

Meeting of the IEC/IEEE 60802 Joint Project

0000-00-00

INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)

TC65: Industrial-process measurement, control and automation

SC65C: Industrial communication networks

Institute of Electrical and Electronics Engineers, Inc. (IEEE)

IEEE 802: LAN/MAN Standards Committee

IEEE 802.1: Higher Layer LAN Protocols Working Group

IEEE 802.1 TSN: Time-Sensitive Networking Task Group

Meeting: IEC/IEEE 60802 Joint Project
Meeting was based on the meeting announcement; see IEC collaboration tool <http://collaboration.iec.ch/> and <http://www.ieee802.org/1>

Date: 2018-07-24 — 2018-07-26

Location: Frankfurt/Main, Germany

IEC MT9 Convenor and IEC/IEEE 60802 Joint Project chair: Ludwig Winkel

Daily minutes by: Josef Dorr

Minutes compiled by: Ludwig Winkel and Jessy Rouyer

Published minutes: Collaboration tool <http://collaboration.iec.ch/>, and IEEE 802.1 web site
<http://www.ieee802.org/1/files/public/minutes/60802>

Ludwig Winkel, IEC MT9 Convenor, and János Farkas, IEEE 802.1 TSN Task Group Chair, presided. Josef Dorr wrote the minutes.

At the beginning of the meetings on each day:

- The IEEE-SA PatCom Patent Slides for Standards Development Meetings and the IEEE 802 Participation slide were presented (<http://standards.ieee.org/about/sasb/patcom/materials.html>).
- The Call for Potentially Essential Patents was made. There were no responses to the calls prior to the end of the week's session.
- The IEC MT9 Convenor reminded the IEC participants that patent rules similar to those of IEEE-SA apply in IEC, reminded all that patents required for use of the IEC/IEEE 60802 profile must be announced to IEC and IEEE and made available using the IEC licensing form, and reminded that presentations shall not have copyright marks or confidentiality information.
- The agenda and the expected results of the day were reviewed and approved. The final agenda is in Annex A.

Draft minutes were reviewed at the end of the meeting.

Attendance:

Last name	First name	Affiliation	24-JUL-2016, AM 06:00 - 12:30	24-JUL-2016, PM 13:30 - 17:30	25-JUL-2016, AM 06:00 - 12:30	25-JUL-2016, PM 13:30 - 17:30	26-JUL-2016, AM 06:00 - 12:30	26-JUL-2016, PM 13:30 - 16:00
Adachi	Yoshiaki	Hitachi, Ltd.	•	•	•	•	•	•
Ademaj	Astrit	TTTech Computertechnik AG	•	•	•	•	•	•
Bai	Yu	Huawei Technologies Co. Ltd	•	•	•	•	•	•
Belliardi	Rudy	Schneider Electric	•	•	•	•	•	•
Dorr	Josef	Siemens AG	•	•	•	•	•	•
Elbakoury	Hesham	Huawei Technologies Co. Ltd				•	•	•
Enzinger	Thomas	B&R Industrial Automation	•	•	•	•	•	•
Essler	Florian	Beckhoff Automation	•	•	•	•	•	•
Farkas	Janos	Ericsson	•	•	•	•	•	•
Feng	Dongqin	Zhejiang University	•	•	•	•		
Fukuda	Mamoru	YASKAWA	•	•	•	•	•	•
Hantel	Mark	Rockwell Automation	•	•	•	•	•	•
Harima	Taro	Mitsubishi Electric Corporation	•	•	•	•	•	•
Hemmer	David	PILZ	•	•	•	•	•	•
Hotta	Yoshifumi	Mitsubishi Electric Corporation	•	•	•	•	•	•
Kehrer	Stephan	Hirschmann Automation and Control, Inc.			•	•	•	•
Kondo	Kenji	Yaskawa Electric Corp	•	•	•	•	•	•
Liu	Dan	ITEI	•	•	•	•	•	•
Qiu	Wei	Huawei Technologies Co., Ltd	•	•	•	•	•	•
Riegel	Maximilian	Nokia Networks	•	•				
Rostan	Martin	Beckhoff Automation	•	•	•	•		
Sato	Atsushi	Yokogawa Electric Corporation	•	•	•	•	•	•

