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The Standards Advisor

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Standards Quarterly Update:

What you need to know now for the future of your network

Welcome to the twenty-fourth edition of the Standards Advisor. This report is issued quarterly and provides updates on the standards relevant to the structured cabling industry, and the impact they have on your network design, planning and operations.

This summary represents standards meetings held during the third quarter of 2019 and reports on activities from all aspects of the cabling industry. These activities range from the applications standards (IEEE 802.3 and 802.11 and T11—Fiber Channel) to the cabling standards (ANSI/TIA, ISO/IEC, CENELEC). It also covers new developments in the world of multi-source agreements (MSAs).

TIA TR-42 meeting: September 16-20, 2019, in Albuquerque, NM, USA

Executive summary

The following standards were approved for ballot, re-ballot, or default ballot:

- ANSI/TIA-PN-5069 TSB on Optical Fiber Channel Polarity—duplex-single and double row fiber.
- ANSI/TIA-455-82C (FOTP-82C) Fluid Penetration.
- ANSI/TIA-4920000 Generic Specification for Optical Fibers.
- ANSI/TIA-492CAAC Sectional specification for class B single-mode optical fibers.
- ANSI/TIA-492AAAF Sectional specification for category A1 graded-index multimode optical fibers.
- ANSI/TIA-604-19 (FOCIS 19) Fiber Optic Connector Intermateability Standard Type SEN Connector.
- ANSI/TIA-568.0-E Generic telecommunications cabling for customer premises.
- ANSI/TIA-568.1-E Commercial building cabling infrastructure standard.
- ANSI/TIA-568.2-D-2 Power Delivery Over Balanced Twisted-Pair Cabling.
- ANSI/TIA-568.5 Single Balanced Twisted-Pair Telecommunications Cabling and Components Standard.

The following ballot is still pending:

- ANSI/TIA-758 Customer Owned Outside plant was approved for re-circulation as a second industry ballot.

1. TR-42.1 commercial building cabling

- TR42.1 reviewed ballot comments for ANSI/TIA-568.0-E generic telecommunications cabling standard and ANSI/TIA-568.1-E commercial cabling infrastructure standard. These comments were resolved and default ballots authorized. Both documents will be published if there are no new technical comments or negative ballots.
- Ballot comments were reviewed and a new ballot authorized for TIA-TSB-162-A, Wireless Access Points.
- A ballot will be circulated to update ANSI/TIA-4966 Telecommunications infrastructure standard for educational facilities.
- The TR42.1 single pair task group is on hold awaiting more progress from TR42.7.
- A joint task group was formed with TR42.7 for building automation and multi-drop.
- There was a brief review of the work of the edge data centers task group work, which has resulted in a working draft of ANSI/TIA-942-B-1 addendum.

2. TR-42.3 pathways and spaces

- There was a presentation from guest members of TR-14, the committee on antennas and structures.
- TR42.3 reviewed ISO 18598 amendment to remote powering administration inviting comments from members to pass on to ISO WG3.
- TR42.3 reviewed the FDIS of the ISO 14763-2 infrastructure standard.

3. **TR-42.5 telecommunications infrastructure terms and symbols**
TR42.5 added the following definition:

- **telecommunications outlet space:** Space containing a telecommunications outlet.

4. **TR42.7 copper cabling systems**

- TR42.7 completed comment resolutions for the mock ballot of ANSI/TIA-568.5, single-pair cabling and components standard. SP2 (100 m) was deleted. SP3 (40 m) and SP4 (15 m) were moved to an annex. There was a 400 m option added to SP1 in addition to the 1,000 m option to accommodate AWG 23 cable. A committee ballot reflecting these changes was authorized.
- TR42.7 agreed to start a project to write a standard for field testing of single-pair cabling systems. A task group was set up for this project.
- TR42.7 reviewed the draft of ANSI/TIA-568.2-D-2, which will be a normative version of TSB-184-A. An ANSI industry ballot was authorized.
- A task group was authorized to study the far end grounding issue for TCL. The study will clarify the dependency of a single-pair channel on the grounding of the far end.
- A joint task group was set up with 42.1 to study building automation and multi-drop using single-pair cabling.

