**65C MT9.PT.TSN / 0003 / INF**
**Joint meeting with**
**IEEE 802.1 TSN**
**2018-02-25**

# INTERNATIONAL ELECTROTECHNICAL COMMISSION

## TC65: Industrial-process measurement, control and automation

## SC65C: Industrial communication networks

---

**Meeting**: 65C / MT9 / PT 61784-6 (TSN); Project Team for:

- IEC 61784-6 Industrial communication networks – Profiles – Part 6: Time sensitive networking profile for industrial use based on IEEE 802.1 and IEEE 802.3

**Minutes**: Meeting based on, see documents listed in Annex B and the meeting invitation in collaboration tool,
**Date**: 2018-01-24 — 2018-01-25;

**Location**: Geneva, Switzerland

**Convenor**: Ludwig Winkel

**Daily Minutes by**: Jordon Woods

**Compiled Minutes by**: Ludwig Winkel

**Published**: Collaboration tool, see <http://collaboration.iec.ch/>, and on IEEE 802.1 web site

---

## 1 General topics

### 1.1 Welcomes and organizational issues: Emergency exits, Internet access, lunch, etc. to the IEC - IEEE 802 JWG -- TSN TG joint session

János Farkas and Ludwig Winkel welcomed the joint working group (JWG) of

- IEC SC65C/MT9/PT61784-6 (TSN); Project Team led by Ludwig Winkel and
- IEEE 802.1 TG TSN, led by János Farkas

Glenn Parsons, IEEE 802.1 Chair, and Paul Nikolich, IEEE 802 Chair, successively welcomed the JWG.

John Messenger, IEEE 8021 Vice-chair, provided information about the emergency exits, attendance log and logistics. Lunch is on our own, so that we have to reserve enough time for lunch to be back in time.

### 1.2 Review draft agenda and timetable

The draft agenda was reviewed and accepted with modifications. MT9.PT reviewed the agenda again at the beginning of all days and agreed with the proposed changes. The minutes were reviewed at the end of the meeting.

The final agreed and followed agenda was put in the CollTool as well as on the IEEE 802.1 docs2018 public file server after the meeting (rev2):
http://www.ieee802.org/1/files/public/docs2018/new-JWGprep-Winkel-Geneva-agenda-0118-v02.pdf
IEC CollTool: 65C_MT9.PT61784-6_20180124_0_AG_Winkel_Agenda_Geneva_r2

NOTE Access to the IEC CollTool is restricted to IEC 65C/MT9 members and their Liaison partners. All cited documents in the CollTool are in parallel accessible through the IEEE 802.1 docs2018 public file server.

### 1.3 Membership and attendees; Roster; Administrivia

Call to order: 24 January 2018, 8:00 AM.

János Farkas presented *Membership and attendees:* https://mentor.ieee.org/802-ec/dcn/17/ec-17-0090-17-0PNP-ieee-802-lmsc-operations-manual.pdf

https://mentor.ieee.org/802-ec/dcn/17/ec-17-0093-05-0PNP-ieee-802-participation-slide-ppt.ppt

The JWG decided that all participants shall register in the IMAT system. This lowers the handling efforts for the chairs to log the attendance.

The list below shows the IEC nominated experts and their attendance per day.

The list below shows a subset of IEEE 802.1 TSN TG participants having logged their attendance specifically to one of the JWG sessions. Due to an overlap with other IEEE 802.1 TSN TG sessions in IMAT, some IEEE 802.1 TSN TG participants may or may not have attended the JWG meeting.

