ISO/IEC SC25/WG3 Meeting

Singapore: 16-20 January 2017
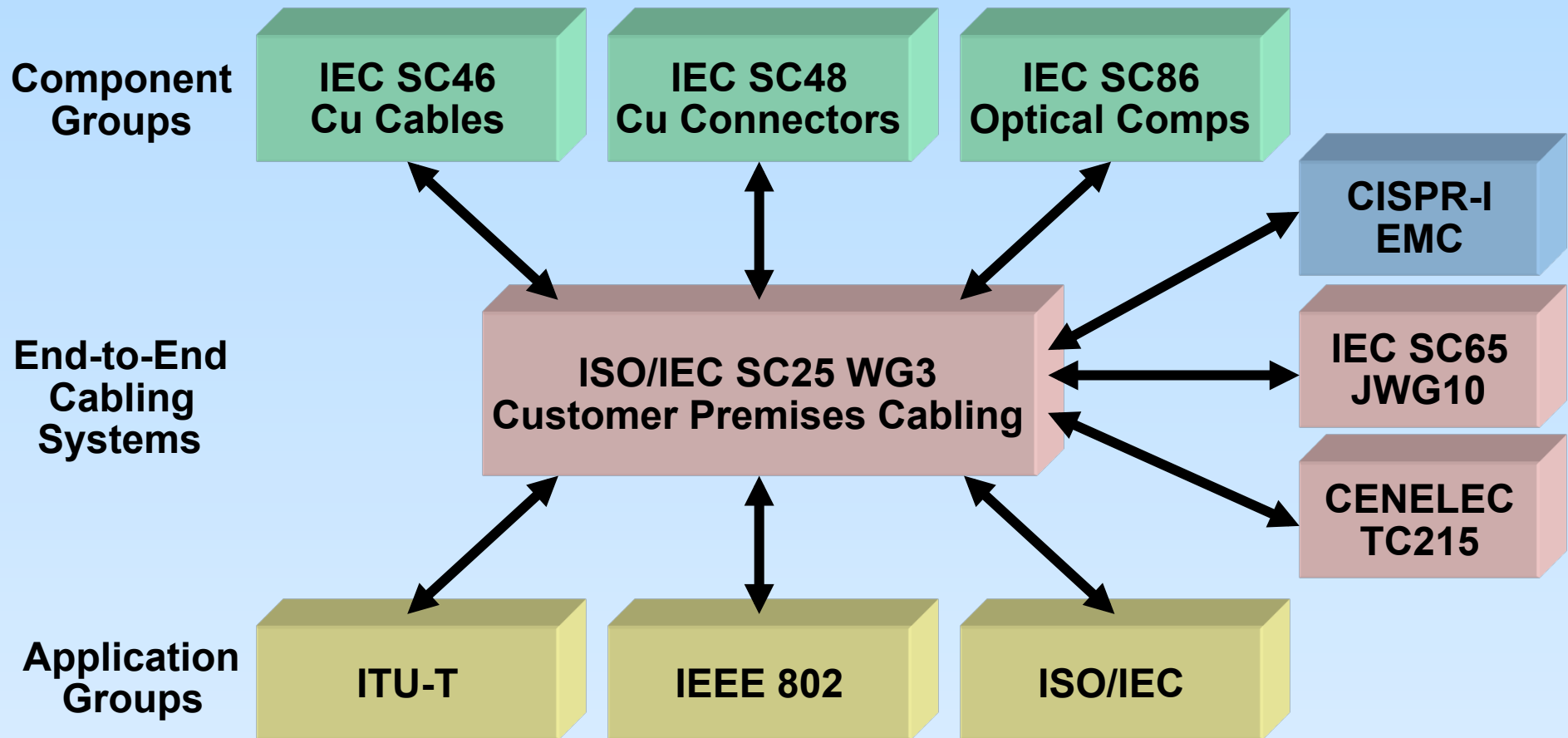
- Customer Premises Cabling -

Key Items:

1. **ISO/IEC 11801 Ed.3 major revision - DIS ballot positive and progressing to FDIS - *final draft* (contains Class I/II cabling to support 802.3bq)**

