NSI CS Protocol State Machines

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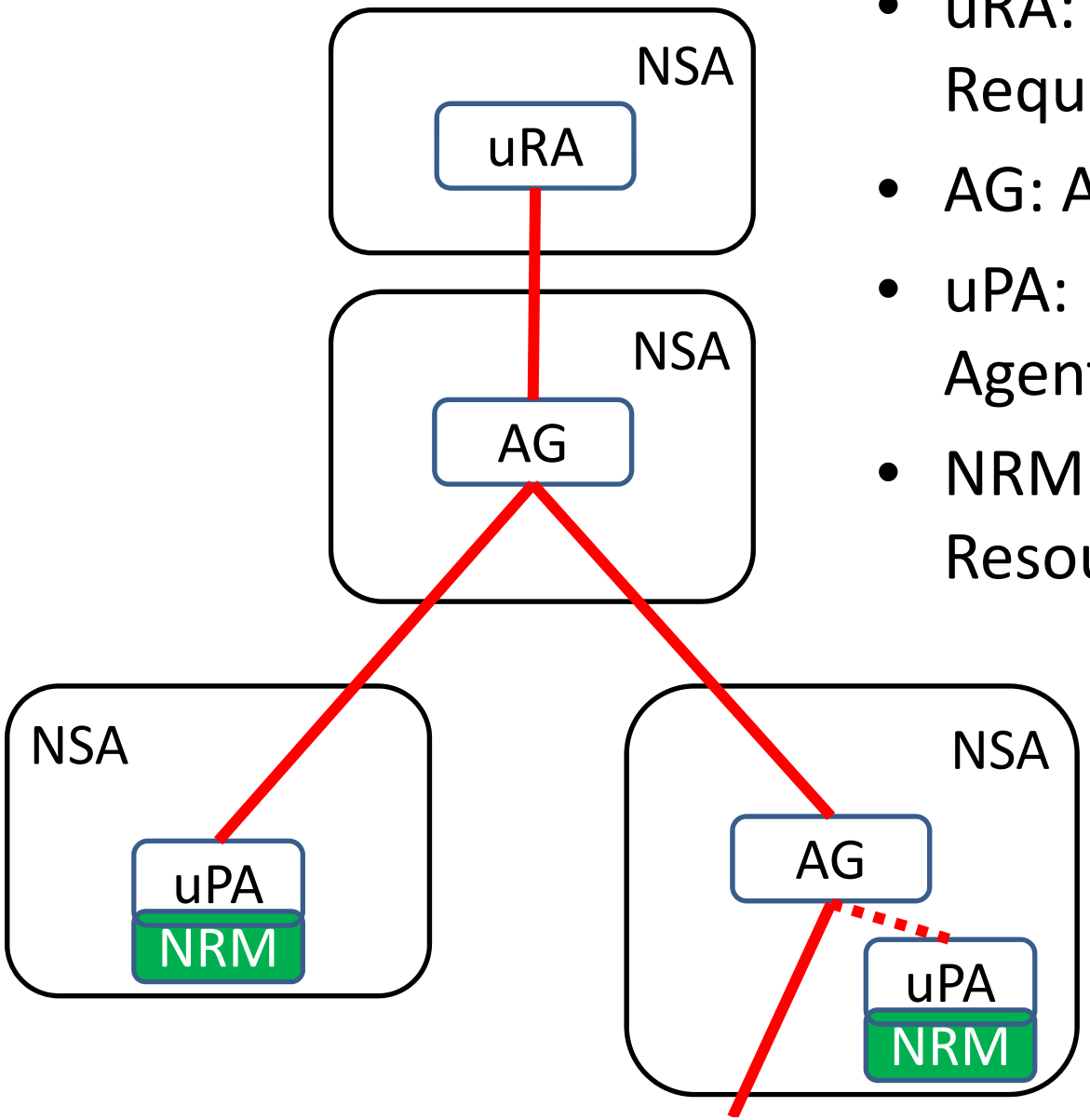
NSA: uRA, Aggregator and uPA

