P802.1DD

Type of Project: New IEEE Standard
Project Request Type: Initiation / New
PAR Request Date:
PAR Approval Date:
PAR Expiration Date:
PAR Status: Draft

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

2.1 Project Title: Resource Allocation Protocol

3.1 Working Group: Higher Layer LAN Protocols Working Group (C/LAN/MAN/802.1 WG)
    3.1.1 Contact Information for Working Group Chair:
    Name: Glenn Parsons
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    Name: Jessy Rouyer
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3.2 Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee (C/LAN/MAN)
    3.2.1 Contact Information for Standards Committee Chair:
    Name: James Gilb
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    3.2.2 Contact Information for Standards Committee Vice Chair:
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot:
Sep 2025
4.3 Projected Completion Date for Submittal to RevCom: Mar 2026

5.1 Approximate number of people expected to be actively involved in the development of this project: 30
5.2 Scope of proposed standard: This standard specifies protocols, procedures, and managed objects for a Resource Allocation Protocol (RAP) that uses the Link-local Registration Protocol (LRP). RAP supports controls and protocols specified in IEEE Std 802.1Q and IEEE Std 802.1CB, provides support for accurate latency calculation and reporting, can use redundant paths established by other protocols, and is not limited to bridged networks.

(Original in Qdd): *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 contingent upon the completion of another standard? No
5.4 Purpose: RAP is designed to provide resource allocation through a network for time-sensitive streams.
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 Professional, Industrial, Consumer electronics.

6.1 Intellectual Property

    6.1.1 Is the Standards Committee aware of any copyright permissions needed for this project?

No

6.1.2 Is the Standards Committee aware of possible registration activity related to this project?
Yes

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

7.1 Are there other standards or projects with a similar scope? No
7.2 Is it the intent to develop this document jointly with another organization? No

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8.1 Additional Explanatory Notes: #5.5:
IEEE Std 802.1Q, IEEE Standard for Local and metropolitan area networks - Bridges and Bridged Networks
IEEE Std 802.1CB, IEEE Standard for Local and metropolitan area networks - Frame Replication and Elimination for Reliability
#6.1.2:
IEEE RA URN tutorial: http://standards.ieee.org/develop/regauth/tut/ieeeurn.pdf