Meeting Notes
IEEE 802.3 BWA ad hoc
July 21st, 2011
San Francisco
Prepared by: Steve Trowbridge

The meeting was called to order at 9:30 am, Thursday July 21st, 2011 by John D'Ambrosia, BWA ad hoc chair.

Steve Trowbridge volunteered as Recording Secretary for this meeting.

Documentation for the meeting can be found at:
http://www.ieee802.org/3/ad_hoc/bwa/public/jul11/index.html

Agenda and General Information
By – John D'Ambrosia
See – agenda_01_0711.pdf

The guidelines for IEEE-SA meetings were displayed. No members of the press identified themselves. Participants were advised to ensure they were subscribed to the ad hoc reflector "stds-802-3-bwa" so that they receive notices of teleconferences. John reviewed the plan for meetings and teleconferences included in the agenda.

Presentation #1
Title – Server Bandwidth Scenarios - Signposts for 40G/100G Server Connections
By – Kimball Brown, LightCounting
See – brown_01_0711.pdf

Discussion

- PCIe 3.0 can drive 2x40GbE ports with dual processors, but cannot drive 100GbE.
- PCIe 4.0 is in the research phase and is expected to be able to drive 2x100GbE ports in 2015/2016.
- Forecasts were made about the rates of adoption of various rates for three classes of users: "free" being those who are happy to use what comes at no incremental cost in the base configuration, "performance" being those who need more bandwidth due to virtualization or other factors, and "fringe" being those who demand the most possible bandwidth.
- Does disk drive speeds affected bandwidth demands - flash was much more important in terms of driving lots of bandwidth.
- HT and QPI busses are proprietary, so while they may have an impact on the I/O bandwidth, it is unlikely any data will be obtained about them.
- It was indicated that LightCounting was the source of data on Slide 12. Presentation will be updated to indicate source.
- Going from 100G to 400G is at least 8 more years. Presenter thinks that 10GBASE-T is the end of the line for copper, due to use of a connector different than RJ-45 or different cabling.
- Members in the ad hoc think that PCIe 4.0 is highly likely to be 16GT/s.

- End station type applications are another potential area to explore, and some individuals have inquired about bringing bandwidth data to the ad hoc. It was also suggested that storage / FCoE should be considered.
- Understanding bandwidth trends related to “contributing technologies” may also be useful, but it needs to be remembered that the BWA ad hoc has a limited life, so data needs to be submitted by November, December at the latest.
- It was indicated that flash is increasingly being used in target kinds of applications with 1000x the IO rate of disk drives, so this definitely will be a contributing technology that drives bandwidth demand.
- It was indicated that a notebook computer with a 10G interface had been announced, and that the potential implications should be considered.

Any individuals able to bring data forward to the ad hoc should contact the chair.

The ad hoc was adjourned at 11:00am.

Attendee List for the BWA ad hoc

IEEE 802.3 BWA Ad Hoc Attendees Sheet			**7/20/2011**
Last Name	**First Name**	**Affiliation**	**Wed**
Abbas	Ghani	Ericsson, UK	x
Amezcua	Adrian	Draka Comteq	x
Anslow	Pete	Ciena Corporation	x
Balasubramanian	Vittal	FCI	x
Baldwin	Thananya	Ixia	x
Barrass	Hugh	Cisco	x
Beaudoin	Denis	Texas Instruments	x
Bennett	Mike	LBNL	x
Bharat	Tailos	Gennum	x
Bhatt	Vepul	Lightwire	x
Brown	David	Gennum	x
Brown	Kimball	Lightreading	x
Carroll	Martin	Verizon	x
Chadha	Mandeep	Vitesse Semiconductors	X
Chalupsky	David	Intel	x
Chang	Frank	Vitesse	x
Chen	Chung-Jue	Broadcom	x
Choudhury	Mabud	CommScope	x
Cole	Chris	Finisar	x
Cui	Kai	Huawei	x
D'Ambrosia	John	Force10 Networks	x
Dati	Angelo	ST Microelectronics	x
Dawe	Piers	IPTronics	x
DeMuth	Brian	US Government	x
Donnay	Beth	Cisco	x

