P802.1Qcr

Submitter Email: janos.farkas@ericsson.com
Type of Project: Amendment to IEEE Standard 802.1Q-2014
PAR Request Date: 27-Jan-2016
PAR Approval Date:
PAR Expiration Date:
Status: Unapproved PAR, PAR for an Amendment to an existing IEEE Standard

1.1 Project Number: P802.1Qcr
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Standard for Local and metropolitan area networks--Bridges and Bridged Networks
Asynchronous Traffic Shaping

3.1 Working Group: Higher Layer LAN Protocols Working Group (C/LM/WG802.1)
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3.2 Sponsoring Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee (C/LM)
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 01/2020
4.3 Projected Completion Date for Submittal to RevCom: 10/2020

5.1 Approximate number of people expected to be actively involved in the development of this project: 40
5.2.a. Scope of the complete standard: This standard specifies Bridges that interconnect individual LANs, each supporting the IEEE 802 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 project specifies procedures and managed objects for a bridge to perform asynchronous traffic shaping over full-duplex links with constant bit data rates.

Asynchronous traffic shaping provides an additional layer of shaped egress queues to merge flows into the existing queue structure. The required minimum number of independent queues at an egress port is adjustable and is at least the number of ingress ports of the particular bridge that require merging.

The project provides an informative framework for worst case delay analysis in static networks/configurations.

5.3 Is the completion of this standard dependent 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: There is well defined traffic that requires zero congestion loss and deterministic latency. Current bridging standards do not provide a sufficiently fine grained asynchronous traffic mechanism to meet these requirements without using network topology information.

This project specifies mechanisms that do not rely on synchronous communication, thereby providing independence from clock synchronization mechanisms and higher link utilization than synchronous mechanisms.

5.6 Stakeholders for the Standard: Developers, providers, and users of networking services and equipment for streaming of time-sensitive data. This includes software developers, networking integrated circuit developers, bridge and network interface controller vendors, and users.

Intellectual Property
6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor 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 Joint Development
Is it the intent to develop this document jointly with another organization?: No

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8.1 Additional Explanatory Notes (Item Number and Explanation): 5.2b: The core operation of the intended mechanism on the data plane is described in http://www.ieee802.org /1/files/public/docs2015/new-tsn-specht-ubs-queues-0521-v0.pdf.