 

IEEE P802.21 Media Independent Handover Services

Tentative Minutes of the IEEE P802.21 Working Group

Session #47 Meeting, Atlanta, USA

Chair: Subir Das

Vice Chair: Juan Carlos Zuniga

Secretary: H Anthony Chan

Editor: David Cypher

# First Day PM1 (1:30PM-3:30PM): Techwood; Monday, November 7, 2011

## 802.21 WG Opening Plenary: Meeting is called to order by Subir Das, Chair of IEEE 802.21WG at 1:32PM with opening notes (21-11-0173-01).

## Approval of the November 2011 Meeting Agenda (21-11-0169-01)

### Agenda is amended to the following as in 21-11-0169-02 and is approved with unanimous consent.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | **Monday****(Nov 07)** | **Tuesday****(Nov 08)** | **Wednesday****(Nov 09)** | **Thursday****(Nov 10)** |
| **AM-1****8:00-10:00a** | NA |  | Comment resolution- 802.21b | Comment resolution- 802.21a |
| **AM-2****10:30-12:30** | NA | Comment resolution- 802.21a | SRHO TG  | Future Project Planning |
| **PM-1****1:30 – 3:30p** | 802.21 WG Opening Plenary | Comment resolution- 802.21a | Comment resolution – 802.21a/Mid week Plenary | 802.21 WG Closing Plenary |
| **PM-2****4:00 – 6:00p** | Comment resolution- 802.21b | Future Project Planning  | SRHO TG  |  |
| **Eve** **6:30 – 7:30p** | Tutorial  | Future Project Planning  | Social |  |

## IEEE 802.21 Session #47 Opening Notes

### WG Officers

#### Chair: Subir Das

#### Vice Chair: Juan Carlos Zuniga

#### Secretary: Anthony Chan

#### Editor: David Cypher

#### 802.11 Liaison: Clint Chaplin

#### 802.16 Liaison: Peretz Feder

#### IETF Liaison: Yoshihiro Ohba

The WG has 27 voting members as of this meeting.

### Network information for the documents

#### Document server: <https://mentor.ieee.org/802.21/documents>.

### Attendance and voting membership are presented.

#### Attendance is taken electronically ONLY at https://murphy.events.ieee.org/imat

#### Enter your personal information and profile

#### Mark attendance during every session

#### Total number of 802.21 WG sessions: 16

#### 12 sessions for 75% attendance to be counted towards WG voting membership.

#### All attendance records on the 802.21 website. Please check the attendance records for any errors

### Voting membership

#### 802.21 Voting membership is described in DCN 21-06-075-02-0000

#### Maintenance of Voting Membership

Two plenary sessions out of four consecutive plenary sessions on a moving window basis

One out of the two plenary session requirement could be substituted by an Interim session

#### WG Letter Ballots: Members are expected to vote on WG LBs. Failure to vote on 2 out of last 3 WG LBs could result in loss of voting rights

### Miscellaneous Meeting Logistics are presented.

#### Network Information: Network Name: veriLAN (Open), veriLAN.1x(passwd required)

#### Breaks: 802.21 WG would break as follows:

AM Coffee break: 10:00-10:30 am

PM Coffee break: 3:30 - 4:00 pm

#### Default Location: Techwood, Atlanta Level

#### Wednesday Night Social: Grand Hall, Exhibit Level: 6:30 pm Onwards

### Rules on registration and media recording policy are presented.

### Rules on Membership & Anti-Trust are presented

### Rules to inform about patents are presented as follows:





### Chair asked whether there are any potential essential patent claims by any 802.21 WG participants. None.



### Other guidelines for IEEE WG meetings, including discussions that are inappropriate are presented.



### LMSC Chair’s guidelines on commercialism at meeting are presented.

### Rules on copyright are presented. Note that the copyright procedures are being updated.

### Chair: How many people are attending the IEEE 802.21 WG meetings for the first time? Floor: counted 0

## Work status

### Working Group

#### Completed IEEE 802.21a and IEEE 802.21b SB re-circulation ballots

### Task Group Status

#### 802.21a Security TG: work completed

#### 802.21b Handover with Broadcast Services TG; Work completed

#### 802.21c Single Radio Handovers: Proposals updated; Draft specification is underway

## IEEE 802.21a Sponsor Ballot Result

### SB started on August 2nd, 2011 and ended on August 31st, 2011

### Result announced on September 01, 2011

### Summary

#### Approve: 59

#### Disapprove: 03

#### Abstain: 03

#### Return ratio: 81 %

#### Approval ratio: 96%

### The ballot is approved

#### Received 93 comments of which 28 must be satisfied

## IEEE 802.21a SB Re-circulation Result

### SB-recirculation started on October 25th, 2011 and ended on November 4th, 2011

### Result announced on November 5th, 2011

### Summary

#### Approve: 62

#### Disapprove: 02

#### Abstain: 04

#### Return ratio: 85 %

#### Approval ratio: 96%

### The ballot is approved

#### Received 16 comments of which 3 must be satisfied

## IEEE 802.21b Sponsor Ballot Result

### SB started on August 2nd, 2011 and ended on August 31st, 2011

### Result announced on September 01, 2011

### Summary

#### Approve: 57

#### Disapprove: 03

#### Abstain: 02

#### Return ratio: 82 %

#### Approval ratio: 95%

### The ballot is approved

#### Received 41 comments of which 19 must be satisfied

## IEEE 802.21b SB Re-circulation Result

### SB-recirculation started on October 25th, 2011 and ended on November 4th, 2011

### Result announced on November 5th, 2011

### Summary

#### Approve: 60

#### Disapprove: 02

#### Abstain: 03

#### Return ratio: 86 %

#### Approval ratio: 96%

### The ballot is approved

#### Received 4 comments of which 2 must be satisfied

## Objectives for the November Meeting

### Working Group Activities

#### IEEE 802.21a: Security Extensions to MIH Services: Sponsor Ballot comment resolution by Ballot Resolution Committee (BRC)

