

Session #41 802.16mmr Closing Report – 01/12/06

IEEE 802.16 Presentation Submission Template (Rev. 8.3)

Document Number:

IEEE: 802_16mmr-06/003

Date Submitted:

2006-01-12

Source:

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Venue:

IEEE 802.16 Session #41, New Delhi, India

Base Document:

None

Purpose:

SG Meeting organization

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**Session #41 802.16mmr
Closing Report – 01/12/06
3rd Study Group Meeting on Mobile
Multi-hop Relay in IEEE 802.16**

Chair: Mitsuo Nohara

Time: 08:00 – 12:00, Tue. 10 – Thu. 12 Jan., 2006

**Place: Room A, ITC Hotel Maurya Shelaton and Towers,
New Delhi, India**

Objectives of this 3rd SG Meeting

- **To make the PAR and 5 Criteria on Mobile Multi-hop Relay**
 - **with contributions provided, referring to the 3rd call for comments and contributions,**
- **To refer and react to the comments from 802.1 to be reported by DJ Johnston joining the WG meeting being held in parallel,**
- **To Prepare for the 802 Tutorial to be held next March by making the draft presentation material, and**
- **To plan future activity and schedule towards the PAR and 5 Criteria Authorization at the next EC in Denver, Mar. '06.**

Outcomes

- **Made the PAR and 5 Criteria on Mobile Multi-hop Relay**
 - **with contributions provided, referring to the 3rd call for comments and contributions,**
- **Referred to the report given by DJ Johnston on comments from 802.1WG and found the WG to react and the SG to follow it,**
- **Started the preparation for the 802 Tutorial referring to the discussion base C802.16mmr-06/001 to be held next March by making the draft presentation material, and**
- **To plan future activity and schedule towards the PAR and 5 Criteria Authorization at the next EC in Denver, Mar. '06.**

Contributions

3rd Call for Comments and Contributions

Areas of activities:

- **Assess feasibility of Multi-hop Relay for fixed / mobile terminal including PHY/MAC modifications;**
- **Study the impact on PHY with enhancement of normal frame structure and backward compatibility with 802.16 TGe PMP mode;**
- **Study the impact on MAC protocols to be newly added for the relay networking including handover cases;**
- **Study spectral scenario including frequency reuse and interference among the links between Base station (BS) and Relay station (RS), and ones between RS and Mobile/Subscriber station (MS/SS);**
- **Study the security between BS and Mobile Subscriber station (MS) via RS;**

3rd Call for Comments and Contributions

Contribution Provisions:

In preparation for the third SG Meeting, further contributions addressing the above topics are requested. The contributions should provide:

- *Comments on the “Discussion Base on Draft PAR and Five Criteria,” (IEEE 802.16mmr-05/025)*
- *Technical issues relevant to a Tutorial Presentation to be held at the IEEE 802 Plenary of March 2006.*
- *Distinctions from other IEEE 802 standards and projects such as 802.1 on Spanning Tree and Bridge, 802.11s and 802.16h.*

Contribution Presentations

* List of 1st Authors:

- V** Mitsuo Nohara
- S** Mitsuo Nohara
- T** Jaeweon Cho
- T** I-Kang Fu
- T** Chie Ming Chou
- P** Roger Peterson
- V** Roger Peterson
- S** Masahito Asa
- P** Mike Hart
- P** David Steer
- V** Jose Costa

- S** Wen Tong
- S** Puneet Jain
- P** Mitsuo Nohara
- T** Changhoi Koo

P **S** : Day 1 (Tue.), 10-min. Presentation each

T **V** : Day 2(Wed.), 15-min. Presentation each

(15 Presentations in total)

• Each of those 15 Presentations will be categorized into:

- P** "PAR & 5 Criteria" / **S** Scope, Scenario and System Definition
- / **T** Technical Analysis and Design/ **V** Vocabulary & Tutorial

