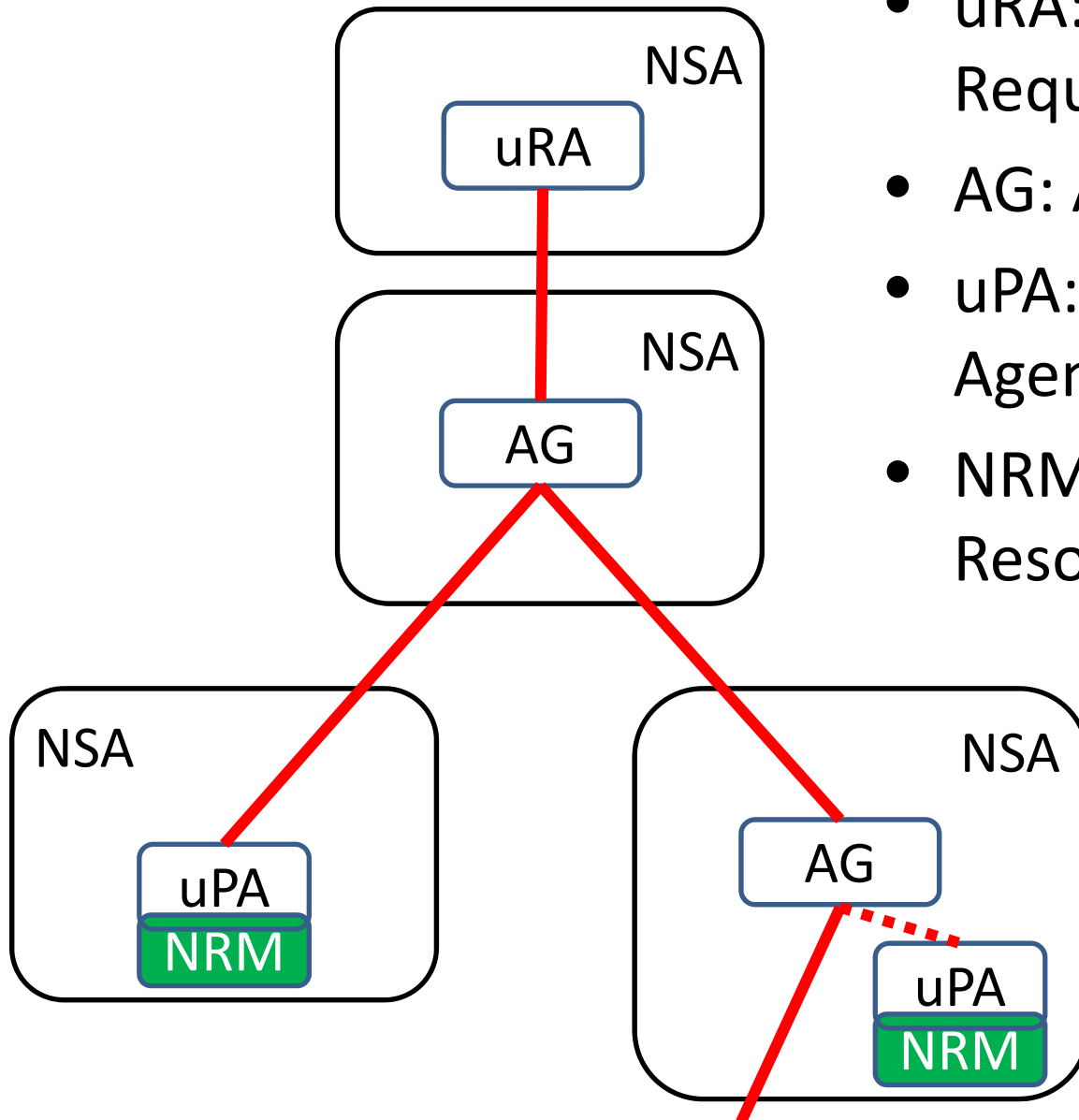


# NSI CS Protocol State Machines

Mar. 11, 2013 @ OGF37 Charlottesville

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# NSA: uRA, Aggregator and uPA

