

IEEE 802 Plenary Meeting  
 July 2011, San Francisco, California  
**802.1 Meeting Minutes, 18-21 July 2011**

**Attendees**

| <b>Last Name</b> | <b>First Name</b> | <b>Middle Name</b> | <b>Affiliation</b>  |
|------------------|-------------------|--------------------|---|
| Agarwal          | Puneet            |                    | 802.1   |
| Allan            | David             |                    | Ericsson AB   |
| Alon             | Zehavit           |                    | Nokia Siemens Networks  |
| An               | Yafan             |                    | Juniper Networks, Inc.  |
| Anumala          | Mohnish           |                    | Force 10 Networks, Inc.   |
| Ashwood-Smith    | Peter             |                    | Huawei Technologies Co. Ltd   |
| Assarpour        | Hamid             |                    | Avaya   |
| Babu             | Biju              |                    | Broadcom Corporation  |
| Bickford         | Charles           |                    | Enterasys Networks, Inc.  |
| Boiger           | Christian         |                    | Hochschule Deggendorf - University, Hirschmann<br>Automation & Control          |
| Bottorff         | Paul              |                    | Hewlett-Packard Development Company, L.P.                                       |
| Bragg            | Nigel             |                    | ciena   |
| Brandner         | Rudolf            |                    | Nokia Siemens Networks  |
| Carlson          | Craig             |                    | QLogic Corporation  |
| Cheng            | Weiyang           |                    | Tellabs   |
| Congdon          | Paul              |                    | Hewlett-Packard Development Company, L.P.                                       |
| Connor           | Donald            | O                  | FUJITSU   |
| Crupnicoff       | Diego             |                    | Mellanox Technologies   |
| Cummings         | Rodney            |                    | National Instruments Corporation  |
| DeSanti          | Claudio           |                    | Cisco Systems, Inc.   |
| Ding             | Zheming           |                    | Ericsson AB   |
| Eastlake, 3rd    | Donald            |                    | Huawei Technologies Co. Ltd   |
| Farkas           | Janos             |                    | Ericsson  |
| Fedyk            | Donald            |                    | ALCATEL-LUCENT  |
| Finn             | Norman            |                    | Cisco Systems, Inc.   |
| flaherty         | stephen           |                    | Enterasys Networks, Inc.  |
| Gale             | Benjamin          |                    | Broadcom Corporation  |
| Garner           | Geoffrey          |                    | self-employed. Broadcom   |
| Ghanwani         | Anoop             |                    | Brocade   |
| Gravel           | Mark              |                    | Hewlett-Packard Development Company, L.P.                                       |
| Gray             | Eric              |                    | Ericsson  |
| GU               | Yingjie           |                    | Huawei Technologies Co. Ltd<br>HARMAN INTERNATIONAL INDUSTRIES,<br>INCORPORATED |
| Gunther          | Craig             |                    | INCORPORATED  |
| Haddock          | Stephen           |                    | Haddock Consulting LLC  |
| hai              | yu                |                    | ZTE   |
| Hayakawa         | Hitoshi           |                    | Hitachi, Ltd.   |
| Jeffree          | Anthony           |                    | HP, Broadcom  |
| Jones            | Girault           |                    | Apple   |

|             |            |       |  |       |
|-------------|------------|-------|--|-------|
| Kamath      | Daya       |       | IBM  |       |
| Kariya      | Kazutoshi  |       | Hitachi Cable                                    |       |
| Keesara     | Srikanth   |       | Avaya Inc.                                       |       |
| KIM         | DOYEON     |       |  | 802.1 |
| Kim         | Taeun      |       | Extreme Networks                                 |       |
| Kim         | Yongbum    |       | Broadcom Corporation                             |       |
| Klein       | Philippe   |       | Broadcom Corporation                             |       |
| Kleineberg  | Oliver     |       | Hirschmann Automation and Control, Inc.          |       |
| Krause      | Michael    |       | Hewlett-Packard Development Company, L.P.        |       |
| Kumar       | Vinod      |       | Tejas Networks Ltd                               |       |
| Li          | Yizhou     |       | Huawei Technologies Co. Ltd                      |       |
| Lin         | Zhi-Wei    |       | MTA NYCT   |       |
| Lynch       | Jeff       |       | IBM  |       |
| Mack-Crane  | Thomas     |       | Huawei Technologies Co. Ltd                      |       |
| Martin      | David      |       | Ciena Corporation                                |       |
| Messenger   | John       |       | ADVA Optical Networking Ltd.                     |       |
| Moldovansky | Anatoly    |       | AVB Bridging                                     |       |
| Nakamura    | Masafumi   |       | Envital  |       |
|             |            |       | HARMAN INTERNATIONAL INDUSTRIES,<br>INCORPORATED |       |
| Olsen       | David      |       | Marvell Semiconductor, Inc.                      |       |
| Pannell     | Donald     |       | Ericsson AB                                      |       |
| Parsons     | Glenn      |       | Hewlett-Packard Development Company, L.P.        |       |
| Pearson     | Mark       |       | Cisco Systems, Inc.                              |       |
| Pelissier   | Joseph     |       | Cisco Systems, Inc.                              |       |
| Raeber      | Rene       |       | NSA/iad  |       |
| Randall     | Karen      | T     | Deutsche Telekom AG                              |       |
| Roese       | Josef      |       | QLogic Corporation                               |       |
| Rohde       | Derek      |       | AVAYA  |       |
| Romascanu   | Dan        |       | ALCATEL-LUCENT                                   |       |
| Rouyer      | Jessy      |       | Cisco Systems, Inc.                              |       |
| Sajassi     | Ali        |       | Ericsson AB                                      |       |
| Saltsidis   | Panagiotis |       | Hitachi Cable, Ltd.                              |       |
| Seto        | Koichiro   |       | Envital, Inc.                                    |       |
| Shimizu     | Masayuki   |       | FUJITSU  |       |
| Shimizu     | Takeshi    |       | Huawei Technologies Co. Ltd                      |       |
| Sultan      | Robert     |       | FUJITSU LABORATORIES LIMITED                     |       |
| Tanaka      | Jun        |       | Broadcom Corporation                             |       |
| Teener      | Michael    | Johas | Broadcom   |       |
| Thaler      | Patricia   |       | ZTE Corporation                                  |       |
| Ting        | Ao         |       | ALCATEL-LUCENT                                   |       |
| Touve       | Jeremy     |       | Emulex   |       |
| Tumuluri    | Chait      |       | Verizon Communications                           |       |
| Turlington  | Matthew    |       | Avaya Inc.                                       |       |
| Unbehagen   | Paul       |       | Huawei Technologies Co. Ltd                      |       |
| Vissers     | Maarten    |       | ZTE Corporation                                  |       |
| Wei         | Yuehua     |       | Siemens AG                                       |       |
| Winkel      | Ludwig     |       | Intel Corporation                                |       |
| Zinaty      | Amir       |       |  |       |