#### IEEE 802.21b: Handovers with Broadcast Services: Sponsor Ballot comment resolution by BRC

### Task Group Activities

#### 802.21c: Single Radio Handovers: Draft document discussion

### Future Project Planning Discussion

#### Tuesday evening

## Next session:

### Interim: 15-20 January 2012, Jacksonville, USA

#### Co-located with all 802 groups

## September Plenary Meeting Minutes (21-11-0159-05).

### Meeting minutes is approved with unanimous consent.

## 802 architecture update

### 2 sessions on Tue and Thur 8-10AM in Chicago.

## Comments on PARs under considerations

### Comment on P802.15.9 (21-11-0178-00) is presented by Yoshihiro Ohba.

Background: P802.15.9 proposes key management practice. For information, in 802.11, the key management is based on 802.1x using EAP to create MSK for the MAC layer master key. Pre-shared key without using EAP is also defined.

### P802.15.9 PAR/Section 5.2

Current text: “This Recommended Practice defines a transport mechanism interface for key management protocols (KMPs) and guidelines for the use of some existing KMPs with IEEE 802.15 standards. This Recommended Practice does not create a new KMP.”

Comment: It is not clear what “a transport mechanism interface” means. Is it trying to define a transport mechanism for KMPs, or just an interface to a transport mechanism for KMPs? The remaining text of the PAR implies that this project is trying to define a transport mechanism for KMPs.

### P802.15.9 PAR/Section 5.3

Current Text: “This proposal uses facilities provided by amendment IEEE 802.15.4e. In addition, it provides a transport mechanism for IEEE 802.15.6. Both of these standards have passed their first Sponsor ballot are are expected to be completed in early 2012.”

Comment: The transport mechanism for IEEE 802.15.6 should be more specific to transport KMPs.

Comment: Replace “are are” with “are”.

### P802.15.9 PAR/Section 5.5

Current text: “802.15 standards have always supported datagram security, but have not provided a mechanism for establishing the keys used by this feature and upper layer key management is complex to deploy. “ … “It will also provide guidelines for commonly used KMPs like IETF's HIP, IKEv2, IEEE 802.1X, and 4-Way-Handshake.”

Comment: RFC 5191 (also known as PANA) is the IETF KMP used by ZigBee IP to provide MAC keys for 802.15.4-based HAN (Home Area Network) intended for mass-market deployment. Without proper reference, it is difficult to understand why upper layer key management is complex to deploy. In particular, the examples cited here “IETF’s HIP, IKEv2” are also upper layer KMPs.

### P802.15.9 PAR/Section 7.1

Comment: It should be mentioned that ZigBee IP uses PANA　(RFC 5191) as the KMP to provide MAC keys for 802.15.4 based HAN in ZigBee Smart Energy Profile 2.0 (SEP2.0), where UDP/IP is used as the transport of the PANA KMP. The use of PANA in ZigBee IP should be mentioned in this section.

### Other potential PAR activities

Chair reported the following important information that were reported during 802 EC opening plenary:

802.1 is planning on a PAR on security to support high speed data rate

Joint session for 802.1 and 802.3 on Wednesday 9-10AM in Regency 5 to discuss preemption activities for high speed data rate.

## 802.21a BRC commentary file DCN: 21-11-148 is presented by 802.21a BRC-Lead, Yoshihiro Ohba

### There are 17 comments, which are primarily of editorial nature.

## 802.21b BRC commentary file DCN is presented by 802.21b BRC-Lead, Juan Carlos Zuniga

### There are 4 comments, one of which is technical.

## 802.21c Single radio handover task group agenda for this September Interim (21-11-0167-00) is presented by TG Chair, Junghoon Jee

### Items to be covered this week

### Proposal Discussion: IEEE 802.21c Protocol Design Consideration, Hyunho Park (ETRI)

### Future Planning

### Time Schedule

#### Wednesday AM2, PM2

### Future Planning will be discussed.

### Update on EC opening plenary

#### EC Workshop on Saturday and Sunday. Ajay Rajkumar will represent 802.21 to present. The agenda is on the EC website.

#### Some items are of interest to everyone, such as should the scope of 802 be widened. WG discussion is needed.

### Future meeting logistics: opinions are solicited.

## Meeting recess at 3:18PM

# First Day PM2 (4-6PM): Techwood; Monday, November 8, 2011

## 802.21b sponsor ballot comment resolution is led by Juan Carlos Zuniga

## Comment resolutions are discussed

Comment on state machine is rejected.

Comment on backward compatibility with bit 3 is accepted. Bit 5 will be added.

