

ISO/IEC SC25/WG3 Meeting

Melbourne: 27-30 October 2011

- Customer Premises Cabling -

Highlights:

1. ISO/IEC 24764 Data Centre Cabling Am.1
2. ISO/IEC 14763-2 Plan. & Install. final draft
3. ISO/IEC 14763-3 OF Testing Ed.2 in dev't
4. Higher performance Cu. being modelled
5. NWIP for a TR on "40GBASE-T" cabling
6. NWIP received for twinax cable assemblies
7. NWIP automated infrastructure managem't
8. IEC SC86 FO group wish to liaise with 802.3



40 Participants

16 Nations

ISO/IEC 24764

Data Centre Cabling

- additional cabling tier being introduced via Am.1
- *intermediate distribution cabling* to provide more flexibility in large +/- more distributed data centres
- changes harmonise with TIA-942-A and CENELEC
- PDAM had + votes from 21 nations, 1 against
- 30 comments received, 17 of which were technical
- comments resolved at mtg & DAM to be circulated

ISO/IEC 14763-2 Cabling Planning & Installation

- **consolidation of worldwide industry best practices**
- **to complement ISO/IEC cabling design standards**
- **FDIS circulating for national vote by end Nov 2011**
- **expected to become the definitive industry *handbook***
- **could be referenced in many tenders and contracts**

ISO/IEC 14763-3

Testing of Optical Fibre Cabling

- **2nd Edition underway due to new test methods**
- **2nd Edition WD reviewed by national members**
 - **156 comments, 120 of which were technical**
- **comment resolution not completed at meeting**
- **big issue is to **copy** or to **reference** material**

Copper Channel Modelling

- IEC TR 61156-1-3 being developed to define length dependency models for cable IL, RL, NEXT & FEXT
- new channel models for 50m, 2 connectors and 2m cords
- existing Cat 6_A/7_A component specs extrapolated to 2GHz
- results from 4 different mathematical models correlate well
- experimental measurements being made by independent test labs for same channel configurations
- experimental & simulation data to be compared to verify results and select the most appropriate model

“40GBASE-T” Cabling Analysis

- cabling lengths estimated in German technical analysis
- Shannon capacity for 2-connector Cat 6_A + 7_A channels
- lengths for 60Gbit/s Shannon capacity were as follows:

Cat 6A FTP to 500MHz with RL/NEXT/FEXT cancellation of 55/40/25dB	0m
Cat 6A FTP to 1000MHz with RL/NEXT/FEXT cancellation of 55/40/25dB	2m
Cat 6A STP to 1600MHz with RL/NEXT/FEXT cancellation of 65/40/25dB	55m
Cat 7A STP to 1000MHz with RL/NEXT/FEXT cancellation of 65/20/10dB	45m
Cat 7A STP to 1600MHz with RL/NEXT/FEXT cancellation of 65/20/10dB	70m
Cat 7A STP to 1000MHz with RL/NEXT/FEXT cancellation of 75/40/20dB	90m

“40GBASE-T” Cabling TR

- **NWIP for TR approved at meeting by unanimous vote**
- **TG formed in Melbourne, with 1st meeting Nov/Dec’11**
- **IEEE 802.3 invited to participate (see Alan Flatman)**

1. Txn characteristics of channels using components specified in ISO/IEC 11801, with 2+ connectors and max lengths for 40G.
2. Txn characteristics of channels using components exceeding those specified in ISO/IEC 11801, with higher limit frequencies and/or better transmission performance.
3. Tutorial on expected channel capacity and other PHY-relevant characteristics.



OLD

NEW

Twinax Cable Assemblies

- **NWIP to specify channels in support of IEEE/INCITS applications:**
 - **10GBASE-CX4**
 - **40GBASE-CR4**
 - **100GBASE-CR10**
 - **etc**
- **component & test method specifications included**

IEC SC86 Optical Fibre Developments

- **evaluation of 850nm VCSELs has flagged potential issue relating to different λ s being launched into different mode groups**
- **work has commenced on the definition of optical backplane systems**

Future Meetings

ISO/IEC SC25 WG3

27 Feb – 01 Mar 2012

Stockholm

ISO/IEC SC25 WG3

10 - 13 Sep 2012

Venue TBD