



TLM 2.0 Approximately Timed (AT) System Example - Annotated Timing Only

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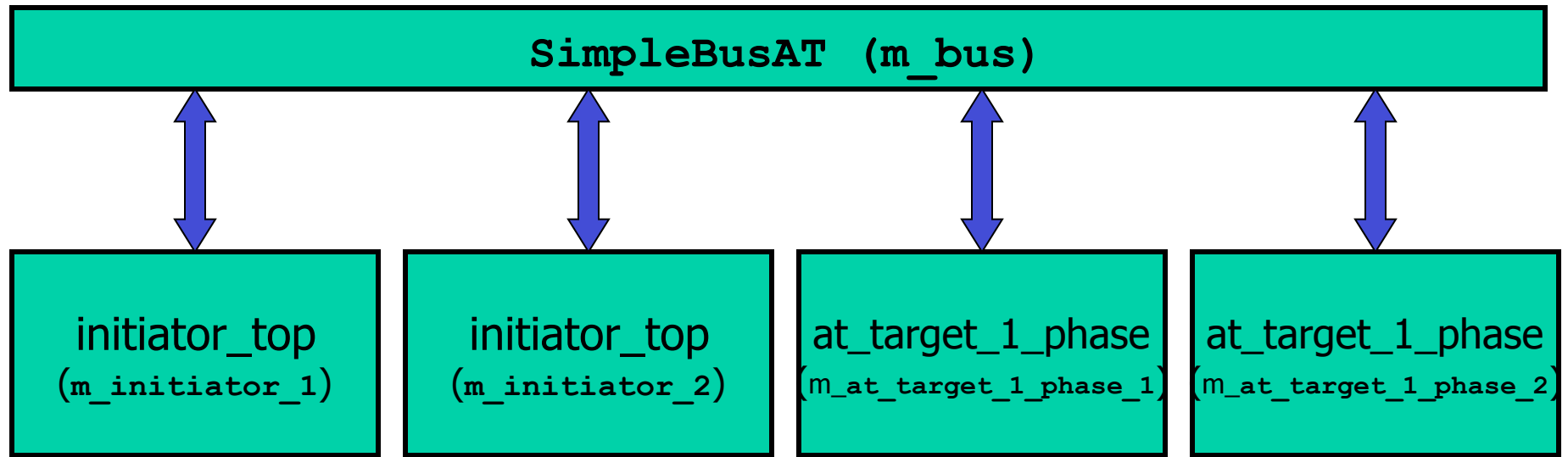
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AT System Example - Annotated Timing

- **The Goal is to Illustrate:**
 - Application of TLM 2.0 in a real system
 - Annotated non-blocking (NB) option of the non-blocking style
 - ◆ NB annotated timing has been referred to as "1 phase"
 - ◆ Simplest version of non-blocking/AT
- **Possible Applications:**
 - Architectural exploration
 - Early software development



Example Block Diagram



 TLM 2 GP

How to run this example (Linux)

- Set `SYSTEMC_HOME` and `TLM_HOME`
- `cd examples/tlm/at_1_phase/build-unix`
- `make clean`
- `make`
- `make run`

How to run this example (MSVC)

- Open a explorer window on `examples/tlm/at_1_phase/build-windows`
- Launch `at_1_phase.sln`
- Select **'Property Manager'** from the **'View'** menu
- Under **'at_1_phase > Debug | Win32'** select **'systemc'**
- Select **'Properties'** from the **'View'** menu
- Select **'User Macros'** under **'Common Properties'**
- Update the **'SYSTEMC'** and **'TLM'** entries and apply
- Build and run

Expected Output (expected.log)

Info: traffic_generator.cpp: 0 s - traffic_generator_thread

Initiator: 101 Starting Traffic

...

Info: select_initiator.cpp: 0 s - initiator_thread

Initiator: 101 starting new transaction for Addr:0x00000100

Initiator: 101 nb_transport_fw (GP, BEGIN_REQ, 0 s)

Info: select_initiator.cpp: 0 s - initiator_thread

Initiator: 101 ACCEPTED (GP, BEGIN_REQ, 0 s)

Initiator: 101 transaction waiting end-request on backward-path

...