Comment on vulnerability to spoof a broadcast handover message is rejected since this is out of scope of 802.21bPAR

## Comment resolution are recorded in 21-11-0181-01

## Meeting recess at 5:55PM

# Second Day AM2 (10:30AM-12:30PM): Techwood; Tuesday, November 8, 2011

## Meeting is called to order with agenda 21-11-0177-00 to discuss 802.21a sponsor ballot comment resolution 21-11-0175-00 led by Yoshihiro Ohba

## Comment resolutions are recorded in 21-11-0177-01

## Agenda is amended to the following with unanimous consent.

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| **AM-2****10:30-12:30** | NA | Comment resolution- 802.21a | 802.21c SRHO TG  | Future Project Planning |
| **PM-1****1:30 – 3:30p** | 802.21 WG Opening Plenary | PAR resolution / Future Planning | Comment resolution – 802.21a/Mid week Plenary | 802.21 WG Closing Plenary |
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| **Eve** **6:30 – 7:30p** | Tutorial  |  | Social |  |

## Teleconference schedule

### December 15 10AM ET

### December 22 10AM ET

## Meeting recess at 12:05PM

# Second Day PM1 (1:30PM-3:30PM): Techwood; Tuesday, November 8, 2011

## Meeting is called to order by Subir Das, chair of 802.21 WG.

## Comments on P802.15.9 (21-11-0178-00) by Yoshihiro Ohba are discussed.

### Section 5.2

#### Current text: “This Recommended Practice defines a transport mechanism interface for key management protocols (KMPs) and guidelines for the use of some existing KMPs with IEEE 802.15 standards. This Recommended Practice does not create a new KMP.”

#### Comment is revised to: It is not clear what “a transport mechanism interface” means. Is it trying to define a transport mechanism for KMPs, or just an interface to a transport mechanism for KMPs? The remaining text of the PAR implies that this project is trying to define a transport mechanism for KMPs. Additional clarification would improve the PAR.

### Section 5.3

#### Current text Current Text: “This proposal uses facilities provided by amendment IEEE 802.15.4e. In addition, it provides a transport mechanism for IEEE 802.15.6. Both of these standards have passed their first Sponsor ballot are are expected to be completed in early 2012.”

#### Comment is revised to: The sentence “In addition, it provides a transport mechanism for IEEE 802.15.6” is not clear. What is carried by the transport should be clearly stated. In this case, we believe that it is a transport mechanism for KMPs, but it is not obvious from the text.

#### Editorial: Replace “are are” with “and are”

### Section 5.3

#### Current text: “802.15 standards have always supported datagram security, but have not provided a mechanism for establishing the keys used by this feature and upper layer key management is complex to deploy. “ … “It will also provide guidelines for commonly used KMPs like IETF's HIP, IKEv2, IEEE 802.1X, and 4-Way-Handshake.”

#### Comment is revised to: Without proper reference, it is difficult to understand why upper layer key management is complex to deploy. In particular, the examples cited here “IETF’s HIP, IKEv2” are upper layer KMPs. In addition, RFC 5191 (also known as PANA) is the IETF KMP used by ZigBee IP to provide MAC keys for 802.15.4-based HAN (Home Area Network), and is intended for mass-market deployment.

### Section 5.5

#### Current text: “802.15 standards have always supported datagram security, but have not provided a mechanism for establishing the keys used by this feature and upper layer key management is complex to deploy. “ … “It will also provide guidelines for commonly used KMPs like IETF's HIP, IKEv2, IEEE 802.1X, and 4-Way-Handshake.”

#### Comment is revised to: Without proper reference, it is difficult to understand why upper layer key management is complex to deploy. In particular, the examples cited here “IETF’s HIP, IKEv2” are upper layer KMPs. In addition, RFC 5191 (also known as PANA) is the IETF KMP used by ZigBee IP to provide MAC keys for 802.15.4-based HAN (Home Area Network), and is intended for mass-market deployment.

### Section 7.1

#### Current text: “Are there other standards or projects with a similar scope?: No”

#### Comment: This is not correct. For example, ZigBee IP uses PANA (RFC 5191) as the KMP to provide MAC keys for 802.15.4 based HAN in ZigBee Smart Energy Profile 2.0 (SEP2.0), where UDP/IP is used as the transport of the PANA KMP.

### Above revised comments are in 21-11-0178-01.

## Future planning discussion 21-11-0182-00 is led by Antonio de la Oliva

### Stephen McCann is scheduled to propose extension of 802.11u to discovery of ESS IEEE802.11-11/1514r0 in WNG Session. The 802.21 WG understands that the boundary between 802.21 and 802.11u is that the IS beyond AP belongs to 802.21 as was in the past.

### In P2P, 802.21 may help in service discovery. For example in 802.11, 802.11 is also looking into the extension of 802.11u IEEE802.11-11/1517r0

### In M2M, there are opportunities in service discovery.

## Meeting recess at 3:30PM

# Second Day PM2 (4PM-6PM): Techwood; Tuesday, November 8, 2011

## Future planning discussion: summary of past discussions 21-11-0182-00 is presented by Antonio de la Oliva

### List of ideas include the following:

#### Multi-Interface Management – possible new PAR

#### L2.5 mesh – possible new PAR

#### Multicast signaling support, DMM and new mobility paradigms, Extending the MIIS with policies – maintenance PAR

#### QoS Integration of different technologies -- dead

#### Extended Capability Discovery, Dynamic MIIS – dynamic information services

### Dynamic information services discussions:

#### It needs to distinguish from the work in 3GPP that extends ANDSF.

#### It is not limited to the MIS independent services, but deals with new mechanism to deliver the dynamic information to the network and to the devices.

#### The time scale of being dynamic is to be studied. It includes how often the information is provided to the server and how often the information is made available to the users.

## Future planning discussion: Multicast MIH use case 21-11-0184-00 is presented by Yoshihiro Ohba

### Neighborhood area network (NAN) in a mesh: the network may broadcast to move a group of nodes to handover to a different network to enable maintenance.

