P802.1Qdq
Text Improvement

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Overview

- We have investigated the following comments and propose our remedies in this presentation.
  - P802.1Qdq/D0.2 Comment #4
  - Comment about fragmentation overhead
    - [802.1 - 14985] [Qdq] Some Thoughts on Equation (X-5)

P802.1Qdq/D0.2 Comment #4

- Clause X.2 Page 24 Line 9
- Comment
  - Figure X-6 page 27 contradicts equation (X-2)
- SuggestedRemedy
  - include portTcMaxLatency in (X-2)

- Commenter submitted the following supporting figures:
  - https://www.ieee802.org/1/files/public/docs2022/dq-Turner-D0-2-comment-4-1122-v01.pdf

Our Answer to Comment #4

- Page 24 Line 12 says as below:
  - The FrameLatency(i,k) is the sum of delays of a stream in all the bridges across the route from the Talker to the Listener and its maximum value is estimated as AccumulatedLatency by the network,

- Therefore, this comment results from a misunderstanding.

A possible root of the misunderstanding

This is **INPUT** of Talker's Queue

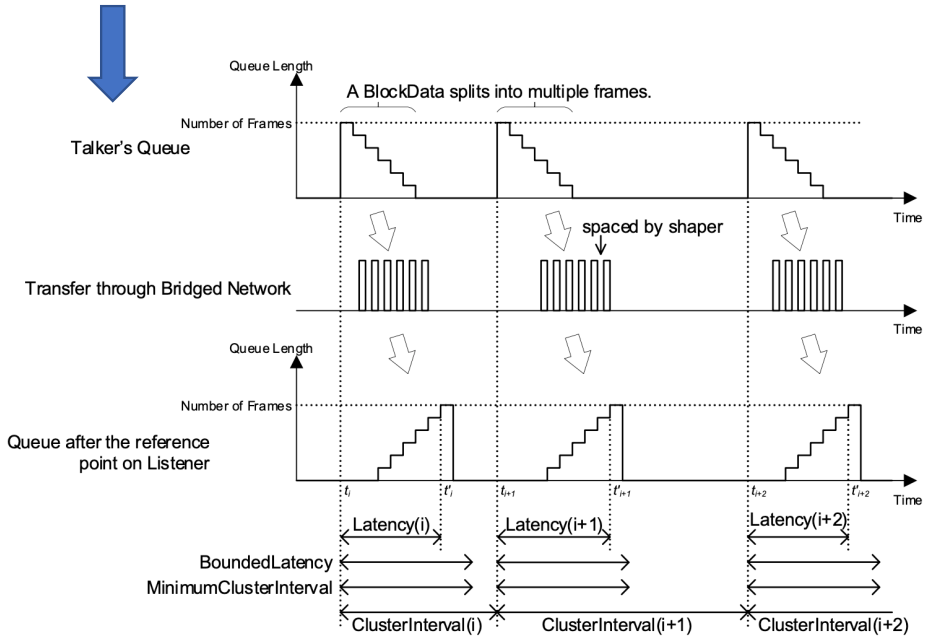

Figure X-4—Traffic pattern in application's point of view

This is **OUTPUT** of Talker's Queue

Only this small text implies Input of Talker's queue

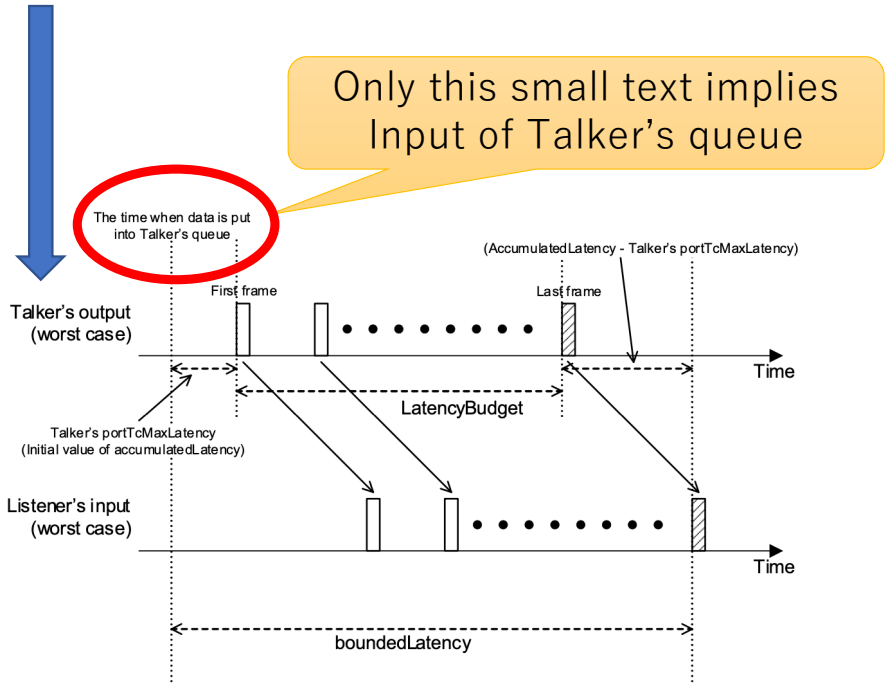

Figure X-6—The worst-case budget calculation

Our proposed remedy for Comment #4

- In Figure X-4,
  change “Talker’s Queue” to “Input of Talker’s queue”

- In Figure X-5 and X-6,
