|  |  |  |
| --- | --- | --- |
| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** | |
| Title | **Cleanup of AAI\_SCN-REQ/RSP/REP and AAI\_NBR-REQ (Femto) (16.4.8.1.1)** | |
| Date Submitted | **2010-08-17** | |
| Source(s) | Anshuman Nigam, Jung Je Son, Ying Li,  Jaehyuk Jang, Youngbo Cho Samsung Electronics  Namgi Kim  Kyonggi University  Muthaiah Venkatachalam Intel | Phone: +1-972-761-7903  E-mail: [anshun@samsung.com](mailto:anshun@samsung.com)  Email: [ngkim@kyonggi.ac.kr](mailto:ngkim@kyonggi.ac.kr)  \*<<http://standards.ieee.org/faqs/affiliationFAQ.html>> |
| Re: | IEEE 802.16m D7change requests. | |
| Abstract | This contribution is to propose changes for cleanup of AAI\_SCN\_REQ/RSP/REP and AAI\_NBR\_REQ messages | |
| Purpose | To be discussed and adopted by WG SB | |
| Notice | *This document does not represent the agreed views of the IEEE 802.16 Working Group or any of its subgroups*. It represents only the views of the participants listed in the “Source(s)” field above. It is offered as a basis for discussion. It is not binding on the contributor(s), who reserve(s) the right to add, amend or withdraw material contained herein. | |
| Release | The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE’s name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE’s sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16. | |
| Patent Policy | The contributor is familiar with the IEEE-SA Patent Policy and Procedures:  <<http://standards.ieee.org/guides/bylaws/sect6-7.html#6>> and <<http://standards.ieee.org/guides/opman/sect6.html#6.3>>.  Further information is located at <<http://standards.ieee.org/board/pat/pat-material.html>> and <<http://standards.ieee.org/board/pat>>. | |

**Cleanup of AAI\_SCN-REQ/RSP/REP and AAI\_NBR-REQ**

Anshuman Nigam, Jung Je Son, Ying Li,

Jaehyuk Jang, Youngbo Cho  
**Samsung Electronics**

1. **Introduction**

In the current draft D7 AAI\_SCN-REP and AAI\_NBR-REQ serve the same objective for getting an optimized neighbor list with a minor difference of a parameter “Request Cell Type” which is included in the AAI\_NBR-REQ to get the information on the cells of the requested type.

In order to avoid duplication for achieving the same objective in similar usage scenarios, it will be worthwhile to include only one method which also will make the specification clear and easy to understand.

1. **Text Proposal**

***[Remedy 1:]***

Remove the AAI\_NBR-REQ and its associated references.

**[Modification 1]: Table 679 Pg 70-71, Line 17**

**Table 679—MAC Control Messages (Page 70)**

Remove row number 38 and adjust the numbering of all the rows below it.

**[Modification 2] Section 16.2.3.36**

Delete the entire section **16.2.3.36**

**<del> 16.2.3.36 AAI\_NBR-REQ**

An AMS may send the AAI\_NBR-REQ message to request the AAI\_NBR-ADV message. The request should not contain the BSIDs for which full information is already provided in the AAI\_NBR-ADV mes­sage. The AAI\_NBR-REQ message may contain the request type indication to request the neighbor BS information with the specified type. </del>

Delete **Table 720**

**[Modification 3] Section 16.2.6.1.1 Pg 279, Line 19-26**

A serving ABS may unicast the AAI\_NBR-ADV message to an AMS upon reception of the <del>AAI\_NBR-REQ</del> <ins> AAI\_SCN-REP</ins> message or in unsolicited manner. When the AMS needs to obtain the neighbor information of CSG or OSG femto ABS, it may indicate it through the request BS type in the <del>AAI\_NBR-REQ</del> <ins> AAI\_SCN-REP</ins> message. Upon receiving such <del>AAI\_NBR-REQ</del> <ins> AAI\_SCN-REP</ins> message, the serving ABS may send the neighboring CSG or OSG femto ABS information through the AAI\_NBR-ADV message to the AMS in unicast manner. The AAI\_NBR-ADV message may include parameters required for cell selection e.g., cell load and cell type. The ABS may broadcast different segments of AAI\_NBR-ADV message over multiple MAC PDU’s.

**[Modification 4] Section 16.4.8.1.1 Pg 811 Line 21-26**

After the AMS associates with Femto ABS, the Femto ABS may unicast a list of accessible neighboring Femto ABSs. The accessible Femto ABS list may contain CSG-closed Femto ABSs serving CSGs that the AMS belonging to, and CSG-open Femto ABSs. An AMS may request accessible Femto ABS list from the Femto ABS by sending the <del>AAI\_NBR-REQ</del> <ins> AAI\_SCN-REP</ins> message.

**[Modification 5] Section 16.4.8.1.2 Pg 812 Line 16-21**

If the AMS decides to perform HO to any Femto ABS, it may request more detailed system information of the detected neighbor Femto ABSs to the serving ABS using an <del>AAI\_NBR-REQ</del> <ins> AAI\_SCN-REP</ins> message. For that purpose, <del>AAI\_NBR-REQ</del> <ins> AAI\_SCN-REP</ins> includes the detected 12 bit LSB of the BSID of neighbor Femto ABS(s).

AMS may include the CSGID(s) of the subscribed CSG femto BSs in the <del>AAI\_NBR-REQ</del> <ins> AAI\_SCN-REP</ins> message.

**[Modification 6] Annex P.2 Pg 889 Line 54**

Delete line 54

<del>aaiNbrReq AAI-NBR-REQ, </del>

***[Remedy 2:]***

Add the “Request BS Type” in AAI\_SCN-REP message and specify its usage.

**[Modification 1] Section 16.2.3.15, Page Line 61-62**

The MS may transmit an AAI\_SCN-REP message to report the scanning results to its serving ABS at anytime <ins>or to get an unicast AAI\_NBR-ADV with the system information for the requested cells (which are not already broadcasted by the ABS in the AAI\_NBR-ADV message) and optionally the system information for other Femto ABSs which are judged by the ABS to be in the vicinity of the AMS. The AMS may further indicate to the ABS for filtering the neighbor Femto ABS list based on the requested cell type by including “Neighbor\_Request\_BS\_Type” indicator and/or the CSGIDs</ins>.

**[Modification 2] Table 695 Page 129**

Add “Neighbor\_Request\_BS\_Type” in the table at the end.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **M/O** | **Attributes** | **Size (bits)** | **Value/Notes** | **Conditions** |
| O | Neighbor\_Request\_BS\_Type | 3 | Indicates type of neighbor Femto ABSs for which system information is requested.  Bit #0: CSG-Closed Femto ABS  Bit #1: CSG-Open Femto ABS  Bit #2: OSG Femto ABS | Can be included if Neighbor\_request\_indication is included. |
| O | CSGIDs | - | Sent by AMS to aid in generation of optimized neighbor list by the ABS | Can be included if Neighbor\_request\_indication is included. |

**[Modification3] Section16.4.8.1.2 Page 812 Line 11-14**

The AAI\_SCN-REP may contain the neighbor request indication<ins> and it may additionally contain Neighbor\_Request\_BS\_Type</ins>, to which the ABS may unicast an AAI\_NBR-ADV that includes a list of femto ABSs which is formed based on the reported FA, A-preamble indexor BSIDs, or the reported measurement