### Needed for 802.21:

#### Group management feature to form a specific group of nodes

#### Multicast command intended for the specific group of nodes instead of sending a unicast command to individual nodes in the group or multicast the command to all nodes in the managed network

#### Multicast MIH message protection mechanism

#### MIH support for 802.15.4

## Future planning discussion: Transmission Modes for Multi-RAT networks 21-11-0185-00 is presented by Hyukjoon Lee

### Hierarchical networks in multi-RAT: a direct link from a link to BS and a via link through an AP or another device:

#### 2 separate flows, one using direct link and one using the via link

#### 1 flow splits between one using direct link and one using the via link. There is ongoing work to merge the 2 different MACs

#### 1 flow using cooperative link

## Meeting recess at 6:35PM

# Third Day AM1 (8AM-10AM): Techwood; Wednesday, November 9, 2011

## Meeting is called to order at 8:25AM

## Future planning discussion: Group management in MIHF (21-11-0183-00) is presented by Antonio de la Oliva

### Group identifiers at the MIHF level

### It should be possible to join and leave the group.

### A related document 21-11-0170-00 has defined part of the work.

### It defines Group MIHF IDs, commands to join and leave, and multicast information. It is missing mechanism to let users receive the information and ask the MIHF to join. It will also need to recheck the state machine.

## The following are possible next steps

### A revision PAR to IEEE802.21 base spec. It will incorporate the approved amendments.

### Multicast/broadcast feature and associated security: An amendment PAR is needed.

### In addition, service discovery with a new PAR is an important priority

## Meeting recess at 10AM

# Third Day WG Mid-Plenary PM1 (1:30-1:30PM): Techwood; Wednesday, November 9, 2011

## Meeting is called to order at 1:32PM

## 802.21a sponsor ballot comment resolution is led by Yoshihiro Ohba.

### Comment #16 is discussed:

#### This new comment refers to a section that has not been modified in the latest version of the draft and therefore it is an invalid comment. However, we discussed with the comenter and BRC decided to address the concern in the following manner.

#### Change the first paragraph to include the following: It should be noted that all certificates are required to be validated. The TLS certificate used by the PoS is expected to be provided to the mobile node in a secure manner, e.g., during provisioning process.

### Comment resolutions are recorded in 21-11-0181-02

## Agenda is amended to the following as in 21-11-0169-03 and is approved with unanimous consent.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | **Monday****(Nov 07)** | **Tuesday****(Nov 08)** | **Wednesday****(Nov 09)** | **Thursday****(Nov 10)** |
| **AM-1****8:00-10:00a** | NA |  | Comment resolution- 802.21b | (Start at 9AM)Future Project Planning |
| **AM-2****10:30-12:30** | NA | Comment resolution- 802.21a | 802.21c SRHO TG  | Future Project Planning |
| **PM-1****1:30 – 3:30p** | 802.21 WG Opening Plenary | PAR resolution / Future Planning | Comment resolution – 802.21a/Mid week Plenary | 802.21 WG Closing Plenary |
| **PM-2****4:00 – 6:00p** | Comment resolution- 802.21b | Future Project Planning  | 802.21c SRHO TG  |  |
| **Eve** **6:30 – 7:30p** | Tutorial  |  | Social |  |

## Future planning discussion: Discovery of information for access and services. The background is provided by Ajay Rajkumar.

### Hotspot 2.0 in WFA background.

Hotspot 2.0 in WFA has a requirement on security threat, upgrade policy, online single signup. The information available is limited, and these information are at the AP. Hotspot 2.0 adopts 802.11u and there are proposals to extend ANQP protocol in the GAS framework. Prior to authentication, the information needs to be in AP so that MN can access it using GAS and ANQP. After association, such message exchange between AP and MN will use 802.21. Phase 1 is scheduled to complete by end of 2011. The interaction between MIH and ANQP is needed.

## Meeting recess at 3:35PM

# Fourth Day AM1 (9-10AM): Techwood; Thursday, November 10, 2011

## Meeting is called to order at 9:15AM

## Future planning discussion 21-11-0182-00 is led by Antonio de la Oliva

### A revision PAR to update IEEE802.21 base spec. to incorporate the approved amendments. Subir will check the process and start once 802.21a and 802.21b are approved.

### Multicast/broadcast feature and associated security: An amendment PAR is needed.

### Service discovery with a new PAR is an important priority.

## Future planning: Smart Grid Wireless network 21-11-0166-00 is presented by Junghoon Jee

## Meeting recess at 10:15AM

# Fourth Day AM2 (10:30-12:30PM): Techwood; Thursday, November 10, 2011

## Meeting is called to order at 10:40AM

## Future planning discussion 21-11-0182-00 is led by Antonio de la Oliva

### Discussions on service discovery continues.

## Liaison report (21-11-0195-00) is present by Clint Chaplin

### 802.11 TGmb 802.11 Accumulated Maintenance Changes

#### Fourth Recirculation Sponsor ballot on IEEE 802.11mb D10.0 closed September 7, 2011. Results: 142/13/9 91.61%. 257 comments received: 155 technical, 90 editorial, 12 general. Resolved all of the comments

#### Fifth Recirculation Sponsor ballot on IEEE 802.11mb D11.0 closed October 22, 2011. Results: 147/9/8 94.23%. 92 comments received: 36 technical, 50 editorial, 6 general. Resolved all of the comments

#### Sixth Recirculation Sponsor already under way: closes November 13. Asking ExCom Friday for conditional approval to publish

### 802.11 TGaa 802.11 Video Transport Streams (additions to support video)

#### Fifth Recirculation WG Ballot LB182 on draft 6.0 closed August 9, 2011. Results 149/9/38 94.30%. 802.11aa received 10 comments, 8 technical and 2 editorial, and the BRC addressed all comments.

#### Sixth Recirculation WG Ballot LB184 on draft 6.0 closed August 31, 2011. Results 151/8/38 94.97%. 802.11aa received 4 comments, 4 technical and 0 editorial, and the BRC addressed all comments.

