 

IEEE P802.21 Media Independent Handover Services

Tentative Minutes of the IEEE P802.21 Working Group

Session #47 Meeting, Bangkok, Thailand

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 September 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 #46 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 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-recir 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-recir 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 Yohsihiro 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 from the following information from the opening 802 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 sproof a broadcast handover message is rejected for being out of scope of 802.21b.

## 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 resolution 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 |
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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 Yohsihiro 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 mechansism 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 schedule to propose extension of 802.11u to discovery of ESS IEEE802.11-11/1514r0. 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 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 to extend 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 split between one using direct link and one using the via link. There is ongoing work to merge the 2 different MAC

#### 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 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 needed to proceed

### 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 10PM

# 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 resolution 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 |
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| **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. Proir 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