 

IEEE P802.21 Media Independent Services

Minutes of the IEEE P802.21 Working Group (DCN 21-18-0043-00-0000)

Session #86 Meeting, San Diego, CA, USA

Chair: Subir Das

 Vice Chair: Hyeong Ho Lee

Meeting minutes are scribed by Hyeong Ho Lee

# Day 1 PM1 (1:30pm-3:30pm), July 9, 2018: Room Torrey Hills A (3rd Level)

## IEEE 802.21 WG Opening Plenary: Meeting is called to order at 1:30pm by Subir Das, Chair of IEEE 802.21 WG with opening notes

## July, 2018 Meeting Agenda (DCN: 21-18-0032-01-0000)

### Agenda bashing:

#### Agenda was modified by adding Nendica Sessions that will be held on Monday and Tuesday evening time slots (7:30-9:30p).

#### The revised agenda (DCN: 21-18-0032-01-0000) was approved without any objection.

## IEEE 802.21 Session #86 Opening Plenary Notes (21-18-0035-0000)

### Meeting logistics: Meeting room Torrey Hills A (3rd Level); JTC1/SC6 Ad hoc: Bankers Hill (3rd Level); Nendica Seaport F (2rd Level)

### <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

### ISO/IEC/IEEE 802.21 and ISO/IEC/IEEE 802.21.1 are published in April, 2018

### ISO/IEC/JTC1 SC6 DCOR (Draft Technical Corrigendum) ballot on IEEE-802.21-2017/Cor1 is approved with comments

### Ongoing discussions in Interest Group on Network Enablers for Seamless HMD based VR Content Service

## Working Group Objectives for July meeting

### Discuss ISO/IEC/JTC1 SC6 DCOR ballot comments on IEEE Std 802.21-2017/Cor1

### Preparation for submitting ballot response comments to ISO/IEC/JTC1 SC6

### IG discussion on Network Enablers for Seamless HMD based VR Content Service

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

### Next Steps

## Session #85 minutes (DCN: 21-18-0028-00-0000) was approved without any objections.

## Teleconference minutes (DCN: 21-18-0030-00-0000) was approved without any objections.

## Working Group Chair reported 802 Wireless Chairs’ Meeting updates (DCN: ec-18-0128-WCSC) and IEEE EC opening plenary meeting updates.

#### IEEE 802.18 WG is discussing new regulatory issue for 6GHz unlicensed band and IEEE 802.19 voted on coexistence issues between IEEE 802.11ax and IEEE 802.15.3 UWB.

#### Contribution on the use of Wi-Fi for the video gaming will be presented in the IEEE 802.11 WNG SC session.

#### IEEE EC leadership workshop will be held on Saturday, July 14, 2018. The EC workshop normally holds in every other year.

#### Chair mentioned IEEE 802 EC Chair’s office hours and members are welcome to participate.

## Discussion of ISO/IEC/JTC1 SC6 DCOR ballot comments on IEEE Std 802.21-2017/Cor1

#### Hyeong Ho Lee presented voting result of ISO/IEC JTC1 SC6 DCOR ballot on IEEE Std 802.21-2017/Cor. 1 (DCN: 21-18-0031-00).

#### ISO/IEC JTC1 SC6 DCOR ballot on IEEE Std 802.21-2017/Cor. 1. is approved with the P-members voting of 17 P-Members (5 Yes, 12 Abstention).

#### China NB casted ‘Abstention’ vote with negative comment related on IEEE 802.1X-2010.

#### The WG Chair presented a draft liaison document responding to China NB’s comment, and the WG discussed the draft liaison reply to China NB comments on the DCOR ballot on IEEE Std 802.21-2017/Cor 1-2017 (DCN: 21-18-0036-00).

## IG discussion on Network Enablers for Seamless HMD based VR Content Service

#### The IG Chair mentioned that the goal of the IG this week is to make progress in drafting the white paper. The detailed plan for the IG sessions will be presented in tomorrow’s opening IG session.