#### Initial Sponsor ballot on IEEE 802.11aa D6.0 closed October 12, 2011. Results: 106/8/9 92.98%. 147 comments received: 51 technical, 93 editorial, 3 general. Resolved all of the comments

#### Expecting to go out for Recirculation Sponsor ballot next week .

### 802.11 TGac Very High Throughput <6GHz (successor to 802.11n at frequencies < 6Hz)

#### The BRC is still addressing the comments from the first initial WG ballot. May not address all the comments.

#### Planning on going out for Second Initial WG ballot after this meeting

### 802.11 TGad Very High Throughput 60GHz (successor to 802.11n at 6Hz)

#### Third Recirculation WG Ballot LB183 on draft 4.0 closed August 9, 2011. Results 195/11/12 94.66%. 802.11ad received 165 comments, 95 technical and 70 editorial, and the BRC has addressed all comments.

#### Fourth Recirculation WG Ballot LB183 on draft 5.0 closed October 6, 2011. Results 196/13/19 93.78%. 802.11ad received 41 comments, 27 technical and 14 editorial, and the BRC has addressed all comments.

#### Already started fifth Recirculation WG, closes November 24th. Asking ExCom Friday for conditional approval to publish.

#### Requesting approval to form an 802.11 Study Group to establish a forum for developing the procedural framework, clarifying the technical goals, and developing a PAR and five criteria focused on CWPAN (Chinese 60GHz) extensions to P802.11ad

### 802.11 TGae QoS MAN

#### Fourth Recirculation WG Ballot LB181 on draft 5.0 closed August 4, 2011. Results 182/7/35 96.30%. 802.11ae received 0 comments.

#### Initial Sponsor Ballot on draft 5.0 closed September 9, 2011. Results 110/6/7 94.83%. 802.11ae received 212 comments, and the BRC addressed all the comments.

#### First Recirculation Sponsor Ballot on draft 6.0 closed October 29, 2011. Results 115/5/7 95.83%. 802.11ae received 17 comments, and the BRC addressed all the comments.

#### Expecting to go out for recirculation Sponsor ballot soon

### 802.11 TGaf TV White Space

#### September: Resolved 242 comments; 902 of 1302 comments have Approved resolutions. Met with TGac PHY experts to discuss how TGaf can proceed prior to approval of the TGac draft – decided to create separate clause for TGaf PHY

#### November: Resolved 237 comments; 1168 of 1302 comments have Approved resolutions. New (old) PHY direction will bring back over 100 comments. Heard a PHY proposal from Ron Porat and Vinko Erceg. Group decided to adjust our PPV/O for PHY change: Changed: “In order to meet international requirements and facilitate the use of multiple contiguous or non-contiguous channels, use of TGac with changes for TGaf is our focus.” to “The starting point is to use the High Throughput PHY with scaling and modifications for the TV bands.” Revised the P802.11af timeline

### 802.11 TGah < 1GHz (sub 1GHz operation)

#### September 2011:-- Initial specification framework document adopted: 11-11-1137-02-00ah-specification-framework-for-tgah.docx; Contains some text on Bandwidth, channelization and spatial multiplexing

#### November 2011 ;-- Work continued on specification framework: 11-11-1137-03-00ah-specification-framework-for-tgah.docx, Modified South Korea channelization, Added support for a new frame format for a short beacon

#### Channel model document updated: 11-11-0968-02-00ah-channel-model-text.docx. Outdoor device to device path loss model added.

### 802.11 TGai fast initial authentication

#### September 2011: Approved TGai evaluation methodology document

#### November 2011: Listened to presentations of responses to call for submissions and general presentations. Approved Timeline

### 802.11 WNG Wireless Next Generations SC

#### Two presentations at September 2011 meeting: Proposed Use Case & Improve ad-hoc mode for 802.11ah/a/b/g/n (11-11-1138-01-00ah-packet-radio-mode-for-802-11ah-a-b-g-n.ppt) – Romana Challans; IP over Congested WLAN (11-11-1183-01-00ai-ip-over-congested-wlan.ppt) – Masataka Ohta;

#### Six presentations at November 2011 meeting: Flexibility on Channel Access Allocations (11-11-1485-00-0wng Flexibility on Channel Access Allocations.pptx) – Antonio de la Oliva; 802.11s Issues with Adhoc Mode in Mesh Networking (11-11-1492-00-0wng 802.11s Issues with Adhoc Mode in Mesh Networking.ppt) – Romana Challans; Network Throughput Improvement via Elaborate Clear-Channel Assessment, RF Output Power Control, & Time Slot Management (11-11-1461-00-0wng-transmit-power-control-for-increased-network-throughput.doc) – Lawrence Zuckerman; The better spectrum utilization for the future WLAN standardization (11-11-1464-02-0wng-the-better-spectrum-utilization-for-the-future-wlan-standardization.pptx) - Yasuhiko Inoue; Discovery of ESS Services (11-11-1507-02-0wng-discovery-of-ess-services) - Stephen McCann; Efficient Device and Service Discovery for Peer-to-Peer (P2P) scenarios (11-11-1517-00-0wng-efficient-device-and-service-discovery-for-peer-to-peer-p2p-scenarios.pptx) - Santosh Abraham

### JTC1/SC6 Ad-Hoc ISO/IEC JTC1/SC6

#### November 2011:

#### Review liaisons to SC6: Recently 11ae, 11aa, 11mb were liaised

#### Review status of WAPI in SC6 (802.11i replacement): Currently in NP comment resolution; IEEE 802 focused on removing claims about 802.11i security; Reviewed proposals from US & Swiss NBs; Next CRM on 21 Nov

#### Review status of 802.1X/AE and 802.16 security replacements; No progress. IEEE 802 focused on incorrect claims about 802.1X/AE and 802.16. Unknown if NP proposals will be made at next SC6 meeting

#### Review status of N-UHT (802.11ac replacement). Currently being considered as National Standards by MIIT; IEEE 802 focused on incorrect claims about 802.11n/ac and the threat to access to 5GHz spectrum in China; Unknown if NP proposal will be made at next SC6 meeting

#### Review plan for ISO/IEC 8802: Agreed to send IEEE 802 standards to ISO/IEC as long as IEEE 802 retains responsibility to maintain and extend. Letter in preparation for consideration by EC.