## Opening Plenary (Monday, 18 July)

The Chair (Tony Jeffree) presented the opening plenary slides. See Tony's opening plenary slides at:

<http://www.ieee802.org/1/files/public/minutes/2011-07-opening-plenary-slides.pdf>

The Chair pointed out that he would be keeping the opening plenary short by summarizing most of the administrative information.

General information is here:

<http://www.ieee802.org/1/files/public/minutes/802-1-general-info-v3.pdf>

Meeting "Decorum" - or rules - including the policy on recording and/or reporting of meetings. John Messenger said that he **no longer** posts reports on a public blog site.

The Chair reviewed general administrative information, including 802.1 officers, web-site and access information, eligible voters, etc.

The Chair covered slides on IEEE-SA recommended policy statements to be reviewed at least once a day during meetings this week. These slides included:

- Instructions to WG (and TG) Chairs
- Participants, Patents and Duty to Inform
- Patent Related Links
- Call for Potentially Essential Patents
- Compliance with applicable laws, including anti-trust/competition

The Chair asked if there was anyone who was prepared to make any statement(s) with respect to any potentially essential patents.

There was no response to the call for patents. There were no questions on the Patent policy.

The Chair reviewed the schedule for future Interim meetings, which included:

- 19-22 September, 2011 – Nanjing, China, hosted by Huawei
- January, 2012 – possible repeat of Kauai, Hawaii
- May/September, 2012 – TBD (no formal offers have been made)

Ben Mack-Crane gave an updated presentation on the September meeting in Nanjing. The presentation may be found here:

<http://www.ieee802.org/1/files/public/docs2011/admin-mackcrane-nanjing-meeting-details-0611.pdf>

One important point Ben wanted to make were to book before Monday, 25 September.

Donald Eastlake was also going to present the following (but was not in the room at the time):

<http://www.ieee802.org/1/files/public/docs2011/admin-eastlake-jan-kauai-meeting-0711.ppt>

Zehavit Alon proposed the possibility of a January Interim in Munich. The folks in the room felt that this was worth looking into. See the presentation at:  
<http://www.ieee802.org/1/files/public/docs2011/Admin-alon-interim-jan12-munich.pptx>

This was proposed as an alternative to having the January interim in Hawaii.

John asked for a check of the folks in the room for the possibility of a May or September meeting in York. The sense was that there was a slight preference for May. There was no one in the room that felt having a meeting in York would be a bad idea.

John said he would look into it – with a preference for May.

Norm Finn asked a general question as to whether or not folks felt that another meeting in Santa Fe would be a bad idea. There was a general sense that doing so would be a good idea.

The Chair summarized the Executive Committee meeting (see opening plenary slides for additional information and details). Items directly affecting this meeting were:

- John Messenger was not confirmed as the IEEE liaison to ITU-T (as a result of a snag in IEEE requirements for the position)
- A tutorial on the Aloha protocol will be recorded Monday evening
- 802.23: draft does not seem to be attracting participants
- IEEE staff and 802 (general membership) meeting planned for Tuesday, 6-8 PM
- SC6: Meeting 4-6 PM today. Next meeting in China.
- EC “off-site” meeting in November (after plenary in Atlanta)
- Standards publishing schedule: need to resolve how editions are done.
- New Standards Store: activity increasing, working on improving the user interface.
  - Top selling .1AS, .11u, .11v, .1Qat
- Treasurers Report
  - Unusual cancellation level for Singapore, but slight surplus
  - Estimated 825 attendees in SFO
- 802 O&A: Meeting Tuesday and Thursday, 8-10 PM
- RAC: OUI registration tiers proposal

- Maintain existing registries
- Close IAB12 when full
- Add new registry for Company ID
- Add new tiers (smaller numbers of MAC addresses)

Glen Parsons gave a brief presentation the new tiers proposal that he had presented as the RAC (Registration Authority Committee) Chair, to the EC. See: <http://www.ieee802.org/1/files/public/docs2011/admin-parsons-RAC-OUI-Tiers-0711.pdf>

There were a large number of comments on the proposal currently being put forward (splitting the meaning of assignments into address spaces and company identifiers). A key issue was the potential for confusion Glenn suggested folks with issues with the proposal should attend the RAC meeting on Thursday.

