
P802.1AXdz

Type of Project: Amendment to IEEE Standard 802.1AX-2020

Project Request Type: Initiation / Amendment

PAR Request Date:

PAR Approval Date:

PAR Expiration Date:

PAR Status: Draft

Root Project: 802.1AX-2020

1.1 Project Number: P802.1AXdz

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Project Title: IEEE Standard for Local and Metropolitan Area Networks--Link Aggregation
Amendment: YANG for Link Aggregation

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:

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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:

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3.2.2 Contact Information for Standards Committee Vice Chair:

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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:

Nov 2025

4.3 Projected Completion Date for Submittal to RevCom: Nov 2026

5.1 Approximate number of people expected to be actively involved in the development of this project: 20

5.2.a Scope of the complete standard: Link Aggregation provides protocols, procedures, and managed objects that allow the following: - One or more parallel instances of point-to-point links to be aggregated together to form a Link Aggregation Group (LAG) so that a Link Aggregation Client can treat the LAG as if it were a single link. - Conversation-Sensitive Collection and Distribution (CSCD) that specifies a means to identify the distribution algorithm in use to assign frames to individual links in a LAG and to convey that information to the System at the other end of the LAG. - Distributed Resilient Network Interface (DRNI) that enables a LAG to terminate at a pair of cooperating Systems in order to provide system-level as well as link-level resiliency.

5.2.b Scope of the project: This amendment specifies YANG modules that allow configuration and status reporting for systems implementing Link Aggregation, and optionally Distributed Resilient Network Interconnect, (as specified by this standard) with the capabilities currently specified in clause 7 (management) and Annex D (MIB definitions). Additionally, this amendment will address errors or omissions to existing features.

5.3 Is the completion of this standard contingent upon the completion of another standard? No

5.4 Purpose: Link Aggregation allows the establishment of point-to-point links that have a higher aggregate bandwidth than the individual links that form the aggregation and the use of multiple systems at each end of the aggregation. This allows improved utilization of available links in Bridged local area network (LAN) environments, along with improved resiliency in the face of failure of individual links or systems. In

applications connecting separately administered networks, the networks are isolated from each other's fault recovery events.

Change to Purpose: Link Aggregation allows the establishment of point-to-point links that have a higher aggregate bandwidth than the individual links that form the aggregation and the use of multiple systems at each end of the aggregation. This allows improved utilization of available links in Bridged local area network (LAN) environments, along with improved resilience in the face of failure of individual links or systems. In applications connecting separately administered networks, the networks are isolated from each other's fault recovery events.

5.5 Need for the Project: YANG (RFC 7950) is a formalized data modeling language that is widely accepted and can be used to simplify network configuration. The ability to manage Link Aggregation via YANG is needed for compatibility with modern network management systems.

5.6 Stakeholders for the Standard: The stakeholders for this standard are the semiconductor manufacturers, system product manufacturers (e.g., switch and Network Interface Controllers), network providers (e.g. installers, support, enterprises), bandwidth providers (e.g., carriers), and users of Link Aggregation as currently defined in IEEE Std 802.1AX-2022.

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 Registration Authority (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

8.1 Additional Explanatory Notes: 2.1: 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 data modeling language for the definition of data sent over network management protocols.

5.5: IETF Request For Comments (RFC) 7950 The YANG 1.1 Data Modeling Language

6.1.2: 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 IEEE RA URN tutorial:

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