

# VciLocalRingNetwork

## 1) Functional Description

This hardware component is a VCI compliant ring, implemented as a combinational daisy-chain and well suited for FPGA implementations. It must only be used in clusterized architecture, to interconnect a limited number of VCI initiators and targets in a local sub-system. It contains two independant rings for VCI commands and VCI responses and is composed of three components :

- [VciRingInitiatorWrapper](#) : A VCI-RING protocol converter for a VCI initiator.
- [VciRingTargetWrapper](#) : A VCI-RING protocol converter for a VCI target.
- [RingGateway](#) : A ring interface with global interconnect.

## 2) Component definition & usage

source:trunk/soclib/soclib/module/network\_component/vci\_local\_ring\_network/caba/metadata/vci\_local\_ring\_network.sd

## 3) CABA implementation

### CABA sources

- interface :  
source:trunk/soclib/soclib/module/network\_component/vci\_local\_ring\_network/caba/source/include/vci\_local\_ring\_r...
- implementation :  
source:trunk/soclib/soclib/module/network\_component/vci\_local\_ring\_network/caba/source/src/vci\_local\_ring\_n...

### CABA Constructor parameters

```
VciLocalRingNetwork( sc_module_name insname,                                     // instance name
                     const soclib::common::MappingTable &mgt,           // mapping table
                     const soclib::common::IntTab &ringid,             // global subsystem index
                     const int &wrapper_fifo_depth,                   // wrapper fifo depth
                     const int &half_gateway_fifo_depth,              // half gateway 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*
- soclib::caba::GateInitiator p\_gate\_initiator; *Port to gate target*
- soclib::caba::GateTarget p\_gate\_target; *Port to gate initiator*

## 4) TLMT implementation

The TLM-T implementation is not available yet.