NOTE NC means: Members nominated by an IEC National Committee (NC).
IEEE JWG means: Affiliation in IMAT if participant registered for JWG.
IEEE TSN means: Affiliation in IMAT if participant registered for TSN.
Jan 24 and Jan 25 means: Presence in the JWG meeting if a "1" is in this cell. Note that due to an overlap with other IEEE 802.1 TSN TG sessions in IMAT, some IEEE 802.1 TSN TG participants may or may not have attended the JWG meeting.

| Salu | Given name | Family name | NC | IEEE JWG | IEEE TSN | Jan 24 | Jan 25 |
|---|---|---|---|---|---|---|---|
| Mr | Yoshiaki | Adachi | JP | | | | |
| Mr | Astrit | ADEMAJ | | | TTTech Computertechnik AG | 1 | 1 |
| Mr | Kuniharu | Akabane | JP | | | | |
| Mr | Ralf | Assmann | | | Marvell Semiconductor, Inc. | 1 | 1 |
| Mr | Takenori | Baba | JP | | | | |
| Mr | Shenghua | Bao | | | HUAWEI | 1 | 1 |
| Mr | Rudy | BELLIARDI | FR | | | | |
| Mr | Steinar | Bjornstad | | | TransPacket | 1 | 1 |
| Mr | Christian | Boiger | | | b-plus GmbH | 1 | 1 |
| Mr | Dietmar | Bruckner | | B&R Industrial Automation | B&R Industrial Automation | 1 | 1 |
| Mr | Radhakrishna | Canchi | | | Kyocera International Inc., | 1 | 1 |
| Mr | David | Chen | | | Nokia | 1 | 1 |
| Mr | Feng | Chen | | | Siemens AG | 1 | 1 |
| Mr | Jin Seek | Choi | | | Hanyang Univerisity | 1 | 1 |
| Mr | Rodney | Cummings | | | National Instruments Corporation | 1 | 1 |
| Mr | Antonio | DeLaOlivaDelgado | | Universidad Carlos III Madrid | Universidad Carlos III Madrid | 1 | 1 |
| Mrs | Valérie | DEMASSIEUX | FR | | | | |
| Mrs | Lu | Ding | CN | | | | |
| Mr | Josef | Dorr | DE | | Siemens AG | 1 | 1 |
| Mr | Stephen | Dutnall | IEC | | International Electrotechnical Commission (IEC) | 1 | 1 |
| Mr | David | Eisl | AT | | | | |
| Mr | Hesham | Elbakoury | | | Huawei Technologies Co. Ltd | 1 | 1 |
| Mr | Lars | Ellegaard | | | Microsemi Corporation | 1 | 1 |

