ATS & PFSP YANG maintenance items #0392 & #0393 ver 1.1

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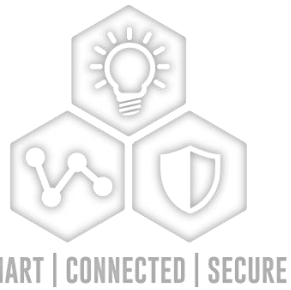


Woojung Huh

Mar/24/2026

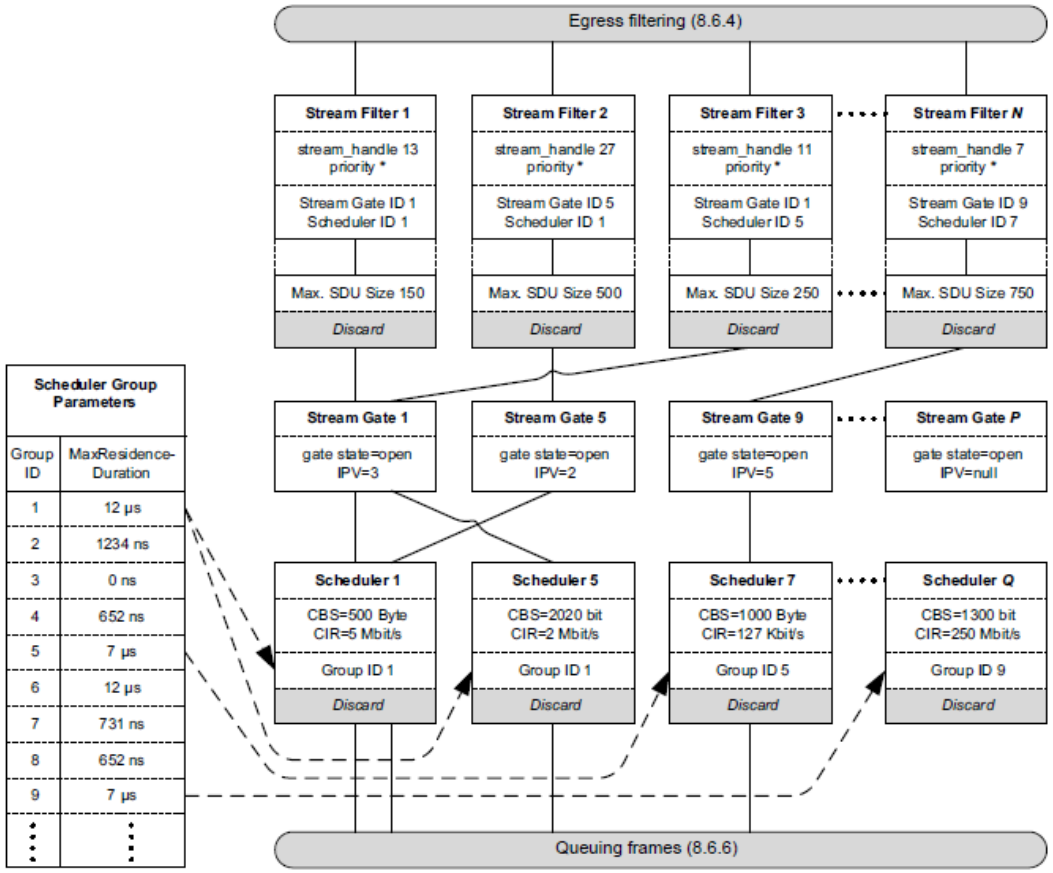
Maintenance items

- #0392
  - ATS schedulers and scheduler-groups YANG containers don't align with 802.1Q-2022
  - Multiple Scheduler Instance Tables and Scheduler Group Instance Tables are created in a bridge components
  - Will discuss this in today’s call
- #0393
  - Need a clarification of using stream-filter when a bridge uses both ATS and PSFP

#0392

ATS schedulers and scheduler-groups YANG containers don't align with 802.1Q-2022

P802.1Q-2022-Rev D1.6



KEY
Discard: Frame discarding abilities and parameters (Clause 8.6.5.3.1, Clause 8.6.5.4, 8.6.5.6).
CBS: CommittedBurstSize parameter (8.6.5.6, 8.6.11.3.5).
CIR: CommittedInformationRate parameter (8.6.5.6, 8.6.11.3.6).

Figure 8-15—Per-stream classification and metering for ATS

- **8.6.5.2.2 ATS support**

  Each Bridge component that implements *ATS shall support stream filtering, maximum SDU size filtering, stream gates supporting IPV assignment, ATS schedulers, and ATS scheduler groups*, with the following:

  a) A single *Stream Filter Instance Table* (8.6.5.3).
  b) A single *Stream Gate Instance Table* (8.6.5.4). If the Bridge component does not support PSFP in addition to ATS, each stream gate only supports IPV assignment (8.6.5.4). IPV can be used as part of adjusting per-hop delay bounds to meet specific networks' end-to-end delay requirements.
  c) A single *ATS Scheduler Instance Table* (8.6.5.6).
  d) A single *ATS Scheduler Group Instance Table* (8.6.5.6).
  e) An *ATS Port Parameter Table* for each Bridge Port (8.6.5.6).

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P802.1Q-2022 and Q-2020-Rev D1.6

- **12.31.5 The Scheduler Instance Table**
  - There is one Scheduler Instance Table per Bridge Component. Each table row in the Scheduler Instance Table comprises a set of parameters that defines a single ATS scheduler instance, as detailed in Table 12-38.
- **12.31.6 The Scheduler Group Instance Table**
  - There is one Scheduler Group Instance Table per Bridge Component. Each table row in the Scheduler Group Instance Table comprises a set of parameters that defines a single ATS scheduler group instance (8.6.5.6), as detailed in Table 12-39.

