Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Changes on inter-base station messages associated with handover**
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Source(s)	Changjae Lee, Kiseon Ryu, Jay Jin LG Electronics, Inc. 533,Hogye-1dong,Dongan-gu, Anyang-shi,Kyongki-do,Korea Voice: 82-31-450-4387 Fax: 82-31-450-7912 [mailto:cjlee16@lge.com]
Re:	Letter Ballot #14 on IEEE P802.16e/D1
Abstract	This document contains suggestions to change the inter-base station messages associated with handover.
Purpose	This document is submitted for review by 802.16e Working Group members
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Changes on Inter-base station messages

Changjae Lee, Kiseon Ryu, Jay Jin
LG Electronics

1. Problem Statement

This document suggest changes in TGe 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 TGe 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

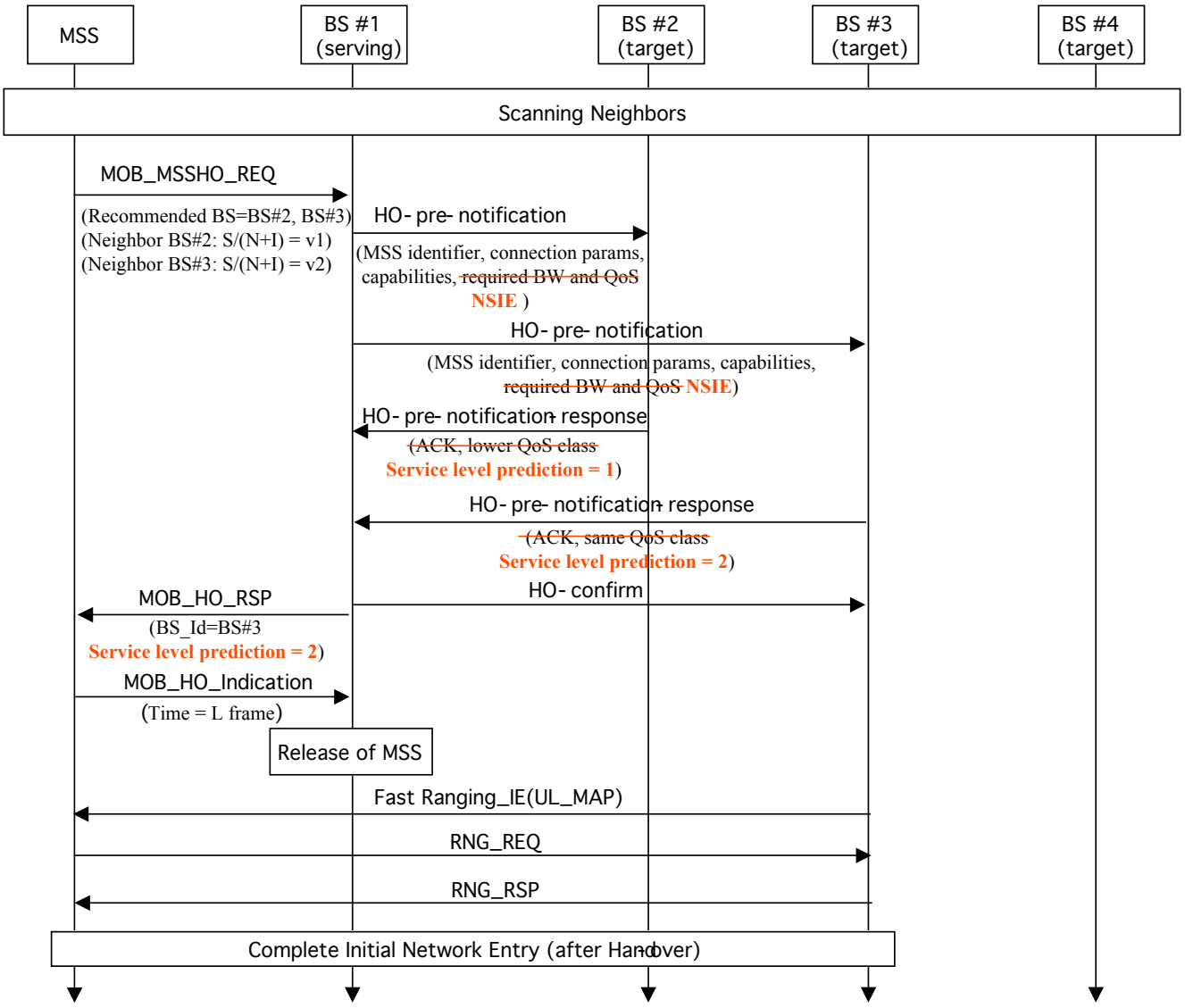
2. Service Class is a optional, so it can not used in global Hand-over because Service Class Name can not used globally.

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 C6—HO-pre-notification Message

Field	Size	Notes
Global Header	152-bit	
For (j=0; j<Num Records; j++) {		

[Change Table C7 at page 73]

Table C7—HO-pre-notification-response Message

Field	Size	Notes
Global Header	152-bit	
For (j=0; j<Num Records; j++) {		
MSS unique identifier	48-bit	48-bit unique identifier used by MSS (as provided by the MSS or by the *I-am-host-of* message)
~~BW Estimated~~	~~8-bit~~	~~Bandwidth which is provided by BS (to guarantee minimum packet data transmission) TBD how to set this field~~
~~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~~

[Change Table C8 at page 74]

Table C8—HO-confirm Message

Field	Size	Notes
Global Header	152-bit	
For (j=0; j<Num Records; j++) {		
MSS unique identifier	48-bit	48-bit unique identifier used by MSS (as provided by the MSS or by the *I-am-host-of* message)
~~BW Estimated~~	~~8-bit~~	~~Bandwidth which is provided by BS (to guarantee minimum packet data transmission) TBD how to set this field~~
~~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 Service (BE)~~
}		
Security field	TBD	A means to authenticate this message
CRC field	32-bit	IEEE CRC-32