40x/40s(/a6) – XIF and status

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Agenda

- Misc (minor items)
- XIF

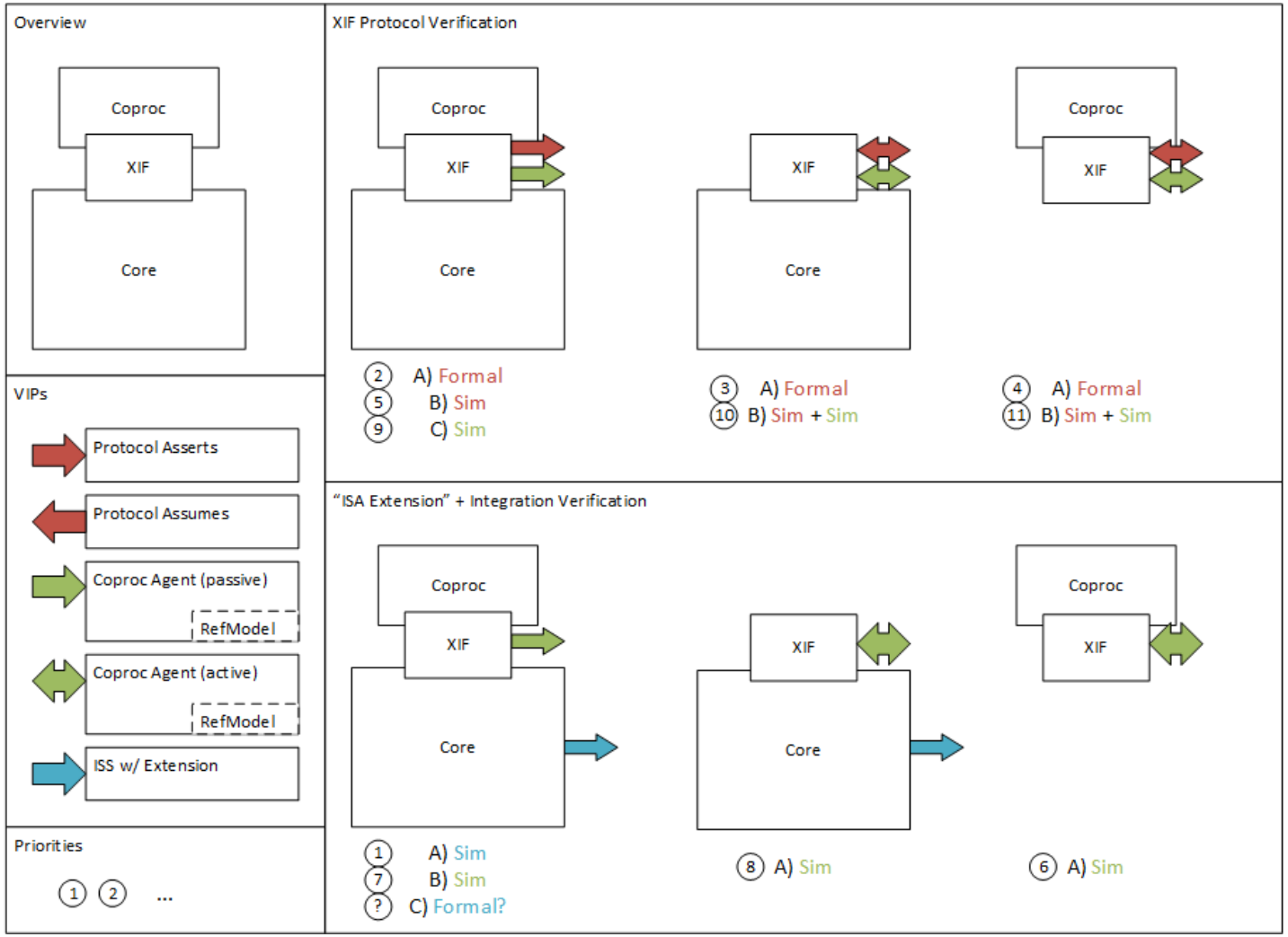
Misc (1/2)

