

## Introduction

This document is prepared by the IEEE 802.1Qcr editor (Johannes Specht) for the upcoming comment resolution of P802.1Qcr/D1.0 during the TSN TG call on June 17<sup>th</sup> 2019.

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## Comment #101 (high priority, with preview)

<b>Commenter</b>	<b>Specht, Johannes</b>
<b>Page</b>	--
<b>Line</b>	--
<b>Clause</b>	48

### Comment

Rogue comment from Johannes Specht:

1) Remove sub-clause 48.4 (i.e., 48.4.5 and 48.4.7), and read on. The table contents add little information, but primarily subdivide a YANG module into pieces instead. The subdivision-criteria are non-uniform/random across IEEE 802.1Qcp-2018, this project, and P802.1Qcw. Moreover, the names in column "Branches" certainly not well chosen across these projects. It appears that these tables add an additional layer of indirection, which can be avoided.

2) Update clause 48.5. Make it one table per YANG file. For column "YANG node(s)", use bold without indentation to open an absolute path in the tree, and single tab indent regular font as a shortcut for single-identifier node names. Using a single table is in line with the way it is handled in MIB.

3) Update references, renumber as necessary, add editorial instructions.

4) Do the same for clauses pulled in from IEEE 802.1Qcp-2018 due to other comment(s) on this draft, and coordinate with the editor of P802.1Qcw.

### Suggested Remedy

Per comment.

### Response

DISCUSS

### Preview

An initial preview of clause 48 based on the FrameMaker files of clause 48 from IEEE Std 802.1Qcp-2018 and the current draft of P802.1Qcr has been created by the commenter

(<http://www.ieee802.org/1/private/contrib/cr-specht-d1-0-comment101-cl48preview-0619-v01.pdf>). Discussion will be based on this preview.

## Comments #74, #75, #77 (high priority, with preview)

<b>Commenter</b>	<b>Seaman, Mick</b>
<b>Page</b>	--
<b>Line</b>	--
<b>Clause</b>	8.6.5

### Description

This series of comments propose a reorganization of clause 8.6.5. Discussion will be based on the preview contributed by Mick Seaman: <http://www.ieee802.org/1/files/public/docs2019/cr-seaman-8-6-5-organization-0519-v00.pdf>

## Comment #54 (medium priority, response change proposal)

<b>Commenter</b>	<b>Cummings, Rodney</b>
<b>Page</b>	32
<b>Line</b>	1
<b>Clause</b>	8.6.11.2

### Comment

Why would anyone implement these as different physical clocks? This subclause seems to have a use case in mind, but we keep it a secret for some reason.

### Suggested Remedy

Add a NOTE to provide an example design that would use different physical clocks. If no such example can be provided, merge these two clocks into one (since both are local-only).

### Agreed Response

REJECT.

"The text is not about physical clocks, nor is there a use case in mind, or any secret involved. The clause describes a model to capture various sources of inaccuracy of bridge implementations, including, but not limited to (!), the impact of different physical oscillators, if present (cmp. the informative hints in the clause). The abstract model via two clocks is in line with the distribution of the ATS operation over clauses in the forwarding process.

An example design that uses different physical clocks is not needed (i.e., such details of bridge architectures and their implementation are not in scope of IEEE 802.1Q -- cmp. DIS D0.5, comment #30). However, a certain range is implied outside of the 802.1Qcr document in e.g. <http://www.ieee802.org/1/files/public/docs2019/cr-specht-currentwork-0319-v01.pdf>. "

### Proposed New Response

ACCEPT IN PRINCIPLE.

Text will be added to prevent a misunderstanding in the sense that multiple physical oscillators/clocks are required in implementations (i.e., one physical clock in a bridge is enough, although multiple physical clocks are allowed as well by the model in the draft).

## Comment #88 (medium priority, response change proposal, with preview)

<b>Commenter</b>	<b>Boiger, Christian</b>
<b>Page</b>	28
<b>Line</b>	1
<b>Clause</b>	8.6.6.2

### Comment

Why is ATS Queuing needed. Why can't ATS use the PSFP queuing?

