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Installing the Visual IP Software

User Guide

The Visual IP software from Innoveda lets you create simulation models that can be used in third-party VHDL and Verilog HDL simulation tools. Altera distributes the Visual IP software for the end user along with Visual IP models of Altera IP functions. This guide describes how to install the Visual IP software on PCs and UNIX workstations. This section describes the system requirements and installation process Installing on for the Visual IP software on Windows PCs. PCs Installation Requirements The Visual IP software requires a Pentium-based PC that has: At least 64 MBytes of RAM, 88 MBytes is recommended Windows NT 4.0, Windows 95, or Windows 98 At least 200 MBytes of free disk space A SuperVGA display (800 x 600 is the recommended working resolution) Download the Software To download the software, perform the following steps: Point your web browser to http://www.altera.com/IPmegastore. 1. 2. Click the Visual IP link. Follow the on-line instructions to download the software. 3. **Running the Installation Script** The installation procedure for the Visual IP software is the same for Windows 95, Windows 98, and Windows NT 4.0. F Network users should use a 32-bit network protocol to take advantage of new file naming features such as case sensitivity and unlimited name length.

To install Visual IP for Windows, perform the following steps:

- 1. Place the Visual IP CD-ROM into your PC's CD-ROM drive.
- 2. Choose **Run** from the **Start** menu; the **Run** dialog box appears.
- 3. Type *<CD-ROM drive letter>:/setup* and click OK.
- 4. Follow the on-screen instructions.
- The default installation directory is **C:\VisualVIP**; you can change this directory if you wish.

The default folder in which the Visual IP icons appear is named Visual VIP; you can change this folder name if you wish.

Linking to a Host Simulator

The following sections describe how to link the Visual IP software to different host simulators.

ModelSim for VHDL

Before invoking the ModelSim for VHDL simulator, you must link it to the Visual IP software by adding the Visual IP binary directory to your path:

set path=c:\VIPManager\bin;%path%

	ModelSim for Verilog HDL
	Before invoking the ModelSim for Verilog HDL simulator, you must link it to the Visual IP software by adding a veriuser entry pointing to the shared library:
	<pre><path>\Visual_VIP_<version>\<platform>\lib\libplimtivip.so</platform></version></path></pre>
	You can also use the vsim - pli command line option or the PLIOBJS environment variable. See the ModelSim documentation for more information.
	VCS
	Before invoking the VCS simulator, you must link it to the Visual IP software. When you compile your model, use the following command-line option to include the files pli.tab and libvip_pli.a :
	-P <path>\Visual_VIP_<version>\<platform>\ verilog_src\pli.tab <path>\Visual_VIP_<version>\ <platform>\verilog_src\libvip_pli.a</platform></version></path></platform></version></path>
	After you install the Visual IP software, you can refer to the readme file by clicking on the ReadMe icon in the Visual IP program folder.
Installing on UNIX	This section describes the system requirements and installation process for the Visual IP software on UNIX workstations.
Workstations	The procedures in this document use > to represent the system prompt (which you do not type) at the start of a command. If a command is split over two lines, you should still enter it as a single line following the system prompt.
	System Requirements
	To run the Visual IP software, you need a workstation that meets the following system requirements:
	 At least 32 MBytes of RAM Solaris 2.5.1 or higher At least 70 MBytes of free disk space At least 50 MBytes of swap space (more isrequired if your IP models are more complex)

Download the Software

To download the software, perform the following steps:

- 1. Point your web browser to http://www.altera.com/IPmegastore.
- 2. Click the Visual IP link.
- 3. Follow the on-line instructions to download the software.

Running the Installation Script

The Visual IP software for UNIX is a tape archive file (.tar) that has been compressed using the **gzip** utility. To extract the files, move the **vip.tar.gz** file to the location in which you would like to install the models and type the following commands at a UNIX prompt:

gunzip vip.tar.gz ↔ tar xvf vip.tar ↔

After you run the script, you can refer to the **readme** file in cpath>/Visual_VIP_<version>/README_USER.

