P802.1Qdq/D2.0 SA ballot Editor’s report

Hiroki Nakano

Comments by category

- TR: 9, 10, 11, 12, 13, 14, 15, 16, 23
- T: 1, 3, 5, 29
- G: 47
- GR: None
- ER: 21, 53, 54, 55, 56, 59, 60, 61, 63, 64, 65
- E: 2, 4, 6, 7, 8, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 51, 52, 57, 58, 62

  - Legend

    Comments with no response proposed yet.

    ~~Resolved~~

Comments by category (Morning, 12 Mar.)

- TR: ~~9~~, 10, 11, 12, 13, 14, 15, ~~16, 20, 22, 23~~
- T: 1, 3, 5, 29
- G: ~~47~~
- GR: None
- ER: 21, ~~53,~~ 54, 55, 56, 59, 60, 61, 63, 64, 65
- E: 2, 4, 6, 7, 8, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 51, 52, 57, 58, 62

    - 65 comments
    - Legend

        Comments requiring new text.

        ~~Resolved~~

Comments by category (Afternoon, 12 Mar.)

- TR: ~~9,~~ 10, ~~11,~~ 12, 13, 14, ~~15, 16~~, 17, 18, 19, ~~20~~, ~~22~~, ~~23~~
- T: 1, 3, 5, ~~29~~
- G: ~~47~~
- GR: ~~None~~
- ER: 21, ~~53,~~ 54, 55, 56, 59, 60, 61, 63, 64, 65
- E: 2, 4, 6, 7, 8, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48, 49, 51, 52, 57, 58, 62

  - 58 unresolved comments (out of 65)
  - Legend

    Comments requiring new text.

    ~~Resolved~~

Comments by category (Afternoon, 11 Nov.)

- TR: ~~9,~~ 10, ~~11,~~ 12, ~~13, 14, 15, 16~~, 17, 18, 19, ~~20~~, ~~22~~, ~~23~~
- T: ~~1, 3, 5~~, ~~29~~
- G: ~~47~~
- GR: ~~None~~
- ER: ~~21~~, ~~53~~, ~~54, 55,~~ 56, ~~59~~, 60, ~~61~~, 63, 64, 65
- E: ~~2~~, ~~4~~, ~~6~~, ~~7, 8, 24, 25, 26~~, ~~27~~, 28, ~~30~~, ~~31, 32, 33, 34, 35~~, 36, ~~37~~, ~~38, 39, 40, 41, 42, 43, 44, 45, 46~~, ~~48~~, 49, ~~51, 52~~, ~~57, 58~~, 62

  - 11 unresolved comments (out of 65)
  - Legend

    Comments requiring new text. (There is no such comment now.)

    ~~Resolved~~

D2.0 Initial ballot: Comment #1 (P19L5)

Comment

- In the numerator of Equation (X-1), the term Summary(F_{i,k}) should clarify the range of the index k. Specifically, it should be stated whether k ranges from 1 to n_i. Alternatively, if the summation is intentionally limited to k=1 to k=n_i−1, the underlying rationale for excluding the n_i-th term should be explicitly explained to avoid ambiguity.

D2.0 Initial ballot: Comment #14 (P20L35)

Comment

- I got lost at this place, not understanding the setup for the enhancements for scheduled traffic in this draft.

Suggested Remedy

- Unfortunately, I cannot make a good suggestion for fixing due to the nature of my comment.

D2.0 Initial ballot: Comment #10 (P16L25)

Comment

- I'm having a hard time with the last two sentences in the paragraph:
- "IEEE Std 802.1Q specifies multiple transmission selection algorithms for the purpose of traffic shaping, for instance, the credit-based shaper transmission selection algorithm (8.6.8.2) and/or the ATS transmission selection algorithm (8.6.8.5). Any of the transmission selection algorithms, including any combination of the transmission selection algorithms, can be used for this purpose. Any of the transmission selection algorithms, including any combination of the transmission selection algorithms, can be used for this purpose."

- What are the algorithms considered in this annex? Based on the TOC (later subclauses), I could identify the credit-based shaper algorithm and the ATS transmission selection algorithm. Furthermore, there are X.3.5 on the enhancements for scheduled traffic in X.4.5. but the enhancements for scheduled traffic are not a transmission selection algorithm. So it is unclear whether the use of the enhancements for scheduled traffic assumes a strict priority transmission selection algorithm when denoting this as a "shaper" (X.4.5) or "method" (X.3.5) or combinations with ATS or CBSA.