| Salu | Given name | Family name | NC | IEEE JWG | IEEE TSN | Jan 24 | Jan 25 |
|---|---|---|---|---|---|---|---|
| Mr | Hiroya | ENOMOTO | JP | | | | |
| Mr | Thomas | Enzinger | AT | B&R Industrial Automation | B&R Industrial Automation | 1 | 1 |
| Mr | Yonggang | Fang | | | ZTE TX Inc | 1 | 1 |
| Mr | Janos | Farkas | | | Ericsson | 1 | 1 |
| Mr | Max | Felser | CH | | | | |
| Mr | Dongqin | Feng | CN | | | | |
| Mr | Paolo | Ferrari | IT | | | | |
| Mr | Norman | Finn | | | Huawei Technologies Co. Ltd | 1 | 1 |
| Mr | Mickael | Fontaine | | TransPacket | TransPacket | 1 | 1 |
| Mr | Matthias | Fritsche | | | Self Employed | 1 | 1 |
| Mr | mitsushiro | FUJISHIMA | JP | | | | |
| Mr | Mamoru | FUKUDA | JP | | | | |
| Mr | Geoffrey | Garner | | | Broadcom Corporation | 1 | 1 |
| Mrs | Galina F. | Gaykovich | RU | | | | |
| Mr | Frank | Geilhardt | | | Deutsche Telekom AG | 1 | 1 |
| Mr | Eric W | Gray | | | Ericsson AB | 1 | 1 |
| Mr | Craig | Gunther | | | Harman International Industries, Incorporated | 1 | 1 |
| Mr | José | Gutierrez | US | | | | |
| Mrs | Marina | Gutierrez | | | TTTech Computertechnik AG | 1 | 1 |
| Mr | Stephen | Haddock | | | Stephen Haddock Consulting, LLC | 1 | 1 |
| Mr | Mark | Hantel | US | | Rockwell Automation | 0 | 1 |
| Mr | Taro | Harima | JP | Mitsubishi Electric Corporation | Mitsubishi Electric Corporation | 1 | 1 |
| Mr | Marc | Holness | | | Ciena Corporation | 1 | 1 |
| Mr | Seok Boong | Hong | KR | | | | |
| Mr | Seung-ho | Hong | KR | | | | |
| Mr | Yoshifumi | Hotta | JP | | | | |
| Mr | Jim | Jamison | CA | | | | |
| Mr | John | Johansen | DK | | | | |
| Mr | Lokesh | Kabra | | | Synopsys, Inc. | 1 | 1 |
| Mr | Hiromitsu | Kato | GB | | | | |
| Mr | Stephan | Kehrer | DE | Hirschmann Automation and Control | Hirschmann Automation and Control | 1 | 1 |
| Mr | Stephan | Kirchmayer | AT | | | | |
| Mr | Hubert | Kirrmann | CH | Solutil | Solutil | 1 | 1 |
| Mr | Eckehardt | Klemm | DE | | | | |
| Mr | Kenji | KONDO | JP | | | | |
| Mr | Hajime | KOTO | | | National Institute of Information and Communications Technology (NICT) | 1 | 1 |
| Mr | Daehyun | Kwon | KR | | | | |
| Mr | Derek | Lee | US | | | | |
| Mr | Dong | Li | CN | | | | |
| Mrs | Lan | Lin | FR | | | | |
| Mrs | Dan | Liu | CN | | | | |
| Mrs | Lucia | Lo Bello | IT | | | | |
| Mr | Bob | Lounsbury | US | | | | |
| Mr | Peter | Lutz | Sercos | | Sercos International | 1 | 1 |
| Mr | Christophe | Mangin | | | Mitsubishi Electric Corporation | 1 | 1 |
| Mr | Scott | Mansfield | | | Telefon AB LM Ericsson | 1 | 1 |
| Mr | Christian | Mardmoeller | | | Renesas Electronics Corporation | 1 | 1 |
| Mr | Paul Eric | Marko | CA | | | | |
| Mr | Michael | Mayer | | | Huawei Technologies Co. Canada Ltd | 1 | 1 |
| Mr | James | McIntosh | | Microsemi Corporation | Microsemi Corporation | 1 | 1 |
| Mr | Ke | Mei | CN | | | | |
| Mr | John | Messenger | | | ADVA Optical Networking Ltd. | 1 | 1 |
| Mr | Anatoly | Moldovansky | US | | | | |
| Mr | Naotaka | Morita | | | Nippon Telegraph and Telephone Corporation (NTT) | 1 | 1 |
| Mr | Tero | Mustala | | | Nokia Networks | 1 | 1 |
| Mr | Sriram | Natarajan | | | Cisco Systems, Inc | 1 | 1 |
| Mr | Lee A. | Neitzel | US | | | | |
| Mr | Takuma | Nomizu | JP | | | | |
| Mr | Nobuyuki | Ogura | JP | | | | |


