SYNOPSYS®

DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI

Installation Guide

2020.12a AMBA 2 Release
2020.03a AMBA 3 AXI/AMBA 4 AXI Release

December 2020

Copyright Notice and Proprietary Information

Destination Control Statement

All technical data contained in this publication is subject to the export control laws of the United States of America. Disclosure to nationals of other countries contrary to United States law is prohibited. It is the reader's responsibility to determine the applicable regulations and to comply with them.

Disclaimer

SYNOPSYS, INC., AND ITS LICENSORS MAKE NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARD TO THIS MATERIAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Trademarks

Synopsys and certain Synopsys product names are trademarks of Synopsys, as set forth at https://www.synopsys.com/company/legal/trademarks-brands.html

All other product or company names may be trademarks of their respective owners.

Free and Open-Source Software Licensing Notices

If applicable, Free and Open-Source Software (FOSS) licensing notices are available in the product installation.

Third-Party Links

Any links to third-party websites included in this document are for your convenience only. Synopsys does not endorse and is not responsible for such websites and their practices, including privacy practices, availability, and content.

Synopsys, Inc.
www.synopsys.com

Contents

Preface

About This Manual

This manual describes how to download and install DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI, as well as related tools and libraries. It also describes how to set up your environment, licenses, and tools. This manual is primarily intended for system administrators, but also contains information of interest to anyone using DesignWare synthesizable components for AMBA/AXI.

Installation Guide Organization

The chapters of this databook are organized as follows:

- Chapter 1, "Installing AMBA 2, AMBA 3 AXI, and AMBA 4 AXI Components" provides step-by-step instructions of how to download this release image of DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI.
- Chapter 2, "Installation Instructions for Supported Tools" show how to download and install the tools needed for this AMBA 2, AMBA 3 AXI, and AMBA 4 AXI release.
- Chapter 3, "Supported Versions for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI Components and Tools" lists the versions that are supported for this AMBA 2, AMBA 3 AXI, and AMBA 4 AXI release.
- Chapter 4, "Setting Up Your Environment" describes the environment variables that must be set, and specifies license requirements for components.
- Chapter 5, "Troubleshooting Download/Installation Issues" describes several methods you can use to check your components and tools for Synopsys updates.
- Chapter 6, "Updating a DesignWare Library" discusses how to update your DesignWare library.

Related Documents

To see a complete listing of documentation available for the DesignWare synthesizable components for AMBA/AXI, see the *Guide to Documentation for DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI (Documentation Overview)*.

Web Resources

- DesignWare IP product information: https://www.synopsys.com/designware-ip.html
- Your custom DesignWare IP page: https://www.synopsys.com/dw/mydesignware.php
- Documentation through SolvNetPlus: https://solvnetplus.synopsys.com (Synopsys password required)

- Synopsys Common Licensing (SCL): https://www.synopsys.com/keys

Customer Support

Synopsys provides the following various methods for contacting Customer Support:

- Prepare the following debug information, if applicable:
  - For environment set-up problems or failures with configuration, simulation, or synthesis that occur within coreConsultant or coreAssembler, select the following menu:

    File > Build Debug Tar-file

    Check all the boxes in the dialog box that apply to your issue. This option gathers all the Synopsys product data needed to begin debugging an issue and writes it to the <*core tool startup directory*>/debug.tar.gz file.
  - For simulation issues outside of coreConsultant or coreAssembler:
    - Create a waveform file (such as VPD or VCD).
    - Identify the hierarchy path to the DesignWare instance.
    - Identify the timestamp of any signals or locations in the waveforms that are not understood.
- *For the fastest response*, enter a case through SolvNetPlus:

  a. https://solvnetplus.synopsys.com

  Note SolvNetPlus does not support Internet Explorer. Use a supported browser such as Microsoft Edge, Google Chrome, Mozilla Firefox, or Apple Safari.

  b. Click the **Cases** menu and then click **Create a New Case** (below the list of cases).

  c. Complete the mandatory fields that are marked with an asterisk and click **Save**.

  Ensure to include the following:
  - **Product L1:** DesignWare Library IP
  - **Product L2:** AMBA

  d. After creating the case, attach any debug files you created.

