P802.1Qcz Status

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July 2019

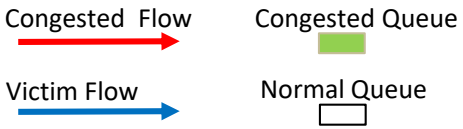
Agenda

- P802.1Qcz background and references
- Draft standard status and strategies
- Next steps

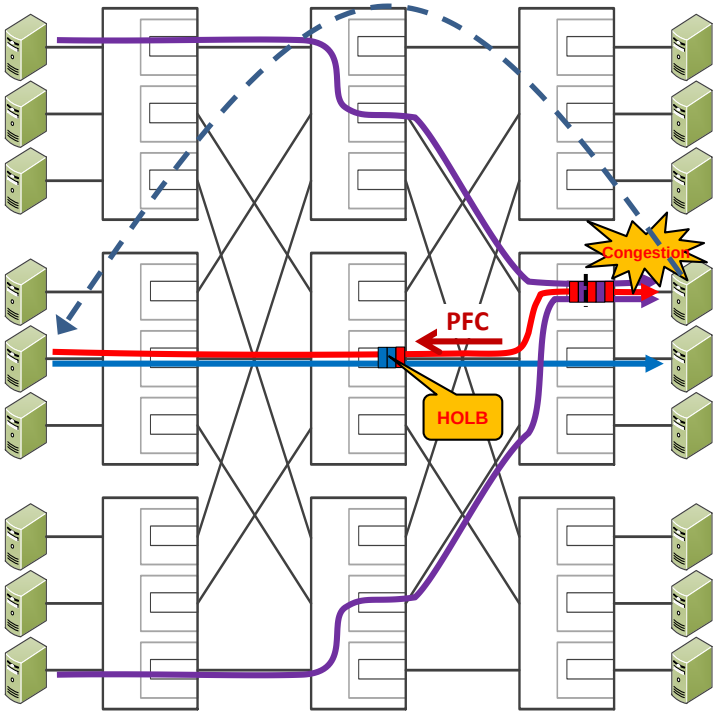
Short Summary

- Change summary since May meeting
  - Impact of Qcr restructuring – based on Qcr/D1.1
  - Reference diagram update
  - Forwarding process clause restructuring
- Editor's draft d0.2 posted to Qcz page
  - https://1.ieee802.org/tsn/802-1qcz/

