International Standard

ISO/IEC/IEEE 8802-1Q

Telecommunications and exchange between information technology systems — Requirements for local and metropolitan area networks —

Part 1Q: Bridges and bridged networks

AMENDMENT 38: Configuration enhancements for time-sensitive networking

Télécommunications et échange entre systèmes informatiques — Exigences pour les réseaux locaux et métropolitains —

Partie 1Q: Ponts et réseaux pontés

AMENDEMENT 38: Améliorations de la configuration pour les réseaux à temps critique

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Institute of Electrical and Electronics Engineers, Inc
3 Park Avenue, New York
NY 10016-5997, USA

Email: stds.ipr@ieee.org
Website: www.ieee.org

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ISO/IEC/IEEE 8802-1Q:2024/Amd 38 was prepared by the LAN/MAN of the IEEE Computer Society (as IEEE Std 802.1Qdj-2024) and drafted in accordance with its editorial rules. It was adopted, under the “fast-track procedure” defined in the Partner Standards Development Organization cooperation agreement between ISO and IEEE, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

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IEEE Standard for
Local and Metropolitan Area Networks—

Bridges and Bridged Networks

Amendment 38: Configuration Enhancements for Time-Sensitive Networking

(This amendment is based on IEEE Std 802.1Q™-2022 as amended by IEEE Std 802.1Qcz™-2023, IEEE Std 802.1Qcw™-2023, and IEEE Std 802.1Qcj™-2023.)

NOTE—The editing instructions contained in this amendment define how to merge the material contained therein into the existing base standard and its amendments to form the comprehensive standard.

The editing instructions are shown in ***bold italics***. Four editing instructions are used: change, delete, insert, and replace. ***Change*** is used to make corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed by using ~~strikethrough~~ (to remove old material) and underscore (to add new material). ***Delete*** removes existing material. ***Insert*** adds new material without disturbing the existing material. Deletions and insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. ***Replace*** is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one. Editing instructions, change markings, and this note will not be carried over into future editions because the changes will be incorporated into the base standard. [6]

[6] Notes in text, tables, and figures are given for information only and do not contain requirements needed to implement the standard.

1. Overview

1.3 Introduction

Change the paragraph beginning "This standard specifies enhancements to protocols, procedures, and managed objects for the configuration of network resources" (as amended by IEEE Std 802.1Qcw-2023) as follows, and renumber the subsequent list items accordingly:

This standard specifies enhancements to protocols, procedures, and managed objects for the configuration of network resources for time-sensitive ~~(i.e., bounded latency)~~ applications that require timely, high probability, delivery of frames without end station retransmission. ~~The enhancements address Time-Sensitive Networking (TSN) application requirements beyond audio/video (AV) traffic.~~ To this end, it:

~~cm) Specifies a software interface between the user (i.e., time-sensitive application) and network components, such that the user provides Stream requirements (e.g., for bounded latency), and the network configures resources from Talker to Listeners to meet those requirements. This user/network interface (UNI) is specified as an information model that can be applied to any protocol.~~

cm) Describes three approaches to network configuration: ~~Specifies three models for the UNI:~~ fully distributed, centralized network/distributed user, and fully centralized.

~~co) Specifies enhancements to the Stream Reservation Protocol (SRP), using a new application version, MSRPv1. MSRPv1 integrates the UNI TLVs for the benefits of enhanced configuration. For compatibility, MSRPv1 translates to the previous version (MSRPv0).~~

cn) Specifies ~~enhancements to the~~ managed objects for forwarding and queuing enhancements for time-sensitive streams (FQTSS).

~~cq) Specifies enhancements to the managed objects for SRP.~~

co) Describes Centralized User Configuration (CUC) and Centralized Network Configuration (CNC) entities.

cp) Specifies managed objects for configuration of Bridges by a ~~Centralized Network Configuration (~~CNC~~) component~~.

cq) ~~Define~~ Specifies YANG configuration and operational state models (Clause 48) in support of Scheduled Traffic, frame preemption, ~~and~~ Per-Stream Filtering and Policing, and CUC configuration.