5. **TIA TR42.9 industrial cabling**

- TR42.9 will attempt to re-affirm and also revise ANSI/TIA-1005-A.
- TR42.9 cancelled the industrial cabling addendum 2 to ANSI/TIA-1005-A-2012 for cabling supporting 1000BASE-T for E2 and E3 environments.
- TR42.9 cancelled ANSI/TIA-1005-A addendum 3 on single-pair cabling in support of IEEE 802.3bp type B, IEEE 802.3bw 100 BASE-T1 and IEEE 802.3cg 10 BASE-1.

6. **TR-42.11 optical fiber systems**

- Committee reasserted motion from June 2019 meeting to ballot TIA-PN-5068 Draft TSB "Optical Fiber Channel Polarity—duplex-single and double row fiber" with resolved comments. Committee plans to resolve ballot comments at the January 2020 meeting.
- Discussions on the use of BIMMF fiber for reference launch cable in various IEC and TIA standard documents. Committee agreed to retain the statements in FOTP-171, FOTP-34, and TIA-526-14-C related to the use of non-bend insensitive fiber for use in launch cables at this time.
- New project initiated for revision of TIA-568.3-D to incorporate Addendum TIA-568.3-D.1 and additional contents.
- New project initiated for revision of TIA-526-14-C. Proposal to add reference to bend-insensitive MM fiber for testing with EF-compliant launch cord.

7. **TR-42.12 optical fiber and cable**

- Committee resolved ballot comments and authorized another industry ballot for ANSI/TIA-455-82C (FOTP-82C), Fluid Penetration.
- Committee resolved ballot comments and authorized another industry ballot for ANSI/TIA-455-244 (FOTP-244), Temperature Cycling of Expressed Tubes.
- Reviewed proposed changes to TIA-455-3B (FOTP-3), Temperature Ramps and Precision, to harmonize with IEC 60794-1-22, Method F1 and IEC-613002-22. Target to circulate document for comment resolution at the January 2020 meeting.
- Committee approved an industry ballot for TIA-492AAAF, adoption of IEC 60793-2-10 Ed.7 MM document.
- New project initiated for revision of FOTP-191 to adopt IEC-60793-1-45 Optical Fibres Measurement Methods and Test Procedures—Mode Field Diameter. Committee authorized an industry ballot.
- Committee reviewed multiple contributions on Munsell vs. LAB cable color measurements. Further studies will be carried out to determine measurement repeatability, equipment and technique specifications.

8. **TR-42.13 optical passive devices and metrology**

- Committee reviewed FOCIS 19 SEN (CS) Connector, an amended version.

9. **Closing TR42 plenary**

- TIA TR-42 discussed the activities of its subcommittees and endorsed liaison letter proposals.
- The dates of October 5-9, 2020, for the meeting next fall were firmly agreed to, with the hope they will not conflict with IEC fiber committee meetings.

The next meeting of TIA TR-42 will be held January 27-31, 2020, New Orleans, LA.

Working Group 3 meeting highlights

The 67th ISO/IEC JTC1/SC25 Working Group 3 (WG3) meeting was attended by 48 experts and observers from 17 countries, including Australia, Canada, China, Denmark, France, Germany, Great Britain, Ireland, Israel, Japan, Kenya, Mexico, The Netherlands, Singapore, Sweden, Switzerland, and United States.

WG3 advanced the single-pair cabling specifications for several amendments to the ISO/IEC 11801 series. The amendment to ISO/IEC 11801-1 will be circulated as a first Committee Draft (CD) and will include three single-pair classes: Class T1-A up to 20 MHz and lengths of 100, 250, 500, and 1,000 m; Class T1-B up to 600 MHz and 100 m; and Class T1-C up to 1,250 MHz and 100 m. The ISO/IEC 18598 Automated Infrastructure Management (AIM) Amendment with updates related to power over ethernet (PoE) progressed to Draft Amendment (DAM). The scope of technical report ISO/IEC 11801-9908 with guidelines for duplex and parallel multimode applications was expanded to include single-mode applications and will be circulated as a Draft Technical Report (DTR). A draft New Work Item Proposal (NWIP) for sustainability of cabling installations was reviewed. Several other projects were progressed as detailed below.