  For more information about general usage information, refer to the following article in SolvNetPlus:

  https://solvnetplus.synopsys.com/s/article/SolvNetPlus-Usage-Help-Resources
- Or, send an e-mail message to support_center@synopsys.com (your email will be queued and then, on a first-come, first-served basis, manually routed to the correct support engineer):
  - Include the Product L1 and Product L2 names, and Version number in your e-mail so it can be routed correctly.
  - For simulation issues, include the timestamp of any signals or locations in waveforms that are not understood
  - Attach any debug files you created.
- Or, telephone your local support center:

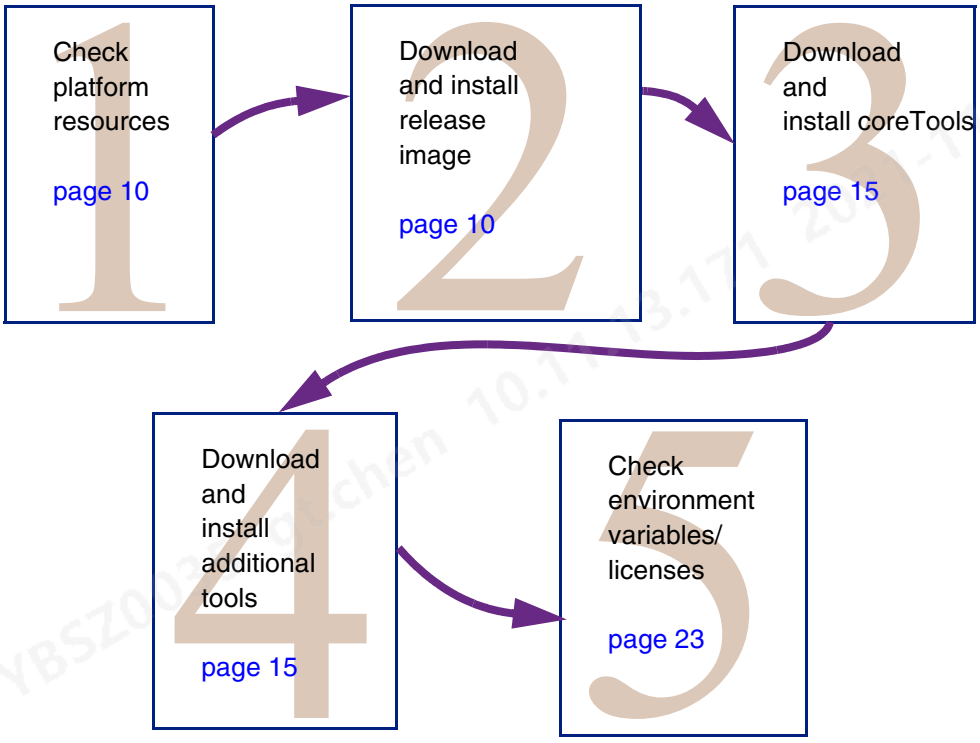
- North America:
  Call 1-800-245-8005 from 7 AM to 5:30 PM Pacific time, Monday through Friday.
- All other countries:
  https://www.synopsys.com/support/global-support-centers.html

1 Installing AMBA 2, AMBA 3 AXI, and AMBA 4 AXI Components

This chapter describes how to download and install the DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI, as well as related tools and libraries. The downloaded image *does not* contain related tools, so you must download those separately; this chapter directs you to information for downloading related tools.

1.1 Overview of Download and Installation Process

To use the DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI, you must perform the following setup steps.



For an overview of all product documentation for the DesignWare components for AMBA 2 and AMBA 3 AXI, see the *Guide to Documentation for DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI (Documentation Overview)*.

1.2 Recommended Platform Resources

The following are recommended resources for the platform to which you are downloading and installing software mentioned in this document.

- The AMBA 2 release image installation requires 64 MB of disk space to install.
- The AMBA 3 AXI/AMBA 4 AXI release image installation requires 138 MB of disk space to install.
- The coreTools image installation requires an additional 433 MB of disk space.
- Your platform must be running an operating system listed in "Supported Operating Systems" on page 20.
- All downloads require anonymous FTP access to ftp.synopsys.com, or authenticated access through the Release Library.

1.3 Installing DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI

There are two primary images (.run files) in this release; one for AMBA 2 (AHB, APB) components and one for AMBA 3 AXI/AMBA 4 AXI components.

