P802.1Qbv

Submitter Email: tony@jeffree.co.uk
Type of Project: Amendment to IEEE Standard 802.1Q-2011
PAR Request Date: 20-Jan-2012
PAR Approval Date:
PAR Expiration Date:
Status: Unapproved PAR, PAR for an Amendment to an existing IEEE Standard

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

2.1 Title: Standard for Local and metropolitan area networks--Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks Amendment: Enhancements for Scheduled Traffic

3.1 Working Group: Higher Layer LAN Protocols Working Group (C/LM/WG802.1)
Contact Information for Working Group Chair
Name: Anthony Jeffree
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3.2 Sponsoring Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee (C/LM)
Contact Information for Sponsor Chair
Name: Paul Nikolich
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Contact Information for Standards Representative
None

4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 11/2015
4.3 Projected Completion Date for Submittal to RevCom: 10/2016

5.1 Approximate number of people expected to be actively involved in the development of this project: 25
5.2 Scope: This amendment specifies time-aware queue-draining procedures, managed objects and extensions to existing protocols that enable bridges and end stations to schedule the transmission of frames based on timing derived from IEEE Std 802.1AS. Virtual Local Area Network (VLAN) tag encoded priority values are allocated allowing simultaneous support of scheduled traffic, credit-based shaper traffic and other bridged traffic over Local Area Networks (LANs).

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: Bridges are increasingly used to interconnect devices that support scheduled applications (e.g., industrial automation, process control and vehicle control). This amendment will provide performance guarantees of latency and delivery variation to enable these applications in an engineered LAN while maintaining the existing guarantees for the credit-based shaper and best-effort traffic.

5.5 Need for the Project: The credit-based shaper works well in arbitrary networks (i.e., non-engineered). Networks employing scheduled transmissions are able to control real-time processes. This amendment enables those two kinds of networks to be consolidated into a single network, with a significant cost reduction to the user.

5.6 Stakeholders for the Standard: Developers and Users of bridged LAN and end-point systems supporting automotive and industrial Ethernet and other latency sensitive applications.

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

7.1 Are there other standards or projects with a similar scope?: Yes
If Yes please explain: SAE AS6802 (2011-11), Time-Triggered Ethernet

Explain: Time-Triggered Ethernet is a vertical Aerospace standard incorporating material that overlaps parts of 802.1Q, 802.1AS and this amendment. Unlike AS6802, this amendment integrates scheduled traffic with the existing credit based shaper and best effort traffic. We will coordinate our work with the SAE through common membership and liaison.

and answer the following
Sponsor Organization: SAE
Project/Standard Number: AS6802
Project/Standard Date:
Project/Standard Title: Time-Triggered Ethernet
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):