Ludwig.Winkel@Siemens.com

| Salu | Given name | Family name | NC | IEEE JWG | IEEE TSN | Jan 24 | Jan 25 |
|---|---|---|---|---|---|---|---|
| Mr | Tomoki | Ohsawa | | | NICT | 1 | 1 |
| Mr | Daisuke | Osagawa | | | Mitsubishi Electric Corporation | 1 | 1 |
| Mr | Daisuke | OSAGAWA | JP | Mitsubishi Electric Corporation | | 1 | 1 |
| Mr | Donald | Pannell | | | NXP Semiconductors | 1 | 1 |
| Mr | Glenn | Parsons | | | Ericsson AB | 1 | 1 |
| Mr | Tom | Phinney | US | | | | |
| Mr | Walter | Pienciak | | | IEEE | 1 | 1 |
| Mr | Gunnar | Prytz | NO | | | | |
| Mrs | Wei | Qiu | | Huawei Technologies Co. | Huawei Technologies Co. | 1 | 1 |
| Mr | Martin | Rostan | DE | | | | |
| Mr | Jessy | Rouyer | | Nokia | Nokia | 1 | 1 |
| Mr | Francesco | Russo | IT | | | | |
| Mr | Atsushi | Sato | JP | Yokogawa Electric Corporation | Yokogawa Electric Corporation | 1 | 1 |
| Mr | Kazuo | SATO | JP | | | | |
| Mr | Regnar | Schultz | DK | | | | |
| Mr | Maik G. | Seewald | DE | | | | |
| Mr | Li | Shen | | | Huawei Technologies Co., Ltd | 1 | 1 |
| Mr | Akitoshi | Shimura | GB | | | | |
| Mr | Yasuhisa | Shiobara | JP | | | | |
| Mr | yan | song | CN | | | | |
| Mr | Johannes | Specht | | | University of Duisburg-Essen and General Motors Company | 1 | 1 |
| Mr | Marius-Petru | Stanica | DE | ABB AB | ABB AB | 1 | 1 |
| Mr | Günter | Steindl | DE | | Siemens AG | 1 | 1 |
| Mr | Wenhao | Sun | | | Huawei Technologies Co., Ltd | 1 | 1 |
| Mr | Ichiro | TAKAHASHI | JP | | | | |
| Mr | Yoichi | Takayanagi | JP | | | | |
| Mr | Isao | TARUI | JP | | Mitsubishi Electric Corporation | 1 | 1 |
| Mr | Patricia | Thaler | | | Broadcom Limited | 1 | 1 |
| Mr | Peter | Thiessmeier | DE | | | | |
| Mr | Ao | Ting | | | ZTE Corporation | 1 | 1 |
| Mr | Andrea | Tomatis | IT | | | | |
| Mr | Paul | Unbehagen | | | Avaya Inc. | 1 | 1 |
| Mr | Reiner | Wamsser | | | Bosch-Rexroth | 1 | 1 |
| Mr | Reiner | Wamßer | DE | | | 1 | 1 |
| Mr | Tongtong | Wang | | | Huawei Technologies Co. Ltd | 1 | 1 |
| Mr | Karl | Weber | DE | | Beckhoff | 1 | 1 |
| Mr | Brian | Weis | | Cisco Systems | | 1 | 1 |
| Mr | Leon | Wessels | | Uman Technologies ZA | Uman Technologies ZA | 1 | 1 |
| Mr | Ludwig | Winkel | | | Siemens AG | 1 | 1 |
| Mr | Klaus | Wohnhaas | DE | | | | |
| Mr | Graeme G. | Wood | GB | | British Standards Institution (BSi), Rockwell Corp | 1 | 1 |
| Mr | Jordon | Woods | | Analog Devices, Inc. | Analog Devices, Inc. | 1 | 1 |
| Mr | Aidong | Xu | CN | | | | |
| Mrs | Xiang | YU | | | Huawei Technologies Co., Ltd | 1 | 1 |
| Mr | Nader | Zein | | | NEC Corporation | 1 | 1 |
| Mr | Jianfeng | Zhang | CN | | | | |

## 1.4 Copyrights and IPR

At the beginning of the meetings on Wednesday and Thursday, János Farkas presented the IEEE-SA PatCom Patent Slides for Standards Development Meetings http://standards.ieee.org/about/sasb/patcom/materials.html, presented the IEEE 802 Participation slide, and made the Call for Potentially Essential Patents. There were no responses to the calls prior to the end of the week's session. Ludwig explained that similar rules apply for IEC nominated experts.

Ludwig Winkel reminded the IEC participants that similar rules apply in IEC.

Ludwig Winkel reminded all MT9.PT experts that patents required for use of the TSN-IA profile must be announced to IEC and made available using the IEC licensing form. Presentations shall not have copyright marks or confidentiality information.