You can download and install the .run file using the following procedure:

1. Download the relevant .run file:
   a. To download the latest AMBA 2 image, go to the following link—also called the DWDL page:
      https://www.synopsys.com/dw/dwdl.php?id=dw_iip_amba
   b. To download the latest AMBA 3 AXI/AMBA 4 AXI image, go to the following link:
      https://www.synopsys.com/dw/dwdl.php?id=dw_iip_axi
2. Once you have downloaded the .run file, follow these installation instructions:
   a. Change permissions on the downloaded .run file:

      ```
      % chmod u+x image_name.run
      ```

   b. Create a DESIGNWARE_HOME environment variable to point at your install location, which must be read/write mounted to all compute servers. You must set this environment variable. For C-shell:

      ```
      % setenv DESIGNWARE_HOME full_UNIX_path/DESIGNWARE_HOME
      ```

   c. Execute the .run file to unpack the image:

      ```
      % image_name.run $DESIGNWARE_HOME
      ```

   If you have any of the four source license packages for DesignWare components for AMBA—DWC-APB-Periph-Source, DWC-APB-Advanced-Source, DWC-AMBA-Fabric-Source, DWC-DMAC-Source—enter the license and provide the project ID associated with your source license when prompted during installation. See Table 4-2 for more information on license requirements.

d. You must ensure that the $DESIGNWARE_HOME/vip directory has both read and write permissions for anyone using verification models for simulation.

e. Modify your $PATH variable to include $DESIGNWARE_HOME/bin.

For Source Installations, make sure that the LM_LICENSE_FILE points to proper source license server before you extract the image and configure the source code.

"Installation Instructions for Supported Tools" on page 15 describes how to download and install the required Synopsys tools as well. See "Supported Versions of Tools and Libraries" on page 19 for supported versions of these tools; not all versions are supported.

1.4 Installing DesignWare Verification IP for AMBA 2

DesignWare Verification IP (VIP) is not packaged along with the images for the AMBA 2 component.

To download DesignWare VIP, perform the following steps:

1. Log in to SolvNetPlus: https://solvnetplus.synopsys.com
2. Click on “Downloads”.
3. Click on “Show more/inactive products”.at the bottom of the web page.
4. Select “VCS Verification Library”.
5. Select “J-2014.12-SP2”version and click “Download Here”.
6. Select and download vip_amba_J-2014.12-SP2.run and vip_sio_J-2014.12-SP2.run.

To download AMBA SVT VIP (version Q-2020.03), perform the following steps:

1. Log in to SolvNetPlus: https://solvnetplus.synopsys.com
2. Click on “Downloads”.
3. Select “VC VIP Library”.
4. Select the “Q-2020.03” and click “Download Here”.
5. Select and download vip_amba_svt_Q-2020.03.run.

Note The SVT VIP for AMBA are required for coreAssembler testing and for running the testbench shipped with the IP.

1.5 Installing DesignWare Verification IP for AMBA 3 AXI and AMBA 4 AXI

DesignWare Verification IP (VIP) is not packaged along with the images for the AMBA 3 AXI/AMBA 4 AXI component. To download DesignWare VIP, perform the following steps:

1. Log in to SolvNetPlus: https://solvnetplus.synopsys.com
2. Click on “Downloads”.
3. Click on “Show more/inactive products”.at the bottom of the web page.
4. Select “VCS Verification Library”.
5. Select the “J-2014.12-SP2” and click “Download Here”.
6. Select and download vip_amba_J-2014.12-SP2.run.

To download AMBA SVT VIP (version P-2019.06), perform the following steps:

1. Log in to SolvNetPlus: https://solvnetplus.synopsys.com
2. Click on “Downloads”.
3. Select “VC VIP Library”.
4. Select the “P-2019.06” and click “Download Here”.
5. Select and download vip_amba_svt_P-2019.06.run.

1.6 Downloading and Installing Vera

Vera is required to run the Vera-based testbenches. Vera is not packaged along with the image for the AMBA 2 component.

1.6.1 Downloading Vera

To download Vera, perform the following steps:

1. Go to https://solvnet.synopsys.com/DownloadCenter
2. Scroll to the bottom of the page and click on “Show more/inactive products”.
3. Click on “Vera”.
4. Select version “I-2014.03-1”.
5. Click the “Download Here“ button and click “Agree and Sign In”.
6. Download it to your local “Downloads” folder. The “Downloads” folder should contain the following files:
   - vera_INSTALL_README.txt
   - vera_vI-2014.03-1_<platform>.tar
   - vera_vI-2014.03-1_common.tar

1.6.2 Installing Vera

Prerequisites:

To install Vera that you have downloaded, you require Synopsys Installer v3.5. The latest version of Synopsys Installers does not work for VERA installation.