2. **ISO/IEC 11801-9904 Installed Cabling to Support 802.3bz DTR ballot positive, to be published as TR**

3. **ISO/IEC 11801-9905 Installed Cabling to Support 802.3bq 25GBASE-T being elevated to a DTR**

4. **ISO/IEC 29125 to support 802.3bt DTS ballot positive, soon to be published as a TS**

5. **support of single-pair applications + definition of single-pair cabling projects underway**

48 Participants   16 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			IEC SC65 JWG10
				CENELEC TC215
Application Groups	ITU-T	IEEE 802	ISO/IEC	

ISO/IEC 11801 Edition 3: Generic Cabling

➢ **voting results from DIS ballot:**

  ➢ **ISO/IEC 11801-1 General Requirements (structure, dimensioning, channel)**
    ➢ **21 nations approved; 1 nation disapproved (AU)**

  ➢ **ISO/IEC 11801-2 Commercial Office Environment (unique aspects)**
    ➢ **21 nations approved; 0 nations disapproved**

  ➢ **ISO/IEC 11801-3 Industrial Environment (unique aspects)**
    ➢ **20 nations approved; 0 nations disapproved**

  ➢ **ISO/IEC 11801-4 Residential Environment (unique aspects)**
    ➢ **20 nations approved; 0 nations disapproved**

  ➢ **ISO/IEC 11801-5 Data Centre (unique aspects)**
    ➢ **20 nations approved; 0 nations disapproved**

  ➢ **ISO/IEC 11801-6 Distributed Building Services (unique aspects)**
    ➢ **20 nations approved; 0 nations disapproved**

ISO/IEC 11801 Edition 3: Generic Cabling

➢ **ISO/IEC 11801-1/2/3/4/5/6 Ed.3 DIS received substantial support**

➢ **clear results from national questionnaire on WBMMF naming:**

>   ➢   **2 nations voted in favour of OM4W**
>   ➢   **13 nations voted in favour of OM5 (to be adopted)**
>   ➢   **1 nation   voted in favour of OM5W**

➢ **total of 833 comments received from national review of DIS**

>   ➢   **382 technical + 451 editorial**

➢ **all comments resolved at meeting and FDIS being prepared**

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

➢ **TR provides guidelines for use of installed cabling to support 802.3bz 2.5GBASE-T and 5GBASE-T**

➢ **defines use cases and guidance on existing cabling**

   ➢ **certification, measurement + mitigation procedures**

➢ **Class E_A or better recommended for new installations**

➢ **ISO/IEC 11801-9904 DTR received substantial support**

   ➢ **23 nations voted to approve**

   ➢ **1 nation voted disapprove**

➢ **36 comments received from national review**

   ➢ **3 technical + 33 editorial**

➢ **all comments resolved at meeting, soon to be published**

ISO/IEC TR 11801-9904:
Risk Matrix for Installed Cabling

Installed Class D Cabling	Victim cable length			
	Data rate	1 – 20m	20 – 75m	75 – 100m
Bundled distance up to 20m	2.5G	low	low	low
	5.0G	low	low	medium
Bundled distance 20m-75m	2.5G	N/A	low	medium
	5.0G	N/A	medium	high
Bundled distance 75m-100m	2.5G	N/A	N/A	medium
	5.0G	N/A	N/A	high

Note: Risk of bundled cable configurations not supporting $ALSNR_{min}$ at least 28dB

ISO/IEC TR 11801-9904:
Risk Matrix for Installed Cabling

Installed Class E Cabling	Victim cable length			
	Data rate	1 – 20m	20 – 75m	75 – 100m
Bundled distance up to 20m	2.5G	negligible	low	low
	5.0G	negligible	low	low
Bundled distance 20m-75m	2.5G	N/A	low	low
	5.0G	N/A	medium	medium
Bundled distance 75m-100m	2.5G	N/A	N/A	medium
	5.0G	N/A	N/A	high

Note: Risk of bundled cable configurations not supporting $ALSNR_{min}$ at least 28dB

