<table>
<thead>
<tr>
<th>Project</th>
<th>IEEE 802.16 Broadband Wireless Access Working Group [<a href="http://ieee802.org/16">http://ieee802.org/16</a>]</th>
</tr>
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<tbody>
<tr>
<td>Title</td>
<td>Comment on Unsolicited RNG-RSP in transparent RS System</td>
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<tr>
<td>Date Submitted</td>
<td>2007-07-05</td>
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<tr>
<td>Source(s)</td>
<td>Kanchei (Ken) Loa, Yi-Hsueh Tsai, Yung-Ting Lee, Hua-Chiang Yin, Shiann-Tsong Sheu, Youn-Tai Lee, Voice: +886-2-27399616 Fax: +886-2-23782328 <a href="mailto:loa@iii.org.tw">loa@iii.org.tw</a></td>
</tr>
<tr>
<td>Institute for Information Industry 8F, No. 218, Sec. 2, Dunhua S. Rd., Taipei City 106, Taiwan</td>
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<tr>
<td>Re:</td>
<td>IEEE 802.16j-07/019: “Call for Technical Comments Regarding IEEE Project 802.16j”</td>
</tr>
<tr>
<td>Abstract</td>
<td>This contribution proposes the modified figures of MS unsolicited RNG-RSP in non-transparent RS system under centralized scheduling scheme based on comment #1141 of 80216j-07_014r4.cmt.</td>
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<tr>
<td>Purpose</td>
<td>Text proposal for 802.16j Baseline Document.</td>
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Comment on Unsolicited RNG-RSP in transparent RS System

Kanchei (Ken) Loa, Yi-Hsueh Tsai, Yung-Ting Lee,
Hua-Chiang Yin, Shiann-Tsong Sheu, Youn-Tai Lee
Institute for Information Industry (III)

Introduction
In order to reduce the overhead on the relay link, this contribution provides a new scheme for MS unsolicited RNG-RSP in transparent RS system. In this scheme, the RS sends unsolicited RNG-RSP to the MS locally instead of sending RNG-REQ to MR-BS. In order to facilitate the incorporation of this proposal into IEEE 802.16j standard, specific changes to the baseline working document IEEE 802.16j-06/026r4 are listed below.

Text Proposal

6.3.10.3.4.3 Unsolicited RNG-RSP in transparent RS systems

[Change the following text in line 56 of page 97 as indicated]

When the offsets of frequency, power, and timing for any other data transmission from the MS are beyond the tolerance defined in this specification, RSs shall either transmit a RNG-REQ message with the RS basic CID containing the MS basic CID to the serving MR-BS through the relay path, or locally send an unsolicited RNG-RSP to MS in optional transparent zone. In order to send RNG-RSP to MS in optional transparent zone, RS shall send a RS BR header to MR-BS.

After RS receives a bandwidth request CDMA ranging code, it should transmit an RNG-REQ MR-Code-REP message with the RS basic CID containing the CDMA BR ranging code to the serving MR-BS through the relay path with adjustment information of frequency, power, and timing corrections. When RS receives multiple codes in the ranging subchannel of a frame, the RNG-REQ MR-Code-REP message sent by the RS to serving MR-BS may contain information of multiple received codes.

When the MR-BS receives a bandwidth request CDMA ranging code, it shall wait for RNG-REQ MR-Code-REP with the same ranging code from its subordinate RSs for T48 timer.

The message sequence charts (Table 201d and Table 201e) and flow charts (Figure 108f, Figure 108g, Figure 108h and Figure 108i) define the unsolicited RNG-RSP process that shall be followed by compliant RSs and MR-BSs.
[Change the title of the following Table in page 99 as indicated]

Table 201d—Unsolicited RNG-RSP triggered by upstream traffic in non-transparent RS system mode

[Replace the following Figure 108f in page 99 as indicated]

Figure 108f—Unsolicited RNG-RSP triggered by upstream traffic at Transparent Access RS
[Replace the following Figure 108g in page 99 as indicated]

Wait for RNG-REQ (RS basic CID, MS basic CID)

<table>
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<tr>
<th>RNG-REQ (RS basic CID, MS basic CID)</th>
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Send unsolicited RNG-RSP to MS

Done

Wait for RNG-REQ containing MS basic CID with RS basic CID

<table>
<thead>
<tr>
<th>RNG-REQ containing MS basic CID with RS basic CID</th>
</tr>
</thead>
</table>

Send unsolicited RNG-RSP to MS

End

Figure 108g—Unsolicited RNG-RSP in Transparent RS system—Handle RNG-REQ in transparent mode at MR-BS

[Replace the following Figure 108h in page 99 as indicated]

Wait for Bandwidth Request Code

<table>
<thead>
<tr>
<th>Bandwidth Request Code</th>
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</table>

Send RNG-REQ (RS basic CID, MS BR code) to MR-BS

Done

Wait for Bandwidth Request Code

<table>
<thead>
<tr>
<th>Bandwidth Request Code</th>
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</table>

Send MR-Code-REP to MR-BS

Done

Figure 108h Unsolicited RNG-RSP triggered by CDMA BR ranging code in Transparent RS system at Transparent Access RS
Wait for Bandwidth Request Code or RNG-REQ (RS basic CID, MS BR code)

Start T48

Wait for RNG-REQ (RS basic CID, MS BR code) with same BR ranging code attributes

RNG-REQ (RS basic CID, MS BR code) with same BR ranging code attributes

Wait for RNG-REQ (RS basic CID, MS BR code) with same BR ranging code attributes

Select the designated access station

Reported Quality

Yes

No

Done

Send RNG-RSP (continue) to MS

Done

Wait for Bandwidth Request Code or MR-Code-REP with Bandwidth Request Code

Start T48

Wait for MR-Code-REP with matching ranging code attributes

MR-Code-REP with matching ranging code attributes

Timeout T48

Select the designated access station

Sending RNG-RSP?

Yes

No

End

Status?

continue

success

aborted

RNG-RSP with status = 1 (continue) to MS

RNG-RSP with status = 2 (abort) to MS

RNG-RSP with status = 3 (success) to MS

End

Figure 108i Unsolicited RNG-RSP triggered by CDMA BR ranging code in Transparent RS mode at MR-BS