ISO/IEC SC25/WG3 Liaison Report

- Customer Premises Cabling –

March 2025

James Withey – WG3 Liaison Officer

James.withey@fluke.com

ISO/IEC SC25/WG3 Meeting

Virtual: 24th February – 6th March 20224

- Customer Premises Cabling -
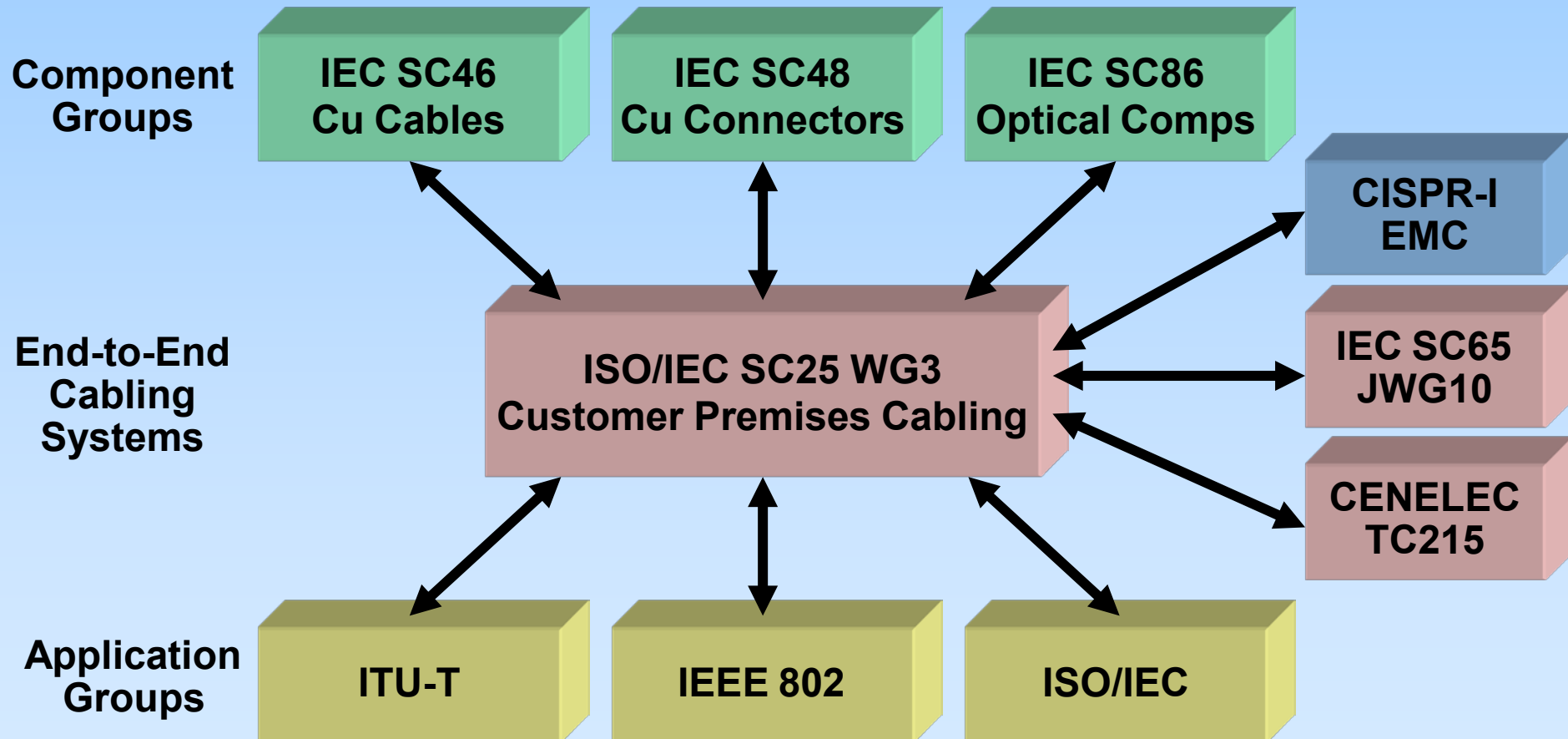
Key Items:

1. Generic single-pair cabling has developed, with three new classes of cabling in 11801-1 Amd1, which has been approved for publication.