### Suggested Remedy

Delete and use PSFP queuing

### Agreed Response

ACCEPT IN PRINCIPLE.

1) Sub-clauses "PSFP Queueing" (8.6.6.1) and "ATS Queueing" (8.6.6.2) will be merged into a single text block that replaces both sub-clauses.

2) Pointers to 8.6.6.1 and 8.6.6.2 would be adjusted (e.g., conformance statements will be rephrased to "8.6.6 with the support for IPV"

Explanation:

Both sub-clauses ("PSFP Queuing" and "ATS Queuing") describe the use of IPV instead of the frame's priority. In the ATS case, it is limited to the use of IPV, whereas in addition, the PSFP case allows to alternatively use the frame's priority. Allowing use of the frame's priority in ATS appears technically ok.

### Proposed New Response

ACCEPT IN PRINCIPLE.

The following changes will be implemented:

- 1) Delete clauses 8.6.6.1 and 8.6.6.2
- 2) Change the text paragraph in 8.6.6 before Table 8-5 to support traffic class mapping via IPV specifications.
- 3) Remove all references to former 8.6.6.1 from end station conformance clauses (5.x) and end station PICS (annex B)
- 4) Replace all references to former 8.6.6.1 and 8.6.6.2 from bridge conformance clauses and bridge PICS by references to the relevant content from 8.6.6 (e.g., via lettered list items).
- 5) Replace all references to former 8.6.6.1 and 8.6.6.2 from 8.6.5.4.x to "8.6.6".

Explanations:

On 2): In IEEE Std 802.1Q-2018, this text paragraph states that the frame's priority is used for the mapping in an absolute manner, while later on in 8.6.6.1, it is stated that this is not always true.

On 3): The entire mapping mechanism based on stream gates and IPV (reception Port) to traffic class queues (transmission Port) is not applicable to end stations.

On 5): These references are just there for introductions of type "Bridges may support the Asynchronous Traffic Shaping (ATS) Filtering and Assignment Functions that allow filtering decisions, subsequent queuing decision (8.6.6.2),"

[Preview on the next page\(s\)](#)

### 8.6.6 Queuing frames

*Change the text paragraph in 8.6.6 before Table 8-5, as indicated in **red**:*

The Forwarding Process provides one or more queues for a given Bridge Port, each corresponding to a distinct traffic class. Each frame is mapped to a traffic class using the Traffic Class Table for the Port ~~and the frame's priority~~. The priority value used for this mapping is determined as follows:

- c) If stream gates are unsupported (8.6.5.2), the frame's priority is used.
- d) If stream gates are supported and the IPV specification assigned to the frame is the null value, the frame's priority is used.
- e) If stream gates are supported and the IPV specification assigned to the frame is an IPV, this IPV is used.

Traffic class tables may be managed. Table 8-5 shows the recommended mapping for the number of classes implemented, in implementations that do not support the credit-based shaper transmission selection algorithm (8.6.8.2). The requirements for priority to traffic class mappings in implementations that support the credit-based shaper transmission selection algorithm are defined in 34.5. Up to eight traffic classes may be supported, allowing separate queues for each priority.

*Delete clause 8.6.6.1*

## Comment #100 (medium priority, with preview):

<b>Commenter</b>	<b>Maintenance TG</b>
<b>Page</b>	--
<b>Line</b>	--
<b>Clause</b>	8.6.8.4

### Comment

Rogue Comment from Maintenance TG (#224):

Replace the text in the second sentence of 8.6.8.4 as follows, "...entirety of that frame, plus the media-dependent overhead specified in (12.4.2.2), ..."

Include an informative Note. The recommended text for a note is below - editor to adjust as needed

"NOTE: For example, in the case of 802.3, the media-dependent overhead includes, the preamble of the following frame so that the close of a transmission window can coincide with the opening of another transmission window"

The editor is encourage to include a figure to depict the timing and the alignment of the overhead as well.

### Suggested Remedy

Per comment.

### Response

ACCEPT IN PRINCIPLE.

Text&Figure will be crafted by the Editor/contributors for the next WG ballot draft.

