Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Clarification of MAC Hash Skip Threshold**
Date Submitted	**2005-03-09**
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Re:	Response to Call for Contribution on IEEE 802.16e/D6
Abstract	MAC Hash Skip Threshold Clarification
Purpose	Language clean-up of MAC Hash Skip Threshold.
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Clarification of MAC Hash Skip Threshold

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Introduction

In IEEE802.16e/D6 document, MAC Hash Skip Threshold is specified when BS inclusion of MS MAC address hash in MOB_PAG-ADV message is needed for an MS for which Action Code is 00, 'No Action Required'. In this contribution, we clarify MAC Hash Skip Threshold with a few clean-ups per current Idle Mode operations.

Proposed Text Change

[Modify MAC Hash Skip Threshold TLV in DREG-CMD, page 50, line 26-39, as follows:]

When ~~The~~ the DREG-CMD is sent with Action Code = 0x05, the following TLVs may be included ~~the following parameters encoded as TLV tuples~~:

MAC Hash Skip Threshold

Maximum number of successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS, including MAC Address hash of an MS for which ~~that BS is allowed to skip MSS MAC address hash of an MSS in successive MOB_PAG-ADV messages when the~~ Action Code ~~for the MSS~~ is 00, 'No Action Required'. If BS does not include this TLV item in the DREG-CMD message, ~~the~~ any BS ~~shall~~ may ~~always skip the~~omit MAC Address ~~Hash~~ hash of the MS~~S~~ with 'No Action Required' ~~in every~~from any MOB_PAG-ADV message~~s~~.

The DREG-CMD message may include the following parameters encoded as TLV tuples:

REQ-duration

Waiting value for the DREG-REQ message re-transmission (measured in frames) If serving BS includes REQ-duration in a message including an Action Code = 0x05, the MS shall initiate an Idle Mode request through a DREG-REQ with Action Code = 0x01, request for MS De-Registration from serving BS and initiation of MS Idle Mode, at REQ-duration expiration.

[Modify the text '6.3.2.3.42 MS De-registration Request (DREG-REQ) message', page 52, line 7-11, as follows:]

The MS may include the following parameters in the DREG-REQ message only if De-Registration_Request_Code = 0x01:

MAC Hash Skip Threshold

Maximum number of successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS, ~~is allowed to skip~~including MS~~S~~ MAC address hash of an MS~~S in successive MOB_PAG-ADV messages when~~for which ~~the~~ Action Code ~~for the MSS~~ is 00, 'No Action Required'.

[Modify the text '6.3.21.1 MS Idle Mode Initiation', page 166, line 4-9, as follows:]

The MS~~S~~ may request BS inclusion of MS MAC Address Hash in MOB_PAG-ADV message at regular intervals, regardless of need for notification, by ~~include~~ including '~~'~~MAC Hash Skip Threshold~~'~~ in DREG-REQ with Action Code=0x01. ~~to request to include its MAC Address Hash in MOB_PAG-ADV message,~~ The value of MAC Hash Skip Threshold specifies the maximum number of successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS, including MAC Address Hash of an MS for which Action Code is 00, 'No Action Required'. Provided the BS approves the MS deregistration with initiation of Idle Mode and elects MAC Hash Skip Threshold function, the BS shall respond by sending DREG-CMD message with Action Code=0x05 and including the MAC Hash Skip Threshold TLV. ~~and the BS may approve the request by including 'MAC Hash Skip Threshold' in DREG-CMD message with Action Code=0x05; otherwise, the BS shall always skip MAC Address Hash of the MSS in every MOB_PAG-ADV message in which Action Code for the MSS is 00, 'No Action Required'.~~

[Modify the text '6.3.21.7 BS Broadcast Paging message', page 167, line 38-44, as follows:]