1. Development of generic single-pair cabling specifications

Comments to the 3rd Working Draft (WD) of the Amendment to ISO/IEC 11801-1, including single-pair cabling specifications, were resolved. The document includes the following single-pair classes:

- Class T1-A, specified up to 20 MHz, with multiple channel lengths based in IL specified as a suffix: T1-A-1000, T1-A-500, T1-A-250, and T1-A-100 (1,000 m, 500 m, 250 m, 100 m, respectively).
- Class T1-B, specified up to 600 MHz, 100 m.
- Class T1-C, specified up to 1,250 GHz, 100 m.

2. ISO/IEC TS 29125 remote powering and single-pair cabling

The document will be circulated as a Draft Technical Specification (DTS). Work on a 2nd Amendment will be initiated, to consider inclusion of 28 AWG conductors as well as current increase for single-pair cabling to 2 A per conductor.

3. ISO/IEC 11801-3 (industrial) amendment 1, to include single-pair cabling

The comments to the CD were resolved and a second CD will be circulated. It was agreed to refer to both IEC 63171-1 (LC style) and IEC 63171-6 (industrial style) single-pair connectors in the document. Annex E will include a clear indication that the channels listed are application-specific.

4. ISO/IEC TR 11801-9906, application-specific for IEEE 802.3bp, IEEE 802.3bw and IEEE 802.3cg

The applications-specific TR supporting IEEE 802.3 single-pair applications will be advanced to publication. An IEEE 802.3 liaison letter had been received indicating that an expert's request to reference the TR in IEEE 802.3cg was rejected due to some concerns with the content as well as limited time to review.

5. ISO/IEC 11801-6 amendment 1, to include single-pair cabling

A working draft will be developed for review at the next meeting.

6. 25 Gbps over balanced cabling to distances greater than 30 m

WG3 agreed to change the title of TR 11801-9909 back to "Evaluation of balanced cabling in support of 25 Gbps to distances greater than 30 m." Comments were resolved and a DTR will be circulated.

7. Modular plug terminated links (MPTL)

Comments to the second WD were resolved, and the document will be circulated as a DTR 11801-9910.

8. ISO/IEC 30129 telecommunications bonding networks

An ad hoc at the next meeting will discuss if a revision is required prior to the current target of 2022-23.

9. ISO/IEC 14763-2 planning and installation

Voting on the Final Draft International Standard (FDIS) of ISO/IEC 14763-2 closes in November 2019.

10. ISO/IEC 14763-3 testing of optical fiber

After careful consideration of input from other standards bodies, national committees and experts, WG3 agreed to start the revision process of ISO/IEC 14763-3, to include:

- All necessary inspection and testing information in support of ISO/IEC 11801 and ISO/IEC 14763-2.
- Emphasis on inspection of fiber-optic connectors to ensure cleanliness prior to mating.
- Cleaning methods for each cabling interface configuration.
- Uncertainty specifications for attenuation measurements in singlemode and multimode installations.
- Guidance regarding requirements for the use of reference connectors in testing to minimize uncertainty.
- Test equipment shall be according the requirements in 61280-4-1.

11. ISO/IEC TR 11801-9908: guidelines for high-speed applications over optical fiber

The comments to the third WD were resolved. Given the need for similar guidance regarding singlemode duplex and parallel applications, it was agreed to extend the scope to include singlemode applications as well. The title will change to "Guidelines for High-Speed Applications over optical fiber," and singlemode applications that are standardized, in progress of standardization, or with published multi-source agreements (MSAs) will be added. The document will be circulated as a DTR.

12. Proposal to consider optical fiber classes

A German proposal to consider including optical fiber classes based on bandwidth and attenuation, per German standard DKE/GAK 715.3.9, was discussed. Multiple experts expressed skepticism regarding the large number of classes and the market value of such a document, and the German experts were asked to report results of market acceptance in one year. The proposal will not progress at this time.

