
P802.1ASds

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: P802.1ASds

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: Support for the IEEE Std 802.3 Clause 4 Media Access Control (MAC) operating in half-duplex

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: Jessy Rouyer

Email Address: jessy.rouyer@nokia.com

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 2025

4.3 Projected Completion Date for Submittal to RevCom: Oct 2025

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 specifies protocols, procedures, and managed objects that support IEEE Std 802.3 Clause 4 Media Access Control (MAC) operating in half-duplex while retaining existing functionality and backward compatibility, and remaining a profile of IEEE Std 1588™-2019. This amendment addresses errors and omissions in the description of existing 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: Support is needed in applications such as automotive in-vehicle networks and industrial automation networks for the IEEE Std 802.3 Clause 4 MAC operating in half-duplex, including those using links with the 10BASE-T1S PHY in either point-to-point or multidrop half-duplex mode recently introduced by IEEE Std 802.3cg-2019.

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?

No

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 IEEE Std 802.3-2018, IEEE Standard for Ethernet

#5.2.a IEEE Std 802.1Q-2018, IEEE Standard for Local and metropolitan area networks - Bridges and Bridged Networks

#5.2.b IEEE Std 1588-2019, IEEE Standard for a Precision Clock Synchronization Protocol for Network Measurement and Control Systems

#5.5 IEEE Std 802.3cg-2019, IEEE Standard for Ethernet Amendment 5: Physical Layers Specifications and Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced Pair of Conductors