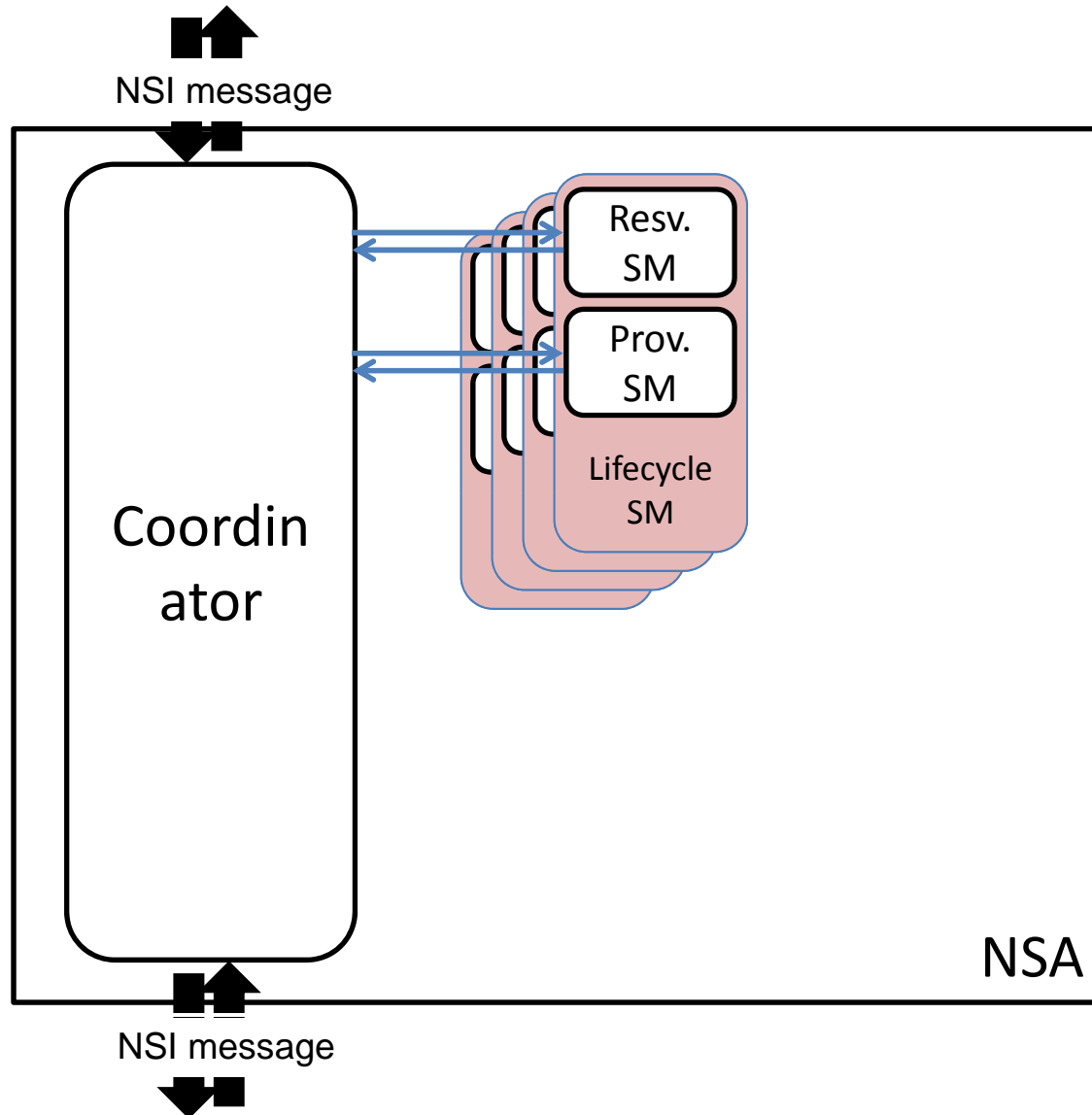


- uRA: Ultimate Requester Agent
- AG: Aggregator
- uPA: Ultimate Provider Agent
- NRM: Network Resource Manager