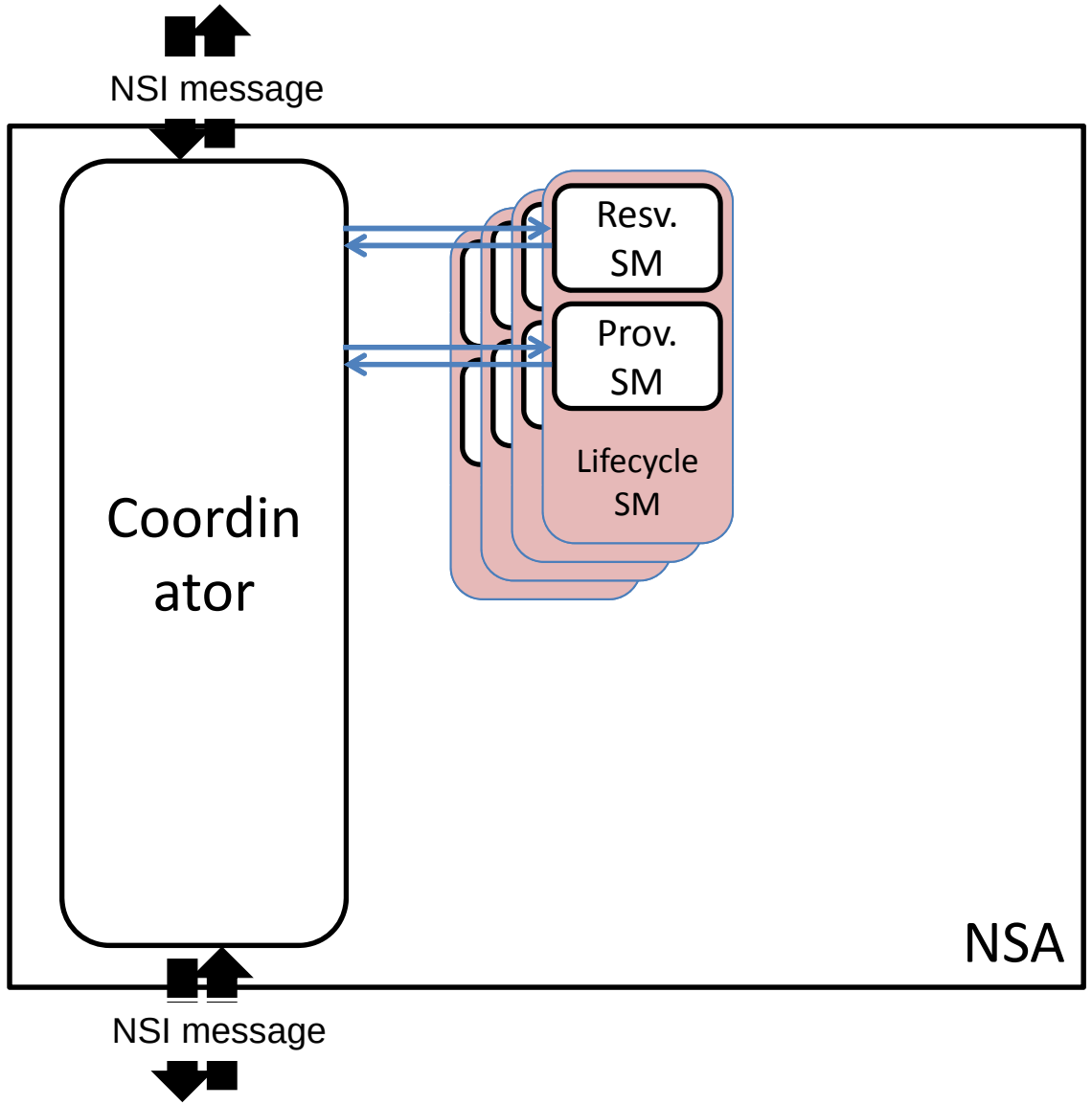


- uRA: Ultimate Requester Agent
- AG: Aggregator
- uPA: Ultimate Provider Agent
- NRM: Network Resource Manager