3rd SG Meeting Presentation Program – Day 1

*Contribution Presentation & Discussion on PAR & 5 Criteria, and Strategies

No.	Ref.	1 st Authour	Affiliation	Title
1	mmr-05_025	Mitsuo Nohara	*SG Document	Discussion Base for 802.16 Mobile Multi-hop Relay Study Group Draft PAR and Five Criteria
2	Cmmr-06_006	Roger Peterson	Motorola Labs.	Recommendations for the PAR and Five Criteria Mobile Multihop Relay Task Group
3	Cmmr-06_009	Mike Hart	Fujitsu Lab. of Europe	Comments on the Discussion Base on Draft PAR & Five Criteria Document
4	Cmmr-06_010	David Steer	Nortel	MMR PAR and Five Criteria draft
5	Cmmr-06_008	Masahito Asa	Motorola Japan	Relay Strategy of Broadcast Messages in Mobile Multihop Relay
6	Cmmr-06_012	Wen Tong	Nortel	Consideration of MMR Basic Networking Topology Constraints
7	Cmmr-06_014	Puneet Jain	ntel	roposed enhancements to IEEE802.16 MMR PAR and Five Criteria
8	Cmmr-06_002	Mitsuo Nohara	KDDI	Distinctions from IEEE802.1 projects

*Each presentation consists of 10-minutes presentation and 5-minutes discussion.

*Please state if there is any big issue and/or notes.

3rd SG Meeting Presentation Program – Day 2

*Contribution Presentation & Discussion on Technical Analysis, Terminology and Tutorial

o.	Ref.	1 st Authour	Affiliation	Title
1	Cmmr-06_003	Jaeweon Cho	Samsung	On the Throughput Enhancement of Fixed Relay Concept in Manhattan-like Urban Environments
2	Cmmr-06_004	I-Kang Fu	NCTU	Reverse Link Performance of Relay-based Cellular Systems in Manhattan-like Scenario
3	Cmmr-06_005	Chie Ming Chou	ITRI	Handover scenarios for 802.16 MMR
4	Cmmr-06_013	Changhoi Koo	Samsung T. America	Configuration Scenario for Multi-Hop Relay Network
	mnr-06_007	Roger Peterson	Motorola Labs.	Definition of terminology used in Mobile Multihop Relay
	mnr-06_011	Rose Costa	Intel	Vocabulary of Terms Related to the Mesh/Relay Networks
	mnr-06_001	Mitsuo Nohara	KDDI	Discussion Base for 802.16 Mobile Multi-hop Relay Tutorial draft

*Each presentation consists of 15-minutes presentation and 5-minutes discussion.

*Please state if there is any big issue and/or notes.

PAR and 5 Criteria Discussions

***see ref. 80216mmr-05/023**

Any notes:

MMR-SG Day 3 Agenda

(Morning Session) 08:00 – 12:00

- **Draft ready to review**
- **Items Definition**
- **802.1 interworking: Phil to join**
- **Discussions on the items**
- **Decision on each item**
- **Chair to revise the draft for the final review**

(Afternoon Session) time: 13:30 – 19:08

- **Do final review of PAR & 5 Criteria**
- **Mark-up of further study items**
- **Tutorial Preparation**
- **Related topics (when to submit, etc.,)**

