Timing and Synchronization for Time-Sensitive Applications in Bridged Local Area Networks Gen 2
Revision 1
Draft PAR
March 9, 2011

This revision incorporates comments from the January, 2011 IEEE 802.1 AVB meeting
Title (4)

Draft: IEEE Standard for Local and Metropolitan Area Networks – Timing and Synchronization for Time-Sensitive Applications in Bridged Local Area Networks
PAR Scope (13)

- This amendment to IEEE Std 802.1AS – 2011 specifies enhancements

- Objective of backward compatibility with gen1 (could include a means of discovering if a link partner is gen1 or gen2)

- The enhancements to be considered include:
  - Support for link aggregation (IEEE 802.1X)
  - Support for new media types, with corresponding media-dependent layers, e.g., IEEE 1901 and WiFi Direct
  - Interoperability with one-step clocks on receive (but no requirement to generate one-step Sync messages)
  - Support of redundant paths
  - Enhance the determination of asCapable (e.g., longer cable lengths, new media types)
  - Incorporation of interfaces specified in IEEE 802.3bf into the IEEE 802.3 full-duplex media-dependent layer model
PAR Scope (13)

- Enhancements (cont.):
  - Improved performance
  - Carrying information on alternate time scales (e.g., local time for a respective time zone)
PAR Scope (13)

Is the completion of this document contingent upon the completion of another document?

• This standard is not contingent on the completion of any other documents
This amendment allows IEEE 802.1AS to be used:

• with a greater number of network media types and a greater variety of network configurations, and

• more effectively with existing and new media types and network configurations
When development of IEEE 802.1AS – 2011 began, the main focus was on audio/video (A/V) applications:

- The initial focus was on full-duplex IEEE 802.3 media, and IEEE 802.11, IEEE 802.3 EPON, and Coordinated Shared Network media were added.

While IEEE 802.1AS – 2011 allows effective transport of synchronization over gPTP networks that contain the above media to support A/V applications, the enhancements described in the scope will allow it to be used more effectively for a greater variety of applications (e.g., embedded), and with a greater variety of network media and configurations.