## Meeting was adjourned at 3:00pm.

# Day 3 PM1 (1:30pm-3:30pm), July 11, 2018: Room Torrey Hills A (3rd Level)

## Meeting is called to order at 1:33pm by Subir Das, Chair of IEEE 802.21 WG.

## Discussion on the draft text of Liaison Document to JTC1 SC6

#### WG Chair presented revised draft of Liaison document to reply to JTC1 SC6 on China NB comments on ISO/IEC JTC1/SC6 DCOR ballot on IEEE Std 802.21-2017/Cor 1.

#### WG reviewed the draft and produced final draft with editorial corrections on it.

#### The final draft of Liaison document is uploaded on the mentor (DCN: 21-18-0036-01-0000).

## WG Motion (Full details are available in 21-18-0042-00-0000)

#### Move to authorize the P802.21 WG Chair to obtain IEEE 802 EC approval to forward the comment responses in <https://mentor.ieee.org/802.21/dcn/18/21-18-0036-01-0000-response-to-iso-iec-jtc1-sc6-committee-dcor-comments-on-ieee-std-802-21-tm-2017-cor-1.docx> to ISO/IEC JTC1/SC6, as responses to the comments received on the recent DCOR (Draft Technical Corrigendum) ballot on IEEE Std 802.21™-2017/Cor1.

#### WG vote: 7(Y)/0(N)/0(A)

## Meeting was adjourned at 2:20pm.

# Day 4 PM1 (01:30pm-03:30pm), July 12, 2018: Room Torrey Hills A (3rd Level)

## 802.21 WG Closing Plenary: Meeting is called to order at 01:37pm by Subir Das, Chair of IEEE 802.21WG

## IEEE 802.21 Session #86 Closing Plenary Report (DCN: 21-18-0042-00-0000)

## Interest Group Report

* + - * + IG on Network Enablers for seamless HMD based VR Content Service had four sessions.
				+ IG Chair, Jeong Sangkwon Peter, presented the IG report (DCN: 21-18-0041-01-0000).
				+ IG developed draft ‘Table of Contents’ for the white paper on Network Enablers for seamless HMD based VR Content Service (DCN: 21-18-0040-00-0000).
				+ IG developed diagrams for the white paper (DCN: 21-18-0039-02-0000).

## Work Update

#### Discussed the ISO/IEC/IEEE DCOR ballot comments on IEEE Std 802.21-2017/Cor1

#### Generated the response and submitted for EC approval

#### https://mentor.ieee.org/802.21/dcn/18/21-18-0036-01-0000-response-to-iso-iec-jtc1-sc6-committee-dcor-comments-on-ieee-std-802-21-tm-2017-cor-1.docx

#### After EC approval, the response will be communicated to ISO/IEC/JTC1 SC6 Secretary.

#### Interest Group on Network Enablers for seamless HMD based VR Content Service had four sessions and report is available at:

#### https://mentor.ieee.org/802.21/dcn/18/21-18-0041-01-0000-vr-ig-meeting-summary.ppt

## Teleconferences

#### Thursday, Aug. 30, 2018, 8-9 am, US EDT (9-10 pm, JST/KST)

## WG Motion (Full details are available in 21-18-0042-00-0000)

#### Move to authorize the P802.21 WG Chair to obtain IEEE 802 EC approval to forward the comment responses in <https://mentor.ieee.org/802.21/dcn/18/21-18-0036-01-0000-response-to-iso-iec-jtc1-sc6-committee-dcor-comments-on-ieee-std-802-21-tm-2017-cor-1.docx> to ISO/IEC JTC1/SC6, as responses to the comments received on the recent DCOR (Draft Technical Corrigendum) ballot on IEEE Std 802.21™-2017/Cor1.

