

P802.1Q?? Time Aware Shaper

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PAR

- **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
- **4.2 Expected Date of Submission for Initial Sponsor Ballot:**
 - 2015-11-30
- **4.3 Projected Completion Date for Submittal to RevCom:**
 - 2016-11-30
- **5.1 Approximate number of people expected to work on the project:**
 - 25

PAR - Scope

- **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).

PAR - Purpose

- **5.3 Is the completion of this document contingent upon the completion of another document:**
 - 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.

PAR - Need

- **5.5 Need:**
 - 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.

PAR – Other Projects

- **7.1 Are There Other Standards or Projects with a Similar Scope:**
 - Yes, 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.

PAR – Other Stuff

- **7.2 Joint Development:**
 - No.
- **7.3 International Standards Activities**
 - A) No.
 - B) No.
- **7.4 Testing and Certification**
 - No
 - No