 

IEEE P802.21 Media Independent Handover Services

Minutes of the IEEE P802.21 Working Group (DCN 21-17-0063-00-0000)

Session #83 Meeting, Orland, FL, USA

Chair: Subir Das

Vice Chair: Hyeong-Ho Lee

Meeting minutes are scribed by Yoshikazu Hanatani.

# Day 1 PM1 (1:30pm-3:30pm), November 6 2017: Room Caribbean VII

## IEEE 802.21 WG Opening Plenary: Meeting is called to order at 2:20pm by Subir Das, Chair of IEEE 802.21 WG with opening notes

## November, 2017 Meeting Agenda (DCN: 21-17-0053-00-0000)

### Agenda bashing:

#### Agenda was modified by moving the WG closing plenary session from AM2 to AM1 (9:00~10:00) on Thursday, November 09, 2017.

#### The revised agenda (DCN: 21-17-0053-01-0000) was approved without any objection.

## IEEE 802.21 Session #83 Opening Plenary Notes (21-17-0060-00-0000)

### Meeting logistics: Meeting room Bonaire 4; JTC1/SC6 Ad hoc: Bonaire 3

### <http://mentor.ieee.org/802.21/documents>

### Attendance procedures, logistics, breaks

### Duty to inform slides 1-4, etc.

### Request to make Intellectual Property declaration

#### No one declared any patent claims in this session

### LMSC Chair’s Guidelines on Commercialism at meetings

## Working Group Status

### P802.21-2017/Cor1 - Corrigenda Project

#### It is on the Revcom’s December, 2017 Agenda

### IEEE 802.21-2017 and IEEE 802.21.1-2017 Standards are submitted to ISO/IEC JTC1/SC6 for consideration under PSDO process.

#### The 5-month FDIS Ballot on IEEE 802.21-2017 started and will close on 27 February, 2018.

#### The 5-month FDIS Ballot on IEEE 802.21.1-2017 started and will close on 14 March, 2018.

## Working Group Objectives for September meeting

### Work/Discussion on

#### Approval of IEEE 802.21-2017/Cor1 Draft submission to ISO/IEC JTC1/SC6

#### Discussion on network requirements w.r.t. to the liaison from IEEE P3079

#### Next Steps

## Working Group Chair reported 802 EC #117 Meeting updates

## Session #82 minutes (DCN: 21-17-0050-00-0000) was approved without any objections.

## Teleconference minutes will be submitted for approval.

## Meeting was adjourned at 3:35pm

# DAY 2 AM2 (10:30am-12:30pm), PM2 (4:00pm-6:00pm), November 7, 2017: Room Bonaire 4

## Meeting is called to order at 10:30am by Subir Das, Chair of IEEE 802.21 WG

## Discussion on the difference between Virtual Reality and Mixed Reality

### Sangkwon Peter Jeong presented “Introducing for Virtual Reality” (DCN 21-17-0055-00-0000). Discussion took place along the following points:

#### Differences of Reality, Mixed Reality, and Virtual Reality are introduced.

#### Does the VR contents service always require a network connection?

#### It depends on a type of VR contents service. For example, a meeting system in VR contents always requires mutual communication.

### Dongil Dillon Seo presented “Understanding the differences between MR & VR” (DCN 21-17-0058-00-0000)

#### Network requirements of Virtual Reality must be stricter than network requirements of Mixed Reality.

#### The cause of motion sickness using VR contents is the sensory conflict between perceived motion and physical state. To prevent the motion sickness, very high quality VR contents are required.

#### Network requirements for the VR contents will be described in the whitepaper.

## Discussion on requirements for Wireless VR service and capabilities of candidate technologies.

### Minseok Oh presented “Standards and Requirements for Wireless VR” (DCN 21-17-0059-02-0000)

#### Capability of IEEE 802.11ay and IMT-2020 are introduced.

#### Requirements for VR service described in IEEE 802.11ay, MPEG m39532 and DCN 21-16-0097-0000 are introduced.

#### A Table summarized requirements for VR content services and capability of candidate requirements is presented.

#### WG chair encouraged to update the table comparing the requirements of the IEEE P3079 and the corresponding candidate technologies.

