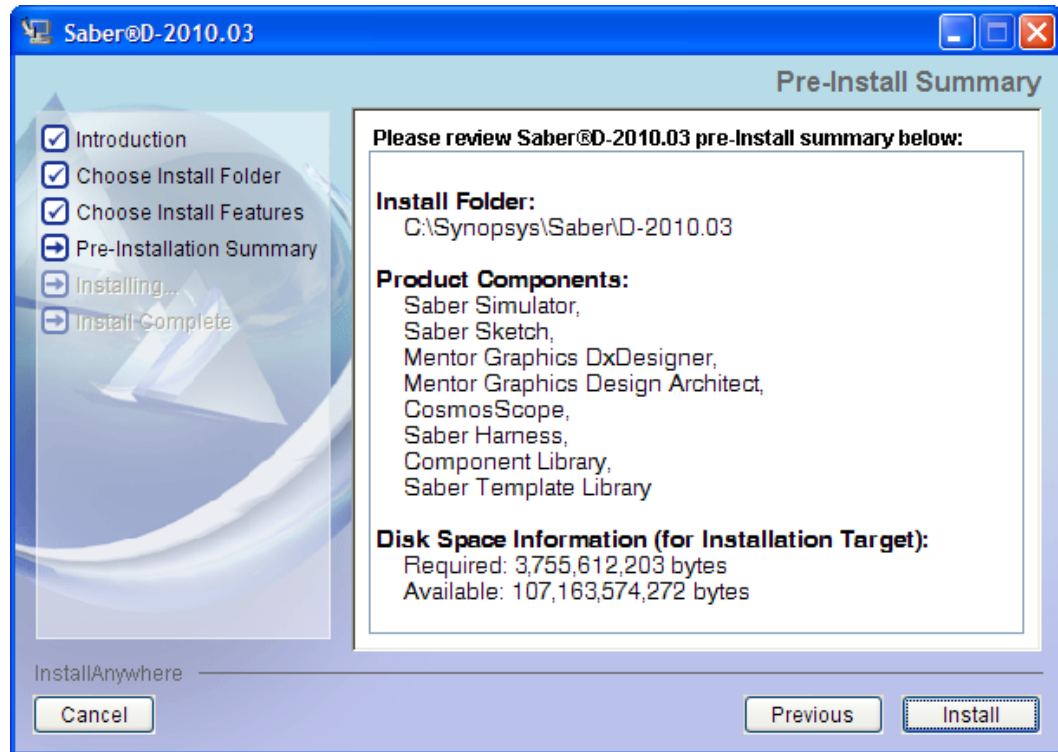
1. *The component library (.jar file) is now packaged with the Saber installer.*

2. *The Zuken CR-5000 Frameway Interface (ZFI) is no longer packaged with the Saber Installer. Contact Zuken directly to obtain the ZFI installer.*

Note: You can also choose to exclude installing the default features by de-selecting the feature check box.

For more information on frameway installation, see [Installing Saber Frameways and Co-Simulation Interfaces](#).

6. Choose the features you want to install and click **Next**, the **Pre-Install Summary** window appears:

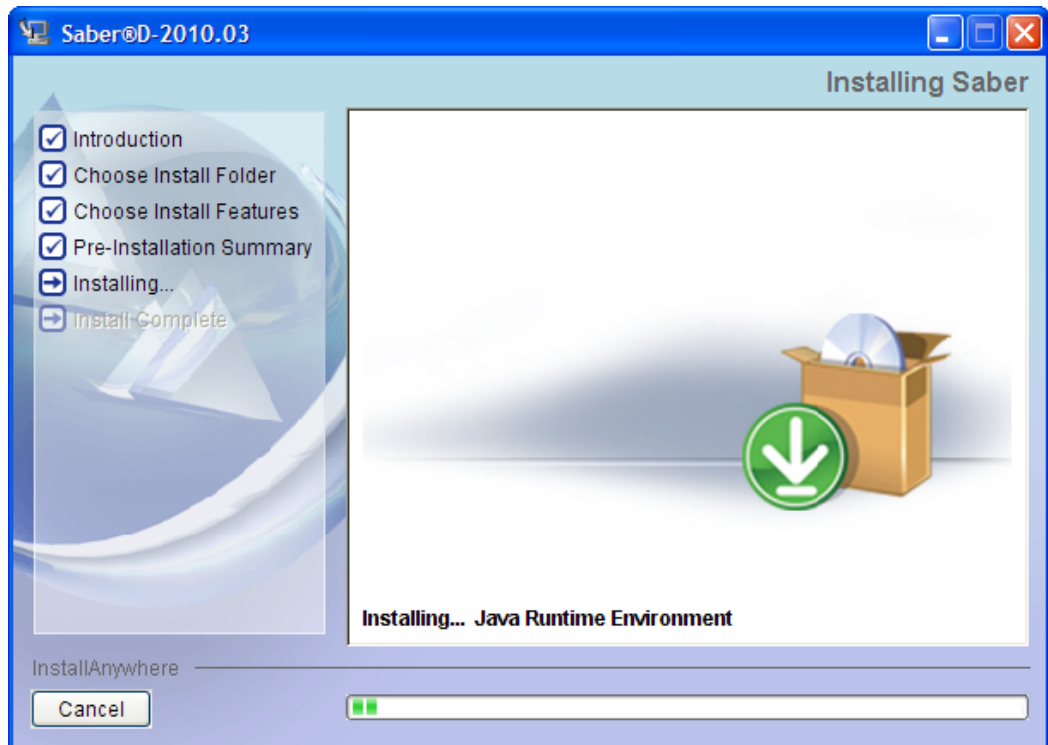


This window summarizes the information collected and evaluated prior to the installation.

Chapter 1: Installing Saber

Installing the Software

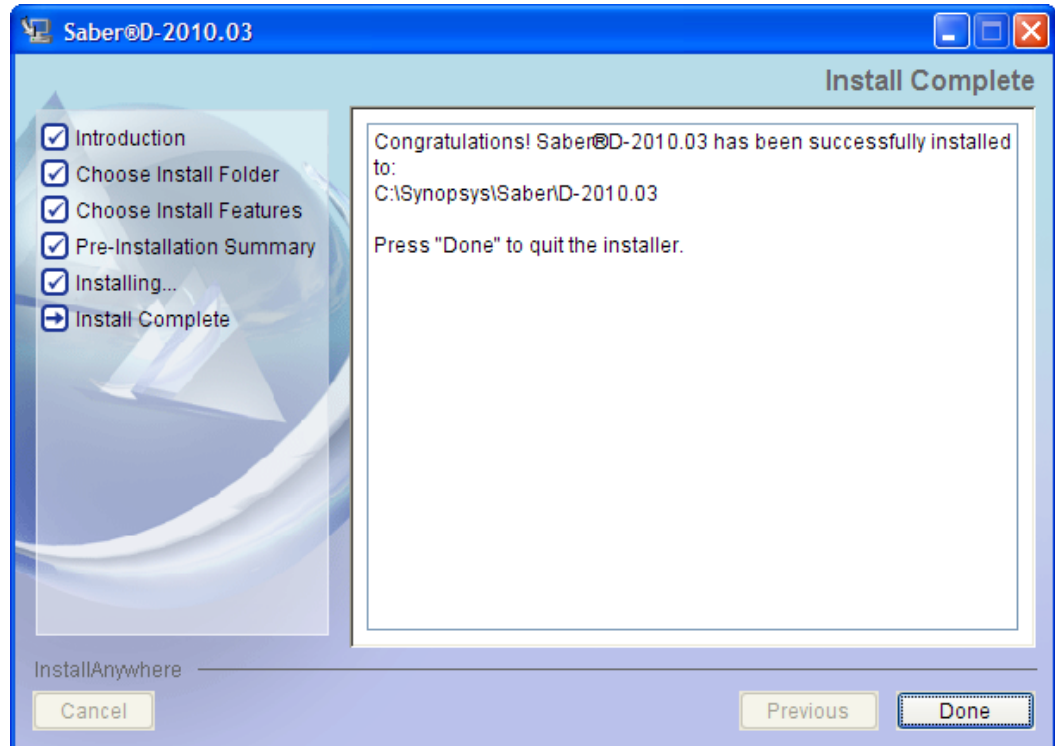
- Click **Install** to initiate the installation process. The **Installing Saber** window appears:



Following events occur during the installation process:

- Creates an install log file, and records the install results. The log file may be used to trace errors occurred during the installation.
- Installs Java Runtime Environment (JRE) to prepare the install environment.
- Installs features according to user choice.
- Imports registry information into windows registry (windows only).

- When the installation is complete, the **View Release Notes** dialog box is displayed. Click **Yes** to view the release notes else click **No** to close the dialog box:



- Click **Done** to exit the Saber Installer program and press the Enter key in the Saber Install command prompt window to finish the installation.

Note: If the installation fails, see error log file in the root of the installation location to fix the problem.

Installing Incrementally

To perform an incremental installation of Saber:

1. Initiate Saber installation in one of the two ways:

If you are installing from...	then...
EST Note: If you already have the previously downloaded installer, you do not have to download the installer again from the EST.	Download the Saber release to a temporary directory. You can obtain the latest Saber download instructions from the Release Library, which is accessible through SolvNet. Double click the installer exe. The Saber installer automatically pre-installs the required software. If the pre-install software already exists, the installer continues with installing Saber. Proceed with Step 3 of this procedure.
a CD	Proceed with Step 2 of this procedure.

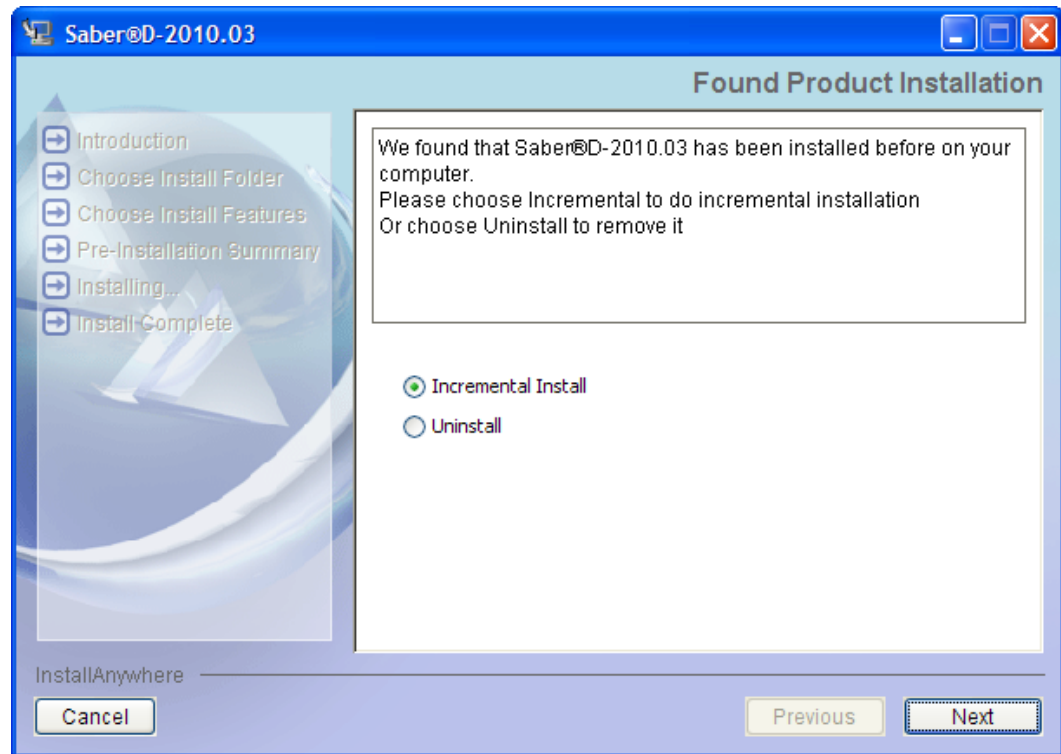
Note: On Windows platform, Saber requires Microsoft Visual C++ 2008 Redistributable - x86 9.0.30729 software to be installed before proceeding with the Saber installation.