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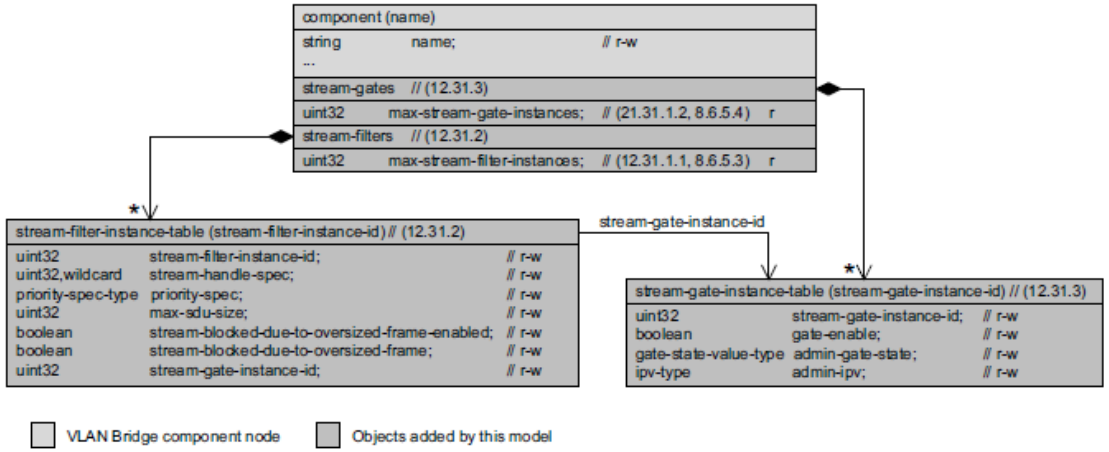

Figure 48-15—Stream filters and stream gates model

- **48.2.6 Stream filters and stream gates model**
  - The stream filters and stream gates model augments the Bridge component model (48.3.1) by nodes that represent the following managed objects:
    a) Stream Filter Instance Table (12.31.2)
    b) Stream Gate Instance Table (12.31.3)The Scheduler Instance Table (12.31.5)

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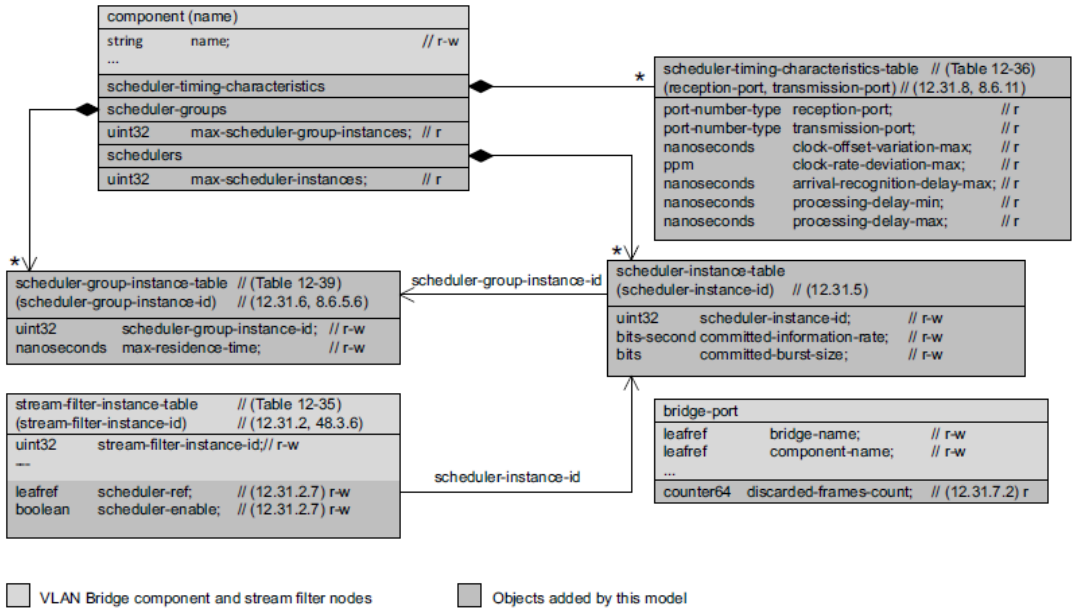

Figure 48-16—Asynchronous Traffic Shaping model

- **48.2.7 Asynchronous Traffic Shaping (ATS) model**
  - The ATS model augments the Bridge component model (48.3.1) and the stream filters and stream gates model (48.3.6) by nodes that represent to following managed objects:
    a) The Scheduler Instance Table (12.31.5)
    b) The Scheduler Group Instance Table (12.31.6)
    c) The Scheduler Port Parameter Table (12.31.7)
    d) The Scheduler Timing Characteristics Table (12.31.8)
    e) A Stream Filter specification type representing an ATS scheduler instance identifier (12.31.2.5)