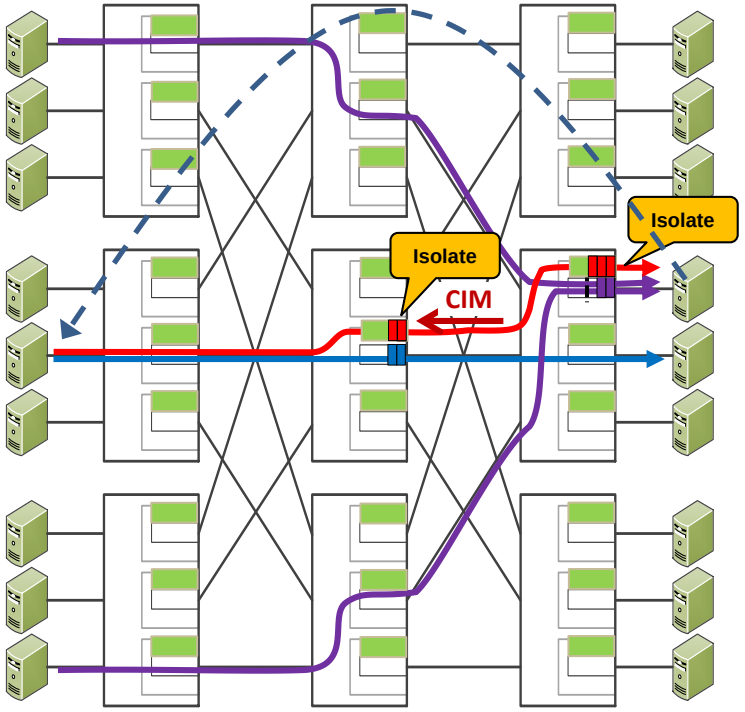
One Slide Congestion Isolation Refresh



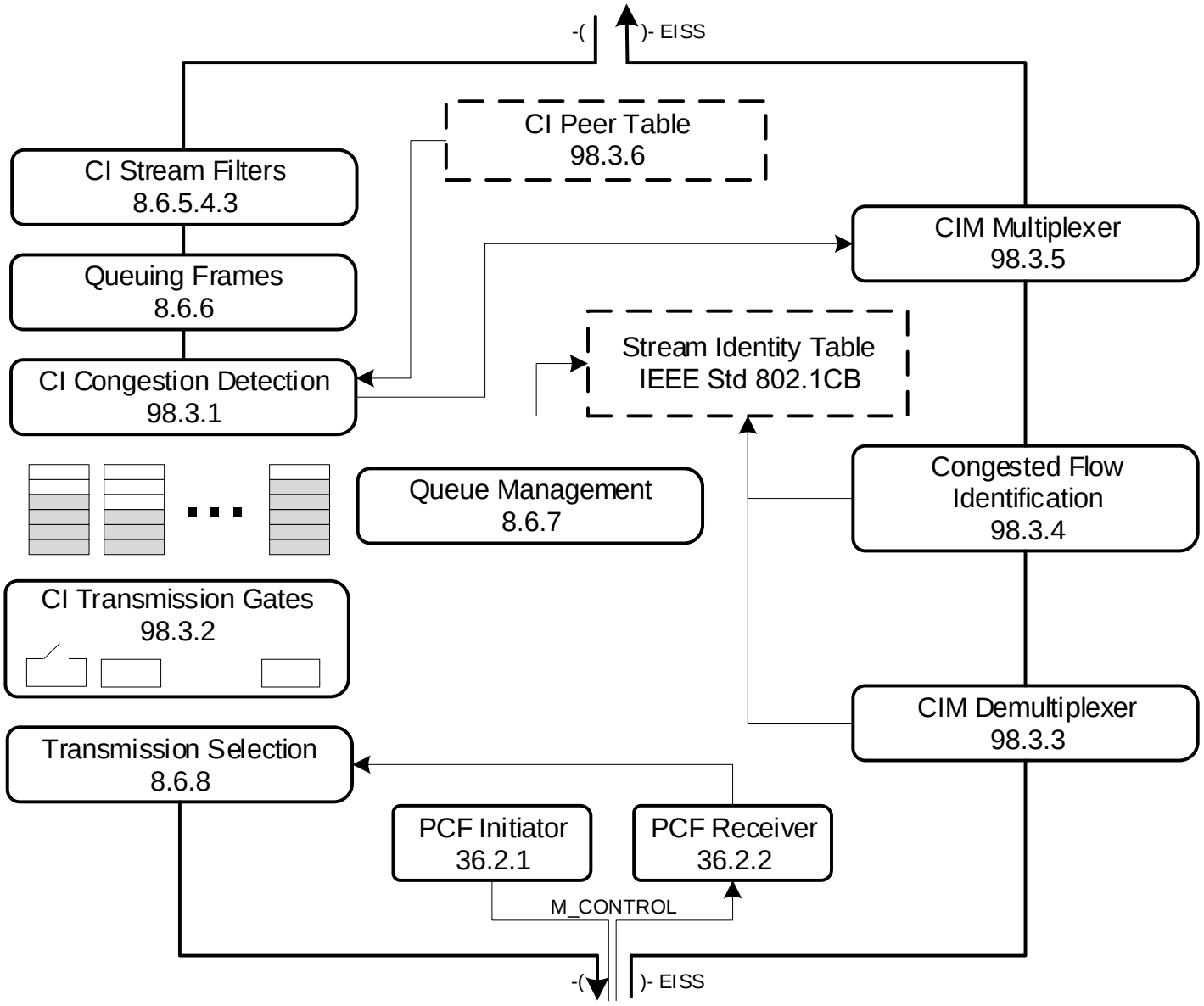
Today – Without Congestion Isolation



Congestion Isolation



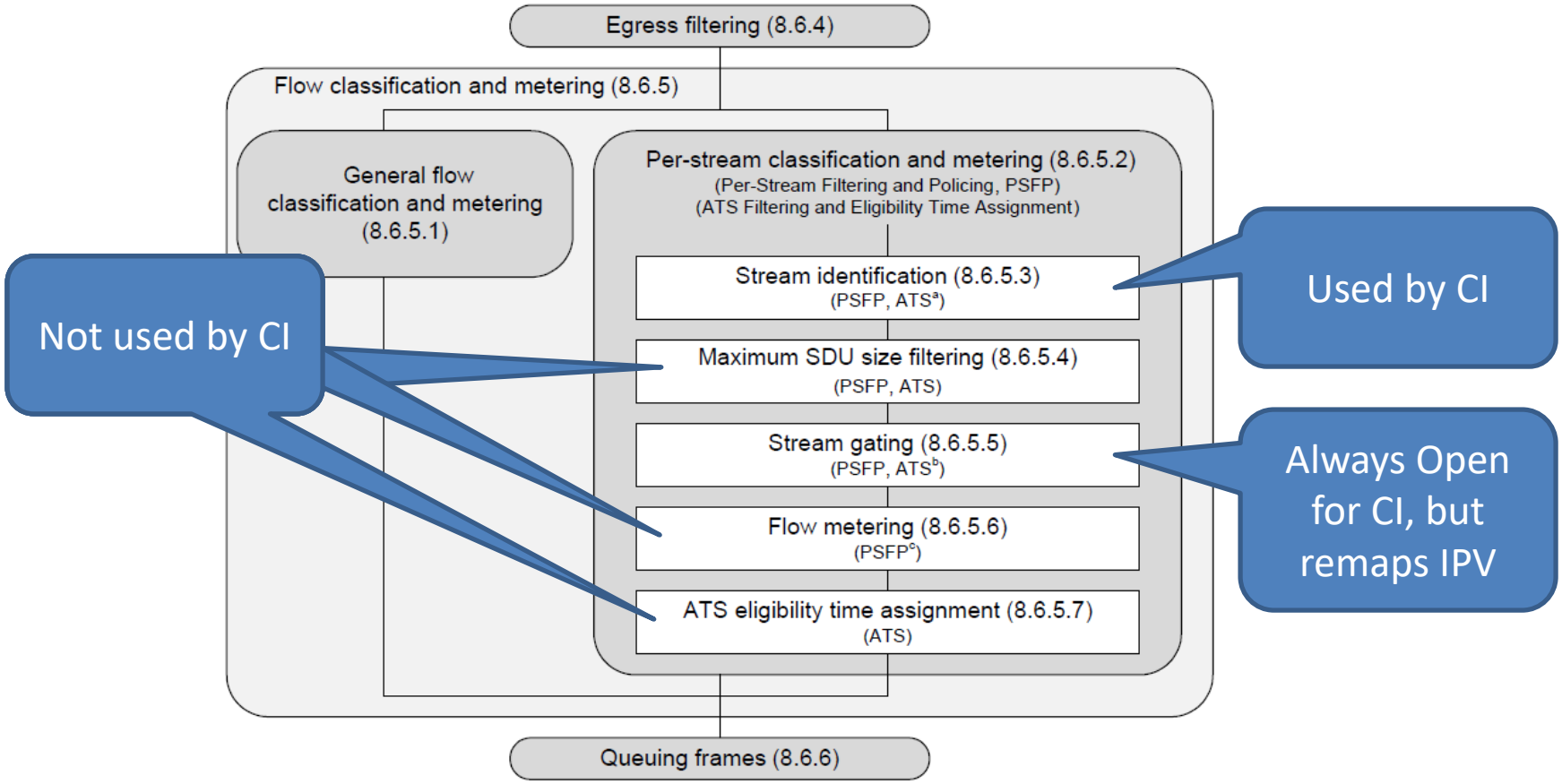
802.1Qcz Reference Diagram



Proposed changes aligned with Qcr

- Based on Mick Seaman proposal for Qcr 8.6.5 restructuring
  - http://www.ieee802.org/1/files/public/docs2019/cr-seaman-8-6-5-organization-0719-v02.pdf
- Use of per-stream filtering and metering elements:
  - 8.6.5 Flow classification and metering
    - Minor updates to figure 8-13 and text to include CI
    - 8.6.5.1 General flow classification
    - 8.6.5.2 Per-stream classification and metering
      - 8.6.5.2.2 PSFP support
      - 8.6.5.2.2 ATS support
