

2019 IEEE Standards Association Ethernet & IP @ Automotive Technology Day

DRAFT Program & Speakers' Biographies

Last Updated: 10 June 2019

24 - 25 September 2019

Crowne Plaza Detroit Downtown Riverfront Hotel

Detroit, Michigan, USA

PROGRAM

MONDAY 23 SEPTEMBER 2019	
13:00 – 18:00	Exhibitors Setup (Terrace Level – Grand A, Grand C) *** Exhibitors' Delegates Only ***
16:00 – 18:00	Registration Counter Opens (Terrace Level) Get your badge today and skip the registration line tomorrow!

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TUESDAY 24 SEPTEMBER 2019		
07:30 – 19:00	Registration Counter Open (Terrace Level)	
08:00 – 08:30	Breakfast (Terrace Level: In front of Grand A, B, C)	
08:00 – 19:00	Exhibit Halls Open (Terrace Level: Grand A + Grand C)	
	General Session Presentations (Grand B) These presentations were selected by the Program Committee for their technical content	Paid Sponsor Presentations (Pontchartrain) Lobby level. One floor below Terrace Level
09:00 – 09:30	Opening Remarks <i>Master of Ceremonies – Rudi Schubert (IEEE Standards Association)</i> Welcome Speech <i>TBD (Ford Motor Company)</i>	
09:30 – 10:00	KEYNOTE: “Ethernet: Why does it always win?” <i>Steven B. Carlson – High Speed Design, Inc.</i>	
	Network, Architecture, Connectivity	
10:00 – 10:30	From the cloud to the car- the end to end picture <i>Rajeev Roy (NXP), Michael Johnston (NXP)</i>	TBD: Sponsors are picking their time slots.
10:30 – 11:00	Coffee Break (Terrace Level: In front of Grand A, B, C)	
11:00 – 11:30	TSN Ethernet as core network in the centralized vehicle E/E architecture: challenges and possible solution <i>Hoai Hoang Bengtsson (Volvo), Martin Hiller (Volvo), Samuel Sigfridsson (Volvo)</i>	TBD: Sponsors are picking their time slots.
11:30 – 12:00	Early-stage topological and technological choices for TSN-based communication architectures <i>Nicolas Navet (University of Luxembourg), Josetxo Villanueva (Renault), Jörn Migge (Real Time at Work)</i>	
12:00 – 12:30	10BASET1S a replacement for CAN networks <i>Jonathan Kuhn (FCA), David Stiles (FCA), Shahgir Ahmed (FCA)</i>	TBD: Sponsors are picking their time slots.
12:30 – 14:00	Lunch (Lobby Level: Windsor Ballroom)	
	Validation & Test	
14:00 – 14:30	Crash Farming and Gang Programming over Ethernet: Old concepts meet new challenges <i>John Simon (Intrepid Control Systems), Samir Bhagwat (Intrepid Control Systems)</i>	TBD: Sponsors are picking their time slots.
14:30 – 15:00	Measuring the performance of Automotive Ethernet switch under variety of realistic and worst case scenarios <i>Sravanthi Manthripragada (Ford Motor Company)</i>	
15:00 – 15:30	Coffee Break (Terrace Level: In front of Grand A, B, C)	
15:30 – 16:00	Testing the security and reliability of Ethernet communications using fuzzing, in the era of software-oriented automotive E/E architecture <i>Razvan Petre (Spirent)</i>	ARXML for Automotive Ethernet (Describing automotive Ethernet including pdus and service oriented architecture using AUTOSAR ARXML) <i>Intrepid Control Systems</i>
16:00 – 16:30	Power efficient Ethernet PHY for camera and display <i>George Zimmerman (CME Consulting), Paul Langner (Aquantia), Amir Bar-Niv (Aquantia)</i>	Use case studies for AE Active Taps (Automation, Flashing, API Integration - RAD-Star 2 and RAD-Galaxy) <i>Intrepid Control Systems</i>
16:30 – 17:00	Break /Panel Session Setup	
17:00 – 19:00	Panel Session: Ethernet bandwidth—where does it end? Moderator: James Lawlis (Ford Motor Company) Panelists: Christopher Mash (Marvell Semiconductor), Claude R. Gauthier (NXP), Jace A Mogill (General Motors), Joe Stenger (Molex), Mark Zachos (DG Technologies)	
19:00 – 20:00	Networking Dinner (Lobby Level: Windsor Ballroom)	