2. Place the CD in the CD drive. The following events takes place depending on the platform on which you want to install the software:

Solaris or Linux	Windows
Most Solaris and Linux systems will automatically mount the CD. If the CD does not mount, see Installing Synopsys Tools . Execute the following commands to invoke the Saber installer: <code>%/cdrom/saber_version_platform</code> Or <code>% cd your_cd_path; ./saber_version_platform</code>	The installation program should start automatically. If it does not, double-click the setup.exe executable file, located at the root level of the CD. The Saber installer automatically pre-installs the required software. If the pre-install software already exists, the installer continues with installing Saber.

Note: Mounting the CD might require system administrator privileges.

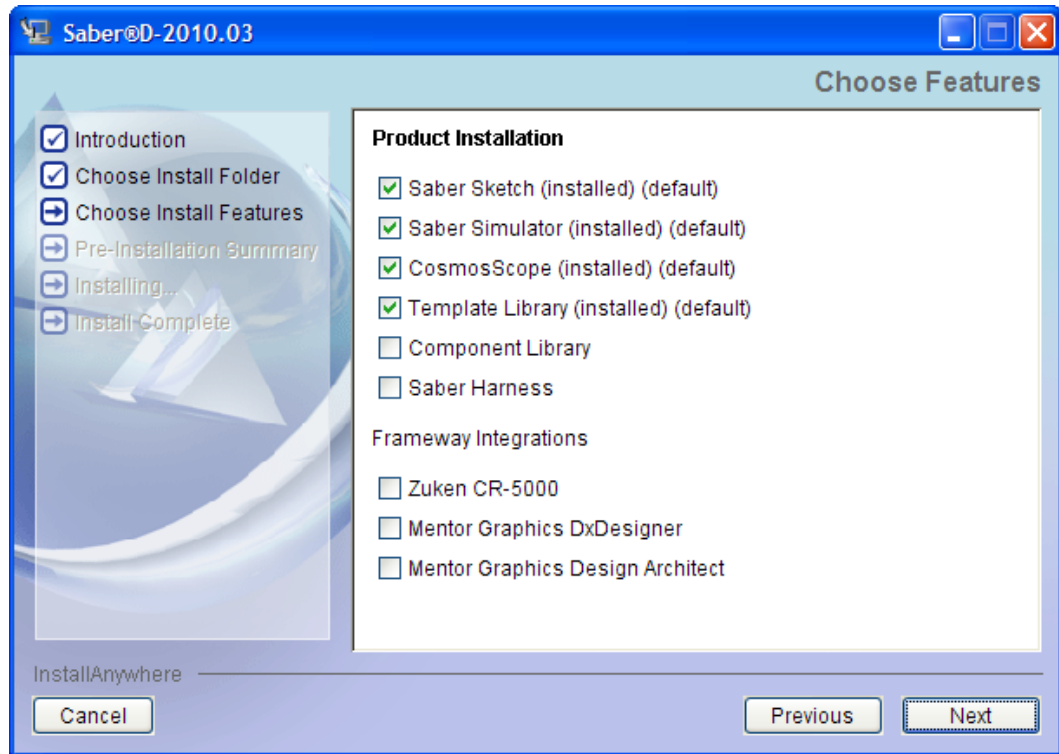
3. If the installer detects a same version of Saber already installed then the **Found Product Installation** window appears:



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4. Select **Incremental Install** option and click **Next** to select the platform specific features you wish to install from the **Choose Features** window.



Note: The Choose Features window tags the feature names with *(installed)* for features that were installed previously.

The following table describes the platform specific features available for installation:

Features	Install Type	Windows	Linux	Solaris
Saber Sketch	Default	X	X	X
Saber Simulator	Default	X	X	X
CosmosScope	Default	X	X	X
Template Library	Default	X	X	X
Saber Sketch	Default	X	X	X
Component Library ¹	Optional	X	X	X
Saber Harness	Optional	X	-	-
Zuken CR-5000 ²	Optional	X	-	-
Mentor Graphics DxDesigner	Optional	X	-	-
Mentor Graphics Design Architect	Optional	X	X	X

1. *The component library (.jar file) is now packaged with the Saber installer.*
2. *The Zuken CR-5000 Frameway Interface (ZFI) is no longer packaged with the Saber Installer. Contact Zuken directly to obtain the ZFI installer.*

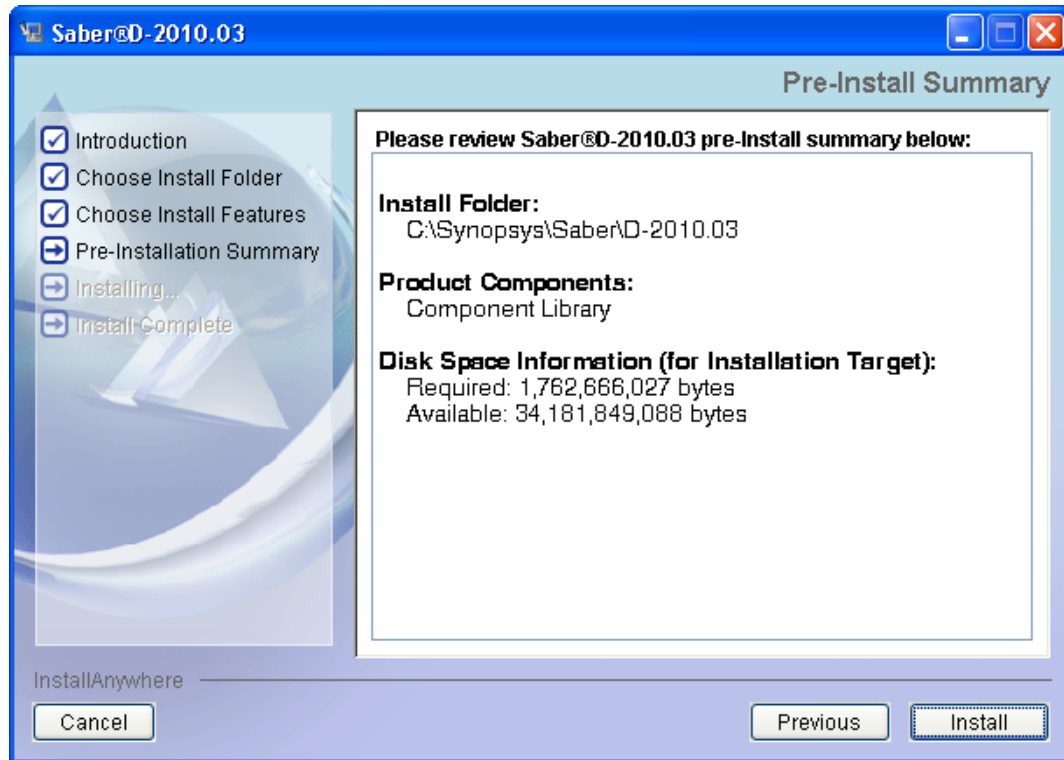
Note: You can also choose to exclude installing the default features by de-selecting the feature check box.

For more information on frameway installation, see [Installing Saber Frameways and Co-Simulation Interfaces](#).

Chapter 1: Installing Saber

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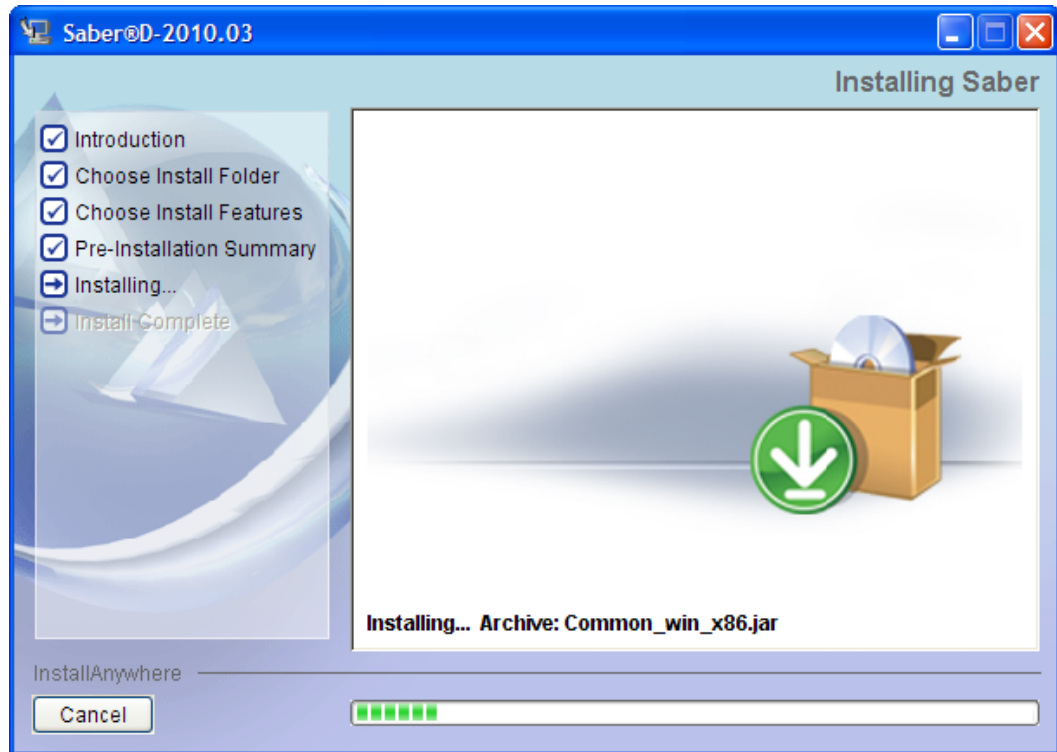
5. Choose the features you want to install and click **Next**, the **Pre-Install Summary** window appears:



This window summarizes the information collected and evaluated prior to the installation.

Note: The preinstallation summary window displays only those features that are being newly added to the previous installation set along with the necessary disk space information.

6. Click **Install** to initiate the installation process. The **Installing Saber** window appears:



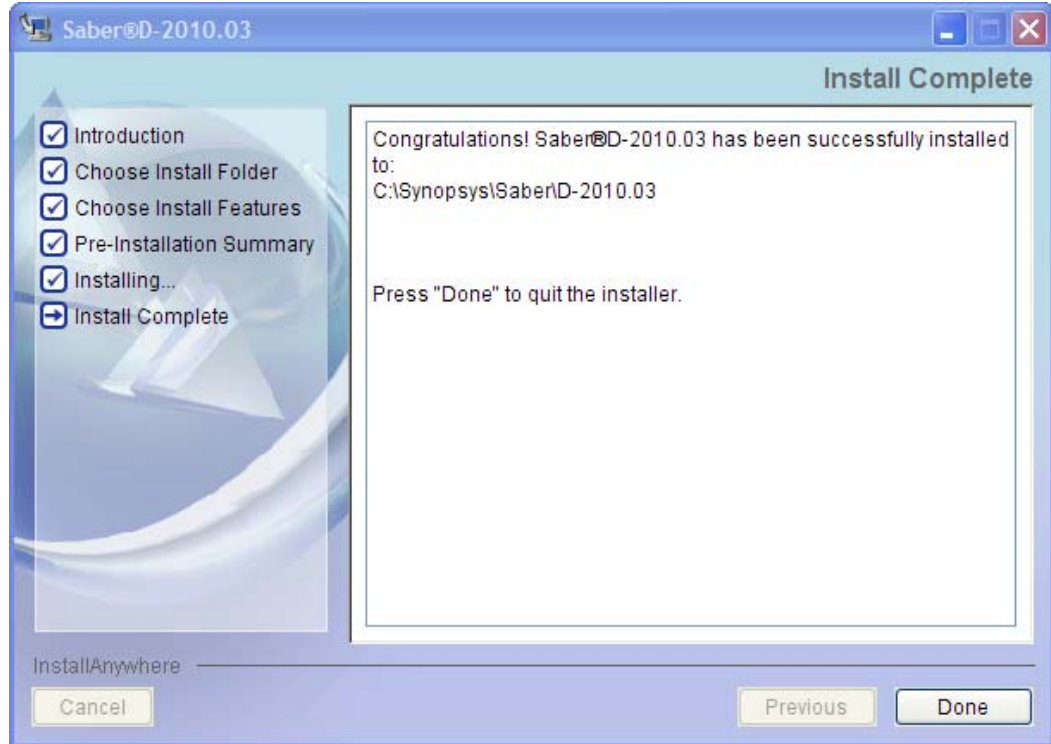
Following events occur during the installation process:

- Creates an install log file, and records the install results. The log file may be used to trace errors occurred during the installation.
- Installs Java Runtime Environment (JRE) to prepare the install environment.
- Installs features according to user choice.
- Imports registry information into windows registry (windows only).