ISO/IEC TR 11801-9904:
Risk Matrix for Installed Cabling

Installed Class E_A Cabling	Victim cable length			
	Data rate	1 – 20m	20 – 75m	75 – 100m
Bundled distance up to 20m	2.5G	none	none	none
	5.0G	none	none	none
Bundled distance 20m-75m	2.5G	N/A	none	none
	5.0G	N/A	none	none
Bundled distance 75m-100m	2.5G	N/A	N/A	none
	5.0G	N/A	N/A	none

Note: Risk of bundled cable configurations not supporting $ALSNR_{min}$ at least 28dB

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

- ➢ TR to provide guidelines for use of installed cabling to support 802.3bq 25GBASE-T
- ➢ 30m channel comprising Cat 7_A components supported
- ➢ 12m channel comprising Cat 6_A or Cat 7 components
- ➢ defines use cases and guidance on existing cabling
    - ➢ certification, measurement + mitigation procedures
- ➢ Class I/II or better recommended for new installations
- ➢ ISO/IEC 11801-9905 PDTR received substantial support
    - ➢ 15 nations voted to approve
    - ➢ 4 nations voted disapprove
- ➢ 39 comments received from national review
    - ➢ 25 technical + 14 editorial
- ➢ all comments resolved at meeting, a DTR being prepared

ISO/IEC TR 11801-9905:
Risk Matrix for Installed Cabling

	1 – 10m	10 – 20m	20 – 30m
Channel with Cat 7$_A$ Components	low	low	low
Channel with Cat 7 Components	medium	high	high
Channel with Cat 6$_A$ Components	medium	high	high

Note: Risk of non-compliance with ISO/IEC 11801-9905 channel performance requirements

ISO/IEC 14763-2 Ed.2
Cabling Planning & Installation

- ➢ ISO/IEC 14763-2 undergoing a major revision
- ➢ 2nd WD made available for expert review in Dec 2016, containing many new items, including:
  - ➢ management of remote powering applications
  - ➢ physical network security
- ➢ expert review of 2nd WD had 137 comments
  - ➢ 113 technical + 24 editorial
  - ➢ all comments resolved at meeting
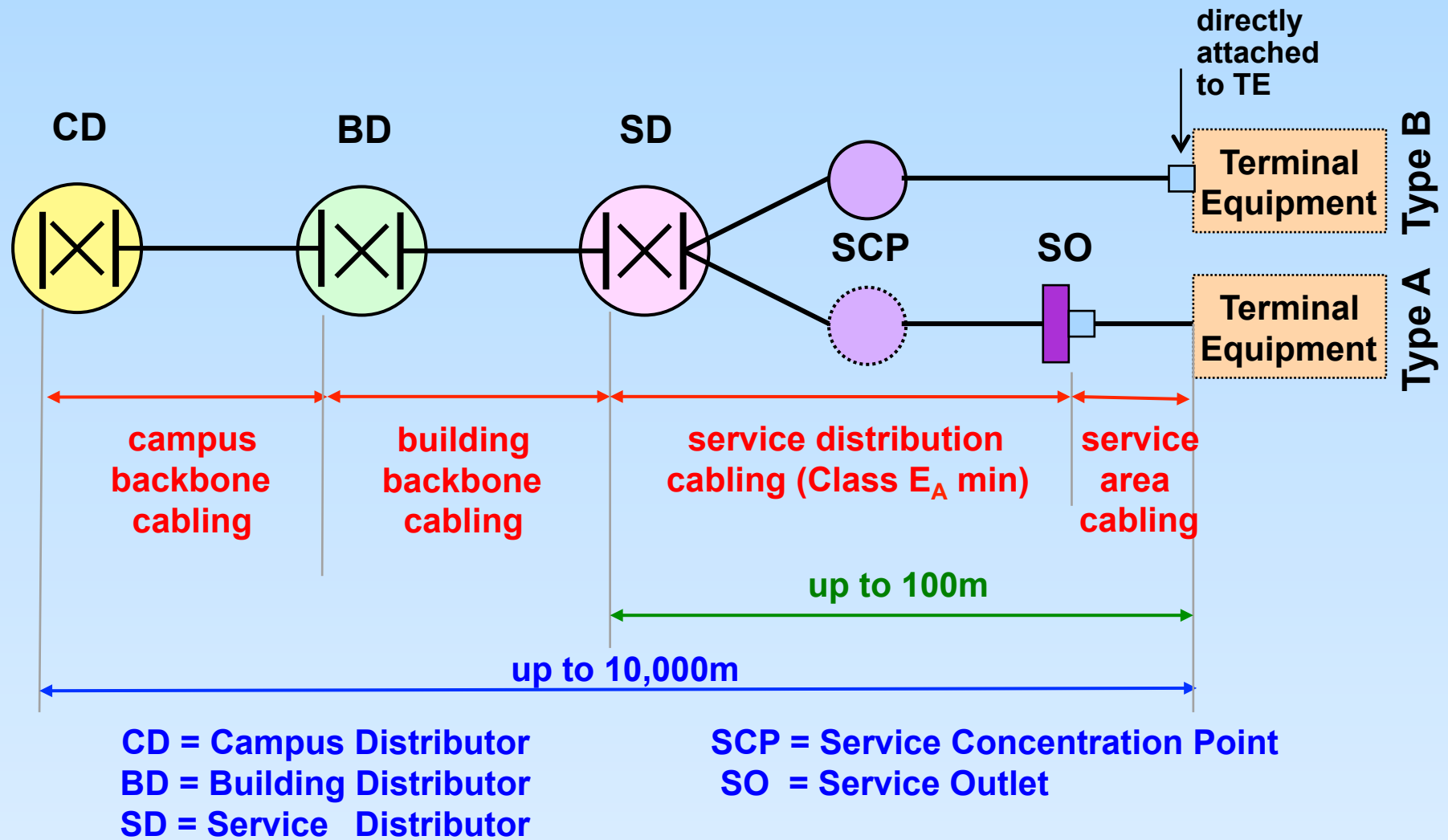- ➢ CD since been forwarded for national vote/comment