13. Fiber-optic cabling to the premises

CENELEC EN 50700 "Premises distribution access network (PDAN) cabling to support deployment of optical broadband networks" was discussed. It defines requirements for the cabling between the Access Demarcation Point and the Subscriber Interface, including OS2 fiber and higher performance connectors than with ISO/IEC 11801. An agenda item was added to the next meeting to discuss next steps, if any.

14. PoE Amendment to ISO/IEC 18598 automated infrastructure management

Comments to the Proposed Draft Amendment (PDAM) to add PoE functionality were reviewed and resolved. The document will be circulated as a DAM.

15. Network physical security (NPS)

An interim meeting produced a WD harmonizing the security levels of ANSI/TIA-5017 and the security grades of the NPS document, as well as including the AIM security content for operations in the main body of the document. All comments were resolved, and the document will be circulated as a CD.

16. New standard on sustainability of cabling installations

A Japanese proposal to develop a standard for sustainability of cabling Installations was reviewed by WG3. An NWIP will be circulated for country ballot and is expected to be approved. The standard will specify requirements and recommendations to maximize the sustainability and utilization of cabling systems. It will address the following areas: cabling design; selection, packaging and transportation of components and related materials; operation and maintenance of the installation; treatment of waste materials; and the skillsets necessary for designers, installers and users.

The next meeting of ISO/IEC JTC1/SC25 WG3 will be held February 2020, in Sydney, Australia.

CENELEC TC215 WG1 meeting: No meetings held during Q3 2019

The next meeting of CENELEC TC215 WG1 will be held October 29-30, 2019, in Paris, France.

CENELEC TC215 WG2 meeting: No meetings held during Q3 2019

The next meeting of CENELEC TC215 WG2 will be held April 22-23, 2020, location TBD.

IEEE 802.3 Ethernet meeting: Interim—September 9-13, 2019, Indianapolis, IN, USA

1. IEEE 802.3cq maintenance on two-pair power over Ethernet (PoE)

- This task force is cleaning up discrepancies in the existing two-pair PoE standard (commonly known as 802.3af and 802.3at, or PoE and PoE+) found during the development of 802.3bt. The modifications do not change the functionality in two-pair systems. The draft of 802.3cq has entered the final phase of balloting, standards association (SA) ballot, and is expected to be completed by the end of 2019.

Single-twisted-pair copper standards

2. IEEE P802.3cg 10 Mbps single-twisted-pair Ethernet

- The 10 Mbps/Single Pair Ethernet project is in the final stage of balloting, having completed two recirculations of the SA ballot, and is expected to be ratified by the end of 2019.
- The project objectives cover industrial, automotive, and building automation use cases, encompassing multiple different applications: one up to 15 m, one of approximately 1 km, and a new one in formulation to reflect 25 m multidrop applications. The project has organized around two physical layer PHYs:
  - 1. Up to 1 km single-pair (aka 10BASE-T1L): The project adopted baseline specifications for the up-to 1 km process control and building automation application, adopting PAM 3 signaling and various electrical specifications.
  - 2. Short-reach (15+ m, aka 10BASE-T1S): The project also adopted link segment specifications for 15 m point-to-point links, compatible with 25 m multi-drop networks as well. Short-reach PHYs will optionally support multidrop.
  - 3. An optional improvement collision performance on multidrop networks (known as PLCA in the draft).
  - 4. Optional single-pair powering, based on clause 104 (IEEE Std 802.3-2016, known as PoDL) with some specification changes and additional power levels.

3. IEEE P802.3ch Multigigabit Automotive Ethernet PHY Task Force

- The 802.3ch draft completed initial Working Group ballot and has entered a recirculation. It is expected to enter SA ballot by the end of 2019 and be ratified in late 2020.
- This task force is focused on short-reach automotive links at rates of 2.5 Gbps, 5 Gbps, and 10 Gbps. The objectives call for up to 15 m and four connectors, and the project has adopted transmission characteristics for shielded cabling with bandwidths up to 6 GHz to provide headroom for PHY developers to study. At the interim, the group adopted PAM 4 PHY proposals for all rates, along with Reed-Solomon forward error correction coding to deal with impulse noise, and link segment (cabling) specifications using shielded cabling specified to 1 GHz, 2 GHz, and 4 GHz for 2.5 Gbps, 5 Gbps and 10 Gbps rates, respectively.
- The project includes use of the 802.3bu powering but does not expect to extend that powering specification.

