

# Asynchronous Gates

## P802.1Qci

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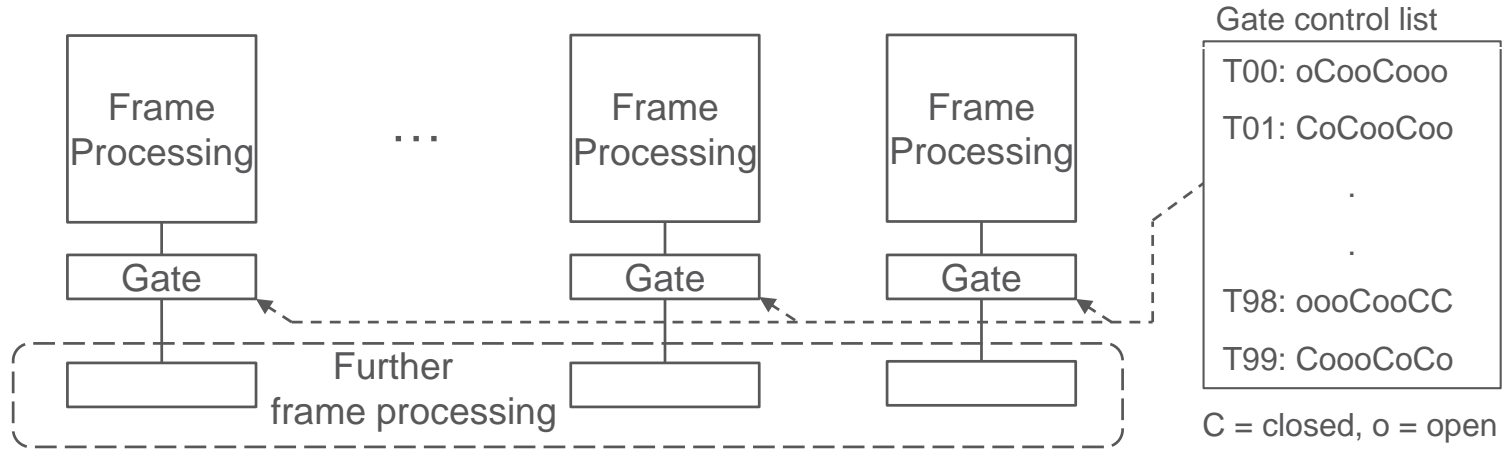
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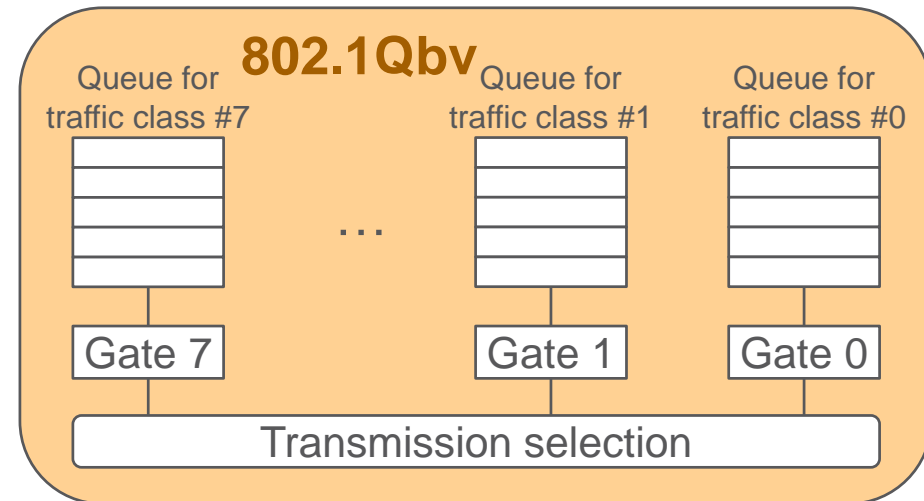
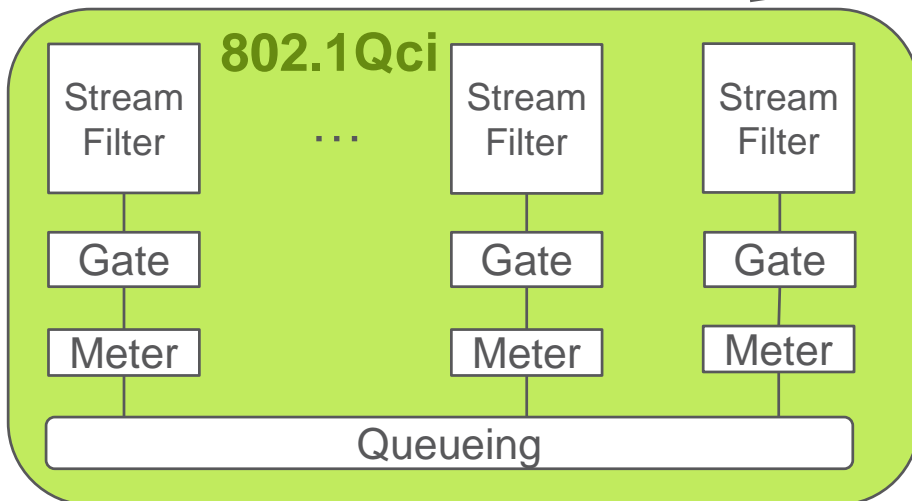
# Synchronous Gates in 802.1Q Today