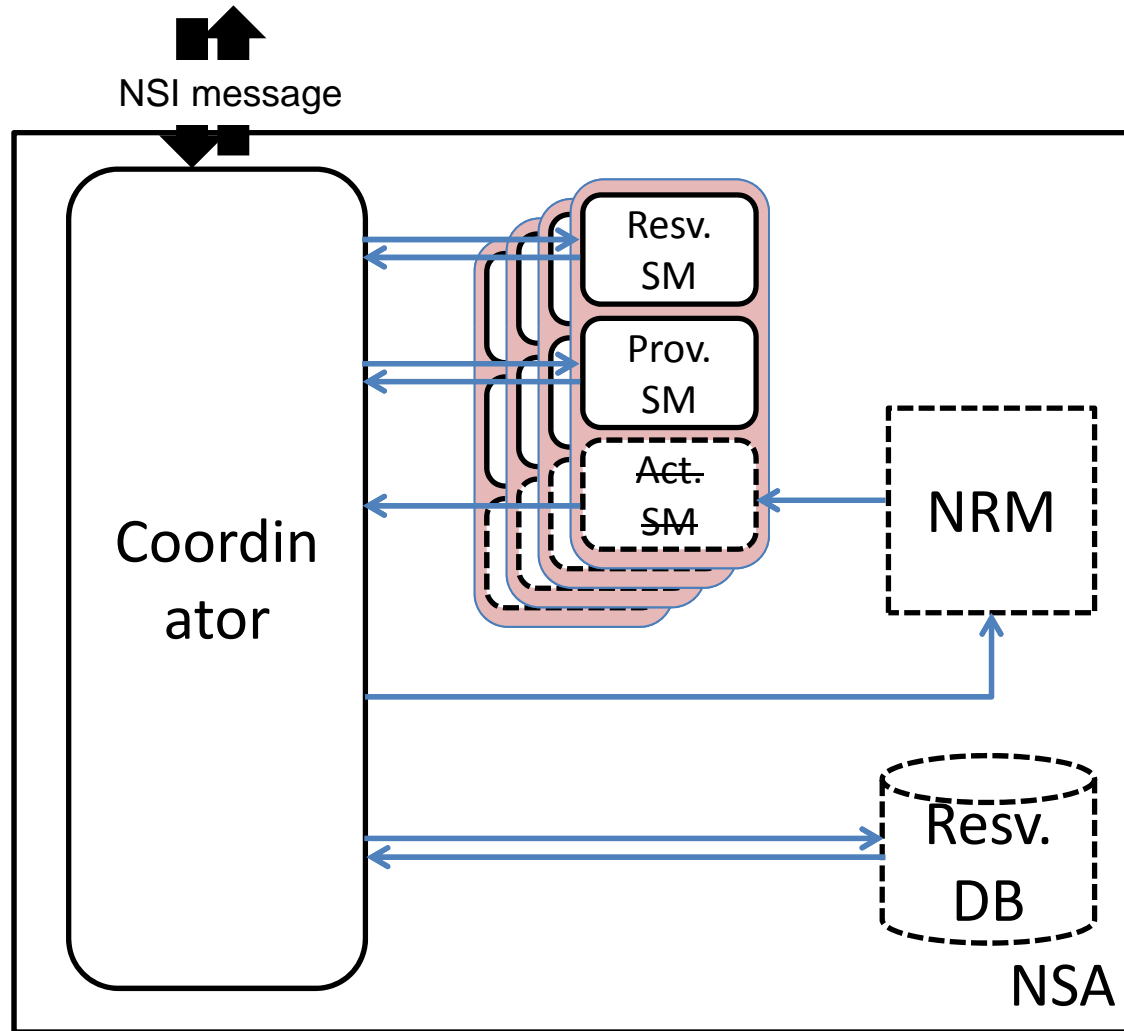
# State Machines and Coordinator

- 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

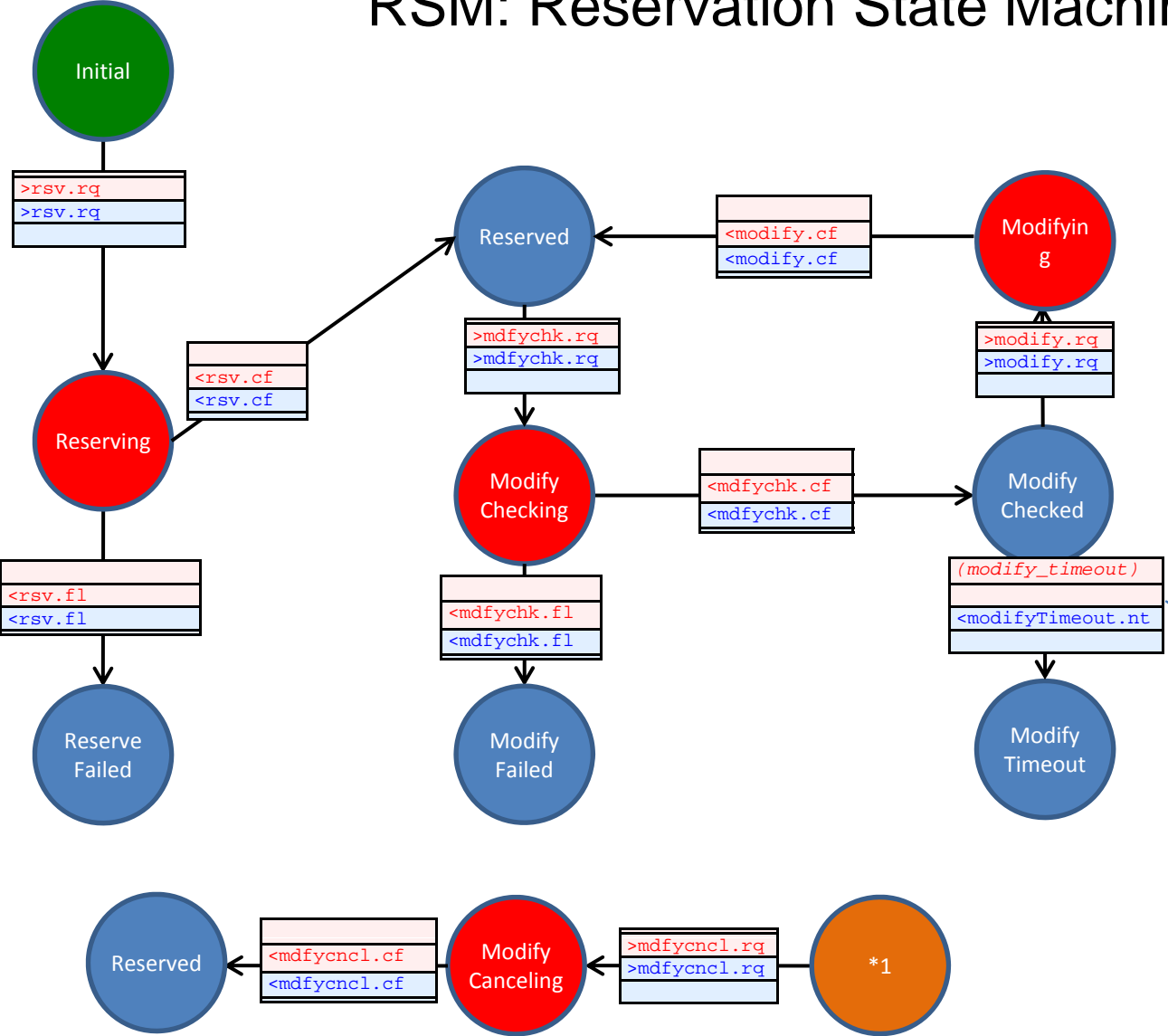
