

P802.1DU
Cut-Through Forwarding Bridges and Bridged
Networks

Resolution of Comments on
Project Authorization Request (PAR) and Criteria for Standards Development (CSD)

2022-03-11

802.11 comments on the PAR&CSD and their resolution

- **Comment:**

PAR, 2.1 — Should the title not include “Standard for”?
Was this PAR form not generated by the myProject tool?

- **Response:**

Add the “Standard for ” prefix to the title.

802.3 comments on PAR&CSD and their resolution

- **Comment:**
PAR, 5.2 — "This standard also specifies requirements and recommendations..." So this project intends to include both mandatory requirements as well as informative recommendations? Said another way it intends to be both a Standard and a Recommended Practice contrary to what is specified in 1.2. Recommend the scope read: "This standard specifies Cut-Through Forwarding (CTF) Bridges based on the IEEE Std 802.1Q Bridge architecture. CTF Bridges interconnect individual IEEE 802 Local Area Networks (LANs) via different or identical Media Access Control (MAC) methods. This standard also includes information for application of CTF bridges."
- **Response:**
Change the last sentence of the scope to *"This standard also details the usage of CTF bridges in bridged networks."*

802.11 comments on the PAR&CSD and their resolution

- **Comment:**

PAR, 5.4 — suggested change “This standard enables communication delays lower than achievable by Bridges and bridged networks solely supporting store-and-forward operations.”

TO

“This standard enables **reduced** communication delays **lower than achievable** by **B**bridges and bridged networks solely supporting store-and-forward operations.”

The quantitative value of the reduction should be included.

- **Response:**

- Change the sentence in question to “Some time-sensitive applications benefit from communication delays smaller than achievable by bridges solely supporting store-and-forward operations.”
- Add to PAR, 8.1: “5.4: Quantitative delay considerations are provided on slides 9-15 and the associated annex of <https://mentor.ieee.org/802.1/dcn/21/1-21-0037-00.pdf>.”

802.3 comments on PAR&CSD and their resolution

- **Comment:**
CSD, General — The use of continuous lettered list across separate criteria is confusing. Note 1.2.2, i) where the sub criterion references “a)” yet what is “a)” in the LMSC Operations Manual here is lettered “h)”. Please restart at “a)” on each criterion.
- **Response:**
Implement the change throughout. Ask the IEEE 802 Executive Committee to update the CSD template accordingly.

802.3 comments on the PAR&CSD and their resolution

- **Comment:**
CSD, 1.2.2, h — At a time when IEEE 802 is attempting to develop greater consistency on architectural alignment, a “No” response will detract from this effort. A “No” response is inconsistent with the use of an 802.3 MAC (or other 802 MAC) because those MACs include service interfaces that match the 802.1AC service interface.
- **Proposed Response:**
 - Change the response to item h) of 1.2.2 to “No.”.

802.3 comments on the PAR&CSD and their resolution

- **Comment:**
CSD, 1.2.2, i — On reading, it isn't clear that this is an approved response from the 802.1 WG. It reads more like a response proposed by the proponents of the CSD to 802.1. Perhaps quotes for what text was approved and a recorded vote of the 802.1 WG would be helpful to understand what the 802.1 response really is. There needs to be very specific text that 802.1 as a WG approved, indicating awareness of the lack of conformance to the criteria and what the deviation to the criteria was that was approved by the WG. It is preferred that this sub-criterion be shown with the motion and vote of 802.1.
- **Proposed Response:**
Change the response to item i) of 1.2.2 to: “The variances in conformance with IEEE Std 802, IEEE Std 802.1AC and IEEE Std 802.1Q are disclosed as follows:
 - The new standard will provide additional capabilities over IEEE Std 802.1Q, and cannot strictly satisfy all conformance criteria defined in IEEE Std 802.1Q. The variances in conformance introduced by these new capabilities are intended to be limited to those required for frame relaying between different bridge ports according to the CTF operation (see slide 9 of <https://mentor.ieee.org/802.1/dcn/21/1-21-0037-00-ICne-ieee-802-tutorial-cut-through-forwarding-ctf-among-ethernet-networks.pdf>), including variances of the temporal properties for this relaying.

802.3 comments on the PAR&CSD and their resolution

- Due to the variances in conformance to IEEE Std 802.1Q, variances in conformance to the combination of IEEE Std 802, IEEE Std 802.1AC, and IEEE Std 802.1Q are expected.
- CTF Bridges conformant to the new standard will be interoperable with stations conformant to the combination of IEEE Std 802, IEEE Std 802.1AC, and IEEE Std 802.1Q.”

These variances were reviewed with the IEEE 802.1 WG whose response, approved by virtue of IEEE 802.1WG approving this CSD per the motion and recorded vote provided on slide xyz of <https://www.ieee802.org/1/files/public/minutes/2022-03-closing-plenary-slides.pdf>, is as follows:

- The IEEE 802.1 WG approves the deviations in conformance listed in the response to item i) of 1.2.2 of the P802.1DU CSD.

802.3 comments on the PAR&CSD and their resolution

- **Comment:**
CSD, 1.2.5, p — CTF bridges violate the 802.3 MAC Service interface where a transmission request is an atomic action. CTF starts a transmission before an entire frame is received and error checked. The CSD ignores the impact CTF bridges have on individual 802 MAC specifications and therefore are not compatible with the MAC models and therefore may not be compatible with other IEEE 802 MAC standards also.

The CSD also ignores the impact on management. Please indicate in this item that specifications will require features that minimize distortion of various management attributes or behaviours.

- **Proposed Response:**
 - CTF bridges will operate in conjunction with a MAC as currently specified in IEEE 802 Standards. CTF bridge specifications do not require that MAC entities begin transmitting frames to the bridge before those frames meet the requirements specified in IEEE 802 MAC standards.
 - Add the following to item p) of 1.2.5: “This project specifies features required of CTF Bridges to constrain the disruption of various management attributes or behaviors as specified for a store-and-forward bridge compatible with IEEE Std 802, IEEE Std 802.1AC and IEEE Std 802.1Q.”