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WEDNESDAY 25 SEPTEMBER 2019		
07:30 – 12:00	Registration Counter Open (Terrace Level)	
08:00 – 08:30	Breakfast (Terrace Level: In front of Grand A, B, C)	
08:00 – 19:00	Exhibit Halls Open (Terrace Level: Grand A + Grand C)	
	General Session Presentations (Grand B) Presentations selected by the Program Committee for their technical content	Paid Sponsor Presentations (Pontchartrain) (Lobby level. One floor below Terrace level)
	Safety & Security	
09:00 – 09:30	Design and implementation of IDS for AVB/TSN networks <i>Rodrigo Alves (Universidade Federal de Pernambuco), Michael Buchalik (Robert Bosch), Divanilson Campelo (Universidade Federal de Pernambuco), Timo Lothspeich (Robert Bosch)</i>	TBD: Sponsors are picking their time slots.
09:30 – 10:00	Security areas and modular IDPS – architecture design elements protecting Automotive Ethernet networks <i>Roman Pallierer (Elektrobit), Michael Ziehensack (Elektrobit), Georg Gaderer (Elektrobit)</i>	
10:00 – 10:30	Real life experience: feasibility, benefits and drawbacks from implementation of next generation Ethernet firewall, router and intrusion detection system on smart Ethernet switch and end (host) microcontroller <i>Siddharth Shukla (Robert Bosch), Jan Holle (EsCrypt)</i>	TBD: Sponsors are picking their time slots.
10:30 – 11:00	Coffee Break (Terrace Level: In front of Grand A, B, C)	
	PHY, Switch, μC	
11:00 – 11:30	Beyond 10Gb/s: Automotive Ethernet rates for the 2020's <i>Christopher Mash (Marvell), Steven B. Carlson (High Speed Design)</i>	TBD: Sponsors are picking their time slots.
11:30 – 12:00	Robust connectivity solutions for next generation Automotive Ethernet <i>Bert Bergner (TE Connectivity), Eric DiBiaso (TE Connectivity)</i>	
12:00 – 12:30	Automotive physical layer system design for high bandwidth protocol <i>Ajeya Gupta (Ford Motor Company), Haysam Kadry (Ford Motor Company)</i>	TBD: Sponsors are picking their time slots.
12:30 – 14:00	Lunch (Lobby Level: Windsor Ballroom)	
	AVB/TSN, Higher Layer Protocols, Software	
14:00 – 14:30	The study of TSN profiling for Safety and Reliability on automotive network <i>Takumi Nomura (Honda), Katsuyuki Akizuki (NEC), Ken Ueda (NEC), Ryohei Kawabuchi (Mazda), Yoshifumi Hotta (Mitsubishi Electric) – All representing JASPAR</i>	TBD: Sponsors are picking their time slots.
14:30 – 15:00	Why do we need Data Distribution Service (DDS) and service-oriented architecture for automotive applications <i>Prachi Joshi (General Motors)</i>	
15:00 – 15:30	Coffee Break (Terrace Level: In front of Grand A, B, C)	
15:30 – 16:00	Time synchronization in redundant networks <i>Thorsten Hoffleit (Renesas)</i>	TBD: Sponsors are picking their time slots.
16:00 – 16:30	Choosing the right TSN tool(s) to meet a network's bounded latency requirement <i>Don Pannell (NXP)</i>	
16:30 – 16:35	Closing Remarks <i>Master of Ceremonies – Rudi Schubert (IEEE Standards Association)</i>	