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- When the installation is complete, the **View Release Notes** dialog box is displayed. Click **Yes** to view the release notes else click **No** to close the dialog box:



- Click **Done** to exit the Saber Installer program.

Note: If the installation fails, see the error log file in the root of the installation location to fix the problem.

Cancelling Installation

The following actions are taken when you cancel an in-progress installation:

Case	When you click the Cancel button...	then the installation is cancelled...
1	before the pre-request installation starts	and any files and folders upto the point of cancellation are placed in the temporary directory. The Saber uninstall program removes all files and folders created during the cancelled installation.

Case	When you click the Cancel button...	then the installation is cancelled...
2	during the pre-request installation	and any files and folders upto the point of cancellation are placed in the install directory. Navigate to the <installation_path>/_Pre_Install/ directory and click the uninstall.exe. The Pre-request uninstall program removes all files and folders created during the cancelled installation.
3	before Saber installation starts	Same as Case 1.
4	during Saber installation	and any files and folders upto the point of cancellation are placed in the install directory. Navigate to the <installation_path>/_Saber/ directory and click the uninstall.exe. The Saber uninstall program removes all files and folders created during the cancelled installation.

Installing from Command Line in Silent Mode

You can install Saber on Solaris and Linux platforms by using the `setup` script command and on Windows platforms by invoking the `setup.exe` installation program.

By default, the Saber installer invokes the GUI installation program on all platforms. You can choose to install the software from the command line in a non-interactive (silent) mode.

Silent mode installation suppresses all interactive and graphic output. You can choose to install Saber using one of the following options:

- [Using default settings](#)
- [Using a single command](#)
- [Using an install.properties file](#)

Using default settings

Execute the following command to install Saber using the default settings:

Platform	Command
Unix / Linux	<code>Saber_<version>_linux.bin -i silent</code>

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Platform	Command
Windows	<pre>Saber_<version>_win.exe -i silent</pre> <p>Saber is installed in the default directory, C:\Synopsys\Saber\<version></p>

Using a single command

Execute the following command on a single line to install Saber using custom settings:

Platform	Command																		
Unix / Linux	<pre>Saber_<version>_linux.bin -i SILENT -DCHOSEN_INSTALL_FEATURE_LIST=<feature_list> -DUSER_INSTALL_DIR=<installation_path></pre> <p>Where:</p> <ul style="list-style-type: none">▪ -DCHOSEN_INSTALL_FEATURE_LIST - Specifies the features to be installed.▪ -DUSER_INSTALL_DIR - Specifies the installation path. <p>The following features are available for installation:</p> <table><thead><tr><th>Feature Name</th><th>Short Form</th></tr></thead><tbody><tr><td>Saber Simulator</td><td>simulator</td></tr><tr><td>Saber Sketch</td><td>sketch</td></tr><tr><td>Mentor Graphics Design Architect</td><td>Mentor</td></tr><tr><td>Cadence Virtuoso</td><td>Cadence</td></tr><tr><td>CosmosScope</td><td>cscope</td></tr><tr><td>Saber Harness (Windows only)</td><td>harness</td></tr><tr><td>Saber Template Library</td><td>template</td></tr><tr><td>Saber Component Library</td><td>component</td></tr></tbody></table> <p>Note:</p> <p>If you want to install more than one component, list all the components you want to install, separated by a commas.</p> <p>For example: simulator, sketch, cscope, Cadence, Mentor</p> <p>Use the forward slash (/) as the delimiter while specifying the installation path.</p> <p>For example: /remote/us03ops/clients/leli/Saber</p>	Feature Name	Short Form	Saber Simulator	simulator	Saber Sketch	sketch	Mentor Graphics Design Architect	Mentor	Cadence Virtuoso	Cadence	CosmosScope	cscope	Saber Harness (Windows only)	harness	Saber Template Library	template	Saber Component Library	component
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Saber Template Library	template																		
Saber Component Library	component																		

Platform	Command																				
Windows	<pre>Saber_<version>_win.exe -i SILENT -DCHOSEN_INSTALL_FEATURE_LIST=<feature_list> -DUSER_INSTALL_DIR=<installation_path></pre> <p>Where</p> <ul style="list-style-type: none"> ■ -DCHOSEN_INSTALL_FEATURE_LIST - Specifies the features to be installed. ■ -DUSER_INSTALL_DIR - Specifies the installation path. <p>The following features are available for installation:</p> <table border="1"> <thead> <tr> <th>Feature Name</th> <th>Short Form</th> </tr> </thead> <tbody> <tr> <td>Saber Simulator</td> <td>simulator</td> </tr> <tr> <td>Saber Sketch</td> <td>sketch</td> </tr> <tr> <td>Mentor Graphics DxDesigner</td> <td>eProduct</td> </tr> <tr> <td>Mentor Graphics Design Architect</td> <td>Mentor</td> </tr> <tr> <td>Zuken CR-5000 System Designer</td> <td>Zuken</td> </tr> <tr> <td>CosmosScope</td> <td>cscope</td> </tr> <tr> <td>Saber Harness (Windows only)</td> <td>harness</td> </tr> <tr> <td>Saber Template Library</td> <td>template</td> </tr> <tr> <td>Saber Component Library</td> <td>component</td> </tr> </tbody> </table> <p>Note:</p> <p>If you want to install more than one component, list all the components you want to install, separated by a commas.</p> <p>For example: simulator,sketch,cscope,Zuken,eProduct,Mentor</p> <p>Use the double backward slash (\\) as the delimiter while specifying the installation path.</p> <p>For example: C:\\Synopsys\\Saber</p>	Feature Name	Short Form	Saber Simulator	simulator	Saber Sketch	sketch	Mentor Graphics DxDesigner	eProduct	Mentor Graphics Design Architect	Mentor	Zuken CR-5000 System Designer	Zuken	CosmosScope	cscope	Saber Harness (Windows only)	harness	Saber Template Library	template	Saber Component Library	component
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CosmosScope	cscope																				
Saber Harness (Windows only)	harness																				
Saber Template Library	template																				
Saber Component Library	component																				

Using an install.properties file

Define a custom `.properties` file as an input to the command as follows:

Platform	Command																		
Unix/Linux	<pre>Saber_<version>_linux.bin -i silent -f <path_to_properties_file></pre> <p>Properties file format: INSTALLER_UI=silent USER_INSTALL_DIR=<installation_path> CHOSEN_INSTALL_FEATURE_LIST=<feature_list></p> <p>Where:</p> <ul style="list-style-type: none">■ USER_INSTALL_DIR - Specifies the installation path.■ CHOSEN_INSTALL_FEATURE_LIST - Specifies the features to be installed. <p>The following features are available for installation:</p> <table><thead><tr><th>Feature Name</th><th>Short Form</th></tr></thead><tbody><tr><td>Saber Simulator</td><td>simulator</td></tr><tr><td>Saber Sketch</td><td>sketch</td></tr><tr><td>Mentor Graphics Design Architect</td><td>Mentor</td></tr><tr><td>Cadence Virtuoso</td><td>Cadence</td></tr><tr><td>CosmosScope</td><td>cscope</td></tr><tr><td>Saber Harness (Windows only)</td><td>harness</td></tr><tr><td>Saber Template Library</td><td>template</td></tr><tr><td>Saber Component Library</td><td>component</td></tr></tbody></table> <p>Note: If you want to install more than one component, list all the components you want to install, separated by a commas. For example: simulator,sketch,cscope,Cadence,Mentor Use the forward slash (/) as the delimiter while specifying the installation path. For example: /remote/us03ops/clients/leli/Saber</p>	Feature Name	Short Form	Saber Simulator	simulator	Saber Sketch	sketch	Mentor Graphics Design Architect	Mentor	Cadence Virtuoso	Cadence	CosmosScope	cscope	Saber Harness (Windows only)	harness	Saber Template Library	template	Saber Component Library	component
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Saber Sketch	sketch																		
Mentor Graphics Design Architect	Mentor																		
Cadence Virtuoso	Cadence																		
CosmosScope	cscope																		
Saber Harness (Windows only)	harness																		
Saber Template Library	template																		
Saber Component Library	component																		

Platform	Command																				
Windows	<pre>Saber_<version>_win.exe -i silent -f <path_to_properties_file></pre> <p>Properties file format: INSTALLER_UI=silent USER_INSTALL_DIR=<installation_path> CHOSEN_INSTALL_FEATURE_LIST=<feature_list></p> <p>Where:</p> <ul style="list-style-type: none">■ USER_INSTALL_DIR - Specifies the installation path.■ CHOSEN_INSTALL_FEATURES_LIST - Specifies the features to be installed. <p>The following features are available for installation:</p> <table><thead><tr><th>Feature Name</th><th>Short Form</th></tr></thead><tbody><tr><td>Saber Simulator</td><td>simulator</td></tr><tr><td>Saber Sketch</td><td>sketch</td></tr><tr><td>Mentor Graphics DxDesigner</td><td>eProduct</td></tr><tr><td>Mentor Graphics Design Architect</td><td>Mentor</td></tr><tr><td>Zuken CR-5000 System Designer</td><td>zuken</td></tr><tr><td>CosmosScope</td><td>cscope</td></tr><tr><td>Saber Harness (Windows only)</td><td>harness</td></tr><tr><td>Saber Template Library</td><td>template</td></tr><tr><td>Saber Component Library</td><td>component</td></tr></tbody></table> <p>Note: If you want to install more than one component, list all the components you want to install, separated by a commas. For example: simulator,sketch,cscope,Zuken,eProduct,Mentor Use the double backward slash (\\) as the delimiter while specifying the installation path. For example: C:\\Synopsys\\Saber</p>	Feature Name	Short Form	Saber Simulator	simulator	Saber Sketch	sketch	Mentor Graphics DxDesigner	eProduct	Mentor Graphics Design Architect	Mentor	Zuken CR-5000 System Designer	zuken	CosmosScope	cscope	Saber Harness (Windows only)	harness	Saber Template Library	template	Saber Component Library	component
Feature Name	Short Form																				
Saber Simulator	simulator																				
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CosmosScope	cscope																				
Saber Harness (Windows only)	harness																				
Saber Template Library	template																				
Saber Component Library	component																				

Uninstalling the Software

The Uninstall program removes all files and folders created through the install process.

Note: Files and folders created by you in the installation directory is not considered for removal by the Saber Uninstall program.