Seewald	Maik	Cisco Systems, Inc.	•	•	•	•		
Soeda	Tatsuo	Yaskawa	•	•	•	•	•	•
Stanica	Marius-Petru	ABB AB	•	•	•	•	•	•
Steindl	Guenter	Siemens AG	•	•	•	•		
Wamsse r	Reiner	IEC SC65C MT9-Member	•	•		•	•	
Weber	Karl	Beckhoff	•	•	•	•		•
Winkel	Ludwig	Siemens AG	•	•	•	•	•	•
Wood	Graeme	British Standards Institution (BSi), Rockwell Corp	•	•	•	•	•	•
Woods	Jordon	Analog Devices Inc.	•	•	•	•	•	•
Zhao	Yanling	ITEI	•	•	•	•	•	•

Tuesday 24 July 2018

9:20 AM (call to order by Ludwig Winkel and János Farkas) to 4:00 PM

Ludwig Winkel and János Farkas:

- Welcomed the participants of the IEC/IEEE 60802 Joint Project, a joint effort of the:
 - IEC 65C/MT9/PT 60802 (TSN) Project Team, led by Ludwig Winkel; and
 - IEEE 802.1 Time-Sensitive Networking Task Group, led by János Farkas.
- Provided information about internet access, lunch, attendance log to the IEC/IEEE 60802 Joint Project.

Maik Seewald presented the IEC TC57 WG10 effort on *TR IEC 61850-90-13 Deterministic Networking* <http://www.ieee802.org/1/files/public/docs2018/60802-Seewald-intro-to-IEC61850-90-13-0718.pdf> (as already presented at the July 2018 meeting in San Diego)

Disposition: Further discussion needed

Josef Dorr presented *Use Cases IEC/IEEE 60802 V1.0* status and led the discussion about the last changes on the document

(<http://www.ieee802.org/1/files/public/docs2018/60802-industrial-use-cases-0718-v10.pdf>)

- Comments from the group were added during the meeting to the document.

Disposition: Josef Dorr will update the document with the comments from the meeting by August 3, 2018.

Jordon Woods presented *IEEE 802.1Qcc UNI and Traffic Specifications*

<http://www.ieee802.org/1/files/public/docs2018/60802-woods-QccUNI-0718-v01.pdf>

Disposition: Further discussion needed

Karl Weber and Florian Essler provided an additional use case contribution in *Machine internal and Machine to Cell Controller (M2C) embedded Communication with Machine internal non TSN-communication subsystems*

<http://www.ieee802.org/1/files/public/docs2018/60802-essler-additional-use-case-0718-v01.pdf>

Disposition: Karl Weber and Florian Essler will provide a commented version of the use case document by July 25, 2018. Josef Dorr and Günter Steindl will assist in finding the essential missing issues. The presentation of the commented document will be on the July 25, 2018 agenda

Marius Stanica presented *Coexistence & Convergence in TSN-based industrial automation networks*" <http://www.ieee802.org/1/files/public/docs2018/60802-stanica-convergence-coexistence-0718-v03.pptx> covering configuration, traffic shaping and redundancy issues

Disposition: Further discussion needed

Wednesday 25 July 2018

8:30 AM (call to order by Ludwig Winkel) to 6:30 PM

Yu Bai presented *Flexible Manufacturing System(FMS) -- for Small Batch Customized Production* <http://www.ieee802.org/1/files/public/docs2018/60802-Bai-small-batch-customized-production-0718-v01.pdf>

Disposition: The presented use cases are already covered in the use case document.