Concerns were expressed that separating the OUI space into Company\_ID and OUI\_24 so that the same number could be assigned to the one company as a Company\_ID and to another as an OUI\_24 would cause confusion and problems. There was also concern that such a change would require updates to the standards that currently specify use of an OUI as a protocol or TLV identifier.

A second point in the discussion was on virtualization. Existing rules prohibit using large numbers of MAC addresses to support virtualization. See the following for details:

<http://www.ieee802.org/1/files/public/docs2011/admin-parsons-RAC-Virtualization-0711.pdf>

There were a number of comments on this as well. The primary issue is that “virtualization” removes physics-related limitations on usage of addresses, thus allowing for explosive address-space consumption.

Glenn re-iterated the need for folks to provide their input by attending the RAC meeting on Thursday (6:30 PM).

The Chair then covered the following topics:

- Joint meetings
  - Tuesday 1:30 PM - Interworking/DCB
  - Thursday 8 AM to 12:00 PM - 802.11/AVB
- PARs this week
  - 802.1 PARs
    - AXbq
    - ASbt
    - AS corrigendum
    - BR
  - 802.3 PAR(s)
    - Bj

- **(Look at opening plenary slides for this)**
- 5-year re-affirmation process
- Par Extensions
  - P802
  - P802.1AQ
- Maintenance Task Group meeting 6-8 PM today
- 802.1aq Interop report from Peter Ashwood Smith
- Task Group Agendas:
  - Interworking (Steve Haddock)
    - A rough outline of the 802.1 Interworking Task Group agenda for the July plenary meeting in San Diego is available at:  
<http://www.ieee802.org/1/files/public/docs2011/admin-interworking-agenda-0711-v1.pdf>
  - DCB (Pat Thaler)
    - The DCB agenda is available at:  
<http://www.ieee802.org/1/files/public/docs2011/admin-thaler-dcb-agenda-0711.doc>
  - AVB (Michael Johas Teener)
    - The text file for AVB agenda is available at:  
<http://www.ieee802.org/1/files/public/minutes/admin-avb-mjt-agenda-0711.txt>
  - Maintenance (Paul Congdon)
    - Paul presented the maintenance agenda. See:  
<http://www.ieee802.org/1/files/public/docs2011/maint-congdon-opening-0718-v1.pdf>

The chair asked Yong Kim to go over his proposed PAR and what/where this would be discussed.

Task group chairs were asked to suggest a starting time for their afternoon sessions (since the meeting ran well into the afternoon), and 2:30 PM was proposed generally.

The Chair asked if there were any other items to discuss and – hearing none – adjourned the opening plenary meeting.

# Task Group Minutes

## Interworking Minutes

### *Monday, 18 July*

Meeting called to order at 9:00am.

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

Stephen Haddock presented the preliminary agenda for the week.

**802.1Qbf Segment Protection:** Bob Sultan presented an editor's report and conducted comment resolution on the Sponsor Ballot for 802.1Qbf-d1.3 Infrastructure Segment Protection.

<http://www.ieee802.org/1/files/public/docs2011/bf-sultan-editors-report-07-11-v00.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bf-sultan-ting-comment-0711-v01.pdf>  
<http://www.ieee802.org/1/files/private/bf-drafts/d1/802-1bf-d1-3-pdis-v00.pdf>

Adjourn at 10:40 am (for the 802.1 opening plenary beginning at 11:00).

Interworking Task Group meeting afternoon session called to order at 2:00pm.

**802.1AXbk LACP Addressing:** John Messenger reviewed the editor's report from March 2011 since there has not been a ballot since that time. He also reviewed the latest draft, 802.1AXbk-D1.1, which will be forwarded for a Working Group recirculation ballot.

<http://www.ieee802.org/1/files/public/docs2011/axbk-messenger-editor-report-1103-v00.pdf>  
<http://www.ieee802.org/1/files/private/axbk-drafts/d1/802-1AXbk-d1-1.pdf>

**802.1aq SPB:** Don Fedyk presented an editor's report and conducted comment resolution on the Working Group recirculation ballot for 802.1aq-d4.0 Shortest Path Bridging.

<http://www.ieee802.org/1/private/contrib/aq-fedyk-SPB-Ballot-summary-0711-v1.pdf>  
<http://www.ieee802.org/1/private/contrib/802-1aq-d4-0-pdis.pdf>

Adjourn at 5:45pm.

### *Tuesday, 19 July*

Meeting called to order at 9:00am.

Stephen Haddock called for patents. No response to the call for patents.

**802.1aq SPB:** Don Fedyk concluded comment resolution on the Working Group recirculation ballot for 802.1aq-d4.0 Shortest Path Bridging.

Break for lunch at 12:25am.

Resume at 1:30pm.

