Draft PAR Proposal for an IEEE 802.1 standard on Cut-Through Forwarding (CTF)

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Reference: Slide 95 of https://www.ieee802.org/1/files/public/minutes/2021-11-closing-plenary-slides.pdf

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Type of Project: New IEEE Standard
Project Request Type: Initiation / New
PAR Request Date:
PAR Approval Date:
PAR Expiration Date:
PAR Status: Draft

1.1 Project Number: P802.1DU
1.2 Type of Document: Standard
1.3 Life Cycle:

2.1 Project Title: Cut-Through Forwarding Bridges and Bridged Networks

3.1 Working Group: Higher Layer LAN Protocols Working Group (C/LM/802.1 WG)
    3.1.1 Contact Information for Working Group Chair:
    Name: Glenn Parsons
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    3.1.2 Contact Information for Working Group Vice Chair:
    Name: Jessy Rouyer
    Email Address: jessy.rouyer@nokia.com
3.2 Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee(C/LM)
    3.2.1 Contact Information for Standards Committee Chair:
    Name: Paul Nikolich
    Email Address: p.nikolich@ieee.org
    3.2.2 Contact Information for Standards Committee Vice Chair:
    Name: James Gilb
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    3.2.3 Contact Information for Standards Representative:
    Name: James Gilb
    Email Address: gilb@ieee.org
4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot:
Nov 2025

4.3 Projected Completion Date for Submittal to RevCom: Dec 2026

5.1 Approximate number of people expected to be actively involved in the development of this project: 30

5.2 Scope of proposed standard: This standard specifies Cut-Through Forwarding (CTF) Bridges based on the IEEE 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 specifies requirements and recommendations for the usage of CTF Bridges in bridged networks including IEEE 802.1Q bridged networks.

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

5.4 Purpose: This standard enables communication delays lower than achievable by Bridges and bridged networks solely supporting store-and-forward operations. The standard allows interoperable interconnection of information technology equipment, with and without support for CTF, attached to separate individual LANs.

5.5 Need for the Project: Support for CTF is found in existing products, but CTF is not standardized by IEEE 802.1. Such products are used in existing installations that require the lower communication delays enabled by CTF. Standardizing CTF is needed to enable interoperability between different products, including (but not limited to) products from different vendors.

5.6 Stakeholders for the Standard: Manufacturers, distributors, vendors, developers, providers and users of bridging equipment for industrial automation, professional audio-video, data centers and other systems requiring communication delays lower than achievable by store-and-forward bridging operations.

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

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
8.1 Additional Explanatory Notes:

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 for the basic operation of a CTF Bridge.