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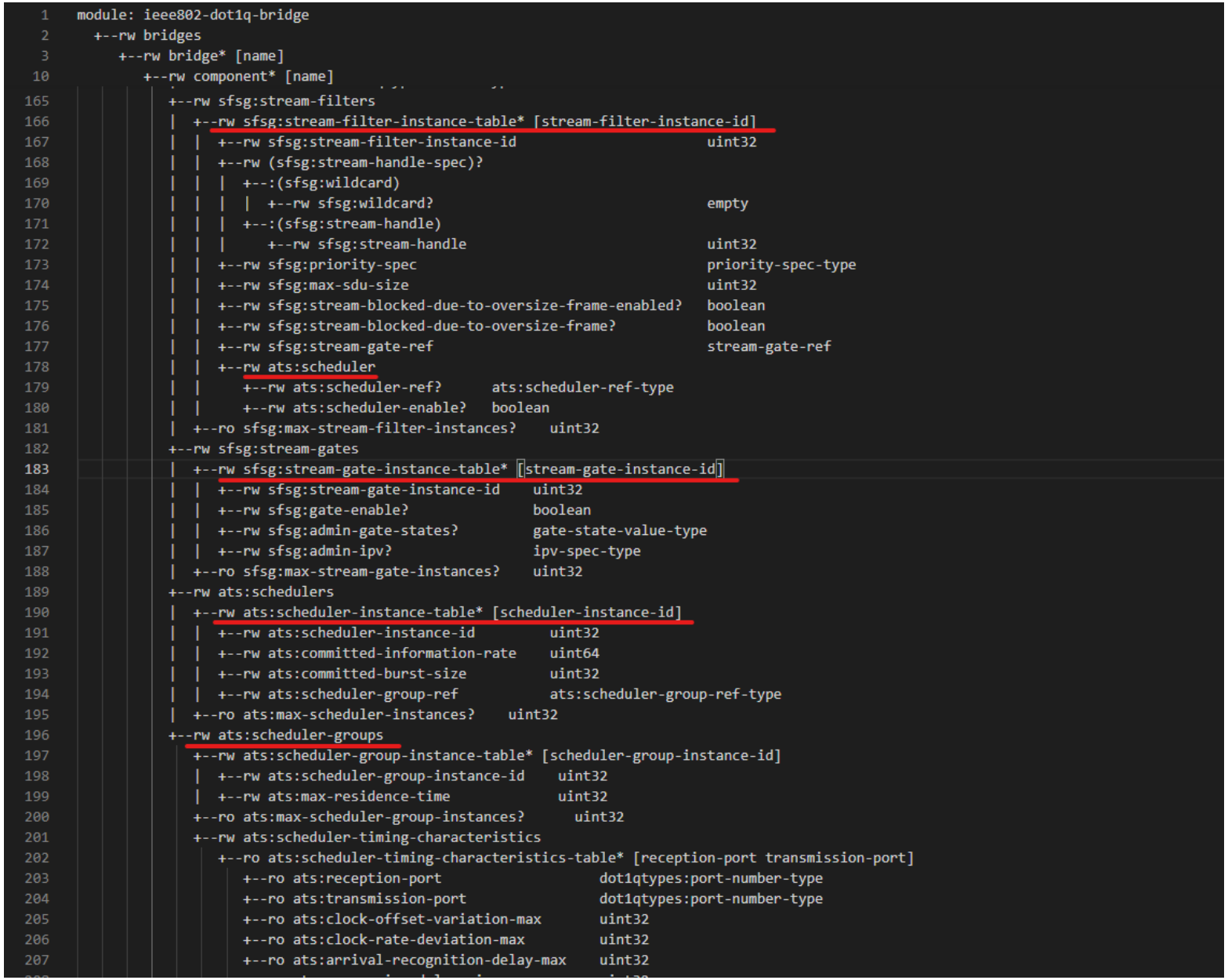
ATS scheduler YANG tree of Q-2020-Rev D1.6

```
module: ieee802-dot1q-bridge
  +--rw bridges
     +--rw bridge* [name]
        +--rw component* [name]
           |  +--rw ats-bridge:admin-gate-states?         gate-state-value-type
           |  +--rw ats-bridge:admin-ipv?                ipv-spec-type
           |  +--ro ats-bridge:max-stream-gate-instances?    uint32
           +--rw ats-bridge:stream-filters
           |  +--rw ats-bridge:stream-filter-instance-table* [stream-filter-instance-id]
           |  |  +--rw ats-bridge:stream-filter-instance-id                        uint32
           |  |  +--rw (ats-bridge:stream-handle-spec)?
           |  |  |  +--:(ats-bridge:wildcard)
           |  |  |  |  +--rw ats-bridge:wildcard?                                 empty
           |  |  |  +--:(ats-bridge:stream-handle)
           |  |  |     +--rw ats-bridge:stream-handle                             uint32
           |  |  +--rw ats-bridge:priority-spec                                   priority-spec-type
           |  |  +--rw ats-bridge:max-sdu-size                                    uint32
           |  |  +--rw ats-bridge:stream-blocked-due-to-oversize-frame-enabled?   boolean
           |  |  +--rw ats-bridge:stream-blocked-due-to-oversize-frame?           boolean
           |  |  +--rw ats-bridge:stream-gate-ref                                 -> ../../../stream-gates/stream-gate-instance-table/stream-gate-instance-id
           |  |  +--rw ats-bridge:schedulers
           |  |  |  +--rw ats-bridge:scheduler-instance-table* [scheduler-instance-id]
           |  |  |  |  +--rw ats-bridge:scheduler-instance-id         uint32
           |  |  |  |  +--rw ats-bridge:committed-information-rate    uint64
           |  |  |  |  +--rw ats-bridge:committed-burst-size          uint32
           |  |  |  |  +--rw ats-bridge:scheduler-group-ref           -> ../../../scheduler-groups/scheduler-group-instance-table/scheduler-group-instance-id
           |  |  |  +--ro ats-bridge:max-scheduler-instances?    uint32
           |  |  +--rw ats-bridge:scheduler-groups
           |  |  |  +--rw ats-bridge:scheduler-group-instance-table* [scheduler-group-instance-id]
           |  |  |  |  +--rw ats-bridge:scheduler-group-instance-id    uint32
           |  |  |  |  +--rw ats-bridge:max-residence-time             uint32
           |  |  |  +--ro ats-bridge:max-scheduler-group-instances?      uint32
           |  |  |  +--rw ats-bridge:scheduler-timing-characteristics
           |  |  |     +--ro ats-bridge:scheduler-timing-characteristics-table* [reception-port transmission-port]
           |  |  |        +--ro ats-bridge:reception-port                  dot1qtypes:port-number-type
           |  |  |        +--ro ats-bridge:transmission-port               dot1qtypes:port-number-type
           |  |  |        +--ro ats-bridge:clock-offset-variation-max      uint32
           |  |  |        +--ro ats-bridge:clock-rate-deviation-max        uint32
           |  |  |        +--ro ats-bridge:arrival-recognition-delay-max   uint32
           |  |  |        +--ro ats-bridge:processing-delay-min            uint32
           |  |  |        +--ro ats-bridge:processing-delay-max            uint32
           |  |  +--rw ats-bridge:scheduler
           |  |     +--rw ats-bridge:scheduler-ref?      -> ../../schedulers/scheduler-instance-table/scheduler-instance-id
           |  |     +--rw ats-bridge:scheduler-enable?   boolean
           |  +--ro ats-bridge:max-stream-filter-instances?    uint32
           +--rw psfp-bridge:flow-meters
           |  +--rw psfp-bridge:flow-meter-instance-table* [flow-meter-instance-id]
```

