P802.1ASdn

Submitter Email:
Type of Project: Amendment to IEEE Standard 802.1AS-2020
Project Request Type: Initiation / Amendment
PAR Request Date:
PAR Approval Date:
PAR Expiration Date:
PAR Status: Draft
Root Project: 802.1AS-2020

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

2.1 Project Title: IEEE Approved Draft Standard for Local and Metropolitan Area Networks - Timing and Synchronization for Time-Sensitive Applications   Amendment: YANG Data Model

3.1 Working Group: Higher Layer LAN Protocols Working Group(C/LM/802.1 WG)
    3.1.1 Contact Information for Working Group Chair:
    Name: Glenn Parsons
    Email Address: glenn.parsons@ericsson.com
    3.1.2 Contact Information for Working Group Vice Chair:
    Name: John Messenger
    Email Address: j.l.messenger@ieee.org
3.2 Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee(C/LM)
    3.2.1 Contact Information for Standards Committee Chair:
    Name: Paul Nikolich
    Email Address: p.nikolich@ieee.org
    3.2.2 Contact Information for Standards Committee Vice Chair:
    Name: James Gilb
    Email Address: gilb@ieee.org
    3.2.3 Contact Information for Standards Representative:
    Name: James Gilb
    Email Address: gilb@ieee.org

4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot:
Mar 2024
4.3 Projected Completion Date for Submittal to RevCom: Dec 2024

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 the protocol, procedures, and managed objects used to ensure that the synchronization requirements are met for time-sensitive applications, such as audio, video, and time-sensitive control, across networks; for example, IEEE 802 and similar media. This includes the maintenance of synchronized time during normal operation and following addition, removal, or failure of network components and network reconfiguration. It specifies the use of IEEE Std 1588 specifications where applicable in the context of IEEE Std 802.1Q. Synchronization to an externally provided timing signal (e.g., a recognized timing standard such as UTC or TAI) is not part of this standard but is not precluded.
5.2.b Scope of the project: This amendment specifies a YANG data model that allows configuration and state reporting for all managed objects specified in clause 14 (Timing and synchronization management). Since many of the managed objects of clause 14 originate from the base IEEE Std 1588, the YANG data model of this amendment will include augments of YANG for IEEE Std 1588-2019, which is under development as amendment IEEE P1588e. This amendment specifies a Unified Modeling Language (UML)-based figure to explain the managed objects and the associated YANG data model.

5.3 Is the completion of this standard contingent upon the completion of another standard? Yes
    Explanation: This amendment depends on amendment IEEE P1588e: MIB and YANG Data Models
5.4 Purpose: This standard enables stations attached to bridged LANs to meet the respective jitter, wander, and time synchronization requirements for time-sensitive applications. This includes applications that involve multiple streams delivered to multiple endpoints. To facilitate the widespread use of bridged LANs for these

applications, synchronization information is one of the components needed at each network element where time-sensitive application data are mapped or demapped or a time-sensitive function is performed. This standard leverages the work of the IEEE 1588 Working Group by developing the additional specifications needed to address these requirements.

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 timing and synchronization via YANG model is needed for compatibility with modern network management systems.

5.6 Stakeholders for the Standard: Developers, manufacturers, distributors, or users of time-sensitive applications, components, and equipment.

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. It is vital that 'YANG' appear in the project title to inform potential participants and the target readership of the amendment.

#5.2a:
IEEE Std 802.1Q, IEEE Standard for Local and metropolitan area networks - Bridges and Bridged Networks
IEEE Std 1588, IEEE Standard for a Precision Clock Synchronization Protocol for Network Measurement and Control Systems
UTC - Coordinated Universal Time
TAI - International Atomic Time

#5.5:
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/ieeeurn.pdf