# IEEE 802 Interim Meeting January 2011, Kauai, Hawaii, USA

# 802.1 Meeting Minutes, 10-14 January 2011

# **Attendees**

Last Name Allan Alon An Ashwood- Smith Boiger Bond	First Name David Zehavit Yafan Peter Christian David	Middle Name	Affiliation Ericsson Nokia Siemens Networks Juniper Networks, Inc.  Huawei Technologies Co. Ltd Hochschule Deggendorf University University of New Hampshire InterOperability Laboratory (UNH-IOL)
Bragg	Nigel		Ciena Corporation
Carlson	Craig		QLogic Corporation
Cheng Chiabaut	Weiying Jerome		Tellabs Nortel Networks
Congdon	Paul		Hewlett-Packard Development Company, L.P.
Connor	Donald	0	FUJITSU
Crupnicoff	Diego		Mellanox Technologies
Dabagh	Alireza		WG802.1
DeSanti	Claudio		Cisco Systems, Inc.
Ding Eastlake,	Zhemin		Ericsson AB
3rd	Donald		Huawei Technologies Co. Ltd
Farkas	Janos		Ericsson
Fedyk	Donald		ALCATEL-LUCENT
Finn	Norman		Cisco Systems, Inc.
Garner	Geoffrey		Samsung
Ghanwani	Anoop		Brocade
Goetz	Franz Eric		Siemens Ericsson AB
Gray GU	Yingjie		Huawei Technologies Co. Ltd
ao	ringjic		HARMAN INTERNATIONAL INDUSTRIES,
Gunther	Craig		INCORPORATED
Haddock	Stephen		Extreme Networks
Jeffree	Anthony		Broadcom, HP
Jones	Girault		Apple Computer, Inc.
Keesara Kim	Srikanth		Avaya Inc.
Klein	Yongbum Philippe		Broadcom Corporation Broadcom Corporation
Krause	Michael		Procurve Networking by HP
Kumar	Vinod		Tejas Networks Ltd
Lemon	John		ADTRAN Inc.
li	lin		ZTE Corporation

Li Yizhou Huawei Technologies Co. Ltd

Lynch Jeff IBM

Mack-Crane Thomas Huawei Technologies Co., Ltd.

Martin David 0 Ciena Corporation

Messenger John ADVA Optical Networking Ltd.

Moldovansk

y Anatoly Rockwell Automation, Inc.
Mora Matthew Apple Computer, Inc.
Multanen Eric Intel Corporation

Nakamura Masafumi Envital

HARMAN INTERNATIONAL INDUSTRIES,

Olsen David INCORPORATED

Pannell Donald Marvell Semiconductor, Inc.

Parsons Glenn Ericsson AB

Pearson Mark Hewlett-Packard Development Company, L.P.

Pelissier Joseph Cisco Systems, Inc.
Raeber Rene Cisco Systems
Rouyer Jessy ALCATEL-LUCENT
Sajassi Ali Cisco Systems

Panagioti

Saltsidis s Ericsson AB
Seaman Michael Mick Seaman
Shao Hong ZTE Corporation
Stanton Kevin B Intel Corporation

Sultan Robert Huawei Technologies Co. Ltd

Teener Michael Johas **Broadcom Corporation** Thaler Patricia **Broadcom Corporation** Ting Αo **ZTE** Corporation Unbehagen Paul ALCATEL-LUCENT Wei Yuehua ZTE Corporation

# **Interworking Minutes**

# Monday, January 10

#### **AM**

Meeting called to order at 9:00 AM.

Stephen Haddock presented patent policy slides. No response to the call for patents.

Stephen Haddock presented the preliminary agenda for the week (see http://www.ieee802.org/1/files/public/docs2011/admin-interworking-agenda-0111-v0.pdf).

Ben Mack-Crane gave a presentation on an offer by Huawei to host a September interim meeting in Nanjing. See:

http://www.ieee802.org/1/files/public/docs2011/admin-mackcrane-sep11-nanjing-meeting-0111.pdf **802.1Q-REV VLANs:** Tony Jeffree conducted comment resolution of 802.1Q-REV-d1.3 Virtual Bridged LAN sponsor ballot. See: http://www.ieee802.org/1/files/private/q-rev-drafts/d1/802-1Q-REV-d1-3-sponsor-pdis.pdf

Break for Lunch at 12:20 PM.