## Discussion on the whitepaper of HMD-based VR contents service

### Dongil Dillon Seo presented “White Paper for Use cases and Network Requirements for enabling HMD based 3D Content Motion Sickness Reducing Technology” (DCN 21-17-0054-04-0000)

#### WG members reviewed five use cases described in the whitepaper.

#### WG Chair suggested adding a table described the requirements, current status of candidate technology, e.g., wired, wireless, sensor, and cellular.

#### Minseok Oh pointed out an inconsistency between a sentence in 4.1.2.3 and a network topology of the use case.

#### For discussion in day 3, WG Chair requested WG members to review the entire whitepaper.

## WG Motion

#### Move to authorize the P802.21 WG Chair to submit Draft IEEE 802.21-2017/Cor1 -D02 to ISO/IEC JTC1 SC6 for information under the PSDO agreement

#### Motion passed (6/0/0) (Full details are available in 21-17-0062-00-0000)

#### Background: WG Chair confirmed IEEE-SA liaison Jodi Haasz that Draft IEEE 802.21-2017/Cor1 shall be also send to ISO/IEC JTC1/SC6.

## Meeting was adjourned at 05:21pm

# DAY 3 AM2 (10:30am-12:30pm), PM1 (1:30pm-3:30pm), November 8, 2017: Room Bonaire 4

## Meeting is called to order at 10:30am by Subir Das, Chair of IEEE 802.21 WG

## Continue discussion on the whitepaper of HMD-based VR contents service

### Dongil Dillon Seo submitted updated whitepaper (DCN 21-17-0054-05-0000)

### Yoshikazu Hanatani proposed a Table to specify the missing technologies for the VR service.

The table is based on DCN 21-17-0059-02-0000.

#### WG members discussed the network requirements based on the table.

#### The use case in 4.2.2, the requirement of device mobility for LAN should be 4km/h since the bullet train may be moved but a device is not moved in the LAN of the train.

#### The meaning of distance is different between the use cases.

#### Sangkwon Peter Jeong provided a diagram of network topologies of the use cases to clarify the distance.

#### To define the QoS requirement, identification of network categories supporting the use cases are required.

#### When data cliff is occurred, a contents header file may be lost, and it will be the cause of motion sickness since it reduces a quality of VR contents. To discuss a requirement for handover for avoiding the data cliff, understanding the frequency of the content header file transmission is important.

#### WG members discussed on elements of the network requirements.

#### Why are Resolution and Frame rates removed from the Table?

#### Yoshikazu Hanatani said Resolution and Frame should be translated into Bitrate and so on. We should extract network requirements from the requirements of IEEE P3079 for avoiding the motion sickness.

#### WG members agreed on parameters included in the table.

#### Requirements proposed by IEEE P3079

#### Capability of candidate technology categorized by wireline, wireless etc.

#### The Table will be added for each use cases.

## Report on ISO/IEC JTC 1/SC 6 meeting

### WG chair presented a report from Hyeong-Ho Lee “Report on ISO/IEC JTC 1/SC 6 meeting” (DCN 21-17-0056-00-0000)

Current status of FDIS ballots

FDIS Ballot for ISO/IEC/IEEE FDIS 8802-21 has opened and will close on 27 February, 2018.

FDIS Ballot for ISO/IEC/IEEE FDIS 8802-21-1 has opened and will close on 14 March, 2018.

#### Ad-hoc Group on Security (AHGS) is reconstructed.

Andrew Myles, Peter Yee, will participate the AHGS as experts from the IEEE 802 and Jodi Haasz will participate as IEEE-SA liaison.

## Meeting was adjourned at 3:30pm

# Day 4 AM1 (08:00am-10:30am), November 9, 2017: Room Bonaire 4

## 802.21 WG Closing Plenary: Meeting is called to order at 09:00am by Subir Das, Chair of IEEE 802.21WG

## IEEE 802.21 Session #83 Closing Plenary Report (DCN: 21-17-0062-00-0000)

## Work Update

#### Report on ISO IEC JTC1/SC6 October/November, 2017 Meeting

#### [https://mentor.ieee.org/802.21/dcn/17/21-17-0056-00-0000-report-on-iso-iec-jtc-1-sc-6-meeting.pptMet with ISO/JTC1/SC6](https://mentor.ieee.org/802.21/dcn/17/21-17-0056-00-0000-report-on-iso-iec-jtc-1-sc-6-meeting.pptMet%20with%20ISO/JTC1/SC6)