Info: at_target_1_phase.cpp: 0 s - nb_transport_fw

Target: 201 nb_transport_fw (GP, BEGIN_REQ, 0 s)

Info: memory.cpp: 0 s - print

ID: 201 COMMAND: WRITE Length: 04

Addr: 0x0000000000000100 Data: 0x00000100

Info: at_target_1_phase.cpp: 0 s - nb_transport_fw

Target: 201 COMPLETED (GP, BEGIN_REQ, 40 ns)

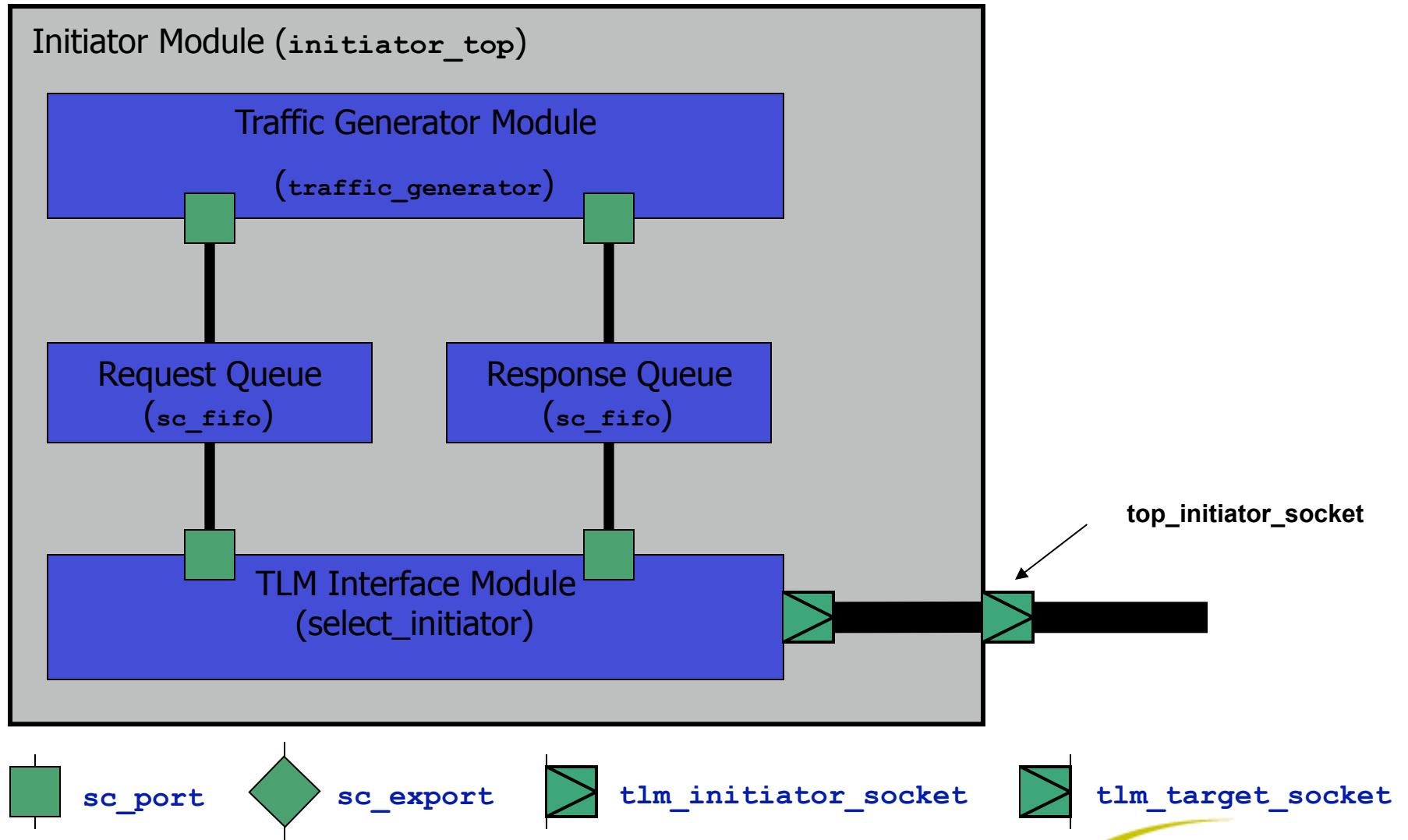
Info: select_initiator.cpp: 40 ns - nb_transport_bw

