ISO/IEC SC25/WG3 Meeting

Milan: 07-10 Sep 2015
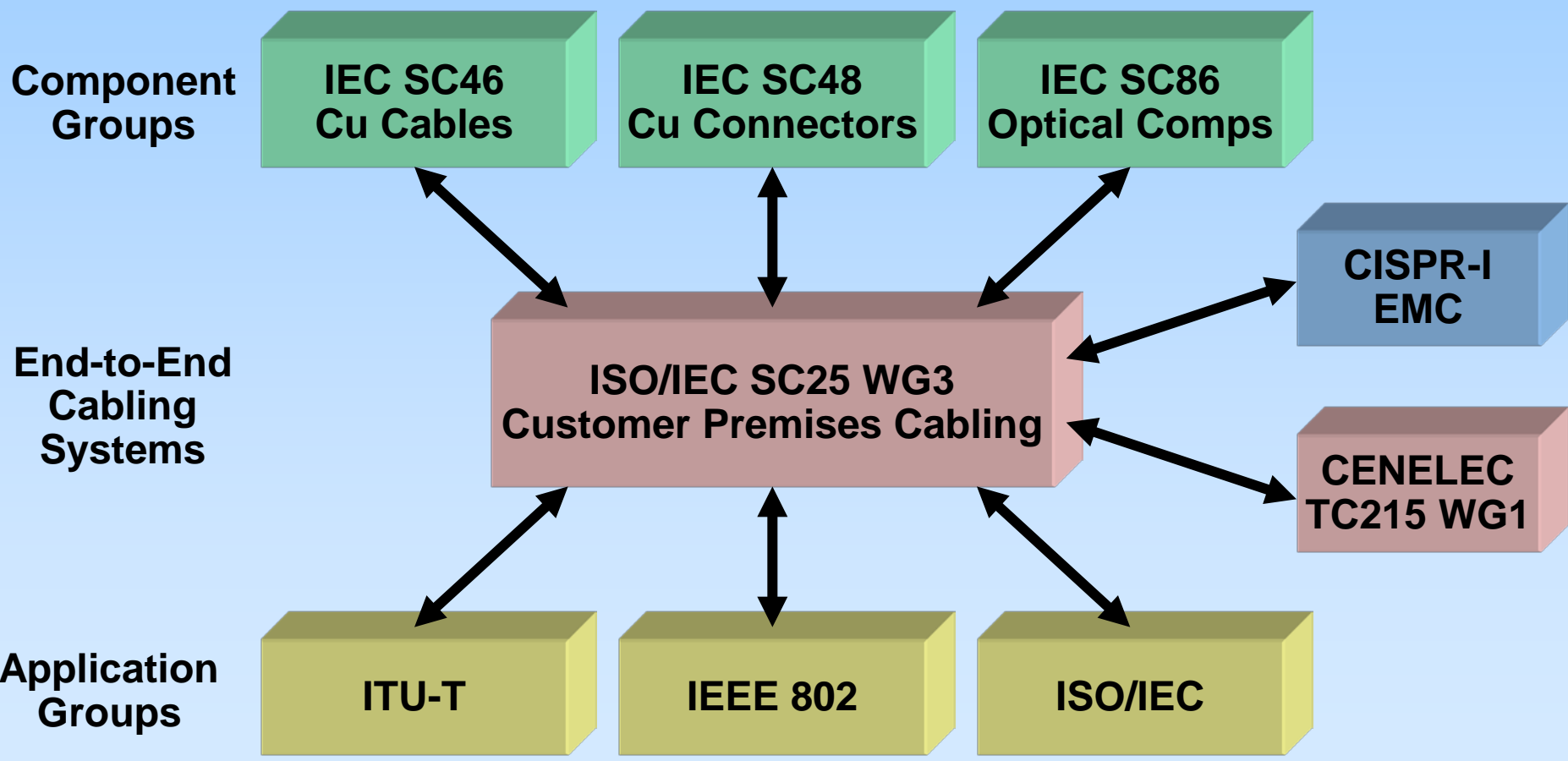
- Customer Premises Cabling -

Key Items:

1. **ISO/IEC 11801 Ed.3 major revision - 1st CD has had a thorough review & has been re-issued as 2nd CD**

2. **ISO/IEC 11801-9902 E2E Link Model PDTR issued**

3. **ISO/IEC 11801-9903 Matrix Model being published**

4. **ISO/IEC 11801-9904 Cabling to Support 802.3bz**

5. **ISO/IEC 11801-9905 Cabling to Support 25GBASE-T**

1. **ISO/IEC 29125 2nd WD issued to support 802.3bt**

2. **5 liaisons sent to 802.3bq, 802.3bt, 802.3bv, 802.3bz**

60 Participants   **19 Nations**

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

CENELEC
TC215 WG1

Application Groups

ITU-T

IEEE 802

ISO/IEC

ISO/IEC 11801 Edition 3: Generic Cabling

➢ **existing design standards re-structured into single family:**

  ➢ **ISO/IEC 11801-1 General Requirements (structure, dimensioning, channel)**
  ➢ **ISO/IEC 11801-2 Commercial Office Environment (unique aspects)**
  ➢ **ISO/IEC 11801-3 Industrial Environment (unique aspects)**
  ➢ **ISO/IEC 11801-4 Residential Environment (unique aspects)**
  ➢ **ISO/IEC 11801-5 Data Centre (unique aspects)**
  ➢ **ISO/IEC 11801-6 Distributed Building Services (unique aspects)**