**802.1Qbp ECMP:** Ali Sajassi and Ben Mack-Crane gave presentations regarding I-SID to B-VID mappings, status of the draft, and CFM Flows:  
<http://www.ieee802.org/1/files/public/docs2011/bp-sajassi-ect-selection-0511-v01.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bp-mackcrane-editor-notes-0711.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bp-mackcrane-tag-format-0711.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bp-sajassi-cfm-0711-v01.pdf>

**802.1AXbq DRNI:** Ali Sajassi walked through the IETF ICCP draft that includes TLVs carrying LACP state information. Norm Finn walked through draft 0.3 of Link Aggregation – Distributed Resilient Network interface. He also gave a presentation on open issues for DRNI:  
<http://www.ietf.org/id/draft-ietf-pwe3-iccp-06.txt>  
<http://www.ieee802.org/1/files/private/axbq-drafts/d0/802-1AXbq-d0-3.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bq-nfinn-DRNI-issues-0711-v1.pdf>

Adjourn at 6:25pm.

### ***Wednesday, 20 July***

Meeting called to order at 9:00am.

Stephen Haddock called for patents. No response to the call for patents.

**802.1aq SPB:** Don Fedyk concluded comment resolution on the Working Group recirculation ballot for 802.1aq-d4.0 Shortest Path Bridging.

Break for lunch at 12:25am.

Resume at 1:30pm.

**802.1Qbp ECMP:** Ali Sajassi and Ben Mack-Crane gave presentations regarding I-SID to B-VID mappings, status of the draft, and CFM Flows:  
<http://www.ieee802.org/1/files/public/docs2011/bp-sajassi-ect-selection-0511-v01.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bp-mackcrane-editor-notes-0711.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bp-mackcrane-tag-format-0711.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bp-sajassi-cfm-0711-v01.pdf>

**802.1AXbq DRNI:** Ali Sajassi walked through the IETF ICCP draft that includes TLVs carrying LACP state information. Norm Finn walked through draft 0.3 of Link Aggregation – Distributed Resilient Network interface. He also gave a presentation on open issues for DRNI:  
<http://www.ietf.org/id/draft-ietf-pwe3-iccp-06.txt>

<http://www.ieee802.org/1/files/private/axbq-drafts/d0/802-1AXbq-d0-3.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bq-nfinn-DRNI-issues-0711-v1.pdf>

Adjourn at 6:25pm.

### ***Thursday, 21 July***

Meeting called to order at 9:00am.

Stephen Haddock called for patents. No response to the call for patents.

**802.1Qbf Segment Protection:** Bob Sultan concluded comment resolution on the Sponsor Ballot for 802.1Qbf-d1.3 Infrastructure Segment Protection.

<http://www.ieee802.org/1/files/private/bf-drafts/d1/802-1bf-d1-3-dis-v00.pdf>

**802.1Qbp ECMP:** Puneet Agarwal gave a presentation regarding the ECMP hash proposal:

<http://www.ieee802.org/1/files/public/docs2011/bp-agarwal-hash-proposal-0411-v03.pdf>

**802.1AXbq DRNI:** Presentations were given on various topics by Stephen Haddock, Zehavit Alon, Maarten Vissers, and Ting Ao:

<http://www.ieee802.org/1/files/public/docs2011/axbq-haddock-intra-das-link-0711-v01.ppt>

<http://www.ieee802.org/1/files/public/docs2011/axbq-alon-DLAG-top-level-v01.pdf>

<http://www.ieee802.org/1/files/public/docs2011/axbq-tinga-link-aggregation-sublayer-0711-v00.pptx>

<http://www.ieee802.org/1/files/public/docs2011/axbq-vissers-drni-and-transport-protection-types-0711-v01.pptx>

**Liaison:** Maarten Vissers gave a presentation related to the ITU liaison regarding E-OTN (ols 277) and the liaison response sent to the ITU following the Santa Fe meeting and subsequent email ballot:

<http://www.ieee802.org/1/files/public/docs2011/new-vissers-generalized-ec-type-2-support-0711-v01.pptx>

Meeting adjourned at 12:30pm.

There was one request for a presentation under new work that was not presented due to lack of time, however it was posted to the website:

<http://www.ieee802.org/1/files/public/docs2011/new-jtanaka-All-Path-update-0711-v01.ppt>

## **DCB Minutes**

### ***Monday, 18 July***

Meeting commenced at 2:30 PM. Pat reviewed the Patent and other IPR policy slides.

No response was heard to the call for patent disclosure.

Joe Pelissier walked us through comment resolution on 802.1BR/D2.1. See:

<http://www.ieee802.org/1/files/private/br-drafts/d2/802-1BR-d2-1.pdf> and

<http://www.ieee802.org/1/files/private/br-drafts/d2/802-1BR-d2-1-cb.pdf>.

Part of this involved getting a presentation from Joe, and another from Paul. For Joe's presentation, see:

<http://www.ieee802.org/1/files/public/docs2011/br-pelissier-EchannelTermination-0711.pdf>

For Paul's presentation, see:

<http://www.ieee802.org/1/files/public/docs2011/BR-bottorff-arch-0711-v2.pdf>

Joe completed comment resolution. See comment disposition for 802.1BR-D2-1 at:

<http://www.ieee802.org/1/files/private/br-drafts/d2/802-1BR-D2-1-pdis.pdf>

Adjourned at approximately 5:30 PM

### ***Tuesday, 19 July, AM***

Meeting commenced at 9 AM. Pat reminded everyone of the IEEE Policies on IPR and anti-competitive behavior, and asked if anyone wanted to make a statement about any potentially essential patents.

There was no response to the call for patents.

