ISO/IEC SC25/WG3 Meeting

Melbourne: 27-30 October 2011

- Customer Premises Cabling -



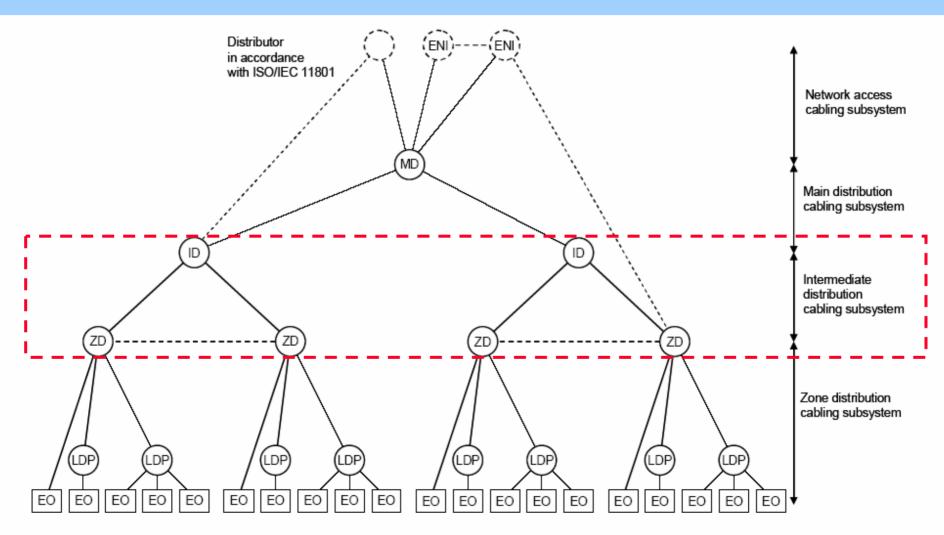
Highlights:

- 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

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 24764 3-tier Cabling Architecture



optional cables

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
- \triangleright Shannon capacity for 2-connector Cat $6_A + 7_A$ channels
- lengths for 60Gbit/s Shannon capacity were as follows:

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

"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.
 - ng ies **NEW**

OLD

- 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.

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 λs 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