## 1.5 Abbreviated terms and acronyms

| | |
|---|---|
| AVNU | Consortium to establish and certify the interoperability of open Audio Video Bridging (AVB)[1] and Time-Sensitive Networking (TSN) standards. |
| CD | Committee Draft |
| CDV | Committee Draft for Vote |
| CollTool | IEC Collaboration Tool, see <http://collaboration.iec.ch> |
| CP | Communication Profile according to IEC 61784-1 and IEC 61784-2 |
| FDIS | Final draft International Standard |
| IA | Industrial automation |
| IEC | International electrotechnical commission |
| IEC-CO | Central office of International Electrotechnical Committee |
| IEEE | Institute of Electrical and Electronics Engineers |
| IEV | International electrotechnical vocabulary |
| IO | Input output |
| IPR | Intellectual Property Rights |
| ISO | International Organization for Standardization |
| ITU | International Telegraph Union |
| JTC1 | Joint Technical Committee 1 of ISO and IEC |
| JWG | Joint WG |
| MAC | Medium access Control |
| MAU | Medium access unit |
| MM | Meeting minutes |
| MT | Maintenance Team |
| MT9 | Maintenance Team 9 of IEC SC65C |
| NC | National Committee |
| NP | New work item proposal |
| OPC | Open platform communications |
| OPC UA | Open platform communications unified architecture |
| PAR | Project authorization request |
| Phy | Physical Layer |
| PLC | Programmable logic controller |
| PoE | Power over Ethernet |
| preCDV | Draft CDV |
| preFDIS | Final Draft International Standard in preparation; “approved for Committee Draft with Vote”-status plus changes according to RVC and MT9 decision |
| PT | Project team |
| Q | Questionnaire |
| Rev | Revision |
| RQ | Report on questionnaire |
| RR | Review report |
| RVN | Report on voting of an NP |
| SC | Sub-Committee of a TC |
| SR | Stream Reservation |
| TC | Technical Committee |
| TIA | Telecommunications industry association |
| TSN-IA | Time sensitive networking – industrial automation |


Ludwig.Winkel@Siemens.com

| | |
|---|---|
| TSN | Time sensitive networking |
| UNI | User Network Interface |
| WG | Working Group |

### 1.6 Organizational issues (IEC.ch, CollTool; IEEE imat, document repository)

When the joint working group will be established between IEC and IEEE, then all documents will be copied to the IEEE server (Mentor) as well to the IEC server (CollTool). Until this, Glenn Parsons, János Farkas and Ludwig Winkel will try to make available all shown documents on both servers. For example, the IEC draft will be made available when IEC SC65C secretary sends it to the IEEE 802.1 Chair as a Liaison document for review.

### 1.7 Status of Liaison and Joint WG with IEEE 802

Ludwig Winkel presented the *Information from IEC TC65 to IEEE802:*

http://www.ieee802.org/1/files/public/docs2018/new-JWGprep-Winkel-industrial-profile-0118-v01.pdf.
IEC CollTool: TSN (WINKEL)_20180124_rev0_Joint IEC-IEEE profile for industry.pdf

IEC SC65C got approval from the NCs to transform the agreed new work item (NP) on IEC 61784-6 to a joint working group with IEEE 802.1. Next step is to report the result to the NCs and ask IEC CO for a different project number IEC 60802.

### 1.8 Avnu & Industrial Profiling for TSN

Stephan Kehrer presented *Avnu & Industrial Profile for TSN*
http://www.ieee802.org/1/files/public/docs2018/New-Hantel-AvnuIndustrialProfilingForTSN-0118.pdf.
IEC CollTool: Avnu for joint IEEE 208021 IEC 61784-6 Geneva Jan 2018 v5.pdf
There was a discussion about cost of Avnu membership and Ludwig Winkel raised a formal objection to the pricing discussions. János Farkas pointed out that the discussions had changed to “relative pricing”, but participants should be cautious with such discussions. Ludwig Winkel was satisfied with the way his objection was handled.
**Disposition**: No further action required.

