
P802.1ASdm

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: P802.1ASdm**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: Hot Standby

3.1 Working Group: Higher Layer LAN Protocols Working Group(C/LM/WG802.1)**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:**
Jan 2022**4.3 Projected Completion Date for Submittal to RevCom:** Oct 2022

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 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 protocols, procedures, and managed objects for hot standby without use of the Best Master Clock Algorithm (BMCA), for time-aware systems, including:

- A function that transforms the synchronized times of two generalized Precision Time Protocol (gPTP) domains into one synchronized time for use by applications;
- A function that directs the synchronized time of one gPTP domain into a different gPTP domain; and
- Mechanisms that determine whether a gPTP domain has sufficient quality to be used for hot standby.

This amendment also 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 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: Hot standby is needed in some applications that use time synchronization (e.g., industrial automation and automotive in-vehicle networks).

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 Simple Network Management Protocol (SNMP) MIB will be assigned an Object Identifier (OID) based on the IEEE Registration Authority (RA) OID tutorial and IEEE Std 802. 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

8.1 Additional Explanatory Notes : #6.1.2:

RA OID tutorial: <http://standards.ieee.org/develop/regauth/tut/oid.pdf>

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/ieeeeurn.pdf>