

## P802.1Qdt

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This PAR is valid until 31-Dec-2026. The original PAR was approved on 22-Sep-2016. It was modified on 05-Jun-2023.

**PAR Extension Request Date:**

**PAR Extension Approval Date:**

**Number of Previous Extensions Requested:** 0

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**1. Number of years that the extension is being requested:** 3

**2. Why an Extension is Required (include actions to complete):** Further progress on the draft is dependent on the completion of the Revision of IEEE 802.1Q-2022, with technical corrections (resolution of inconsistency) to existing functionality. We expect that dependency to be met by March 2027, with Working Group balloting for this project to begin July 2027.

**3.1. What date did you begin writing the first draft:** 13 Sep 2022

**3.2. How many people are actively working on the project:** 15

**3.3. How many times a year does the working group meet?**

**In person:** 6

**Via teleconference:** 3

**3.4. How many times a year is a draft circulated to the working group:** 2

**3.5. What percentage of the Draft is stable:** 40%

**3.6. How many significant work revisions has the Draft been through:** 2

**4. When will/did initial Standards Association Balloting begin:** Mar 2028

**When do you expect to submit the proposed standard to RevCom:** Mar 2029

**Has this document already been adopted by another source? (if so please identify)** No

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For an extension request, the information on the original PAR below is not open to modification.

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**Type of Project:** Amendment to IEEE Standard 802.1Q-2022

**Project Request Type:** Modify / Amendment

**PAR Request Date:** 17 Mar 2023

**PAR Approval Date:** 05 Jun 2023

**PAR Expiration Date:** 31 Dec 2026

**PAR Status:** Active

**Root PAR:** P802.1Qdt

**Root PAR Approved on:** 12 May 2022

**Root PAR Expiration Date:** 31 Dec 2026

**Root Project:** 802.1Q-2022

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**1.1 Project Number:** P802.1Qdt

**1.2 Type of Document:** Standard

**1.3 Life Cycle:** Full Use

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**2.1 Project Title:** Standard for Local and Metropolitan Area Networks--Bridges and Bridged Networks  
Amendment: Priority-based Flow Control Enhancements

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**3.1 Working Group:** Higher Layer LAN Protocols Working Group(C/LAN/MAN/802.1 WG)

**3.1.1 Contact Information for Working Group Chair:**

**Name:** Glenn Parsons

**Email Address:** glenn.parsons@ericsson.com

**3.1.2 Contact Information for Working Group Vice Chair:**

**Name:** Jessy Rouyer

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**3.2 Society and Committee:** IEEE Computer Society/LAN/MAN Standards Committee(C/LAN/MAN)

**3.2.1 Contact Information for Standards Committee Chair:**

**Name:** James Gilb

**Email Address:** gilb\_ieee@tuta.com

**3.2.2 Contact Information for Standards Committee Vice Chair:**

**Name:** David Halasz

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### 3.2.3 Contact Information for Standards Representative:

**Name:** George Zimmerman

**Email Address:** george@cmephyconsulting.com

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**4.1 Type of Ballot:** Individual

**4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot:**

May 2025

**4.3 Projected Completion Date for Submittal to RevCom:** Nov 2025

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**5.1 Approximate number of people expected to be actively involved in the development of this project:** 20

**5.2.a Scope of the complete standard:** This standard specifies Bridges that interconnect individual LANs, each supporting the IEEE 802 Media Access Control (MAC) Service using a different or identical media access control method, to provide Bridged Networks and VLANs.

**5.2.b Scope of the project:** This amendment specifies procedures and managed objects for automated Priority-based Flow Control (PFC) headroom calculation and Media Access Control Security (MACsec) protection of PFC frames, using point-to-point roundtrip measurement and enhancements to the Data Center Bridging Capability Exchange protocol (DCBX).

This amendment places emphasis on the requirements for low latency and lossless transmission in large-scale and geographically dispersed data centers.

This amendment also addresses errors of the existing IEEE Std 802.1Q functionality.

**Change to scope of the project:** This amendment specifies procedures and managed objects for automated Priority-based Flow Control (PFC) headroom calculation and Media Access Control Security (MACsec) protection of PFC frames, using the existing Precision Time point-to-point Protocol roundtrip (PTP) measurement and enhancements to the Data Center Bridging Capability Exchange protocol (DCBX). This amendment places emphasis on the requirements for low latency and lossless transmission in large-scale and geographically dispersed data centers. This amendment also addresses errors of the existing IEEE Std 802.1Q functionality.

**5.3 Is the completion of this standard contingent upon the completion of another standard?** No

**5.4 Purpose:** Bridges, as specified by this standard, allow the compatible interconnection of information technology equipment attached to separate individual LANs.

**5.5 Need for the Project:** PFC is used to avoid packet loss in low latency, high reliability Ethernet data centers and data center interconnects. For PFC to function properly and without wasting memory, the amount of headroom buffer must be calculated. Deployment in large scale data center networks and long distance interconnects is currently problematic and requires manual configuration. There are customer requirements for the integrity and confidentiality protection of all frames transmitted between geographically distributed data centers. The current specification is inconsistent and incomplete regarding the operation of PFC and MACsec together.

**5.6 Stakeholders for the Standard:** Developers and users of networking for data center environments including integrated circuit developers, bridge and end station vendors, network operators and users.

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### 6.1 Intellectual Property

**6.1.1 Is the Standards Committee aware of any copyright permissions needed for this project?**

No

**6.1.2 Is the Standards Committee aware of possible registration activity related to this project?**

No

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**7.1 Are there other standards or projects with a similar scope?** No

**7.2 Is it the intent to develop this document jointly with another organization?** No

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**8.1 Additional Explanatory Notes:** #5.2.b:

1) PFC and DCBX are specified in IEEE Std 802.1Q: IEEE Standard for Local and Metropolitan Area Networks—Bridges and Bridged Networks

2) MACsec is specified in IEEE Std 802.1AE: IEEE Standard for Local and metropolitan area networks-Media Access Control (MAC) Security

**Change to Additional Explanatory Notes:** #5.2.b:1) PFC and DCBX are specified in IEEE Std 802.1Q: IEEE Standard for Local and Metropolitan Area Networks—Bridges and Bridged Networks2) ~~PTP is specified in IEEE Std 1588: IEEE Standard for a Precision Clock Synchronization Protocol for Networked Measurement and Control Systems~~3) MACsec is specified in IEEE Std 802.1AE: IEEE Standard for Local and metropolitan area networks-Media Access Control (MAC) Security