**General**



**Synchronous gate control**

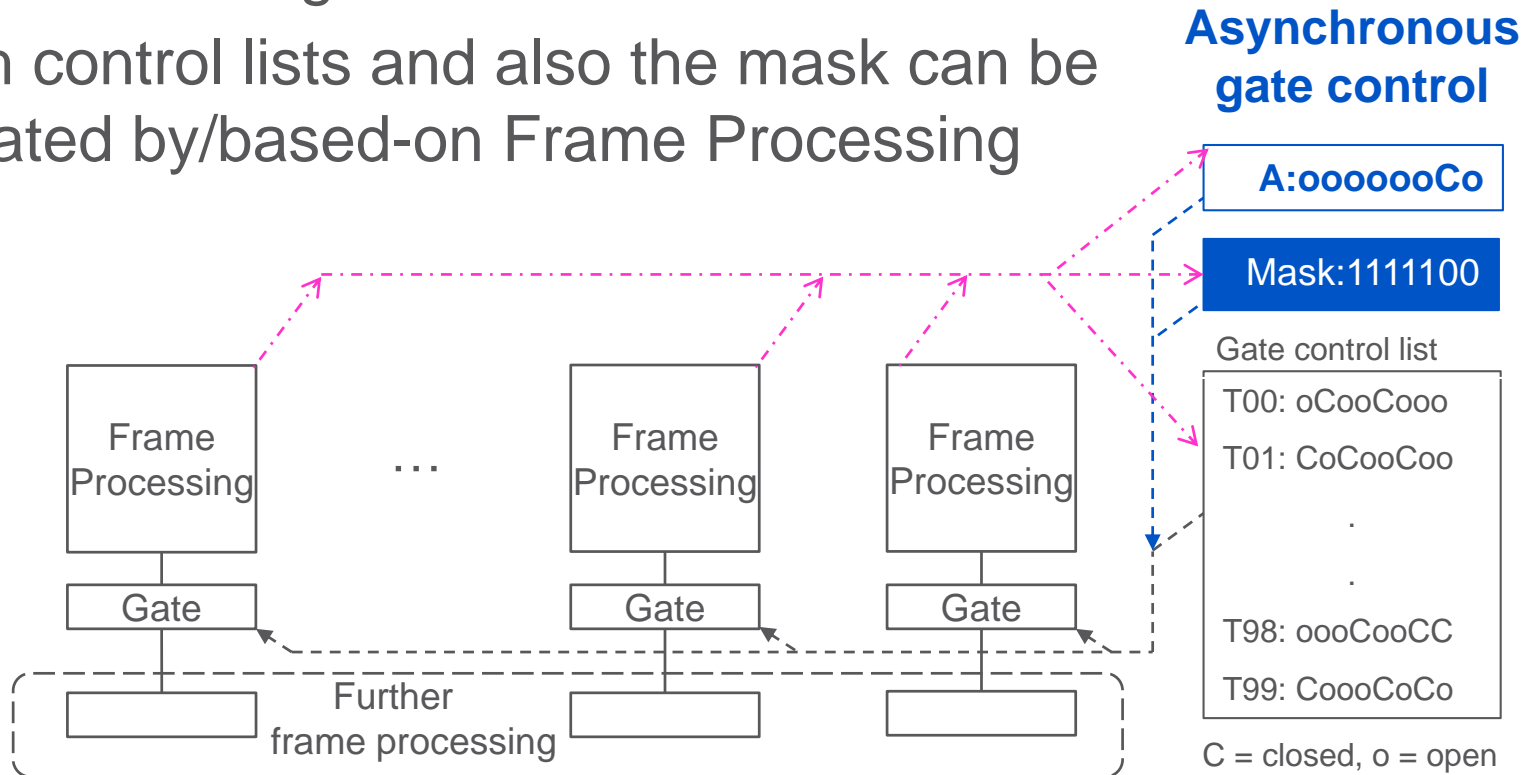


# Adding Asynchronous Gate Control



- › Time-based gate control list can be masked, and asynchronous gate control can take over
- › Both control lists and also the mask can be updated by/based-on Frame Processing