### **PM**

Resumed at 1:40pm.

**802.1Qbf SegProt**: Bob Sultan presented an editor's update and conducted comment resolution of 802.1Qbf-d1.1 PBB-TE Infrastructure Segment Protection working group recirculation ballot. There were no new disapprove ballots, however there were some comments that will generate changes to the draft, so another recirculation is planned. Comment dispositions are available in the bf-drafts folder on the web site. See:

http://www.ieee802.org/1/files/public/docs2011/bf-sultan-editors-report-01-11-v00.pdf http://www.ieee802.org/1/files/private/bf-drafts/d1/802-1bf-d1-1-dis-v0.pdf New Work: Presentation on Resilient Network Interconnect from Janos Farkas. Following the meeting Janos uploaded an updated version:

http://www.ieee802.org/1/files/public/docs2011/new-farkas-RNI-data-plane-0111.pdf http://www.ieee802.org/1/files/public/docs2011/new-farkas-RNI-data-plane-0111-v02.pdf

Adjourned at 3:30 PM.

# Tuesday, January 11

Meeting called to order at 9:00 AM.

Presented patent policy slides. No response to the call for patents.

**New Work:** Presentations on Resilient Network Interconnect from Vinod Kumar, Zehavit Alon, and Norm Finn:

 $\frac{http://www.ieee802.org/1/files/public/docs2011/new-vinod-NNI-Req-PBBTE-0111-v04.pptx}{http://www.ieee802.org/1/files/public/docs2011/new-alon-NNI-protection-architecture-01-11-v01.pdf}{http://www.ieee802.org/1/files/public/docs2010/new-nfinn-LACP-vs-buffer-networks-1110-v1.pdf}$ 

Break for Lunch at 12:20 AM.

### PM

Resumed at 1:40 PM.

**New Work:** Presentations on Resilient Network Interconnect from Norm Finn, Stephen Haddock, and Ben Mack-Crane:

 $\frac{http://www.ieee802.org/1/files/public/docs2011/new-nfinn-why-LACP-for-NNII-0111-v01.pdf}{http://www.ieee802.org/1/files/public/docs2011/new-haddock-RNNI-why-use-LAG-0111-v1.pdf}{http://www.ieee802.org/1/files/public/docs2011/new-mackcrane-NNI-portal-protocol-0111-v01.pdf}$ 

The chair asked whether there would be any objections to using Link Aggregation as the base for developing a Resilient Network Interconnect standard proceeding with drafting a PAR for an amendment to 802.1AX-2008 Link Aggregation. There were no objections.

Norm Finn presented a draft for a PAR and 5 criteria, which was then modified in discussion. The resulting text can be found at:

http://www.ieee802.org/1/files/public/docs2011/new-nfinn-nni-par-1110-v03.txt http://www.ieee802.org/1/files/public/docs2011/new-nfinn-nni-5c-1110-v3.pdf

Adjourn at 5:40 PM.

# Wednesday, January 12

### **AM**

A joint meeting was held with Data Center Bridging task group. See DCB minutes below for details.

Broke for Lunch at 12:20 AM.

#### **PM**

Joint meeting resumed at 1:30 PM.

**New Work:** Norm Finn presented the PAR and 5 criteria for a resilient network interconnect based on Link Aggregation. The name of the PAR was modified to Distributed Resilient Network Interconnect (DRNI):

http://www.ieee802.org/1/files/public/docs2011/new-nfinn-nni-par-1110-v04.txt http://www.ieee802.org/1/files/public/docs2011/new-nfinn-nni-5c-1110-v4.pdf

Peter Ashwood-Smith gave an over view of the goals of the ECMP project proposal being developed in Interworking, followed by presentations on ECMP by Peter and David Allan:

http://www.ieee802.org/1/files/public/docs2011/new-ashwood-ecmp-alg-0111-v01.ppt http://www.ieee802.org/1/files/public/docs2011/new-allan-load-spreading-0111-v2.ppt

Adjourn at 5:00 PM.

# Thursday, January 13

### **AM**

Meeting called to order at 9:00 AM.

Presented patent policy slides. No response to the call for patents.

