P802.1ASeb

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

2.1 Project Title: IEEE Standard for Local and Metropolitan Area Networks--Timing and Synchronization for Time-Sensitive Applications Amendment: Optional Use of Announce

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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3.1.2 Contact Information for Working Group Vice Chair:
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: Paul Nikolich
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3.2.2 Contact Information for Standards Committee Vice Chair:
Name: James Gilb
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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 2027
4.3 Projected Completion Date for Submittal to RevCom: Nov 2028

5.1 Approximate number of people expected to be actively involved in the development of this project: 30
5.2.a Scope of the complete standard: This standard specifies protocols, 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 1588(TM) specifications where applicable in the context of IEEE Std 802.1Q(TM)-2018. Synchronization to an externally provided timing signal [e.g., a recognized timing standard such as Coordinated Universal Time (UTC) or International Atomic Time (TAI)] is not part of this standard but is not precluded.
5.2.b Scope of the project: This amendment removes the requirement for all conformant implementations to include Announce message functionality. Announce functionality implementation is retained as a conformance option for backward compatibility and interoperability in application environments requiring this functionality, and for full conformance to IEEE Std 1588™-2019. Protocols, procedures, and managed objects are updated if and as required to reflect the availability and use of Announce.
This amendment also includes technical and editorial corrections in the description of existing IEEE Std 802.1AS functionality.

5.3 Is the completion of this standard contingent upon the completion of another standard? No
5.4 Purpose: This standard enables systems to meet the respective jitter, wander, and time-synchronization

requirements for time-sensitive applications, including those that involve multiple streams delivered to multiple end stations. To facilitate the widespread use of packet networks 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: Applications such as aerospace, automotive in-vehicle, and industrial automation have stringent certification requirements. The cost to meet these requirements necessitates implementations be as simple as possible. IEEE Std 802.1AS-2020 allows conformant systems to omit implementation of functionality not used in these applications, except for Announce.

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 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: #5.2:
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
#6.1.2:
IEEE Std 802 IEEE Standard for Local and Metropolitan Area Networks: Overview and Architecture
IEEE RA URN tutorial: http://standards.ieee.org/develop/regauth/tut/ieeeurn.pdf