Project	IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>	
Title	Meeting Minutes for 802.16's Mobile Multihop Relay Study Group	
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Re:		
Abstract	Meeting Minute of MMR SG	
Purpose		
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Minutes: 802.16 Working Group's Mobile Multihop Relay Study Group

IEEE 802.16 Session #41, New Delhi, India

Meeting was held from 10th January, 2006 to 12th January, 2006.

First Day meeting

At 8:25, 10th January 2005, the chair of MMR study group, Mitsuo Nohara, announced the start of MMR SG meeting during IEEE 802.16 Session #41 and provided the schedule of three day's morning meetings. Chair presented the opening report, 802.16mmr-05-001r2, including explanation on the scope of MMR SG session during India meeting and the report of the last Vancouver meeting.

Chair presented on the list of 15 contributions and plan for technical presentation and preparing the PAR and 5 Criteria. At first day 8 contributions for PAR and 5 Criteria and at second day 7 contributions for technical will be presented. Each presentation is expected to use 15 min for presentation and 5 min for discussion.

Chair presented on the future activity of MMR SG group completing PAR & 5 Criteria and reaction to 802.1 comments and information update of on review of PAR and 5 Criteria during 802.16's Session #42 for EC approval.

Chair presented on the "Discussion Base for 802.16 Mobile Multi-hop Relay Study Group Draft PAR and Five Criteria" (IEEE 802.16mmr-05/025).

Contribution presentations began from 9:05.

IEEE C802.16mmr-06/006
with title "Recommendations for the PAR and Five Criteria Mobile Multihop Relay Task Group" was presented by Roger Peterson from 9:05.

IEEE C802.16mmr-06/009r1
with title "Comments on the Discussion Base on Draft PAR & Five Criteria Document" was presented by Mike Hart from 9:35.

IEEE C802.16mmr-06/010
with title "MMR PAR and Five Criteria draft" was presented by Jose Costa from 9:40.

Coffee break from 9:55 to 10:25

IEEE C802.16mmr-06/008
with title "Relay Strategy of Broadcast Messages in Mobile Multihop Relay" was presented by Masahito Asa from 10:25

IEEE C802.16mmr-06/012
with title "Consideration of MMR Basic Networking Topology Constraints" was presented by G.Q. Wang from 10:55.

IEEE C802.16mmr-06/014r1

with title "Proposed enhancements to IEEE802.16 MMR PAR and Five Criteria" was presented by Puneet Jain from 11:10.

IEEE C802.16mmr-06/002
with title "Distinctions from IEEE802.1 projects" was presented by Kenji Saito from 12:00
The scheduled contributions were presented by 12:10.

After scheduled presentation, chair summarized the status for each item on PAR and 5 Criteria as following table for 1st day session

		Green/Yellow/Red
PAR	Scope	Red : Mobile Client RS Phased approach
	Purpose	Red : Backhaul; Mesh topology
	Reason	Green
	Other WG activity	Yellow; 802.1 ; 802.11
5Criteria	Market	Green
	Compatibility	Yellow : clear definition for compatibility
	Distinct	Green
	Tech. Feasibility	Green
	Eco. Feasibility	Green

green : move to editing
yellow : move to editing with more clarification for external effect.
red : more discussion

Motion : To empower the chair to make editing party for green items.
Raised by Nohara
Seconded by Cho
Approved with no objection

1st day session recessed at 12:25 and it was announced that 2nd day session would resume on 8 o'clock January 10, 2006.

Second Day meeting
On 8: 20, Tuesday January 11, 2006, second day meeting of MMR SG was resumed.
Chair reconfirmed the schedule and reported the result of ad hoc meeting at Monday evening.

IEEE C802.16mmr-06/003
with title "On the Throughput Enhancement of Fixed Relay Concept in Manhattan-like Urban Environments" was presented by Jaeweon Cho from 8:30

IEEE C802.16mmr-06/006
with title "Reverse Link Performance of Relay-based Cellular Systems in Manhattan-like Scenario" was presented by I-Kang Fu from 8:57

IEEE C802.16mmr-06/005
with title "Handover Scenario and 802.16 MMR" was presented by Chie Ming Chou from 9:20

IEEE C802.16mmr-06/013
with title "Configuration Scenario for Multi-Hop Relay Network" was presented by Purva R Rajkotia from 9:30

Coffee Break from 10:10

IEEE C802.16mmr-06/007 with title "Definition of terminology used in Mobile Multihop Relay" was presented by Roger Peterson from 10:30

IEEE C802.16mmr-06/011
with title "Vocabulary of Terms Related to the Mesh/Relay Networks" was presented by Jose Costa from 10:40

Motion : To create terminology definition document by Roger Peterson
Raised by chair
Second : Mike
Approved by unanimous voice voting.

