IEEE 802.3 Ethernet Working Group
Liaison Communication

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To:	Glenn Parsons	Chair, ITU-T SG15
	Les Brown	Rapporteur Q3/15
	Marcos Martinez	Associate Rapporteur Q3/15
	Tony Zeng	Associate Rapporteur Q3/15
	Hiroshi Ota	Advisor, ITU-T SG15
CC:	Alpesh Shah	Secretary, IEEE-SA Standards Board Secretary, IEEE-SA Board of Governors
	James Gilb	Chair, IEEE 802 LMSC
	Jon Lewis	Secretary, IEEE 802.3 Ethernet Working Group
	Adam Healey	Vice-chair, IEEE 802.3 Ethernet Working Group
From:	David Law	Chair, IEEE 802.3 Ethernet Working Group

Subject: IEEE 802.3 update on HNT standardization work plan

Approval: Agreed at IEEE 802.3 plenary meeting, Atlanta, GA, USA, 13 March 2025

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.

[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.

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.
- 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:

- *Standard for Ethernet Structure of Management Information version 2 (SMIv2) Data Model Definitions* is a revised version of SNMP management capabilities for Ethernet and has been published as IEEE Std 802.3.1-2024.
- *Standard for Ethernet - YANG Data Model Definitions* is a revised version of the YANG management capabilities for Ethernet. This project is a revision of the current version of the Ethernet YANG models published as IEEE Std 802.3.2-2019 and it is in the Standard Association Ballot phase.

The scope of the current IEEE P802.3da project includes improving time synchronization and power delivery with potential application in home networks.

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