Tony Jeffree began comment resolution for P802.1Qbg/D1.6. See:

<http://www.ieee802.org/1/files/private/bg-drafts/d1/802-1qbg-d1-6.pdf> and  
<http://www.ieee802.org/1/files/private/bg-drafts/d1/802-1Qbg-D1-6-pdis.pdf>

There was some discussion about the possibility of specifying URP/DRP forwarding in a different way (avoiding having to modify the relay function described in sub-clause 8.6.3). After some discussion, we identified a case that is not covered by suggested modifications, hence the comment that provoked the discussion was withdrawn for the present.

Adjourned for lunch at approximately Noon. Tony will post a work-in-progress version of the comment resolutions. See:

<http://www.ieee802.org/1/files/private/bg-drafts/d1/802-1Qbg-D1-6-pdis-v3.pdf>

### ***Tuesday, 19 July, PM – Joint meeting with Interworking***

Joint meeting commenced at 1:30 PM.

Pat reminded everyone of the patent policy and asked if anyone had a statement to make. There was no response to this call for patents.

Because Norm's contribution is of a reasonably fixed length, he should go first, so he did. See:

<http://www.ieee802.org/1/files/public/docs2011/new-nfinn-TRILL-MinM-0611-v1.pdf>

Conclusion was that the two technologies are different in minor ways that fit their slightly different target applications.

Joe Pelissier then talked about those comments (or that comment) on P802.1Qbh that he felt we need to talk about in this joint session.

Joe then did a presentation on the idea of using PBB-TE as a basis for doing port extension, as proposed at a prior meeting by Paul Bottorff, Ben Mack-Crane and others. See:

<http://www.ieee802.org/1/files/public/docs2011/br-pelissier-pbbTEPortExtenderThoughts-0711.pdf>

Paul Bottorff then did a presentation on the simplicity of specification advantages of re-using PBB-TE. See:

<http://www.ieee802.org/1/files/public/docs2011/bh-bottorff-PE-PBB-TE-0511-v3.pdf>

There was an extended discussion of these choices and the implications of various actions regarding where the work would be accomplished, and whether or not we might accommodate some compromise solution.

There will only be one approach that we will standardize. Also, if we were to use the PBB-TE based approach, the work would be done in 802.1Q. The implication of this is that approval of the 802.1BR PAR would tend to indicate a choice not to do this work in 802.1Q (hence a preference for the Tag-based approach in the currently proposed BR text), while failure to approve the 802.1R PAR would indicate either that we remain as yet undecided, or have decided to use the PBB-TE based approach.

The point was made that – while this seem to be the case – there is a long history in IEEE 802.1 of doing the right thing, and not letting the process dictate the direction of the work.

Adjourned at about 6 PM.

### ***Wednesday, 20 July***

Pat reminded everyone of IEEE policies and asked if there was anyone that wanted to make a statement regarding potentially essential patents.

There was no response to the call for patents.

Tony proceeded with comment resolution for the P802.1BR PAR.

Tony then continued with the comment resolution for P802.1Qbg. For this reason, we invited Dan Romascanu to provide further explanation on some of his comments. Tony then continued with the remaining substantive unresolved comments.

Broke for lunch at about Noon.

Recommenced the meeting at about 1:30 PM.

Tony resumed comment resolution for P802.1Qbg. While we thought the comments were all resolved, after the break we realized that there were a few that we still needed to talk about. However, Tony had to leave during the break, so we decided to re-visit those comments after the RAC discussion on Thursday.

Adjourned at about 3:45 PM.

### ***Thursday, 21 July***

Pat reminded people that the patent (and other) policy slides were shown on Monday and said that if anyone had any questions about them, they should contact her. She then asked if anyone had any statement they wished to make in response to the call for patents.

There was no response to the call for patents.

Glenn Parsons then started his presentation on RAC issues with VM OUI and Address assignment. The driving concern was to find a way to ensure that MAC addresses will not run out in the remaining ~70 years of the original 100-year objective.

It is not possible based on available trend data to determine when the addresses will run out. Several possible projection curves fit the current statistical data. For instance, if the allocation trend is linear, the address space may be good for ~4,000 years. If instead, it is exponential, the address space may be consumed in as little as 10 years.

The use of MAC addresses for addressable software applications (including virtual machines) could be a major factor in exactly how fast the rate of consumption can be expected to grow.

The RAC suggests several possible solutions. For details on this, refer to the slides at:

<http://www.ieee802.org/1/files/public/docs2011/admin-parsons-RAC-Virtualization-0711.pdf>

At about 10:30, Tony resumed comment resolution for 802.1bg. See final comment resolutions at:

<http://www.ieee802.org/1/files/private/bg-drafts/d1/802-1Qbg-D1-7-dis.pdf>

Joe Pelissier then talked about comment resolutions for P802.1BR. See final disposition of comments at:

<http://www.ieee802.org/1/files/private/br-drafts/d2/802-1BR-D2-1-fdis.pdf>

Pat then asked if there was any other business that we need to cover. Hearing none, she then talked about the motions we would be making and the probable time lines for the projects that are in the works.

The current working plan is to complete Working Group Ballot P802.1Qbg by November and P802.1BR by June, 2012 and be ready to go to Sponsor Ballot on both in June, 2012.

We have a dead-line to complete potential additional resolutions for P802.1Qbg by 15 August. This essentially gives us 2 or 3 conference calls to accomplish any proposals for complete comment resolutions for the editor to incorporate and post a recirculation ballot version by the end of August.

Pat reminded folks to log their attendance and that the Closing Plenary would be at 1:30 PM.