ATS scheduler YANG tree of Qcr-2020



```
module: ieee802-dot1q-bridge
  +--rw bridges
     +--rw bridge* [name]
        +--rw component* [name]
           +--rw sfsg:stream-filters
           |  +--rw sfsg:stream-filter-instance-table* [stream-filter-instance-id]
           |  |  +--rw sfsg:stream-filter-instance-id                       uint32
           |  |  +--rw (sfsg:stream-handle-spec)?
           |  |  |  +--:(sfsg:wildcard)
           |  |  |  |  +--rw sfsg:wildcard?                                empty
           |  |  |  +--:(sfsg:stream-handle)
           |  |  |     +--rw sfsg:stream-handle                            uint32
           |  |  +--rw sfsg:priority-spec                                  priority-spec-type
           |  |  +--rw sfsg:max-sdu-size                                   uint32
           |  |  +--rw sfsg:stream-blocked-due-to-oversize-frame-enabled?  boolean
           |  |  +--rw sfsg:stream-blocked-due-to-oversize-frame?          boolean
           |  |  +--rw sfsg:stream-gate-ref                                stream-gate-ref
           |  |  +--rw ats:scheduler
           |  |     +--rw ats:scheduler-ref?      ats:scheduler-ref-type
           |  |     +--rw ats:scheduler-enable?   boolean
           |  +--ro sfsg:max-stream-filter-instances?    uint32
           +--rw sfsg:stream-gates
           |  +--rw sfsg:stream-gate-instance-table* [stream-gate-instance-id]
           |  |  +--rw sfsg:stream-gate-instance-id    uint32
           |  |  +--rw sfsg:gate-enable?               boolean
           |  |  +--rw sfsg:admin-gate-states?         gate-state-value-type
           |  |  +--rw sfsg:admin-ipv?                 ipv-spec-type
           |  +--ro sfsg:max-stream-gate-instances?    uint32
           +--rw ats:schedulers
           |  +--rw ats:scheduler-instance-table* [scheduler-instance-id]
           |  |  +--rw ats:scheduler-instance-id         uint32
           |  |  +--rw ats:committed-information-rate    uint64
           |  |  +--rw ats:committed-burst-size          uint32
           |  |  +--rw ats:scheduler-group-ref           ats:scheduler-group-ref-type
           |  +--ro ats:max-scheduler-instances?    uint32
           +--rw ats:scheduler-groups
              +--rw ats:scheduler-group-instance-table* [scheduler-group-instance-id]
              |  +--rw ats:scheduler-group-instance-id    uint32
              |  +--rw ats:max-residence-time             uint32
              +--ro ats:max-scheduler-group-instances?      uint32
              +--rw ats:scheduler-timing-characteristics
                 +--ro ats:scheduler-timing-characteristics-table* [reception-port transmission-port]
                    +--ro ats:reception-port                  dot1qtypes:port-number-type
                    +--ro ats:transmission-port               dot1qtypes:port-number-type
                    +--ro ats:clock-offset-variation-max      uint32
                    +--ro ats:clock-rate-deviation-max        uint32
                    +--ro ats:arrival-recognition-delay-max   uint32
```

Observation

- **Look there was a disconnection when updating ATS YANG for PSFP/ATS/CI in Qcz-2023. contribution #1 & contribution #2**
- **ATS YANG module (clause 48.5.13) includes *scheduler-instance table* and *scheduler-group-instance-table* under *stream-filter-instance-table[].* This causes multiple *scheduler-instance-table*s and *scheduler-group-instance-table*s under *stream-filter-instance-table[]***
- **However, Clause 12.31.5 & 12.31.6 state**
  - There is *one Scheduler Instance Table* per *Bridge Component*. …
  - There is *one Scheduler Group Instance Table* per *Bridge Component*. …
- **YANG and statements of clause 8.6.5.6, clause 12.31.5, clause 12.31.6, clause 48.2.6 & clause 48.2.7 don't match.**

Next steps

- **Rollback to Qcr-2020 YANG by moving “*container schedulers*” and “*container scheduler-groups*” out from “*grouping ats-parameters*” of ieee802-dot1q-ats YANG module to as a container under “*augment “/dot1q:bridges/dot1q:bridge/dot1q:component*””**
- **Need to confirm this change does not break other part such as PSFP and CI especially End-Station cases.**

Fix in “module ieee802-dot1q-ats”

```
augment "/dot1q:bridges/dot1q:bridge/dot1q:component" {
…
  container ats-parameters {
     description
       "Container for ATS parameters";
     container schedulers {
     …
       list scheduler-instance-table {
         key "scheduler-instance-id";
         leaf scheduler-instance-id {
           type uint32;
           mandatory true;
         }
         leaf committed-information-rate {
           type uint64;
           units "bits/second";
           mandatory true;
         }
      …
     container scheduler-groups {
     …
    }
…
```

```
…
 uses sfsg:sfsg-parameters {
   augment "lm-ats:stream-filters/lm-ats:stream-filter-instance-table" {
     …
     // uses ats:ats-parameters;
     container scheduler {
        leaf scheduler-ref {
              type lm-ats:scheduler-ref-type;
              default 0;
          }
        }
  }
…
```

Thank you!