Initiator: 101 nb_transport_bw (GP, BEGIN_RESP, 0 s)from Addr:0x00000100

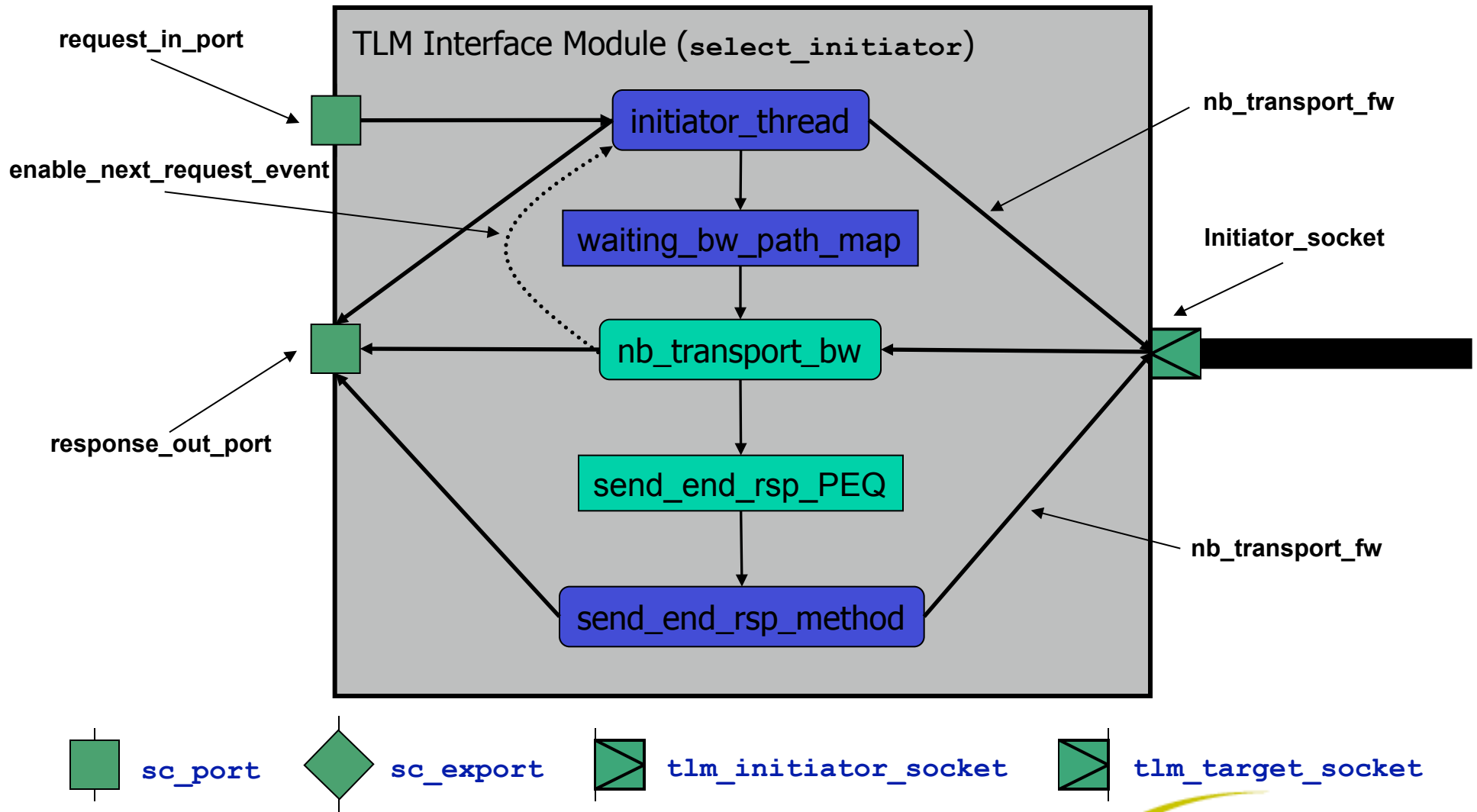
Initiator: 101 target omitted end-request timing-point returning ACCEPTED



