SystemC Cycle Model Runtime

Version 11.3

Installation Guide

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SystemC Cycle Model Runtime

Installation Guide

Release Information

Document History

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Product Status

The information in this document is Final, that is for a developed product.

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Contents

SystemC Cycle Model Runtime Installation Guide

Preface

This preface introduces the *SystemC Cycle Model Runtime Installation Guide*.

It contains the following:

About this book

This guide describes how to install the SystemC Cycle Model runtime.

Using this book

This book is organized into the following chapters:

Chapter 1 Introduction

This chapter describes system requirements for the Cycle Model SystemC Runtime, and includes information about analytics collected when using the product.

Chapter 2 Installing the Cycle Model SystemC Runtime software

This chapter describes how to access and install the Cycle Model SystemC Runtime package.

Chapter 3 Licensing overview

This chapter describes the licensing requirements for operating the Cycle Model SystemC Runtime.

Glossary

The Arm® Glossary is a list of terms used in Arm documentation, together with definitions for those terms. The Arm Glossary does not contain terms that are industry standard unless the Arm meaning differs from the generally accepted meaning.

See the *Arm® Glossary* for more information.

Typographic conventions

italic

Introduces special terminology, denotes cross-references, and citations.

bold

Highlights interface elements, such as menu names. Denotes signal names. Also used for terms in descriptive lists, where appropriate.

`monospace`

Denotes text that you can enter at the keyboard, such as commands, file and program names, and source code.

`monospace`

Denotes a permitted abbreviation for a command or option. You can enter the underlined text instead of the full command or option name.

`monospace italic`

Denotes arguments to monospace text where the argument is to be replaced by a specific value.

`monospace bold`

Denotes language keywords when used outside example code.

`<and>`

Encloses replaceable terms for assembler syntax where they appear in code or code fragments. For example:

```
MRC p15, 0, <Rd>, <CRn>, <CRm>, <Opcode_2>
```

SMALL CAPITALS

Used in body text for a few terms that have specific technical meanings, that are defined in the *Arm® Glossary*. For example, IMPLEMENTATION DEFINED, IMPLEMENTATION SPECIFIC, UNKNOWN, and UNPREDICTABLE.

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If you have any comments or suggestions about this product, contact your supplier and give:

- The product name.
- The product revision or version.
- An explanation with as much information as you can provide. Include symptoms and diagnostic procedures if appropriate.

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If you have comments on content then send an e-mail to *errata@arm.com*. Give:

- The title *SystemC Cycle Model Runtime Installation Guide*.
- The number 101146_1103_00_en.
- If applicable, the page number(s) to which your comments refer.
- A concise explanation of your comments.

Arm also welcomes general suggestions for additions and improvements.

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Other information

- *Arm® Developer*.
- *Arm® Documentation*.
- *Technical Support*.
- *Arm® Glossary*.

Chapter 1
Introduction

This chapter describes system requirements for the Cycle Model SystemC Runtime, and includes information about analytics collected when using the product.

It contains the following sections:

1.1 Intended audience

This guide is intended for system administrators or other users familiar with shell commands and installation packages.

1.2 System requirements and prerequisites

This section describes space, operating system, and software requirements for running Arm SystemC Cycle Models.

Disk space

The Cycle Model SystemC Runtime requires 200 MB of disk space.

For CPAKs, additional space is required. The amount of space needed varies depending on the complexity of the CPAK.

Supported operating systems

The supported Linux operating systems are:

- Red Hat Enterprise Linux 7.0 (64-bit)
- Red Hat Enterprise Linux 6.6 (64-bit)
- CentOS 6.6 (64-bit)

Cycle Models are not supported on Windows.

Supported GCC versions

For rebuilding Cycle Models, GCC version 4.8.3 and GCC version 6.4.0 are supported.

Prerequisites for CPAK environments

All models in a CPAK must be the same release (for example, all v10.x or all v11.x). Mixing different versions within a CPAK is not supported, and results in incorrect Cycle Model behavior, incorrect Tarmac results, or other issues.

Licensing

You must have a valid, installed license for each runtime and Cycle Model. Visit the Arm licensing portal: *https://developer.arm.com/support/licensing/generate* and use your serial numbers to generate the licenses. Contact Arm Techical Support (support-esl@arm.com) if you need more information.

1.3 Data collection in SystemC Cycle Models

Arm periodically collects anonymous information about the usage of our products to understand and analyze what components or features you are using, with the goal of improving our products and your experience with them. Product usage analytics contain information such as system information, settings, and usage of specific features of the product. They do not include any personal information.

Host information includes:

- Operating system name, version, and locale.
- Number of CPUs.
- Amount of physical memory.
- Screen resolution.
- Processor and GPU type.

Note

To disable analytics collection for all tools running in the environment, set the environment variable `ARM_DISABLE_ANALYTICS` to any value, including 0 or an empty string. This setting is not saved in persistent storage. It must be reset at subsequent invocations of the tool.

