P1722b

Submitter Email: glbechtel@gmail.com
Type of Project: Amendment to IEEE Standard 1722-2016
PAR Request Date: 28-Oct-2019
PAR Approval Date:
PAR Expiration Date:
Status: Unapproved PAR, PAR for an Amendment to an existing IEEE Standard

1.1 Project Number: P1722b
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Standard for a Transport Protocol for Time-Sensitive Applications in Bridged Local Area Networks
Amendment: New and Extended Streaming Formats

3.1 Working Group: Audio/Video Bridging Layer2 Transport (C/MSC/P1722)
Contact Information for Working Group Chair
Name: David Olsen
Email Address: dolsen@harman.com
Phone: (801) 568-7688
Contact Information for Working Group Vice-Chair
None

3.2 Sponsoring Society and Committee: IEEE Computer Society/Microprocessor Standards Committee (C/MSC)
Contact Information for Sponsor Chair
Name: Ralph Kearfott
Email Address: rbk@lusfiber.net
Phone: 337-993-1827
Contact Information for Standards Representative
None

4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 12/2021
4.3 Projected Completion Date for Submittal to RevCom
Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 08/2022

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, data encapsulations, and synchronization procedures used to enable interoperability between time-sensitive audio, video, and control applications using the quality of service capabilities provided by IEEE 802 Time-Sensitive Networking standards.

5.2.b. Scope of the project: This project specifies extensions to IEEE Std 1722 to add support for H.265 and AV1 video formats, the MIPI camera and display interfaces, and a new audio format that supports temporal redundancy. This project will also improve the Clock Reference Stream format, enlarge the AVTP sequence number, improve the CAN (Controller Area Network) and LIN (Local Interconnect Network) formats, improve support for tracking grandmaster changes, support longer presentation time intervals, clarify clock stability indicators, and provide guidance on how to handle out-of-order arrival of AVTP PDUs.

This project will also reserve additional numerical identifiers contained in IEEE 1722-2016 for use by other organizations.

This project includes technical and editorial corrections to existing functionality.

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: This standard facilitates interoperability between end stations that transport time-sensitive media across LANs providing time synchronization, latency, and bandwidth services by defining additional packet format protocols, synchronization mechanisms, and diagnostic counters.

5.5 Need for the Project: IEEE Std 1722 has experienced rapid adoption in applications that stream audio/video. There is significant end-user

and vendor interest in providing additional media formats that are not currently in the IEEE Std 1722 defined set of supported formats, as listed in the Scope.

Based on field experience, the project also makes several improvements to enhance the applicability of existing formats. This includes improvement of the clock reference stream format, enlargement of the AVTP sequence number to increase rollover time for high-speed streams, enlargement of the CAN and LIN bus IDs to support more buses, enhancement for tracking grandmaster clock changes, larger presentation time intervals, clarification of clock stability information, and guidance on how to handle the out-of-order arrival of AVTP PDUs that often occurs when transmitting data on redundant paths.

Interest in MAAP (MAC Address Acquisition Protocol) has grown and expanded well beyond the IEEE 1722 community. To support this broader interest, the IEEE 802.1 working group has initiated the IEEE P802.1CQ project. The 1722b project will include the reservation of additional numerical identifiers to support the work in IEEE P802.1CQ.

These additional features, formats and improvements are necessary to ensure continued growth of interoperable vendor support for time-sensitive media transport.

5.6 Stakeholders for the Standard: Developers and users of bridged LAN and end-point systems supporting audio/video and other time-sensitive streaming applications.

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?: No

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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: