P802.1Qbu

Submitter Email: tony@jeffree.co.uk
Type of Project: Amendment to IEEE Standard 802.1Q-2011
PAR Request Date: 19-Jan-2012
PAR Approval Date:
PAR Expiration Date:
Status: Unapproved PAR, PAR for an Amendment to an existing IEEE Standard

1.1 Project Number: P802.1Qbu
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: Frame Preemption.

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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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 procedures, managed objects, and protocol extensions that:
- Define a class of service for time-critical frames that allows the transmitter in a bridged Local Area Network to selectively suspend the transmission of a non-time-critical frame, and allow for one or more time-critical frames to be transmitted. When the time-critical frames have been transmitted, the transmission of the preempted frame is resumed. A non-time-critical frame could be preempted multiple times.
- Provide for discovery, configuration, and control of preemption service for a bridge port and end station.
- Ensure that preemption is only enabled on a given link if both link partners have that capability.

5.3 Is the completion of this standard dependent upon the completion of another standard: Yes
If yes please explain: Yes, Corresponding project in 802.3 in support of pre-emptive forwarding in MAC Services is needed, and will be coordinated through 802.3 PAR process. The 802.3 PAR has not been requested yet.

5.4 Purpose: The purpose of this amendment is to provide reduced latency transmission for scheduled, time-critical frames in a bridged LAN.

5.5 Need for the Project: A large, non-time-critical frame may start ahead of time-critical frame transmission. This condition leads to excessive latency for the time-critical frame.
The lack of transmission preemption severely inhibits the capabilities of an application that uses scheduled frame transmission to implement a real-time control network.

5.6 Stakeholders for the Standard: Developers, providers, and users of networking services and equipment for Industrial Automation, In-vehicle networking, and other systems requiring low latency virtual LAN bridges, including networking IC developers, bridge and NIC 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):