Dove	Dan	HP	x
Dudek	Mike	QLogic	x
Dwelley	David	Linear Tech	x
Edwards	Gareth	Xilinx	x
Ewen	John	IBM	x
Flatman	Alan	LAN Technologies	x
Forbes	Harry	Nexans	x
Fu	Hong Yan	Huawei	x
Ganga	Ilango	Intel	x
Ghiasi	Ali	Broadcom	x
Giannakopoulos	Dimitris	Applied Micro	x
Goergen	Joel	Cisco	x
Gustlin	Mark	Cisco	x
Hajduczenia	Marek	ZTE	x
Hamano	Hiroshi	Fujitsu Labs	x
Hiramoto	Kiyo	Opnext Japan	x
Innis	Jim	Freescale	x
Ishida	Osamu	NTT	x
Iwadate	Hiro	SEI	x
Jiang	Hongtew	Broadcom	x
Katz	Walter	Signal Integrity Software	x
Kawatsu	Yasuaki	Hitachi-Cable	x
Khan	Durcov	Cadence	x
Kipp	Scott	Brocade	x
Kodama	Satoshi	NTT	x
Kolesar	Paul	CommScope	x
Kvist	Bengt	Ericsson	x
Lackner	Hans	QoSCom	x
Lamb	Lowell	Broadcom	x
Larsen	Wayne	CommScope	x
Laubach	Mark	Broadcom	X
Law	David	HP	x
Li	Mike	Altera	x
Lingle, Jr.	Robert	OFS	x
Lusted	Kent	Intel	x
Lutz	Sharon	US Conec LTD.	x
Maguire	Valerie	Seimon, TIA	x
Maki	Jeffery	Juniper Networks	x
Malkman	Yonaton	Mellanox	x
McCabe	Karen	IEEE-SA	x
McClay	Phil	Zarlink Semiconductor	x
McDonough	John	NEC America	x
Minich	Steve	FCI	x

Misek	Brian	Avago Technologies	x
Moeller	Merrick	Amphenol	x
Moore	Charles	Avago Technologies	x
Muller	Shimon	Oracle	x
Nicholl	Gary	Cisco	x
Noh	George	Vitesse Semiconductors	x
Ofelt	David	Juniper Networks	x
Olsen	David	Harman International	x
Park	Jisang	LS Cable and System	x
Parthasarathay	Vasudevan	Broadcom	x
Pepeljugoski	Petar	IBM	x
Pepper	Gerald	Ixia	x
Perrie	Randy	OneChip Photonics	x
Petrilla	John	Avago Technologies	x
Pimpinella	Rick	Panduit Corp.	x
Rabinovich	Rick	Alcatel-Lucent	x
Ran	Adee	Intel	x
Remein	Duane	FiberHome	x
Sambasivan	Sam	AT&T	x
Savi	Olindo	The Siemon Co.	x
Searles	Shawn	Advanced Micro Devices	x
Sela	Oren	Mellanox	x
Shanbhag	Megha	TE Connectivity	x
Shrikhande	Kapil	Force10 Networks	x
Slavric	Jeff	Cisco	x
Sprague	Ted	Infinera	x
Stassar	Peter	Huawei	x
Swanson	Steve	Corning	x
Szczepanek	Andre	Texas Instruments	x
Telxeira	Antonio	NSN	x
Tian	Feng	SEI	x
Toyoda	Hidehiro	Hitachi	x
Tracy	Nathan	TE Connectivity	x
Tremblay	Francois	Gennum	x
Trowbridge	Steve	Alcatel-Lucent	x
Umnov	Alexander	Fujitsu	X
Vaden	Sterling	Optical Cable Corp.	x
Vanderlaan	Paul	Nexans	x
Wang	Zhongfeng	Broadcom	x
Wong	CK	FCI Mergeoptics	x
Xi	Huang	Huawei	x
Zsono	Hideki	Fujitsu Optical Components	x