

IEEE 802.3 Ethernet Working Group Liaison Communication

Source: IEEE 802.3 Working Group¹

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Subject: Liaison Response to ITU-T Study Group 15 from IEEE 802.3 on Home Network Transport (HNT) Standards Overview and Work Plan

Approval: Agreed to at IEEE 802.3 Interim meeting, New Orleans, LA, USA, 25th May 2017

Dear Mr. Trowbridge and members of ITU-T Study Group 15,

Thank you for your 30th September 2016 liaison and the opportunity to update the IEEE 802.3 information found in Clause 6 of the September 2016 HNT Overview and Work Plan.

We are pleased to inform you that some of the listed approved amendments and projects are now published:

IEEE Std 802.3bn-201x was published as IEEE Std 802.3bn-2016.

IEEE Std 802.3bz-201x was published as IEEE Std 802.3bz-2016.

IEEE P802.3bv was approved and published as IEEE Std 802.3bv-2017.

A revision project for IEEE Std 802.3 is underway. This next revision will merge the corrigendum, approved maintenance changes, the nine approved amendments plus three more amendments currently in sponsor ballot with the IEEE Std 802.3-2015 document. This revision project is anticipated to complete in 2018.

¹ This document solely represents the views of the IEEE 802.3 Working Group, and does not necessarily represent a position of the IEEE, the IEEE Standards Association, or IEEE 802.

Following is a suggested update of the current HNT Standards Overview and Work Plan. We look forward to providing updates in the future.

Sincerely,

David Law

Chair, IEEE 802.3 Ethernet Working Group

Update to the IEEE 802.3 table cell of HNT Standards Overview and Work Plan

WG – IEEE 802.3 Ethernet Working Group

IEEE Std 802.3-2015, *Standard for Ethernet* is the current revision.

[IEEE Std 802.3-2015/Cor 1-2017 \(IEEE 802.3ce\) Corrigendum 1: Multi-lane Timestamping corrects ambiguities in IEEE Std 802.3-2015.](#)

IEEE Std 802.3-2015 currently has nine approved amendments. There also are in process, additional proposed amendments to the standard.

The following are example HNT applicable technologies in IEEE Std 802.3-2015 (including its amendments):

- The 10BASE-T, 100BASE-TX and 1000BASE-T specifications for operation over various grades of twisted pair cabling have long been used as a home networking technology, and they continue to be applicable.
- Home gateways typically include both IEEE Std 802.11 specified capabilities and either 10/100 Mb/s or 10/100/1000 Mb/s Ethernet ports.
- 2.5GBASE-T, 5GBASE-T and 10GBASE-T provide a migration path for higher bandwidth home networks.
- Some Ethernet port types would be applicable to HNT needs though use is not common today. For example BASE-T port types are not appropriate for outdoor cable installations, but fiber optic port types would be acceptable.
- For access to the home, the approved standard includes various speeds of operation for Ethernet Passive Optical Networks.
- The standard also includes DTE Power via the MDI (more popularly called Power over Ethernet) capabilities applicable to HNT (e.g., to provide power to security equipment).

The following approved amendments are relevant to HNT:

- IEEE Std 802.3br-2016, (Amendment 5), Specification and Management Parameters for Interspersing Express Traffic (IET) adds capabilities to reduce message latency for time sensitive networking, which among other things provides enhanced capabilities for multimedia, gaming and other applications becoming more common in the home.
- IEEE Std 802.3bn-2016, (Amendment 6), Physical Layer Specifications and Management Parameters for Ethernet Passive Optical Networks Protocol over Coax (EPoC) includes new coaxial cable network access capabilities.
- IEEE Std 802.3bz-2016, (Amendment 7), Media Access Control Parameters, Physical Layers, and Management Parameters for 2.5 Gb/s and 5 Gb/s Operation, Types 2.5GBASE-T and 5GBASE-T includes new speeds of operation between 1 Gb/s and 10 Gb/s speeds on twisted pair, providing additional migration options which will likely find acceptance where higher than 1 Gb/s operation is needed within the home.
- IEEE Std 802.3bv-2017 (Amendment 9), Gigabit Ethernet over Plastic Optical Fiber, specifically addresses in-home networking with 1000BASE-RHA. This port type targets providing an easier to install non-conductive media option for home network needs.

Other projects and study groups adding capabilities to Ethernet that are relevant to HNT:

- IEEE P802.3bt, DTE Power via MDI over 4-Pair is currently in Working Group ballot, progressing toward 2018 approval. This project will support devices requiring more power (Watts) than currently supported in IEEE Std 802.3 specifications.

- IEEE P802.3ca 25 Gb/s, 50 Gb/s, and 100 Gb/s Ethernet Passive Optical Networks Task Force is developing a draft that will focus on development of symmetric and asymmetric data rate 25G-EPON, 50G-EPON, and 100G-EPON PHYs, supporting operation over point-to-multipoint fiber-based subscriber access networks.
- The IEEE P802.3.2 (IEEE 802.3cf) YANG Data Model(s) Task Force is developing a draft standard for YANG data models for Ethernet.