**General**



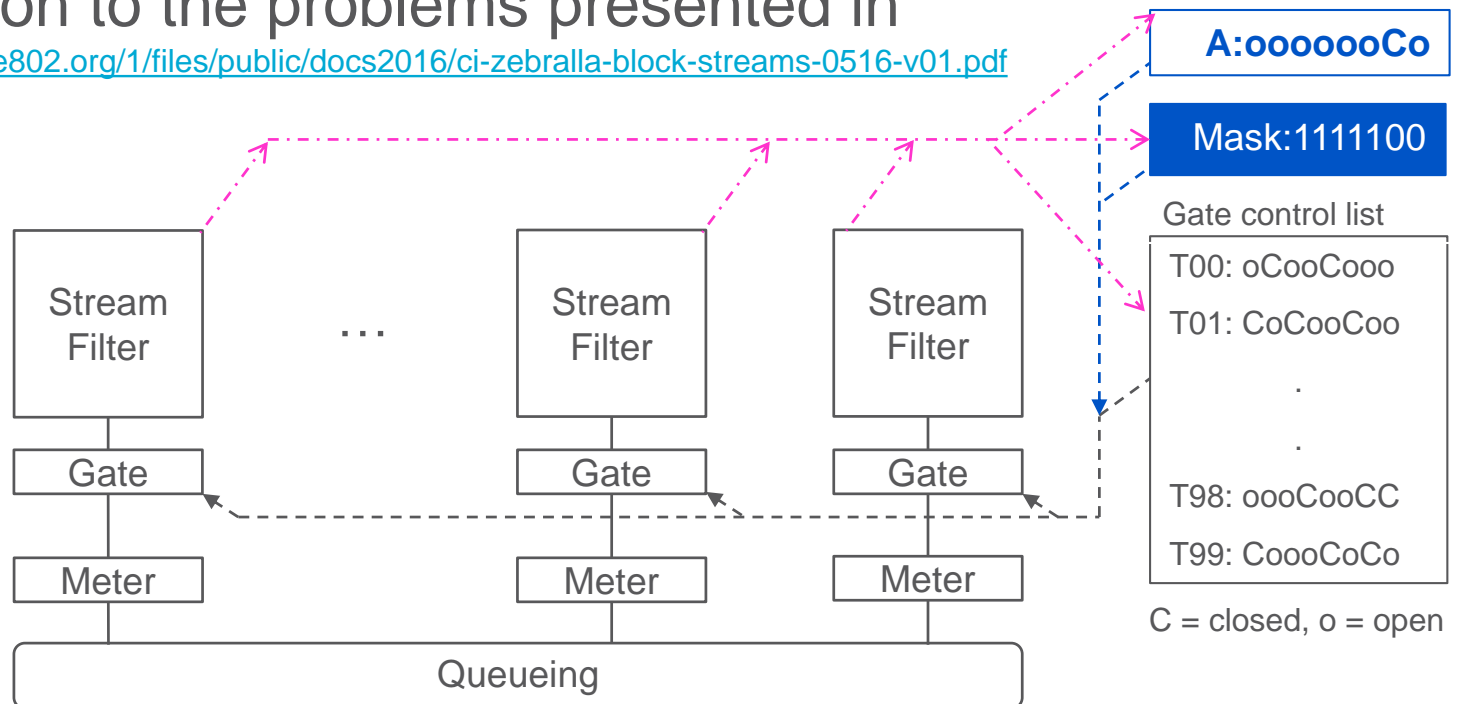
# Use Case 1 – Block Misbehaving Stream



- › A Stream Filter detecting misbehaving stream can mask the time-based gate control and set the gate Closed in the asynchronous gate control

