P802.1EJ

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: P802.1EJ
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Project Title: IEEE Standard for Local and Metropolitan Area Networks--Backward Notification

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
Email Address: gilb_ieee@tuta.com
3.2.2 Contact Information for Standards Committee Vice Chair:
Name: David Halasz
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3.2.3 Contact Information for Standards Representative:
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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: Jul 2028
4.3 Projected Completion Date for Submittal to RevCom: Jul 2029

5.1 Approximate number of people expected to be actively involved in the development of this project: 20
5.2 Scope of proposed standard: This standard specifies procedures, protocols, and managed objects for backward notification to signal data center network conditions toward the source end station. This standard supports Medium Access Control (MAC), Customer Virtual Local Area Network (C-VLAN) and Service Virtual Local Area Network (S-VLAN) bridges and end stations in data center networks. The notification mechanism conveys information for congestion management, path rebalancing, and failure recovery. This standard specifies how notifications are triggered and constructed, and a service interface for exposing the information to entities above the data link layer. This standard supports managed objects and a YANG data model for backward notification.

5.3 Is the completion of this standard contingent upon the completion of another standard? No
5.4 Purpose: This document will not include a purpose clause.
5.5 Need for the Project: Backward notification enables timely and informed decisions for congestion management, path re-balancing, and failure recovery, and is particularly valuable for links with long round trip time or when the forward path is unavailable. Backward notification complements existing congestion management techniques and improves the overall robustness and efficiency of data center networks. While Priority-based Flow Control provides hop-by-hop flow control, there remains a need for a standardized multi-hop backward notification mechanism by which network elements can signal network conditions toward source end stations and expose this information to entities above the data link layer.
5.6 Stakeholders for the Standard: Developers and users of networking for data center environments including integrated circuit developers, bridge and end station vendors, network operators and users.

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 Registration Authority (RA) URN tutorial and IEEE Std 802.

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: #5.2:
While 'YANG' (developed by the Internet Engineering Task Force) appears to be an acronym, its expansion is not meaningful. YANG is a data modeling language for the definition of data sent over network management protocols (IETF Request For Comments (RFC) 7950, The YANG 1.1 Data Modeling Language).
IEEE Std 802.1Q: IEEE Standard for Local and Metropolitan Area Networks—Bridges and Bridged Networks.
#6.1.2:
IEEE Std 802 IEEE Standard for Local and Metropolitan Area Networks: Overview and Architecture
RA URN tutorial: http://standards.ieee.org/develop/regauth/tut/ieeeurn.pdf