1. Contact Synopsys Support Centre for Synopsys Installer v3.5.
2. Download SynopsysInstaller_v3.5.run to your local "Downloads" folder.
3. Install the Synopsys installer. Refer to installer_v3.5_INSTALL_README.txt for installation procedure.

To install Vera, perform the following steps:

1. Launch the Synopsys installer in GUI mode.
2. Select the source path. You should point to your local "Downloads" directory where you have downloaded Vera installation files.
3. Select the location where you would like to install Vera.
4. Point to the location where you have your EDA tools. For example, */path/to/my/edatools/vera/*
5. After the installation is complete, you can check your Vera installation directory.

   You should see either vera_vI-2014.03-1_linux, or vera_vI-2014.03-1_amd64, or both directories created depending on what platform specific modules you chose during the installation.
6. Set your VERA_HOME environment variable by running the following command:

   For 32-bit:

   ```
   setenv VERA_HOME /path/to/my/edatools/vera/vera_vI-2014.03-1_linux
   ```

   For 64-bit:

   ```
   setenv VERA_HOME /path/to/my/edatools/vera/vera_vI-2014.03-1_amd64
   ```

2 Installation Instructions for Supported Tools

This chapter describes how to download and install the supported tools and libraries used for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI components. The downloaded image of a particular release *does not* contain related tools, examples and libraries, so you must download those separately.

The coreTools are required to configure DesignWare synthesizable IP components. The coreAssembler tool is required in order to configure multiple DesignWare IIP in a single subsystem. The coreConsultant tool configures only a single DesignWare IIP component, but you can also use coreAssembler for one component. For more information, see the following page:

https://www.synopsys.com/designware-ip/ip-reuse-tool.html

2.1 Downloading Supported Tools

If you or your site administrator have not yet downloaded the necessary tools needed for using AMBA 2, AMBA 3 AXI, and AMBA 4 AXI components, do the following:

1. Go to the SolvNetPlus Download Center:

   https://solvnet.synopsys.com/DownloadCenter/dc/product.jsp

   For version information, see "Supported Versions of Tools and Libraries" on page 19.
2. In "My Product Releases", click on the specific tool you want to download.
3. Select the required version of the tool from the versions list.
4. Download the tool either by clicking the **Download Here** button or the "Download via FTP" link. For the instructions to download the tool, click "FTP Download Instructions."
5. The *toolname*_INSTALL_README.txt file is available for download from the download center when you click the **Download Here** button or from the FTP site. This file provides the instructions necessary to install the tool. Follow the instructions in the README file to install the tool.

2.2 DesignWare Building Blocks for DC

For information on how to install the supported versions of DesignWare Building Blocks for Design Compiler, see the "Installation" section of the *DesignWare Building Block IP DC Release Notes* at:

https://www.synopsys.com/dw/doc.php/doc/dwf/manuals/dwbb_relnotes.pdf

Note A supported version of DesignWare Building Blocks may already exist on your system if Design Compiler or Physical Compiler have already been installed. See the contents of the $SYNOPSYS/dw/version file to determine what version of DesignWare Building Blocks is currently installed.

3 Supported Versions for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI Components and Tools

This chapter lists supported versions of IP components and related tools for this release of DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI.

3.1 Supported Component Versions for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI

Table 3-1 lists versions for the components included in the release of DesignWare Synthesizable Components for AMBA 2.

Table 3-1 Version Numbers of AMBA 2 Components

Component	Version	Function
DW_ahb	2.15a	AHB Advanced High-performance Bus
DW_ahb_dmac	2.23a	Direct Memory Access Controller
DW_ahb_eh2h	1.12a	High Performance AHB-to-AHB bridge
DW_ahb_h2h	1.11a	AHB-to-AHB bridge
DW_ahb_icm	1.18a	Multi-layer Interconnection Matrix for AHB master/slaves
DW_ahb_ictl	2.15a	Configurable, vectored interrupt controller for AHB
DW_apb	3.03a	APB Advanced Peripheral Bus
DW_apb_gpio	2.14a	General-purpose I/O
DW_apb_i2c	2.03a	I2C serial interface
DW_apb_i2s	1.12a	Inter-IC sound bus
DW_apb_ictl	2.10a	Configurable, vectored interrupt controller for APB
DW_apb_rap	2.09a	Remap control, pause mode, reset status register
DW_apb_rtc	2.08a	Real-time counter and compare

Table 3-1 Version Numbers of AMBA 2 Components (Continued)

Component	Version	Function
DW_apb_ssi	4.03a	Full-duplex Synchronous Serial Interface
DW_apb_timers	2.13a	General-purpose timers
DW_apb_uart	4.03a	Universal Asynchronous Receiver Transmitter
DW_apb_wdt	1.12a	Watch-dog timing, interrupt, and reset control

Table 3-2 lists versions for the components included in the release of DesignWare Synthesizable Components for AMBA 3 AXI/AMBA 4 AXI.

