Unapproved Minutes
IEEE 802.3 Next Gen ECDC Ad Hoc
Plenary Meeting
July 25 - 26, 2016
San Diego, CA, USA

Prepared by John D'Ambrosia

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Session #1 – Next Generation Automotive
Prepared by Steve Carlson / John D'Ambrosia

Meeting started Monday July 25 at approximately 8am

Presentation #1 – Agenda and General Information
Presented by – Steve Carlson
URL: http://www.ieee802.org/3/ad_hoc/ngrates/public/16_07/agenda_ecdc_01a_0716.pdf

Presentation #2 – CFI Multi-Gg Automotive Ethernet PHY
Presented by – Steve Carlson
URL: http://www.ieee802.org/3/ad_hoc/ngrates/public/16_07/MGAuto_CFI_ecdc_01_0716.pdf

Review of draft presentation

Planned for vote in November
Semiconductors power the modern Automobile

Embedded (Automotive) has different requirements for different tiers. Not all have the processing power to do the faster speed. Only want to support the speed needed.

Need faster networks for cameras, displays, support multiple 1 Gbps links, redundancy, diagnostics, etc.

Compression is not an option due to the allowed delays when using the data to drive the vehicle.

Slide 19 – Change T for Taskf Force to P for Project as .1 doesn't use Task Force.

The IEEE process depends on Consensus and Contributions to advance the project quickly.

802.3 has added Plenary meetings during Interims to move things along and reduce "dead meetings" for projects.

Questions –

What are the speeds and bus lengths for LVDS?

Multiple speeds, 3 G, 6 G and 12 G coming

Shielded twisted pairs (Multiple pairs) or coax

Max length of 5 m

Does anyone disagree with anything in the presentation – silence

Of people in the room, who would be interested in participating in the CFI? About 30 people, more than half the room.

Will be interesting to look at multiple data rates, especially 2.5 Gbps over a single pair. To be discussed during the Study Group phase.

Presentation #3 – 10Mbps low cost (automotive suitable) Ethernet PHY
Presented by – Kirsten Matheus
URL: http://www.ieee802.org/3/ad_hoc/ngrates/public/16_07/matheus_ecdc_01_0716.pdf

Review of 10 Mbps low cost (Automotive suitable) Ethernet PHY

Desire for lower speeds to eliminate gateways between different buses, e.g. CAN to Ethernet.

Faster than CAN-FD but not 100 Mbps for cost and energy.

Study Group to determine if it is feasible to meet the cost target of half the system cost of 100BASE-T1.

Using an IP Network to connect sensors to computing devices means you don't have to know where the sensors are as you can get all of the data from all of the sensors.

Encouraged to combine with 10 Mbps Industrial PHY CFI or Multi Gig Automotive PHY. It was decided this was a better fit with the Industrial PHY.

Questions

Latency and deterministic requirements of links being replaced (CAN and FlexRay)? Would be used with TSN. FlexRay is a time deterministic link. Main reason that links have changed in the past is speed (bandwidth), not determinism or delays.

Ludwig Winkel, Siemens

Joint CFI between Industrial and Automotive – Industrial is extended reach. Contacted by Automotive about low cost, which Industrial would like as well. Not all Industrial Autmation applications require the long reach. Would like a lower cost for shorter lengths. Will investigate covering both applications with a single PHY, but scope needs to not limit to a single PHY.

Some individuals expressed that they expect that there will have to be two PHYs. Others agree, but there will be significant overlap.

There can be two PARs in a single task force.

Question to audience – Is it understood that this is required to have a complete Ethernet ecosystem?

Meeting ended at approximately 9:30am

Session #2 – 400GbE Extended Reach Optics

Prepared by John D'Ambrosia

Meeting started Tuesday July 26 at approximately 7:30 pm.
John D'Ambrosia chaired the meeting.

Presentation *#1* Agenda and General information
Presenter: John D'Ambrosia
URL: http://www.ieee802.org/3/ad_hoc/ngrates/public/16_05/agenda_ecdc_01a_0516.pdf

Presentation *#2*: Extended Reach for 50/200/400GbE
Presenter: Xinyuan Wang
URL: http://www.ieee802.org/3/ad_hoc/ngrates/public/16_07/wang_ecdc_01_0716.pdf

General discussion regarding presentation.

Presentation *#3*: Approaches for inter-building connection with 400Gbps link
Presenter: Yoshiaki Sone
URL: http://www.ieee802.org/3/ad_hoc/ngrates/public/16_07/sone_ecdc_01a_0716.pdf

General discussion regarding presentation.

Presentation *#4* 400GE Extended Reach –A look at Broad Market Potential
Presenter: Tom McDermott
URL: http://www.ieee802.org/3/ad_hoc/ngrates/public/16_07/mcdermott_ecdc_01_0716.pdf

General discussion regarding presentation.

Presentation *#5*: 400GE requirement forecast
Presenter: Lu Huang
URL: http://www.ieee802.org/3/ad_hoc/ngrates/public/16_07/huang_ecdc_01_0716.pdf

General discussion regarding presentation.

