

|                              |   |   |
|------------------------------|---|---|
| Project                      | <b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >  |   |
| Title                        | <b>Optimization for the MOB-SCN-RSP message</b>   |   |
| Date Submitted               | <b>2004-11-04</b>   |   |
| Source(s)                    | Kiseon Ryu, Beomjoon Kim,<br>Changjae Lee<br>LG Electronics, Inc.<br>533, Hogue-1dong, Dongan-gu,<br>Anyang-shi, Kyongki-do, Korea  | Voice: 82-31-450-4387<br>Fax: 82-31-450-7912<br><a href="mailto:ksryu, beom, cjlee16@lge.com">[mailto:ksryu, beom, cjlee16@lge.com]</a> |
| Re:                          | This is a response to a Call for Comments IEEE802.16e-04/xx on IEEE P802.16e-D5   |   |
| Abstract                     | This document contains suggestions to optimize the MOB-SCN-RSP message.   |   |
| Purpose                      | This document is submitted for review by 802.16e Working Group members  |   |
| 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.  |   |
| Patent Policy and Procedures | The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures < <a href="http://ieee802.org/16/ipr/patents/policy.html">http://ieee802.org/16/ipr/patents/policy.html</a> >, 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 < <a href="mailto:chair@wirelessman.org">mailto:chair@wirelessman.org</a> > 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 < <a href="http://ieee802.org/16/ipr/patents/notices">http://ieee802.org/16/ipr/patents/notices</a> >. |   |

# Optimization for the MOB-SCN-RSP message

*Kiseon Ryu, Beomjoon Kim, Changjae Lee*

LG Electronics

## 1. Background

In the current draft IEEE802.16e-D5, the BS shall send the MOB-SCN-RSP message with setting parameters to all zeros when it wants to deny scan request from the MSS. In that case, the BS shall include all parameters (e.g., Scan Duration, Start Frame, Interleaving interval, etc.) in the MOB-SCN-RSP message.

However, with a single-bit flag to indicate the approval for the scan request, the BS can shorten the MOB-SCN-RSP message and reduce 32 bits in the case of the disapproval of the MSS's scan request. Since there are already 2 reserved bits in the existing MOB-SCN-RSP message, we don't need additive bits to achieve this.

## 2. Proposed Remedy

1) Add the field of 'Scan\_approved' in MOB-SCN-RSP to indicate whether the BS approves scan request of the MSS or not, line 47, page 70 :

**Table 106h—MOB\_SCN-RSP Message Format**

| Syntax                         | Size          | Notes  |
|--------------------------------|---------------|--|
| MOB-SCN-RSP_Message_Format() { |               |  |
| Management Message Type = 51   | 8 bits        |  |
| <u>Scan-approved</u>           | <u>1 bit</u>  | <u>0: Scan request denied</u><br><u>1: Scan request approved</u>                               |
| <u>if(Scan-approved==0) {</u>  |               |  |
| <u>reserved</u>                | <u>7 bits</u> | <u>Shall be set to zero.</u>   |
| <u>}</u>                       |               |  |
| <u>else {</u>                  |               |  |
| Scan Duration                  | 8 bits        | in frames  |
| Start Frame                    | 4 bits        |  |
| Interleaving interval          | 8 bits        |  |
| Scan iteration                 | 8 bits        |  |
| Report mode                    | 2 bits        | 0b00 : no report<br>0b01 : periodic report<br>0b10 : event triggered report<br>0b11 : reserved |
| <u>reserved</u>                | <u>6 bits</u> | <u>Shall be set to zero.</u>   |
| Scan report period             | 8 bits        | Available only when the value of Report mode is set to 0b01.                                   |
| <u>reserved</u>                | <u>1 bit</u>  | <u>Shall be set to zero.</u>   |
| <u>}</u>                       |               |  |
| HMAC Tuple                     | 21 bytes      | See 11.1.2   |

|   |  |  |
|---|--|--|
| } |  |  |
|---|--|--|

2) Add the description for Scan-approved in MOB-SCN-RSP, line 10, page 71 :

The following parameters shall be included in the MOB\_SCN-RSP message:

Scan-approved

Indicates whether the BS approves the MSS's scan request or not.

3) Modify the text in "6.3.20.1.2 MSS Scanning of neighbor BS" as follows , line 12 -16 and line 37 - 39, page 113:

Upon reception of this message, the BS shall respond with a MOB\_SCN-RSP MAC Management message. The MOB\_SCN-RSP MAC Management message shall either grant the requesting MSS a scanning interval or deny the request with Scan-approved. Scan-approved in MOB-SCN-RSP shall be set to '1' when the BS approves the MSS's scan request and allocates scanning interval to the MSS. A value of zero for ~~Duration~~ Scan-approved in MOB-SCN-RSP shall indicate the request for an allocation of scanning interval is denied.

The group of intervals is terminated at any time if the BS sends MOB\_SCN-RSP message with ~~setting the parameters (Scan duration, Interleaving interval, and Scan iteration) to all zeros~~ Scan-approved set to zero.