SoCLib components documentation

VCI Targets

- VciRam : A multi-segment embedded Ram controller
- VciMultiTty : A memory mapped multi-TTY 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

VCI Initiators

- VciXcacheWrapper : A generic, VCI compliant, cache controller for 32 bits RISC processors
- VciCcXcacheWrapper : A generic, VCI compliant, cache controller for 32 bits RISC processors with directory-based cache coherence support
- VciVcacheWrapper : A generic, VCI compliant, cache controller for 32 bits RISC processors supporting virtual memory
- 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
- VciMwmrController : A Mwmr channels controller
- VciMwmrControllerLf : Another Mwmr 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

Common utilities

- TtyWrapper : A simulator-side TTY abstraction tool, used by VciMultiTty
- MappingTable : A tool to declare and list all memory segments in a platform
- ElfLoader? : An ELF binary file loader utility

Optional utilities

- ProcessWrapper : A simulator-side fork/exec abstraction tool, with process' stdin/stdout communication
- FbController : A simulator-side framebuffer abstraction tool
- Mailbox : A mailbox component allows several processors to communicate via an interrupt mecanism

- VciTargetFsm : A generic caba class for handling the VCI fsm part of target components, so that you can focus on the functionality

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

Processors (Instruction Set Simulator)

- ISS API
  - Mips : Mips-R3000 iss
  - MicroBlaze : MicroBlaze iss
  - NiosII : NiosII iss
  - ARM7TDMI : ARM7TDMI iss
  - ARM966 : ARM966 iss
  - TMS320C62 : TMS320C62 iss
- ISS2 API
  - Mips32 : Mips32 iss
  - Ppc405 : PPC405 iss
  - IssIss2 : Utility wrapper to use ISS API compliant ISS in an ISS2 API wrapper