#### WG Vote: 7(Y)/0(N)/0(A)

## September 2018 Wireless Interim Meeting Logistics

### IEEE 802 Wireless Interim Meeting: September 9-14, 2018

* + Meeting Venue: Hilton Waikoloa Village, Kona, HI, USA
	+ Event Information: http://802world.org/wireless/

### Registration Fees and Deadlines

* + Registration: https://www.regonline.com/september2018ieee802wirelessinterim
	+ Early Registration
		- $US 650.00 for attendees staying at the Hilton Waikoloa, otherwise $US 950.00
		- Deadline: Before 6:00 PM Pacific Time, Friday, July 27, 2018
	+ Standard Registration
		- $US 850.00 for attendees staying at the Hilton Waikoloa, otherwise $US 1150.00
		- Deadline: Before 6:00 PM Pacific Time, Friday August 31, 2018
	+ Late/On-site Registration
		- $US 950.00 for attendees staying at the Hilton Waikoloa, otherwise $US 1350.00
		- Deadline: After 6:00 PM Pacific Time Friday, August 31, 2018

### Hotel Reservations

* + EARLY RATE: $US 155.00/Night
		- Rate applies to first 40% of Room Block. Unfortunately gone.
	+ IEEE 802 RATE: $US 175.00/ Night
		- Extra Adults $US20.00 (plus applicable taxes) per adult, per room
	+ Please use this secure link for IEEE 802 Wireless Group Room Reservations: https://book.passkey.com/e/49513520

## Future Sessions – 2018

### 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

## Future Sessions – 2019

### Interim: January 13-18, 2019, Hilton St. Louis at the Ballpark (TBC)

* + Co-located with all 802 groups

### Plenary: March 10-15, 2019, Hyatt Regency Vancouver and Fairmont Hotel Vancouver, Vancouver, Canada

* + Co-located with all 802 groups

### Interim: May 12-17, 2019, Grand Hyatt Atlanta in Buckhead, Atlanta, Georgia, USA

* + Co-located with all wireless groups

### Plenary: July 14-19, 2019, Austria Congress Centre, Vienna, Austria

* + Co-located with all 802 groups

### Interim: September 15-20, 2019 - Marriott Hanoi, Hanoi Vietnam (TBC)

* + Co-located with all 802 wireless groups

### Plenary: November 10-15, 2019, Hilton Waikoloa Village, Kona, HI, USA,

* + Co-located with all 802 groups

## WG members discussed next steps and available options of the WG.

## The meeting was adjourned at 03:00pm

# Attendance

|  |  |
| --- | --- |
| Das Subir  | Vencore Labs |
| Hanatani Yoshikazu | Toshiba Corporation  |
| Jeong Sangkwon Peter | JoyFun Inc. |
| Khatibi Farrokh | Qualcomm Incorporated |
| Kim Namgi | Kyonggi University |
| Lee Hyeong Ho | Netvision Telecom Inc. |
| Oh Minseok | Kyonggi University |
| Seo Dongil Dillon | VoleR Creative |
| Shim Seonggu | TTA |
| Takazoe Tomoki | Panasonic Corporation |

 

IEEE P802.21 Interest Group on Network Enablers for Seamless HMD based VR Content Service

Meeting Minutes of the IEEE P802.21 Interest Group

Chair: Sangkwon Jeong

Editor: Dong Il Dillon Seo

# Meeting Minutes of the IEEE P802.21 Interest Group

## Tuesday, AM2 Meeting, July 10, 2018 (10:30 AM-12:30 PM)

## Meeting called to order by Chair at 10:30 AM

Chair presented DCN 21-18-0037-01-0000

Title: Meeting Agenda for Network Enablers for Seamless HMD based VR Content Service IG

Introduced new member, Seonggu Shim from TTA, to IG.

Presented the schedule and plan of IG sessions for this week.

Peter presented DCN 21-18-0033-00-0000

Title: Diagram for Network Enablers for Seamless HMD based VR Content Service

Described how the VR System works related to the motion-to-photon latency and how the system needs to achieve the latency less than 20ms.

IG members discussed the use cases and commented on the figure presented in DCN 21-18-0033-00-0000

Comments from Farrokh

* The diagram presented was good but needs to explain where the mobility plays a role.
* Need to explain the components where the latency is constant and fixed.
* Cover the case where the HMD is connected to the wireless network even though we have no physical product that represent the case.
* Consider the mobility of the network and perhaps create a separate category for mobility.
* Make sure that the whitepaper is comprehensible to the readers without any context on the VR use cases.
* Add the case where the connections ② and ⑤ are wireless.

Comments from Subir

* Identify the HMD device type to clarify the use case scenario.
* Consider the HMD device types – standalone device and dummy device – and organize the whitepaper accordingly
* Consider the mobility part as it will cover the network handover cases.
* Make sure the use case scenarios match with the use case diagrams.

