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| Re: | This contribution is a response to "IEEE 802.16 Working Group Letter Ballot Recirc #28a: announcement". |
| Abstract | This contribution proposes a method for optimizing the configuration of RS operational mode |
| Purpose | Text proposal for 802.16j Draft Document 2.0. |
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# Comments on RS operational mode

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## 1 Introduction

A non-transparent RS transmits DL frame-start preamble, FCH, MAP message(s) and channel descriptor (DCD/UCD) messages. But a transparent RS doesn't transmit those ones.

During the Negotiate basic capabilities process, the response of MR-BS is the subset of RS capabilities present in the SBC-REQ message. The MR-BS responds to the RS and indicates whether these capabilities may be used.

As defined in 802.16j draft2, after registration, transparent RS and non-transparent RS work in a different way. But before registration, there is not any exact definition for RS which works as a transparent RS or a non transparent RS. One bit indication (bit#0 access zone preamble transmission support) in SBC-REQ/RSP is used to indicate RS whether can support access zone preamble transmission. It just means RS have an ability to send a preamble, but it does not mean that RS has to send a preamble. RS may be able to support both transparent and non-transparent mode.

Therefore it is not defined very clearly that whether RS works as a transparent RS or a non transparent RS during the network initial process.

## 2 Proposal

If a RS can support access zone preamble transmission, BS indicates the RS to work as transparent or non-transparent mode by using one bit in REG-REQ/RSP message during network initial process.

When BS indicates RS to work as transparent RS, so that bit#17 is set 0.Otherwise RS works as non transparent RS. REG-REQ/RSP TLV is showed as follow:

| Type | Length | Value | Scope |
|---|---|---|---|
| 49 | 3 | Bit #0: Centralized scheduling mode support<br>Bit #1: Distributed scheduling mode support<br>Bit #2: NBR-ADV generating support<br>Bit #3: Tunnel packet mode support<br>Bit #4: Tunnel burst mode support<br>Bit #5: RS mobility support<br>Bit #6: Subordinate RS network entry support<br>Bit #7: Location support<br>Bit #8: Multicast management support<br>Bit #9: DL Flow control<br>Bit #10: MRS mode<br>Bit #11: RS centralized security support<br>Bit #12: RS distributed security support<br>Bit #13: Embedded path management support<br>Bit #14: Explicit path management support<br>Bit #15: Burst-based forwarding support<br>Bit #16: Local CID allocation support<br>Bit #17:0=Transparent RS,1=Non-transparent RS<br>Bit #18-#23: Reserved | REG-REQ<br>REG-RSP |

# 3 Proposed Text Changes

11.7.8.10 MR MAC feature support
*[Change the table as indicated:]*

| Type | Length | Value | Scope |
|---|---|---|---|
| 49 | 3 | Bit #0: Centralized scheduling mode support<br>Bit #1: Distributed scheduling mode support<br>Bit #2: NBR-ADV generating support<br>Bit #3: Tunnel packet mode support<br>Bit #4: Tunnel burst mode support<br>Bit #5: RS mobility support<br>Bit #6: Subordinate RS network entry support<br>Bit #7: Location support<br>Bit #8: Multicast management support<br>Bit #9: DL Flow control<br>Bit #10: MRS mode<br>Bit #11: RS centralized security support<br>Bit #12: RS distributed security support<br>Bit #13: Embedded path management support<br>Bit #14: Explicit path management support<br>Bit #15: Burst-based forwarding support<br>Bit #16: Local CID allocation support<br>Bit #17: 0=Transparent RS,1=Non-transparent RS<br>Bit #18-#23: Reserved | REG-REQ<br>REG-RSP |