## 2 Technical issues

### 2.1 Recap purpose of the meeting as defined in Arlington, VA

Ludwig Winkel recapped the purpose of the meeting as defined in the IEC meeting minutes of the Arlington meeting. János Farkas posted later in the day the meeting minutes to the IEEE 802.1 server:
http://www.ieee802.org/1/files/public/docs2018/new-JWGprep-Winkel-Arlington-minutes-0118.pdf.
IEC CollTool: 65C_MT9_20171120_0_MM_Winkel_MM Arlington_r01.pdf

It was pointed out that standard practice for the IEEE 802.1 WG is to post all presentations prior to giving said presentation. Ludwig Winkel indicated that, once the working relationship is formally established, all material can be shared. Glenn Parsons indicated that during the transition period, the intent to share all documents is sufficient for the IEEE 802.1 WG. In this case, Ludwig Winkel is authorized to, and will, share a copy of the Arlington meeting minutes.
**Disposition**: Administrative.

### 2.2 Status of the draft IEC 61784-6

Ludwig Winkel explained that on IEC the process is to start a NP with at least an outlined draft document. The current draft is based on the NP and the revisions decided by the 65C/MT9 project team. Ludwig presented the objectives that were collected during the past meetings, see Arlington meeting minutes.

### 2.3 Recap the Draft CD use cases

Josef presented parts of the draft pre Committee Draft (CD), especially the requirements listed what the profile document shall consider as content.

Josef Dorr recapped the IEC 61784-6 WG draft profile requirements. It was pointed out that several IEC Specifications are referenced in these requirements and asked that these be

provided. IEC TC65 Chair indicated these documents are publicly available at minimal cost. He suggested that pertinent excerpts from the specifications would be provided once the formal relationship is in place.
**Disposition**: Related to new project; more discussion needed.

### 2.4 Discuss crucial topics according to Arlington MM

Ludwig showed the topics in the Arlington MM. The group decided to start with the discussion about traffic types.

Josef Dorr led a discussion on critical topics in IEC 61784-6 WG draft as identified during the IEC Meeting in Arlington VA. The list of topics was reviewed. Due to time constraints, the Joint WG limited the discussion to a single topic: traffic types.
**Disposition:** Related to new project; more discussion needed.

Dietmar Bruckner presented a proposed set of traffic patterns defined by the LNI4.0 organization (Labs Network Industrie 4.0):
http://ieee802.org/1/files/public/docs2018/new-Bruckner-LNI-traffic-patterns-for-TSN-0118.pdf.
IEC CollTool: new-Bruckner-LNI-traffic-patterns-for-TSN-0118.pdf
**Disposition:** Related to new project; more discussion needed.

## 3 Review of the minutes of the day

Jordon Woods reviewed the minutes of the day.
**Disposition**: Administrative.

## 4 Review Agenda; expected results of the day; Wed recap

Ludwig Winkel reviewed the day's agenda and recapped the events of the meeting on Wednesday 24 January 2018.
**Disposition**: Administrative

## 5 PAR & CSD

Ludwig Winkel and János Farkas led a discussion on the PAR (http://ieee802.org/1/files/public/docs2018/P60802-draft-PAR-0118-v01.pdf) and CSD (http://ieee802.org/1/files/public/docs2018/P60802-draft-CSD-0118-v01.pdf) for the P60802 profile project.

**Disposition**: The JWG asked Glenn Parsons to pre-circulate the amended documents, so that the IEEE 802.1 working group, the other IEEE 802 working groups and the IEEE 802 Executive Committee (EC) can review the draft PAR and CSD ahead of the March 2018 IEEE 802 plenary meeting. At this plenary meeting, the resolution of comments received on the PAR and CSD will take place on Wednesday, the voting on the PAR and CSD will take place at the IEEE 802.1 closing plenary, and the IEEE 802 EC will decide whether to approve the PAR and CSD on Friday; Glenn Parsons asked Ludwig Winkel to participate to this EC meeting on Friday in case there are questions about IEC collaboration.

