802.1DC PAR for
Quality of Service Provision by Non-Bridges

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v04

Introduction

- See new-finn-non-bridge-queuing-0917-v01 for a rationale for this PAR and CSD.
- This new document is a stand-alone document that references IEEE 802.1Q extensively.
- We will discuss Objectives and non-Objectives.
- Then, we'll look at the PAR.

Non-Objectives

- Restating current normative 802.1Q text in "more understandable" (read, "incorrect") terms.
- "Fixing" the 802.1Q normative text.
- Recasting the existing 802.1Q text to make normative use of the new clauses.
- Going into details on subjects that are not directly tied to queuing (e.g. the proper use of VLAN tags by an end station).

Objectives

- Target audience: Readers who are familiar with standards, but not necessarily 802.1Q, and certainly not the recent TSN amendments.
- Provide a **non-normative introductory clause** that lists and introduces the sections of 802.1Q that contain normative text that is directly relevant to queue implementation. This section:
  - Points out the text and diagrams critical to understanding the "Tao" of 802.1Q (e.g. baggy pants, or the difference between an API and service primitives).
  - Points out the clauses that describe the skeleton of 802.1Q queuing.
  - Points out the clauses that describe the various transmission selection algorithms.
  - Points out the clauses in 802.1Q (and other documents) that may be relevant, but not essential (e.g. the SecY).
  - Provides a minimum of narrative "glue" for this to make sense.

Objectives

- Provide a **normative clause** that:
  - Gives a model for an end system port stack that focuses on 8.6.5-8.6.9 in 802.1Q (and other clauses, e.g. 34).
  - Gives a model for a (VLAN-unaware) relay system that is simply several end system models connected by a generic, unspecified, relay function.
  - Explains how to interpret the few bits of 802.1Q (e.g. 8.6.7:c) in the normative clauses of 802.1Q that are tied tightly to Bridging.
- Clause 5 of the new document has sections for "relay systems" and for "end systems" that provide access points to other documents, and which reference primarily the new clauses.

PAR header

- **Type of Project:** New IEEE Standard
- **PAR Request Date:** 10-Mar-2018
- **PAR Approval Date:**
- **PAR Expiration Date:** 31-Mar-2022
- **Status:** PAR for a New IEEE Standard
- **1.1 Project Number:** P802.1DC
- **1.2 Type of Document:** Standard
- **1.3 Life Cycle:** Full Use

PAR title

- **2.1 Title:** Standard for Local and Metropolitan Area Networks Quality of Service Provision by Non-Bridges

PAR lifecycle

- **4.1 Type of Ballot:** Individual
- **4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot:** 03/2022
- **4.3 Projected Completion Date for Submittal to RevCom**
  Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 10/2022
- **5.1 Approximate number of people expected to be actively involved in the development of this project:** 40

PAR scope

- **5.2 Scope:** This project specifies procedures and managed objects for a network system, which is not a bridge, to employ the Quality of Service features specified for bridges in IEEE Std 802.1Q.

PAR Purpose

- **5.3 Is the completion of this standard dependent upon the completion of another standard:** No
- **5.4 Purpose:** To make the queuing and transmission selection capabilities of bridges available for use by devices that are not bridges.

PAR Need

- **5.5 Need for the Project:** IEEE Std 802.1Q defines, for bridges, various features that provide the Quality of Service (QoS) characteristics of Time-Sensitive Networking (TSN). These features are perfectly applicable to other devices, e.g. end stations, routers, or firewall appliances, but in IEEE Std 802.1Q, the specifications of these features are scattered, and coupled tightly to the operation of a bridge. This standard provides reference points to these QoS capabilities, making them readily available to standards defining non-bridge devices.

PAR Stakeholders

- **5.6 Stakeholders for the Standard:** Software developers, networking integrated circuit developers, and developers and users of networking services and equipment that stream time-sensitive data. Such equipment includes bridges, end stations, hosts, routers, and other packet relay devices.

PAR Other

- **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?:** Yes
- **If yes please explain:** The YANG Data Model will be assigned a URN based on the RA URN tutorial and IEEE Std 802d. The standard may allow an OUI or CID to be used to create globally unique identifiers for narrowly-defined contexts within the YANG data model.
- **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

Thank you