# Aggregator



# uPA



# RSM: Reservation State Machine (original)

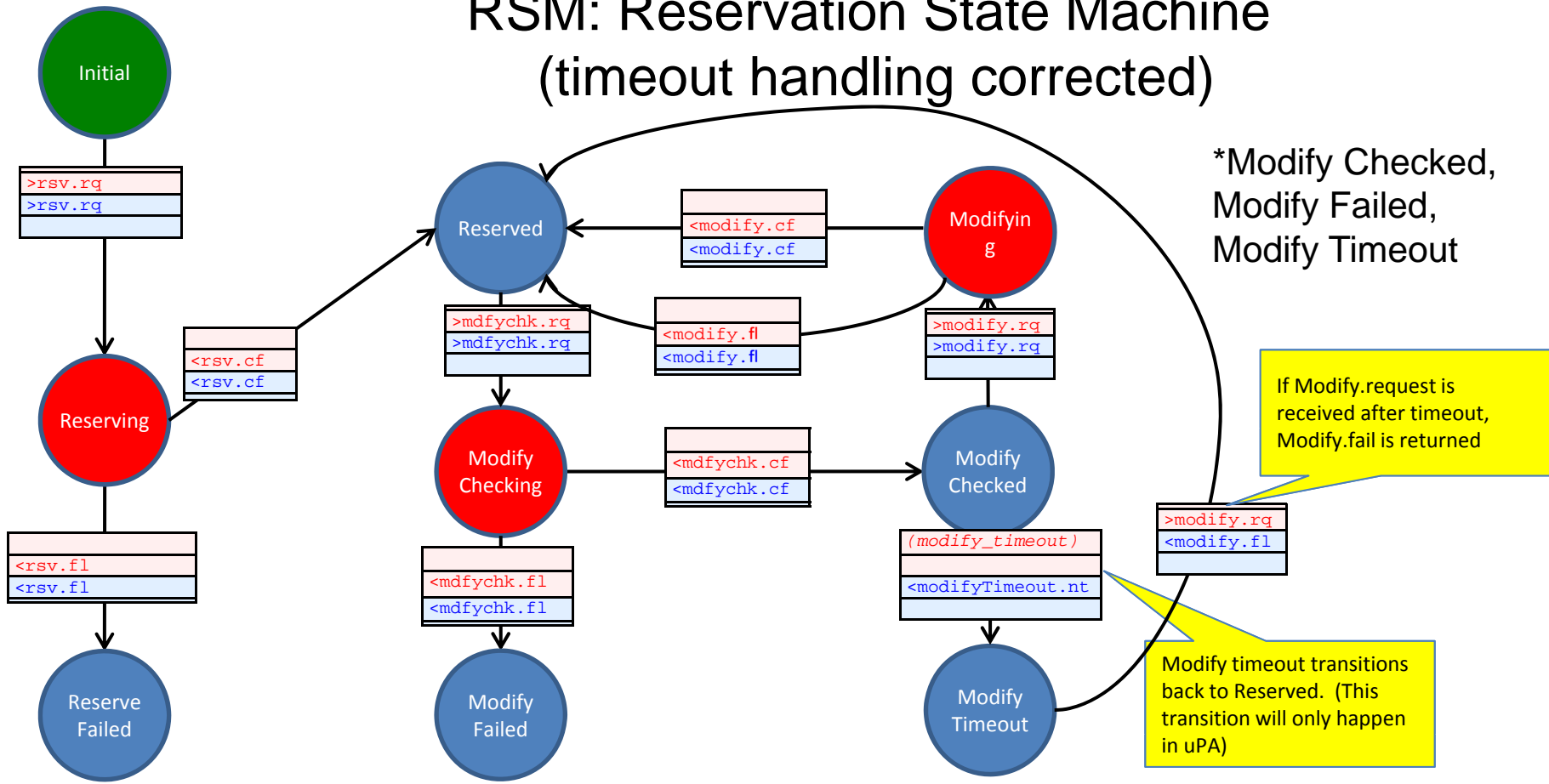


\*1:Modify Checking,  
Modify Checked,  
Modify Failed,  
Modify Timeout  
and Reserved