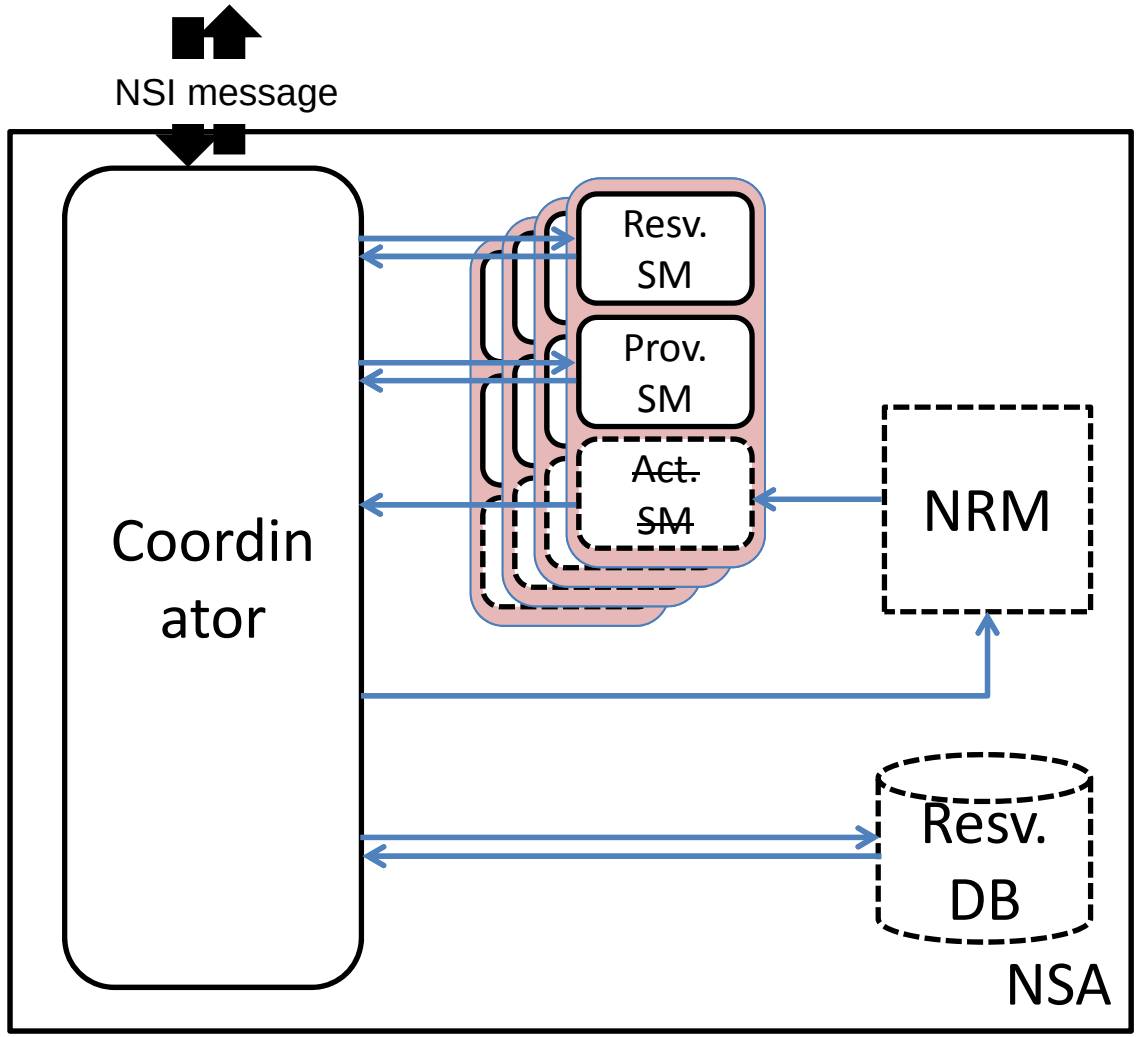
State Machines and Coordinator

- Behavior of NSI CS protocol is modeled as state machines and coordinator
- State Machines:
  - RSM: Reservation State Machine
  - PSM: Provision State Machine
  - ~~ASM: Activation State Machine~~
  - LSM: Lifecycle State Machine
- Aggregator:
  - can talk to upstream and downstream NSAs
  - Has RSM, PSM and LSM
- uPA
  - Can talk to upstream NSAs only
  - Has RSM, PSM, ~~ASM~~ and LSM

