P802.1AS

Submitter Email: glenn.parsons@ericsson.com
Type of Project: Modify Existing Approved PAR
PAR Request Date: 18-Jul-2017
PAR Approval Date: 28-Sep-2017
PAR Expiration Date: 31-Dec-2019
Status: Modification to a Previously Approved PAR for the Revision of a Standard
Root PAR: P802.1AS **Approved on:** 16-Feb-2015
Root Project: 802.1AS-2011

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

2.1 Title: Standard for Local and Metropolitan Area Networks - Timing and Synchronization for Time-Sensitive Applications

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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)
Contact Information for Sponsor Chair
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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: 03/2019
4.3 Projected Completion Date for Submittal to RevCom
Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 10/2019

5.1 Approximate number of people expected to be actively involved in the development of this project: 25

5.2 Scope: 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.

Changes in scope: This standard specifies the protocol, procedures, and ~~procedures~~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.

5.3 Is the completion of this standard dependent 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: The use of current IEEE 802 technologies for time-sensitive applications, such as high-quality audio/video streaming or industrial control, does not assure that the applications can present data with acceptable jitter, wander, and deviation in time. 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. The synchronization information provided to each network element will allow the jitter, wander, and time synchronization requirements of demanding applications, such as in a residential environment, to be met. Existing time synchronization standards, IEEE Std 1588-2002 and IETF Request for Comments: 1305 (Network Time Protocol), because they operate at layer 3, impose unacceptable operational complexity and implementation costs on a developer of time-sensitive applications. This standard will leverage the work of the IEEE 1588 WG to develop the additional specifications needed to address these requirements.

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

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: RAC review of previously reviewed text is appropriate to assure terminology and descriptions of usage are correct; as well as review of expected text changes related to existing descriptions of deprecated EUI-48 to EUI-64 mapping.

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: #5.2:
"managed objects" has been added
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.b: Changed to "yes" and explanation added