Editor's response to the contribution

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Comments classified

dq-Xiao-comments-on-d0-0-1121-v02.pdf

- Editorial: 1, 2, 4-1, 4-2, 5-2, 6
- Technical: 3, 4-3, 5-1, 7

Comment #1

- Sub-clause X.2
- Comment
  - There are multiple words or phrases to express a burst, which are confusing.
    - data block, block data, frame cluster, fragmented block data
- Suggested remedy
  - 'data block' can be replaced by 'frame cluster'
- Response
  - ACCEPT IN PRINCIPLE
    - Change to '**block data**' in principle.
      '**frame cluster**' is equal to 'fragmented block data on network'

Comment #2

- Figure X-4
- Comment
  - In the upper graph, data size should be reduced linearly rather the vertically.
  - In the lower graph, like the above curve, similar problem also exists.
- Suggested remedy
  - Change the step-wise line to linear, or change 'Data Size' on the Y axis to 'Frame Number'
- Response
  - ACCEPT IN PRINCIPLE
    - Change 'Data Size' on the Y axis to 'Number of Frames'

Comment #3

- Figure X-5
- Comment
  - DeliveryTime defines the time from the first bit sent from a talker to the last bit received at a listener.
- Suggested remedy
  - Move the end of 'deliveryTime' from the left side of the last frame to its right side. Change 'n-1' to 'n' in the equations.
- Response
  - REJECT
    - Another contribution clarifies that the last frame is not included in the period of 'deliveryTime.' If the group wants to include it, a further study is required.

Comment #4-1

- Sub-clause X.3.1
- Comment
  - The parameter 'portTcMaxLatency' is not used in the whole article, so it can be deleted.
- Suggested remedy
  - Delete 'portTcMaxLatency' from the paragraph.
- Response
  - REJECT
    - Another contribution uses 'portTcMaxLatency' in some figure.

Comment #4-2

- Sub-clause X.3.1
- Comment
  - Consistent issues: the parameter 'AccumulatedLatency' should be *accumulatedLatency*, the same as in (X-5). Other parameters, such as Data Size (*dataSize*), Bounded Latency (*boundedLatency*) should also follow a consistent style.
- Suggested remedy
  - Fix styles
- Response
  - ACCEPT

Comment #4-3

- Sub-clause X.3.1
- Comment
  - More explanation
- Suggested remedy
  - Add the following text.
    As the calculation of *accumulatedLatency* (in Equation (V-6) in Annex V of IEEE Std 802.1Qcr, 2020) is highly related to other streams in the system when the system load changes (especially new higher-class streams are added), *accumulatedLatency* should be recalculated. Correspondingly, the SRP may also need to be re-executed.
- Response
  - REJECT
    - The text seems to confuse some terms. Review the whole text and fix them.
      - *Latency(i,k)* ⋯ travel time which it takes for the *k*-th frame of the block data Data(i) to travel from Talker to Listener
      - *Latency(i)* ⋯ travel time which it takes for the last frame of the block data Data(i) to travel from Talker to Listener
      - *AccumulatedLatency* ⋯ maximum travel time estimated by the network (SRP etc.)
      - *MaxLatency* ⋯ attribute of the stream reservation, which Latency(i) never exceeds.

Comment #5-1

- Figure X-6
- Comment
  - Should 'boundedLatency' in the figure include the last frame?
- Suggested remedy
  - Move the end of 'boundedLatency' from the left side of the last frame to its right side.
- Response
  - REJECT
    - Another contribution clarifies that the last frame is not included in the period of 'boundedLatency.' This is the same manner of calculation of latencies in 802.1Q.

Comment #5-2

- Figure X-6
- Comment
    - The figure title is not complete.
- Suggested remedy
    - Fix it.
- Response
    - ACCEPT
        - The figure title may change.

Comment #6

- Sub-clause X.4.1, X.4.2
- Comment
  - All formulas' indices in the new draft are lost, but they are still cited in the text.
- Suggested remedy
  - Add formula index.
- Response
  - ACCEPT

Comment #7

- Sub-clause X.4.3
- Comment
    1. As shown in the example, there is a possibility that the number of credit/token can be larger than one frame size
    2. One the above happen, the assumption (frames are equally spaced) in the draft may not hold
    3. So we must limit the credit/token upper bounded by one frame size.

- Suggested remedy
    - Add the following text
        - The ATS scheduler should also works for the case in which the CommittedBurstSize is greater than Maximum SDU Size. It does not affect other traffic for which the long-term averaged shaping rate. However, a small value of the CommittedBurstSize if desirable because the transient data rate, which is higher than the required minimum shaping rate, may be suppressed. This transient manner can be caused by the arrival of a new frame cluster at the shaper that has already accumulated large number of tokens causing some frames to be forwarded instantly. Such token-bucket state can occur when no frames arrive at the shaper for a period of time between clusters.
        - Similar issue also exists in the CBS scheduler. For example, when there are N classes of frame clusters arrive concurrently in the system, during the scheduling of the higher-class clusters, credits of the lowest-class cluster will be accumulated, which may results in consistent transmission of its frames. To alleviate this issue, we should also limit the credit upper-bound to the maximum SDU size.

- Response
    - DISCUSS?
        - The current draft does not assume that the frames are equally spaced, nevertheless it can be preferable in some cases.
        - Please submit the detail.