#### Select delegation for SC6 meeting: Will have prep meeting next week

### Regulatory Ad-Hoc

#### September 2011:

#### US: Forty-five day geo-location database trial begun September 19th; US House of Representatives looking to auction ALL spectrum;

#### Canada: TVWS Consultation. SMSE-012-11 Consultation on a Policy and Technical Framework for the Use of Non-Broadcasting Applications in the Television Broadcasting Bands Below 698 MHz

#### Ofcom: Geo-location database planning. Next steps: Consult on and publish Statutory Instrument (SI) to license-exempt TVBDs; Cooperate with industry partners to enable information on licensed services; Continue engagement with industry and EU regulatory and standards groups to developed harmonized approach. Trials running in three locations in the UK

#### UHT/EUHT Standards in China: UHT = Ultra-High Throughput (802.11n equivalent); EUHT = Enhanced Ultra-High Throughput (802.11ac equivalent); CCSA approval then application for ISO recognition. Claim to coexist with Wi-Fi; EUHT is LTE-like (TDD)

#### November 2011:

#### US: FCC 5 GHz rules changes update; NPRM due in December; Discussed FCC rules and multi-band operation planned in TGad, TGaf, TGai; John Notor discussed the waiver requested by Progeny for LMS in the 902 – 928 MHz band

#### Canada: TVWS Consultation update closed November 4th

#### Ofcom: Completing first round of TVWS trials; Meeting December 12th to discuss results, the day before the start of the next SE43 ( ) meeting

#### ETSI ERM TG11 meeting December 6 – 10 to review responses from PE on EN 300 328 revision to complete the work item

#### ETSI BRAN bringing sharing mechanisms adopted in EN 300 328 to EN 301 893 (5 GHz bands)

#### UHT and EUHT: China CCSA approved and passed the standards to MIIT; MIIT studying the responses from industry; USITO meeting Nov 14, 15 attended by FCC chair

## Meeting recess at 12:30PM

# Fourth Day WG Closing Plenary PM1 (1:30-3:30PM): Techwood; Thursday, November 10, 2011

## 802.21 WG Meeting called to order by Subir Das, Chair of IEEE 802.21WG at 1:40PM with agenda (21-11-0169-03) and closing report (21-11-0191-00)

## 3GPP Status (21-0189-01) is presented by Farrokh Khatibi

### Rel-10

#### Stage 2 frozen Sep 2010

#### Stage 3 frozen Mar 2011 (exceptions concluded at TSG#53, Sep 2011)

### Rel-11

#### Stage 1 frozen Sep 2011 (no exception requested at SA#53, Sep 2011)

#### Stage 2 freezing Mar 2012 (SA2 prioritization at SA#53, Sep 2011)

### Stage 3 freezing Sep 2012

#### Rel-12

#### Started Sep 2011 at SA#53.

### SA performs prioritization by operators

## WiMAX Forum update is presented by Dan Gal

### WiMAX is dwindling down. It is losing its major sponsors.

## 802.16 Liaison report (21-11-0190-00) is presented by Dan Gal

### Current IEEE 802.16 projects and activities

#### Active Task Groups:

802.16n – GRIDMAN – high reliability enhancements to 802.16 standard

802.16p – Machine to Machine (M2M) protocol enhancements to 802.16e and 802.16M

802.16PPC – project planning committee and new projects study group

802.16Maint – IEEE 802.16 standard maintenance

ITU-R Liaison – IMT-Advanced support (WP5D)

### 802.16n – CRIDMAN

#### Continued to develop the draft amendment document p802.16n – aka AWD

#### A new draft will be generated out of this session

#### Very likely to start the WG Letter Ballot after the January 2012 session.

### 802.16p M2M TG

#### Currently, in the middle of WG Letter Ballot.

#### Continued to resolve comments on the 16p draft standard documents P802.16p/11-0033 and P802.16p/D1

#### Revised documents will be generated for the next cycle of the WG Letter ballot.

### 802.16 – PPC: Project planning

#### The HetNet (Heterogeneous Networks) study report has been updated this week.

#### There is a request to expand the scope of the HN report and include Multi-RAT operation.

#### A straw-poll in the TG, on the question whether or not to start efforts to formulate a PAR and 5C documents needed to initiate a new Standards development project, indicates significant support (14 yes, 0 no) by members.

#### The ITU-R Liaison requested that an IEEE 802.16 WG contribution be made to the ITU-R report on Cognitive Radio (Cognitive Radio aspects involves rapid sensing, identification and automatic selection of a RAT in a multi-RAT environment.) and be submitted for the WP-5A’s meeting in May 2012.

