

IEEE 802.3 Ethernet Working Group
Liaison Communication

Source: IEEE 802.3 Working Group¹

To: Glenn Parsons Chair, ITU-T SG15
[REDACTED]
Jean-Marie Fromenteau Rapporteur, ITU-T Q1/15
[REDACTED]
Dekun Liu Associate Rapporteur, ITU-T Q1/15
[REDACTED]
Hiroshi Ota Advisor, ITU-T SG15
[REDACTED]

CC: Alpesh Shah Secretary, IEEE-SA Standards Board
Secretary, IEEE-SA Board of Governors
[REDACTED]
James Gilb Chair, IEEE 802 LMSC
[REDACTED]
Jon Lewis Secretary, IEEE 802.3 Ethernet Working Group
[REDACTED]
Adam Healey Vice-chair, IEEE 802.3 Ethernet Working Group
[REDACTED]

From: David Law Chair, IEEE 802.3 Ethernet Working Group
[REDACTED]

Subject: IEEE 802.3 update on HNT standardization work plan

Approval: Agreed at IEEE 802.3 interim meeting, Annapolis, MD, USA 16 May 2024

Dear Mr Parsons and members of ITU-T SG15,

Thank you for your continued interest in the work of IEEE 802.3 concerning the HNT Standardization Work Plan.

The following provides an update on the current status of HNT related documents and work within the IEEE 802.3 working group (HNT Standards Overview and Work Plan, Section 6/IEEE/IEEE802.3):

IEEE Std 802.3-2022 *Standard for Ethernet* is the current revision. This revision has nine approved amendments: IEEE Std 802.3dd-2022, IEEE Std 802.3cs-2022, IEEE Std 802.3db-2022, IEEE Std 802.3ck-2022, IEEE Std 802.3de-2022, IEEE Std 802.3cx-2023, IEEE Std 802.3cz-2023, IEEE Std 802.3cy-2023, and IEEE Std 802.3df-2024.

The following are example HNT applicable technologies in IEEE Std 802.3-2022 (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.

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.

- 2.5GBASE-T, 5GBASE-T and 10GBASE-T provide a migration path for higher bandwidth home networks.
- Home gateways typically include both IEEE Std 802.11 specified capabilities and either 10/100 Mb/s, 10/100/1000 Mb/s, or 10/100/1000/2500 Mb/s Ethernet ports.
- IEEE Std 802.3-2022 includes new single-pair Ethernet PHYs, 10BASE-T1L and 10BASE-T1S, to serve building automation needs. These provide a migration path to wired Ethernet for a variety of operational technology needs, such as access control, heating, ventilation, air conditioning, and smart building sensors.
- 1000BASE-RHA is a plastic optical fiber port type targeted for home networks.
- Fiber optic Ethernet port types would be applicable to HNT especially in cases where a non-conductive medium is required. It is appropriate to note that BASE-T port types are not specified for outdoor cable installations.
- 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 (also called Power over Ethernet) capabilities applicable to HNT (e.g., to provide power to security equipment). These specifications include multiple options for BASE-T cabling also providing options for amount of power provided to the Powered Device.

Other optional Ethernet capabilities have relevance to HNT including:

- Two additional standards provide SNMP and YANG management capabilities for Ethernet. Projects have been initiated to revise (update) the current standards. These projects are IEEE P802.3.1, *Standard for Ethernet Structure of Management Information version 2 (SMIv2) Data Model Definitions*, and IEEE P802.3.2, *Standard for Ethernet - YANG Data Model Definitions*. Both projects are currently in the IEEE 802.3 Working Group recirculation ballot. More information about these two projects can be found at the following URLs: <https://www.ieee802.org/3/1/b> and <https://www.ieee802.org/3/2/a>.

The scope of the current IEEE P802.3da project includes improving time synchronization and power delivery with potential application in home networks. The latest draft is included in the Task Force private area at the URL: <https://www.ieee802.org/3/da/comments/index.html>.

Approved amendments to IEEE Std 802.3-2022 and current projects enhance capabilities for many other Ethernet application areas.

The contact information for the chair of IEEE 802.3 in Section 7 is current.

We wish to thank the leadership and members of ITU-T SG15 for the opportunity to coordinate references to our work programs and we look forward to such continuing cooperation with ITU-T SG15 in the future.

Sincerely,

David Law

Chair, IEEE 802.3 Ethernet Working Group