Chapter 1: Installing Saber

Installing the Software

Perform the following steps to uninstall Saber:

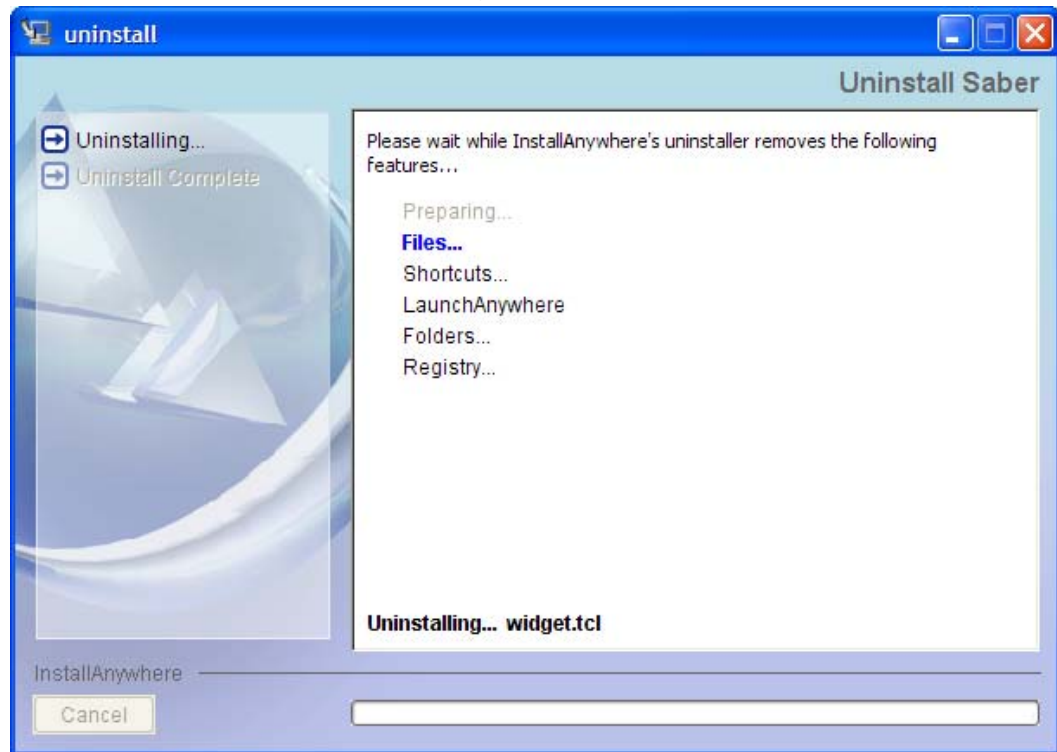
1. See the table below for information on uninstalling Saber on a specific platform:

To uninstall Saber on...	choose one of the following option...
Solaris / Linux platform	<ul style="list-style-type: none">▪ Execute the uninstall program, which is located in the <Install_home>/_Saber directory. The uninstall program is launched as show in the next step.▪ Delete the entire software directory.
Windows platform	<ul style="list-style-type: none">▪ Execute the uninstall program, which is located in the <Install_home>/_Saber directory. The uninstall program is launched as show in the next step.▪ From the Control Panel, select "Add or Remove Programs", select the version of Saber you want to uninstall and click the Change/Remove button. The uninstall program is launched as show in the next step.▪ Choose Start > Programs > Synopsys > Saber version > uninstall. The uninstall program is launched as show in the next step.

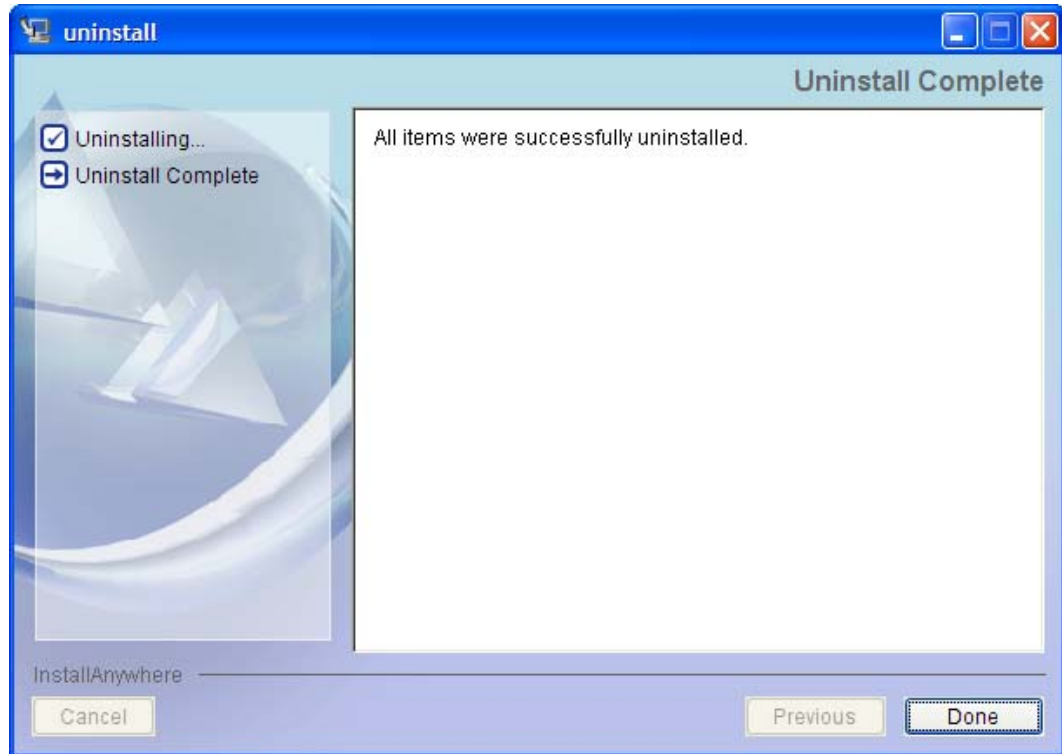
2. The Uninstall Saber window appears:



3. Click the **Uninstall** button to start uninstalling Saber. The **Uninstall Saber** window displays the uninstall progress:



4. Once the uninstall is complete, the **Uninstall Complete** window appears:



5. Click **Done** to exit the Uninstall Saber program.

Setting Up the User Environment

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

The platform-independent wrapper script is located at *install-dir*/bin and includes *-32bit* and *-64bit* options.

Note: If you select a platform executable file that is not available, an automatic switch is made to an available platform based on your current environment. No warning message is issued.

Setting up the user environment is described in these sections:

- [Specifying the Executable File Location](#)
- [Setting the License File Environment Variable](#)

Specifying the Executable File Location

Add the Saber 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:

```
setenv path=(install_dir/ai_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
```

Setting the License File Environment Variable

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

For information about downloading and installing SCL and on setting the license variable, see the *Synopsys Licensing QuickStart Guide*, which is available from <http://www.synopsys.com/Support/Licensing/Licensing/Pages/default.aspx>.

Verifying the Saber Installation

To verify the Saber installation on Windows, choose **Start > Programs > Synopsys > Saber version > Application**.

To verify Saber installation on Solaris and Unix:

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

```
% cd $HOME
```

2. Invoke the tool by entering:

```
% product -v
```

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

Accessing Saber Documentation

The documentation for Saber is available as PDF files or as online Help.

This section covers the following topics:

- [Viewing and Printing Saber Documentation in Portable Document Format](#)
- [Viewing Saber Online Help](#)

Viewing and Printing Saber Documentation in Portable Document Format

To view and print Saber documentation in PDF, you must have Adobe Acrobat Reader installed on your machine.

Viewing Saber Online Help

The online Help system is a browser-based HTML Help system.

To view a Help system, Synopsys recommends the following minimum revisions web browsers on the Synopsys-supported platforms (later versions should also work):

Platform	Operating Systems	Supported Browsers
IBM RS6000 AIX 32- and 64-bit	AIX 5.3	Firefox 1.5 Mozilla 1.7
SunSPARC Solaris 32- & 64-bit	Solaris 9 or 10 ¹²	Firefox 1.5, 2.0 Mozilla 1.7
X86 (IA-32) 32-bit & Linux 32-bit	Red Hat Enterprise Linux 4 or 5 SUSE Linux Enterprise Server 9 or 10	Firefox 1.5, 2.0, 3.0 ³ Mozilla 1.7 Netscape Navigator 7.0
X86_64 Linux 64-bit	Red Hat Enterprise Linux 4 or 5 SUSE Linux Enterprise Server 9 or 10	Firefox 1.5, 2.0, 3.0 ³ Mozilla 1.7 Netscape Navigator 7.0
X86 Windows 2000	Windows 2000	Firefox 1.5, 2.0, 3.0 ⁴ Internet Explorer 6.0 Mozilla 1.7 Netscape Navigator 7.0

Platform	Operating Systems	Supported Browsers
X86 Windows XP Professional	Windows XP Professional v2002	Firefox 1.5, 2.0, 3.0 ⁴ Internet Explorer 6.0 Mozilla 1.7 Netscape Navigator 7.0
X86 Windows 7	Windows 7	Firefox 1.5, 2.0, 3.0 ⁴ Internet Explorer 6.0 Mozilla 1.7 Netscape Navigator 7.0

1. *Synopsys does not recommend using Netscape Navigator to view Help on Solaris.*
2. *Synopsys does not recommend using Netscape Navigator to view Help on Solaris.*
3. *Synopsys recommends using Firefox 3.0 builds 2008052912 or later on Linux.*
4. *Synopsys recommends using Firefox 3.0 builds 2008052906 or later on Windows.*

This section covers the following topics:

- [Setting a Default Browser on Windows](#)
- [Setting a Default Browser on UNIX or Linux](#)
- [Setting MIME Types to View PDFs from Help](#)

Setting a Default Browser on Windows

On Windows, Help opens the browser associated with .html files (typically Internet Explorer).

To use a browser other than Internet Explorer on Windows:

1. Open the browser that you want to use.
2. Open the Add or Remove Programs applet (available from the Control Panel).
3. Choose Set Program Access and Defaults.
4. Select Custom and click the down arrow to display the custom menu.
5. Choose “Use my current Web browser” and click OK.

Result: The next time you click Help, the Help content will appear in your selected default browser.

Setting a Default Browser on UNIX or Linux

The Help system finds HTML browsers on UNIX or Linux by searching for browsers in this order: Netscape, Mozilla, Internet Explorer. It searches for these browsers in the following locations:

1. It first searches in the directories listed in your \$PATH environment variable for the following executables in the following order:

```
netscape6  
netscape  
mozilla  
iexplorer
```

2. If Help doesn't find these executables in your \$PATH, it searches first for netscape6, then netscape, then mozilla, in the following customary locations:

```
/opt/browser/  
/usr/local/bin/  
/usr/local/browser/  
/usr/bin/browser
```

3. Finally, it looks for the Internet Explorer executable in this location:

```
/usr/local/microsoft/bin/iexplorer
```

To use a browser other than those listed above on UNIX or Linux, there are two methods you can use.

Method A: Open the browser you want to use first:

1. Before you use Help, open the browser you want to use, such as Firefox.
2. Then start Help from your Synopsys application.

The Help document will open in the currently opened browser.

Method B: Link the executable you want to use to one of the executables (netscape or mozilla) used by Help by default:

- For example, assume that you want to use your Firefox browser executable instead of Mozilla, and that both executables are located in /usr/bin. Make a symbolic link from the firefox executable to mozilla as follows:

```
cd /usr/bin  
ln -s firefox mozilla
```

This will cause Help to start Firefox in place of Mozilla when Help is called.

Note: If you make this change, all users on this system will start Firefox instead of Mozilla on this server, in any context.

Setting MIME Types to View PDFs from Help

Online Help includes PDF versions of the documents, for use in printing. In order for links from the Help to the PDF to work, you must set an association in your browser for MIME type "application/pdf" with an appropriate PDF viewer for your platform. See the documentation for your particular browser for specific instructions on creating MIME-type associations.

Chapter 1: Installing Saber
Accessing Saber Documentation

Installing Saber Frameways and Co-Simulation Interfaces

This document describes how to install the optional Saber tools in the following sections:

This section covers the following topics:

- [Installing the Frameway Integration for Mentor Graphics Board Station XE](#)
- [Troubleshooting a Frameway Integration for Mentor Graphics Board Station XE Installation](#)
- [Installing the Frameway Integration for Cadence](#)
- [Installing the Frameway Integration for eProduct Designer](#)
- [Installing the Frameway Integration for Zuken CR-5000 System Designer](#)
- [Installing the Saber Co-Simulation Interface With ModelSim](#)
- [Installing the Saber Co-Simulation Interface With Verilog](#)
- [Troubleshooting the Saber Co-Simulation Interface With Verilog Installation](#)
- [Setting Up the Software to Use a Remote System](#)

Installing the Frameway Integration for Mentor Graphics Board Station XE

This section describes how to install the Frameway Integration for Mentor Graphics Board Station XE, how to set up your environment, and what to do if problems occur.