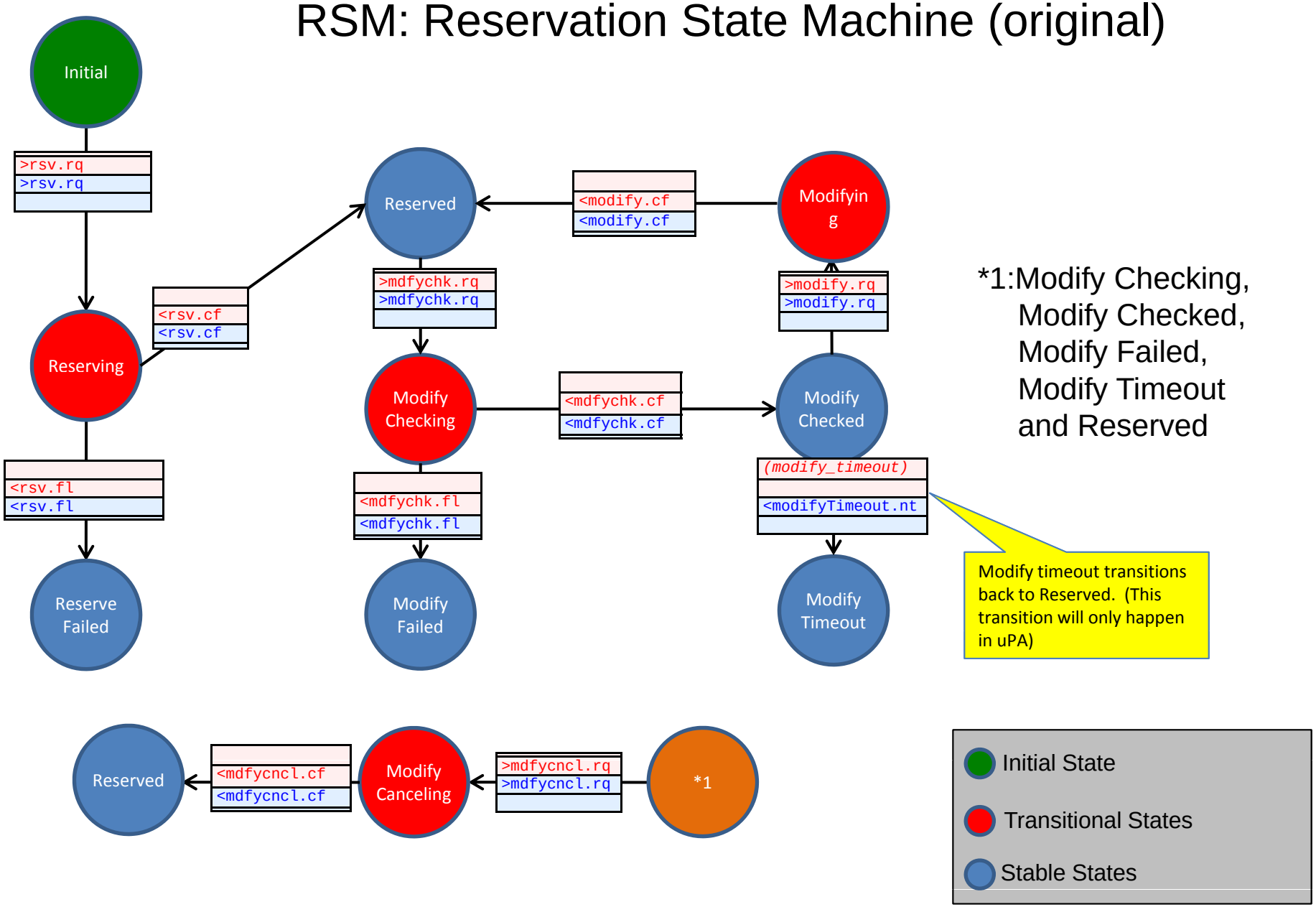
Aggregator


NSI message
Coordin
ator
Resv.
SM
Prov.
SM
Lifecycle
SM
NSA
NSI message

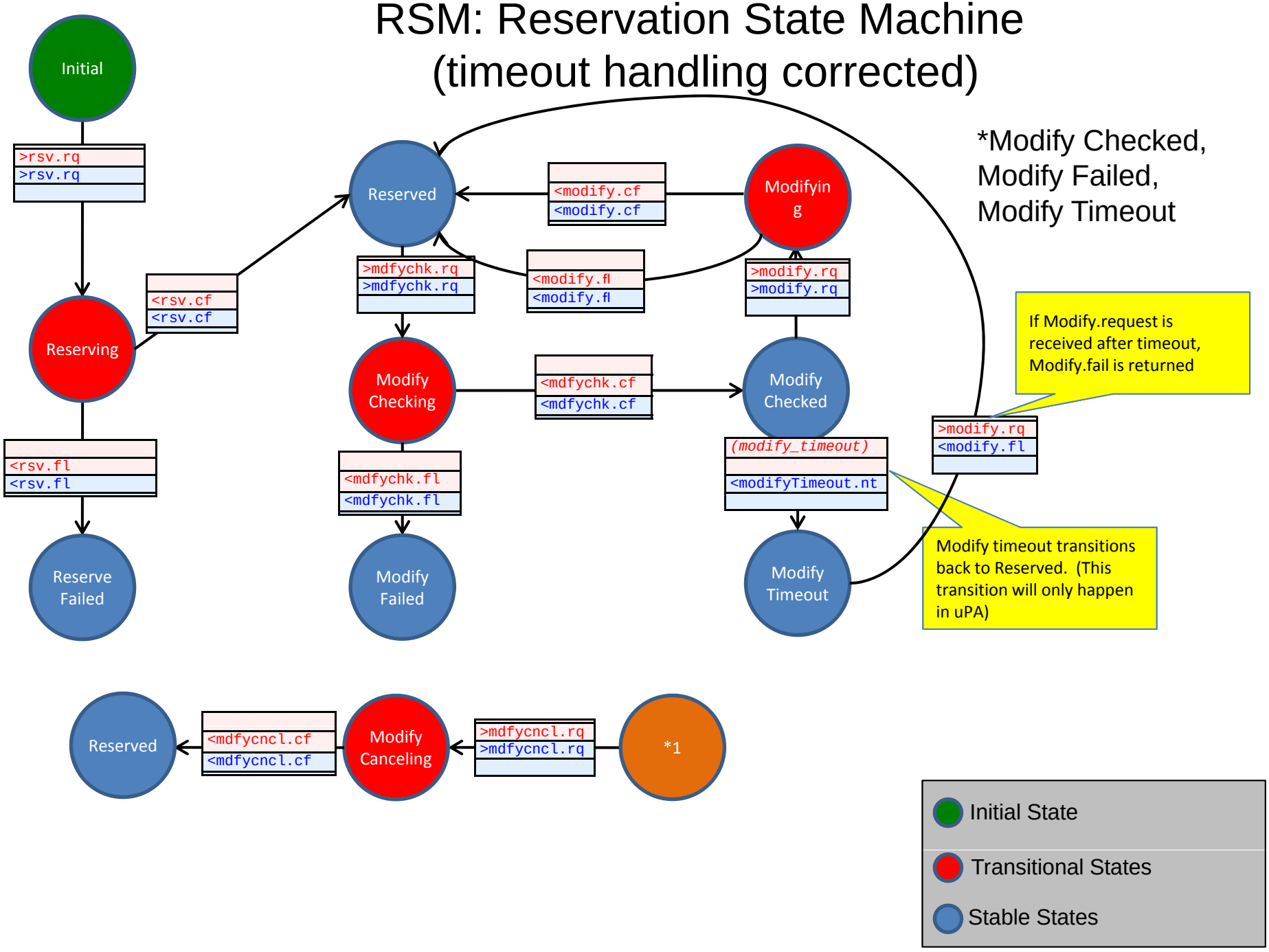