## 6 Continue to discuss crucial topics according to Arlington MM

Josef Dorr led a continued discussion on critical topics in IEC 61784-6 WG draft specifically, traffic types. IEC MT9 Convenor requested contributions on traffic classes chart and use cases for automation requirements. It was pointed out that requirement 20 has not yet been agreed upon.
**Disposition**: Related to new project; more discussion needed.

# 7 Next meetings

## 7.1 Discussions

Ludwig Winkel led a discussion on next meetings. He proposed a meeting co-located with the March 2018 IEEE 802 Plenary in Rosemont, IL, USA on March 6, 7 and 8. There were no objections to pay meeting fees as usual in IEEE 802, especially asking the IEC members.

A straw poll was held for various options regarding joint meetings which either did or did not overlap with the IEEE 802.1 interim meeting in Pittsburgh, PA, USA. Straw Poll:

"Who would favor the following meeting options?

- Four days in Pittsburgh (in parallel with the 802 Interim) [12]
- 3 days in Cleveland, 2 days Pittsburgh (in parallel with the 802 Interim) [10]
- 5 days in Cleveland (separate from the 802 Interim) [13]

Who would not attend the following meeting options?

- Four days in Pittsburgh (in parallel with the 802 Interim) [2]
- 3 days in Cleveland (separate from the 802 Interim) [11]
- 2 days Pittsburgh (in parallel with the 802 Interim) [6]
- 5 days in Cleveland (separate from the 802 Interim) [9]

Who would not attend the following meeting options?

- Two days in Pittsburgh (in parallel with the 802 Interim) [18]
- Three days in Pittsburgh (in parallel with the 802 Interim) [11]"

János Farkas pointed out that due to travel budgets, many international attendees would not be able to obtain travel approval for a two-day trip. Based upon discussion and the results of the straw poll, it was agreed to hold the meeting 23-25 May 2018 at the IEEE 802.1 interim meeting in Pittsburgh, PA, USA in parallel with IEEE 802.1 TSN TG sessions). This decision is conditional upon meeting room availability.

It was proposed to hold a remote meeting on 19 February 2018, 8:00 AM-10:00 AM PST, during the weekly IEEE 802.1 TSN TG call. There were no objections.

## 7.2 Next meeting dates and locations

- Remote meeting on 19 February 2018, 8:00 AM-10:00 AM PST.
- Rosemont, IL, USA (Chicago area) on March 6, 7 and 8 in conjunction with the March 2018 IEEE 802 plenary meeting (registration to IEEE 802 plenary meeting and payment of the corresponding registration fee needed; deadline for early registration is Friday 26 January 2018). Ludwig Winkel uploaded the registration information on Thursday 25 January 2018.
- Pittsburgh, PA, USA 23-25 May 2018 at the IEEE 802.1 interim meeting in Pittsburgh, PA, USA in parallel with IEEE 802.1 TSN TG sessions. No objection from the IEC experts about the registration and meeting fee according to the IEEE 802.1 interim meeting process.

The meetings scheduled in Arlington were cancelled.

# 8 Identify and discuss IEEE 802 gaps for TSN-IA profile

Ludwig Winkel asked the JWG to identify any known gaps in the proposed profile. None were identified.
**Disposition**: Related to new project; more discussion needed.

# 9 Workplan

Ludwig Winkel reviewed the proposed workflow for the joint WG. The document will be uploaded to the IEEE 802.1 server. This file is already uploaded in the IEC CollTool.

**Disposition**: Administrative.

Ludwig Winkel reviewed the workplan for the joint WG, see Annex A.
**Disposition**: Administrative.

## 10 Adjournment

### 10.1 Summary of the 2 days

Ludwig Winkel and János Farkas provided a summary of the two-day JWG meeting. Ludwig Winkel expressed his thanks to the IEEE 802.1 management for hosting the IEC SC65C/MT9/PT TSN meeting in conjunction with the IEEE 802.1 TSN TG.
**Disposition**: Administrative

### 10.2 Review of meeting minutes

Jordon Woods reviewed the minutes of the day. The meeting adjourned 5:30 PM.
**Disposition**: Administrative.