Modify timeout transitions  
back to Reserved. (This  
transition will only happen  
in uPA)

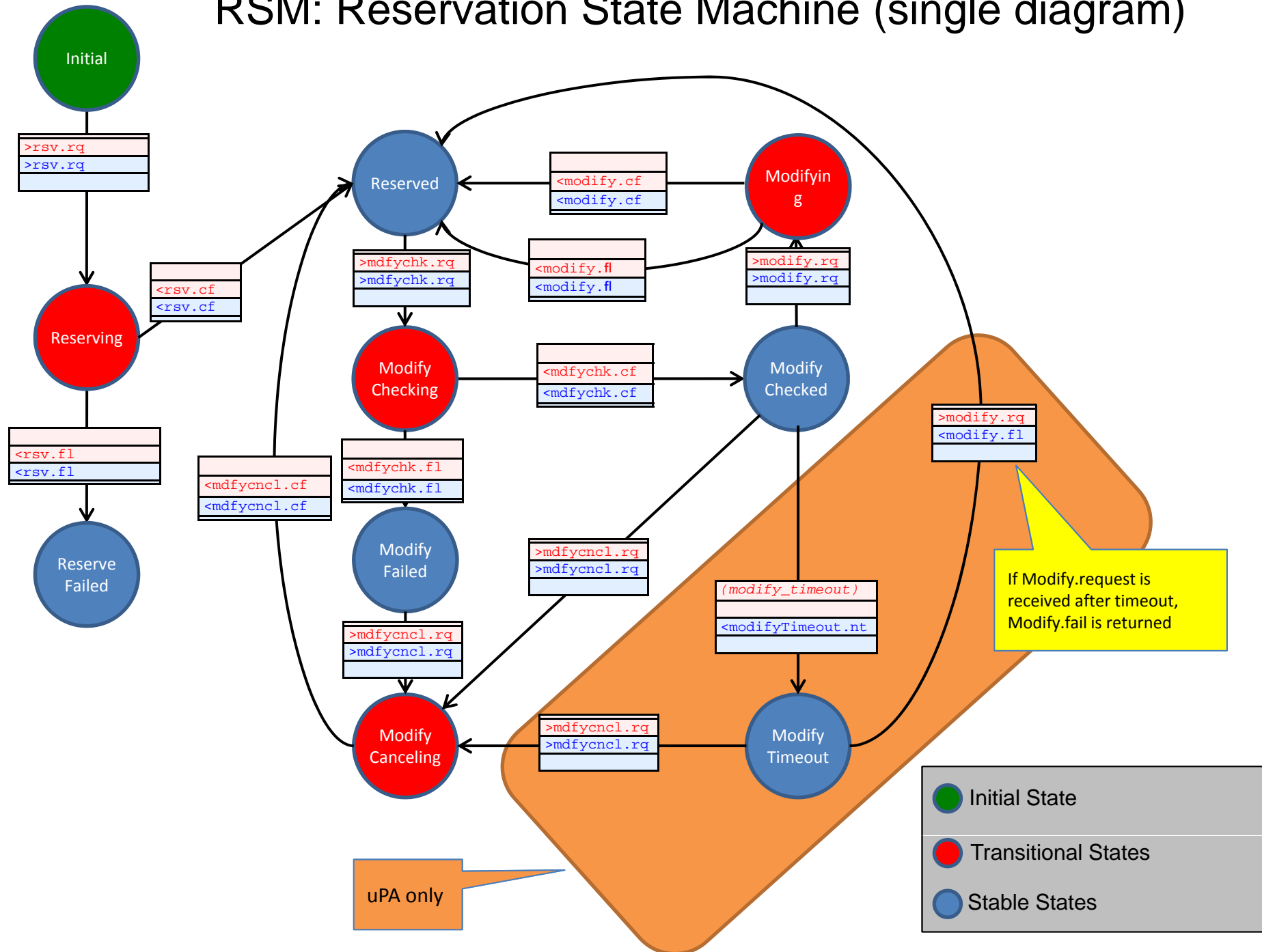
- Initial State
- Transitional States
- Stable States