#### Presentation on P3079 activities

#### <https://mentor.ieee.org/802.21/dcn/17/21-17-0055-00-0000-introducing-for-virtual-reality.docx>

#### <https://mentor.ieee.org/802.21/dcn/17/21-17-0058-00-0000-understanding-the-differences-between-mr-vr.pptx>

#### <https://mentor.ieee.org/802.21/dcn/17/21-17-0059-02-0000-standards-and-requirements-for-wireless-vr.ppt>

#### <https://mentor.ieee.org/802.21/dcn/17/21-17-0054-04-SAUC-white-paper-for-use-cases-and-network-requirements-for-enabling-hmd-based-3d-content-motion-sickness-reducing-technology.docx>

#### <https://mentor.ieee.org/802.21/dcn/17/21-17-0054-05-SAUC-white-paper-for-use-cases-and-network-requirements-for-enabling-hmd-based-3d-content-motion-sickness-reducing-technology.docx>

## WG Motion (Full details are available in 21-17-0069-00-0000)

##### Move to authorize the P802.21 WG Chair to submit Draft IEEE 802.21-2017/Cor1 -D02 to ISO/IEC JTC1 SC6 for information under the PSDO agreement. (6/0/0)

## Teleconference minutes (DCN: 21-17-0061-00-0000) was approved without any objections.

## Teleconferences

#### Friday, December 01, 2017, 7:00-8:00 am, US EST

#### Monday, December 04, 2017, 7:00-8:00 am, US EST

#### Tuesday, December 19, 2017, 7:00-8:00 am, US EST

## January 2017 Interim Meeting Logistics

### IEEE 802 Wireless Interim Meeting, January , 2018

* + Meeting Venue: Hotel Irvine, California, USA.
  + Event Information: <http://802world.org/wireless/>
  + Registration: <http://www.regonline.com/january2018ieee802wirelessinterim>

### Registration Fees and Deadlines

* + Early Registration
    - $US 650.00 for attendees staying three (3) or more nights at the Hotel Irvine

otherwise US $950.00

* + - Deadline: 6:00 PM Pacific Time, Friday, December 08, 2017
  + Standard Registration
    - $US 850.00 for attendees staying three (3) or more nights at the Hotel Irvine otherwise $US 1150.00 for all others
    - Deadline: 6:00 PM Pacific Time, Friday, December 29, 2017
  + Late/On-site Registration
    - $US 1050.00 for attendees staying three (3) or more nights at the Hotel Irvine otherwise $US 1350.00
    - After: 6:00 PM Pacific Time, Friday, December 29, 2017

### Hotel Reservations

* + <https://aws.passkey.com/go/IEEE802W2018>
  + IEEE 802 Room Rates
    - Single/Double Occupancy\*: $US 179.00 per night;
    - IEEE 802 Group Rate Deadline: Friday, December, 2017, 5:00 PM PST

## Future Sessions – 2018

### Interim: January 15-20, 2018, Hotel Irvine, Los Angeles, CA, USA

* + Co-located with all 802 groups

### Plenary: March 04-09, 2018, Hyatt Regency O’Hare, Rosemont, Illinois, USA

* + Co-located with all 802 groups

### Interim: May 06-11, 2018, Marriott, Warsaw, Poland

* + Co-located with all wireless groups

### Plenary: July 8-13, 2018, Manchester Grand Hyatt, San Diego, CA, USA

* + Co-located with all 802 groups

### Interim: September 09-14, 2018, Hilton Waikoloa Village, Kona, HI, USA, 802 Wireless Interim Session.

* + Co-located with all 802 wireless groups

### Plenary: November 11-16, 2017, Marriott Marquis Queen’s Park, Bangkok, Thailand

* + Co-located with all 802 groups

## The meeting was adjourned at 09:50am

# Attendance

|  |  |
| --- | --- |
| Das Subir | Vencore Labs |
| Goldberg Jonathan | IEEE-SA Manager |
| Hanatani Yoshikazu | Toshiba Corporation |
| Jeong Sangkwon Peter | JoyFun Inc. |
| Oh Minseok | Kyonggi University |
| Seo Dongil Dillon | VoleR Creative |
| Takazoe Tomoki | Panasonic Corporation |