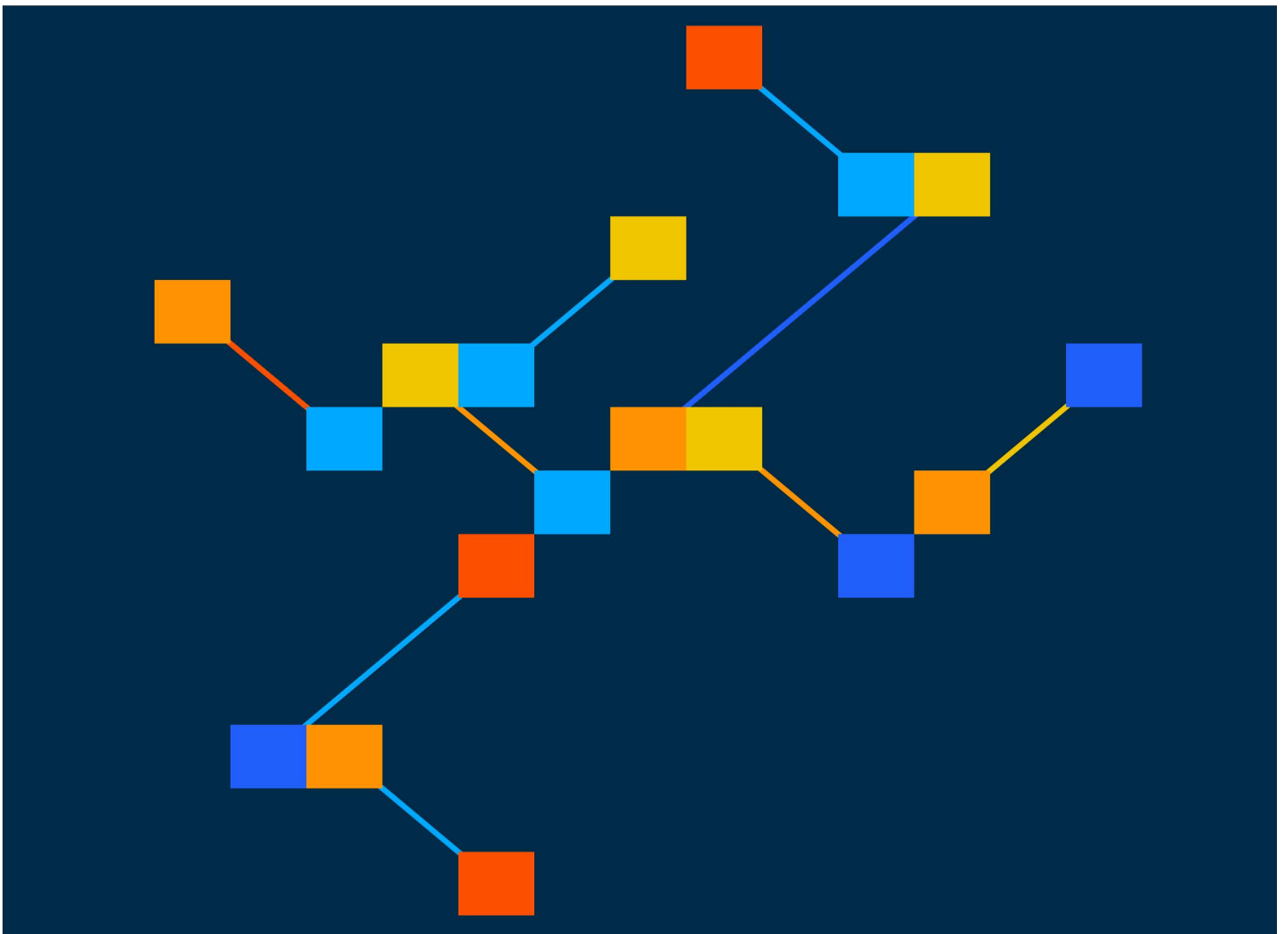




Maestro Getting Started Guide



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Getting Started With Maestro

Maestro provides you with the ability to specify, analyze, refine, and verify advanced cache-coherent SoC interconnects.

Maestro Feature Set

This Maestro software release includes the following features:

Ncore: Cache-coherent interconnect

Maestro System Requirements

Maestro is supported under x64 Red Hat Enterprise Linux (RHEL)/CentOS 7.0+, RedHat 8, and SUSE 15 SP3.

CentOS 7 machines

CentOS 7 machines need the following libraries:

- libdl.so.2
- libtcmalloc.so.4
- libpthread.so.0
- libstdc++.so.6
- libm.so.6
- libgcc_s.so.1
- libc.so.6
- ld-linux-x86-64.so.2
- libunwind.so.8

The installation package has all other packages required to run Maestro.

