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| Source(s) | Hang Zhang, Peiying Zhu, Wen Tong, David Steer, Gamini Senarath, Derek Yu, Mark Naden, G.Q. Wang<br><br>Nortel<br>3500 Carling Avenue<br>Ottawa, Ontario K2H 8E9<br><br>Voice: +1 613 7631315<br>[mailto:WenTong@nortel.com]<br><br>[mailto:pyzhu@nortel.com] |
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| Abstract | For a RS network entry, there may be a need for RS configuration procedure controlled by MMR-BS over the air. This contribution proposes a pair of MAC management messages for this purpose. |
| Purpose | To incorporate the proposed text into the P802.16j Baseline Document (IEEE 802.16j-06/026) |
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# RS Configuration Signaling

*Hang Zhang, Peiying Zhu, Wen Tong, David Steer, Gamini Senarath, Derek Yu, Mark Naden, and G.Q. Wang*

*Nortel*

## Introduction

For a RS network entry, there may be a need for RS configuration procedure controlled by MMR-BS over the air. This contribution proposes a pair of MAC management messages for this purpose.

## Introduction of RS_Config-REQ/RSP management messages

We propose to introduce RS_Config-REQ/REP messages for the following reason

- When a RS is required to serve 802.16e MS, many physical layer parameters, such as 802.16e preamble, midamble, DL_PermBase, PRBS_ID and etc need to be configured. Those parameters can be pre-defined. However it may not be optimal to pre-define all the physical layer parameters, such as 802.16e preamble which may need a RS's assistance to be determined
- SBC-REQ/RSP may be used for this purpose, but it may be not a good way from security consideration
- REG-REQ/RSP may be employed for this purpose too, but these messages are not designed for purpose of configuration negotiation

By introducing this a pair messages, a secured, flexible and dynamic RS configuration can be implemented. This procedure shall happen during RS initial network entry and initialization and during normal operation.

## Proposed text change

*[Modify the last row in Table 14 in page 46 as follows]*

| Type | Message name | Message description | Connection |
|---|---|---|---|
| ~~62-255~~ 67 | RS_Config-REQ | RS configuration request message sent by RS | Basic |
| 68 | RS_Config-RSP | RS configuration response message sent by MMRBS | Basic |
| 69-255 | | Reserved | |

*[Add new sections 6.3.2.3.62 and 6.3.2.3.63 after section 6.3.2.3.61 in page 172]*

6.3.2.3.63 RS configuration request message

This message is transmitted by a RS to request some physical layer operation parameters. A RS may use this message to report information to facilitate the determination of a MMRBS on configuration of RS operation parameters.

Table XXX. RS_Config-REQ message format.

| Syntax | Size | Notes |
|---|---|---|
| RS_Config-REQ format { | | |
| _Management message type = 67 | 8 bits | |
| _Configured_para_type | 8 bits | b0 = 1: preamble configuration is included;<br>b1 – b7: reserved |
| _If (b0 of Configured_para_type == 1 ) { | 8 bits | |
| __Preamble_index } | 7 bits | Preamble index |
| } | | |

Configuration_para_type

The first bit is used as preamble index indicator to indicate the preamble_index field appearance in this message

Preamble_index

This field is used to indicate the preamble index selected by RS

6.3.2.3.63 MMR-BS configuration response message

This message is transmitted by a MMR-BS for the purpose of RS configuration. A MMR-BS can use this message to set operation parameters for a RS. MMR-BS can transmit this message as a response to RS_Config-REQ or as a unsolicited message.

| Syntax | Size | Notes |
|---|---|---|
| RS_Config-RSP format { | | |
| _Management message type = 68 | 8 bits | |
| _Configured_para_type | 8 bits | b0 = 1: preamble configuration is included;<br>b1 – b7: reserved |
| _If (b0 of Configured_para_type == 1 ) { | 8 bits | |
| __Preamble_index } | 7 bits | Preamble index |
| } | | |

Configuration_para_type

The first bit is used as preamble index indicator to indicate the preamble_index field appearance in this message

Preamble_index

This field is used to indicate the preamble index assigned by MMRBS