Backup

#0393

Need a clarification of using stream-filter when a bridge uses both ATS and PSFP

802.1Q allows both PSFP and ATS simultaneously.

- **8.6.5 states**
  - “PSFP and ATS share common per-stream classification and metering elements, as shown in Figure 8-13.”
- **8.6.5.2 d) states**
  - “… A given stream filter can be configured with flow meters and an ATS scheduler if both PSFP and ATS are supported.”
- **8.6.5.2.2 b) states**
  - “If the Bridge component does not support PSFP in addition to ATS, each stream gate only supports IPV assignment. …”
  - NOTE 2—For bridges with support for ATS, and without support for PSFP, stream gates of ATS traffic will never close. In this case, stream gates are only used for IPV assignment.

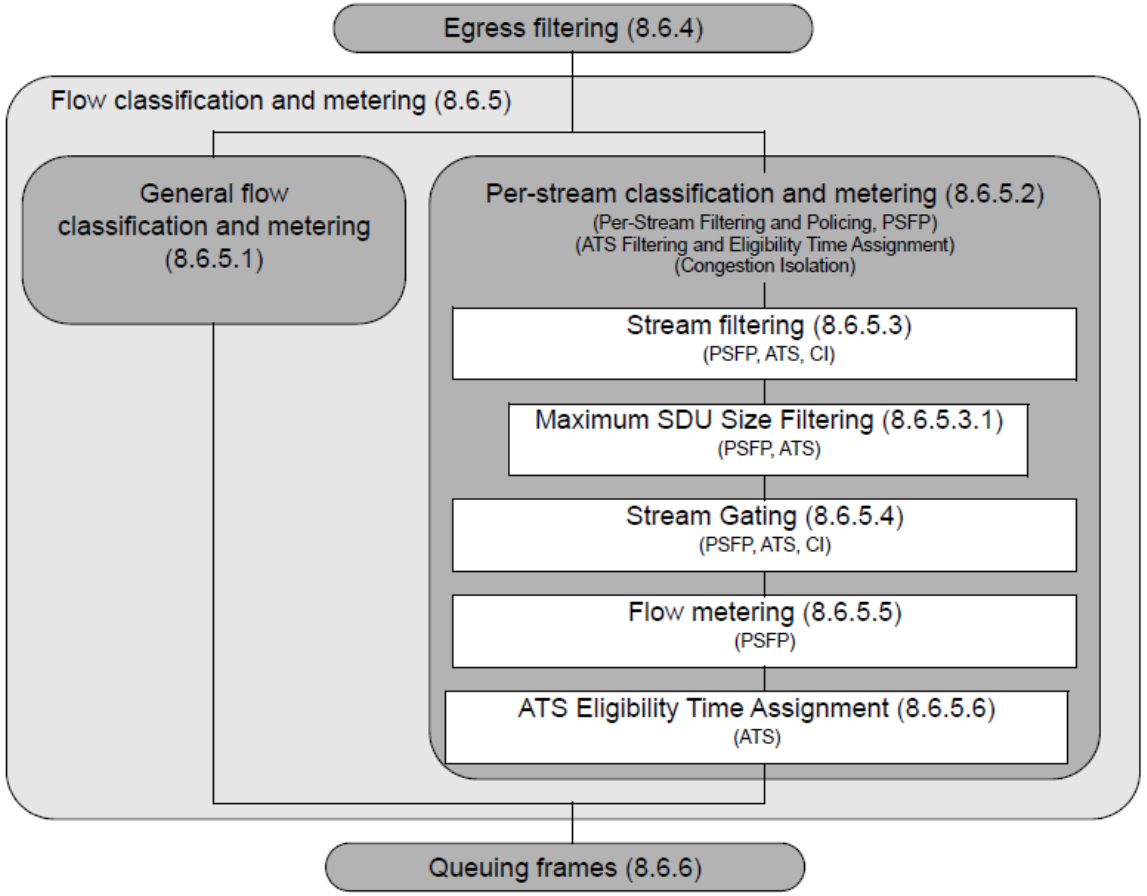


Figure 8-13—Flow classification and metering

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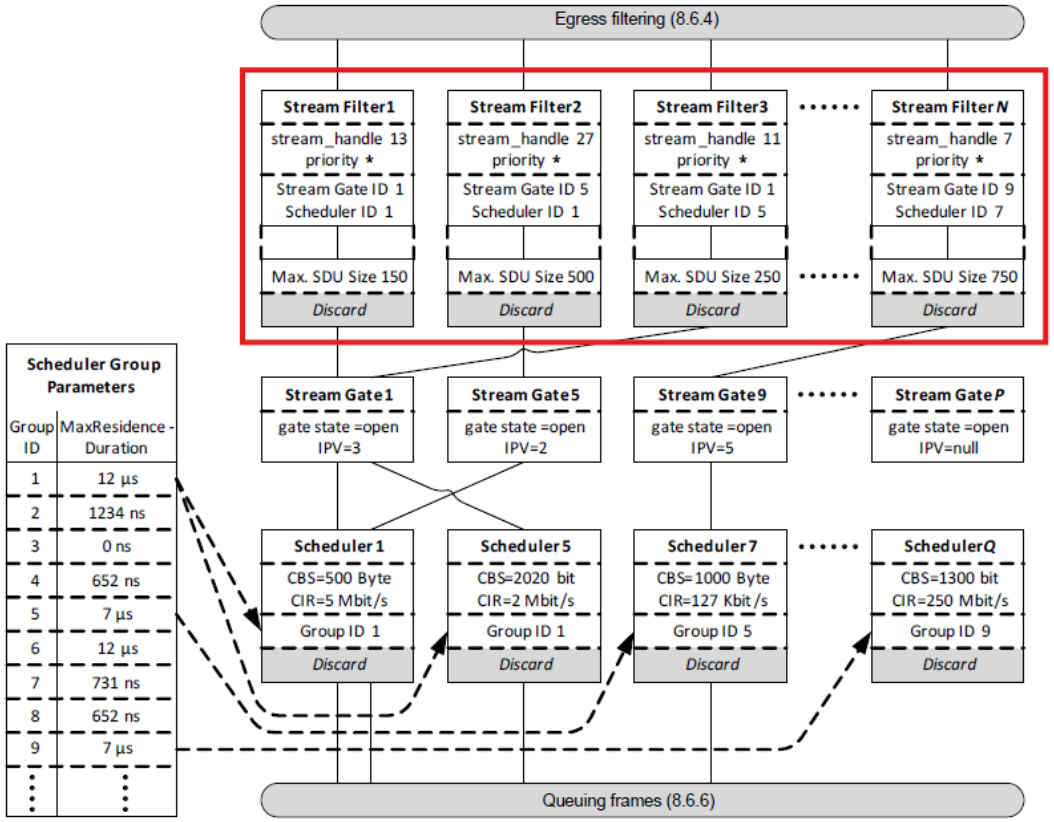
Stream filter

- **A received frame can be associated with a stream filter using the frame's *stream_handle* and *priority* parameters.**