2. The cable heating and bundling technical specification amendment to include up to 2A SPE was published October 2024.

3. It will be required that cabling with current carrying capacity bellow 2A is assessed, labelled and identified according to the administration requirements of 14763-2, and it has been clarified that SP cabling is intended to carry up to 2A.

4. The 11801-6 standard for Distributed Cablings Systems is waiting for a circulation of a CDV.

5. The Planning and installation standard 14762-2 is being updated to included considerations of single pair cabling and 2A remote powering, including cable heating considerations.

6. Work has begun to collate potential topics for a 2nd amendment to ISO 11801-1.

7. ISO/IEC 14763-3 optical fiber testing was approved for publication on 19th March 2024, and early work on a next edition/revision/amendment has begun.

8. Technical report ISO/IEC TR 11801- 9911 to provide guidance on 0.75A legacy classes cable sharing with single pair cabling was published November 2024.

9. Technical report ISO/IEC TR 11801- 9906 to provide guidance on application specific single pair cabling was published January 2025.

10. The Physical Network Security 24383 draft gives requirements for multiple levels of security begins work on the next CD.

11. Cabling Sustainability 14763-5 is at FDIS and will be published Q1 2025.

12. The ISO 14763-5 Standard defining skillsets for installers has begun work on a second working draft.

13. TR11801-9903 Models will be updated to include common and mixed mode parameters and is waiting for a DTS.

14. A project to update the Grounding and bonding standard ISO 30129 moves to a FDIS.

50 Participants

16 Nations & IEEE 802.3 Delegation

Process Model

Component Groups

IEC SC46 Cu Cables

IEC SC48 Cu Connectors

IEC SC86 Optical Comps

CISPR-I EMC

End-to-End Cabling Systems

ISO/IEC SC25 WG3 Customer Premises Cabling

IEC SC65 JWG10

CENELEC TC215

Application Groups

ITU-T

IEEE 802

ISO/IEC

3

Publications

ISO/IEC TS 29125 AMD:2024 Ttelecommunications cabling requirements for remote powering of terminal equipment – October 2024

- This amendment updates the cable heating and bundling technical specifications to include single pair cabling up to 2A.

ISO/IEC TR 11801-9911 Guidelines for the use of balanced single pair applications within a balanced 4-pair cabling system – November 2024.

- This provides guidelines for the use of single par cable systems within a balanced 4Pr cabling systems (cable sharing).

ISO/IEC TR 11801-9906 Balanced 1-pair cabling channels up to 600 MHz for single pair Ethernet (SPE) – January 2025

- This technical report provide application specific cabling and component specifications for all IEEE 802.3 single pair Ethernet applications.

Generic Cabling for Single-pair Applications

- Amendments to generic cabling standards were reviewed:
    - ISO/IEC 11801-1 General
    - ISO/IEC 11801-6 Distributed building services
- 3 classes of single-pair cabling are being developed.
    - T1-A, 20 MHz, 1000m (Generic cabling including support of 802.3cg)
        - Split into 1000m, 400m, 250m & 100m Sub classes
    - T1-B 600MHz 100m (Generic cabling including support of other IEEE SPE)
    - T1-C Additionally 1250MHz, 100m to present additional generic opportunities
- ISO/IEC <u>11801-1 Amd1</u>, saw no technical changes during comment resolution on the CDV and was approved for publication without going through the FDIS stage. Publication is expected Q2 2025.
    - No changes were made to the use of assessment of the cabling to establish current carrying capacity and clear identification of cabling rated below 2A.
- A 7th CD of ISO/IEC <u>11801-6 Amd1</u> (Distributed Building Systems) will be circulated and is only waiting resolution of the topics in ISO/IEC 11801-1 Amd 1.