Comments from Dillon

* Content developers always consider the current industry practices.
* Understand that the technology group needs to understand all possible cases.
* The whitepaper should require new organizing structure to be shortened and more comprehensive.

Comments from Minseok

* For the use case diagram, connection ③ and ④ need to be identified as WAN, not LAN

Meeting was adjourned at 12:30 PM

## Tuesday, PM2 Meeting, July 10, 2018 (4:00 PM-6:00 PM)

## Meeting called to order by Chair at 4:00 AM

Peter presented DCN 21-18-0037-0000 continually from the last session.

Title: Diagram for Network Enablers for Seamless HMD based VR Content Server

Continued to discuss the presentation left off from the previous session.

Comments from Subir

* Since we do not need to consider the case where the local content server is embedded in the HMD, we should only focus on the case where the HMD is connected to the local content server.
* The current diagram needs to be changed and new diagram is suggested.
* The content server and the remote server are defined differently in different cases as they are defined by the motion-to-photon latency.
* For the diagram, LAN can be either wired or wireless but WAN is always the combination of both wired and wireless. Hence, such distinction needs to be reflected in the diagram.
* Although we understand that the current version of whitepaper is only considering the actual industrial implementation, the whitepaper should include the future implementation; hence, include the cases for the future implementation.

Comments from Namki

* Using the terms such as local content server and remote content server may create unnecessary confusion since their functions are different in some use cases.
* Consider to use different terms for local content server and remote content server to reflect their functionality.

The whitepaper should be redrafted to reflect the changes made during the discussion.

Meeting was adjourned at 6:00 PM.

## Wednesday, PM1 Meeting July 11, 2018 (1:30 PM-3:30 PM)

**Meeting called to order by Chair at 2:20 PM**

Peter presented DCN 21-18-0039-00-0000

Title: New Diagrams for Network Enablers for Seamless HMD based VR Content Server

Revised diagrams for Network Enablers for Seamless HMD based VR Content Server are provided.

Comments from Subir

* Add the definitions for local content server and remote content server – perhaps the servers can be defined by the location of the server.
* Regarding the VR System diagrams, they should appear in the appendix.
* Anything that needs to be explained as a background information should be added to the appendix.
* Make the main body of the whitepaper concise and get to the point.
* The descriptions in the whitepaper should focus on the network issues.

Comments from Namki

* For the Display Type VR System diagram, consider to add the separate box called “Network Interface” to represent the connection 2 and 3 to clarify the network issues.

The meeting was adjourned at 3:00 PM.

## Wednesday, PM2 Meeting July 12, 2018 (10:30 AM-12:30 PM)

**Meeting called to order by Chair at 10:30 AM**

Chair presented DCN 21-18-0029-02-0000

Comments from Subir

* The terms and definition should be moved to the appendix.
* Create new table of contents to reorganize the thoughts.
* Revise the use case scenarios according to the new diagrams.
* “Section 7: Recommendation” should be the summary of the whitepaper and the proposal to the next step
* Network mobility should be treated separately.

Comments from Hyeong Ho

* Think about where the mobility section will be placed in the table of contents.
* Come up with a new diagram describing the mobility use case.

Comments from Dillon

* The newly revised white paper reflecting the discussed topic should be ready before two weeks prior to the group conference call.
* Recommend to read the new white paper before the conference call to provide any constructive feedback.
* Final version of white paper is targeted to be finished by the end of next IEEE 802 meeting in September.

The meeting was adjourned at 4:30 PM.

## Thursday, AM2 Meeting July 12, 2018 (10:30 AM-12:30 PM)

**Meeting called to order by Chair at 10:30 AM**

Peter presented DCN 21-18-0040-00-0000

Title: Table of Contents for Network Enablers for Seamless HMD based VR Content Service White Paper

Comment from Hyeong Ho

* How much of the old white paper content can be recycled?
* Who is going to be writing which sections?

Comment from Dillon

* New white paper will follow the new table of contents structure.
* New format will be used with revised language.

The meeting was adjourned at 11:10 AM