The DCB meeting was adjourned at about 11 AM.

## **AVB Minutes**

### ***Monday, 18 July***

- Magic decoder ring  
AZ/Amir Z, CB/Christian Boiger, DP/Don Panell, FJG/Franz-Josef Goetz, GG/Geoff Garner, GV/Ganesh Venkatesan, HL/Huang Lu, KW/Karl Webber, MN/Masa Nakamura, MJT/Michael Johas Teener, OK/Oliver Kleineberg, PK/Philippe Klein, RC/Rodney Cummings, TJ/Tony Jeffree, YK/Yongbum Kim, ??/everyone
- Mon PM 14:30-17:00 210
- administrivia MJT 30
  - IEEE patent policy and call for patents
  - agenda review
  - linteractions with SMPTE
- 802.1BA Comment Resolution TJ 30
- Ultra-low Latency Class and the corresponding shaper CB 150

## ***Tuesday, 19 July***

|  |       |     |
|--|-------|-----|
| - Tue AM 9:00-12:00  |       | 180 |
| - another preemption presentation  | CG    | 90  |
| - Automotive requirements  | MN/YK | 60  |
| - Cut through switching thoughts   | AZ    | 30  |
| - Tue PM 13:00-17:00   |       | 240 |
| - Industrial requirements  | AZ    | 60  |
| - Preemption PAR / 5C proposal   | YK    | 60  |
| - Latency improvement discussion   | all   | 90  |
| - Interaction between AVB Gen2 and IW/DCB efforts (list of possible interactions)                      | MJT   | 30  |
| - Tue PM (after DCB/IW joint)  |       | 60  |
| - Preliminary discussion about IW/DCB/AVB TG chairs interactions                                       |       | 60  |
| AVB is looking for guidance w/r/t productive redundant paths, preemption, path latency discovery, etc. |       |     |

## ***Wednesday, 20 July***

|  |        |     |
|--|--------|-----|
| - Wed AM 9:00-12:00  |        | 180 |
| - SRP Multi Path selection and redundancy                      | PK/OK  | 60  |
| - Gen2 gPTP and 802.1AS corrigendum PARs EC comment resolution | GG/TJ  | 60  |
| - Clock metrics reporting discussion                           | MJT/GG | 60  |
| - Wed PM 13:00-17:00   |        | 240 |
| - corrected default value for offsetScaledLogVariance,         | GG     | 30  |
| - new items in the revision of the corrigendum                 | GG     | 30  |
| - Gen2 SRP and shaper assumptions                              | DP     | 180 |

## ***Thursday, 21 July***

|   |          |     |
|---|----------|-----|
| - Thu AM 08:00-10:30 Joint AVB/802.11aa   |          | 180 |
| - Status discussion   | GV/etc.  | 180 |
| - Thu PM 13:00-17:00 802.1 closing plenary  |          | 240 |
| - misc (approval of weekly calls, advancing drafts to ballot status, next meeting(s)) | TJ, etc. | 240 |

## **Maintenance Task Group Minutes**

### ***Monday, 18 July***

Patents policy was reviewed. No responses on the call for patents.

We discussed holding future meetings via phone conference and the TG still believes this would be the best approach. Motions will be proposed on Thursday to authorize this

The open maintenance items were discussed:

- Item 0003 - Inconsistent VID for Loopback Reply (LBR) frames
  - The issue was discussed in Santa Fe and since the issue was introduced from 802.1aq, we can put the resolution in 802.1aq. The resolution is acceptable but it should specify to copy both priority and drop eligible bits. Steve Haddock will introduce a comment to 802.1aq in San Francisco. Move to balloting state.
- Item 0004 – No path cost for 40Gbps links
  - The proposed resolution looks acceptable. It is actually an editorial change because the recommended formula in the existing draft produces the correct values. The note below the table provides instructions how to calculate values, so there is really no bug. Propose reject since this has been solved in QRev-2011.
- Item 0005 - Missing enable for Link Aggregation TLV
  - We agree there is a problem and are fairly sure the solution is correct, but would need to combine the changes in the MIB and check the MIB. It is possible to include the fix in DNRI or 802.1AX, but there are no currently plans to modify LLDP MIB in these at this point. This also brings up the issue of whether 802.1AX allows LLDP to be sent on the physical link as well as on the aggregate. This should go into the next revision of 802.1AX, but DNRI is an amendment and we will not adjust the PAR proposal in flight. We may need to consider a revision at a future meeting. Also, the non-LinkAgg issues would not be covered by work in 802.1AX. Move to awaiting ballot.
- Item 0006 – Corrigendum items agreed to in AVB TG
  - 802.1AS has a corrigendum PAR under consideration and all of these bugs and all future bugs found by the task group will be addressed through the corrigendum project. We do not recommend TG members to use the maintenance system for 802.1AS bugs as long as the corrigendum project is active, however, if the system is used, we will progress the requests and use the corrigendum as a delivery vehicle as long as it is still active. Move to awaiting ballot.