# Annex A

## SC65C/MT9.PT schedule

The updated work plan is in Table A.1.

**Table A.1 – Work plan for TSN-IA profile document**

| Calender | Date | End | Actions TSN-IA profile IEC | Date | End | Actions TSN-IA profile IEEE 802.1 |
|---|---|---|---|---|---|---|
| Dec-16 | | | | | | |
| Jan-17 | | | | | | |
| Feb-17 | | | | | | |
| Mar-17 | 24.03.2017 | | IEC/NP 62657-4 | | | |
| Apr-17 | | | | | | |
| May-17 | | 16.06.2017 | | | | |
| Jun-17 | 06.07.2017 | 07.07.2017 | 1st meeting Frankfurt | | | |
| Jul-17 | | | | | | Asking for a JWG TSN-IA profile |
| Aug-17 | | | | | | |
| Sep-17 | | 30.09.2017 | Next rev of preCD by Editor | | | |
| Oct-17 | 01.10.2017 | 30.10.2017 | MT9.PT Review | | | |
| Nov-17 | 20.11.2017 | 22.11.2017 | meeting Arlington, VA | 09.11.2017 | | Drafting PAR |
| Dec-17 | 01.12.2017 | | Questionnaire | | | |
| Jan-18 | | 12.01.2018 | | | | |
| Jan-18 | 24.01.2018 | 25.01.2018 | Meeting Geneva, CH, JWG | | 26.01.2018 | PAR & CSD |
| Feb-18 | 19.02.2018 | 19.02.2018 | Remote meeting | | | |
| Mar-18 | 06.03.2018 | 08.03.2018 | Meeting Chicago, IL | | 09.03.2018 | |
| Apr-18 | | | | | | |
| May-18 | | | | | | |
| May-18 | 23.05.2018 | 25.05.2018 | Meeting Pittsburgh | | | JWG |
| May-18 | | | | | | |
| Jun-18 | | | | | | |

| Calender | Date | End | Actions TSN-IA profile IEC | Date | End | Actions TSN-IA profile IEEE 802.1 |
|---|---|---|---|---|---|---|
| Jul-18 | 12.07.2018 | 13.07.2018 | Meeting San Diego, JWG (Not jet decided) | 09.07.2018 | 13.07.2018 | Meeting San Diego |
| Aug-18 | 15.08.2018 | | IEC/CD 61784-6 | | | 1st TF draft |
| Sep-18 | | | | 10.09.2018 | 14.09.2018 | Meeting Oslo |
| Oct-18 | | 30.10.2018 | | | | |
| Nov-18 | 16.11.2018 | 17.11.2018 | Meeting Bangkok, JWG (Not jet decided) | 12.11.2018 | 16.11.2018 | Meeting Bangkok, JWG |
| Dec-18 | | | | | | 1st recirc. |
| Jan-19 | | | | | | |


Ludwig.Winkel@Siemens.com

# Annex B

## IEC SC65C/MT9.PT documents

The following IEC SC65C MT9.PT documents are downloadable from the IEC server www.iec.ch and reflect the basis and results of MT9.PT (Membership required).

| | |
|---|---|
| 65C/875/NP | Industrial communication networks – Profiles – Part 6: Time sensitive networking profile for industrial use based on IEEE 802.1 and IEEE 802.3 |
| 65C/896/RVN | Result of voting on 65C/875/NP - PNW 65C-875: Industrial communication networks – Profiles – Part 6: Time sensitive networking profile for industrial use based on IEEE 802.1 and IEEE 802.3 |
| 65C/910/Q | QUESTION about conversion of the approved IEC 61784-6 project (Industrial communication networks – Profiles – Part 6: Time sensitive networking profile for industrial use based on IEEE 802.1 and IEEE 802.3) into a joint development project with IEEE 802.1 |