Speakers Biography (alphabetical by last name)

Amir Bar-Niv: VP Marketing and Strategy, Automotive - Aquantia Corporation

Seasoned executive with over 25 years of engineering and marketing experience in the Communication, Consumer and Automotive semiconductors industries, with major focus on high-speed interfaces for video and automotive applications. Mr. Bar-Niv served as SVP and GM of the Video and Consumer group at TranSwitch Corporation. Prior to TranSwitch Mr. Bar-Niv was a co-founder of Mysticom, a provider of high speed semiconductor Ethernet PHY products. Before joining Aquantia as VP of Marketing, Mr. Bar-Niv led the Marketing and business development of Cadence's IP group, setting the roadmaps for the Infrastructure and Automotive markets. Mr. Bar-Niv received a BSEE degree from Tel Aviv University and MBA from the University of Phoenix. Author of 14 patents.

Steven B Carlson: President - High Speed Design, Inc.

Steven B. Carlson is the President of High Speed Design, Inc., a Portland, Oregon-based consulting company. Mr. Carlson has over 45 years' experience in embedded control systems and networking for the entertainment, architectural lighting and energy management industries. Mr. Carlson's products have been used in theatres, motion picture and television studios, themed entertainment and commercial buildings. He currently serves as the Chair of the IEEE P802.3ch Multi-Gigabit Automotive Ethernet PHY Task Force, chair of the IEEE 802.3 Greater than 10 Gb/s Automotive Ethernet Electrical PHYs Study Group, past chair of the 802.3bp 1000BASE-T1 and 802.3bw 100BASE-T1 Task Forces, and is the Executive Secretary of the IEEE 802.3 Ethernet Working Group. Mr. Carlson previously served as the Chair of IEEE 802.3af-2003 DTE Power via MDI project, usually referred to as "Power over Ethernet," the IEEE 802.3bf - 2011 Time Sync Task Force and was a founder of the Entertainment Services and Technology Association's Technical Standards Program, ANSI E1-Entertainment Technology.

Christopher Mash: Senior Director Automotive Applications and Architecture - Marvell Semiconductor

Christopher Mash is the Senior Director of Automotive Applications and System Architecture at Marvell Semiconductor. He has been involved with Automotive Ethernet for the past 9 years and has been working in the Ethernet field for the last 21 years. During that time, he has taken over 300 designs from the concept phase through design, test and into high volume production. He has been active within the IEEE802.3ch Multi-Gig automotive task force, IEEE802.3bp 1000BASE-T1 task force, IEEE802.3bw 100BASE-T1 task force, IEEE802.1 AVB/TSN groups and AVNU. Mr Mash holds a BEng Honours degree in Electronic Engineering from Southampton University and holds Chartered Engineer status with the Institution of Engineering and Technology.

Jörn Migge, PhD: CTO - RealTime-at-Work

Jörn Migge is the CTO of RealTime-at-Work (RTaW), an SME specialized in simulation and timing analysis for automotive and aerospace systems. He has an extensive experience in network design and network configuration issues. In particular, he has lead the development of configuration algorithms for several TSN protocols including the Credit-Based Shaper and Time-Aware Shaper. Before joining RTaW in 2008, Jörn Migge worked for 8 years at the R&D department of PSA Peugeot-Citroën on methods and tools for the optimization and validation of embedded software architectures. He has contributed to the AEE, ITEA-EAST, AUTOSAR and TIMMO-2-USE automotive industry-wide projects. He received a PhD in applied mathematics from the University of Nice in 1999.

Nicolas Navet: Professor - University of Luxembourg

Nicolas NAVET is a professor in Computer Science at the University of Luxembourg. His objective is to contribute to the techniques and the tools that will make it possible to build provably safe systems in a time and cost efficient manner. He has been working on embedded networks with automotive OEMs since the mid-90s, as an academic and for the company RealTime-at-Work that he created in 2007 and was the CTO of during 5 years.