uPA


NSI message
Coordin
ator
Resv.
SM
Prov.
SM
Act.
SM
NRM
Resv.
DB
NSA

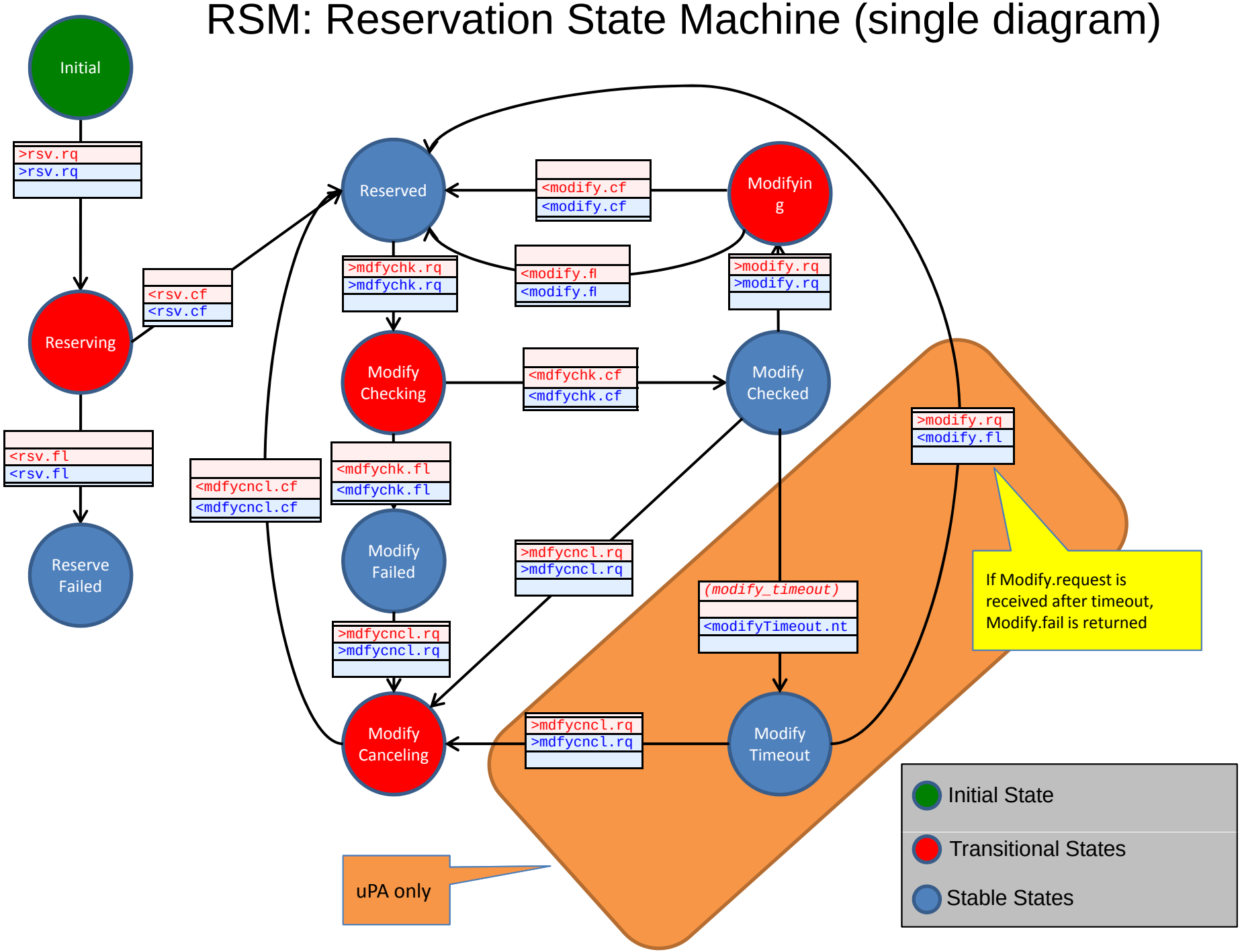
RSM: Reservation State Machine (original)