**New Work:** Presentations on Equal Cost Multi-Path enhancements for SPBM by Ali Sajassi and Ben Mack-Crane:

 $\frac{http://www.ieee802.org/1/files/public/docs2011/new-sajassi-ecmp-bridge-model-0111-v01.pdf}{http://ieee802.org/1/private/contrib/new-mackcrane-hash-ECMP-tags-0111-v01.pdf}$ 

Adjourned at 12:25 PM.

# **AVB Meeting Minutes**

# Tuesday, January 11

Patent slides shown.

Call for potentially essential patents. None were disclosed.

Discussed January 802.1AS RevCom review

802.1AS Gen-2 PAR & 5C by Geoff Garner. See presentations at: <a href="http://www.ieee802.org/1/files/public/docs2011/as-garner-802-1AS-v2-draft-par.pdf">http://www.ieee802.org/1/files/public/docs2011/as-garner-802-1AS-v2-draft-5-Criteria.pdf</a>

### Wednesday, January 12

More discussion on 802.1AS RevCom review by Geoff Garner

802.1BA Work Group ballot review by Tony Jeffree. See the document, proposed and final comment dispositions at:

http://www.ieee802.org/1/files/private/ba-drafts/d2/802-1ba-d2-2.pdf http://www.ieee802.org/1/files/private/ba-drafts/d2/802-1BA-d2-2-pdis.pdf http://www.ieee802.org/1/files/private/ba-drafts/d2/802-1BA-d2-2-pdis-v2.pdf http://www.ieee802.org/1/files/private/ba-drafts/d2/802-1BA-d2-2-dis.pdf

# Thursday, January 13

Latency calculations by Christian Boiger – <a href="http://www.ieee802.org/1/files/public/docs2011/ba-boiger-class-a-latency-issues-0111.pdf">http://www.ieee802.org/1/files/public/docs2011/ba-boiger-class-a-latency-issues-0111.pdf</a>

Low latency industrial control by Franz Goetz – http://www.ieee802.org/1/files/public/docs2011/new-goetz-avb-ext-industrcom-0113-v01.pdf

Reviewed potential 802.1AS D7.8 recirculation document (if required) by Geoff Garner –

http://www.ieee802.org/1/files/public/docs2011/as-garner-802-1AS-v2-draft-5-Criteria.pdf

AVB Gen-2 Assumptions by Don Pannell. See presentation at: <a href="http://www.ieee802.org/1/files/public/docs2010/avb-pannell-gen2-assumptions-1110-v2.pdf">http://www.ieee802.org/1/files/public/docs2010/avb-pannell-gen2-assumptions-1110-v2.pdf</a>

Meeting adjourned

# **DCB Meeting Minutes**

### Monday, 10 January

### AM

We had a combined meeting in the morning during which the usual policies and announcements were made.

Read the patent policy and made the call for patents – no responses.

The Chair reminded folks to record their attendance.

### PM

In the Afternoon, we were reminded of the policies and asked again if anyone wanted to make a patent announcement. Again, there was no response.

We went through 802.1Qaz comment resolution.

See the documents (with and without changebars), MIB(s) and proposed comment dispositions at:

http://www.ieee802.org/1/files/private/az-drafts/d2/802-1az-d2-3.pdf http://www.ieee802.org/1/files/private/az-drafts/d2/802-1az-d2-3-cb.pdf http://www.ieee802.org/1/files/private/az-drafts/d2/802-1az-d2-3.mib http://www.ieee802.org/1/files/private/az-drafts/d2/802-1az-d2-3-pdis-v1.pdf

See also the final comment dispositions at:

http://www.ieee802.org/1/files/private/az-drafts/d2/802-1az-d2-3-dis.pdf

We started EVB (802.1Qbg) comment resolution.

See document, MIB(s) and proposed comment dispositions at: http://www.ieee802.org/1/files/private/bg-drafts/d1/802-1qbg-d1-3.pdf http://www.ieee802.org/1/files/private/bg-drafts/d1/802-1qbg-d1-3-mibs.zip http://www.ieee802.org/1/files/private/bg-drafts/d1/802-1Qbg-D1-3-pdis-v1.pdf

# Tuesday, 11 January

#### AM

Pat Thaler reviewed IEEE 802 policies and asked if there was anyone who wished to make a patent announcement. No one responded.

The Chair reminded folks to record their attendance.

We continued EVB comment resolution.