# RSM: Reservation State Machine (timeout handling corrected)



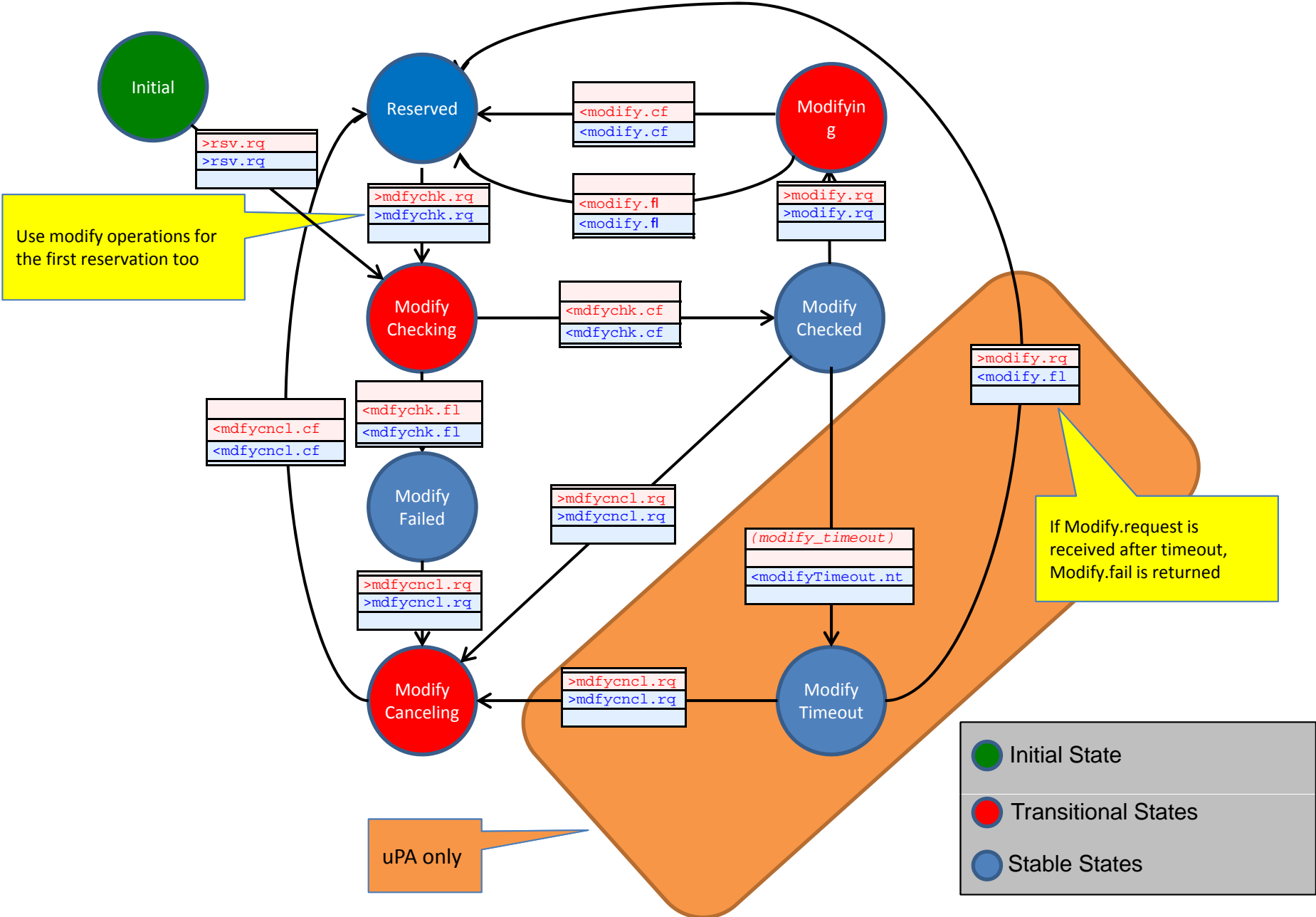
	Initial State
	Transitional States
	Stable States