      - 8.6.5.2.3 CI support - (new clause)
    - 8.6.5.3 Stream identification
    - 8.6.5.4 Maximum SDU Size Filters
    - 8.6.5.5 Stream gating
    - 8.6.5.6 Flow Meters
    - 8.6.5.7 ATS Schedulers
  - 8.6.6 Queuing frames
  - 8.6.10 Stream gate control state machines
    - NOTE: May need some text in here indicating that stream gates are always open for CI
  - 8.6.12 Congestion Isolation state machines – (possible new clause)
    - NOTE: Need to decide if such machines are needed for maintaining order between queues
    - Prefer to put this in clause 98 for CI specifically.

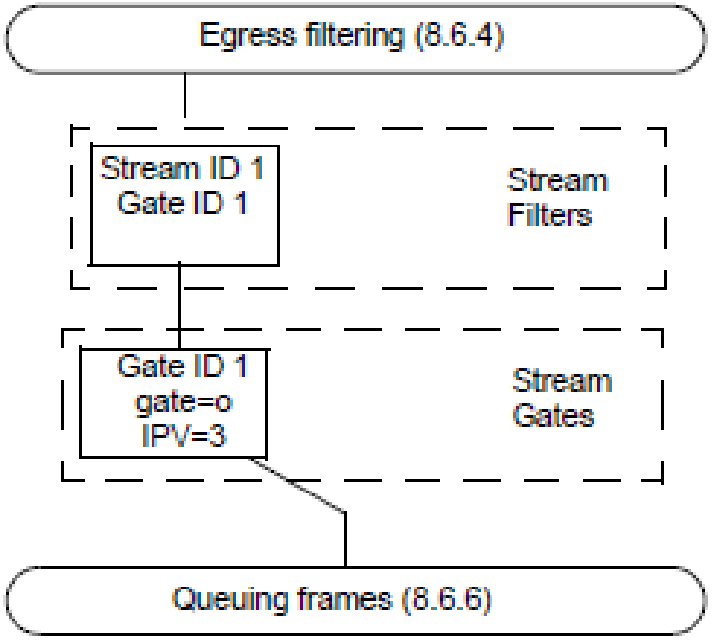
Qcr Diagram Relevance



[a]Identifies the stream and the processing (PSFP, ATS, both, or neither) applied to each frame.
[b]Can determine internal frame processing priority, and can (separately) enforce permitted arrival times for scheduled streams. Both optional for any given stream, but can provide coexistence with strict time scheduled traffic.
[c]Required PSFP functionality, supports MEF 10.3 flow metering, Can use and modify discard eligible frame marking, for both PSFP and ATS.

Figure 8-13—Flow classification and metering

CI Specific Forwarding Figure



KEY
Stream ID: stream filter instance identifier (8.6.5.1)
Gate ID: stream gate instance identifier (8.6.5.1, 8.6.5.2)

Figure 8-16—Congestion Isolation filtering and assignment functions

Next Steps

- Refactor clause 8 for Qcr changes
- Document variables and functions
- State Machines or pseudo-code as needed.
- Task Group Ballot