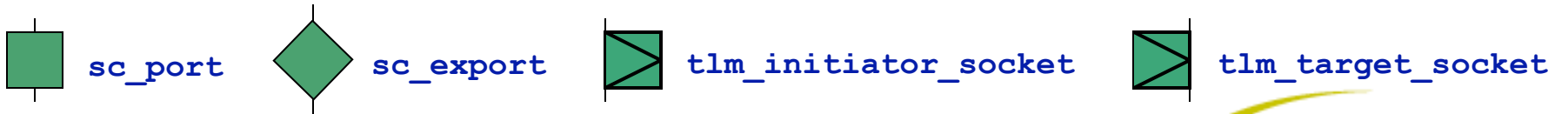
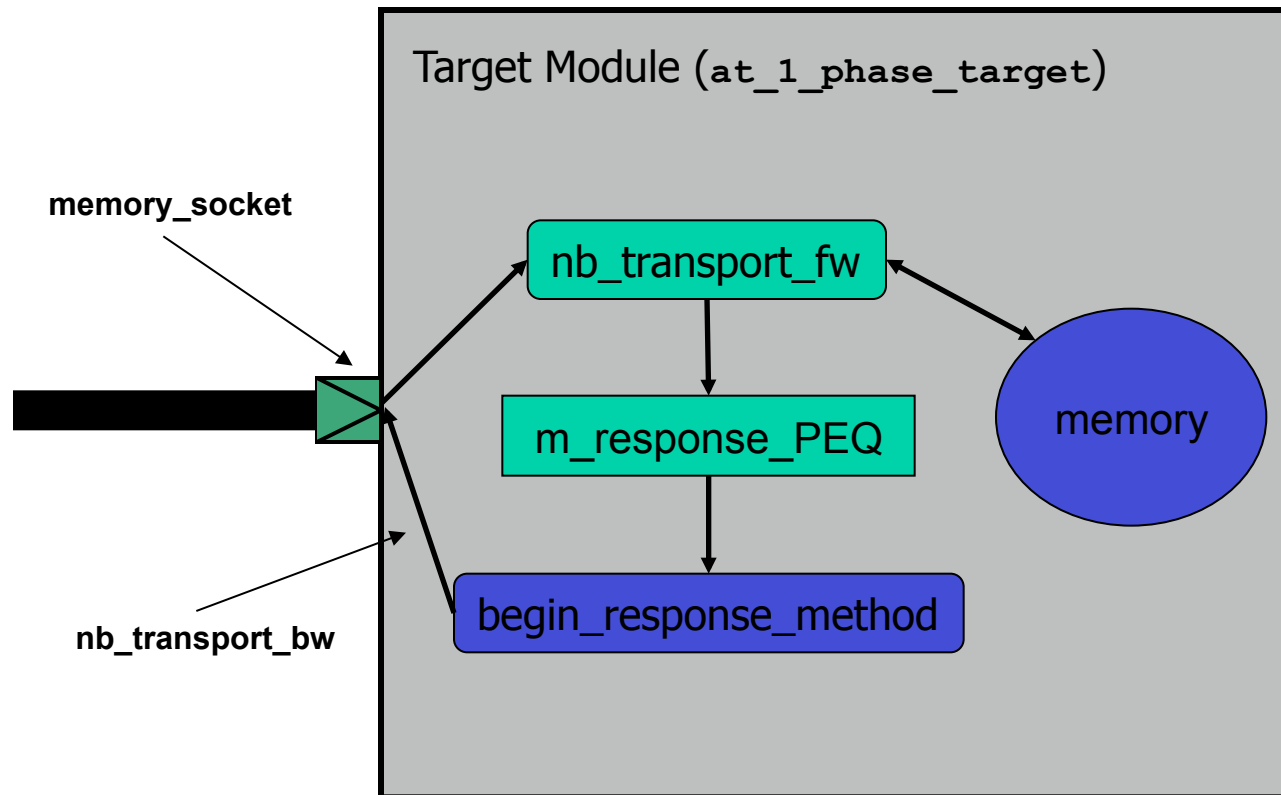
Initiator Module