- Idea: “core-v-rvfi”
  - 40x/40s made several amendments
    - “riscv_formal” isn’t responsive to updates
    - Rvfi amended spec is tied to 40x/40s spec
  - Resource allocation, push access, veto, …

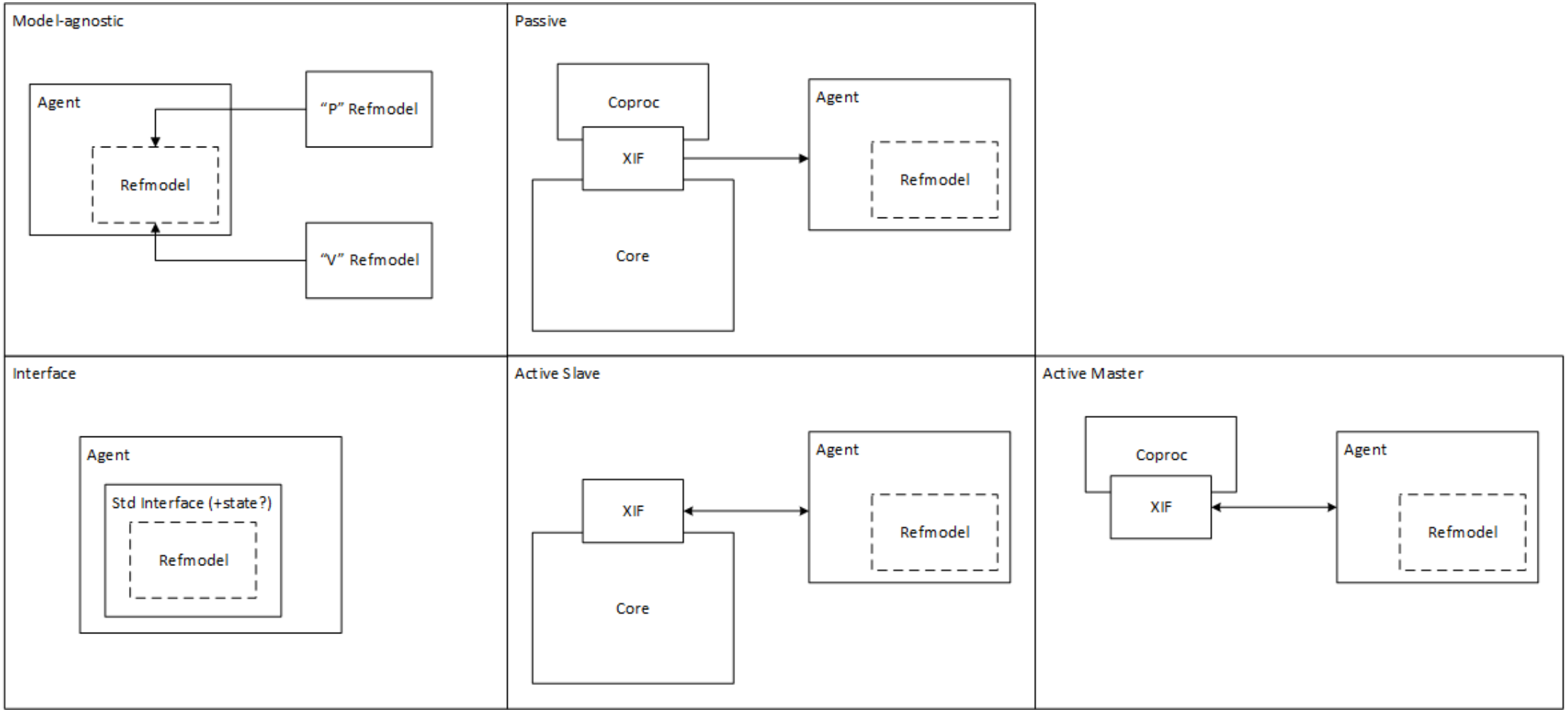
Misc (2/2)

