

EC CablingNews

News on International Standardisation

By Lars Lindskov Pedersen - March 2012

Standardisation of cabling in ISO/IEC JTC 1/SC 25/WG 3

Working group 3 of JTC 1/ SC 25 is responsible for cabling standards, with ISO/IEC 11801 - Generic cabling for customer premises - being one of the most important. The scope of WG3 also includes test procedures and planning and installation guides.

The 52nd meeting of ISO/IEC JTC 1/SC 25/WG3 was held on 27 February - 1 March 2012 in Madrid. DELTA was represented at the meeting by Lars Lindskov Pedersen. Lars is replacing Erik Bech, who has been an expert member of WG3 for more than 16 years. Erik Bech was - in absentia - warmly thanked and recognized for his many years of dedicated work in WG3 and for the importance of his technical contributions throughout the years.

For the meeting in Madrid, the agenda included subjects such as: the editorial redesign of ISO/IEC 11801 and related generic cabling standards; modelling of balanced cabling; balanced cabling in support of 40 Gbit/s or more; twinax cabling; and new edition of ISO/IEC 14763-3 - test of optical fibre cabling.

ISO/IEC 11801 and related generic cabling standards

A consolidated version of the ISO/IEC 11801 (Ed. 2.2) was issued in June 2011, providing the contents of edition 2, amendments 1 and 2 and corrections in a single document. This new edition does not introduce any new technical requirements, but makes the standard much more reader friendly.

Preparations for the 3rd edition of ISO/IEC 11801 have started in WG3, a first step being an editorial redesign of the structure for the generic cabling standards. The redesign is basically a reshuffling of the generic cabling standards for office premises, industrial premises, homes, and data centres into a series of standards ISO/IEC 11801-x. Part 1 will contain the general requirements and definitions, whereas the premises specific requirements will be contained in parts 2 to 5, respectively. The structure of the future ISO/IEC 11801-series will thus become similar to what is known from the European cabling standards EN 50173-x. Working drafts for parts 1 (general requirements) and 2 (office premises) have been discussed at previous WG3 meetings, and drafts for parts 3-5 (industrial premises, homes and data centres) are in preparation and will be reviewed at next WG3 meeting. No new drafts were available for review in Madrid. In parallel to the purely editorial work, technical items are being collected for future discussions in WG3 and possible inclusions in the new editions. The technical discussions will, however, not be started until the editorial work has been finalised.

Modelling of balanced cabling - the JMTG

The joint modelling task group, JMTG, is a group of experts from the cabling, cable and connecting hardware working groups. The objective of the JMTG is to compare existing and proposed cabling models, e.g. the model from ISO/IEC 11801, annex G, in order to develop an improved cabling model, which can be used for the next generation cabling and for higher frequencies. The cabling models are very important for the development of the cabling and component standards as they form the basis for breaking down the channel requirements into requirements for the components used to build the channel. DELTA is participating in the JMTG, e.g. by providing measurement data for channels, cable, and connectors to be used in comparison between modelling and measured data. The JMTG had its 8th meeting in Madrid where the results for two different modelling approaches were presented. The results are to be combined and compared for the next JMTG meeting working towards a draft conclusion and documentation for this first part of the modelling work.

Next meeting of JMTG will be 16 March 2012 at the IEC SC46C/WG7 meeting in Tel-Aviv (+ teleconf.).

Balanced cabling in support of 40 Gbit/s or more

At the 51st meeting of WG3 in October 2011 in Melbourne, a new work item was proposed for a technical report (TR) on guidance for balanced cabling in support of at least 40 Gbit/s. This NWIP is currently out for vote/approval by national members, voting ending 13 March 2012. Also in Melbourne, a study group *PT 40G* was formed within WG3 with the objective to create a first working draft for the TR with two parts. Part 1 will address channels with ISO/IEC 11801 compliant components, i.e. *existing components*, but with restrictions on lengths and configurations (e.g. number of connectors in channel) as needed to achieve minimum 40 Gbit/s data transmission. Part 2 will address channels with components that exceed the current ISO/IEC 11801 requirements, with better performance, extended frequencies or both, i.e. *new components*. In Madrid, draft inputs to parts 1 and 2 were presented. After some discussion, it was agreed by PT 40G that the two parts will be progressed together and have same priority.

For part 2, PT 40G agreed that the inputs for the first working draft shall contain the following three cases:

1. *Qualification of existing channels with components 6_A, 7 and 7_A reach tbd, extended frequency and additional requirements tbd*
2. *Channel I (based on components Cat. 6_A) improved&extended: with max. frequency: 1,6 GHz (consideration of extending the max. frequency to a value of up to 2,0 GHz is ffs):*
3. *Channel II (based on components Cat. 7_A improved&extended: with max. frequency: 1,6 GHz (consideration of extending the max. frequency to a value of up to 2,0 GHz is ffs)*

A first working draft of the TR with part 1 and part 2 is scheduled to be circulated in PT 40G beginning of April 2012, enabling expert members to provide comments in due time before next meeting, which will be held together with next WG3 meeting.

It should be noted that no work has been initiated yet in IEEE to develop standards for 40 Gbit/s on twisted pair cabling, i.e. the work of PT 40G (and associated NWIP) is carried out in *anticipation* of the future development of such standards.

Twinaxial cabling

A NWIP on twinax cable assemblies was circulated for vote and approval following the WG3 meeting in Melbourne, voting ending 13 March 2012. The proposed work will be for application specific cable assemblies in support of applications specified by e.g. IEEE 802.3, and primarily for use in data centres. At the Madrid meeting, it was agreed that the first part of a series should address cable assemblies as described in IEEE 802.3ba for use in 40GBASE-CR4 and 100GBASE-CR10. 100GBASE-CR4 which is currently in development in IEEE should be addressed in a future project. The work in WG3 will be coordinated with IEC SC46C, where new projects for twinax cables are in progress, and SC48B with respect to standardisation of twinax connectors (currently no projects defined).

ISO/IEC 14763-3 - new edition

2nd edition of ISO/IEC 14763-3 - testing of optical fibre cabling - is in development. The meeting in Madrid was primarily used to agree on resolution to a long list of unresolved comments from previous working draft. Some technical changes were agreed regarding the default approach for reference test methods for attenuation of installed links and channels, partly to harmonize with related standardisation in IEC SC 86C. Next meeting in the project team will be held at the next WG3 meeting.

Other business

The meeting in Madrid was the first meeting for the new convenor Prof. Albrecht Oehler, Germany. It was attended by more than 50 expert members.

Erik Bech has previously been the WG3 liaison to CISPR/I. Lars was nominated as new liaison to replace Erik, i.e. DELTA continues to take in charge the duty of this liaison work.

The 53rd meeting of ISO/IEC JTC 1/SC 25/WG3 is scheduled for 10 - 13 September 2012 in Geneva.