ISO/IEC 29125 Remote Powering

➢ **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. fully ventilated & fully insulated installation

➢ **ISO/IEC 29125 Ed.2 DTS received substantial support**

  ➢ 21 nations voted to approve

  ➢ 0 nations voted disapprove

➢ **21 comments received from national review**

  ➢ 1 technical + 20 editorial

➢ **all comments resolved at meeting, to be published soon**

Cabling to Support Single Pair Applications

> ➢ **TR will define a single-pair channel to 600MHz to support IEEE 802.3bp 40m Type B link segment**
>> ➢ **preliminary WD reviewed at Jan meeting**

> ➢ **ISO/IEC 11801-6 to be amended to support single-pair applications in buildings, including:**
>> ➢ **building controls**
>> ➢ **access control**
>> ➢ **audio-visual**
>> ➢ **security**
>> ➢ **Internet of Things**

> ➢ **liaison forwarded to IEEE 802.3 containing general update on single-pair cabling activities**

ISO/IEC 11801-6 Distributed Building Services Cabling Model

directly
attached
to TE

CD   BD   SD

Type B

SCP   SO

Terminal
Equipment

Type A

Terminal
Equipment

campus
backbone
cabling

building
backbone
cabling

service distribution
cabling (Class E_A min)

service
area
cabling

up to 100m

up to 10,000m

CD = Campus Distributor   SCP = Service Concentration Point
BD = Building Distributor   SO = Service Outlet
SD = Service Distributor

Future Meetings

ISO/IEC SC25 WG3   11-14 Sep 2017   Belgium

ISO/IEC SC25 Plenary   15 Sep 2017   Belgium

ISO/IEC SC25 WG3   25 Feb - 02 Mar 2018   France (TBC)

ISO/IEC SC25 WG3   24-27 Sep 2018   USA (TBC)

ISO/IEC SC25 Plenary   28 Sep 2018   USA (TBC)