Single pair integration into ISO 14763-2 and TS 29125

- **Work continues to address the changes that will be needed for single pair cabling within the planning and installation standard ISO 14763-2.**
- **This will include:-**
  - **Consideration of cable heating in bundles for 2A powering**
    - **There will be significant length derating as result considering thermal rise**
    - **2A may also greatly reduce the number of cable is in a bundle.**
  - **Changes to the RP levels of powering class to reflect single pair currents**
  - **Identification and administration of cabling rated below 2A.**

- **ISO/IEC TS 29125 AMD2:2-2024 which includes cable heating and bundling considerations for single pair up to 2A was published in October 2024.**

ISO 14763-3 Optical testing

- **Following publication of the 2024 edition of the ISO 14763-3 standard for testing of optical fibre cabling, SC25 WG3 is conducting preliminary work to review content for the next update to this document.**

- **Possible Topics include:-**

    - PON testing (Power Meter, OTDR)*
    - PON Optical return Loss requirements and testing*
    - Addition of Reference connectors (MPO16)
    - Testing of Breakout Links/ Components
    - Review the test methods and guidance on test equipment and MPO connectors
    - 3 Jumper test Method discussion

- **Work will continue at the next SC25 WG3 to define what content will be included at the next update.**

Following the recommendations of a PON ad-hoc

ISO 11801-1 Amd 2

- **With the imminent publication ISO/11801-1 Amd.1, SC25 WG3 is conducting preliminary work to review content for the next update to 11801-1.**

- **Possible topics include:-**
    - Updates to Optical cabling classes definitions
    - Harmonisation of distances for 4pr cabling – alignment between cabling in our 11801 series and 14763-2
    - 100Mb – SPE specified to 60 MHz.
    - Link Length Equations for SPE
    - Update current vs reach tables to include 2A
    - Inclusion of MPO16 as a connector
    - PON guidance including optical return loss

- **Work will continue at the next SC25 WG3 to define what content will be included at the next update.**

Following the recommendations of a PON ad-hoc

ISO/IEC 24383 Physical Network Security

- **Comment resolution began on the 10th CDISO/IEC 24383 for physical network security including guidelines for customer premises in these areas:**
  - **Security planning**
  - **Security systems**
  - **Intelligent building systems**
  - **Administration systems**
- **The draft specifies requirements for 4 levels of security:**
  - **Open (to be based on 14763-2)**
  - **Restricted**
  - **Secure**
  - **Highly Secure**
- **A 11th CD for ISO/IEC 24383 will be following an interim series of meetings to complete comment resolution**

ISO/IEC 14763-5 Cabling Sustainability

- **The standard for physical network sustainability requirements ISO/IEC 14763-5 work continues to develop guidelines for customer premises in these areas:**

  - **Eco-friendly cabling materials and cabling systems**
  - **Equipment and accessories that consider the environment**
  - **System resilience and lifecycles (installation and operation)**
  - **Skill sets, training and management of construction technicians**

- **The standard is currently circulating as FDIS and publication is expected Q1 2025.**

Modelling technical reports

- **The project for ISO/IEC TR11801-9903 Modelling is moving forward as a CD to add mixed mode and common mode parameters to for the 16 port model of a 4-pair system.**
- **SC25 WG3 is moving forward with a project to provide guidance on Salz SNR modeling, to help development of cabling to support existing and future applications.**
  - **This will be included either as an Annex to TR11801-9903 or as a separate document.**

Other items

- A project continues to update the Grounding and bonding standard ISO 30129, is waiting for circulation of the FDIS.
- A standard for the skillsets required for ICT installers ISO 14763-3, is preparing a 2nd working draft.
- SC25 WG3 agreed to put information regarding PON support into in AMD1 of 11801-1, and will continue to add content as part of a second amendment to ISO 11801-1, and also to the testing document 14763-3.

Upcoming Meetings

- **October 13-16th 2025, TBD**
- **March 16 – 27th 2026, Virtual**
- **October 13-16th 2025, Paris**
- **November 16-19th 2026, Hamburg**
- **April 5-16th 2027, Virtual**

Document Access for 802.3

The main documents will be placed on a password protected area of 802.3 website

- **Other documents available on request from your liaison officer.**

https://www.ieee802.org/3/private/liaison_docs/ISO_IEC_SC25/

Questions?

James Withey
Liaison Officer, IEEE 802.3 - ISO/IEC
SC25 WG3
james.withey.ieee@gmail.com