

# Obtaining sleep mode information in RS

IEEE S80216j-06/136r1

Date Submitted:

2006-11-15

Source:

Yuefeng Zhou

Mike Hart

Sunil Vadgama

Fujitsu Laboratories of Europe Ltd

Hayes Park Central, Hayes End Road

Hayes, Middlesex, UB4 8FE, UK

Voice: +44 (0) 20 8573 4444

Fax: +44 (0) 20 8606 4539

E-mail: [yuefeng.zhou@uk.fujitsu.com](mailto:yuefeng.zhou@uk.fujitsu.com)

[mike.hart@uk.fujitsu.com](mailto:mike.hart@uk.fujitsu.com)

[sunil.vadgama@uk.fujitsu.com](mailto:sunil.vadgama@uk.fujitsu.com)

Shiao-Li Tsao, Fang-Ching Ren, Wern-Ho Sheen, I-Kang Fu

National Chiao Tung University (NCTU)

Industrial Technology Research Institute (ITRI), Taiwan

No. 195, Sec. 4, Chung Hsing Rd., Chutung, Hsinchu,

Taiwan 310, R.O.C.

Voice: +886-3-5712121-54717

Fax: +886-3-5721490

E-mail: [sltsao@cs.nctu.edu.tw](mailto:sltsao@cs.nctu.edu.tw); [frank\\_ren@itri.org.tw](mailto:frank_ren@itri.org.tw)

Venue:

IEEE 802.16 Session #46, Dallas, Texas, USA

Base Document:

IEEE C80216j-06/136r1

Purpose:

Discuss and adopt proposed text and message format

Notice:

This document has been prepared to assist IEEE 802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.

Release:

The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE's name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE's sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.

IEEE 802.16 Patent Policy:

The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures <<http://ieee802.org/16/ipr/patents/policy.html>>, including the statement "IEEE standards may include the known use of patent(s), including patent applications, provided the IEEE receives assurance from the patent holder or applicant with respect to patents essential for compliance with both mandatory and optional portions of the standard." Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair <<mailto:chair@wirelessman.org>> as early as possible, in written or electronic form, if patented technology (or technology under patent application) might be incorporated into a draft standard being developed within the IEEE 802.16 Working Group. The Chair will disclose this notification via the IEEE 802.16 web site <<http://ieee802.org/16/ipr/patents/notices>>.

# Obtaining sleep mode information in RS

## 1. Key Features

- The sleep mode shall be managed by MR-BS, even in distributed case.
- MR-BS can buffer the traffic addressed to a sleep-mode MS, thus saving buffering in RS
- RS shall know about MS being in sleep mode, then it can avoid sending management messages to sleep-mode MS
- In distributed case, RS shall know the sleep-mode information
  - \* To cancel the bandwidth resources allocated to the sleep-mode MS during sleep period.
  - \* To schedule resources for the event-based actions in a sleep-mode MS in time

## 2. Proposed 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. RS shall know an MS being in sleep mode, thus it can avoid sending management message to the sleep-mode MS.

In distributed case, RS may decode the MOB\_SLP-RSP messages sent by MR-BS to obtain the timing and the event-based action information, thus RS can schedule proper radio resource to the MS in sleep mode to perform the event-based actions, and may cancel the bandwidth resources allocated to the sleep-mode MS during its sleep period.

# Obtaining Sleep Mode Information in RS

## 3. Event-based Actions

--MS may include Enabled-Action-Triggered TLV in MOB\_SLP-REQ message requesting to associate specific actions with certain triggers.

--BS shall transmit MOB\_SLP-RSP message including Enabled-Action-Triggered TLV provided that it allows to activate the requested type of Power Saving Class.

--MS shall perform the action indicated in the Enabled-Action-Triggered TLV following function/action specified in DCD or MOB\_NBRADV message

