

RingGateway

1) Functional Description

In a clusterized architecture, clusters are connected to the global interconnect through dedicated interfaces : RingGateways. One RingGateway component is attached to one ring interconnect. This hardware component is composed of two components :

- HalfGatewayInitiator : handles incoming commands and outgoing responses to and from the interconnect to which it is attached
- HalfGatewayTarget : handles outgoing commands and incoming responses to and from the interconnect to which it is attached.



HGI : Half Gateway Initiator HGT : Half Gateway Target

2) Component definition & usage

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

3) CABA implementation

CABA sources

- interface :
source:trunk/soclib/soclib/module/network_component/ring_gateway/caba/source/include/ring_gateway.h
- implementation :
source:trunk/soclib/soclib/module/network_component/ring_gateway/caba/source/src/ring_gateway.cpp

CABA Constructor parameters

```
RingGateway( sc_module_name insname,           // instance name
             const soclib::common::MappingTable &mt, // mapping table
             const soclib::common::IntTab &ringid, // global subsystem index
             bool alloc_init,                     // default initiator token owner
             bool alloc_target,                   // default target token owner
             bool local,                          // routing parameter
             const int &half_gateway_fifo_depth); // half gateway fifo depth
```

CABA ports

- sc_in<bool> p_clk; *Global system clock*
- sc_in<bool> p_resetn; *Global system reset*
- soclib::caba::RingIn p_ring_in; *Ring input port*
- soclib::caba::RingOut p_ring_out; *Ring output port*
- 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.