Chapter 2: Installing Saber Frameworks and Co-Simulation Interfaces

Installing the Framework Integration for Mentor Graphics Board Station XE

The Framework Integration for the Mentor Graphics BSXE Framework (earlier called as Falcon Framework) is loaded when you select MGC Framework Integration on the installation tool menu as a part of the software installation procedure.

For the Saber netlister to function, you must load the CDP package when you install the Mentor Graphics BSXE software. The complete package name is CDP V8 Ap SW.

Note: The `SNPSLMD_LICENSE_FILE` or `LM_LICENSE_FILE` license variable and the `PATH` environment variable must be defined before you run the Framework Integration or Co-Simulation Interface option.

```
% set PATH= (install_home/ai_bin $PATH)
```

where *install_home* is the path to the Saber home directory.

(For detailed instructions on setting the license variable, see *Installing Synopsys Tools*, available at http://www.synopsys.com/support/installation/install_guide.html.)

This section covers the following topics:

- [Installing the Software](#)
- [Alternating Between MKS and MWE Versions on Windows](#)
- [Setting-up the Environment Variables](#)
- [Verifying the Environment Variable Settings](#)
- [Creating or Modifying a Location Map File](#)
- [Loading the Saber and CosmosScope Icons](#)
- [Verifying the Installation](#)

Installing the Software

To install the Framework Integration for Mentor Graphics BSXE option:

1. Ensure that `$MGC_HOME` is set, and test the following Mentor Graphics products:
 - Design Manager: To invoke Design Manager, type `dmgr`.
 - Design Architect: To invoke Design Architect, type `da`.

Chapter 2: Installing Saber Frameworks and Co-Simulation Interfaces

Installing the Framework Integration for Mentor Graphics Board Station XE

- Design Viewpoint Editor: To invoke Design Viewpoint Editor, type `dve`.
2. Load the Mentor Graphics BSXE `gen_lib` library according to the instructions provided by Mentor Graphics.
 3. Point the software to the library by using one of the following methods:

Option	Description
Method1	Define <code>MGC_GENLIB</code> only in the location map file. Usually this definition will have already been set as part of the Design Architect installation procedure. For more information, see the <i>Installing Mentor Graphics BSXE Software</i> manual.
Method2	Include the location of the <code>gen_lib</code> library in the <code>MGC_GENLIB</code> environment variable. If you set this environment variable, you can also include an <code>MGC_GENLIB</code> entry in a location map file or not use a location map at all

4. Verify that the Saber simulator is installed and works correctly.
5. Load the Framework Integration software.
If you did not load the Framework Integration for the Mentor Graphics BSXE Framework software at the time the Saber simulator was installed, do so now.
6. Add the license information to the license file. If needed, install the licenses for the Saber/Verilog Co-Simulation option and the Digital Simulation option.

Alternating Between MKS and MWE Versions on Windows

Starting from BSXE2007.2 release, Mentor provides two versions on the Windows platform:

- The MKS version
- The MWE version

Saber E-2010.09 supports BSXE2007.7update2 (MWE version) by default, and provides method to alternate support for old MKS Versions.

The general rule for switching to specific old version is to overwrite the installed files in the following folders with version-specific files:

```
saber_install_dir/Saber/bin
saber_install_dir/Saber/framework/falcon/forks/lib
saber_install_dir/Saber/framework/falcon/saber_rgy/registry/fonts
```

Chapter 2: Installing Saber Frameworks and Co-Simulation Interfaces

Installing the Framework Integration for Mentor Graphics Board Station XE

For example, BSXE Framework can be switched for support BSXE2007 MKS version by updating the following files:

Overwrite...	with...
<code>/Saber/bin/dvetos.exe</code>	<code>/Saber/bin/Mentor2007/dvetos2007.exe</code>
<code>/Saber/framework/falcon/forks/lib/libfork_proc_en.dll</code>	<code>/Saber/framework/falcon/forks/lib/Mentor2007/libfork_proc_en2007.dll</code>
<code>/Saber/framework/falcon/saber_rgy/registry/fonts/fonts.dir</code>	<code>/Saber/framework/falcon/saber_rgy/registry/fonts/MksFonts/fonts.dir.mks</code>
<code>/Saber/framework/falcon/saber_rgy/registry/fonts/saber.icons.fon</code>	<code>/Saber/framework/falcon/saber_rgy/registry/fonts/MksFonts/saber.icons.fon.mks</code>
<code>/Saber/framework/falcon/saber_rgy/registry/fonts/saber_da.icons.fon</code>	<code>/Saber/framework/falcon/saber_rgy/registry/fonts/MksFonts/saber_da.icons.fon.mks</code>

Setting-up the Environment Variables

If you have scripts that automatically configure your environment, be aware that they can overwrite some of the environment variables mentioned here. You should place the variable declarations described here so that they are executed last.

The MWE version of Mentor Graphics BSXE uses an MWE shell which adopts "cygwin" and requires the environment variables to be in cygwin-path-style.

To automatically set up your environment variables, use a text editor to create the lines in your startup file.

This section covers the following topics:

- [Setting the Environment Variables Using a Profile](#)
- [Setting the Environment Variables Using the Windows Start Menu](#)

Setting the Environment Variables Using a Profile

To set the environment variables for the *MKS version* using a profile, add the following lines to the `profile.ksh` file in your home folder:

```
export ANALOGY_SABER="available"  
export SABER_FALCON="install_dir/Saber/framework/falcon"
```

Chapter 2: Installing Saber Frameworks and Co-Simulation Interfaces

Installing the Framework Integration for Mentor Graphics Board Station XE

```
export AMPLE_PATH="$SABER_FALCON/userware"
export MGC_TYPE_REGISTRY="$SABER_FALCON/saber_rgy/ \
                        registry/type_registry/ \
                        saber.rgy"
export SABER_MGC8_SYMBOLS="$SABER_FALCON/symbols"
export MGC_TMPDIR="C:/tmp"
export ANLG_IPC_PKG="$SABER_FALCON/ipc"
```

If `AMPLE_PATH` or `MGC_TYPE_REGISTRY` is used for other applications, add the Saber paths to these variables as follows:

```
export AMPLE_PATH="$AMPLE_PATH;$SABER_FALCON/userware"
export MGC_TYPE_REGISTRY="$MGC_TYPE_REGISTRY; \
                        $SABER_FALCON/saber_rgy/ \
                        registry/type_registry/ \
                        saber.rgy"
```

To set the environment variables for the *MWE* version using a profile, add the following lines to the `.bash_profile` file in your home folder:

```
export ANALOGY_SABER="available"
export SABER_FALCON=`cygpath "install_dir/Saber/ \
                        framework/falcon"`
export AMPLE_PATH=`cygpath "$SABER_FALCON/userware"`
export MGC_TYPE_REGISTRY=`cygpath "$SABER_FALCON/ \
                        saber_rgy/registry/ \
                        type_registry/saber.rgy"`
export SABER_MGC8_SYMBOLS=`cygpath "$SABER_FALCON/ \
                        symbols"`
export MGC_TMPDIR=`cygpath "C:/tmp"`
export ANLG_IPC_PKG=`cygpath "$SABER_FALCON/ipc"`
```

If `AMPLE_PATH` or `MGC_TYPE_REGISTRY` is used for other applications, add the Saber paths to these variables as follows:

```
export AMPLE_PATH=`cygpath -p "$AMPLE_PATH;$SABER_FALCON/ \
                        userware"`
export MGC_TYPE_REGISTRY=`cygpath -p "$MGC_TYPE_REGISTRY;\
                        $SABER_FALCON/saber_rgy/ \
                        registry/type_registry/ \
                        saber.rgy"`
```

Setting the Environment Variables Using the Windows Start Menu

Navigate to **Start > Settings > Control Panel > System > Advanced tab > Environment Variables**, click the **New** button in the **User Variables** group, and add the following settings:

Version	Variable Name	Variable Value
MKS	ANALOGY_SABER	available
	SABER_FALCON	install_dir\Saber\framework\falcon
	AMPLE_PATH	%SABER_FALCON%\userware
	MGC_TYPE_REGISTRY	%SABER_FALCON%\saber_rgy\registry\type_registry\saber.rgy
	SABER_MGC8_SYMBOLS	%SABER_FALCON%\symbols
	MGC_TMPDIR	C:\tmp
	ANLG_IPC_PKG	%SABER_FALCON%\ipc
MWE	ANALOGY_SABER	available
	SABER_FALCON	install_dir_in_cygwin_style/Saber/framework/falcon
	AMPLE_PATH	%SABER_FALCON%\userware
	MGC_TYPE_REGISTRY	%SABER_FALCON%\saber_rgy/registry/type_registry/saber.rgy
	SABER_MGC8_SYMBOLS	%SABER_FALCON%\symbols
	MGC_TMPDIR	/cygdrive/c/tmp
	ANLG_IPC_PKG	%SABER_FALCON%\ipc

If **AMPLE_PATH** or **MGC_TYPE_REGISTRY** is already set for other applications, add the following Saber paths:

Version	Variable Name	Variable Value
MKS	AMPLE_PATH	old_AMPLE_PATH;%SABER_FALCON%\userware

Chapter 2: Installing Saber Frameworks and Co-Simulation Interfaces

Installing the Framework Integration for Mentor Graphics Board Station XE

Version	Variable Name	Variable Value
	MGC_TYPE_REGISTRY	old_MGC_TYPE_REGISTRY;%SABER_FALCON%\saber_rgy\registry\type_registry\saber.rgy
MWE	AMPLE_PATH	old_AMPLE_PATH_in_cygwin_style;%SABER_FALCON%/userware
	MGC_TYPE_REGISTRY	old_MGC_TYPE_REGISTRY_in_cygwin_style;%SABER_FALCON%\saber_rgy\registry\type_registry\saber.rgy

Note: The `AMPLE_PATH` and all the `MGC_*` environment variables will be automatically converted into `cygpath` style in `MWE`, so these variables can be set in Windows native path format. In order to avoid confusion, it is recommended to set them in `cygpath` style.

Verifying the Environment Variable Settings

The environment variables described in the previous steps must be set for non-interactive invocations of `/bin/csh`, as well as interactive invocations of whatever shell you normally use. You cannot depend on non-interactive shells inheriting the environment from interactive shells in either Design Architect or Design Manager.

To ensure that the environment variables are correctly set,

1. Source your `.cshrc` file, create a new shell, or log out and log in.
2. To determine whether the environment is set correctly for interactive shells, enter

```
% printenv
```

3. View the results to verify each environment variable that was described in [Setting-up the Environment Variables](#). Note that the variables are expanded to their absolute paths.
4. To determine whether the environment is set correctly for a non-interactive C shell, complete the following steps:
 - a. Using a text editor, create a file called `my_csh_env` in your current directory containing the following lines:

```
#!/bin/csh
printenv > analogy_csh_env
```

Chapter 2: Installing Saber Frameworks and Co-Simulation Interfaces

Installing the Framework Integration for Mentor Graphics Board Station XE

- b. Make the file executable by entering the following command at the shell prompt:

```
% chmod 777 my_csh_env
```

- c. To invoke Design Architect, enter

```
% da
```

- d. When the Design Architect session window appears, move the cursor into the session window area, enter the following command:

```
$system("my_csh_env")
```

- e. Exit Design Architect.

The previous steps create the `analogy_csh_env` file, which contains a list of all environment variables in the non-interactive shell created with the invocation of Design Architect. Check this file to ensure that the environment variables are set correctly.