  - *stream_handle* is a sub-parameter of the connection_identifier parameter of the ISS (6.6), provided by the stream identification function specified in IEEE Std 802.1CB.
  - Each stream filter comprises the following:
    a) An integer stream filter identifier.
    b) A *stream_handle* specification, either:
    A single value as specified in IEEE Std 802.1CB or a wildcard matches any *stream_handle*.
    c) A priority specification, either:
    A single priority value or a wildcard value that matches any priority value.
    d) Maximum SDU size filtering (8.6.5.3.1) information.
    e) An integer stream gate identifier (8.6.5.4).
    f) An integer flow meter instance identifier (8.6.5.5). If absent, not subject to flow meter.
    g) An integer ATS scheduler instance identifier (8.6.5.6). If absent, not subject to ATS.

Stream filter

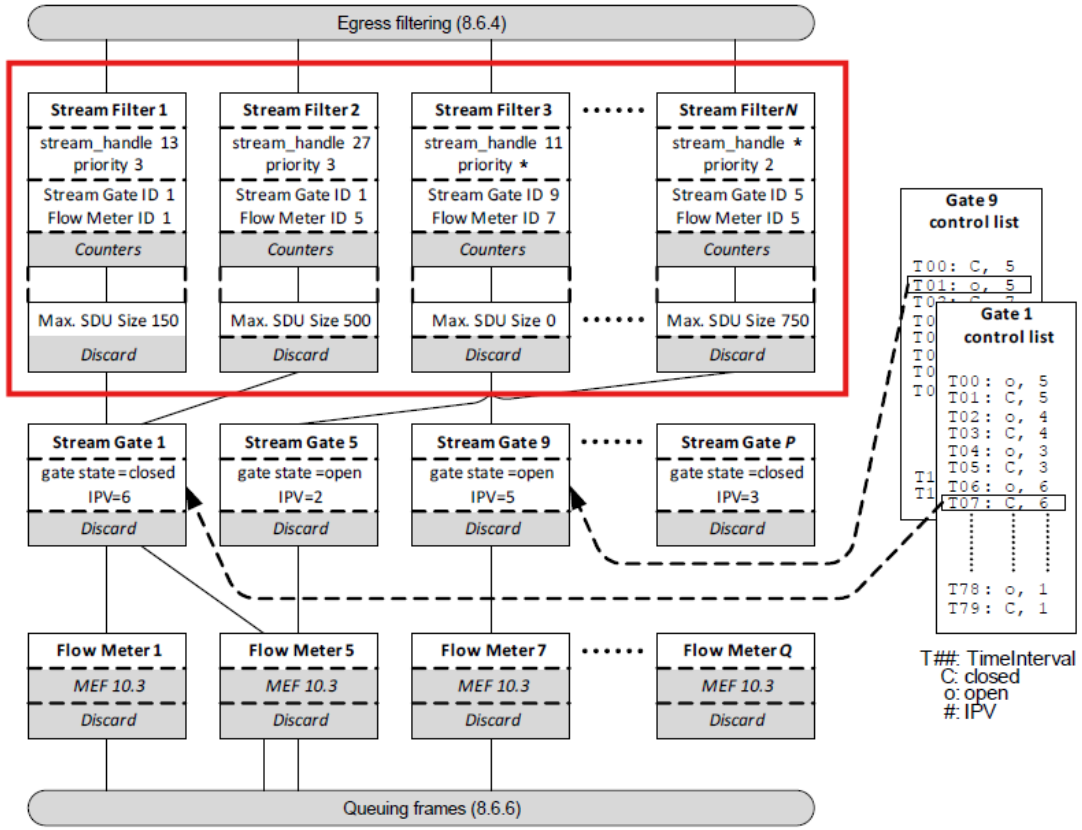
- **ATS**



KEY
Discard: Frame discarding abilities and parameters (Clause 8.6.5.3.1, Clause 8.6.5.4, 8.6.5.6).
CBS: CommittedBurstSize parameter (8.6.5.6, 8.6.11.3.5).
CIR: CommittedInformationRate parameter (8.6.5.6, 8.6.11.3.6).