➢ **ISO/IEC 11801 Ed.3 1st CD did not receive substantial support**

  ➢ **12 nations voted to approve, 10 nations voted disapprove**

➢ **704 comments received from national review of 398-page draft**

  ➢ **377 technical + 327 editorial**

➢ **all comments resolved at meeting and 2nd CD since issued**

➢ **DIS planned as output from Mar 2016 meeting**

➢ **FDIS planned as output from Sep 2016 meeting**

ISO/IEC 11801 Edition 3: Resolutions of Note

1. It was agreed to delete POF completely.

2. It was agreed to state that the maximum channel loop DCR corresponded to 60deg.C.

3. It was agreed to introduce a slight relaxation to Class I/II channel RL requirements above 1.6GHz due to the close proximity of connectors in short channels.

4. It was agreed to elevate the minimum performance of cabling for ISO/IEC 11801-2 (Office/Enterprise) from Class D to Class E with recommendation for Class E_A to support applications with alien crosstalk requirements.

ISO/IEC TR 11801-9904: Guidelines for Installed Cabling to Support 2.5GBASE-T & 5GBASE-T

- ➤ **NP to provide guidelines for use of installed cabling to support 802.3bz applications (2.5G/5GBASE-T)**
- ➤ **initial WD based on Class D/E cabling up to 250MHz with the addition of AXT requirements**
- ➤ **WD defines use cases + guidance on existing cabling**
  - ➤ **certification, measurement + mitigation procedures**
- ➤ **recommendations also on cabling for new installations**
- ➤ **TCL/ELTCTL requirements included for unscreened cabling and coupling attenuation requirements for screened cabling**

ISO/IEC TR 11801-9905: Guidelines for Installed Cabling to Support 25GBASE-T

➢ **NP to provide guidelines for use of installed cabling to support 25GBASE-T**

➢ **configuration limited to 30m plus 2 connectors**

➢ **proposed to include Cat 6_A & Cat 7_A cabling**

➢ **upper frequency expected to be 1250MHz**

ISO/IEC 29125: Cable Heating

- ➢ **ISO/IEC TR 29125 being extended to support higher currents for IEEE 802.3bt 4-pair PoE:**
  1. temp rises for Cat 5 to Cat 7_A solid conductor cables plus 0.4mm stranded cords
  2. bundle sizes up to 100 cables
  3. up to 600mA per conductor
  4. range of installation environments
- ➢ **2nd WD reviewed by national experts**
- ➢ **26 comments received including 22 technical**
- ➢ **all comments were resolved at the meeting**
- ➢ **PDTR being prepared, with DTR from Mar mtg**

Liaison to 802.3bq (25N2460)

➢ **ISO/IEC 11801-9905 will provide guidelines on use of installed cabling for 25GBASE-T:**

   ➢ **qualification**

   ➢ **measurement**

   ➢ **mitigation procedures**

   ➢ **use cases**

➢ **ISO/IEC 11801-9905 will provide recommendations on new cabling for 25GBASE-T**

   ➢ **expected to be at least Class I**

Liaison to 802.3bq (25N2461)

➢ **ISO/IEC 11801-1 RL change for Class I/II channel:**

19 dB	1-10 MHz
24-5log(f) dB	10-40 MHz
16 dB	40-130 MHz
35-9log(f) dB	130-1000 MHz
8 dB	1000-2000 MHz

Additionally, due to the close proximity of connectors in short channels, when insertion loss at 1600 MHz ≤ 15 dB, the channel return loss from 1600 MHz to 2000 MHz is 8-19log(f/1600).

Liaison to 802.3bt (25N2457A)

➢ **response to multiple incoming 802.3bt liaisons**

➢ **ISO/IEC 29125 Ed.2 being forwarded as PDTR, expected to be elevated to DTR (final draft) in Mar 2016. Hope this fits with 802.3bt timeline.**

➢ **suggestions for evaluating channel DCR/m:**

1. **measure cabling channel length using TDR**

2. **measure switch-to-TE voltage drop & calculate DCR**

3. **calculate DCR/m to determine heating effect in cabling channel**

4. **ISO/IEC 14763-2 automated cabling administration may be used to manage channels in a cable bundle to supply power optimally in conjunction with ISO/IEC 18598 automated infrastructure management**

Liaison to 802.3bv (25N2458)

- ➢ **notification that Plastic Optical Fibre has been withdrawn from ISO/IEC 11801 Ed.3 current draft based on national comments citing *lack of market relevance for POF***

Liaison to 802.3bz (25N2459)

➢ **ISO/IEC 11801-9904 will provide guidelines on use of installed cabling for 2.5G/5GBASE-T:**

  ➢ **qualification**

  ➢ **measurement**

  ➢ **mitigation procedures**

  ➢ **use cases**

➢ **ISO/IEC 11801-9904 will provide recommendations on new cabling for 2.5G/5GBASE-T**

  ➢ **at least Class E_A**

Future Meetings

ISO/IEC SC25 WG3   **29 Feb-04 Mar 2016**   **Mexico**

ISO/IEC SC25 WG3   **19-22 Sep 2016**   **Germany**

ISO/IEC SC25   **23 Sep 2016**   **Germany**