# RSM: Reservation State Machine (single diagram)

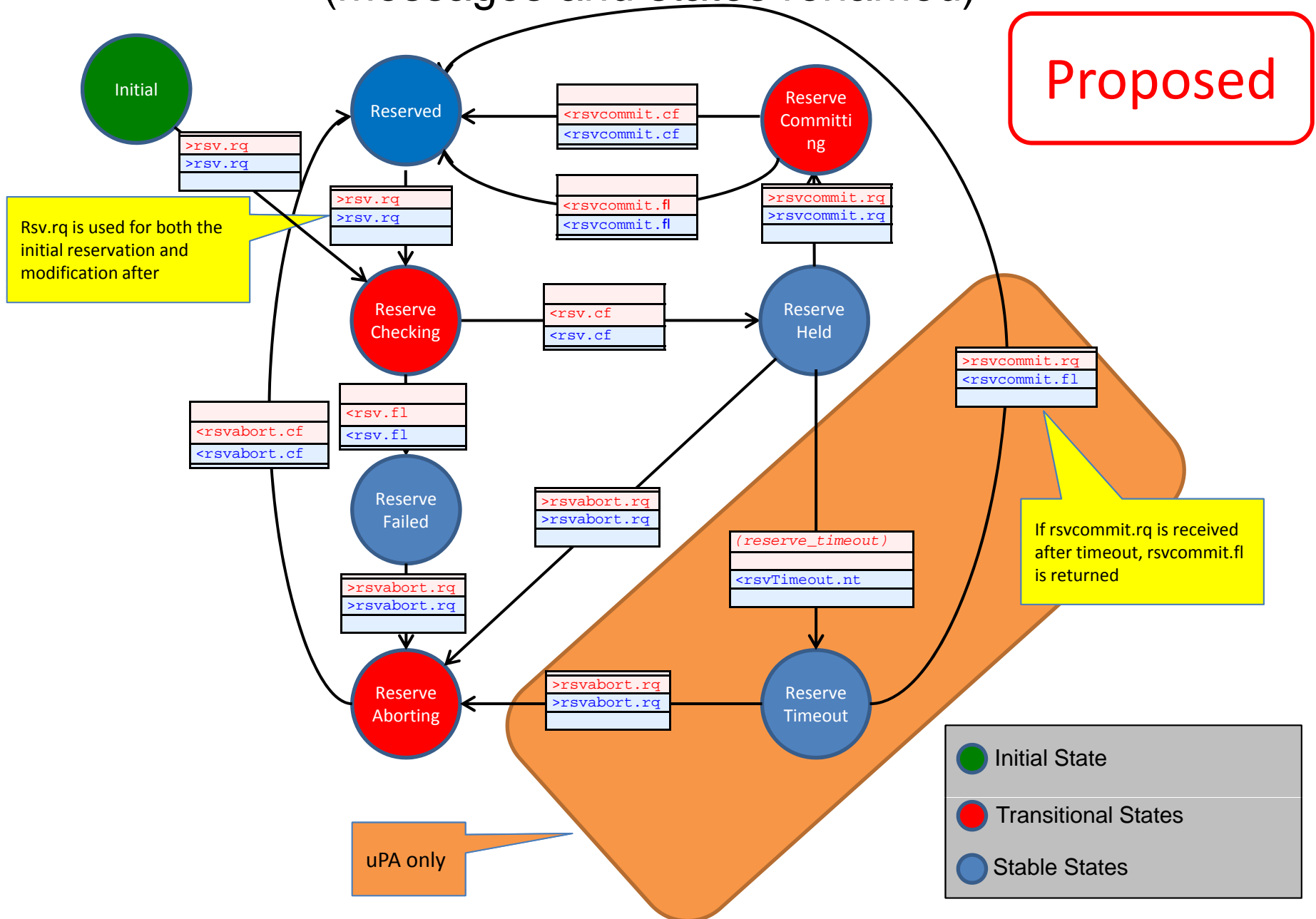




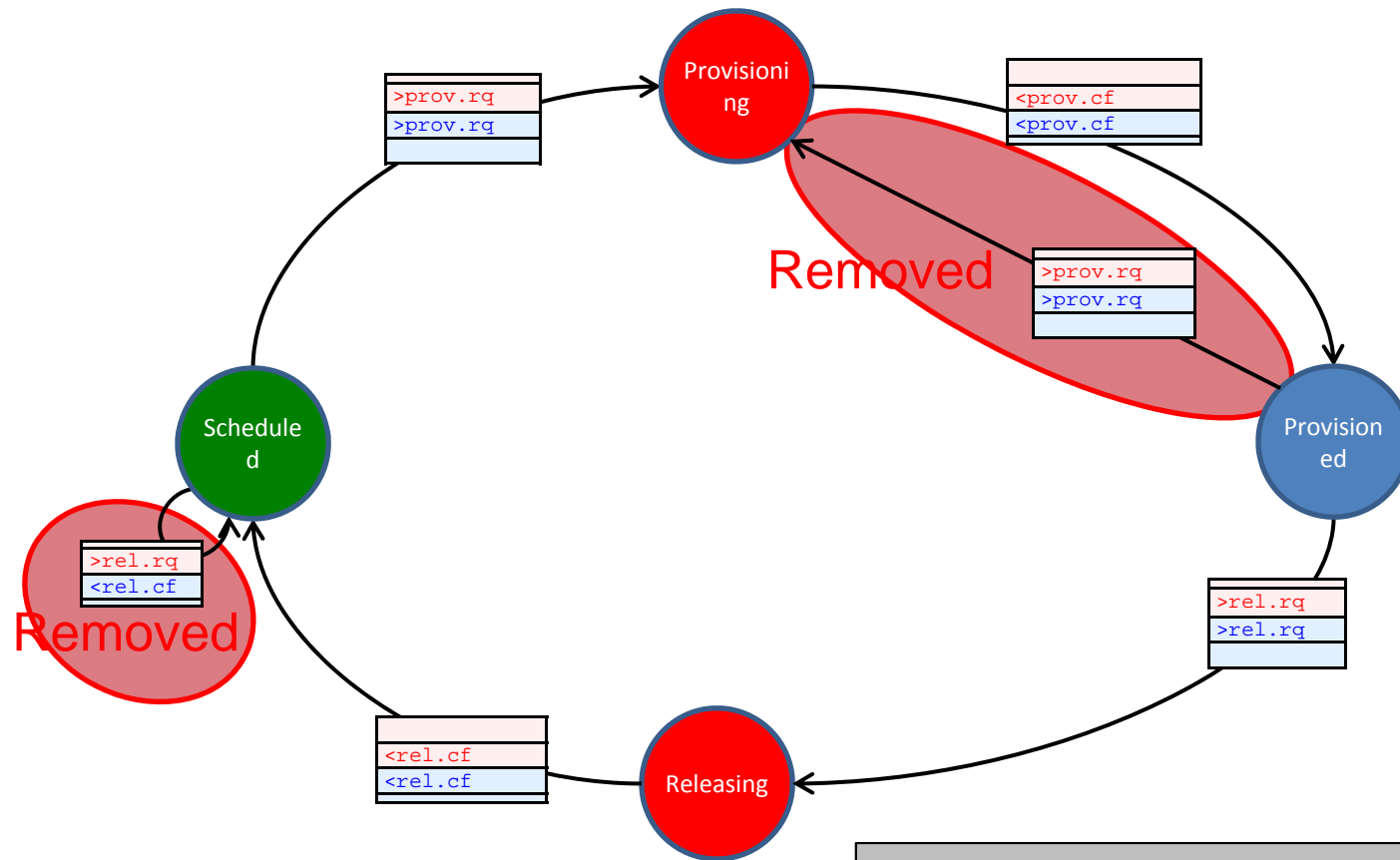
# RSM: Reservation State Machine (2-phase reservation)