4. IEEE 802 Beyond 10 Gigabit Automotive Ethernet PHY Study Group

- This new study group to develop a project authorization request, criteria for standards development, and objectives for a new task force focused on electrical automotive Ethernet PHYs at rates greater than 10 Gbps. This new project is driven primarily by requirements for autonomous vehicle networking. The study group had its initial meeting at the 802.3 interim in May, with some initial planning. It is expected to present a proposal for a new task force by the end of 2019.

Optical fiber standards

5. IEEE P802.3ca 25G and 50G EPON Task Force

- This task force is writing a standard for 25G and 50G EPON.
- The previous objective supporting 100G EPON was removed from the scope.
- The wavelength plan will allow backwards compatibility with networks supporting 10G EPON.
- All upstream and downstream wavelengths will be in O-band (around 1,310 nm).
- The standard will allow coexistence of:
  - 25G EPON with GPON (reduced wavelength).
  - 25G EPON and 50G EPON with 10G-EPON, XG-PON1, and XGS-PON.
- No comments were submitted by the task force on draft 1.6.
- Draft 2.0 advanced to working group ballot May 2019.

6. IEEE P802.3cd 50G, 100G, 200G Ethernet PHYs Task Force

- Task force has written a standard for 50G, 100G, and 200G.
- Standard has been submitted to RevCom and the task force work is complete.

7. IEEE P802.3cm Next-gen MMF PHYs (i.e., 400 Gbps over fewer pairs of MMF) Task Force

- This task force has two main objectives:
  - Define a physical layer specification that supports 400 Gbps operation over eight pairs of MMF with lengths at least 100 m.
  - Define a physical layer specification that supports 400 Gbps operation over four pairs of MMF with lengths at least 100 m.
- The first objective is being met by a specification creating 400GBASE-SR8 following the precedents set by P802.3cd for 50GBASE-SR, 100GBASE-SR2 and 200GBASE-SR4 and will support 70/100/100 m over OM3/OM4/OM5.
- The second objective is being met by a specification creating 400GBASE-SR4.2 (four fiber pairs with two wavelengths), a bi-directional transmission solution that is essentially a parallel fiber version of Cisco's 100G-BiDi. The specification supports 70/100/150 m over OM3/OM4/OM5 and is the first standard to leverage the WDM support capabilities of OM5.
- The task force reviewed comments from the working group against draft 2.0.
- The first working group recirculation ballot began June 2019.

8. IEEE P802.3cn 50 Gbps, 200 Gbps, and 400 Gbps Operation Over Single-Mode Fiber (formerly called Beyond 10 km Study Group)

- This work was split into two projects. P802.3cn will address the 40 km objectives. P802.3ct will address the 80 km objectives.
- The main objectives are:
  - 50 Gbps operation over at least 40 km of SMF (50GBASE-ER).
  - 200 Gbps operation over four wavelengths capable of at least 40 km of SMF (200GBASE-ER4).
  - 400 Gbps operation over eight wavelengths capable of at least 40 km of SMF (400GBASE-ER8).
- The task force reviewed comments from the working group against draft 2.0.
- The first working group recirculation ballot began June 2019.

9. IEEE P802.3cp 10G, 25G, and 50G Bi-directional Access Optical PHYs Task Force

- This task force is developing standards for bi-directional 10G, 25G, and 50G over 10, 20, and 40 km over a single strand of singlemode fiber.
- Baseline proposals are being considered.

10. IEEE P802.3cs Central Office Consolidation (super PON) Task Force

- The main objectives of this task force are:
  - Support a passive point-to-multipoint ODN with a reach of at least 50 km with at least 1:64 split ratio per wavelength pair.
  - Support at least 16 wavelength pairs for point-to-multipoint PON operation.
  - Support the MAC data rate of 10 Gbps downstream.
  - Support the MAC data rates of 2.5 Gbps and 10 Gbps upstream.
  - Support tunable transmitters.
- Baseline proposals are being considered.