  add illustrations of “Input of Talker’s queue”

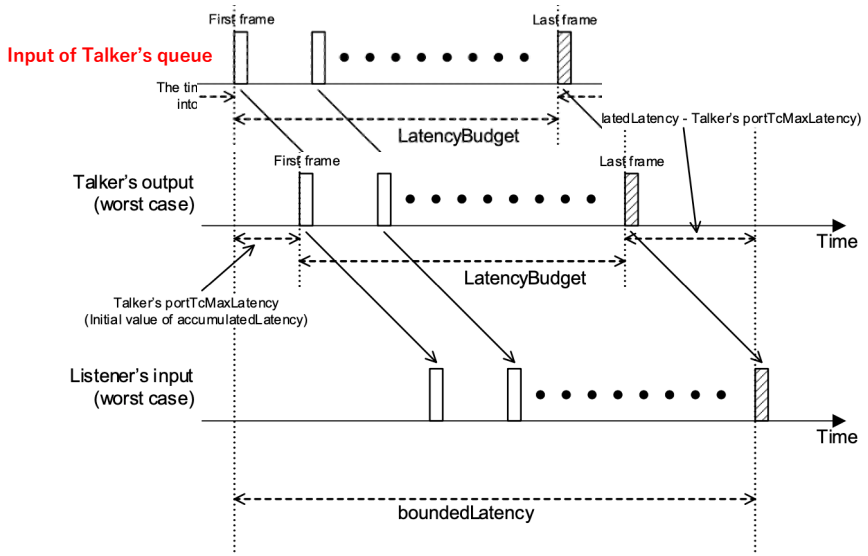

Figure X-6—The worst-case budget calculation

Comment about fragmentation overhead

- Page 24 Line 2-4 says:

  where FrameLength(i,k) denotes length of the k-th frame of the BlockData D(i). Note that DataSize(i) may be greater than each size of BlockData itself, i.e. D(i) because fragmentation mechanism may need extra data in general.

- Mr. Max Turner says:

  B ... BlockData size (in the viewpoint of Application)
  D ... DataSize (in the viewpoint of 802.1 frames)
  O ... fragmentation overhead per Frame

  $D = B + O * n$

Remedy for about fragmentation overhead

- Page 24 Line 2-4:

  where FrameLength(i,k) denotes length of the k-th frame of the BlockData D(i). Note that DataSize(i) may be greater than each size of BlockData itself, i.e. D(i), because fragmentation mechanism may need extra data ~~in general~~. For instance, while O denotes fragmentation overhead per frame, DataSize(i) is derived as follows:

$$\begin{aligned}\mathrm{DataSize}(i) &= \sum_{k=1}^{n_i} \mathrm{FrameLength}(i,k) \\ &= \sum_{k=1}^{n_i} (\mathrm{Payload}(i,k) + \mathrm{overhead}) \\ &= \mathrm{B}(i) + n * \mathrm{overhead}\end{aligned}$$

  wherein B denotes the size of BlockData D(i).

Wrap up

- We propose:
  - improvement of figures to avoid misunderstanding in Comment #4
  - incorporate Max's illustration of fragmentation overhead

- We are working on:
  - the question if ε can be ignored or not.