Figure 8-15—Per-stream classification and metering for ATS

- **PSFP**



KEY
Counters: Matching, passing, and discarded frame counters (8.6.5.3).
Discard: Frame discarding abilities and parameters (8.6.5.3.1, 8.6.5.4, 8.6.5.5).
MEF 10.3: Flow metering based on MEF 10.3 Bandwidth Profile parameters and algorithm as specified in 8.6.5.5.

Figure 8-14—Per-stream classification for PSFP

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Current YANG configuration

- Each module of ATS and PSFP has own s*tream-filter-instance-table* under *bridges/bridge/component/components* in different namespace
- 802.1Q clause 8.6.5.2 states “A given stream filter can be configured with flow meters and an ATS scheduler if both PSFP and ATS are supported”. But current YANG has only configuration of two stream filters in each modules (ATS, PSFP and CI)

ATS stream filter YANG tree

```
160  module: ieee802-dot1q-bridge
161    +--rw bridges
162       +--rw bridge* [name]
169          +--rw component* [name]
329             |  |  +--rw ats-bridge:admin-ipv?                 ipv-spec-type
330             |  +--ro ats-bridge:max-stream-gate-instances?    uint32
331             +--rw ats-bridge:stream-filters
332             |  +--rw ats-bridge:stream-filter-instance-table* [stream-filter-instance-id]
333             |  |  +--rw ats-bridge:stream-filter-instance-id                        uint32
334             |  |  +--rw (ats-bridge:stream-handle-spec)?
335             |  |  |  +--:(ats-bridge:wildcard)
336             |  |  |  |  +--rw ats-bridge:wildcard?                                 empty
337             |  |  |  +--:(ats-bridge:stream-handle)
338             |  |  |     +--rw ats-bridge:stream-handle                             uint32
339             |  |  +--rw ats-bridge:priority-spec                                   priority-spec-type
340             |  |  +--rw ats-bridge:max-sdu-size                                    uint32
341             |  |  +--rw ats-bridge:stream-blocked-due-to-oversize-frame-enabled?   boolean
342             |  |  +--rw ats-bridge:stream-blocked-due-to-oversize-frame?           boolean
343             |  |  +--rw ats-bridge:stream-gate-ref                                 -> ../../../stream-gates/stream-gate-instance-table/stream-gate-instance-id
```

PSF stream filter YANG tree

```
160  module: ieee802-dot1q-bridge
161    +--rw bridges
162       +--rw bridge* [name]
169          +--rw component* [name]
440             +--rw psfp-bridge:stream-filters
441                +--rw psfp-bridge:stream-filter-instance-table* [stream-filter-instance-id]
442                |  +--rw psfp-bridge:stream-filter-instance-id                        uint32
443                |  +--rw (psfp-bridge:stream-handle-spec)?
444                |  |  +--:(psfp-bridge:wildcard)
445                |  |  |  +--rw psfp-bridge:wildcard?                                 empty
446                |  |  +--:(psfp-bridge:stream-handle)
447                |  |     +--rw psfp-bridge:stream-handle                             uint32
448                |  +--rw psfp-bridge:priority-spec                                   priority-spec-type
449                |  +--rw psfp-bridge:max-sdu-size                                    uint32
450                |  +--rw psfp-bridge:stream-blocked-due-to-oversize-frame-enabled?   boolean
451                |  +--rw psfp-bridge:stream-blocked-due-to-oversize-frame?           boolean
452                |  +--rw psfp-bridge:stream-gate-ref                                 -> ../../../stream-gates/stream-gate-instance-table/stream-gate-instance-id
453                |  +--ro psfp-bridge:matching-frames-count?                          yang:counter64
454                |  +--ro psfp-bridge:passing-frames-count?                           yang:counter64
455                |  +--ro psfp-bridge:not-passing-frames-count?                       yang:counter64
456                |  +--ro psfp-bridge:red-frames-count?                               yang:counter64
457                |  +--ro psfp-bridge:passing-sdu-count?                              yang:counter64
458                |  +--ro psfp-bridge:not-passing-sdu-count?                          yang:counter64
459                |  +--rw psfp-bridge:flow-meter-ref?                                 -> ../../../flow-meters/flow-meter-instance-table/flow-meter-instance-id
460                |  +--rw psfp-bridge:flow-meter-enable?                              boolean
461                +--ro psfp-bridge:max-stream-filter-instances?    uint32
```

Observation

- **Per current YANG, PSFP and ATS creates own stream-filter-instance-table (*ats-bridge:stream-filter-instance-table* [stream-filter-instance-id]* & *psfp-bridge:stream-filter-instance-table* [stream-filter-instance-id]*)**
  In this case, each table can have own *max-sdu-size*, then a single stream can be filtered twice based on two different values of *max-sdu-size*.
- **And, this is also problem on *admin-ipv* of *stream-gate-instance_table* on both PSFP and ATS.**

Need clarification

- **802.1-2022 (and P802.1-2022-Rev-D1.6) states that "*PSFP and ATS share common per-stream classification and metering elements, as shown in Figure 8-13.*"**
  But, no clear mention (or definition) that each function (or module) can/shall have own stream-filter table.
- **We think this should be clarified in 802.1Q that how *stream-filter* and *stream-gate* are defined/used when multiple functions of PSFP, ATS and CI are used in a bridge.**

802.1Q-2022 Rev status (as of Jan/2026)