Chapter 2
Installing the Cycle Model SystemC Runtime software

This chapter describes how to access and install the Cycle Model SystemC Runtime package.

It contains the following sections:

2.1 Accessing the Cycle Model SystemC Runtime package

The Cycle Model SystemC Runtime package is available for download for Arm account holders.

Access the Cycle Model SystemC Runtime software from the Tools page of Arm IP Exchange (*https://ipx.arm.com/tools*).

You must register for an account to get access to this web page. Contact Arm Technical Support (support-esl@arm.com) if you have any questions. Once registered, you can download the software for your specific configuration and platform requirements to your host machine.

2.2 Installation package

The Cycle Model SystemC Runtime software is available as a tarball.

Download the following file from Arm IP Exchange: `Arm-CycleModelSystemC-Runtime-files-Linux-x86_64-`*`version`*`.tgz`

2.3 Installing the runtime and sourcing the setup script

This section describes installing the Cycle Model SystemC Runtime on Linux computers.

To install the Cycle Model SystemC Runtime and source the setup script:

1. `cd` to the installation directory.
2. Untar the Cycle Model SystemC Runtime kit that you downloaded. For example: `tar xvf Arm-CycleModelSystemC-Runtime-files-Linux-x86_64-v`*`version`*`.tgz`.
3. Source the setup script for your shell (`setup.sh` or `setup.csh`). The setup files are located in *`installation path`*`/ARM/CycleModels/etc/`.

After sourcing the setup script, the following environment variables are set as follows:

- `CM_SYSC_HOME=`*`installation path`*`/ARM/CycleModels/Runtime/cm_sysc/`*`version`*`/`
- `PATH=`*`installation path`*`/ARM/CycleModels/Runtime/cm_sysc/`*`version`*`/bin:$PATH`

Sourcing the setup file in user login files

Cycle Model SystemC Runtime users may find it convenient to insert one of the following command lines into their login files. As a root user Administrator, you can insert the appropriate command line into the global logins of all users who require access the Cycle Model SystemC Runtime:

- Bourne shell - `source` *`installation path`*`/ARM/CycleModels/etc/setup.sh`
- C-Shell - `source` *`installation path`*`/ARM/CycleModels/etc/setup.csh`

2.4 Installed tools and files

This section describes what is installed with the SystemC Cycle Model Runtime.

Included tools and software

The Cycle Model SystemC Runtime installation includes:

- The Cycle Model SystemC Runtime.
- The Cycle Model Studio runtime.
- SystemC Version 2.3.1 (64-bit Linux).
- Google Protocol Buffer.
- The Cycle Model Configuration tool, a command-line utility that simplifies integration of Arm SystemC Cycle Models into custom systems. See the *SystemC Cycle Model User Guide* for your CPU for information about using this tool.

SystemC Cycle Models root and runtime directories

The SystemC Cycle Model Runtime is installed under a single directory structure. This file system must be visible to all systems that run SystemC Cycle Model Runtime software, or multiple installation areas must exist.

The root directory is `$CM_SYSC_HOME`, which is located in *`installation path`* `/ARM/CycleModels/Runtime/cm_sysc/`*`version`*. This directory contains:

`bin/`
Contains the Cycle Models Configuration Tool.

`etc/`
Contains the top-level setup scripts.

`FMRuntime/`
Fast Models runtime environment shared with SystemC Cycle Models.

`include/`
Includes API header files and other files for building models and systems.

`lib/`
Linux 64-bit libraries.

`license.txt`
License file.

`makefiles/`
Common makefiles for building models and systems.

`models/`
TLM utility components and models (TLM models only).

`Version.txt`
Version file.

2.5 Integrating with CPAKs

This section describes how to integrate the Cycle Model SystemC Runtime into CPAKs.

If you have a CPAK that uses a previous version of the Cycle Model SystemC Runtime, and you want to include updated SystemC Cycle Models in that CPAK, you must first update the SystemC Cycle Model Runtime that is used in the CPAK. Perform the following steps to integrate the updated Runtime into your CPAK.

Prerequisites

Before you begin, download and untar the latest Runtime as described in *2.3 Installing the runtime and sourcing the setup script* on page 2-15.

Procedure

1. In the CPAK directory, remove the directory `ARM`.
2. Copy the untarred new runtime to the CPAK.
3. Reconfigure the required environment variables by sourcing the setup script as described in *2.3 Installing the runtime and sourcing the setup script* on page 2-15.

Chapter 3
Licensing overview

This chapter describes the licensing requirements for operating the Cycle Model SystemC Runtime.

It contains the following section:

3.1 Required licenses

Arm Cycle Model products are licensed using the FlexNet license manager Version 11.13.

You are required to have a license for the Cycle Model Studio Runtime and for each Cycle Model used in your design. Licenses are available on the Arm Support site (*https://developer.arm.com/support*). Registration and login are required.

A license server must be available on your network. The license server platform is not required to be the same as the tools platform. For example, you might have your development tools installed on Windows and use a Linux license server.

Contact Arm Techical Support (support-esl@arm.com) if you have any questions.