IEEE C802.16mmr-06/001
with title "Discussion base for 802.16 MMR tutorial draft" was presented by Mitsuo Nohara from 10:50

Presentation session was closed by 11:10
Discussion for PAR and 5 Criteria was resumed from 11:10

Chair reviewed the issues discussed during ad hoc meeting at Monday evening and presented information received from David Johnston by email regarding his meetings with the 802.1 Working Group at its interim session this week.

Discussion about scope.
- chair presentation on the figure drawn during ad hoc meeting.
- There was suggestion for straw poll about the following items
  - communication via 16e interface bet. RS and 16eMS/SS shall be supported.
  - phase approach.

During the discussion about purpose, mesh topology is Discussion about purpose.
- elimination of Mesh from PAR means what?
- Concerning point that it is possible to support mesh topology with no or little modification on MS.
- Communication shall through BS.
- Some scheme such like dynamic network re-configuration shall be possible to get gain by this project.

Motion to have reorganize Thursday morning and afternoon session to discuss and drafting PAR draft.
Raised by chair
Second by Sheron
Approved by unanimous voice voting.

2nd day session recessed at 12:15.

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Third Day meeting

3rd day session resumed at 8:30, 12 January 2006.

Chair presented about the discussion items remained and detailed schedule of third day session to handle them.

There was presentation of a late contribution about PAR.

IEEE C802.16mmr-06/015
with title "MMR PAR considerations" was presented by Jose Puthenkulam from 8:50.

Philip Barber presented on the issue from IEEE 802.1 related with MMR SG from 9:40.
   Roger Marks presented the plan to make new PAR about bridging of 802.16 as part of the resolution on the issue from IEEE 802.1 from 9:50.

   Coffee break from 10:15

   Discussion on PAR and 5 Criteria resumed from 10:40.

   Motion : to proceed with discussion of PAR & 5 Criteria with the items following.
   -   Coverage extension and throughput enhancement
   -   Backward compatibility
   -   Link topology
      ■   Tree
      ■   Mesh
   -   OFDMA only?
   -   Transparent and/or non-transparent?
   -   RS type
   -   Ownership/Control
   -   Frequency : licensed and/or un-licensed?
   -   Phased approach : To take or not, in the former case, how?

Raised by Chair
Second : Mike
Approved with no objection

   Motion : to focus discussion on 3 issues (terminals, modulation, RS type)
   Raised by Jose
   Seconded by Mike
   Approved with no objection

   Terminal Issue (entity to talk to RS)
   Option 1 : MMR-MS/SS only?
   Option 2 : Conventional .16 MS/SS only?
   Option 3 : MMR-MS/SS and .16 MS/SS?

   Modulation Issue
   Option 1 : OFDMA only
   Option 2 : OFDM and OFDMA

   RS type Issue
   Infrastructure Relay: Fixed/Nomadic/Mobile?

   backward compatible to legacy mobile station and to communicate with MMR enabled mobile station.

Straw poll for terminal issue.
Option1 : 0
Option2 : 32 (86% support)
Option3 : 5 (14% support)

Straw poll for modulation
Option1 (OFDMA only) : 33 (87% support)
Option2 (both OFDM and OFDMA) : 5 (13% support)

Straw poll for RS type
Option 1 (Fixed only) : 7 (17% support)
Option 2 (Fixed & Nomadic only) : 13 (31% support)
Option 2 (Fixed, Nomadic and Mobile) : 22 (52% support)

Straw poll on proceeding to editing PAR with above straw poll result
Yes : 36
No : 0

3rd morning session recessed at 12:05 and announced that it would resume at 1:30.

Meeting resumed at 1:30.

Drafting on the PAR and 5 Criteria document was done and it was uploaded to Temp directory at

upload server at 3:30
Coffee break from 3:30
Meeting resumed at 5:15
Chair reviewed the works of MMR SG during Session #41 including presentations, works for PAR

preparation and results. Chair reviewed the draft for PAR and 5 Criteria.

Motion : to empower SG 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.
Raised by chair
Seconded by Jaeweon Cho
Approved unanimously by voice vote.

Volunteer for preparation of tutorial
Motion : to approve draft PAR document as IEEE802.16mmr-06/002,
as the draft PAR and 5 Criteria for 802.16j
Raised by Ariel Sharon
Seconded by Jose Puthenkulam
Approved unanimously by voice vote.

Motion : to forward 802.16j draft PAR and 5 Criteria in IEEE802.16mmr-06/002 as recommendation
of the study group.
Raised by Mike Hart
Seconded by Roger Peterson
Yes : 37, No : 0, Abstain : 0.

Motion to adjourn study group

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Raised by Roger Marks
Seconded by Jung Je Son
Approved unanimously.