Presentation*#6*: 200GE&400GE application considerations in metro transport aggregation layer network
Presenter: Wenyu Zhao
URL: http://www.ieee802.org/3/ad_hoc/ngrates/public/16_07/zhao_ecdc_01_0716.pdf

General discussion regarding presentation.

Presentation *#7*: Metro Data Center Interconnect
Presenter: Brad Booth
URL: http://www.ieee802.org/3/ad_hoc/ngrates/public/16_07/booth_ecdc_01_0716.pdf

General discussion regarding presentation. Tom McDermott was asked if he thought that the "Mega DC (Region)" data center" application space was included in forecasted data presented. He thought it was, but needed to confirm. D'Ambrosia also noted that he had been having conversations with individuals regarding 5G, and was trying to get data brought forward to the group at the next meeting.

Meeting ended approximately 9:30pm

Attendees

NG-ECDC- July Plenary			Ses #1	Ses #2
Last Name	First Name	Employer / Affiliation	Mon	Tues
Anslow	Peter	Ciena		x
Baek	See Young	LG Electronics	x	
Bainc	Amrik	Cisco	x	
Bar-niv	Amir	Aquantia	x	
Booth	Brad	Microsoft		x
Bouda	Martin	Fujitsu		x
Brandt	Dave	Rockwell Automatioin	x	
Braun	Ralf-Peter	Deutsche Telecom		x
Brownlee	Phil	TDK	x	
Caggioni	Francesco	APM		x
Carlson	Steve	HSD - Bosch	x	
Chadha	Mandeep	Microsemi	x	
Chang	Ayla	Huawei		x
Chang	Frank	Inphi		x
Chen	David	A0I		x
Chuanbao	Wang	Huawei	x	
Conroy	Keith	Acacia Comm		x
Dalmai	Kamal	Aquantia	x	
D'Ambrosia	John	Futurewei, subsidiary of Huawei		X
Donahue	Curtis	UNH-IOL	x	
Dove	Dan	DNS	x	
Dwelley	David	LTC	x	
Engels	Yuan	Leoni	x	
Estes	David	Spirent	x	
Foltz	Mark	ARB	x	
Fritsche	Matthias	Harting	x	
Gardner	Andy	LTC	x	
Gauthier	Claude	OmniPHY	x	
Gong	Zhigang	O-Net		X
Grow	Robert	RMG Consulting	x	
Heffernan	Patrick	Sprient	x	
Hess	Dave	CORD Data	x	
Hoglund	David	Johnson Controls	x	
Hormeyer	Bernd	Phoenix Contact	x	
Huang	Jing	Huawei	x	
Hung	Lu	China Mobile		x
Hyakutako	Yasuhiro	Adamant Co. Ltd	x	
Isono	Hidaki	Fujitsu Optical Components		X

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Jackson	Ken	Sumitomo		x
Jones	Peter	Cisco	x	
Kagami	Manabu	Toyota Central R&D	x	
Kauchara	Keisuke	Fulukama Electric	x	
Kawatsu	Yasuaki	Hitachi Metals	x	
Kawatsu	Yasuaki	Hitachi Metals		x
Khan	Ali	Corigine	x	
Kountz	Dennnis	Chemours	x	
Lee	Myung	CUNY	x	
Leizerovich	Hanan	MultiPhy		x
Lewis	Jon	Dell	x	
Matheus	Kirsten	BMW	x	
McCarthy	Mick	Analog Devices	x	
McClellan	Brett	Marvell	x	
McDermott	Tom	Fujitsu		x
Moffitt	Bryan	CommScope	x	
Murray	Dale	LightCounting		x
Muyshondt	Henry	Microchip Technology	x	
Olsen	Dave	Harman International	x	
Pandey	Susan	NXP	x	
Pischl	Neven	Selt	x	
Ramn	Jeffrey	Infinera		x
Roger	Lin	GVC	x	
Sone	Yoshiaki	NTT		x
Srivastara	Atul	NTT Electronics		x
Stencel	Len	Bourns	x	
Stewart	Heath	LTC	x	
Stover	David	LTC	x	
Tailor	Bharat	Semtech		x
Takahara	Tomoo	Fujitsu Labratories		x
Tamura	Kohichi	Oclaro		x
Tazebay	Mehmet	Broadcom	x	
Trowbridge	Steve	Nokia		x
Umnov	Alexander	Corning		x
Valle	Stefano	SMICRO	X	
Wang	Xinyuan	Huawei		x
Wiendowski	Natalie	GM	x	
Winkel	Ludwig	Siemens AG	x	
Xu	Dayin	Rockwell Automatioin	x	
Yuki	Hayato	AutoNetworks (Sumitomo)	x	
Zhao	Wenyu	CAICT		x
Zhong	Qiwen	Huawei		x
Zimmerman	George	CME Consulting	x	

Zinner	Helse	Continental		x	