Discussion Items

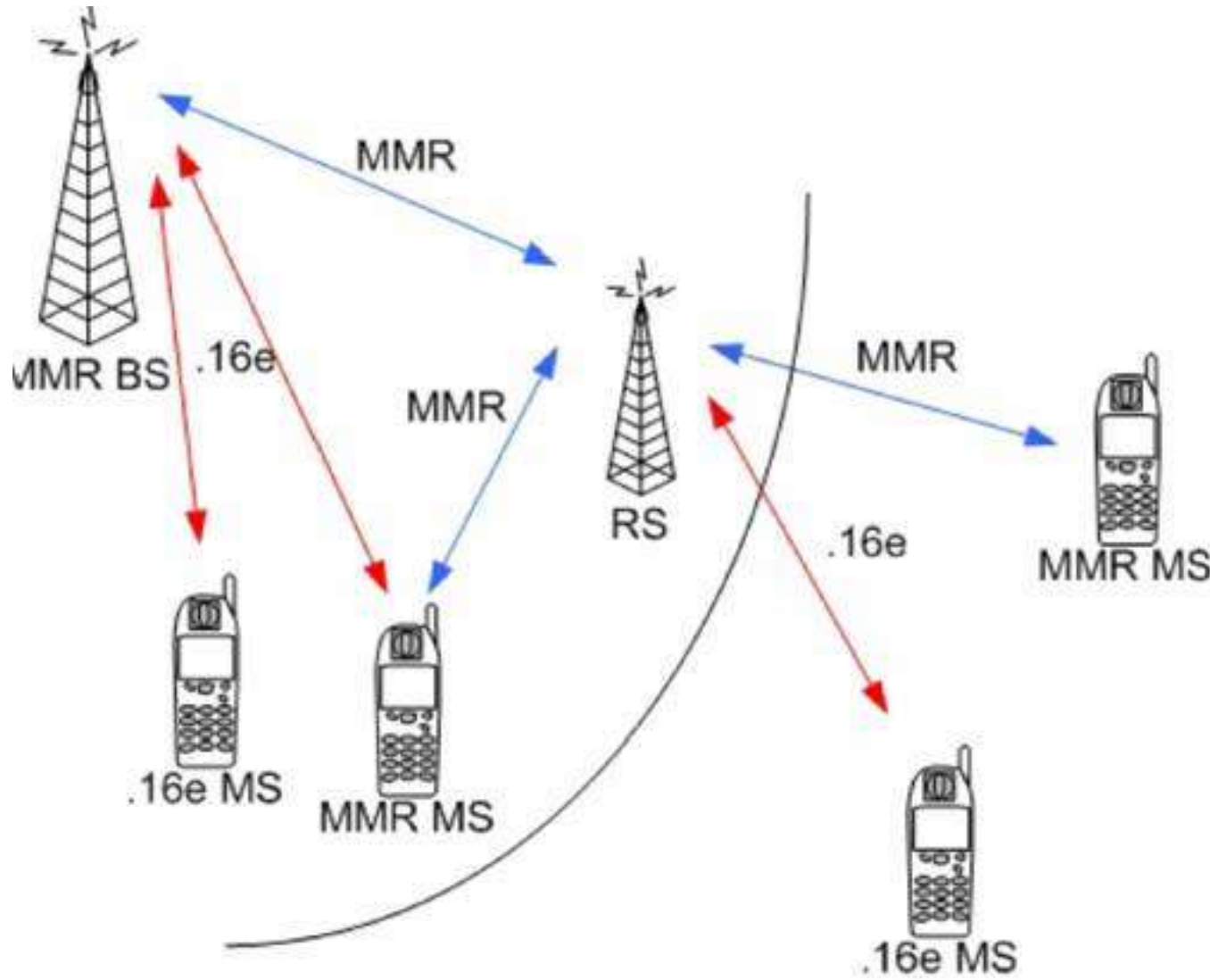
- **Merits: Coverage Extension and Throughput Enhancement**
- **Terminals:**
MMR-MS/SS with MMR functions and/or conventional .16 MS/SS?
*** Backward Compatible**
- **Link Topology:**
 - **Tree (allow multi-hop links), how about Mesh?**
 - **to connect a BS and MSs via a RS/RSs**
- **Modulation: OFDM and/or OFDMA(.16e)?**
- **Connection; Transparent and/or non-transparent?**
- **RS Type: Fixed / Nomadic / Mobile?**
- **Ownership/Control: Infrastructure / Client?**
- **Frequency: Licensed and/or un-licensed?**
- **Phased Approach: To take or not, in the former case, how?**

Each to be included in PAR/Notes?

Choice: include/not touch

Option: in the former case, where and how?