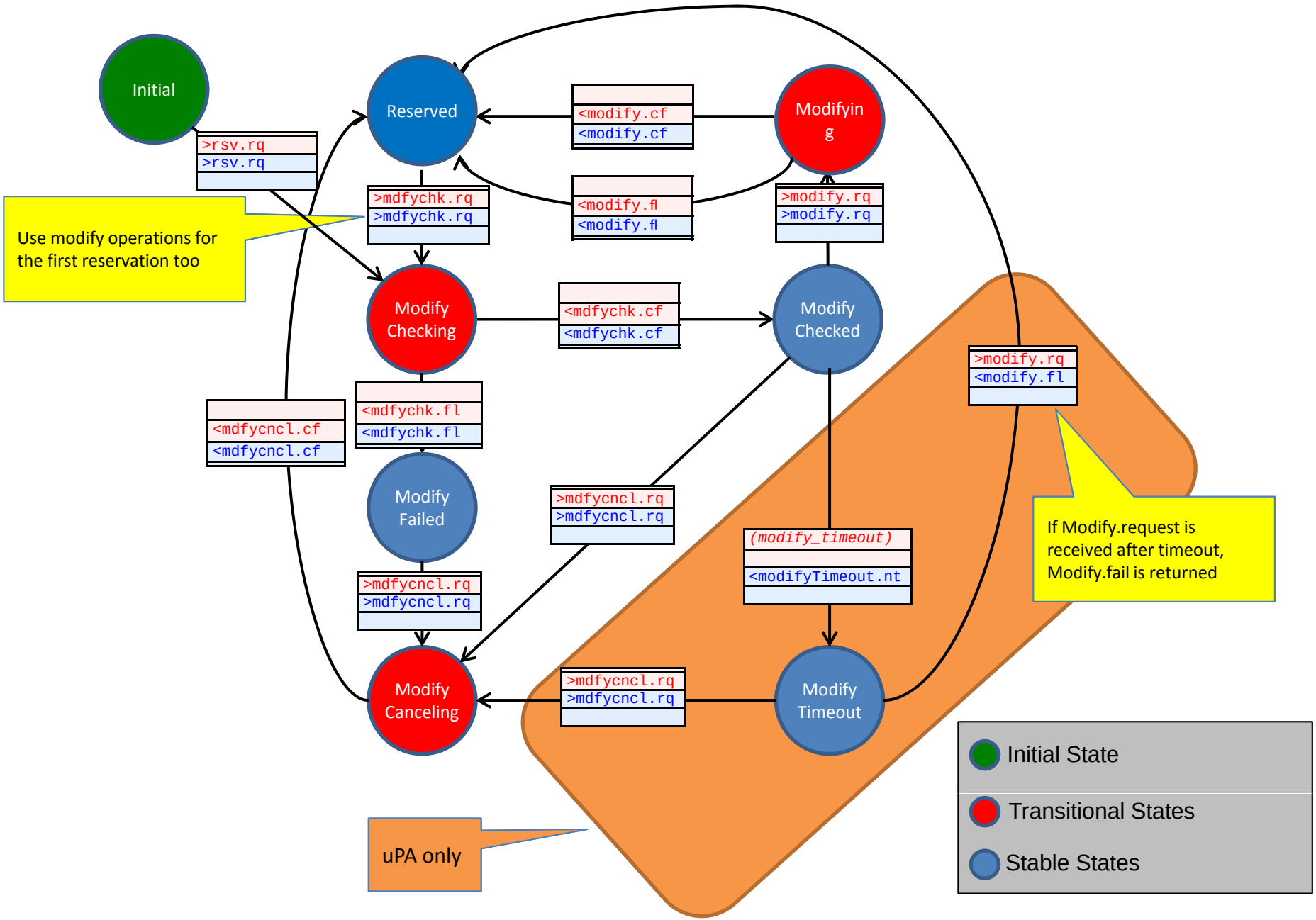
RSM: Reservation State Machine (timeout handling corrected)



