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| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** | |
| Title | **Clarification of Cell Selection Procedure** | |
| Date Submitted | **2013-11-12** | |
| Source(s) | Jaesun Cha, Eunkyung Kim, Jae-joon Park, Hyun Lee, Kwangjae Lim, Sungcheol Chang  ETRI | E-mail: [jscha@etri.re.kr](mailto:jscha@etri.re.kr)  \*<<http://standards.ieee.org/faqs/affiliationFAQ.html>> |
| Re: | Call for Contributions: Multi-tier Networks (16-13-0152-01-000q) | |
| Abstract | This contribution clarifies MS cell selection procedure and proposes an additional parameter to support efficient cell selection. | |
| Purpose | To discuss and adopt the proposed texts in IEEE P802.16q AWD | |
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# Clarification of Cell Selection Procedure

Jaesun Cha, Eunkyung Kim, Jae-joon Park, Hyun Lee, Kwangjae Lim, Sungcheol Chang

ETRI

# Introduction

In the current AWD, CSGID is widely used to support the following functions but has not been defined yet. We’d like to propose to define CSGID in several messages to support the following functions.

* During cell selection: CSGID in DCD message is used to quickly exclude small BS to which it is not subscribed
* During network (re)entry: CSGID in RNG-REQ/RSP message is used to redirect MSs to neighbor BSs
* During scanning: CSGID in SCN-REQ/RSP message is used to indicate its scanning preference or to request system information of detected CSG BSs

# Proposed Texts

----------------- Start of the text proposal --------------------------------------------------------------------------------------

[*Remedy 1: Change subclause 17.1.6.1 as follows:*]

**17.1.6.1 MS network entry with small BS**

An MS may prefer its subscribed CSG small BS, while other small BSs may also be chosen as candidates. During network entry, the MS acquires the BS ID and cell type from the DCD message transmitted by the detected small BS. In addition to the BS ID and cell type, the MS may also acquire CSGID ~~and BS subscription type[TBD]~~ from the DCD message. BSID or the acquired or derived CSGID is the identifier for the MS to determine whether it is authorized to access to the detected BS, and may help the MS to quickly exclude the CSG small BS to which it is not subscribed. If the MS supports CSG white-list capability, it may have BS IDs of all CSG small BSs to which the MS is subscribed and is authorized to access. If the small BS is excluded, the MS should continue the scanning until a suitable BS is detected.

[*Remedy 2: Insert the following texts at the end of subclause 6.3.2.3.5 RNG-REQ as follows:*]

**6.3.2.3.5 RNG-REQ (ranging request) message**

***Insert the following texts at the end of subclause 6.3.2.3.5 as indicated:***

The following TLV may be included in the RNG-REQ message when the MS is attempting to perform initial network entry.

**CSGID**

CSGID is a common identifier used to identify the BSs belonging to the same CSG. (see 17.1.3)

[*Remedy 3: Insert the following texts at the end of subclause 6.3.2.3.6 RNG-RSP as follows:*]

**6.3.2.3.5 RNG-RSP (ranging response) message**

***Insert the following texts at the end of subclause 6.3.2.3.6 as indicated:***

The following TLV may be included in the RNG-RSP message for the BS to redirect the MS to neighbor BSs during network (re)entry.

**CSGID**

CSGID is a common identifier used to identify the BSs belonging to the same CSG. (see 17.1.3)

[*Remedy 4: Insert the following texts at the end of subclause 6.3.2.3.43 MOB\_SCN-REQ as follows:*]

**6.3.2.3.43 MOB\_SCN-REQ (scanning interval allocation request) message**

***Insert the following texts at the end of subclause 6.3.2.3.43 as indicated:***

The following TLV may be included in the MOB\_SCN-REQ message to indicate CSGID of BSs to be scanned.

**CSGID**

CSGID is a common identifier used to identify the BSs belonging to the same CSG. (see 17.1.3)

[*Remedy 5: Insert the following texts at the end of subclause 6.3.2.3.44 MOB\_SCN-RSP as follows:*]

**6.3.2.3.44 MOB\_SCN-RSP (scanning interval allocation response) message**

***Insert the following texts at the end of subclause 6.3.2.3.44 as indicated:***

The following TLV may be included in the MOB\_SCN-RSP message to indicate CSGID of BSs to be scanned.

**CSGID**

CSGID is a common identifier used to identify the BSs belonging to the same CSG. (see 17.1.3)

[*Remedy 6: Insert the following row at the end of Table 11-1:*]

Table 11-1 – Type values for common TLV encodings

|  |  |
| --- | --- |
| Type | Name |
| 115 | CSGID |

[*Remedy 7: Insert the following new subclause 11.1.19 as follows:*]

**11.1.19 CSGID**

This TLV specifies the CSG to which the BSs belong. The length of CSGID is variable and is specified by CSGID length TLV included in REG-RSP message (See 11.7.27)

|  |  |  |  |
| --- | --- | --- | --- |
| Type | Length | Value | Scope |
| 115 | N | 0 to 256N-1 | DCD  RNG-REQ  RNG-RSP  MOB\_SCN-REQ  MOB\_SCN-RSP |

[*Remedy 8: Insert the following texts at the end of subclause 6.3.2.3.8 REG-RSP as follows:*]

**6.3.2.3.8 REG-RSP (registration response) message**

***Insert the following texts at the end of subclause 6.3.2.3.8 as indicated:***

The following TLV may be included in the REG-RSP message to specify the length of CSGID during network (re)entry.

**CSGID length**

Length of CSGID.

[*Remedy 9: Insert the following subclause at the end of subclause 11.7 as follows:*]

**11.7 REG-REQ/RSP management message encodings**

***Insert new subclause 11.7.27 as indicated:***

**11.7.27 CSGID Length**

This TLV indicates the length of CSGID. The maximum length of CSGID is 24 bits.

|  |  |  |  |
| --- | --- | --- | --- |
| Type | Length | Value | Scope |
| 57 | 1 | 0: reserved  1~24: Length of CSGID  25~255: reserved | REG-RSP |

----------------- End of the text proposal --------------------------------------------------------------------------------------