# RSM: Reservation State Machine (messages and states renamed)



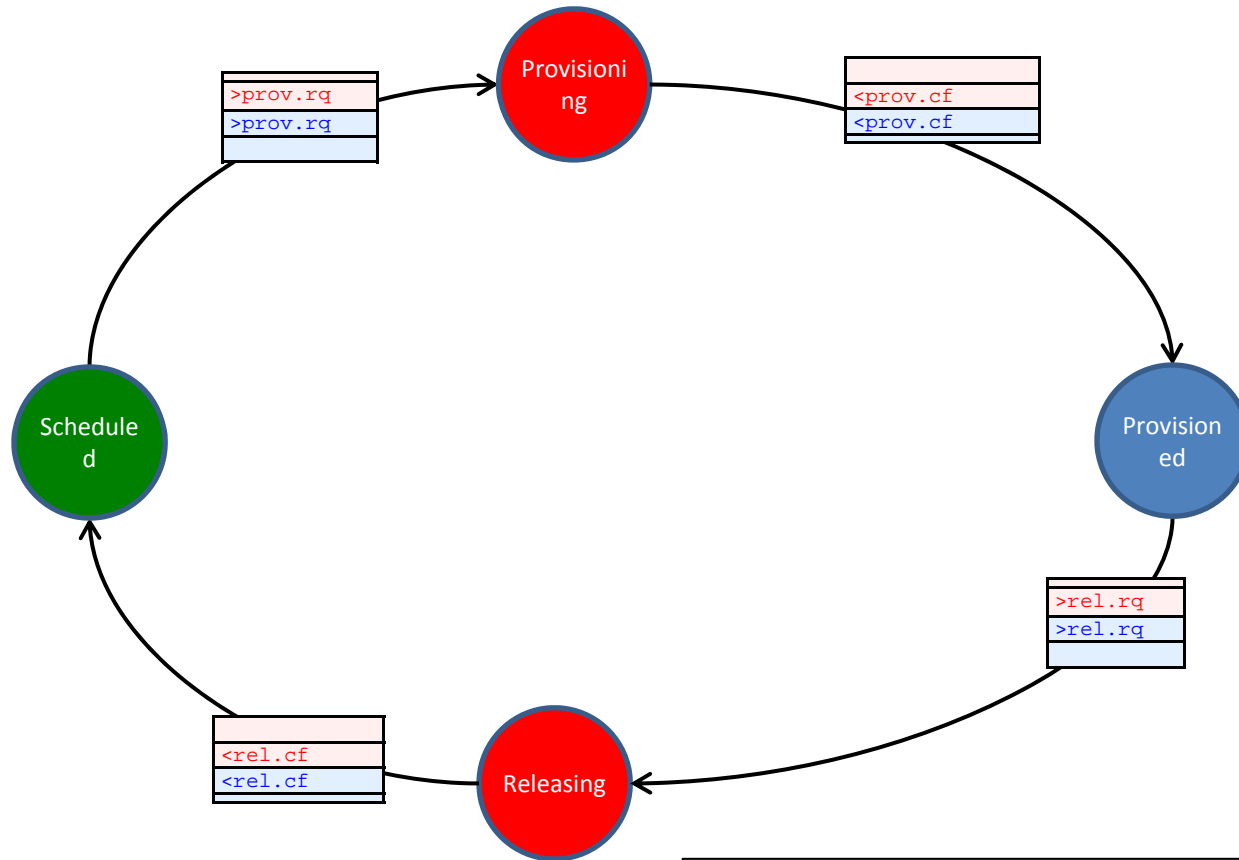
# PSM : Provision State Machine



- Initial State
- Transitional States  
*NB: Requests\* received in this state is queued and processed only when it transitions to a Stable State. \*NB: Exceptions are term.rq and unexpected messages (e.g. illegal sequence)*
- Stable States
- Final State

# PSM : Provision State Machine

Proposed



# LSM : Lifecycle State Machine

Proposed