Creating or Modifying a Location Map File

The `MGC_LOCATION_MAP` variable points to a location map file. You need to modify that location map file. However, if you cannot modify the file (or don't want to), you can copy it to your local directory, modify it, and change the `MGC_LOCATION_MAP` variable to point to your local copy. If the variable is not defined, or if you do not know where to find a location map file, ask your system administrator. The `MGC_LOCATION_MAP` variable must point to the location map file for both interactive and non-interactive shells, as outlined in the previous section.

It is not sufficient to simply change the variable for your current shell. If you are not using a location map, set `MGC_LOCATION_MAP` to `NO_MAP`.

To create or modify a location map file,

1. If you need to create a location map file rather than copy an existing one, place the following lines at the beginning of the file:

```
MGC_LOCATION_MAP_2  
(blank line)
```

2. Add the following soft prefixes to the location map file that you are either creating or modifying:

Chapter 2: Installing Saber Frameworks and Co-Simulation Interfaces

Installing the Framework Integration for Mentor Graphics Board Station XE

```
$SABER_MGC8_SYMBOLS  
(blank_line)  
$SABER_FALCON  
(blank_line)
```

The Mentor Graphics BSXE environment requires that these entries be present in the location map file to indicate that they are soft paths. You do not have to specify hard paths for the location map entries because you already defined them as environment variables, which override the corresponding location map entries. However, if you prefer, you can omit the environment variable specifications and instead specify the hard paths in the location map entries. In either case, the location map entries must be included in the location map file.

If you are using the Mentor Graphics BSXE products, a blank line after the soft prefix name in the location map file can cause a fatal error. Instead, you must specify a hard path for each soft prefix in the location map file (except for the MGC_LOCATION_MAP_2 entry).

3. Initialize the startup file by logging out and logging back in.

The installation of the Framework Integration software is now complete.

Loading the Saber and CosmosScope Icons

To load the Saber and CosmosScope icons,

1. Start Design Manager by using the following command:

```
% dmgr
```

When Design Manager is running, place the pointer in the Tools window and click to activate the menu bar for the Tools window.

2. Add the Saber toolbox.
 - a. Select the Toolbox window by clicking in the border of the window.
 - b. Use the right mouse button to choose “View toolboxes.”
 - c. When the \$MGC_HOME/toolbox icon appears, choose Edit > Add Toolbox. A prompt bar appears on the lower-left side of the Toolbox window.
 - d. Enter the following full path in the prompt bar and click OK:

```
saberfalcon/saber_rgy/toolbox
```

Chapter 2: Installing Saber Frameworks and Co-Simulation Interfaces

Installing the Framework Integration for Mentor Graphics Board Station XE

In the preceding command, `saberfalcon` is the full path name to the place where the `$SABER_FALCON` environment variable resides. You must either specify a hard path or `$SABER_FALCON` must be defined in the location map. If `$SABER_FALCON` is defined in the location map, you can use this soft name in the prompt bar entry.

A second toolbox named `saberfalcon/saber_rgy/toolbox` should now appear in the Toolbox window.

3. Make sure the Saber and CosmosScope icons are visible in the Tools window.

If the Tools window is not present inside the Design Manager window, choose `View > Tools`. The icons for the Saber simulator and CosmosScope should now be present in the Tools window, though you might have to scroll through the window to find them.

4. Exit Design Manager.

Verifying the Installation

To verify that the Framework Integration for Mentor Graphics BSXE is installed correctly,

1. Copy the `$install_home/test/install/mentor` directory to a local location.
2. Navigate to the newly created mentor directory.
3. Set the `$SABER_EXAMPLE` environment variable to point to your local copy of the mentor directory. For example, if you are using the C shell, enter

```
% setenv SABER_EXAMPLE your_path/mentor
```
4. Invoke Design Architect by entering the following command:

```
% da
```
5. In Design Architect, click the Open Sheet icon to open the Open Sheet dialog box.
6. In the Open Sheet dialog box, click the Navigator button, and in the resulting List box, select the component you want to install.

The path to the component appears in the Component Name box of the Open Sheet dialog box.
7. In the Open Sheet dialog box, click OK.
8. Choose `Check > Sheet`. Close or minimize the “Check sheet” summary.

9. Choose File > Save Sheet.
10. Choose Saber > Netlist > Show Netlister Transcript.
You will be able to watch the netlister process in the resulting Netlister Transcript window.
11. Choose Saber > Netlist > Start Netlister.
This starts the netlister.
12. After the netlist process has finished without any errors, close the Netlister Transcript window.
13. Invoke Saber Guide by choosing Saber > Start Saber Guide.
14. Open the Saber Guide Transcript window by clicking the cmd Simulation Transcript icon.
15. In the Saber Guide Transcript window, execute the following command:

```
<install.scs
```


The install.scs test program starts a simulation of a test circuit and then loads the resultant plot files into CosmosScope.
Note: The signals are not plotted in the graph window. To plot the same signals in the graph window, use the `scope plot` command in the install.scs command script.
16. If the commands that were executed by the install.scs script produced no errors, the communication between the Mentor Graphics BSXE environment and the Saber simulator is good. If you want to complete the test as was done in checking the Saber simulator installation, see steps 7 and 8.
17. Exit Saber and Design Architect.

Troubleshooting a Framework Integration for Mentor Graphics Board Station XE Installation

If you followed the steps in the previous section, the environment for running the Framework Integration for the Mentor Graphics BSXE Framework should be set up correctly. However, other factors can affect the operation of the software. This section describes potential problems and suggests solutions.

PROBLEM 1

A schematic window is open and active but there is no Saber menu item in the menu bar, no Saber Parts Gallery menu item, and no Saber or CosmosScope icons in the palette.

Solution A

The `ANALOGY_SABER` environment variable is not set to the value available. It is also possible that either the variable or the value is misspelled. Setting this environment variable correctly causes the Saber menu item to appear in the menu bar even if the software has not been loaded.

Solution B

If the `ANALOGY_SABER` environment variable is set correctly, other causes might be that you executed an old version of Mentor Graphics software or that some other third-party userware redefined the menu bar. If fixing these potential causes does not solve your problem, contact Customer Support.

PROBLEM 2

A schematic window is open and active and there is a Saber menu item in the menu bar, but there is no pull-down menu associated with it.

Solution

The userware has not been loaded into Design Architect. Enter the following command:

```
% ls $SABER_FALCON/userware
```

Check that the `des_arch`, `base`, and `dve` directories are listed and that there is something in each of these directories. Also, make sure that the `AMPLE_PATH` environment variable contains the exact path that `$SABER_FALCON/userware` resolves to. For information on setting `AMPLE_PATH`, see [Setting-up the Environment Variables](#).

PROBLEM 3

The first time you open a schematic window, error messages appear in the Design Architect transcript window stating that `$load_library` failed in the `ipc.ample` file.

Solution A

Check that the `$ANLG_IPC_PKG/lib/ample_ipc.dl` file exists. If not, check the `ANLG_IPC_PKG` environment variable setting, which is defined in `$install_home/bin/ai_setupmgc` and `aisetupmgc_csh`.

Solution B

The library mentioned in the \$load_library message must have execute permissions. Check the permissions of \$ANLG_IPC_PKG/lib/ample_ipc.dl to ensure that read and execute permissions exist for everybody.

PROBLEM 4

A netlist fails after you chose Saber > Netlist or Saber > Start Saber Guide and ran an analysis.

Solution A

If a transcript window appears and shows the error message, fix the problem as described. The transcript window shows the actual output of the current run.

Solution B

Check the transcript window carefully for the following message:

```
dvetos.exe: command not found
```

Check that your path environment variable points to the *install_home/ai_bin* directory.

PROBLEM 5

The palette icons associated with the Saber products appear as letters or numbers rather than pictures in Design Architect, or the Saber simulator tool icons (Saber and CosmosScope) do not appear in the Design Manager Tools window.

Solution

If the fonts still do not work after you rebuild them, execute the following commands:

```
% xset fp+ $SABER_FALCON/saber_rgy/registry/fonts  
% xset fp+ $MGC_HOME/registry/fonts  
% xset fp rehash
```

This procedure should get your workstation to recognize the fonts. If you still have problems, ensure that everyone has at least read and execute permissions on all of the directories identified by the \$SABER_FALCON/saber_rgy/registry/fonts path.

Installing the Framework Integration for Cadence

Note: The `SABER_HOME` variable and a license environment variable must be defined before you install a Framework Integration or Co-Simulation Interface option.

Set the `SABER_HOME` environment variable as follows:

```
% setenv SABER_HOME install_home/Saber
```

To set the `SNPSLMD_LICENSE_FILE` or `LM_LICENSE_FILE` license environment variable, see [Installing Synopsys Tools](#).

Before you can correctly install the Framework Integration for the Cadence Design II Environment, you must verify the proper installation and operation of the partner software and the Saber software. To make these checks,

1. Test the Design Framework II software installation.
 - a. Invoke Design Framework II by entering the appropriate command for your system. Your invocation command will be similar to one of the following examples: `icms`, `ictb`, `msfb`, or `icds`.

The Framework Integration for Design Framework II is compatible with the Cadence Composer and Analog Artist 4.X.

- b. Exit Design Framework II.

Note: If you are unable to invoke Design Framework II, see the appropriate Cadence installation manual for more information.

2. Verify that the Saber simulator is installed and works correctly.
3. Set the library environment variables.

Set or modify the path to your `LD_LIBRARY_PATH` (Sun) variable in your `.cshrc` file. A script is provided to automate this procedure. Simply enter the following lines at the command-line prompt:

```
% ed 's/$0/ai_setlibpath/' $SABER_HOME/bin/ \  
    ai_setlibpath > ! /tmp/my_setlibpath  
% source /tmp/my_setlibpath
```

4. (Optional) If you will be using a partner simulator with the Saber simulator, verify that the Verilog simulator is installed for use as a partner simulator.
5. Load the Framework Integration software.

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Installing the Framework Integration for Cadence

If you did not load the Framework Integration for the Cadence Design Framework II at the time the Saber simulator was installed, do so now.

6. Install the necessary license.
 - a. Add the license information to the license file.
 - b. If needed, install the licenses for the Saber/Verilog Co-Simulation option and the Digital Simulation option.
7. Create the directories.

You must create a directory named local in cadence standard directory/tools/dfll and create several directories within the local directory.

- a. Make this directory your current (working) directory. For example, on a Sun system enter

```
% cd $cads_root/tools/dfII
```

- b. Create this directory, if it does not already exist, as follows:

```
% mkdir local
```

- c. Create the following directories in the local directory if they do not already exist:

```
% cd local
% mkdir hnl
% mkdir -p si/caplib
% cd si/caplib
```

- d. Copy the following files to the caplib directory:

- Copy the si_saber_cds.il file to a Saber.il file in the caplib directory and change permissions, as follows:

```
% cp $SABER_HOME/framework/artist/skill/ \
    si_saber_cds.il cadence_standard_directory/ \
    tools/dfll/local/si/caplib/Saber.il
% chmod 755 cadence_standard_directory/tools/dfll/ \
    local/si/caplib/Saber.il
```

- Copy the si_saberHDL_cds.il file to a SaberHDL.il file in the caplib directory and change permissions, as follows:

```
% cp $SABER_HOME/framework/artist/skill/ \
    si_saberHDL_cds.il cadence_install_dir/ \
    tools/dfll/local/si/caplib/SaberHDL.il
% chmod 755 cadence_install_dir/tools/dfll/ \
    local/si/caplib/SaberHDL.il
```

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Installing the Framework Integration for Cadence

- e. Copy the following files to the hnl directory:
 - Copy the hnl_saber_cds.il file to a Saber.il file in the hnl directory and change permissions, as follows:

```
% cp $SABER_HOME/framework/artist/skill/ \
    hnl_saber_cds.il cadence_standard_directory/ \
    tools/dfII/local/hnl/Saber.il
% chmod 755 cadence_standard_directory/tools/dfII/ \
    local/hnl/Saber.il
```

- Copy the hnl_saberHDL_cds.il file to a SaberHDL.il file in the hnl directory and change permissions, as follows:

```
% cp $SABER_HOME/framework/artist/skill/ \
    hnl_saberHDL_cds.il cadence_install_dir/ \
    tools/dfII/local/hnl/SaberHDL.il
% chmod 755 cadence_install_dir/tools/dfII/ \
    local/hnl/SaberHDL.il
```

8. Enter `cd` to return to your home directory.
9. Edit your `cds.lib` file to add symbol information.

The `cds.lib` file is a part of the Cadence Design Framework II software.

