ZeBu Flash Installation Guide

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Preface

About this Guide

The ZeBu Flash Installation Guide contains information about hardware and software prerequisites for the correct installation, the steps to install ZeBu Flash Memory Models, and contents of the package after installation.

Intended Audience

This manual is intended for experienced EDA hardware and software engineers to help with the installation of ZeBu transactors. and engineers should have experience with the Linux operating system.

Related Documentation

For an overview of ZeBu transactors, see *ZeBu Vertical Solutions User Manual*.

For information about the new features and enhancements in the ZeBu Flash Library for this release, see *ZeBu Flash Library Release Notes*.

For details about the ZeBu supported features and limitations, see the *ZeBu Release Notes* in the ZeBu documentation package which corresponds to the software version you are using.

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Introduction

ZeBu Vertical Solutions also offers off-the-shelf memory models for most standard Flash memories such as SPI, ONFI, NAND, and NOR These models leverage on-board memory resources of ZeBu and are completely synchronized with emulated design, eliminating any issues with timing or refresh cycles. They are configurable and different ZeBu memory families can be implemented in the same ZeBu hardware. No cards/DIMMs need to be plugged or unplugged/added or removed to switch between models. For memories larger than 4 GB, memory transactors that leverage the storage on the host computer are also available.

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Installing ZeBu Flash Memory Models

This section explains the following topics:

Knowledge

You must be familiar with the ZeBu products and should have a good knowledge of the transactors' architecture and setup.

Ideally, you should have previously attended Synopsys' training about *Using Memory Models* and/or succeeded in the *ZeBu Tutorials* concerning transactors and memory models.

Software

You need the following software elements with appropriate licenses, if required:

- ZeBu V-2024.03-1-TZ release correctly installed
- One of the following:
  - RHEL 8+
  - CentOS: 7.3.1611+
  - Suse
  - C/C++ compiler: GCC 9.5.0 and above for 64-bit environments

Installing ZeBu Flash Memory Models

Prerequisite

WRITE permissions on the IP directory and the current directory.

Installation Process

To install a Flash package, perform the following steps:

1. Download the respective Flash compressed shell archive (*.sh*).
2. Install the respective Flash using the following command:

```
$ sh <Flash Memory Model_Name>.<version>.sh install [ZEBU_IP_ROOT]
```

where *[ZEBU_IP_ROOT]* is the path to your ZeBu IP directory. The following are the exceptions to specifying this input:

- If no path is specified, the *ZEBU_IP_ROOT* environment variable is used automatically.
- If the path is specified and a *ZEBU_IP_ROOT* environment variable is also set, Flash is installed at the defined path and the environment variable is ignored.

The installation process is complete and successful when the following message is displayed:

```
<Flash_Memory_Model> v.<version> has been successfully installed.
```

If an error occurred during the installation, a message is displayed to point out the error as shown in the following example:

```
ERROR: /auto/path/directory is not a valid directory.
```

Package Description

Once correctly installed, the Flash package comes with the following elements:

- `$ZEBU_IP_ROOT/doc/foss`: Contains FOSS documents
- `$ZEBU_IP_ROOT/doc`*: Contains user guide for the Flash Memory Model.*
- `$ZEBU_IP_ROOT/third_party_sw`: The third party libraries used in the Flash library are available as part of the installation.

Packages in ZeBu Flash Library

The following table lists the ZeBu Flash titles available as part of the library and their respective package names.

Table 1 ZeBu Flash Library Package

XTOR Title	Package Name
ZeBu Hyper Flash Memory Model	ZHYPERFLASH_V-2024.03-SP1.sh
ZeBu LPC Flash Memory Model	ZLPCFLASH_V-2024.03-SP1.sh
ZeBu NOR Flash Memory Model	ZNORFLASH_V-2024.03-SP1.sh
ZeBu ONFI Flash Memory Model	ZONFIFLASHNAND_V-2024.03-SP1.sh
ZeBu NAND Flash Memory Model	ZSMGFLASHNAND_Gbs_V-2024.03-SP1.sh
ZeBu SPI Flash Memory Model	ZSPIFLASH_V-2024.03-SP1.sh
ZeBu SPI NAND Memory Model	ZSPINANDFLASH_V-2024.03-SP1.sh