

# 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.