# SoCLib Architecture support

SoCLib is an open platform for virtual prototyping of multi-processors system on chip (MP-SoC). It provides SystemC models of hardware components.

From a software engineer point of view, SoCLib can be seen as an library of hardware component models which can be used to build various multiprocessor machine emulators.

MutekH can run on SoCLib based simulator using Mips32, Arm and PowerPc processor models.

It supports the SoCLib architecture specificities:

- drivers for SoCLib hardware components.
- heterogeneous multiprocessor platforms: platforms running a single MutekH instance on multiple processors of different architectures, sharing all variables and allocated data like in legacy shared memory SMP platforms.
- integrated build system and workflow.

## SoCLib on FPGA

MutekH has been reported to run parallel applications on a multiprocessor ?TSAR platform prototype on FPGA.

# Debugging features

SoCLib offer some interestring debbuging features for the kernel and embedded application developer:

- It provides a Gdb server to debug embedded software.
- It provides the ?MemoryChecker tool which is able to watch various suspicious memory and spinlock operations. This tools is similar to ?valgrind but is designed to check kernel code behavior.

When combined, these tools are extremely powerful to track down bugs and race conditions and are extensively used to test MutekH during development.

# See also

You may be interested in reading the various tutorial to have MutekH running on SoCLib.

You may want to visit the ?SoCLib project home page to learn more.

# SoCLib specific developer topics

- Xicu in Flattened device trees