Project	IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>
Title	Amendment to Location Management in Section 14.2.11.2
Date Submitted	2006-07-20
Source(s)	Jee Hyeon Na, ETRI, E-mail: jhna@etri.re.kr Yun Won Chung, PhD, Soongsil University, E-mail: ywchung@ssu.ac.kr Mi-Young Yoon, ETRI, E-mail: myyun@etri.re.kr Sang Ho Lee, PhD, ETRI, E-mail: leesh@etri.re.kr YoungSeok Kim, Samsung, E-mail: stephenk@samsung.com Peretz M.Feder, Lucent Technologies, E-mail: pfeder@lucent.com
Re:	Comment on P802.16g/D3
Abstract	This contribution proposes amendment to location management.
Purpose	Adoption
Notice	This document has been prepared to assist IEEE 802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) 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 and Procedures	The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures <http://ieee802.org/16/ipr/patents/policy.html>, including the statement "IEEE standards may include the known use of patent(s), including patent applications, provided the IEEE receives assurance from the patent holder or applicant with respect to patents essential for compliance with both mandatory and optional portions of the standard." Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair <mailto:chair@wirelessman.org> as early as possible, in written or electronic form, if patented technology (or technology under patent application) might be incorporated into a draft standard being developed within the IEEE 802.16 Working Group. The Chair will disclose this notification via the IEEE 802.16 web site <http://ieee802.org/16/ipr/patents/notices>.

Amendment to Location Management in Section 14.2.11.2

Jee Hyeon Na, Yun Won Chung**, Mi-Young Yoon*, Sang Ho Lee*,*
*Young Seok Kim***, and Peretz M. Feder*****

* ETRI, 161, Gajeong-dong,Yuseong-gu, Daejeon, 305-700, Korea
*** Soongsil University, 511 Sangdo-dong, Dongjak-gu, Seoul, 156-743, Korea*
**** Samsung Electronics, 414, Meatan-3dong, Yeongtong-gu, Suwon, 442-600, Korea*
***** Lucent Technologies, 67 Whippany Road, Whippany, NJ 07981, USA*

1. Introduction

In Section 14.2.11.2, service primitives for location management are defined. However, currently defined service primitives do not distinguish whether BS has security information of MS or not for secure location update. Thus, in this contribution, we add Security Context Indication attribute in C-PG-REQ primitive in order to let NCMS know whether the security information should be downloaded from NCMS to BS in C-PG-RSP primitive.

2. Proposed Text Changes

[Modify section 14.2.11.2.2.1.2 and 14.2.11.2.2.1.3 as follows]

14.2.11.2.2.1.2 Semantics of the service primitive

The parameters of the primitives are as follows:

C-PG-REQ (BS _ NCMS)
(
Operation_type: Set,
Action_type: Location Update,
Object_ID: BS,
Attribute_List:
MS MAC Address
BS ID
Paging Controller ID
Paging Group ID
MAC Hash Skip Threshold
Power Down Indicator
Security Context Indication
)

MS MAC Address
48-bit MAC address which will identify MS
BS ID
Identifier of serving BS
Paging Controller ID

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.

Paging Group ID

One or more logical affiliation groupings of BS

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'.

Power Down Indicator

Indicates the MS is currently attempting to perform Location Update due to power down.

Security Context Indication

Indicates whether the BS has the required security context information for secure location update.
0x00= no security information available
0x01= security information present

14.2.11.2.2.1.3 When generated

This primitive is generated when the BS receives RNG-REQ message with Paging Controller ID and Ranging Purpose Indication with bit #1 set to 1, MAC Hash Skip Threshold, Power Down Indicator, Security Context Indication.

[Modify section 14.2.11.2.2.2.2 as follows]

14.2.11.2.2.2.2 Semantics of the service primitive

The parameters of the primitives are as follows:

C-PG-RSP
(
Operation_type: Action,
Action_type: Location Update,
Object_ID: BS,
Attribute_List:
MS MAC Address
Location Update Result
Paging Information
Paging Controller ID
MAC Hash Skip Threshold
Power Down Response
Security Information
)

MS MAC Address

48-bit MAC address which will identify MS

Location Update Result

Response to Location Update Request:
0b00=Failure. The MS shall perform Network Re-entry from Idle Mode;
0b01=Success of assign Paging Controller and Paging Information.
0b10, 0b11: Reserved

Paging Information

New Paging Information assigned to MS. Paging Information shall only be included if Location Update Response=0x01 and if Paging Information has changed. The Paging Information TLV defines the Paging Group

ID, PAGING_CYCLE and PAGING OFFSET parameters to be used by the MS in IDLE mode. PAGING_CYCLE is the cycle in which the paging message is transmitted within the paging group. PAGING OFFSET determines the frame within the cycle in which the paging message is transmitted and it must be smaller than PAGING CYCLE value. Paging Group ID specifies the paging group the MS is assigned to.

Paging Controller ID

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. Paging Controller ID shall only be included if Location Update Response=0x01 and if Paging Controller ID has changed.

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 RNGRSP message, any BS may omit MAC Address Hash of the MS with Action Code 00,'No Action Required' from any MOB_PAG-ADV message.

Power Down Response

Indicates the MS's Power Down Location Update result.
0x00= Failure of Power Down Information Update.
0x01= Success of Power Down Information Update.

Security Information

The information which can be used by BS to implement authentication procedure. This Information is optional and it is only included when Security Context Indication = 0x00 in C-PG-REQ. (The BS does not have required security context information and needs to obtain it from the NCMS for secure location update.)