#### 802.16-PPC contributions are expected in the January 2012 meeting. See C80216ppc-11/0014r2 for more details.

### 802.16 – Maint : IEEE 802.16 standard maintenance

#### The TG continued to process and approve change requests (CRs) made mostly by the WiMAX Forum.

#### Has been working on resolving WG Letter Ballot comments of the “two-book” split of the 802.16 Standard: P802.16-Rev3 and P802.16.1 (containing the 16m – IMT-Advanced –amendment).

## Package for motion for a conditional approval to forward the IEEE P802.21a and b is presented by Subir Das.

### It describes the results of SB and SB resolution.

### WG Motion: Move to authorize the P802.21 WG Chair to make a motion to the IEEE 802 EC for conditional approval to forward the IEEE802.21a Draft to the IEEE-SA RevCom

#### Move by: Yoshihiro Ohba

#### Second by: Anthony Chan

#### For/Against/Abstain: 10/0/0

#### Motion passes

### Motion for conditional approval to forward the IEEE 802.21a to the IEEE-SA RevCom has been prepared.

### It describes the results of SB and SB resolution.

### WG Motion: Move to authorize the P802.21 WG Chair to make a motion to the IEEE 802 EC for conditional approval to forward the IEEE802.21b Draft to the IEEE-SA RevCom

#### Move by: Antonio de la Oliva

#### Second by: Lily Chen

#### For/Against/Abstain: 10/0/0

#### Motion passes

### Motion for conditional approval to forward the IEEE 802.21b to the IEEE-SA RevCom has been prepared.

## 802 straw poll for lunch at March plenary

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | yes | no |
| Choice 1:  | Lunch provided, ($200 meeting fee increase) : | 0 | 12 |
| Choice 2: | Lunch provided, ($100 meeting fee increase, plus subsidy from the 802 Operating Reserve)  | 7 | 3 |
| Choice 3: | Grab and go lunch - paid for by the attendee -- (unknown specific cost -- 802 minimum guarantee) | 0 | 12 |
| Choice 4: | Extend lunch time (WG basis/choice) to allow folks to go to the hotel restaurants or malls that are about 1 mile away | 5 | 0 |

## IETF liaison report (21-11-0192-00) is presented by Yoshihiro Ohba

### HOKEY WG

#### The Local Domain Name DHCP Option**:** draft-ietf-hokey-ldn-discovery-10**;** Status: RFC Ed queue

#### EAP Re-authentication Protocol Extensions for Authenticated Anticipatory Keying (ERP/AAK). draft-ietf-hokey-erp-aak-06**:** Status: Proto write-up submitted

#### Handover Keying (HOKEY) Architecture Design**:** draft-ietf-hokey-arch-design-08**;** Status: under IETF last call

#### EAP Extensions for EAP Re-authentication Protocol (ERP)**:** draft-ietf-hokey-rfc5296bis-05; Status: Under WG last call

### MEXT WG

#### Home Agent reliability: I-D. ietf-mip6-hareliability; ended WG Last Call

#### TLS-based MIPv6 Security Framework for MN to HA Communication: draft-ietf-mext-mip6-tls. Status: I-D exists

#### Firewall: draft-ietf-mext-firewall-admin-05; draft-ietf-mext-firewall-vendor-05

#### Distributed Mobility Management:

draft-liu-mext-distributed-mobile-ip-00

draft-liu-dmm-pmip-based-approach-00

draft-patil-mext-dmm-approaches-02

draft-bernardos-mext-dmm-cmip-00

draft-sarikaya-mext-multicastdmm-04

draft-sjkoh-mext-pmip-dmc-03

draft-chan-distributed-mobility-ps-05

draft-bernardos-mext-dmm-pmip-01

draft-perkins-dmm-matrix-02

draft-kuntz-dmm-summary-01

#### Others

draft-yokota-mext-ha-init-flow-binding-00

draft-perkins-mext-sffexts-00

draft-perkins-mext-gtpdata-01

draft-perkins-mext-hatunaddr-02

### NETEXT WG

#### LMA Redirection: I-D. draft-ietf-netext-redirect-12. Status: RFC Ed Queue

#### Localized Routing: Localized Routing for Proxy Mobile IPv6: draft-ietf-netext-pmip-lr, Status: Submitted to IESG for Publication.

#### Bulk refresh: I-D.ietf-netlmm-bulk-re-registration; Status: Ended WG Last Call

#### RADIUS support for PMIPv6: I.D. ietf-netext-radius-pmip6; Status: Competed WG Last Call

#### Flow mobility & Inter-technology handover support documents. I. D.ietf-netext-logical-interface-support (Applicability). Status: I-D exists

#### New works (accepted as WG items)

draft-ietf-netext-pmipv6-flowmob

draft-ietf-netext-pd-pmip

draft-ietf-netext-access-network-option

draft-ietf-netext-pmipv6-sipto-option

## 802.21c report (21-11-0167-01) is presented by TG Chair, Junghoon Jee

### 2 sessions during the week: Wed AM2 and PM2

### Proposal Discussion

#### 21-11-0188-00-srho, IEEE 802.21c Draft Update, Anthony Chan (Huawei)

#### 21-11-0186-00-srho, Proactive Pull Key Distribution for IEEE 802.21c, Antonio de la Oliva (UC3M)

#### 21-11-0187-00-0000, - Access Information Database Design for 4G, Subir Das (Telcordia) on behalf of Charles E. Perkins (tellabs)

#### 21-11-0179-00-srho, IEEE 802.21c Protocol Design Consideration, Hyunho Park (ETRI)

#### Outputs : Consensus on the updated proposal 21-11-0188-00 .

### 2 teleconference has been scheduled

#### December 13, 2011 22:00 ET

#### January 11, 2012 10:00 ET,

## Input to 802 strategic discussion on Sunday

#### Ajay Rajkumar will represent the WG to attend the 802 meeting on Sunday. Please give him input to: Is it time to reorganize 802? Should we widen the scope of 802: Should we revise membership criteria?