11. IEEE P802.3ct 100 Gbps and 400 Gbps Operation over DWDM Systems Task Force

- This project was split off from P802.3cn and will focus on the 80 km objectives.
- The main objectives are delineated by data rate and reach as follows:
  - 100 Gbps operation on a single wavelength capable of at least 80 km over a DWDM system (100GBASE-ZR).
  - 400 Gbps operation on a single wavelength capable of at least 80 km over a DWDM system (400GBASE-ZR).
- DP-DQPSK coherent modulation format will be used for 100GBASE-ZR.
- DP-16QAM coherent modulation format will be used for 400GBASE-ZR.
- The task force has adopted baseline proposals for PCS and FEC functions, and is debating baseline proposals for PMD functions.

12. IEEE P802.3cu 100 Gbps and 400 Gbps over SMF at 100 Gbps per Wavelength Task Force

- The study group successfully transitioned to a task force
- This task force has the following objectives:
  - Define a single-wavelength 100 Gbps PHY for operation over SMF with lengths of at least two km and of at least 10 km.
  - Define a four-wavelength 400 Gbps PHY for operation over SMF with lengths of at least two km and of at least 10 km.
- Baseline proposals are being considered.

13. IEEE P802.3cw 400 Gb/s Operation over DWDM Systems Task Force

- This project was split from P802.3ct for the 400G objective.
- The main objective is:
  - 400 Gbps operation on a single wavelength capable of at least 80 km over a DWDM system (400GBASE-ZR).
- DP-16QAM coherent modulation format will be used for 400GBASE-ZR
- Baseline proposals are being considered.

The next meeting of IEEE 802.3 will be a plenary meeting held the week of November 11, 2019, in Waikoloa, HI, USA.

INCITS Fibre Channel T11.2 meeting: August 13-15, Santa Fe, NM, USA

Relevant project and document status:

- FC-PI-7, Amendment 1 will be withdrawn and be incorporated into base document. New document will go to second ballot for public review.
- FC-PI-7P, Committee is seeking volunteers for technical contribution to further project development.
- FC-PI-8, RFC ballot, December 2020.

FC-PI-8 ad hoc group

- Two 128GFC module options and tradeoffs were reviewed. 112.2 Gbps PAM4 is the current proposed data rate.
  - 128GFC BiDi/CoDi—Backward compatible with 32GFC and 64GFC. Would require two electrical lanes and lane bonding; the only feasible module form factor is SFP-DD (SFP would not be able to support two lanes).
  - 128GFC Single Lane 112.2 Gpbs—Both SFP/SFP-DD could support this option, no two-lane bonding required. Could leverage existing IEEE SM variants, but MM reach could be significantly shorter than alternative.
- Committee reviewed IEEE NEA material discussing recent network topology shift from ToR to MoR/EoR, and potential impact on Fiber Channel topology and reach requirement. Current target MM reach for 128GFC is 100 m OM4/OM5; further analysis is in development to determine what reach is feasible and will meet new application requirements.
- Five different types of FEC and capabilities were reviewed—Single RS(544,514), Dual PAM-4 symbol interleaved, Dual FEC symbol interleaved, Single RS(560,514) and Single RS(576,514). Required coding gain will be studied for all five methods.

The next meeting of INCITS/T11 will be held October 7-11, 2019, in Coeur d'Alene, ID, USA.

IEC TC46 meeting: No meetings held during Q3 2019

The U.S. supported the initiation of and submitted comments on:

- (46C/1128/NP): IEC 62807-3 Hybrid telecommunication cables— Part 3: Outdoor hybrid cables—Sectional specification
- (46C/1129/NP): IEC 62807-3-10 Hybrid Telecommunication Cables—Part 3-10: Family specification for FTTA hybrid communication cables

The next meeting of IEC TC46 will be held October 14-18, 2019, Shanghai, China.