- Edit the `cds.lib` file to include the path to the Framework symbols in the definition of the library search path. You do this by using ASCII files. For example,

```
DEFINE SaberLib $SABER_HOME/framework/artist/symbols/
SaberLib
DEFINE basic $CDS_HOME/tools/dfII/etc/cdslib/basic
INCLUDE ../../other/../../cds.lib
```

These files can call other `cds.lib` files so that system files can be resident in a location and referred to with an `INCLUDE` statement. Environment variables can be used as shown.

If the `cds.lib` file is in your local directory, it is used. Otherwise the `~/cds.lib` file is used. By using a local `cds.lib` file, you can set design-specific search paths.

10. In the Cadence Design Framework II directory, create a MAST file containing initial configuration information.
 - a. To create the file, use an ASCII editor, such as `vi`, that does not insert formatted text and enter

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Installing the Framework Integration for Cadence

```
//Revision 4
//NOTE
// Default template for MAST
// Note:
// Please remember to replace Top Cell
// Library, Cell, and View fields with the
// actual names used by your design.
//END_NOTE

config mast;
design myLib.myCell:myView;

viewlist mast, schematic, symbol;
stoplist mast, symbol;

endconfig
```

- b. Place the file in the following directory:
\$CDS_HOME/tools/dfII/local/hierEditor
- c. Name the file MAST and save it.

11. Copy the .artistSaberDefaults.il file.

The .artistSaberDefaults.il file sets the defaults for menus and dialog boxes in Design Framework II. You can copy this file into your home directory and modify it to set the defaults you prefer for general use, or you can copy it into a particular project directory and then modify it to set the defaults to be used for that project.

If more than one .artistSaberDefaults.il file exists on your system, the .artistSaberDefaults.il file in your current (working) directory is used if it exists. If not, the .artistSaberDefaults.il file in your home directory is used.

- a. Make your home directory or a project directory your working directory.
- b. To copy the file to your working directory, enter

```
% cp $SABER_HOME/framework/artist/ dotfiles/
.artistSaberDefaults.il .
```

Enter the code all on one line. The space and period at the end are important.

- c. To change the default working directory for the Cadence Design Framework II software, which is set by the .artistSaberDefaults.il file, edit the file as follows:

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Installing the Framework Integration for Cadence

System administrators: To change the sitewide `.artistSaberDefaults.il` file, edit the file in `$SABER_HOME/framework/artist/dotfiles`.

Individual users: Edit your local copy of the `.artistSaberDefaults.il` file.

- Set the `saber_simRunDir` template to point to the specific directory you want.

Or you can set

```
saber_simRunDir = getWorkingDir()
```

- Choose Saber > Set Working Directory and specify the directory you want.
- Use a Solaris environment variable called `SABER_DEFAULT` to set the path to the `.artistSaberDefaults.il` file.

If this path is set and the file is present, this file will be loaded. Otherwise the `.artistSaberDefaults.il` file will be loaded from the home directory or the working directory. For example, suppose you set the variable as follows:

```
setenv SABER_DEFAULT /homes/myfile/latest
```

If an `.artistSaberDefaults.il` file exists in `/homes/myfile/latest`, it will be used instead of any other files present on your system.

12. Load the new `~/.cdsinit` file.

To access the integration to Cadence 5.0 or 5.1, you need to create a new `.cdsinit` file and install it in each user's home directory. Use a text editor, such as `vi`, that does not insert formatted text.

The contents of the `.cdsinit` file for this release are different from the contents in previous versions. An example of the new file contents follows:

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Installing the Framework Integration for Cadence

```
load(strcat(getShellEnvVar("install_home")\  
  "/framework/artist/skill/analogy.il "))  
;  
load(strcat(getShellEnvVar("install_home")\  
  "/framework/artist/skill/analogyReg.il"));  
;  
load(strcat(getShellEnvVar("install_home")\  
  "/framework/artist/skill/viewgen.il "))  
;  
analogy_menu_creation()  
;  
printf( "Done with startup  
        initialization.\n" )
```

The analogyReg.il and viewgen.il files are necessary only if you are using the Framework Integration for Cadence text views feature. These files are used to register the MAST view type. The MAST views must be registered before you can create them.

13. Register the MAST views by performing the following steps:
 - a. Go to the data.reg file, which is located at
\$SABER_HOME/framework/artist/skill
 - b. Do one of the following:
 - Put data.reg into the home directory.
 - Follow the instructions in data.reg to split it into these files:
cds_install/share/cdssetup/registry/data/mast.reg
cds_install/share/cdssetup/registry/data/anlg_verilog.reg
cds_install/share/cdssetup/registry/data/snps_vhdlams.reg
cds_install/share/cdssetup/registry/tool/mastEditor.reg
cds_install/share/cdssetup/registry/tool/anlg_verilog.reg
cds_install/share/cdssetup/registry/tool/snps_vhdlams.reg
 - c. Load the analogyReg.il and viewgen.il files with analogy.il. Add a line to your .cdsinit file that will load all three files.
The viewgen.il file and the analogyReg.il file, which contains the trigger functions, are located at
\$SABER_HOME/framework/artist/skill

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Installing the Framework Integration for Cadence

- d. To create a MAST view that uses the trigger functions found in `analogyReg.il`, follow the procedures on creating text views in Cadence in the *Analyzing Designs Using Saber for the Cadence Design Framework II* manual.
14. Verify that the menus have been installed correctly, and complete the installation.
- a. Copy the `$SABER_HOME/test/install/cadence` directory to a local location.
 - b. Edit your `cds.lib` file to include the path of the `cadence/install` library.
 - c. Invoke Design Framework II by entering the appropriate command for your version of the software (for example, `icde`, `icds`, `icms`, `asicfe`, `layout`, `layoutPlus`, `icca`, `asicpr`, or `icfb`).
The Saber menu item should appear on the menu bar in the schematic window.
 - d. Choose File > Open. The Open File dialog box appears.
 - e. In the Open File dialog box,
 - Select Library Name > install.
 - Then select Cell Name > install.
 - Then select View Name > schematic.
 - Click OK.
 - f. The schematic window should appear with no errors. Check and save the design if necessary.
 - g. In the schematic window,
 - Choose Saber > Set Working Directory.
 - In the resulting Project Information dialog box, check that the Project Directory box is set to *your_path/cadence*.
 - Click OK.
 - h. In the schematic window, select Saber > Netlist > Start Netlister.
This starts the netlister. A simulation window appears that contains the netlister transcript.
 - i. After the netlist process has finished without errors, close the simulation window.
 - j. Invoke Saber Guide by choosing Saber > Start Saber Guide.
The design is automatically loaded in Saber.

- k. Open the Saber Guide transcript window by clicking the Simulation Transcript icon.
- l. In the Saber Guide transcript window, choose File > Load Command File.
- m. Navigate to *your_path/cadence* and load the *install.scs* file.
This will execute the commands in the *install.scs* file. The *install.scs* test program starts a simulation of a test circuit and then loads the resultant plot files into CosmosScope.
If the commands that were executed by the *install.scs* script produced no errors, the communication between the Cadence Design Framework II and the Saber simulator is good.
- n. Exit Saber and Design Framework II.

Installing the Framework Integration for eProduct Designer

To complete the eProduct Designer Framework installation, follow these steps:

1. Install the Mentor Graphics eProduct Designer software and verify the installation.
2. Select the eProduct Designer option during Saber installation to install the Framework software for eProduct Designer.
3. The symbols that are available in `install_home\Saber\framework\viewlogic\symbols` directory can be used in DxDesigner environment with both Expedition flow and Netlist Flow.
 - a. To use in Expedition flow:
For each of the partitions under `install_home\Saber\framework\viewlogic\symbols` directory, create `sbr_partition` in your Central Library and add all the symbols under that partition into the new partition that you created in the Central Library.
 - b. To use with Netlist Flow:

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Installing the Framework Integration for eProduct Designer

cd to each sub directory under `install_home\Saber\framework\viewlogic\symbols` and create a directory named "sym" and move all symbols in that directory to "sym". Then create two empty files named `sym.lib` and `sch.lib` in the same directory where you created the "sym" directory.

Find the tool named "mega" in the DxDesigner software installation and run mega tool as follows:

```
mega . -a
```

This will archive all the symbols under the "sym" directory and create archived files named `sym.lib` and `sym.tbl` that contains all the symbols.

4. Modify the `WDIR`, `PATH`, and license environment variables as follows:
 - a. Start the System program by choosing Start > Settings > Control Panel > System > Environment tab.

- b. Add these paths to the `WDIR` variable:

```
install_home\Saber\framework\viewlogic\standard
install_home\ai_bin
install_home\Saber\bin
install_home\ePD2007\2007IND\SDD_HOME\standard
-- ePD Installation
```

For example the following is a snapshot of the `WDIR` setting if Saber is installed in `C:\Synopsys\A-2007.12-SP2` and eProduct Designer is installed in `C:\MentorGraphics`:

```
C:\Synopsys\A-2007.12-
SP2\Saber\framework\viewlogic\standard;C:\Synopsys\A-
2007.12-SP2\ai_bin;C:\Synopsys\A-2007.12-
SP2\Saber\bin;C:\MentorGraphics\2005BST\SDD_HOME\standard
```

- c. Add these paths to the `PATH` variable:

```
install_home\ai_bin
install_home\Saber\bin
```

- d. `SABER_HOME` variable to the `install_home` directory. For example set `SABER_HOME` to `C:\Synopsys\D-2010.03\Saber`

5. Modify the license environment variable (`SNPSLMD_LICENSE_FILE` or `LM_LICENSE_FILE`) to include the location of the Synopsys license file. You can use `path` or `port@hostname` syntax. For example,

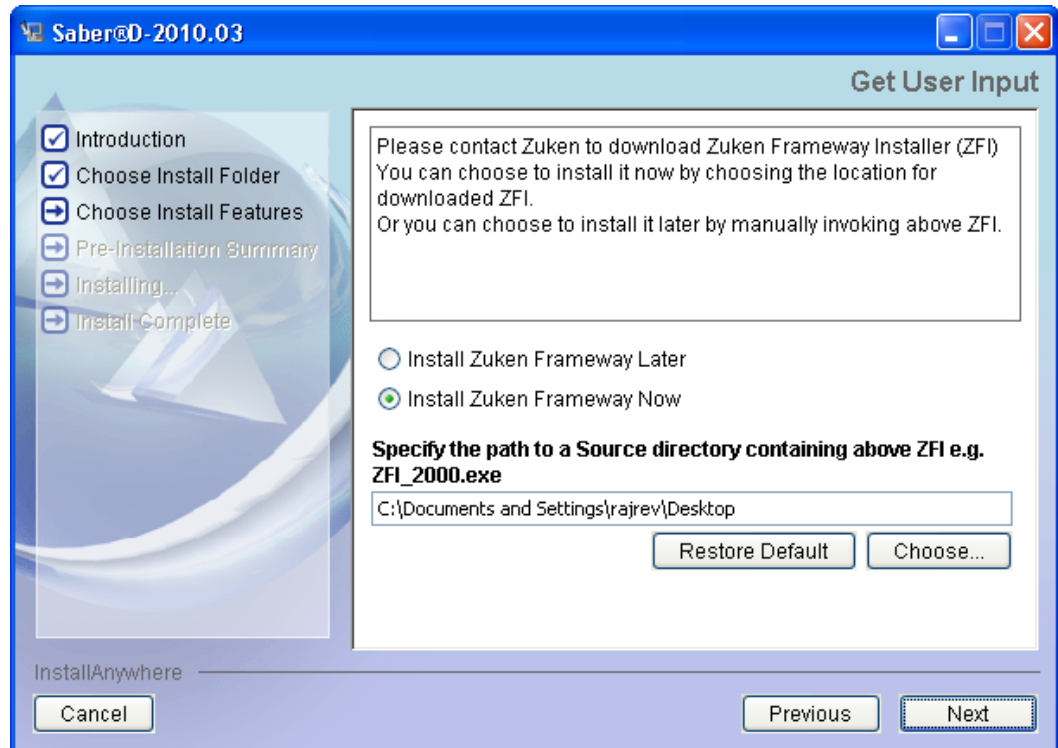
```
27000@server1;C:/Synopsys/license.lic
```

6. Start DxDesigner and open a design. The Saber menu should be in the menu bar to the left of the Help menu.

Installing the Framework Integration for Zuken CR-5000 System Designer

To complete the Zuken System Designer Framework installation, follow these steps:

1. Install the Zuken CR-5000 System Designer software and verify the installation.
2. Select the Zuken Framework option during Saber installation to install the Framework software for Zuken System Designer. The **Get User Input** window appears:



Note: You can either choose to install the Zuken Framework installer along with the Saber Installation or install the Zuken Framework separately.