#### PΜ

In the afternoon, there was a presentation in support of one of Bob Sultan's comments. See:

http://www.ieee802.org/1/files/public/docs2011/bg-gu-pcp-in-vdp-rsp-0111-v02.ppt

# Wednesday, 12 January

### AM – Joint Interworking/DCB

Pat Thaler called for patents. No response to the call for patents.

Pat also reminded folks to record their attendance.

**802.1Qbh BPE:** Joe Pelissier presented a proposed modification to the p802.1Qbh PAR.

See the PAR modification presentation at: <a href="http://www.ieee802.org/1/files/public/docs2011/bh-pelissier-PARModification-0111-v02.pdf">http://www.ieee802.org/1/files/public/docs2011/bh-pelissier-PARModification-0111-v02.pdf</a>

Joe also walked through a tutorial on current theory of operations for the project (and technology) associated with P802.1Qbh (based largely on an in-depth description of Figure 44-4 of the draft located at:

http://www.ieee802.org/1/files/private/bh-drafts/d1/802-1qbh-d1-0.pdf

Joe then conducted comment resolution on the task group ballot of 802.1Qbh-d1.0 See the document (with and without change bars), MIB(s) and proposed comment dispositions at:

http://www.ieee802.org/1/files/private/bh-drafts/d1/802-1qbh-d1-0.pdf http://www.ieee802.org/1/files/private/bh-drafts/d1/802-1qbh-d1-0-cb.pdf http://www.ieee802.org/1/files/private/bh-drafts/d1/802-1qbh-d1-0PE.mib http://www.ieee802.org/1/files/private/bh-drafts/d1/802-1qbh-d1-0lldp.mib http://www.ieee802.org/1/files/private/bh-drafts/d1/802-1bh-d1-0-pds.pdf

Part of the discussion was on the topic of whether or not to do a substantial rewrite to eliminate the idea that an E-Channel is the same as a VLAN. Joe wanted to get a sense of whether or not he would be likely to be asked to undo the change.

The conclusion was that people wanted this to happen. There was no sense that people were committing to not asking to have it undone at a later time.

Break for Lunch at 12:20 PM.

### PM

Joint meeting resumed at 1:30 PM.

**802.1Qbh BPE:** Joe Pelissier concluded comment resolution on the task group ballot of 802.1Qbh-d1.0.

Norm discussed a PAR proposal for network interconnect resiliency. See his presentation(s) at:

http://www.ieee802.org/1/files/public/docs2011/new-nfinn-nni-par-1110-v04.txt http://www.ieee802.org/1/files/public/docs2011/new-nfinn-nni-5c-1110-v4.pdf

After the afternoon break we discussed several presentations on load spreading or ECMP.

Peter Ashwood-Smith gave a presentation on controlling MAC-in-MAC Hash/TTL. See the presentation at:

http://www.ieee802.org/1/files/public/docs2011/new-ashwood-ecmp-alg-0111-v01.ppt

David Allan gave a presentation on load spreading that was an update of the posted version. The new presentation is at: <a href="http://www.ieee802.org/1/files/public/docs2011/new-allan-load-spreading-0111-v2.ppt">http://www.ieee802.org/1/files/public/docs2011/new-allan-load-spreading-0111-v2.ppt</a>

### Thursday, 13 January

### **AM**

Pat made the usual policy announcements and a call for patents – no responses. Pat also reminded folks to record their attendance.

Tony continued with 802.1Qbg comment resolution.

### **PM**

Tony completed 802.1Qbg comment resolution about an hour after lunch. See the final comment dispositions at:

http://www.ieee802.org/1/files/private/bg-drafts/d1/802-1Qbg-D1-3-dis-v1.pdf

Then we proceded with a presentation by Yizhou. See: <a href="http://www.ieee802.org/1/files/public/docs2011/bg-yizhou-migration-indicator-0114-v01.pps">http://www.ieee802.org/1/files/public/docs2011/bg-yizhou-migration-indicator-0114-v01.pps</a>

Finally, Joe presented a few slides on issues with EVB (802.1Qb). See: <a href="http://www.ieee802.org/1/files/public/docs2011/bg-pelissier-extendeder-0111.pdf">http://www.ieee802.org/1/files/public/docs2011/bg-pelissier-extendeder-0111.pdf</a>

Meeting was adjourned