Linking to a Host Simulator

The following sections describe how to link the Visual IP software to different host simulators. Innoveda provides a setup script for setting the environment variables Visual IP software needs when simulating an embedded IP function. You should run this script should be run before invoking any of the host simulators listed below. To run the script, do the following steps:

- 1. Change to <path>/Visual_VIP_<version>/<platform>/bin/, where <path> is the location in which you installed the Visual IP software, <version> is the Visual IP version, and <platform> is sol or hp10.
- 2. Execute the command:
 - > source vip.setup 🗝

Verilog-XL

Before invoking the Verilog-XL simulator, you must link it to the Visual IP software by building a new **verilog** executable. Perform the steps below to build a new executable.

- 1. Run the vip.setup script as described previously.
- If you plan to use Altera's Visual IP model in a design that already uses PLI functions, you must merge the Visual IP veriuser_vip.c and veriuser.c files with your versions of these files before building the new verilog executable.
 - a. Copy the following lines from <*path*>/**Visual_VIP**_ <*version*>/<*platform*>/**veriuser_vip.c** to your **veriuser.c** file:

extern int Vip_pli_checktf (); extern int Vip_pli_calltf (); extern int Vip_pli_misctf ();

b. Add the following information to your veriusertfs table:

{usertask, 0, Vip_pli_checktf, 0, Vip_pli_calltf, Vip_pli_misctf, "\$Vip_pli_entry", 1},

- 3. Invoke **vconfig** to build a script.
- 4. Answer **Yes** to the question "Do you want to include the CDC in this Verilog-XL executable?" (The default answer is **No**.)
- 5. If you are using PLI, point to your edited **veriuser.c** file to your file list when prompted. If you are not using PLI, add the file:

<path>/Visual_VIP_<version>/<platform>/verilog_src/veriuser_vip.c

6. Add the following file to the list of files when you are prompted:

<path>/Visual_VIP_<version>/<platform>/verilog_src/libvip_pli.a

- 7. Finish building the executable as usual by running the script created by **vconfig**.
- If you are using Verilog-XL version 2.6.*x* or higher on a workstation running Solaris or HP-UX, you can dynamically link the Visual IP software with your host simulator. To do so, reference the shared library:

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<path>/Visual_VIP_<version>/<platform>/lib/libpli.so

Leapfrog

Before invoking the Leapfrog simulator, you must link it to the Visual IP software by performing the steps below.

- 1. Run the vip.setup script as described previously.
- If you are using FMI, add the following lines to your table.c file before creating the libfmi library. You can copy these lines from <path>/Visual_VIP_<version>/<platform>/vhdl_src/lfguser_vip.c.
 - a. Add the line:

extern fmiModelTableT VipLibModelTable;

b. Add the following text to fmiLibraryTableT:

{"VIPlib", VipLibModelTable},

 When you compile and link your model, add <path>/Visual_VIP_<version>/<platform>/vhdl_src/libvip_fmi.a to the list of files that you provide.

ModelSim for VHDL

Before invoking the ModelSim for VHDL simulator, you must link it to the Visual IP software by performing the following steps:

- 1. Run the vip.setup script as described previously.
- 2. Add the Visual IP library directory to you LD_LIBRARY_PATH environment variable by typing the following command:

setenv LD_LIBRARY_PATH <installation
 path>/<platform>/lib:\$LD_LIBRARY_PATH

ModelSim for Verilog HDL

Before invoking the ModelSim for Verilog HDL simulator, you must link it to the Visual IP software by performing the steps below.

- 1. Run the **vip.setup** script as described previously.
- 2. Add a **veriuser** entry pointing to the shared library <*path*>/**Visual_VIP_**<*version*>/<*platform*>/**lib**/**libplimtivip.so**. You can also use the **vsim -pli** command line option or the PLIOBJS environment variable. See the ModelSim documentation for more information.

VCS

Before invoking the VCS simulator, you must link it to the Visual IP software by performing the steps below.

- 1. Run the vip.setup script as described previously.
- 2. When you compile your model, use the following command-line option to include the files **pli.tab** and **libvip_pli.a**:
 - > -P <path>/Visual_VIP_<version>/<platform>/
 verilog_src/pli.tab <path>/Visual_VIP_<version>/
 <platform>/verilog_src/libvip_pli.a



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