Except when MAC Hash Skip Threshold is included in DREG-CMD message at MS Idle Mode Initiation, ~~The BS shall skip~~ MAC Address Hash of an MS~~S~~ may be omitted in any MOB_PAG-ADV message for which the MS need not be paged, and as would result in MOB_PAG-ADV notification of the MS with Action Code=00, 'No Action Required. ~~, except when the BS includes 'MAC Hash Skip Threshold' at the MSS's Idle Mode Initiation.~~ When MAC Hash Skip Threshold is included in DREG-CMD message at MS Idle Mode Initiation, a BS shall notify the MS through MOB_PAG-ADV with the MS MAC Address Hash and any Action Code, but at least with Action Code=00, 'No Action Required' at least as often as MAC Hash Skip Threshold. Paging Controller may notify any BS of requirement for periodic inclusion of MAC Address Hash Threshold based on presence of MAC Hash Skip Threshold TLV in the DREG-CMD message at MS Idle Mode Initiation. ~~The BS may not include MAC Address Hash of the MSS in as many successive MOB_PAG-ADV messages as MAC Hash Skip Threshold in maximum.~~ MS shall maintain a MS MAC Hash Skip Counter and BS shall independently maintain a BS MAC Hash Skip Counter for count of successive MOB_PAG-ADV messages that omit individual MS MAC Address Hash and any Action Code. BS shall maintain one such respective BS MAC Hash Skip Counter for each MS Idle Mode Initiation and for which BS is currently serving as Preferred BS. MS and BS shall reset their respective MAC Hash Skip Counter when BS transmits MOB_PAG-ADV including MS MAC Address Hash and Action Code. ~~Whenever the BS/MSS transmits/receives MOB_PAG-ADV message including MAC Address Hash, the BS/MSS shall initialize 'MAC Hash Skip Threshold'.~~

[Modify the text '6.3.21.9.1.4 MAC Hash Skip Threshold Update', page 169, line 51-59, as follows:]

6.3.21.9.1.4 MAC Hash Skip Threshold Update

The MS~~S~~ shall perform Location Update process when ~~it does not receive MOB_PAG-ADV message including its MAC address hash as many times as~~ MS MAC Hash Skip Counter exceeds MAC Hash Skip Threshold successively. After successful Location Update, the BS and MS~~S~~ shall re-initialize their respective MAC Hash Skip ~~Threshold~~Counters.

[Modify the text in '11.14 DREG-CMD message encodings', page 521, line 35-43, as follows:]

Name	Type	Length	Value
MAC Hash Skip Threshold	~~mm~~5	1	Maximum number ~~that BS is allowed to skip MSS MAC address hash of an MSS in~~of successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS for which BS is allowed to skip MS MAC Address Hash when the Action Code for the MS~~S~~ is 00, 'No Action Required'. ~~The unit is the number of MOB_PAG-ADV transmissions.~~ If BS does not include ~~Not including~~ this TLV item in the DREG-CMD message, ~~the~~ any BS ~~shall always skip~~may omit ~~the~~ MAC Address Hash of ~~an~~ the MS~~S~~ with Action Code=00, 'No Action Required' ~~in every~~from any MOB_PAG-ADV message~~s~~.

[Modify the text in '11.15 DREG-REQ message encodings', page 521, line 35-43, as follows:]

Name	Type	Length	Value
MAC Hash Skip Threshold	~~nn~~54	1	Maximum number ~~that BS is allowed to skip MSS MAC address hash of an MSS in~~ successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS, including MAC Address Hash of an MS for which ~~when the~~ Action ~~Code for the MSS~~ is 00, 'No Action Required'. ~~The unit is the number of MOB_PAG-ADV transmissions.~~

[Add the following text to line 46, page 35, IEEE802.16e/D6:]

The following TLV parameter may be included in the RNG-REQ message when MS is attempting to perform Location Update:

MAC Hash Skip Threshold

Maximum number of successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS, including MAC address hash of an MS for which Action Code is 00, 'No Action Required'.

[Add the following text to line 16, page 37, IEEE802.16e/D6:]

The following parameter may be included in RNG-RSP message transmitted in response to RNG-REQ message containing MAC Hash Skip Threshold:

MAC Hash Skip Threshold

Maximum number of successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS, including MAC address hash of an MS for which Action Code for the MS is 00, 'No Action Required'. If BS does not include this TLV item in the RNG-RSP message, any BS may omit MAC Address Hash of the MS with Action Code 00, 'No Action Required' from any MOB_PAG-ADV message.

[Add the following text in '11.5 RNG-REQ message encodings', page 479, line 23 under 'Paging Controller ID':]

Name	Type	Length	Value (Variable-length)
MAC Hash Skip Threshold	10	1	Maximum number of successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS, including MAC address hash of an MS for which Action Code is 00, 'No Action Required'.

[Add the following text in '11.6 RNG-RSP message encodings', page 481, line 54 under 'Paging Controller ID':]

Name	Type	Length	Value (Variable-length)
MAC Hash Skip Threshold	28	1	Maximum number of successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS, including MAC address hash of an MS for which Action Code for the MS is 00, 'No Action Required'. If BS does not include this TLV item in the RNG-RSP message, any BS may omit MAC Address Hash of the MS with Action Code 00, 'No Action Required' from any MOB_PAG-ADV message.