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What is SoCLib

- SoCLib is an open platform for virtual prototyping of multi-processors system on chip (MP-SoC).
- The core of the platform is a library of SystemC simulation models for virtual components (IP cores)
- The project started as an ANR-funded project. It is now maintained at [?Lip6](#)

You may want to have a look at [FeaturesDescription](#), or [GetAccount get an account] If you want to try SoCLib without going through the installation process, the [?SoCLib Virtual machine appliance](#) may help you ! ([GetAccount login] required)

SoCLib Components

- [SoCLib Components General Index](#) : documentation about the available hardware components (IP cores)

Usage

Installation

- [Installation Notes](#) : how to install the SoCLib platform on your computer
- [Frequently asked questions](#) is useful when things goes wrong

Building platforms

- [Soclib Cc](#) is the current build system for SoCLib platforms.
 - ♦ [SoclibCc/DesignGuide](#) is an attempt to justify the choices made in soclib-cc
 - ♦ [Soclib Cc/And Modelsim](#) describes how to use SoCLib CABA models in ModelSim, to make RTL+CABA co-simulation
 - ♦ [Soclib Cc/Meta Data](#) describes the metadata (.sdc) file format

Development

- [Adding new components to the library](#) : the rules to follow to add a new IP core to the library.

SoCLib guest OS support

- DNA/OS : DNA/OS is a micro-kernel for MPSoCs. It supersedes MutekA, and still provides the POSIX thread API.
- MutekH : Exo-kernel based OS for classical and heterogeneous MPSoCs with POSIX threads support
- NetBSD : Highly portable Unix-like Open Source operating system
- eCos : An open source, royalty-free, real-time operating system intended for embedded applications.
- RTEMS : Real-Time Operating System for Multiprocessor Systems

Middleware

- MWMMR : Hardware / Software communication middleware

SoCLib Tools

- Benchmark: A few shared benchmarks
- DSX : Design Space Exploration tool
- SystemCASS : Fast SystemC simulation kernel
- SoCView : Interactive simulation environment for debug and instrumentation
- GdbServer : A GDB server for multi-processor architectures
- MemoryChecker : A memory access error checker similar to valgrind.
- GAUT : A high-level synthesis tool allowing to generate automatically systemC CABA and TLM-T files.

Writing and design guides

- General SoCLib Rules : general rules regarding the SoCLib components.
- CABA Writing Rules : rules to write SystemC CABA simulation models.
- TLM-DT Writing Rules : rules to write SystemC TLM-DT simulation models.
- Processor Modeling : a general method to write generic processor models.
- Endianness considerations? : Endianness rules in SoCLib
- CABA/TLM-DT Transactors : general principles
- Critères Pour Plate-Forme TLM-T : criteria defined for writing TLM-T simulation models.

SoCLib Resources

Mailing list

The dev@? Mailing list is public and targets general discussion about SoCLib component development.

To join the list, either

- send an email to dev-subscribe@?;
- see <http://www.soclib.fr/www/info/dev>.

Tutorials

- DSX tutorial
- Motion-JPEG and OS tutorial