- Idea: “core-v-rvfi”
  - 40x/40s made several amendments
    - “riscv_formal” isn’t responsive to updates
    - Rvfi amended spec is tied to 40x/40s spec
  - Resource allocation, push access, veto, …
- Problem: vPlans not diffable?
  - Reviewing changes is hard
  - Working in parallel is hard
  - (Ref. XIF vPlans)

Plan & Priorities

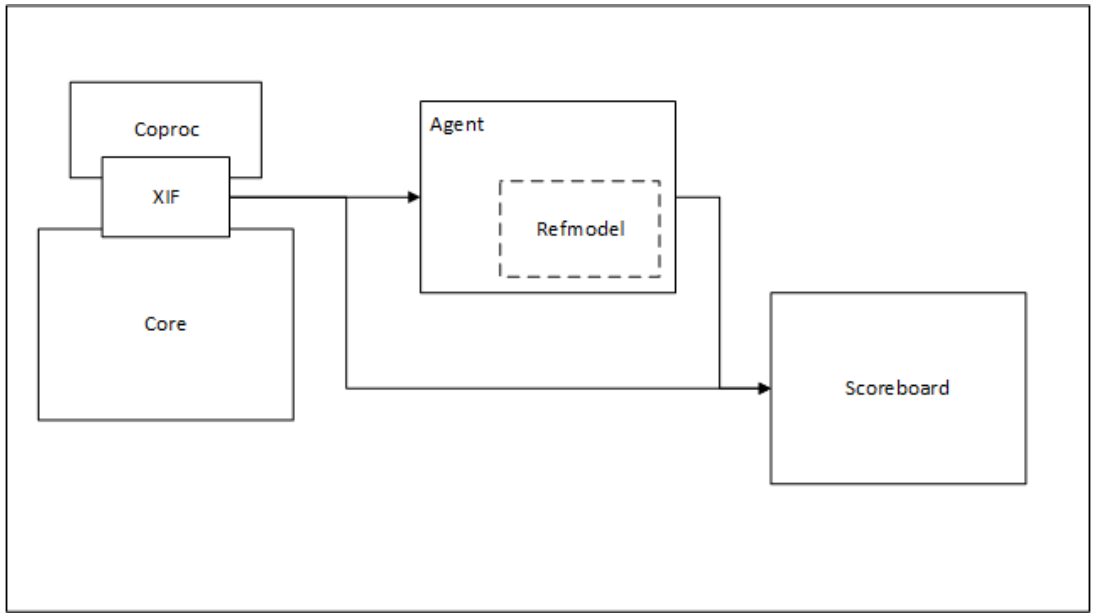


Agent + Refmodel (1/2)



Agent + Refmodel (2/2)

- Scoreboard
  - Passive agent
    - Compare RTL/Refmodel
    - XIF result object
  - Active agent
    - Use ISS scoreboard?



vPlan

- Nice vPlan!
  - Organized and clean
- Protocol vs Integration
  - Protocol
    - *“The instr and mode signals remain stable”*
  - Integration
    - *“rs signal correspond to rs1,rs2(rs3) value in CPU register file”*
  - Parameterizable?
    - *“mode take a value that the CPU supports [00, 01, 10, 11]”*
- Interfaces
  - Compressed + Memreq + Memres

Formal

- Protocol vs Integration
  - (As in vPlan)
- Assume-Assert

```
`define ... generate
  if (...) begin
    assume property(``prop``);
  end else begin
    assert property(``prop``);
  end
endgenerate
```

Delegate Responsibilities

- vPlans
  - Silabs: Compressed + Memreq + Memres
  - Silabs: Review rest of vplan
  - Thales: “Protocol vs Integration” separation/indicator?
- Assertions
  - Silabs: Compressed + Memreq + Memres
  - Thales: “Protocol vs Integration” split in >1 file?
  - Thales: Assume-Assert macro
- Agent
  - Model-agnostic?
  - Passive, Active (Master/Slave)?
- Refmodel
  - Hand-written? Imperas? Loan source code from Spike?
- Tests
  - Riscv-dv streams
  - Stand-alone tests?
- Infrastructure
  - Stand-alone tb?
  - ExternalRepos coprocessors?
  - External tests?

Other Discussions?

- …