RedHat 8 machines

RedHat 8 machines need the following environment:

- Base OS: graphical-server-environment

- Add-on Packages: debugging, development, legacy-unix, network-file-system-client, performance, system-tools, scientific, security-tools
- Post-install: java-11-openjdk, java-11-openjdk-devel (Base is still java-1.8.0, so upgrade is must), boost, boost-devel, binutils, binutils-devel, tk, compat-openssl10 (specifically for FlexNoC)
- Must Check: For Maestro Run time, libdrm-2.4.111 (or higher) and mesa-filesystem-23.1.4-1 (or higher) are required on RHEL 8.x. (Our check was on RHEL 8.4 and RHEL 8.9)
- Add-on Shell: tcsh, ksh

SUSE 15 machines

SUSE 15 machines need the following packages:

- Base OS / Product: SUSE Linux Enterprise Server 15 SP3 (in this example)
- Extensions and Modules: Basesystem Module, Desktop Applications Module, Development Tools Module, Server Application Module, Web and Scripting Module
- Post-install: java-11-openjdk, java-11-openjdk-devel, binutils-devel, tk, sqlite

Obtaining Maestro

Getting the Application

The Maestro application is typically distributed via the Arteris FTP server. An Arteris FAE or sales representative will provide the downloading instructions, user name, and password.

Getting a License File

You must obtain the license file from Arteris to use Maestro. Arteris uses the FlexLM license manager. Installation of the FlexLM software and the license file are described in “Flex Licensing Manager” on page 9.

Getting Support

Arteris support is available at:

<https://arterisip.atlassian.net/servicedesk/customer/portals>

Installing Maestro

Maestro installation and administration is a simple process that installs Maestro software, Ncore package, documentation, and the Flexlm license manager along with their custom components and features as enabled by optional licenses.

Installation Path

The Maestro installer prompts you to install the product into a new directory in the current directory path. You can change the default installation path to one on a file server that may be accessible over a local area network.

Installation Procedure

To install Maestro:

1. Install package with shell, \$ `tar -xvzf <filename>.tar.gz`
2. Set the following environment variables:

```
shell$ export MAESTRO_HOME <install_dir>
shell$ export NCORE3_MODEL_DIR=$MAESTRO_HOME/performance-modeling
```
3. `export PATH=$MAESTRO_HOME/maestro-client/bin:$MAESTRO_HOME/maestro-server:${NCORE3_MODEL_DIR}/bin`
4. Run a test to verify Maestro performance modeling is working:

```
ncore3_archsim --scenario-file $NCORE3_MODEL_DIR/test/regress/basic/basic_cnc1rd.scn
```

Starting Maestro and Command-line Options

Starting Maestro

To start Maestro, type “maestro” from anywhere inside the shell.

Installation Directory Structure

- bin - contains the maestro executable
- maestro-doc - documentation for Maestro and Ncore
- performance modeling - performance models
- maestro-client - maestro client executable and supporting files
- maestro-server - maestro server executable

Refer to the User Guide for instructions on designing your interconnect.

Flex Licensing Manager

This chapter illustrates the licensing and installation process of the Maestro application.

Maestro Licensing

License Basics

Maestro licenses are managed using Flexlm software. This document describes the installation of the required vendor daemon (ARTERISD) and the associated utilities (lmgrd).

License File

License files are provided separately by the Arteris support service (support@arteris.com). Only the SERVER and VENDOR ARTERISD lines in the license file can be modified. The SERVER line is of the format "host hostid port". The host and port fields may be changed to the host name of the server where the license will be installed and the port that lmgrd will listen on. The VENDOR ARTERISD line contains the path to the ARTERISD vendor daemon, given either as an absolute path or a path relative to lmgrd.

If ARTERISD and lmgrd are in the same directory, you can leave the VENDOR line simply as "ARTERISD".

NOTE:

If you have installed FlexNoC in your environment prior to FlexNoC v3.2.x, you already have an ARTERISD daemon running. However, an older version of ARTERISD is not compatible with APS (Arteris Product Suite). You will need to install a newer version as described in this document.

FlexNoC license file and Ncore license files both use the same ARTERISD daemon and are forward compatible with newer versions of the daemon.

License Server Setup

Set the ARTERISD_LICENSE_FILE environment variable to point to the license server. The format of the value of the variable is <port>@<host>.

For example, if the license server runs on the same machine that runs the application and the license file port is 30000, set the following:

In bash and other Bourne compatible shells:

```
- export ARTERISD_LICENSE_FILE = 30000@localhost
```

In tcsh and other C shell compatible shells:

```
- setenv ARTERISD_LICENSE_FILE 3000@localhost
```

Starting The License Server

To start the ARTERISD vendor daemon with your Maestro licenses, execute the lmgrd utility provided by Arteris or any version compatible with Flexlm 11.13.12 or later:

```
lmgrd -c <PATH_TO_LICENSE_FILE> -l <PATH_TO_LOG_FILE>
```

Advanced Troubleshooting License Issues

On some installations, license lookup may take extended periods of time and cause timeouts when starting Maestro. The license lookup latencies may be reduced by adding the following line to /etc/hosts, with myhostname replaced by the machine's hostname:

```
::1 myhostname
```

If you are unable to replace the name, change the startup timeout from its default value of 4 minutes (240 seconds) and set the environment variable ARTERIS_TRANSPORT_TIMEOUT to a desired timeout value in seconds.

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