- › A solution to the problems presented in

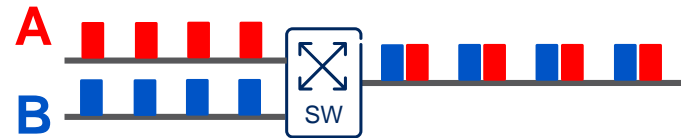
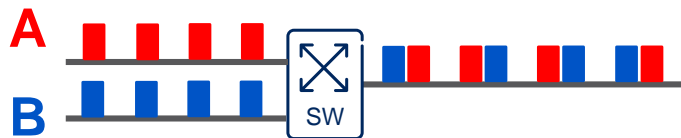
<http://www.ieee802.org/1/files/public/docs2016/ci-zebralla-block-streams-0516-v01.pdf>



# Use Case 2 – Goal: Assured Frame Order



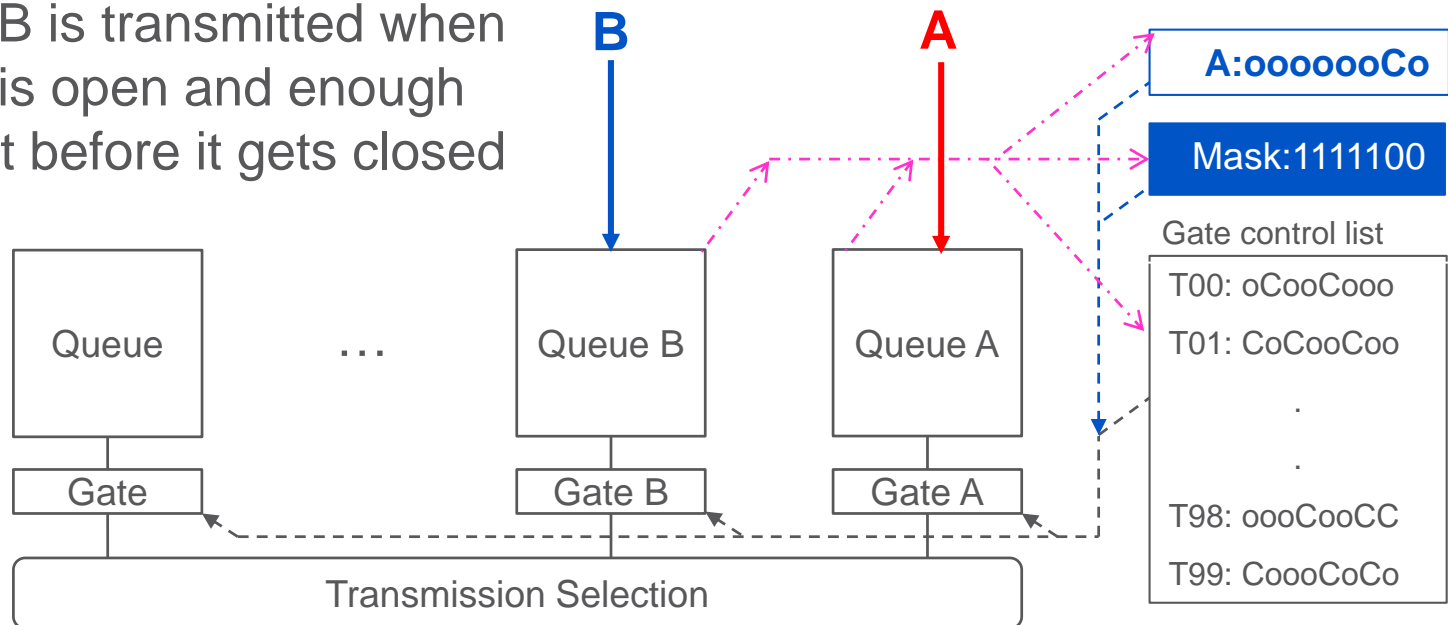
- › Frame of flow **A** and flow **B** arrive more or less the same time
- › If we do not do anything, then the transmission order is not deterministic → delay variation
- › **Assured frame transmission order is desired, e.g., to decrease delay variation**



# Use Case 2 – Implementation



- › Arrival/transmission of frame A (queue A) controls gate B (gate A is always open)
- › Flow A is CBR, flow B is arbitrary (can be CBR as well)
- › When frame A arrives and gets transmitted, gate B gets open and scheduled to be closed after Period minus Tolerance time
  - Can be made periodic based on local clock
- › Frame B is transmitted when gate B is open and enough time left before it gets closed



# Proposal



- › Add support for asynchronous gate control