

VciSimpleRingNetwork

1) Functional Description

This hardware component is a VCI compliant ring, implemented as a combinational daisy-chain and well suited for FPGA implementations. It contains two independent rings for VCI commands and VCI responses. It is composed of two components :

- VciRingInitiatorWrapper : A VCI-RING protocol converter for a VCI initiator.
- VciRingTargetWrapper : A VCI-RING protocol converter for a VCI target.

Policy arbitration uses a circulating token which allows the wrappers to access the ring in a round-robin fashion.

2) Component definition & usage

source:trunk/soclib/soclib/module/network_component/vci_simple_ring_network/caba/metadata/vci_simple_ring_network.sd

3) CABA implementation

CABA sources

- interface :
source:trunk/soclib/soclib/module/network_component/vci_simple_ring_network/caba/source/include/vci_simple_ring_network.h
- implementation :
source:trunk/soclib/soclib/module/network_component/vci_simple_ring_network/caba/source/src/vci_simple_ring_network.c

CABA Constructor parameters

```
VciSimpleRingNetwork( sc_module_name insname,           // instance name
                     const soclib::common::MappingTable &mt, // mapping table
                     const soclib::common::IntTab &ringid,  // global subsystem index
                     const int &wrapper_fifo_depth,        // wrapper fifo depth
                     int nb_attached_initiator,             // number of VCI initiators
                     int nb_attached_target);               // number of VCI targets
```

CABA ports

- sc_in<bool> p_clk; *Global system clock*
- sc_in<bool> p_resetn; *Global system reset*
- soclib::caba::VciInitiator<vci_param>* p_to_target; *Ports to VCI targets*
- soclib::caba::VciTarget<vci_param> * p_to_initiator; *Ports to VCI initiators*

4) TLMT implementation

The TLM-T implementation is not available yet.