Chapter 2: Installing Saber Frameworks and Co-Simulation Interfaces

Installing the Saber Co-Simulation Interface With ModelSim

The Zuken CR-5000 Framework Interface (ZFI) is no longer packaged with the Saber Installer. Contact Zuken directly to obtain the ZFI installer.

3. Select **Install Zuken Framework Installer Now** option, specify the path to the ZFI installer, and click **Next**. The Zuken Framework interface is installed.
4. Ensure that the `LM_LICENSE_FILE` environment variable includes the licenses for Zuken System Designer. For example:

```
LM_LICENSE_FILE = 7770@stoat
```

5. Reboot the machine and start Zuken System Designer. A Saber menu option should appear in the System Designer pull-down menus.

Installing the Saber Co-Simulation Interface With ModelSim

Note: The `SNPSLMD_LICENSE_FILE` or `LM_LICENSE_FILE` license environment variable must be defined before you use a Framework Integration or Co-Simulation Interface option. For detailed instructions on setting the license variable, see [Installing Synopsys Tools](#).

Before you can correctly install the Saber/ModelSim interface, you must verify the proper installation and operation of the ModelSim software and the Saber software.

To correctly set up the Saber/ModelSim interface with the correct master-slave relationships, perform the following operations:

- For Solaris:

If ModelSim is master, enter

```
% setenv SABER_MODELSIM install_home/Saber/ \  
  bin/sabermti.so  
% set path=(install_home/ai_bin $path)  
% setenv LD_LIBRARY_PATH:$install_home/ \  
  Saber/bin
```

If Saber is master, enter

```
% setenv SABER_MODELSIM install_home/Saber/ \  
  bin/sabermti.so
```

\$PATH must include the path to the ModelSim executable files.

- For Windows:
 1. Open the Environment Variables dialog box.
For example, on a Windows system, choose Start > Settings > Control Panel > System > Advanced > Environment Variables.
 2. Set the SABER_MODELSIM variable to
`install_home\Saber\sabermti.dll`
 3. If ModelSim is the master, add the following line to the PATH variable:
`install_home\ai_bin;install_home\Saber\bin`
 4. PATH must include the path to the ModelSim executable files.

Installing the Saber Co-Simulation Interface With Verilog

Note: The `SNPSLMD_LICENSE_FILE` or `LM_LICENSE_FILE` license variable must be defined before you install a Framework Integration or Co-Simulation Interface option. See [Installing Synopsys Tools](#).

To simulate mixed-signal designs by using Verilog-XL as a partner simulator with the Saber simulator, you will need the following licenses:

- Licenses for the Saber/Verilog Co-Simulation Interface (SABER/VERILOG_MM)
- A license from Cadence Design Systems for the Verilog-XL simulator

To build the Verilog executable file, you need to run the `vconfig` utility provided by Cadence.

Set or modify the path to your `LD_LIBRARY_PATH` (Sun) variable in your `.cshrc` file.

See the instructions for linking Verilog executable files in the Cadence documentation.

To install your Saber/Verilog software,

Chapter 2: Installing Saber Frameworks and Co-Simulation Interfaces

Installing the Saber Co-Simulation Interface With Verilog

1. Install the software.

The Saber/Verilog Co-Simulation Interface software is loaded at the same time you load the Saber integrated suite of products.

2. Install the licenses.

- If you have not yet installed a license file for your software, you can install the license for the `SABER/VERILOG_MM` option as a part of the software installation procedure.
- If you have already installed a license file for your software, update that file by adding the `SABER/VERILOG_MM` license.

3. Verify that the Saber simulator is installed and works correctly.

4. Install the Verilog-XL simulator license.

Obtain a Verilog-XL simulator license from Cadence Design Systems, and complete any installation instructions provided with the license.

5. Test that the Verilog-XL simulator is installed correctly.

- Invoke the Verilog-XL simulator by entering the appropriate command for your system.

If you cannot invoke the Verilog-XL simulator, see the appropriate Cadence Design Systems installation manual for more information.

- Exit the Verilog-XL simulator.

6. (Optional) Create a configuration file for socket communication.

By default, pipe communication mode is used with the Saber simulator. If you want to use socket communication with Saber Guide, you must create a `config.vmx` file as follows:

- a. Copy the `$install_home/bin/config.vmx` file to your working directory.

If you save the `config.vmx` file to a directory other than your working directory, you must modify your `$install_home/bin/verilog.scf` file accordingly.

- b. Make no other changes to the `verilog.scf` file.

The version of the `verilog.scf` file provided with the software must be used when you use the Saber/Verilog software. Check that no other versions are present in the data search path ahead of this file.

7. Create the Verilog executable file.

Follow Cadence instructions for invoking `vconfig`. The instructions likely involve adding a directory to your `PATH` environment variable, for example, `$CDS_ROOT/tools/bin`.

- a. When `vconfig` asks, “What do you want to name the Verilog_XL target?” use the default: `verilog`.
- b. When `vconfig` asks, “Do you want to include Verilog Mixed-Signal Interface?” answer YES.
- c. When `vconfig` asks for the names of additional files to be loaded, enter a single period (`.`).
- d. Create the Verilog executable file by entering

```
% ai_make_verilog
```

For more information about the command, enter

```
% ai_make_verilog -h
```

8. Install the Verilog-XL executable file in the desired directory.
9. (Optional) Change the invocation name for the Saber/Verilog simulator.
You can set the invocation name `verilog` to an ASCII string of your choosing in the `invocation_name.scf` file.
 - a. Use an ASCII text editor to open the `$install_home/bin/invocation_name.scf` file.
 - b. Change the invocation name item from `verilog` to an ASCII string (for example, `verilog.scf`).

Troubleshooting the Saber Co-Simulation Interface With Verilog Installation

This section describes a series of potential problems and suggests solutions.

PROBLEM 1

You get an error while creating the Verilog executable file.

Solution A

Usually, this error is due to missing or incorrect versions of the C or C++ compilers.

Solution B

Some releases of Cadence's vconfig might produce a script that, when run, produces undefined symbols:

```
ld: Undefined symbol
bcopy
getdtablesize
getwd
```

These symbols are undefined because a Cadence library, virtuous.a, is missing from the vconfig output script. The library will be included if you answer the vconfig questions in a particular way. In general, those questions that have **v** as their default answer result in the inclusion of virtuous.a. Contact Cadence for details.

PROBLEM 2

When you attempt to operate remotely, the error message “remote_host_name: remote_host_name: cannot open” is displayed.

Solution

The restricted shell version of the `rsh` command was executed instead of the remote shell version. Change your `PATH` environment variable to include the path to the remote shell version of the `rsh` command. This executable file is typically located in either `/usr/ucb` or `/usr/bin`. This directory should appear in the search path ahead of any directories containing, or pointing to, the restricted shell version of the `rsh` command.

PROBLEM 3

When you attempt to operate remotely, the error message “permission denied” is displayed.

Solution

Complete the following steps:

- Log in to the remote system.
- Create or modify a file named `.rhosts` in your home directory on the remote system. Include in the file a line that contains the name of your local system. To view man page information about the `.rhosts` file, enter one or both of the following commands:

```
man login
man rsh
```

PROBLEM 4

You are unable to start Verilog-XL from the Saber simulator.

Solution A

The Verilog-XL executable file does not have execute permission. Change the permission on the executable file, using the command

```
% chmod +x verilog_pathname
```

where *verilog_pathname* is the path to Verilog-XL, including the executable file.

Solution B

The Verilog-XL executable file is not found in the `PATH` variable. Change the path definition to include the directory where the Verilog-XL executable file resides, as follows:

```
set PATH = (verilog_directory $PATH)
```

where *verilog_directory* is the path to the directory containing the Verilog-XL executable file.

PROBLEM 5

Verilog-XL starts but exits immediately with the message

```
***The partner simulator exited unexpectedly***
```

Solution A

Verilog-XL cannot find the license file. Examine the Verilog-XL output file `verilog.log`. Look for a line in the log file similar to this one:

```
Error! ERROR (LM -24): can't find license file.
```

If such an error is found, make sure the license variable (`SNPSLMD_LICENSE_FILE` or `LM_LICENSE_FILE`) points to the appropriate license file. Modify the environment variable if necessary. For example,

```
setenv LM_LICENSE_FILE "...:verilog_license_file"
```

where *verilog_license_file* is the path to the Verilog-XL license file.

Solution B

The `SNPSLMD_LICENSE_FILE` or `LM_LICENSE_FILE` license environment variable is pointing to a Verilog-XL license file that is invalid or has expired. Examine the Verilog-XL output file `verilog.log`. Look for a line in the log file similar to this one:

```
Error! ERROR (LM -35): license for feature has expired.
```

If such an error is found, obtain a valid license file from Cadence Design Systems, install the license file, and set the license environment variable accordingly.

PROBLEM 6

When you invoke the Saber/Verilog software with the Verilog-XL simulator running on a remote host, the Verilog-XL simulator starts but exits immediately with the following error message:

```
The partner simulator exited unexpectedly
```

Solution A

There is no permission to execute the shell on the remote host. Verify that you have permission to execute an `rsh` command on the remote host by entering

```
% rsh host 'ls' (Sun machines)
```

where *host* is the name of the remote host. If you are unable to execute a remote shell, contact your system administrator to arrange for you to execute remote shells on the remote host.

Solution B

The remote working directory is invalid. Verify that the working directory on the remote host is valid by entering

```
% rsh host 'cd remote_directory'
```

where *host* is the name of the remote host, and *remote_directory* is the directory where the Verilog-XL simulator will be run on the remote host.

Correct the remote working directory as necessary to ensure a valid path name on the remote host, either by modifying the Saber Guide invocation command line (`-pwd` option) or by modifying the `verilog.scf` file (where the remote working directory can be specified).

Solution C

The Verilog-XL executable file cannot be found in the path on the remote system. Verify that the Verilog-XL executable file can be found on the remote system by entering

```
% rsh host 'cd remote_directory; verilog -s verilog_file'
```

where *host* is the name of the remote host, *remote_directory* is the directory where the Verilog-XL executable file will be run on the remote host, and *verilog_file* is the name of Verilog-XL input file.

Change permissions on the Verilog-XL executable file, or modify the path so that the Verilog-XL executable file can be found on the remote system.

Setting Up the Software to Use a Remote System

To set up your Saber/Verilog software to run on a remote system,

1. Set up a user account on the remote system.

Your system administrator might need to do this for you.

2. Test that you can execute a remote shell locally.

- To test on other systems, enter

```
% rsh remote_host_name ls
```

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Setting Up the Software to Use a Remote System

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