Changes on inter-base station messages associated with handover

This document contains suggestions to change the inter-base station messages associated with handover.

This document is submitted for review by 802.16e Working Group members.

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IEEE C802.16e-04/20r2
Changes on Inter-base station messages
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1. Problem Statement

This document suggest changes in TG3 Draft Document IEEE 802.16e-D1 to provide the concept of multiple Service Flow for inter-base station messages in handover process.

As specified in TG3 Draft Document IEEE 802.16e-D1, “In the initial Network Entry, Ranging and Hand-over processes, MSS shall request from the Target BS certain QoS levels per Active Service Flow, differentiated by Service Class available for the Service Flow” and “As specified in 6.4.13.2. Service Flow ID has global meaning; it does not change in the process of handover.”

But there are some problems as followings:

1. SFID should be transmitted to Target BS during Hand-over, but Service Class Name does not include SFID

2. Service Class is a optional, so it can not used in global Hand-over because Service Class Name can not used globally.

2. Proposed Remedy
For the purpose to solve the above problems,

1. We propose NSIEs (Network Service Information Element) in the HO-pre-notification message instead of Required BW/QoS parameters. NSIEs represent all Active Service Flow.

2. We also propose the Service Level Prediction parameter in HO-pre-notification-response instead of ACK/NACK indication.

The following figure-“HO process by MSS request” shows what the proposal is applied.

3. Specific Changes Suggested in TGe Draft Document IEEE P802.16e-D1

[Change Table C6 at page 72]
Table C7—HO-pre-notification-response Message

<table>
<thead>
<tr>
<th>Field</th>
<th>Size</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Header</td>
<td>152-bit</td>
<td></td>
</tr>
<tr>
<td>For (j=0; j&lt;Num Records; j++) {</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSS unique identifier</td>
<td>48-bit</td>
<td>48-bit unique identifier used by MSS (as provided by the MSS or by the I-am-host-of message)</td>
</tr>
<tr>
<td>BW Estimated</td>
<td>8-bit</td>
<td>Bandwidth which is provided by BS (to guarantee minimum packet data transmission) TBD how to set this field</td>
</tr>
</tbody>
</table>
| QoS Estimated          | 8-bit | Quality of Service level—  
  — Unsolicited Grant Service (UGS)  
  — Real-time Polling Service (rtPS)  
  — Non-real-time Polling Service (nrtPS)  
  — Best Effort |
| ACK/NACK               | 8-bits | Acknowledgement or Negative acknowledgement |
Table C8—HO-confirm Message

<table>
<thead>
<tr>
<th>Field</th>
<th>Size</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Header</td>
<td>152-bit</td>
<td></td>
</tr>
<tr>
<td>For (j=0; j&lt;Num Records; j++) {</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSS unique identifier</td>
<td>48-bit</td>
<td>48-bit unique identifier used by MSS (as provided by the MSS or by the I-am-host-of message)</td>
</tr>
<tr>
<td>BW Estimated</td>
<td>8-bit</td>
<td>Bandwidth which is provided by BS (to guarantee minimum packet data transmission) TBD how to set this field</td>
</tr>
<tr>
<td>QoS Estimated</td>
<td>8-bit</td>
<td>Quality of Service level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Unsolicited Grant Service (UGS)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Real-time Polling Service (rtPS)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Non-real-time Polling Service (nrtPS)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Best-Effort Service (BE)</td>
</tr>
<tr>
<td>}</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security field</td>
<td>TBD</td>
<td>A means to authenticate this message</td>
</tr>
<tr>
<td>CRC field</td>
<td>32-bit</td>
<td>IEEE CRC-32</td>
</tr>
</tbody>
</table>