[Preview on the next page\(s\)](#)

8.6.8.4 Enhancements for Scheduled Traffic

Change the paragraph below Table 8-7 and subsequent NOTE 1, located on page 204 of IEEE Std 802.1Q™-2018, as indicated in red, Insert new Figure 8-17 as shown, and add new NOTE 1 as shown, renumber as necessary:

In addition to the other checks carried out by the transmission selection algorithm, a frame on a traffic class queue is not available for transmission [as required for tests (a) and (b) in 8.6.8] if the transmission gate is in the closed state or if there is insufficient time available to transmit the entirety of that frame, plus the media-dependent overhead specified in 12.4.2.2, before the next gate-close event (3.97) associated with that queue (Figure 8-17).

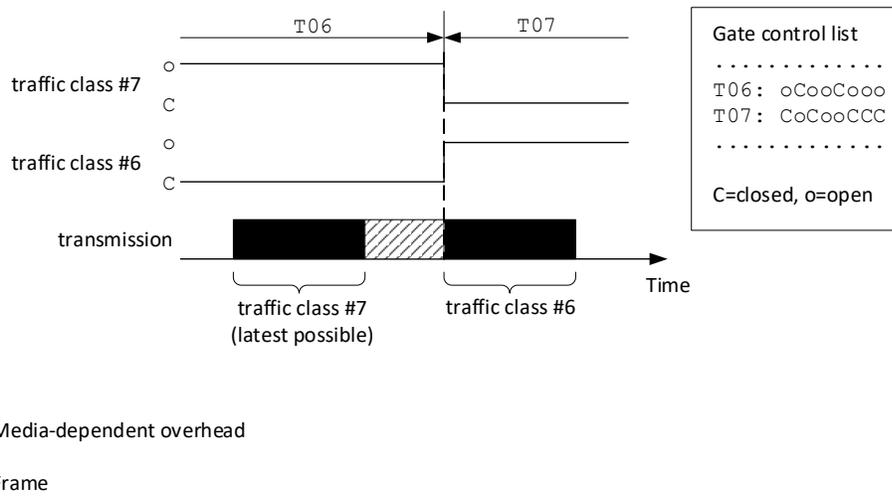


Figure 8-17—Frame timing at gate-close events

NOTE 1—For example, in case of IEEE 802.3 media, the media-dependent overhead prior to the gate-close event includes the preamble of a potentially following frame from a different traffic class.

A per-traffic class counter, TransmissionOverrun (12.29.1.1.2), is incremented if the implementation detects that a frame from a given queue is still being transmitted by the MAC when the gate-close event for that queue occurs.

~~NOTE 12—It is assumed that the implementation has knowledge of the transmission overheads that are involved in transmitting a frame on a given Port and can therefore determine how long the transmission of a frame will take. However, there can be reasons why the frame size, and therefore the length of time needed for its transmission, is unknown; for example, where cut-through is supported, or where frame preemption is supported and there is no way of telling in advance how many times a given frame will be preempted before its transmission is complete. It is desirable that the schedule for such traffic is designed to accommodate the intended pattern of transmission without overrunning the next gate-close event for the traffic classes concerned.~~

## New Rogue Comment #102 (trivial)

<b>Commenter</b>	<b>Specht, Johannes</b>
<b>Page</b>	--
<b>Line</b>	--
<b>Clause</b>	--

### Comment

Rogue comment from Johannes Specht:

Change the PAR reference in the document introduction from <https://development.standards.ieee.org/P946200033/par> to <https://development.standards.ieee.org/P1058900033/par>

### Suggested Remedy

Per comment.

### Response

PROPOSE ACCEPT.

## Comment #16 (trivial, response change proposal)

<b>Commenter</b>	<b>Assmann, Ralf</b>
<b>Page</b>	15
<b>Line</b>	21
<b>Clause</b>	5.4.1.10

### Comment

"shall", also L48, P16L1

### Suggested Remedy

Add ":", as in L12

### Agreed Response

ACCEPT.

### New Proposed Response

ACCEPT IN PRINCIPLE.

Will be changed as suggested, and in 5.13.1.3 as well.