Table 3-2 Version Number of AMBA 3 AXI/AMBA 4 AXI Components

Component	Version	Function
DW_axi	4.04a	Multi-layer interconnect implementation of the AMBA 3 AXI/AMBA 4 AXI protocol
DW_axi_a2x	2.04a	Master module between an AHB or AMBA 3 AXI/AMBA 4 AXI bus protocol and an AMBA 3 AXI/AMBA 4 AXI bus protocol
DW_axi_gm	2.04a	Master module between a generic interface and the AMBA 3 AXI/AMBA 4 AXI bus
DW_axi_gs	2.04a	Slave module between a generic interface and the AMBA 3 AXI/AMBA 4 AXI bus
DW_axi_hmx	2.03a	Communication link between a single AHB master and an AMBA 3 AXI or AMBA 4 AXI bus
DW_axi_rs	2.04a	Register slice between an AMBA 3 AXI/AMBA 4 AXI master and an AMBA 3 AXI/AMBA 4 AXI slave, respectively
DW_axi_x2h	2.04a	Communication link between an AMBA 3 AXI/AMBA 4 AXI bus and an AHB bus
DW_axi_x2p	2.04a	Communication link between an AMBA 3 AXI/AMBA 4 AXI subsystem and an APB 3.0 subsystem
DW_axi_x2x	1.08a	Communication link between an AMBA 3 AXI master and an AMBA 3 AXI slave, or between incompatible AMBA 3 AXI interconnect subsystems
DW_axi_dmac	2.00a	AXI centric direct memory access controller

3.2 Supported Versions of Tools and Libraries

The following table lists the supported versions of tools and libraries used by this release of DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI. Specific versions of tools and libraries that have been tested and are known to be good at the time of this release are listed in the table.

Table 3-3 Supported Tool Versions

Tool	AMBA 3 AXI and AMBA 4 AXI Version	AMBA 2
SpyGlass	P-2019.06-SP2 (SpyGlass Guideware version 2019.06 is supported)	Q-2020.03-SP1 (Spyglass GuideWare version 2020.03 is supported)
Design Compiler (DC) Tetramax	P-2019.03-SP5 P-2019.03-SP5	Q-2019.12-SP4 Q-2019.12-SP4
coreTools – coreAssembler, coreConsultant	P-2019.06-SP3	Q-2020.03-SP4-2
Formality	P-2019.03-SP5	Q-2019.12-SP4
PrimeTime Suite	P-2019.03-SP5	Q-2019.12-SP4
Vera	I-2014.03-1	I-2014.03-1
VCS[a]	P-2019.06-SP1	Q-2020.03-SP2
Synplify[a]	P-2019.09	Q-2020.03-SP1

a. You need a VCS license to run simulations. Simulation of packaged customer deliverables with NCSim and ModelSim/QuestaSim is not supported.

3.3 Supported Versions of Verification Model Suites and VMT

The following table lists the supported versions of verification models and simulators used in conjunction with this release of DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI. See "Installing DesignWare Verification IP for AMBA 2" on page 12 and "Installing DesignWare Verification IP for AMBA 3 AXI and AMBA 4 AXI" on page 13 for instructions on downloading and installing DesignWare VIP for AMBA.

Table 3-4 Supported Versions of Models and Simulators

Tool	Supported Versions	
	AMBA 2	AMBA 3 AXI and AMBA 4 AXI
DesignWare VIP for AMBA model suite	J-2014.12-SP2	J-2014.12-SP2
SIO VIP	J-2014.12-SP2	NA

Table 3-4 Supported Versions of Models and Simulators (Continued)

Tool	Supported Versions	
	AMBA 2	**AMBA 3 AXI and AMBA 4 AXI**
DesignWare VMT	J-2014.12-SP2	J-2014.12-SP2
Discovery Verification IP for AMBA model SVT suite[a]	Q-2020.03	P-2019.06
Discovery SVT[a]	Q-2020.03	P-2019.06

a. The VC Verification IP for AMBA and the SVT packages are required for both coreAssembler, and for the IP specific simulations to run.