- **Current version: D1.6**
- **PAR states**
  - "This is a maintenance roll-up of IEEE Std 802.1Q-2022 with the amendment of IEEE Std 802.1Qcz. Depending on their progress to approval, P802.1Qcw, P802.1Qcj, or other amendments in progress may also be included."
  - Amendments included in D1.6
    - **IEEE Std 802.1Qdy™-2025**: YANG for Multiple Spanning Trees
    - **IEEE Std 802.1Qdx™-2024**: YANG Data Models for the Credit-Based Shaper
    - **IEEE Std 802.1Qdj™-2024**: Configuration Enhancements for Time-Sensitive Networks
    - **IEEE Std 802.1Qcj™-2023**: Automatic Attachment to Provider Backbone Bridging (PBB) Services
    - **IEEE Std 802.1Qcw™-2023**: YANG Data Models for Scheduled Traffic, Frame Preemption, and Per-Stream Filtering and Policing support configuration and status reporting for bridges and bridge components with the capabilities of scheduled traffic, frame preemption, and per-stream filtering and policing.
    - **IEEE Std 802.1Qcz™-2023**: Congestion Isolation specified protocols, procedures and managed objects

Sanity check – current workload

Project	Short Title	Last Motion	Current Stage	Draft#	Next action	PAR ends
60802 (DA)	TSN Profile for Industrial Automation	RevCom	Approved - Oct	D3.4	FDIS ballot	Dec '26
802.1DP	TSN Profile for Aerospace	RevCom	Published - Nov 7	D3.3		Dec '26
802.1Qdq	Tspec	WG ballot	WG ballot	D1.3	SA Ballot	Dec '27
802.1ASds	Half-duplex support	WG ballot	WG ballot	D1.5	SA Ballot	Dec '26
802.1Qdt	PFC MACsec	TG Ballot	Editor's draft	D0.4	TG Ballot	Dec '26
802.1DU	Cut-through forwarding	TG Ballot	TG Ballot	D0.3	TG Ballot	Dec '27
802.1Qdv	Cyclic Queueing and Forwarding	TG Ballot	TG Ballot	D0.4	TG Ballot	Dec '26
802.1Qdw	Source Flow Control	Nescom	PAR approved		Editor's draft	Dec '26
802.1Q-2022 rev	Bridges and Bridged Networks	TG Ballot	Editor's draft	D1.6	TG Ballot	Dec '27
802.1AS-2020 rev	Timing and Synchronization	WG ballot	TG Ballot	D2.1	RevCom	Dec '27
802.1AXdz	YANG for LAG	RevCom	Published - Oct 17	D2.1	Publication	Dec '28
802.1ACea	802.15.16 convergence	WG Ballot	WG Ballot	D1.3	WG Ballot	Dec '28
802.1CB/cor1	FRER corrigendum	SA ballot	SA ballot	D2.0	RevCom conditional	Dec '28
802.1ASeb	Announce	TG Ballot	PAR approved		Editor's draft	Dec ' 28
802.1ASed	Fault tolerant timing	SA ballot	SA ballot	D3.1	RevCom	Dec ' 28
802.1DD	Resource Allocation Protocol	TG Ballot	Editor's draft	D1.3	TG Ballot	Dec ' 28
802.1AB-2016 rev	LLDP	WG ballot	WG ballot	D1.1	SA Ballot conditional	Dec ' 28
802.1AC-2016 rev	MAC Service	TG Ballot	TG Ballot	D0.3	WG Ballot	Dec ' 28
802.1CBec	FRER configuration	PAR modification	TG ballot	D0.2	NesCom	Dec ' 29
802.1CB-2017 rev	FRER	TG Ballot	TG Ballot	D0.2	TG Ballot	Dec ' 29
802.1Qee	Wireless TE	PAR development	PAR approved		TG Ballot	Dec ' 29
802.1X-2020/Cor1	YANG corrigendum for Port Auth	WG ballot	WG ballot	D1.0	SA Ballot conditional	Dec ' 29
802.1X-2020 rev	Port Authentication	PAR development	PAR approved		TG Ballot	Dec ' 29
802.1AE-2018 rev	MACsec	PAR development	PAR approved		TG Ballot	Dec ' 29
802.1AR-2018 rev	Device ID	PAR development	PAR approved		TG Ballot	Dec ' 29
802.1AEef	Ascon for MACsec		PAR development		NesCom	
802.1AReg	ML-DSA for Device ID		PAR development		NesCom	

ATS YANG changes

- **ATS YANG was change in 802.1Qcz-D2.1 based on contribution #1 & contribution #2**
- **802.1Qcz includes**

Cl **B** *SC* **B** *P* **95** *L* **1** # I-1

Congdon, Paul Huawei Technologies Co., Ltd

Comment Type **TR** *Comment Status* **A**

*** Comment submitted with the file cw-gutierrez-comment14remedy-1120-v02.pdf attached ***

Similar to comment #13 in P802.1Qcw/D1.2, it is unclear how end-station behavior is managed via YANG. The solution chosen for P802.1Qcw should be taken for P802.1Qcz as documented in https://www.ieee802.org/1/files/public/docs2020/cw-gutierrez-comment14remedy-1120-v02.pdf

SuggestedRemedy

Update the YANG modules and include the stream identification YANG as described in https://www.ieee802.org/1/files/public/docs2020/cw-gutierrez-comment14remedy-1120-v02.pdf

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use the updated YANG modules included in https://www.ieee802.org/1/files/public/docs2021/cz-congdon-yang-d2-1-tree-0321-v02.pdf. Also include the ATS YANG modules included in the contribution.

Add the YANG model UML for ATS, Stream Filters and update the YANG model UML for congestion isolation.

Add the Structure of the YANG model for ATS, Stream Filters and update the Structure of the YANG model for congestion isolation.

Add the data scheme definition for ATS, stream filters and update the data scheme definition for congesiton isolation.