

P802.1Qdd

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Type of Project: Amendment to IEEE Standard 802.1Q-2018

PAR Request Date: 24-May-2018

PAR Approval Date:

PAR Expiration Date:

Status: Unapproved PAR, PAR for an Amendment to an existing IEEE Standard

1.1 Project Number: P802.1Qdd

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

Amendment: Resource Allocation Protocol

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: 12/2021

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: 30

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 amendment specifies protocols, procedures, and managed objects for a Resource Allocation Protocol (RAP) that uses the Link-local Registration Protocol (LRP) and supports and provides backwards compatibility with the stream reservation and quality of service capabilities, controls and protocols specified in IEEE Std 802.1Q. RAP provides support for accurate latency calculation and reporting, can use redundant paths established by other protocols, and is not limited to bridged networks.

5.3 Is the completion of this standard dependent upon the completion of another standard: Yes

If yes please explain: This standard will make normative references to IEEE P802.1CS.

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: A signaling protocol that performs distributed and dynamic resource management and admission control is an

essential component for automatic configuration in bridged LANs requiring latency and bandwidth guarantees. Current IEEE 802.1Q Multiple Stream Reservation Protocol (MSRP) is constrained by the capability of its underlying IEEE 802.1Q Multiple Registration Protocol (MRP) and does not efficiently support a large reservation database.

For use in distributed stream reservation, IEEE 802.1Q MSRP does not make use of all available Quality of Service provisions and does not support reservation for the streams in need of high availability by use of the technologies specified in IEEE Std 802.1CB.

The proposed amendment will address these issues.

5.6 Stakeholders for the Standard: Developers, providers, and users of networking services and equipment for industrial, professional audio-video, automotive, consumer electronics and other systems requiring distributed stream reservation services for streaming of time-sensitive data.

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?: Yes

If yes please explain: The Simple Network Management Protocol (SNMP) MIB will be assigned an Object Identifier (OID) based on the Registration Authority (RA) OID tutorial and IEEE Std 802.

The YANG Data Model will be assigned a Uniform Resource Name (URN) based on the RA URN tutorial and IEEE Std 802d.

The amendment will use the IEEE 802.1 Organizationally Unique Identifier (OUI) to create a globally unique application identifier as required by the Link-local Registration Protocol (LRP).

The amendment may allow an OUI or Company Identifier (CID) to be used to create code points used in managed objects and protocol fields.

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

8.1 Additional Explanatory Notes: #5.2.b IEEE Std 802.1Q IEEE Standard for Local and Metropolitan Area Networks - Bridges and Bridged Networks

The Link-local Registration Protocol (LRP) is being specified in IEEE P802.1CS Draft Standard for Local and Metropolitan Area Networks: Link-local Registration Protocol

#5.3 IEEE P802.1CS Draft Standard for Local and Metropolitan Area Networks: Link-local Registration Protocol

#5.5 IEEE Std 802.1CB IEEE Standard for Local and metropolitan area networks -- Frame Replication and Elimination for Reliability

#6.1.b While 'YANG' (developed by the Internet Engineering Task Force) appears to be an acronym its expansion 'Yet Another Next Generation' is not meaningful. YANG is a widely-used standard that is relevant to the Registration Authority.

IEEE Std 802 IEEE Standard for Local and Metropolitan Area Networks: Overview and Architecture

IEEE Std 802d IEEE Standard for Local and Metropolitan Area Networks: Overview and Architecture Amendment 1: Allocation of Uniform Resource Name (URN) Values in IEEE 802 Standards

RA URN tutorial: <http://standards.ieee.org/develop/regauth/tut/ieeearn.pdf>

RA OID tutorial: <http://standards.ieee.org/develop/regauth/tut/oid.pdf>

#7.3 for adoption under the existing PSDO agreement (refer to Jodi Haasz, IEEE staff)