

# Processor ISS (Instruction Set Simulator)

These simulation models must be wrapped in a CABA, TLM, or TLMDT wrapper to be used in a plat-form. Example of such a wrapper is the VciXcacheWrapper component.

- processors using the ISS2 API
  - ◆ Mips32
  - ◆ Ppc405
  - ◆ Arm
  - ◆ Sparc v8
  - ◆ Lm32 : Lattice Mico 32
- processors using the ISS1 API
  - ◆ MicroBlaze
  - ◆ NiosII
  - ◆ ARM7TDMI
  - ◆ ARM966
  - ◆ TMS320C62
  - ◆ MPC7447A
- Tools/Gdb Server : A GDB-server wrapper, for any ISS2
- IssIss2 : Utility wrapper to use any IssApi compliant ISS in an Iss2Api wrapper

## Components

### VCI Targets

- VciRam : A multi-segment embedded Ram controller
- VciMultiTty : A memory mapped multi-TTY controller
- VciXicu : A memory mapped Hardware interrupt + Timer + IPI controller
- VciMultiTimer : A memory mapped multi-Timer controller
- VciIcu : A memory mapped interrupt controller
- VciLocks : A memory mapped locks controller
- VciPCI : A bridge to the PCI bus
- VciLogConsole : A memory-mapped text log sink
- Mailbox : A mailbox component allows several processors to communicate via an interrupt mecanism

### VCI Initiators

#### Iss Wrappers (caches)

- VciXcacheWrapper : A generic, VCI compliant, cache controller for Iss2Api processors
- VciCcXcacheWrapper : A generic, VCI compliant, cache controller for Iss2Api processors with directory-based cache coherence support
- VciVcacheWrapper : A generic, VCI compliant, cache controller for Iss2Api processors supporting virtual memory

#### Other initiators

- VciXcache : An old cache controller for 32 bits RISC processors (deprecated)
- VciDma : A DMA engine

- VciFdAccess : A file system access controller
- VciBlockDevice : A block device controller
- VciMwmmrController : A Mwmmr channels controller
- VciMwmmrControllerLf : Another Mwmmr channels controller

## VCI Interconnects

- VciVgmn : A VCI compliant generic micro-network
- VciLocalCrossbar : A VCI compliant crossbar
- VciPibus : A VCI compliant PIBUS implementation
- VciDspin : A VCI compliant DSPIN micro-network
- VciSimpleRingNetwork : A VCI compliant ring interconnect
- VciLocalRingNetwork : A VCI compliant ring interconnect
- VciAvalonBus : A VCI compliant AVALON bus interconnect
- VciAnoc : A VCI compliant ANOC micro-network
- VirtualDspinNetwork : A virtual Dspin network

## Dedicated coprocessors

- Tc4200 : A WiMAX LDPC decoder
- Tc4200\_enc : a WiMAX LDPC encoder
- trx\_ofdm : A FFT and IFFT coprocessor
- FIR128 : A 128-taps Finite Impulse Response filter
- Upsampling : An interpolation component
- Downsampling : A decimation component
- Synchronization : A synchronization component
- Mapping : A mapping component
- Demapping : A demapping component
- FHT : A Fast Hartley Transform component

## Common utilities

- MappingTable : A tool to declare and list all memory segments used in a platform and to define the memory mapping.
- Loader : A binary-file loader (ELF, COFF, plain)
- VciTargetFsm : A generic CABA submodule for handling the VCI fsm part of a target components, so that you can focus on the functionality
- TtyWrapper : A simulator-side TTY abstraction tool, used by the VciMultiTty component
- ProcessWrapper : A simulator-side fork/exec abstraction tool, with process' stdin/stdout communication
- FbController : A simulator-side framebuffer abstraction tool