3.4 Supported Operating Systems

The following operating systems are supported with the tools and IP listed in this installation guide. A simulator-specific operating system support table is provided in "Supported Simulators and Operating Systems" on page 21.

- Red Hat Enterprise Linux 6.0, and 7.0 (32-bit, AMD64/EMT64) for AMBA 3 AXI and AMBA 4 AXI
- Red Hat Enterprise Linux 6.0, and 7.0 (32-bit, AMD64/EMT64) for AMBA 2
- CentOS 6.0 and 7.0

Current release updates should be maintained on these operating systems.

3.5 Supported Simulators and Operating Systems

The following table shows the operating systems that are supported for combinations of Vera and VMT versions on each simulator.

Table 3-5 Simulator Version Support AMBA 3 and AMBA 4 AXI

Simulator	for Vera I-2014.03-1/VMT J-2014.12-SP2/SVT P-2019.06
Synopsys VCS 2019.06-SP1	Red Hat Enterprise Linux 6.0 and 7.0 CentOS 6.0 and 7.0

Table 3-6 Simulator Version Support for AMBA 2

Simulator	for Vera 2014.03-1/VMT J-2014.12-SP2/SVT N-2017.12
Synopsys Q-2020.02-SP2	Red Hat Enterprise Linux 6.0 and 7.0

4 Setting Up Your Environment

This section describes the environment variables and licenses you need in order to use the DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI.

4.1 Tool Installation Roots

Check with your system administrator to determine if all tool installation roots are set so that coreAssembler and coreConsultant can find the necessary synthesis and verification tools. You can set tool installation roots from within coreAssembler and coreConsultant using the **Edit > Set Tool Installation Roots** pull-down menu.

Simulation tool roots are picked up from environment variables every time coreAssembler and coreConsultant are invoked and are not set by **Set Tool Installation Roots**.

4.2 Environment Variables

Table 4-1 describes the environment variables required for the DesignWare Synthesizable Components for AMBA 2 and AMBA 3 AXI.

Table 4-1 Environment Variables for DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI

Environment Variable	Description
DESIGNWARE_HOME	Path to installed DesignWare synthesizable and verification components.
LM_LICENSE_FILE	Provides access to tool and IP licenses. Alternatively, SNPSLMD_LICENSE_FILE may be used.
LD_LIBRARY_PATH	Path to operating system libraries (Solaris and Linux). Required if you run coreAssembler or coreConsultant simulations.
SYNOPSYS	Path to the Synopsys synthesis tools tree. Required if you do not have a source license or if you want to run coreAssembler or coreConsultant synthesis.
GCC_HOME	Path to GCC install directory for Solaris and Linux.
VRO_CACHE_DIR	Path to the VRO files for the VIP

Table 4-1 Environment Variables for DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI (Continued)

Environment Variable	Description
PATH	Must include the following paths: $DESIGNWARE_HOME/bin Path to coreTools “bin” directory If you do not have a source license or run coreAssembler or coreConsultant synthesis, must also include: $SYNOPSYS/platform/syn/bin
VCS Users (NOTE: define VCS_HOME)	
VCS_HOME	Path to VCS install directory. $PATH must include $VCS_HOME/bin and $VCS_HOME/lib.

4.2.1 Licenses

The DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI require a DesignWare license to create configured, encrypted RTL. In order for you to create unencrypted RTL source, you must have the source license for the specific component, as shown in Table 4-2.

In order to make full use of the DesignWare synthesizable components, you need additional licenses for the Synopsys and third-party tools for synthesis, TetraMax, Formality, PrimeTime, and HDL simulation.

Table 4-2 License Requirements for DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI

Component Name	Encrypted RTL Licenses	Unencrypted RTL Source Licenses
DW_ahb DW_ahb_ictl DW_apb DW_ahb_eh2h DW_ahb_h2h DW_ahb_icm DW_apb_ictl	DesignWare (Product Code: 2925-0)	DWC-AMBA-Fabric-Source (Product Code: 3768-0) Add-on License for AHB5 feature: DWC-AMBA-AHB5-Fabric-Source (Product code: F944-0) Applicable IPs for this add-on License: ■ DW_ahb ■ DW_ahb_eh2h ■ DW_ahb_h2h ■ DW_ahb_icm ■ DW_apb
DW_ahb_dmac	DesignWare (Product Code: 2925-0)	DWC-DMAC-Source (Product Code: 3889-0)