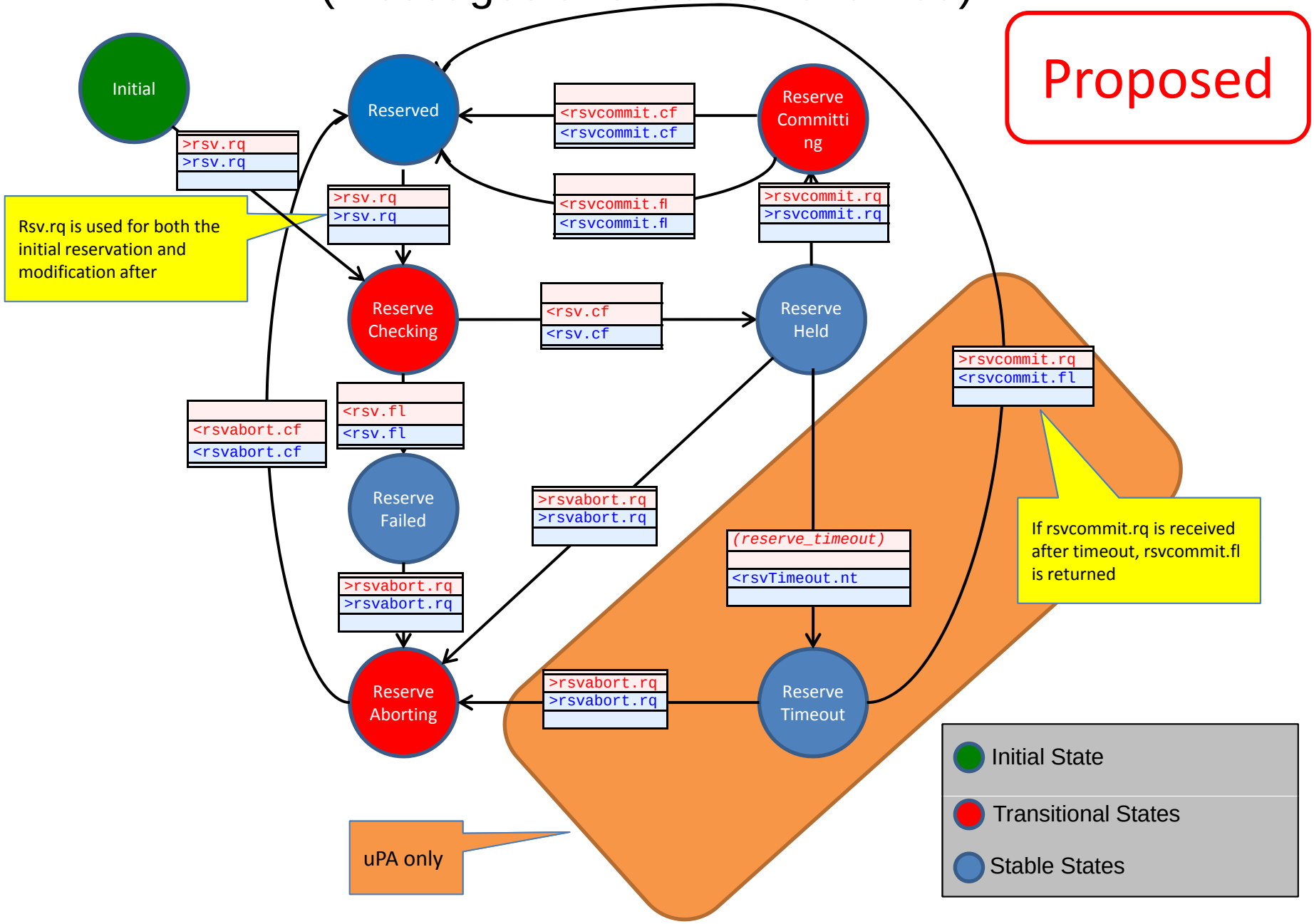
RSM: Reservation State Machine (single diagram)



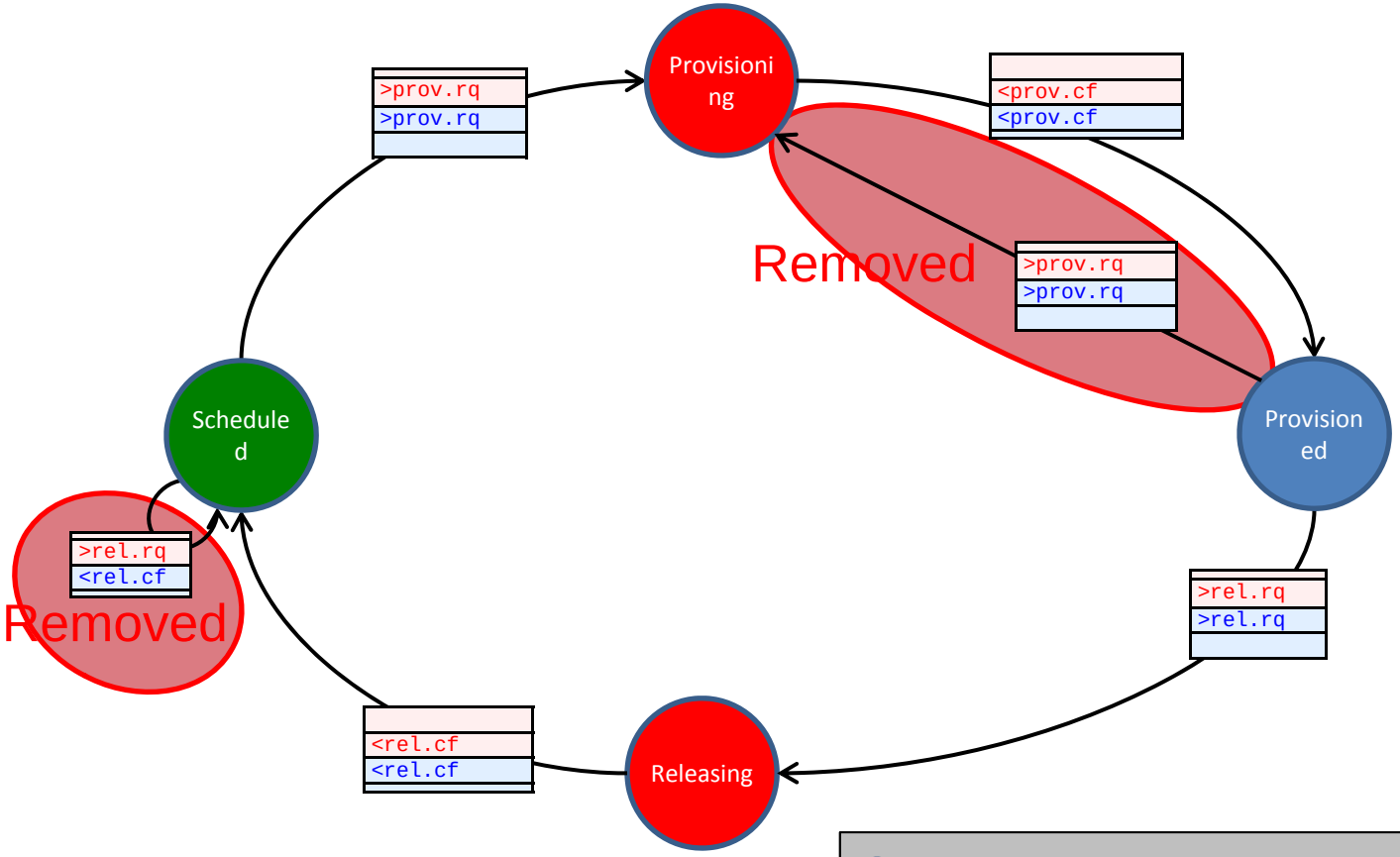
RSM: Reservation State Machine (2-phase reservation)



