802.16j Relay Mobility Management-Idle/Sleep Adhoc
Conference Call #2 Minutes

Chair: David Comstock
Vice Chair: Yuefeng Zhou

Details of the call:

Date/time: Monday, April 23 : UTC/GMT 13:00-15:00 (2 hours)

Monday, April 23
NA PDT 06:00
NA CDT 08:00
NA EDT 09:00
China 21:00
Japan/Korea 22:00

Summary:

- Harmonization of contributions 7_245 and 7_205 is nearly complete. This is the proposed solution for RS obtaining MS sleep information by snooping MR-BS<->MS messages. It is not clear if snooping can be done while maintaining the security level of 802.16e.
- 7_010 is the proposed solution for RS obtaining MS sleep information using MR-BS<->RS signaling. There is still no agreement that 7_010 is needed only if the 7_245/7_205 proposal cannot meet security requirements.
- Two informal documents were received to support 7_066, which proposes RS sleep mode. One of the documents adds additional functionality to the proposal. More discussion is required on this proposal.
- A revision is still needed for 7_262 on idle mode for relay networks.
- It has been requested to consider 7_282 in the MOB ad hoc. This will be done if time allows after discussing the already open issues.

Agenda:

1. Roll Call

Last Name:	First Name:	Email:
Boariu	Adrian	adrian.boariu@nsn.com
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2. Review of action items from first conference call.

Action item status:

#	Subject:	Action Item
1	7_205	• Proponent of 7_205 to provide motivation for the acknowledgement for the MOB_SLP_RSP case on the [MOB Adhoc] email list. • Proponent of 7_205 to provide sequence diagrams for the sleep scenarios on the [MOB Adhoc] email list.

Status:

- Proponent (Mary Chion) provided the following email addressing this action item:
  - **Date**: Tue Apr-17-2007
    To: Relay MOB Ad Hoc list
    From: mchion@zteusa.com (Mary Chion)
    Subject: RE: [STDS-802-16] [Relay TG][MOB Adhoc] Status/next conference call
  - This email provides the motivation for the proposal to use an acknowledgement field in the MAC header for the RS to ACK the reception of MS message sent by the MR-BS.
  - A sequence diagram is included in the email to illustrate the point.
  - However, this email also says that 7_205 proponents agree with some of the issues raised regarding ACKing the reception of MS message sent by the MR-BS.
  - Since the ACK was the main difference between 7_245 and 7_205, harmonization is likely possible and is ongoing.
  - Another point of harmonization reached between 7_245 and 7_205 was that the requirement for the RS to snoop the control extended header in the sleep message has been removed from 7_245.
- **Closed:** The requested information has been provided and harmonization is nearly complete.

#	Subject:	Action Item
2	7_010r6	• All to discuss on the [MOB Adhoc] email list their views on whether this solution is needed if RS can snoop MS messages.

Status:

- There is still disagreement whether there are non-security reasons against using RS snooping of MS messages.
  - If security is the only issue then:
    - If a satisfactory method for RS snooping is determined then a solution like the one proposed in 7_245/205 should be used.
    - Otherwise, additional MR-BS<->RS signaling should be added like the proposal in 7_010.
  - If security is not the only valid issue against 7_245/7_205 then:
    - Regardless whether a satisfactory method for RS snooping is determined or not additional MR-BS<->RS signaling should be added like the proposal in 7_010.
- The stated non-security arguments against using RS snooping of MS messages are:
  - The RS must snoop every MS message. It cannot know otherwise which messages are of interest. This puts a much heavier load on RS processing.
  - When the Access RS changes for an MS, how does the RS get sleep related information? The MS and MR-BS will not exchange messages in this case. The MR-BS may signal the RS with the information, but this then requires MR-BS<->RS signaling which is what 7_010 proposes.
- The stated security-irrespective arguments for using RS snooping of MS messages are:
  - Adding additional messaging between MR-BS and RS uses additional bandwidth. This additional resource usage is more significant than the increased RS processing required for MS message snooping.
  - The handoff scenario described above where the new RS needs sleep information about an MS will not happen very often, so MR-BS<->RS signaling is appropriate

	in that scenario. • The RS needs to snoop other MS messages anyway for other purposes. Examples are needed to support this. Bandwidth requests were mentioned but it isn't clear that this is a viable example. • The security ad hoc has not reached a decision on a solution for RS snooping MS messages. • **Open**: This issue should be discussed more by email and is left open.

#	Subject:	Action Item
3	7_066r2	• Proponent of 7_066r2 to respond to the question regarding coordination of RS and MS sleep on the [MOB Adhoc] email list.

Status:	• Proponent (Ken Loa) provided the following email addressing this action item: • **Date**: Mon Apr-23-2007 **To**: Relay MOB Ad Hoc list **From:** loa@iii.org.tw (Kanchei(Ken) Loa) **Subject:** RE: [STDS-802-16] [Relay TG][MOB Adhoc] Status/next conference call **Attachments**: MS awakening procedure with RS sleep_v0.4.zip, Coordination of RS and MS sleep_v0.2.zip • Email includes 2 documents to further explain and develop the ideas. • MS awakening procedure with RS sleep • For RS partial sleep, the RS will detect the MS waking up, so there is no issue. • For RS full sleep, the RS may be asleep when an MS wants to wake up so the RS will miss it. The MS must wait until the RS listening window to wake up. • This may lower service level but RS sleep is intended to be used under certain scenarios such as when an RS is battery or solar powered so service may be lowered to accommodate power savings. • The MR-BS must coordinate the RS and MS sleep windows in order to minimize the MS wake up time. • The maximum MS wake up time in 802.16e is 255 frames. The maximum value of MS lost DL-MAP interval and lost UL-MAP interval is 600 ms. • An issue was raised that if a waking MS must wait until the RS wakes up then this will increase the latency and QoS guarantees will not be met. • The response was that the MR-BS will take this into account when determining the RS and MS sleep windows, such that QoS service levels will be met. • Coordination of RS and MS sleep • This document proposes a modification to 7_066 to support more complex RS and MS sleep/listening windows. • Support for definition of multiple RS sleep windows is provided. RS can request multiple sleep windows. The RS can compute its best sleep pattern based on MS sleep patterns rather than the MR-BS determining it. • **Open**: More discussion on these documents is required since they were provided just before the conference call.

#	Subject:	Action Item
4	7_262r1	• Proponent to look at 7_004 to see if there are dependencies with this contribution. • Proponent to upload revision with details about the new TLV required for the MR-BS to provide MS paging information to RS.

Status:	• Proponent reviewed 7_004 and there are dependencies. Discussions underway with 7_004 proponent. • 7_262r2 is under development. • **Open**: New revision is needed to provide more details on the proposal.

#	Subject:	Action Item
5	Consideration of other contributions	• The adhoc chair and vice chair will consult with the 802.16j leadership, consider the opinions of the other group members, and consider the amount of time available after the initial contributions are addressed.
Status:	• No other contributions have been targeted for MOB sleep/idle ad hoc by 802.16j chairs • It has been requested to consider 7_282 in the MOB ad hoc. This can be done in a conference call if there is time after discussing the open items. • **Closed**	

3. Review of the status of open topics and determination of the next steps.

   Please see action item status above.

4. Identification/discussion of any new topics to be considered by the ad-hoc to complete the baseline.

   It was requested to consider 7_282 in the MOB Ad Hoc.

5. Review of new action items

   Proponent of 7_282 should check with 802.16j chairs regarding the consideration of 7_282 in the MOB ad hoc.

6. Plan for the next ad-hoc meeting

   The next conference call will be April 30, 2007.