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| Title | RS access link safety region. | |
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| Re: | Call for technical proposals 802.16j-06/034. | |
| Abstract | In case of distributed control MR system where the RS is responsible for allocation of resources on the access link, there is no mechanism to enable the MR-BS (or superordinate RS) to indicate to a sub-ordinate RS to reserve a region of the access link for non-transmission at that RS. This contribution provides a technical proposal for two new IEs to be transmitted on the R-MAP to an RS to indicate the requirement to reserve a safety region for non-transmission on its access downlink and/or uplink. | |
| Purpose | For discussion and approval of inclusion of the proposed text into the P802.16j baseline document. | |
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RS access link safety region

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Introduction

In a MR network with distributed control [1], the RS is responsible for resource allocation on its access link, constructing the DL and UL MAP information and associated IEs in the RS. Consequently, there exists no mechanism that enables the MR-BS (or superordinate RS) to send a message to the RS to instruct it not to allocate a region of the access downlink at the RS for transmission to the SSSs that it serves. The same situation also exists for the access uplink controlled by the RS.

In order to allow an MR-BS (or RS) to indicate to the RS a region that is reserved for non-transmission on its access downlink and access uplink a new DL-MAP IE and UL-MAP IE is proposed to be transmitted on the R-Link [2] from the MR-BS or RS to RS to indicate the reserved or “safety” region on its access downlink and uplink, respectively. The RS upon receiving an IE in its R-MAP will then reserve this region in the access DL or UL in the next frame through a D/UIUC=13 allocation.

Proposed text

[Change the items in Table 277a in Section 8.4.5.3.2.1 as indicated:]

0A RS Access DL Safety Region IE

~~09-0A~~ *Reserved*

[Insert new subclause at the end of section 8.4.5.3.x:]

8.4.5.3.x RS Access DL Safety Region IE

In the R-DL-MAP, an MR-BS or RS may transmit DIUC = 15 with the RS Access DL Safety Region IE() to indicate the location of region that shall be reserved for non-transmission on the RS access DL in the next DL subframe.

Table 286xx – RS Access DL Safety Region IE

| <u>Syntax</u> | <u>Size</u> | <u>Notes</u> |
|--|---------------|---|
| <u>RS Access DL Safety Region IE()</u> | | |
| <u>Extended DIUC</u> | <u>4 bits</u> | <u>RS Access DL Safety Region IE = 0x0A</u> |
| <u>Length</u> | <u>4 bits</u> | |
| <u>OFDMA symbol offset</u> | <u>8 bits</u> | |
| <u>OFDMA subchannel offset</u> | <u>8 bits</u> | |
| <u>Number of OFDMA symbols</u> | <u>7 bits</u> | |
| <u>Number of subchannels</u> | <u>6 bits</u> | |
| <u>Reserved</u> | <u>3 bits</u> | <u>Shall be set to zero.</u> |
| <u>}</u> | | |

[Change the items in Table 290a in Section 8.4.5.4.4.1 as indicated:]

0B RS Access UL Safety Region IE
0BC ... 0F *Reserved*

[Insert new subclause at the end of section 8.4.5.4:]

8.4.5.4.x RS Access UL Safety Region IE

In the R-UL-MAP, an MR-BS or RS may transmit DIUC = 15 with the RS Access UL Safety Region IE() to indicate the location of region that shall be reserved for non-transmission on the RS access UL in the next UL subframe.

Table 286xx – RS Access UL Safety Region IE

| <u>Syntax</u> | <u>Size</u> | <u>Notes</u> |
|--|---------------|---|
| <u>RS Access UL Safety Region IE()</u> | | |
| <u>Extended UIUC</u> | <u>4 bits</u> | <u>RS Access UL Safety Region IE = 0x0B</u> |
| <u>Length</u> | <u>4 bits</u> | |
| <u>OFDMA symbol offset</u> | <u>8 bits</u> | |
| <u>OFDMA subchannel offset</u> | <u>7 bits</u> | |
| <u>Number of OFDMA symbols</u> | <u>7 bits</u> | |
| <u>Number of subchannels</u> | <u>7 bits</u> | |
| <u>Reserved</u> | <u>3 bits</u> | <u>Shall be set to zero.</u> |
| <u>↓</u> | | |

References

- [1] Okuda, M., “Relaying methods proposal for 802.16j”, IEEE C802.16j-06/132, IEEE 802.16 meeting #46, Dallas, November 2006.
- [2] Hart, M., “Frame structure for multihop relaying support”, IEEE C802.16j-06/138, IEEE 802.16 meeting #46, Dallas, November 2006.