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Re:	IEEE 802.16j-06/027: “Call for Technical Proposals regarding IEEE Project P802.16j”
Abstract	In MR networks, RS could have more flexibility for scheduling, if it can obtain sleep mode information.
Purpose	Discuss and adopt proposed text.
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Obtaining Sleep Mode Information in RS

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1. Problem Statement

In WiMAX MR networks, MS in sleep mode may maintain triggers to perform event-based actions, such as sending MOB_SCN-REP, MOB_MSHO-REQ, and MOB_SCN-REQ messages to MR-BS. MS may include Enabled-Action-Triggered TLV in RNG-REQ or MOB_SLP-REQ message requesting to associate specific actions with certain triggers. In response to the RNG-REQ or MOB_SLP-REQ message, MR-BS shall transmit RNG-RSP or MOB_SLP-RSP message including Enabled-Action-Triggered TLV provided that it allows to activate the requested type of Power Saving Class. After receiving RNG-RSP or MOB_SLP-RSP message including the Enabled-Action-Triggered TLV, MS in sleep mode shall perform the actions indicated in the Enabled-Action-Triggered TLV following function/action specified in DCD or MOB_NBRADV message. Therefore, in distributed case, RS shall allocate resources to this sleep-mode MS to properly perform the event-based actions. However, if the RS does not decode MOB_SLP-RSP messages, it may not allocate proper resources to MSs on time, thus the event-based actions may failed.

Moreover, if RS, in both distributed and centralized case, can know that an MS has switched to sleep mode by decoding the MOB_SLP-RSP message, it shall avoid sending management message to this MS. Also, an RS, in distributed case, can cancel the bandwidth resources allocated to this MS during the sleep period, thus saving bandwidth.

On the other hand, in WiMAX MR Networks, the sleep mode would be managed by the MR-BS, even in distributed case. The MR-BS may buffer the traffic addressed to a sleep mode MS, thus saving buffering in RS.

2. Proposed Remedy

The sleep mode will be managed by MR-BS, which can buffer the traffic addressed to a sleep-mode MS, thus saving buffering in RS.

RS may have the capability to listen and decode the MOB_SLP_RSP message to obtain the sleep-mode information. For example, if the sleep mode is initialized by MS, as shown in Fig. 1, RS shall decode the MOB_SLP_RSP message sent by MR-BS to obtain enough timing information, thus it can allocate resources to MS on time for the event-based actions, also RS can avoid sending management messages to this MS, and can cancel the bandwidth allocated to MS during the sleep period.

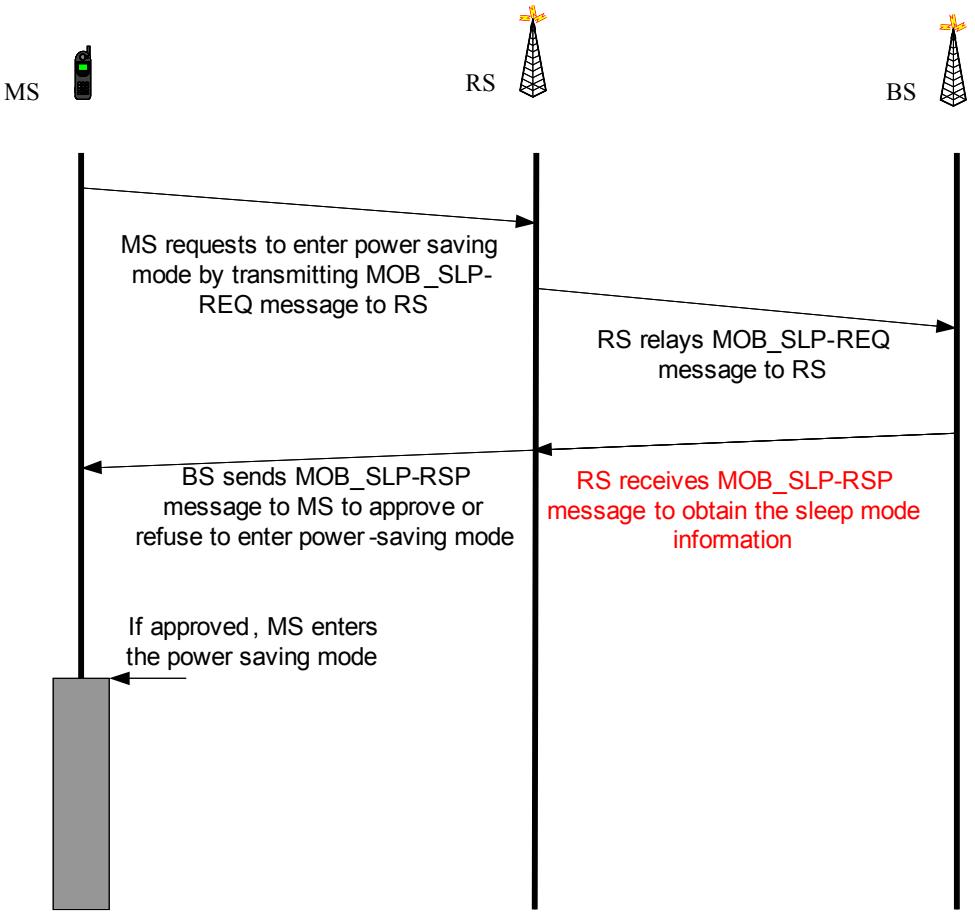

Fig. 1. RS decodes the MOB_SLP_RSP message for further scheduling

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3. Specific Text Change

6.3.21 Sleep mode for mobility-support MS

6.3.21.1 Introduction

[***Insert two new paragraph after the last paragraph in 6.3.21.1***]

In MR networks, the sleep mode is managed by MR-BS. MR-BS shall buffer the traffic addressed to a sleep-mode MS, thus saving buffering in RS.

In distributed case, RS may decode the relevant messages, such as MOB_SLP-RSP, sent by MR-BS to obtain the timing and the event-based action information, thus RS can avoid sending management message to the sleep-mode MS, and schedule proper radio resource to the MS in sleep mode.