RSM: Reservation State Machine (messages and states renamed)

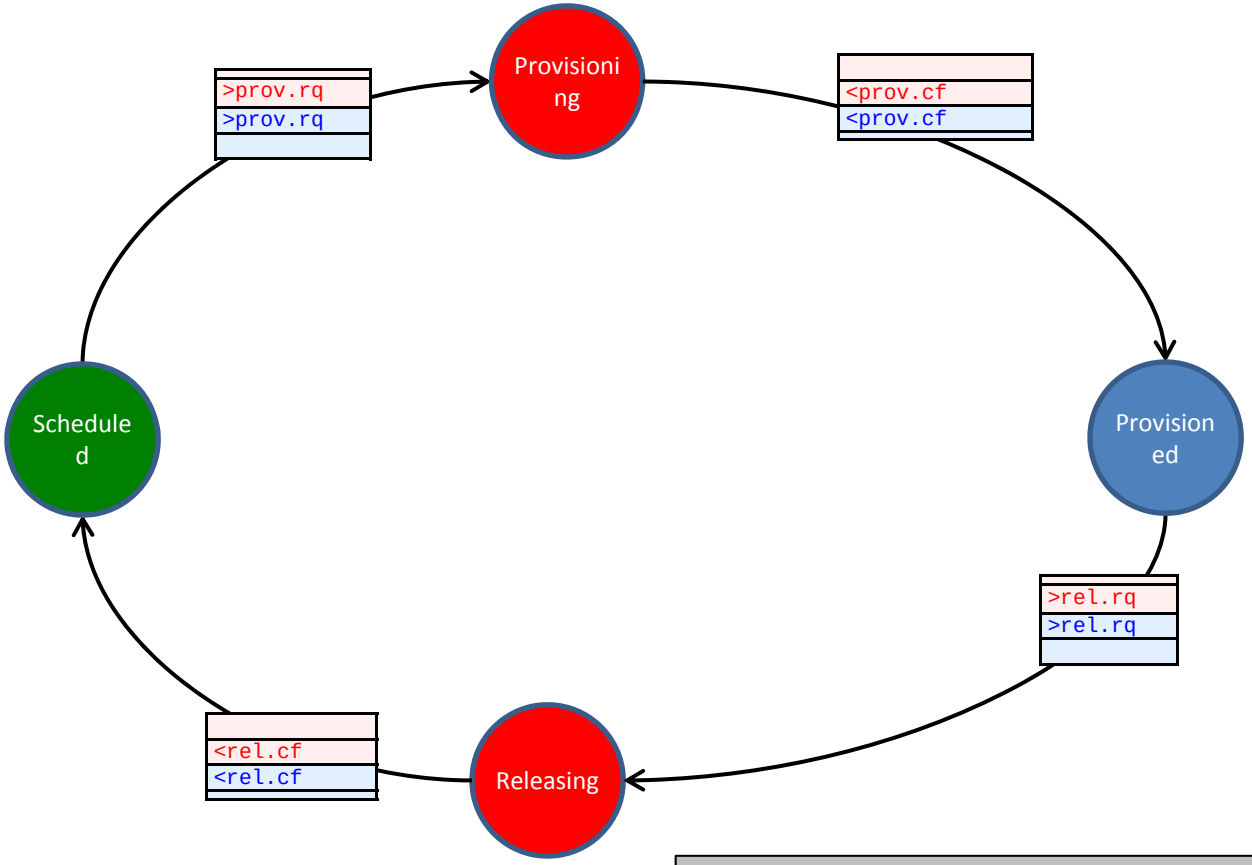


PSM : Provision State Machine



PSM : Provision State Machine

Proposed



LSM : Lifecycle State Machine

Proposed