## Comment #17 (trivial, response change proposal)

<b>Commenter</b>	<b>Assmann, Ralf</b>
<b>Page</b>	16
<b>Line</b>	4
<b>Clause</b>	5.32

### Comment

(PSFP) "End-station", also L6

### Suggested Remedy

Change to "End station"

### Agreed Response

ACCEPT.

### New Proposed Response

ACCEPT IN PRINCIPLE.

Will be implemented, as suggested, and "end-station" in the subsequent line will be changed accordingly.

## Comment #34 (trivial, response change proposal)

<b>Commenter</b>	<b>Assmann, Ralf</b>
<b>Page</b>	7
<b>Line</b>	19
<b>Clause</b>	--

### Comment

"bridge"

### Suggested Remedy

Change to "Bridge" throughout the document.

### Agreed Response

ACCEPT.

### New Proposed Response

ACCEPT IN PRINCIPLE.

Will be implemented for occurrences of "bridge" throughout the document with the following exceptions:

- 1) Fig. 48-12: "bridge-port" remains unchanged (YANG identifier), similar to all other occurrences of "bridge" in YANG identifiers
- 2) Table 48-13, "Generic bridge management information" remains unchanged (same in IEEE Std 802.1Qcp-2018), as long as comment #101 is not implemented
- 3) Clause X.6, "bridge delay attributes" is changed to "Bridge Delay attributes" for full consistency with IEEE Std 802.1Qcc-2018

## Comment #93 (trivial, response change proposal)

<b>Commenter</b>	<b>Gunther, Craig</b>
<b>Page</b>	18
<b>Line</b>	48
<b>Clause</b>	8.6.5.1

### Comment

According to Figure 8-12 SDU test occurs before Stream Gate test, however the Passing/NotPassing counters are defined in the opposite order (compare g & h with I & j). This is true for the MIB Objects as well.

Right now the counters seem to match the order that the related clauses are defined, i.e. 8.6.5.2 for Gates and 8.6.5.3.1 for SDU.

### Suggested Remedy

Put Passing/NotPassing counters in the same order as shown in Figure 8-12. Do the same for the MIB objects.

### Agreed Response

ACCEPT IN PRINCIPLE.

In 8.6.5.1, this change will be done.

### New Proposed Response

ACCEPT IN PRINCIPLE.

In 8.6.5.1, this change will be done. In addition, "An integer" will be changed for all counters in the lettered list in 8.6.5.1 to "A" (cmp. 802.1Qcr-D0.5 disposition, comment #29).

## Comment #97 (trivial, response change proposal)

<b>Commenter</b>	<b>Gunther, Craig</b>
<b>Page</b>	21
<b>Line</b>	39
<b>Clause</b>	8.6.5.2

### Comment

How is GateClosedDueToInvalidRx (the parameter) ever set back to FALSE once it gets set to TRUE? It is implied in the text, but it should be explicitly stated.

This applies to GateClosedDueToOctetsExceeded and StreamBlockedDueToOversizeFrame as well.

This is stated in such a way in Q-2018 that it is clear the value is FALSE in the function unless it gets set to TRUE.

### Suggested Remedy

Add a complete definition of GateClosedDueToInvalidRx (the function) or create a state machine diagram.

### Agreed Response

ACCEPT IN PRINCIPLE.

1) Will change P21L41 from "...TRUE.[NL]" to "...TRUE. The GateClosedDueToInvalidRxEnable parameter and transitions from TRUE to FALSE of the GateClosedDueToInvalidRx parameter are administrative actions."

2) Symmetric text will be added for GateClosedDueToOctetsExceeded[Enabled], StreamBlockedDueToOversizedFrame[Enabled], and MarkAllFramesRed[Enabled] parameters

### New Proposed Response

ACCEPT IN PRINCIPLE.

1) Will change P21L41 from "...TRUE.[NL]" to "...TRUE. Changes of the GateClosedDueToInvalidRxEnable parameter and transitions from TRUE to FALSE of the GateClosedDueToInvalidRx parameter are administrative actions."

2) Symmetric text will be added for GateClosedDueToOctetsExceeded[Enabled], StreamBlockedDueToOversizedFrame[Enabled], and MarkAllFramesRed[Enabled] parameters.