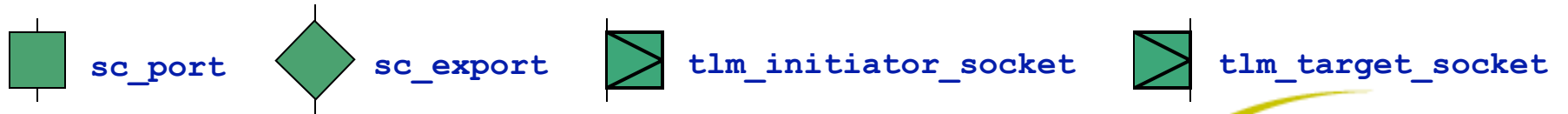
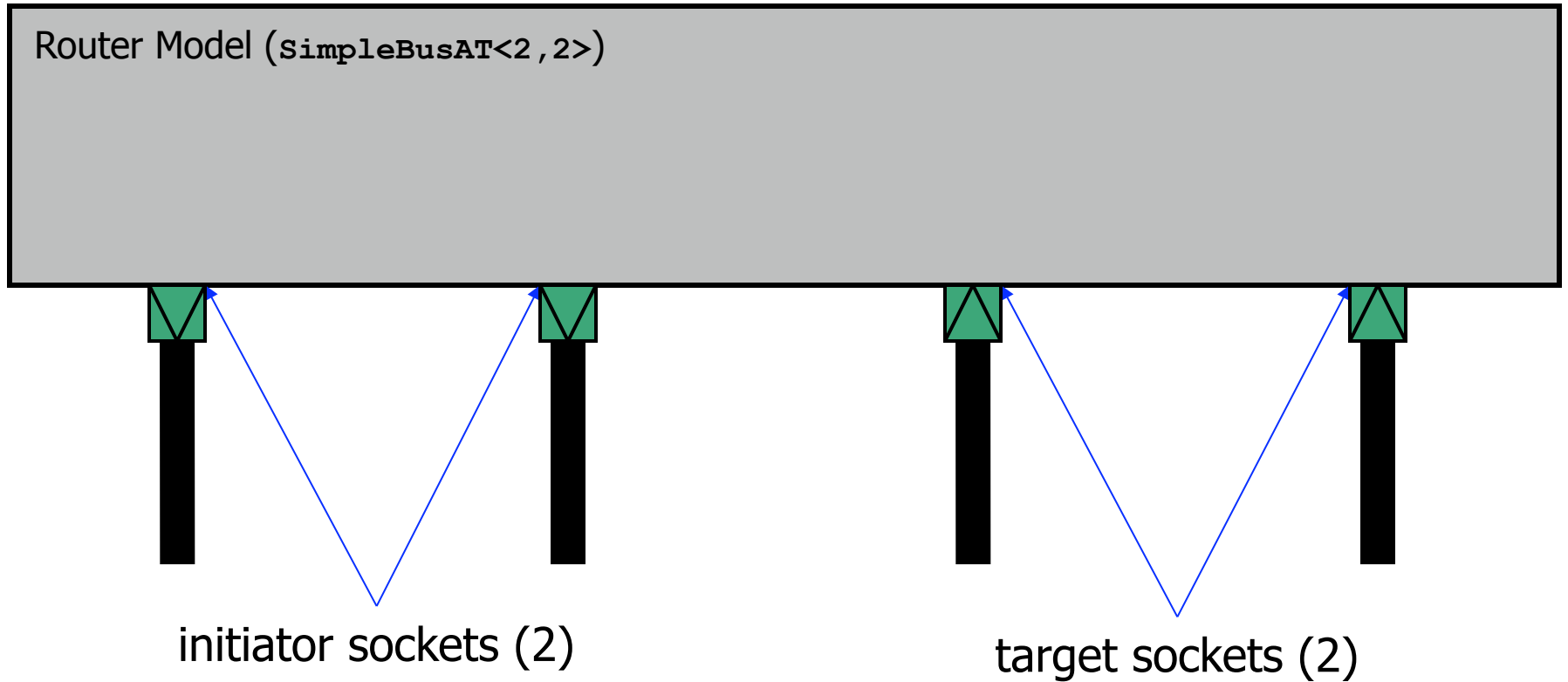
TLM Interface Module



Target Module



Router Component



Expected Timing