Discussion Items



Discussion items and straw-poll results

- Out of the topics listed, the following three items were examined with straw-poll on each. The results are as follows:
- (poll-1) Terminals that can talk with RS:

Option 1: MMR-MS/SS only	0 (0%)
Option 2: Conventional .16 MS/SS only	32 (86%)
Option 3: both MMR-MS/SS and Conventional .16 MS/SS	5 (14%)
- (poll-2) Modulation: OFDM and/or OFDMA(.16e)?

– Option 1: OFDMA only	33 (87%)
– Option 2: both OFDM and OFDMA	5 (13%)
- (poll-3) RS Type: Fixed / Nomadic / Mobile?

– Option 1: Fixed Only	7 (17%)
– Option 2: Fixed and Nomadic	13 (31%)
– Option 3: all fixed, nomadic and mobile	22 (52%)
- (poll-4) Proceed with three options?

- Yes	36 (100%)
- No	0 (0%)

Motion to SG

- **Motion : To approve the document to be named and uploaded as IEEE802.16mmr-06/002, as the draft PAR and 5 criteria for 802.16j.**
 - **Motion : ariel sharon**
 - **Second : jose puthenkulam**
 - **Motion passed with unanimous voice vote.**

Motion to SG

- **Motion : To forward the 802.16j draft PAR and 5 criteria in IEEE802.16mmr-06/002 as the recommendation of the study group.**
- **Motion : mike hart**
- **Second : roger peterson**
 - **For: 37**
 - **Against: 0**
 - **Abstain: 0**
 - **Motion Passed as counted above.**

Actions to Follow

- **To Submit the PAR and 5 Criteria Document to Nescom(29/Mar./2006) and EC(10/Mar./2006).**
- **To register and get the tutorial session slot in the coming IEEE802 plenary meeting in Mar. 2006.**
- **To prepare the presentation material for the tutorial session.**

Motion to SG

- **Motion : To empower study group chair to register plenary meeting to get tutorial session slot at his earliest opportunity using the current draft document and to organize a volunteer group to finalize the presentation program and material.**
 - **Motion : mitsuo nohara**
 - **Second : jaeweon cho**
 - **(voting) approved unanimously by voice vote**
- **Note: at the closing plenary, it was found that a Motion to proceed this is not required at the WG.**

Motion to WG

- **Motion : To forward the 802.16j draft PAR and 5 criteria in IEEE802.16mmr-06/002.**
- **Motion : Mitsuo Nohara**
- **Second : Jose Puthenkulam**
 - ***Motion carried as defined in the closing plenary agenda, instead of the motion shown above.**
 - See the closing plenary report for detail.**
 - As the result, motion passed.**
 - (For : 44, Against : 0, Abstain : 0)**

Future Activity and Schedule

Current Schedule

- PAR & 5 Criteria Preparation towards #42 Plenary

Year	Month	802.16 session	Actions
2005	July	#38 Plenary	Propose to form SG – Approved
	Sept.	#39 Interim	SG: the 1st meeting
	Nov.	#40 Plenary	SG: the 2nd meeting
2006	Jan.	#41 Interim	SG: the 3rd meeting – Complete a PAR
	Mar.	#42 Plenary	SG: the 4 th meeting 802 EC endorses PAR approval
	May	#43 Interim	TG: the 1st meeting
	July	#44 Plenary	TG: the 2nd meeting
	Sept.	#45 Interim	TG: the 3rd meeting
	Nov.	#46 Plenary	TG: the 4th meeting

To Do List

- **At This Meeting**
 - Completion of PAR & 5 Criteria (Contributions and Discussions)
 - Reactions to 802.1 comments – taken at the WG
- **After This Meeting towards Next #42 Meeting**
 - PAR & 5 Criterial Doc. Submission
 - Tutorial Registration and Material Preparation
- **At the Next #42 Meeting**
 - “PAR & 5 Criteria” for the EC Authorization
 - Tutorial Presentation on MMR-SG
- dot16 “forum” website: <http://dot16.org/forum/>

See you in Denver, CO.!