Mark Hantel provided additional comments on the *Use Cases IEC/IEEE 60802 V1.0* document <http://www.ieee802.org/1/files/public/docs2018/60802-Hantel-industrial-use-case-comments-0718-v10.pdf>

- The comments were discussed and resolved during the meeting. The comment resolution was added by Mark Hantel to the document: <http://www.ieee802.org/1/files/public/docs2018/60802-Hantel-industrial-use-case-comment-resolution-0718-v10.pdf>

Disposition: Josef Dorr will consolidate the comment resolution into the use case document by 2018-08-03.

Florian Essler and Karl Weber provided an updated version of the use case document with additions from their July 24, 2018 presentation *Machine internal and Machine to Cell Controller (M2C) embedded Communication with Machine internal non TSN-communication subsystems* <http://www.ieee802.org/1/files/public/docs2018/60802-essler-industrial-use-cases-contribution-0718-v01.docx>. Josef Dorr presented and led discussion on the updated document then revised it based on comments from the group.

Disposition: Josef Dorr will consolidate the use case document and provide a new revision by August 3, 2018. The requirements that are described with these use cases will be added to the requirements document.

Günter Steindl presented *IEC / IEEE 60802 - IA profile Network diagnostics – what shall be detected?* <http://www.ieee802.org/1/files/public/docs2018/60802-Steindl-NetworkDiagnostics-0718-v01.pdf>

Disposition: The requirements that are described in this document will be added to the requirements document.

Günter Steindl presented *IEC / IEEE 60802 - IA profile Example for Configuration Model Alignment* <http://www.ieee802.org/1/files/public/docs2018/60802-Steindl-ConfigurationModelAlignment-0718-v01.pdf>

Disposition: Further discussion is needed. The term CNC should be replaced by “network management” (e.g. for VLAN or traffic class setup). A contribution entitled “What is configured by a CNC – what by other mechanisms?” is expected for the September 2018 meeting in Oslo. There were comments that the title of the contribution is not accurate.

Josef Dorr started to present *Requirements IEC/IEEE 60802 V0.3* <http://www.ieee802.org/1/files/public/docs2018/60802-industrial-requirements-0718-v03.pdf>, led the discussion then revised the document based on comments from the group.

Disposition: The presentation will be continued on July 26, 2018.

Thursday 26 July 2018

8:00 AM (call to order by Ludwig Winkel) to 4:00 PM

Josef Dorr continued presenting *Requirements IEC/IEEE 60802 V0.3* <http://www.ieee802.org/1/files/public/docs2018/60802-industrial-requirements-0718-v03.pdf>, led the discussion then revised the document based on comments from the group. Revised document: <http://www.ieee802.org/1/files/public/docs2018/60802-industrial-requirements-0718-v04.pdf>

Disposition: Josef Dorr will provide a new revision of the requirements document such that it is in line with the updated use case document, both documents will be available by August 3, 2018. The updated portion of the revision will be presented and discussed at the August 27, 2018 conference call.

The requirements list shall be input to the drafting of the profile.

Ludwig Winkel provided a tutorial on how to draft an IEC document, especially profiles by walking through relevant IEC web sites (<http://www.iec.ch/standardsdev/>) and documents. Information on the drafting process of IEC documents (including styles and templates) is at <http://www.iec.ch/standardsdev/resources/draftingpublications/>.

Ludwig Winkel provided an initial skeleton draft.

Disposition: The IEC/IEEE 60802 Joint Project uses the IEC style guide.

János Farkas presented *Contents of IEEE 802.1 TSN Profile Specifications So Far* <http://www.ieee802.org/1/files/public/docs2018/60802-farkas-contents-of-tsn-profiles-so-far-0718-v01.pdf>.

Disposition: The so far published IEEE 802.1 TSN profiles and IEC fieldbus profiles in IEC 61784 can give ideas to the drafting of the IEC/IEEE 60802 profile.

Jordon Woods presented Editor's *Questions and assumptions re: The IEC/IEEE 60802 TSN Profile for Industrial Automation* <http://www.ieee802.org/1/files/public/docs2018/60802-woods-profilequestions-0718-v01.pdf>.

Disposition: The IEC Document format will be adopted for the IEC/IEEE 60802 profile. Further discussion is needed.