Donald R. Pannell: Fellow, Automotive Ethernet Solutions - NXP Semiconductors

Don Pannell joined NXP in 2017. Previously he was at Marvell for 17 years where he was the lead architect for their small port count Ethernet switches. He is currently an active contributor in both IEEE 802.3 and IEEE 802.1, where

more recently he has worked on all the IEEE 802.1 AVB/TSN standards and is currently Secretary of the IEEE 1722 and IEEE 1722.1 working groups which standardize end node protocols for AVB/TSN. He worked on his 1st IEEE standard in 1980. He was Vice Chair of the Board of the VESA standards association in 1990. He has been a lead architect for over 30 years at companies including Sierra Semiconductor, I-Cube and Marvell. Don currently has over 70 patents granted with more in the works. Don received his BSEE degree from Loyola University in California.

Rudi Schubert: Director, New Initiatives - IEEE Standard Association

Rudi Schubert is the Director, New Initiatives for the IEEE Standards Association, focusing on incubation of emerging technology standards and the productive implementation of IEEE standards to accelerate technology adoption. He leads the IEEE Industry Connections program, operating consensus building interest groups across a portfolio of topics including augmented reality, ethics for autonomous systems, internet of things, big data, 3D body processing, artificial intelligence, digital identity, smart cities, next generation vehicle technologies and many others. Before joining the IEEE, Rudi was a principal engineer for EnerNex, providing technical expertise on technology standards and testing programs to the National Institute of Standards and Technology (NIST) for their Smart Grid initiatives. He also spent nearly 20 years in progressively expanding leadership roles with Telcordia Technologies (formerly Bellcore) establishing technical criteria and implementation methodologies that become a mandated compliance and certification standard used by US telecom carriers for technology deployment.

Rudi has a 25+ year record of leading, developing and implementing industry standards and testing programs, assuring expectations for functional performance, compatibility, product robustness and safety are achieved. He holds bachelor's and master's degrees in mechanical engineering from Stevens Institute of Technology, Hoboken, New Jersey.

Siddharth Shukla: Product Manager - ESCRYP

Siddharth is an experienced Embedded Systems Engineer and has expertise in Automotive Security and Real Time Systems for Multicore Architecture. He started at ESCRYP as a Lead developer for Automotive Ethernet Firewall, where he worked with different Automotive Ethernet related areas and later took the responsibility of Product Manager on the ESCRYP team at Robert Bosch AB, Sweden. He received his master's in Embedded Systems at Uppsala University, Sweden.

Michael Ziehensack, PhD: Managing Director – Elektrobit Austria

Dr. Michael Ziehensack studied Computer Technology and is working in the field of communication networks for more than 15 years. Since 2015 he is Managing Director of Elektrobit Austria in Vienna specializing on automotive communication software.

George Zimmerman, PhD: President - CME Consulting

Dr. George Zimmerman is an President of CME Consulting, a California-based consulting firm specializing in physical layer communications and associated powering technologies. He has been at the forefront in the development and standardization of wired technologies, starting with line-powered DSL in the 1990s. He initiated the IEEE 10GBASE-T standard, and since then has been active in the IEEE 802.3 Ethernet Working Group. He has been at the forefront of all BASE-T Ethernet faster than 1 Gb/s, single-pair Ethernet, Energy Efficient Ethernet, and Power over Ethernet. He was Chief Editor for IEEE 802.3bz 2.5G/5GBASE-T and IEEE 802.3bq 25G/40GBASE-T, and currently chairs the IEEE P802.3cg 10Mb/s Single Pair Ethernet Task Force and is active in the IEEE P802.3ch Multigig Automotive Ethernet PHY Task Force. He is also an active member of TIA TR42 and the NFPA (working on the US National Electrical Code, NEC®). He is on the board of the NBASE-T Alliance and is Technical Committee Chair for the Ethernet Alliance. He holds more than 20 patents, a Ph.D. in Electrical Engineering from Caltech, and a BSEE from Stanford.