## Closing Plenary (Thursday, July 21, 2011)

Closing Plenary slides are available at:

- <http://www.ieee802.org/1/files/public/minutes/2011-07-closing-plenary-slides.pdf>

The Chair (Tony Jeffree) led discussion of the following items:

- Material already covered in the opening plenary
  - Officers (no change)
  - Voter status (see slides)
- Patent policy and call for patent – no response
- New Upload area –
  - The new file upload facility can be accessed from the filenaming conventions page at: <http://ieee802.org/1/filenaming.html>
- Future meetings
  - 19-22 September, 2011 –
    - Presentation made earlier by Ben, reminder to register by Sunday
  - 9-12 January, 2011 –
    - Don Eastlake to host in Kauai, Hawaii
  - 9-12 or 16-19 January, 2011 –
    - Rudy Brandner made a presentation proposing NSN as a host for a meeting in Munich – see:

<http://www.ieee802.org/1/files/public/docs2011/admin-brandner-jan12-munich-meeting-0711-v02.pdf>

The chair conducted a poll and determined that there was a slight preference (46:37) for Munich and a slight preference for the week of 16-19 January. A motion will be made in a few slides about this.

- May and September, 2011 –
  - John Messenger reminded folks that he had suggested that he might be able to setup another Interim meeting for one or the other of these

The chair conducted a straw poll and determined that there was a slight preference for having the Interim meeting in York, in May.

- Peter Ashwood-Smith reported on a third interoperability demonstration
  - Presentation is at: <http://www.ieee802.org/1/files/public/docs2011/aq-ashwood-smith-spbm-3rd-interop-0718-v01.pdf>

(continuing with Closing plenary presentation)

- PAR extensions (see Closing Plenary slides)
- Task Group reports:
  - Steve reviewed an updated version of the Agenda published earlier

- There was a discovery during the week that there is a serious consistency issue with the Link Aggregation MIB – John suggested that there should be a corrigendum for 802.1AX
- There was a discussion about using the maintenance process so that we would know what we did some time down the road when we run across a similar problem
- Steve summarized progress in Interworking and next steps –
  - Ballot progress
    - 802.1aq WG Recirculation comment resolution
    - 802.1Qbf SB comment resolution
    - 802.1AXbk WG Recirculation comment resolution
    - 802.1AC WG Recirculation comment resolution
  - See the minutes of the AVB meeting in this document for further details
- Tony reported Sponsor Ballot progress for the Security Task Group, even though there was no meeting of the TG at this Plenary
- Michael showed the minutes of the AVB meeting
  - Ballot Progress
    - 802.1BA
  - There was discussion about the right way forward on the draft that had completed Sponsor Ballot which contained an error that might be either technical/substantive or editorial
  - See the minutes of the AVB meeting in this document for further details
- Pat Thaler summarized progress in DCB and next steps –
  - Ballot Progress
    - 802.1Qbg
    - 802.1Qbh – recommend withdrawing the PAR
    - 802.1BR
  - There was a decision during the week to formalize a process by which objects allocated from 802.1Q OUI space should be defined in a separate extension defined in the standard under development
    - This was driven by the recent need to define new objects for LLDP
  - RAC issue with virtualization discussion
- Paul Congdon reviewed the status of the Maintenance Task Group

(continuing with Closing plenary presentation)

- (In)Sanity check – current workload review (see slides)
- No Liaisons
- Motions (note that the closing slides are authoritative, in the event that there is any disagreement):
  - Minutes for March and May
    - Made by Pat Thaler/seconded by Eric Gray

- Acclamation
- November plenary pre-meetings for Interworking
  - Steve Haddock/Eric Gray
  - Acclamation
- Interim meeting in Munich, 16 January, hosted by NSN
  - Rudy Brandner/Zehavit Alon
  - Acclamation

Rudy asked to get an estimate of the number of folks that would attend the January Interim in Munich and the count was 42.

See Closing Plenary slides for motions made during the meeting. The Closing Plenary slides can be found at:

<http://www.ieee802.org/1/files/public/minutes/2011-07-closing-plenary-slides.pdf>

Note that there was a discussion about the lack of discussion in Interworking about the AVB proposed Pre-emption and fragmentation PAR during the related motion. The vote on that motion was 13/5/14 (fails).

The motion to approve P802.1BR and withdraw P802.1Qah succeeded, the vote was 13/1/19.

Closing Plenary adjourned

## Meeting Materials

Contributions up-loaded since May, 2011:

- May -

<http://www.ieee802.org/1/files/public/docs2011/as-garner-kim-802-1-AS-corrections-0511.pdf>

<http://www.ieee802.org/1/files/public/docs2011/bg-bottorff-cl42-0511-v1.pdf>

<http://www.ieee802.org/1/files/public/docs2011/bg-bottorff-udp-mch-0511-v1.pdf>

<http://www.ieee802.org/1/files/public/docs2011/avb2-cgunther-sr-class-fragmentation-0511-v02.pdf>

<http://www.ieee802.org/1/files/public/docs2011/liaison-haddock-proposed-response-q10-15-277-eotn-0511-v01.doc>

<http://www.ieee802.org/1/files/public/docs2011/new-kim-draft-par-and-5C-avb-preemption.pdf>

<http://www.ieee802.org/1/files/public/docs2011/avb2-cgunther-sr-class-preemption-0511-v03.pdf>

<http://www.ieee802.org/1/files/public/docs2011/as-garner-p802-1AS-cor-1-draft-par-0511.pdf>

<http://www.ieee802.org/1/files/public/docs2011/as-garner-p802-1ASbt-draft-5-Criteria-0511-v2.pdf>

<http://www.ieee802.org/1/files/public/docs2011/as-garner-p802-1ASbt-draft-par-0511-v4.pdf>

<http://www.ieee802.org/1/files/public/docs2011/bp-sajassi-ect-selection-0511-v01.pdf>