IEC SC48B meeting: September 2, 2019, Arlington, VA, USA

1. IEC 63171-1 copper LC style connector CDV comments were resolved and the document approved for circulations as an FDIS. The IEC 63171-1 connector continues to be usable in a broad set of environments and cabling configurations, supporting UTP, STP cables while also maintaining interoperability between shielded plugs and jacks. Additionally, the connector was tested with active IEEE 802.3cg 10BASE-T1L prototype equipment and the channel, including several IEC 63171-1, connectors passed IEC 61000-4-6 EMC conducted noise requirements with the noise level of 10 V rms. This qualifies the connector as an E3 (industrial) capable connector.
2. IEC SC48B also approved the IEC 63171-6 connector from Harting to advance from the CDV to FDIS stage.
3. Both the IEC 63171-1 and IEC 63171-6 connectors are referenced as optional MDI connectors (interfaces on equipment and devices) in the IEEE 802.3cg 10BASE-T1 standard for both 15 m and 1,000 m link segments.
4. The parent document to these single-pair connectors IEC 63171 was approved for re-circulation as a CDV.
5. A new working group was formed by IEC SC48B to develop machine useable/interpretable versions of IEC SC48B standards.

The next IEC SC48B meeting will be held March 23-27, 2020, in Europe.

IEC SC48D meeting: September 8-12, 2019, Arlington, VA, USA

Mechanical structures for electrical and electronic equipment

MT1: Maintenance team

- The draft of the new edition IEC 61969-3 (48D/696/CDV) received many comments to harmonize the requirements with other published standards in IEC and ITU-T. Most comments were accepted and this puts the new edition more in line with the optical fiber street cabinets defined in IEC 61753-1 Ed2 category A and ITU-T L.206. Differences will remain since the test methods are based on the IEC 60068 series instead of the IEC 61300 series. The operating temperature range for class 1 is -40° C to +85° C because of the active electronics inside. The class 2, which had a -65° C temperature limit, was only intended for the extreme cold climates where hardly any people are living and therefore considered economically meaningless. It was decided to use a minimum temperature of -50° C to include the cold climates for the Nordic countries (example: IEC SC86B allows -45° C for Finland).

The next meeting of IEC SC48 has not been planned as of this release.

IEC SC86 WG4, WG6 and WG7 meeting: No meetings held during Q3 2019

The next meeting of IEC SC86 will be held October 14-18, 2019, Shanghai, China.

CENELEC TC86BXA WG1 meeting: No meetings held during Q3 2019

The next meeting of CENELEC TC86BXA WG1 will be held December 3-4, 2019, in Brussels, Belgium.

CENELEC TC86BXA WG2 meeting: No meetings held during Q3 2019

The next meeting of CENELEC TC86BXA WG2 will be held December 3-4, 2019, in Brussels, Belgium.

ITU-T SG15 meeting: July 1-12, 2019, Geneva, Switzerland

Technologies and Infrastructures for Transport, Access and Home

Q7: Characteristics of optical components and subsystems

Attenuation of fiber splices:

- There is confusion on the maximum attenuation defined in two different recommendations ITU-T L.400/ex L.12 (optical fibre splices) and ITU-T G.671 (transmission characteristics of optical components and subsystems).
- L.400/ex L.12 gives performance requirements for mechanical splices and fusion splice protectors qualified on identical fibers and, therefore, the values for attenuation are lower (this is the procedure used by splice machine manufacturers to characterize the performance of their splicing machines). Document G.671 is the system-related specification and here the attenuation values are given for splices between different type of fibers (different fiber geometry, mode field diameter). This document needs to be updated for splices with ITU-T G.657 fibers.

Latency of optical components:

- The decision is made to add the latency parameter "group delay" for all components in ITU-T G.671. A new line "group delay" will be added to the tables with characteristics of the components. The IEC 61300-3-38 test method for group delay will be used and the required value is marked as "sba" (specified by application).

Q16: Network infrastructure

Fibre distribution box:

- A new recommendation ITU-T L.208 (requirements for passive optical nodes—fibre distribution box) is approved and published.
  The document contains the recommended features and performance tests for indoor and outdoor installed optical fiber distribution boxes used in FTTH networks. The requirements are harmonized with the equivalent IEC SC86B and CENELEC TC86BXA standards for optical fiber boxes.

The next meeting of ITU-T SG15 will be held January 27 through February 7, 2020, in Geneva, Switzerland.

Next meeting of ETSI EE2 will be held the week of November 4-8, 2019, in Italy.

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