Table 4-2 License Requirements for DesignWare Synthesizable Components for AMBA 2, AMBA 3 AXI, and AMBA 4 AXI (Continued)

Component Name	Encrypted RTL Licenses	Unencrypted RTL Source Licenses
DW_apb_gpio DW_apb_rap DW_apb_rtc DW_apb_timers DW_apb_wdt	DesignWare (Product Code: 2925-0)	DWC-APB-Periph-Source (Product Code: 3771-0)
DW_apb_i2c DW_apb_i2s DW_apb_ssi DW_apb_uart	DesignWare (Product Code: 2925-0)	DWC-APB-Advanced-Source (Product Code: 3772-0)
DW_axi DW_axi_a2x DW_axi_gm DW_axi_gs DW_axi_hmx DW_axi_rs DW_axi_x2h DW_axi_x2p DW_axi_x2x	DesignWare (Product Code: 2925-0) **Note:** The DW_axi_a2x is a source-only component and is not available with the DesignWare license. **Note:** The AMBA 4 AXI interface is not enabled with the DesignWare license.You must have a DWC-AMBA-Fabric-Source license to use this interface.	DWC-AMBA-Fabric-Source (Product Code: 3768-0)
DW_axi_dmac	Not Applicable	DWC-AXI-DMAC (Product code: A415-0) Add-on License: DWC-AXI-DMAC-SAFETY (Product code: E137-0)
Using coreAssembler for DesignWare Library IP	DesignWare or coreAssembler license	

5 Troubleshooting Download/Installation Issues

The following questions and answers outline troubleshooting solutions for download and installation issues for DesignWare IP components, coreAssembler (cA), and coreConsultant (cC).

Q. I have DWC-AMBA-Fabric-Source and coreAssembler (cA) licenses and want to build a subsystem in cA. After completing downloads for DesignWare IIP and coreTools and installation, when I invoke cA, I get the following error message. Why?

```
Error: Cannot open key file '/remote/ct_2006.03-SP5/admin/license/key' or a
licensing environment parameter has not been set correctly. (SEC-2)
```

A. You get this error when your LM_LICENSE_FILE is not set properly; that is, not pointing to the server that has a coreAssembler license.

Q. I have the necessary license. why do I get the "Valid license for '-stdin' was not found in license list: 'DWC-AMBA-Fabric-Source DesignWare'. (KBLIC-9)" error when I install the image? What should I do when prompted to continue with installation?

A. This depends on the bundle of IPs that has been selected to be installed. If you have selected only one of the IP bundles to be installed, the rest of the components in the selection will not be installed. but as the .run consists of all the other IPs in the bundle, it just shows an error saying that you are not licensed for the other IPs in the bundle.

Hence, enter 'y' when you are prompted with the question of "Continue with installation [y/n]?".

This might come up multiple times depending on the IP selection during the first step of installation, and you will see it is only for the IPs that you have not selected. The extraction goes through cleanly for the selected IPs.

After the installation is complete, an "iip" folder is created in the DESIGNWARE_HOME path. Into the iip folder, all the IPs are populated. Open coreConsultant and select the IP that needs to be configured.

Q. I did a source installation, but when I invoked coreConsultant (cC) to configure the DW_ahb, I got encrypted RTL. Why?

A. You get this error when your source installation was not done properly. Either the Project ID (PID) was not entered correctly or not entered at all, or the LM_LICENSE_FILE was not set properly—that is, not pointing to the server that has a source license.

Also, during installation, make sure you choose the option number of the license and not the license name. If license name is selected, then you get an encrypted RTL.

Q. How can I make sure that the source installation was done properly?

A. You can make sure that the source installation was done properly in one of two ways:

- Go to the $DESIGNWARE_HOME/iip/*component*/latest/auxiliary directory and check to see that the *.component* file is present in this directory. For example, if you have a source license for the DW_ahb, the .DW_ahb file should be present in the "auxiliary" directory.
- Configure the IP in cC or cA and check the *workspace*/src directory for source RTL.

Q. I have a DesignWare license and installed the image properly. When I invoke coreConsultant or coreAssembler, I get the following message. Why?

```
Command not found
```

A. You get this message because coreTools was not installed. It is not a part of an image and has to be installed separately.