<http://www.ieee802.org/1/files/public/docs2011/new-pelissier-p802-1BR-draft-5c-0511.pdf>

<http://www.ieee802.org/1/files/public/docs2011/new-pelissier-p802-1BRdraft-par-0511.pdf>

<http://www.ieee802.org/1/files/public/docs2011/Visio-bg-bottorff-udp-mch-0511-v2.pdf>

<http://www.ieee802.org/1/files/public/docs2011/bg-bottorff-cl42-0511-v2.pdf>

<http://www.ieee802.org/1/files/public/docs2011/bg-bottorff-udp-mch-0511-v2.pdf>

<http://www.ieee802.org/1/files/public/docs2011/bg-gu-udp-notification-tlv-0511-v00.pdf>

- June -

<http://www.ieee802.org/1/files/public/docs2011/as-garner-addl-possible-items-for-corrigendum-0611.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/as-garner-kim-802-1-AS-corrections-0511-v1.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bg-bottorff-lfIndex-0711-v1.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bg-krause-evb-vmtrigger-0611-v02.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bg-pelissier-conformanceproposal-0611-v02.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bg-pelissier-conformanceproposal-0611.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bg-sultan-di-migration-0611-v01.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bg-sultan-di-migration-0611-v02.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bh-bottorff-pbbte-pe-draft-0711-v1.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bp-agarwal-hash-proposal-0411-v02.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bp-sajassi-oam-0611-v01.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/liaison-itut-com2-ls102-0611.zip>  
<http://www.ieee802.org/1/files/public/docs2011/new-nfinn-TRILL-MinM-0611-v1.pdf>

- July -

<http://www.ieee802.org/1/files/public/docs2011/bf-sultan-ting-comment-0711-v00.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bf-sultan-ting-comment-0711-v01.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bf-sultan-editors-report-07-11-v00.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/BR-bottorff-arch-0711-v2.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bg-sultan-llc-type3-0711-v00.pdf>  
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<http://www.ieee802.org/1/files/public/docs2011/admin-mackcrane-nanjing-meeting-details-0611.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/bh-bottorff-PE-PBB-TE-0711-v2.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/Qbg-d1-6-LLDP-EXT-DOT1-V2-MIB-diffs.mib>  
<http://www.ieee802.org/1/files/public/docs2011/as-garner-corrected-offsetScaledLogVariance-calculation-0711.pdf>  
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<http://www.ieee802.org/1/files/public/docs2011/admin-interworking-agenda-0711-v1.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/admin-parsons-RAC-OUI-Tiers-0711.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/admin-parsons-RAC-Virtualization-0711.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/admin-thaler-dcb-agenda-0711.doc>  
<http://www.ieee802.org/1/files/public/docs2011/aq-fedyk-SPB-Ballot-summary-0711-v1.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/axbq-vissers-drni-and-transport-protection-types-0711-v00.pptx>  
<http://www.ieee802.org/1/files/public/docs2011/maint-congdon-opening-0718-v1.pdf>  
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<http://www.ieee802.org/1/files/public/docs2011/at-klein-kleineberg-avb-redundancy-continuation-0711.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/avb2-cgunther-sr-class-preemption-0711-v01.xls>  
<http://www.ieee802.org/1/files/public/docs2011/avb2-cgunther-sr-class-preemption-0711-v04.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/avb2-cgunther-sr-class-preemption-0711-v05.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/axbq-tinga-link-aggregation-sublayer-0711-v00.pptx>  
<http://www.ieee802.org/1/files/public/docs2011/br-pelissier-EchannelTermination-0711.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/br-pelissier-pbbTEPortExtenderThoughts-0711.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/new-avb-boiger-ultra-low-latency-shaper-0711.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/new-avb-kim-8021-8023-Preemption-Solution-Problem-Statements-0711-v01.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/new-avb-kim-8021-8023-Preemption-Solution-Problem-Statements-0711-v02.pdf>

<http://www.ieee802.org/1/files/public/docs2011/new-avb-kim-8021-Preemption-DRAFT-PAR-5C-0711-v02.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/new-avb-kim-8021-Preemption-DRAFT-PAR-5C-0711-v03.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/new-avb-nakamura-automotive-backbone-requirements-0711.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/new-vissers-generalized-ec-type-2-support-0711-v00.pptx>  
<http://www.ieee802.org/1/files/public/docs2011/phkl-srp-qos-0711-v01.pdf>  
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<http://www.ieee802.org/1/files/public/docs2011/as-garner-kim-802-1-AS-corrections-0511-v3.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/as-garner-kim-802-1-AS-corrections-0511-v4.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/axbq-alon-DLAG-top-level-v01.pdf>  
<http://www.ieee802.org/1/files/public/docs2011/axbq-vissers-drni-and-transport-protection-types-0711-v01.pptx>  
<http://www.ieee802.org/1/files/public/docs2011/bp-mackcrane-editor-notes-0711.pdf>  
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<http://www.ieee802.org/1/files/public/docs2011/bq-nfinn-DRNI-issues-0711-v1.pdf>  
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<http://www.ieee802.org/1/files/public/docs2011/new-jtanaka-All-Path-update-0711-v01.ppt>  
<http://www.ieee802.org/1/files/public/docs2011/new-vissers-generalized-ec-type-2-support-0711-v01.pptx>  
<http://www.ieee802.org/1/files/private/bg-drafts/d1/802-1Qbg-D1-7-dis.pdf>