P802.1CBcv

Submitter Email: janos.farkas@ericsson.com
Type of Project: Amendment to IEEE Standard 802.1CB-2017
PAR Request Date: 18-Oct-2017
PAR Approval Date:
PAR Expiration Date:
Status: Unapproved PAR, PAR for an Amendment to an existing IEEE Standard

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

2.1 Title: Draft Standard for Local and metropolitan area networks -- Frame Replication and Elimination for Reliability Amendment: Information Model, YANG Data Model and Management Information Base Module

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: 09/2020
4.3 Projected Completion Date for Submittal to RevCom
Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 10/2021

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: This standard specifies procedures, managed objects and protocols for bridges and end stations that provide:
- Identification and replication of frames, for redundant transmission.
- Identification of duplicate frames.
- Elimination of duplicate frames.

5.2.b. Scope of the project: This amendment specifies a Unified Modeling Language (UML) based information model for the capabilities currently specified in clauses 9 and 10 of this standard. A YANG data model and a (Management Information Base) MIB module both based on that UML model support configuration and status reporting. Additionally, this amendment will address errors or omissions to existing features.

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: The reason for Frame Replication and Elimination for Reliability (FRER) is to increase the probability that a given packet will be delivered. It is expected that, in many applications, other means to increase the probability of delivery are likely to be used, as well. When FRER is used over paths that are fixed to a specific topology, and that are protected against congestion loss (e.g. by using techniques described by IEEE Std 802.1BA [B1]), FRER can substantially reduce the probability of packet loss due to equipment failures.

5.5 Need for the Project: There is no data model defined in the current standard to access the defined managed objects, which leaves no standard way to manage conformant devices. The YANG data model supports future consistent management for IEEE 802.1 standards. The MIB module is required for target applications including industrial networks, an important target area for this standard.

5.6 Stakeholders for the Standard: Developers, providers, and users of networking services and equipment for Industrial Automation, In-vehicle networking, Professional Audio-Video (AV) and other systems requiring high availability traffic, including networking integrated circuit (IC) developers, bridge and network interface card (NIC) vendors, and users.

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 YANG Data Model will be assigned a Uniform Resource Name (URN) based on the Registration Authority (RA) URN tutorial and IEEE Std 802d. The Simple Network Management Protocol (SNMP) MIB will be assigned an Object Identifier (OID) based on the RA OID tutorial and IEEE Std 802.

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

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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. It is vital that 'YANG' appear in the project title to inform potential participants and the target readership of the amendment.
#5.4 IEEE Std 802.1BA-2011 - IEEE Standard for Local and metropolitan area networks: Audio Video Bridging (AVB) Systems
#6.1.b 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/ieeeurn.pdf
RA OID tutorial: http: //standards.ieee.org/develop/regauth/tut/oid.pdf