## Teleconference schedule

### 802.21a comment resolution committee

#### Dec 15, 2011 10 ET

#### Dec 22, 2011 10 ET

### 802.21c TG

#### 10.8.3.1 December 13, 2011 22:00 ET

#### 10.8.3.2 January 11, 2012 10:00 ET

### Future planning

#### Will be announced

## Future session information

### Interim: 15-20 January 2012, Jacksonville, Florida

#### Meeting co-located with all 802 wireless groups

### Plenary: 11-16 March 2012, Big Island, Hawaii

#### Co-located with all 802 groups

### Interim: 14-17 May 2012 (target), TBD

#### Meeting co-located with 802.16 or with other wireless groups (possibility)

### Plenary: 15-20 July 2012, Grand Hyatt Manchester, San Diego, CA

#### Co-located with all 802 groups

### Interim: 10-13 September 2012 (target), TBD

#### Meeting co-located with 802.16 or with other wireless groups (possibility)

### Plenary: 11-16 Nov 2012, Grand Hyatt, San Antonio, TX

#### Co-located with all 802 groups

## Adjourn at 3:40PM until Jan 2012 Interim in Jacksonville

# Attendance

|  |  |
| --- | --- |
| Chan, Anthony | Huawei Technologies  |
| Chaplin, Clint | Samsung |
| Chen, Lily  | NIST |
| Chiu, Ran-Fan | Hewlett-Packard Company  |
| Delgado, Antonio | Universidad Carlos III Madrid |
| Gal, Dan  | Alcatel- Lucent  |
| Jee , Junghoon | Electronics and Telecommunications Research Instititute (ETRI) |
| Khatabi, Farrokh  | Qualcomm Incorporated |
| Kim, Junghun | Telecommunications Technology Association (TTA) |
| Lee, Jae | Dongguk University, Korea  |
| Lynch, Michael  | MJ Lynch and Associates, LLC |
| Marks, Roger | Consensii LLC |
| Ohba, Yoshihiro  | TOSHIBA Corporation |
| Park, Changmin  | Electronics and Telecommunications Research Institute (ETRI) |
| Park, Hyunho  | Electronics and Telecommunications Research Instititute (ETRI) |
| Perkins, Charles  | Tellabs  |
| Rajkumar, Ajay  | Alcatel Lucent  |
| Shellhammer, Steve  | Qualcomm Incorporated |
| Zuniga, Juan Carlos  | InterDigitial Corporation  |

 

IEEE P802.21 Media Independent Handover Services

Tentative Meeting Minutes of the IEEE P802.21c Single Radio Handover Task Group in November 2011 Interim

Chair: Junghoon Jee

Vice Chair: Anthony Chan

Secretary: Hyunho Park

Editor: Dapeng Liu

# Third Day AM2 (10:30AM-12:30PM): Techwood; Wednesday, November 9, 2011

## Meeting is called to order by Junghoon Jee, chair of 802.21c TG, with agenda 21-11-0167-00

## Draft 802.21c proposal (21-11-0188-00) is presented by Anthony Chan.

It is suggested to amend the session on target radio operation between MN and target network for link configuration during handover to reduce handover latency. For link configuration, the previous target link was virtual link, but the new proposal clarified that the target radio can transmit and receive with a lower priority than the source link. The meeting discussed conditions of target radio operation for link configuration. To determine the conditions for the target radio operation, interference between source and target radios was considered.

## Proposal (21-11-0187-00) by Charles Perkins is presented by Subir Das.

The proposal suggested a local caching mechanism. The local caching provides access information on behalf of the access information database (AIDB). Local caching needs incorporation between databases and can reduce latency and overhead of handover. For local caching, policy for the different information repositories between different networks such as 3GPP and IEEE networks was discussed.

## Proposal on Proactive Pull Key Distribution for IEEE 802.21c (21-11-0186-00) is presented by Antonio de la Oliva

This proposal suggests a push mechanism of the key from the serving PoS to the target PoS. The mechanism expects reducing the handover delay. Related with this mechanism, it extends the existing MIH\_LL\_Auth primitive and suggested the new MIH\_N2N\_LL\_Auth primitive. The chair of IEEE 802.21c recommended this work would cooperate with SFF scheme of Dr. Perkins.

# Third Day PM2 (4-6PM): Techwood; Wednesday, November 9, 2011

## Meeting is called to order by Junghoon Jee, chair of 802.21c TG, with agenda 21-11-0167-00

## 802.21c protocol design considerations (21-11-0179-02) is presented by Hyunho Park

Mr. Park explained the protocol stacks of IEEE 802.21c and reviewed the primitives and protocol of IEEE 802.21-2008 and R9 protocol of WiMAX forum, and dealt with consideration for IEEE 802.21c protocol design. There was a question about difference between service access points (SAPs) between IEEE 802.21 and IEEE 802.21c. Mr. Park answered SAPs for IEEE 802.21c requires encapsulation of target protocol, but IEEE 802.21 does not require the encapsulation.

## Update to draft 802.21c proposal (21-11-0188-00) is presented by Anthony Chan

### Motion: To accept to incorporate the texts in the proposal, “21-11-0188-00-srho, 802.21c Proposal” into the TGc framework document “21-10-0025-02, 802.21c draft template”.

#### Moved by: H Anthony Chan

#### Second: Antonio de la Oliva

#### Motion passes with unanimous consent

## Conference call schedule:

December 13 22:00 ET,

Jan 11, 2011 10:00 ET.