

Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >	
Title	Change of Paging Cycle via Location Update	
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Re:	LB26b	
Abstract	This contribution proposes to be able for MS in Idle Mode to change Paging Cycle during Location Update.	
Purpose	Accept the proposed specification changes on IEEE P802.16Rev2/D3.	
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Change of Paging Cycle via Location Update

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Problem description

According to the current standard, if an MS in Idle Mod or BS want to change paging cycle due to battery status, services requirement, and so on, they cannot change Paging Cycle during Idle Mode. It requires Network Re-Entry and DREG-REQ/CMD transaction in order to change paging cycle.

Proposed Changes

1. MS-Initiated change of Paging Cycle

- A. When an MS in Idle Mode attempts Location Update to a BS, the MS may includes 'Paging Cycle Request' TLV encoding in a RNG-REQ message in order to chage paging cycle. The BS may includes 'Paging Information' TLV encoding in RNG-RSP message in response to the RNG-REQ message sent by MS.

2. BS-Initiated change of Paging Cycle

- A. During Paging Listening Interval, a BS may request an MS in Idle Mode to perform Location Update via MOB_PAG-ADV message with Action Code = 0b01 and MAC address Hash of the MS. In that case, MS shall perform Location to the BS. The BS includes 'Paging Information' TLV encoding in RNG-RSP message in response to the RNG-REQ message sent by MS.

[Add the new paragraph after page 462, line 23 as follows]

6.3.24.8.1 Location update conditions

An MS in idle mode shall perform a location update process operation if any location update condition is met. There are four location update evaluation conditions: paging group update, timer update, power down update, and MAC hash skip threshold update. MS may also perform location update process at will. When an MS performs location update, the MS may include Paging Cycle Request(see 11.1.9.4) in RNG-REQ to change Paging Cycle. A BS can also change MS's Panging Cycle by requesting MS to perform location update via MOB PAG-ADV with Action code = 0b01. In both cases, the BS shall include appropriate Paging Information in RNG-RSP.

[Add the new paragraph after page 89, line 9 as follows]

The following TLV parameter shall be included in the RNG-REQ message when the MS is attempting to perform reentry or location

update:

Paging Controller ID (see 11.1.9.2)

The Paging Controller ID is a logical network identifier for the serving BS or other network entity retaining MS service and operational information and/or administering paging activity for the MS while in idle mode.

The following TLV parameter shall be included in the RNG-REQ message when the MS in Idle Mode is attempting to change Paging Cycle:

Paging Cycle Request

PAGING_CYCLE requested by the MS

[Remove ‘Paging Cycle Request’ from the table in 11.14 on page 1185 and Add new section after 11.1.9.3 on page 1047, line 19]

11.1.9.4 Paging Cycle Request

When MS enters Idle Mode, MS shall include a Paging Cycle Request TLV encoding in DREG-REQ. Afterward, if MS needs to change Paging Cycle while in Idle Mode, MS shall include a Paging Cycle Request TLV encoding in RNG-REQ message during Location Update

<u>Type</u>	<u>Length</u>	<u>Value</u>	<u>Scope</u>
<u>131</u>	<u>2</u>	<u>Requested cycle in which the paging message is transmitted within the paging group.</u>	<u>DREG-REQ</u> <u>RNG-REQ</u>

References

[IEEE802.16-Rev2/D3] IEEE Computer Society and IEEE Microwave Theory and Techniques Society, “DRAFT Standard for Local and Metropolitan Area Networks Part 16: Air Interface for Broadband Wireless Access Systems”, P802.16Rev2/D3 (February 2008). Revision of IEEE Std 802.16-2004 and consolidates material from IEEE Std 802.16e-2005, IEEE Std 802.16-2004/Cor1-2005, IEEE Std 802.16f-2005 and IEEE Std802.16g-2007.