Q. What should I do when I get the following or similar plug-in related error in coreConsultant while loading a configuration batch script from the older versions?

```
Example Error: Could not find the specified item: cbs_plugin (CMDS-11)
Example Error: Plugin cbs_plugin is not currently loaded. Use error_info for
more info. (CMD-013)
```

A. : The error appears because some plug-ins are removed in the latest version. Remove the plug-in name mentioned in the error from the batch script, and rerun the script to resolve this issue.

Configuration batch script example before modification:

```
# Verify loaded plugins. These are found in the following locations:
# - The RT_PLUGINS environment variable # - The RT_CONSULTANT_PLUGINS
environment
# - Shipped with the core (for coreConsultant)"
foreach plugin {cbs_plugin cC_plugin RCE_TPUBS_Plugin RCE_Plugin} {
   if {[catch {find_item $plugin -type knowledgeBase -filter KbType==plugin}]}
{
      return -code error "Plugin $plugin is not currently loaded."
   }
}
```

Configuration batch script example after modification:

```
# Verify loaded plugins. These are found in the following locations:
# - The RT_PLUGINS environment variable
# - The RT_CONSULTANT_PLUGINS environment variable
# - Shipped with the core (for coreConsultant)"
foreach plugin { cC_plugin RCE_TPUBS_Plugin RCE_Plugin} {
   if {[catch {find_item $plugin -type knowledgeBase -filter KbType==plugin}]}
{
      return -code error "Plugin $plugin is not currently loaded."
   }
}
```

Q. What should I do when I get the following error while trying to download the driver kits for AMBA IPs.

```
Error: File not found.
```

```
Error: The file displayed  above could not  be found or read.
```

A. The driver kits are not developed and supported for AMBA IPs. This option in coreTools will be removed from the future releases of coreTools.

Q. *What should I do when I get the following message when I try to generate the Area Estimate Report for a given IP after 'Specify Configuration' activity?*

```
No area estimation information available for this component.
```

A. This option is not supported for AMBA IPs. Area Estimation reports can be generated by running synthesis activity in coreConsultant.

Q. *What should I do when I get the following error when I try to generate a workspace in the coreTools with source license available.*

```
Error: Unable to create workspace "ExampleABC". No license feature "DWC-AMBA-
Fabric-Source" was found with project ID "xxx". (LIC-26)
Error: Command create_workspace failed with licensing issues.  (TCLSH-16)
```

A. Reopen a new coreTools window after unsetting the SNPSLMD_LICENSE_FILE environment variable.

6 Updating a DesignWare Library

6.1 Are Your Components and Tools Current?

Synopsys provides several methods to let you know if your components and/or tools are current or out of date:

- You can subscribe to MyDesignware notifications on a component basis, where you receive an email when a component updates or has new STAR information; see "myDesignware Subscriptions" on page 31.
- You can enable automatic update checking in coreAssembler and coreConsultant, which checks the components in your design against both your DesignWare Library, and the currently supported Synopsys components; see "coreTools Automatic Update Checking" on page 31.

6.1.1 myDesignware Subscriptions

- myDesignWare enables you to receive product information that is of interest to you, such as product updates, technical articles, in-depth application notes and much more. You can add or remove selected subscriptions at any time. Sign-up through your SolvNetPlus user account at:

  https://www.synopsys.com/dw/mydesignware.php

- DesignWare Technical Bulletin Subscriptions

  Subscribe to a quarterly publication for Synopsys DesignWare customers, which contains technical information regarding DesignWare products such as in-depth application notes.

- DesignWare Component Subscriptions

  Proactive notification of new releases, STAR information availability and more. To add a component to your subscription list, locate it using the Search for IP tool on the left and select the "Subscribe" link.

6.1.2 coreTools Automatic Update Checking

The coreAssembler and coreConsultant tools provide a scheduled way for you to check for DesignWare Library synthesizable and verification component updates, as well as existing STARs for the Synopsys IP used in your design workspace. When you complete the Add Subsystem Component activity in coreAssembler or the Specify Configuration activity in coreConsultant, these tools check your component

versions against the most recent versions available *both* for download from Synopsys, and in your local DESIGNWARE_HOME library. A report gives you newer version information, if available, and lists STARs created/fixed for the components you are using.

You can perform a manual check at any time using the menu item **Help > Check for IP Updates**, or set an interval for coreTools to automatically generate the report.

Attention	Components are not automatically updated; this operation only generates a report. You must make these component updates manually.

For more information about Automatic/Manual IP update checks in coreAssembler and coreConsultant, see:

- "Component Update Checking" in the *coreAssembler User Guide*
- "Component Update Checking" in the *coreConsultant User Guide*