The IEC/IEEE 60802 Joint Project meeting adjourned at 3:55 PM.

Annex A

Agenda of the IEC/IEEE 60802 Joint Project meeting held in Frankfurt, Germany July 24-26, 2018

24-07-18

Tue	9:20		Topics	Responsibl e
		[h:min] [min]		
Room Ohm	9:30 - 9:30	10	Welcome and organizational issues (IEEE intro, IEC intro)	Ludwig, János
	9:40 - 9:40	10	Membership, attendees registration (IEEE imat), roster; administrivia	János, Ludwig
	9:40 - 9:40			
	10:00 - 10:00	20	Agenda	Ludwig, János
	10:15 - 10:15	15	Liaison report IEC TC57; TR IEC 61850-90-13 Deterministic Networking	Maik Seewald
	11:15 - 11:15	60	Status of use cases	Josef
	11:15 - 11:15			
	11:15 - 11:15			
	11:15 - 11:15			
	11:15 - 11:15			
	11:55 - 11:55	40	IEEE802.1Qcc UNI and Traffic Specifications	Jordon
	11:55 - 11:55			
	11:55 - 11:55			
	12:35 - 12:35	40	Lunch	
	14:20 - 14:20	105	Machine internal and Machine to Cell Controller (M2C) embedded Communication with Machine internal non TSN-communication subsystems	Florian
	14:20 - 14:20			
	14:35 - 14:35	15	Break	

14:35 - 14:35			
16:00 - 16:00	85	Convergence-coexistence	Marius
16:00 - 16:00	0	Finalize use case document Ed1	Josef
16:00 - 16:00			
16:00 - 16:00			
16:00 - 16:00	0	Review of minutes of the day	Minute maker
		Recess of 60802 JP meeting	

**25-
07-18**

Wed	8:30		Topics	Responsible
		[h:min] [min]		
Room Ohm	8:40 - 8:40	10	Review Agenda; expected results of the day	Ludwig
	9:10 - 9:10	30	Presentation 8	Huawei
	9:55 - 9:55	45	Hantel-industrial-use-case-comment-resolution	Mark
	10:15 - 10:15	20	Break	
	12:35 - 12:35	140	Finalize use case document Ed1	Josef
	12:35 - 12:35			
	12:35 - 12:35			
	12:35 - 12:35			
	12:35 - 12:35			
	12:35 - 12:35			
	13:15 - 13:15	40	Lunch	
	13:15 - 13:15			
	13:55 - 13:55	40	Network Diagnostics	Günter
	14:15 - 14:15	20	Modell Alignment	Günter
	15:15 - 15:15	60	Status Requirement list	Josef
	15:45 - 15:45	30	Break	
15:45 - 15:45				
16:45 - 16:45	60	Technical discussions	All	

17:45 - 17:45	60	Requirements list	Josef
17:45 - 17:45			
		Recess of 60802 JP meeting	

26-
07-18

Thu	8:00	[h:min]	[min]	Topics	Responsible
Room Ohm	8:10 - 8:10		10	Review Agenda; expected results of the day	Ludwig, János
	10:35 - 10:35		145	Update Requirements list	Josef
	11:00 - 11:00		25	Break	
	11:10 - 11:10		10	Roadmap to finalize Requirement document Ed1	Josef
	11:10 - 11:10				
	12:20 - 12:20		70	Tutorial how drafting an IEC/IEEE document, especially profiles	Ludwig
	12:20 - 12:20				
	12:20 - 12:20				
	13:05 - 13:05		45	Lunch	
	14:00 - 14:00		55	Tutorial how drafting an IEC/IEEE document, especially profiles	Ludwig
	14:50 - 14:50		50	Contents of a profile document	János
	15:35 - 15:35		45	Editor's Questions and assumptions	Jordon
	15:35 - 15:35				
	15:35 - 15:35		0	1st draft outline of IEC/IEEE 60802	Jordon
	15:35 - 15:35				
	15:55 - 15:55		20	Review of the minutes	Minute maker
				Adjournment of IEC/IEEE 60802 JP meeting	