- My assumption is that there are the following combinations considered throughout the draft amendment:
- 1) Credit-based shaper at the highest priority without enhancements for scheduled traffic/highest priority gate permanently open.
- 2) ATS at the highest priority without enhancements for scheduled traffic/highest priority gate permanently open.
- 3) Strict priority at the highest priority with enhancements for scheduled traffic.

- If this is true, then:
- a) Introduce these specific combinations early and very explicitly (e.g. instead of the two sentences in at the beginning of this comment).
- b) Use these specific setups throughout the document.

D2.0 Initial ballot: Comment #12 (P17L6) Response proposed by the editor

- **1) Introduce what bursty traffic is.**
  Bursty traffic is traffic in which multiple frames are transmitted within a short period of time, followed by a period of no traffic. Bursty traffic requiring bounded latency is bursty traffic for which all frames in a burst are required to be delivered within a specified time limit. A burst consists of multiple frames that the application considers as a single transaction. Such a burst is referred to as a frame cluster in this annex. Multiple frame clusters transmitted from a particular Talker to a particular Listener are referred to as a stream of bursty traffic.

D2.0 Initial ballot: Comment #12 (P17L6) Response proposed by the editor

- **2) List C_min, L_bound and B_max/introduce as the 3 parameters characterizing bursty traffic.**

  In this annex, a stream of bursty traffic is characterized by the three given parameters; C_min, B_max, and L_bounded. These parameters are given by the application.

D2.0 Initial ballot: Comment #12 (P17L6) Response proposed by the editor

- **3) Introduce Figure X-3 (... it shows c_i and term "transaction").**
  Figure X-3 illustrates the bursty traffic pattern without any traffic shaping.

- **4) Introduce term transaction, and put it into relationship with "stream" (if there is a relationship)**
  (transaction and stream are already introduced 1))

- **5) Introduce the index i.**
  A stream of busty traffic consists of multiple frame clusters, and a frame cluster consists of multiple frames. Herein after, i is used for an index of a frame cluster in a stream, and k is used for an index of a frame in a frame cluster unless otherwise specified. Thus, a particular frame in a stream is represented as the k-th frame of the i-th frame cluster.

D2.0 Initial ballot: Comment #12 (P17L6) Response proposed by the editor

- **6) Introdcue {C_min and C_i}.**
  C_i denots the time between the beginning of the i-th frame cluster and the beginning of the (i+1)-th frame cluster, and C_min denotes the lower bound of C_i for all i in a stream. C_min is one of the parameters characterizing bursty traffic.

  In view of the characteristics of some data transmission with a large interval between frame clusters that can exceed several tens of milliseconds or of event-driven data generation by internet of things devices (see IEEE-SA Industry Connections [B1]), the traffic treated here is sporadic, with condition that the next frame cluster does not arrives until the entire corresponding queue in the sender becomes empty. This condition is satisfied when L_bounded<C_min.

D2.0 Initial ballot: Comment #12 (P17L6) Response proposed by the editor

- **7) Introduce Figure X-4 (...it shows {B_max}, {t_i and t'_i}, {L_i, L_bounded}**
  Figure X-4 illustrates the detailed traffic pattern and queues of bursty traffic requiring bounded latency from the application's point of view. The application repeatedly sends out transactions with interval of C_min at least. Figure X-4 illustrates B_max, L_i, L_bounded, t_i, and t'_i, .

- **8) Introduce B_max and B_i**
  B_max denotes the maximum size of transactions, which is greater than the size of a frame the bridged network can handle. B_max is another parameter characterizing bursty traffic. B_i denotes the size of individual i-th frame cluster.
  More specifically, n_i denotes the number of frames in the i-th frame cluster, and F_i,k denotes the size of the k-th frame of the i-th frame cluster. Then, B_i is the sum of F_i,k from k=1 to k=n_i.

- **9) Introduce L_bounded and L_i**
  L_bounded, bounded latency, is the other parameter characterizing bursty traffic. Letting L_i be the time it takes to deliver the i-th transaction, L_bounded is the upper bound of L_i.

- **10) Introduce t_i and t'_i**
  Focusing on the i-th frame cluster of the stream, the transmitting application starts the i-th transaction, at the time t_i, and the receiving application sees the last frame of the i-th frame cluster on the Listener's queue at t'_i. L_i is defined as $t'_i – t_i$, which is the time it takes to deliver the i-th transaction.

- **Continue to Line 9, Page 18.**