Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Fix for Location Update primitive**
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Re:	Contribution on comments to P802.16g-D1

Abstract	In this contribution, we propose to amendment the protocol through add the new message about Location Update

Purpose	Adoption

Amendment for Location Update message

1. Introduction

In the current baseline document, there has a location update procedure. After the location update has finished, there need a message from 802.16 entity to notify NCMS that the Location update has been complete.

Another proposal is to add Security Information in C-PG-RSP which is used by BS to implement authenticate procedure.

2. Proposed Text Changes

14.2.9.3.1 Location Update Procedure

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All the above Location Updates are realized by Ranging request/response (RNG-REQ/RSP) message between an MS and a BS, and ~~Location Update request and Location Update response~~C-PG-REQ, C-PG-RSP,C-PG-NOTFY service primitives are defined between a BS and an NCMS to perform Location Update.

Figure 498 shows service primitives for Location Update between a BS and an NCMS.
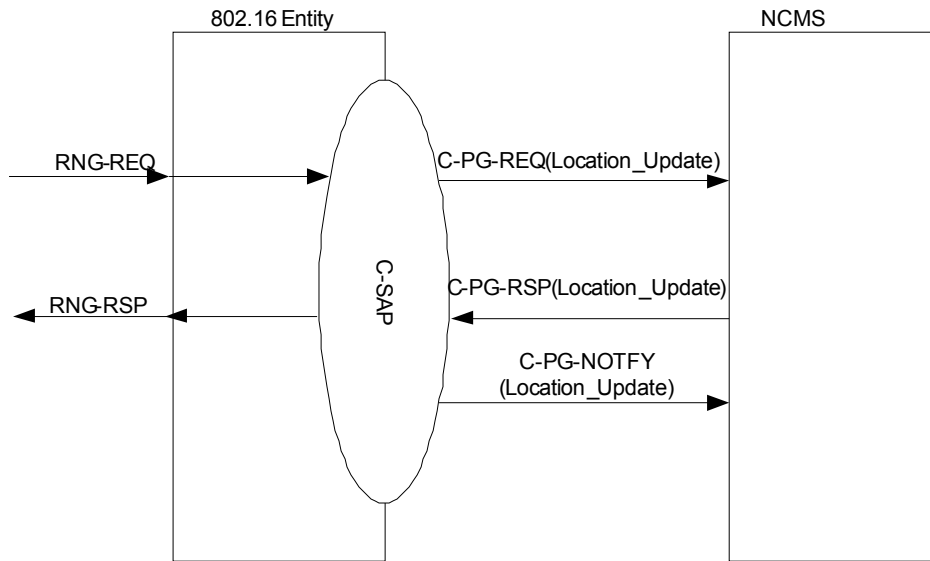
Figure 498— Location Update Primitives

[Modify Location Update flow diagram between NCMS and BS as the following]

14.2.9.3.2.2 C-PG-RSP

14.2.9.3.2.2.1 Function

This primitive is issued by the NCMS to respond to Location Update request from the 802.16 entity.

14.2.9.3.2.2.2 Semantics of the service primitive

The parameters of the primitives are as follows:

> **C-PG-RSP**
> > (
> > Operation_type: ~~Set~~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
> > > ……

Security Information

The information which can be used by BS to implement authentication procedure.

[Add a new section as follow:]

14.2.9.3.2 Service Primitives for Location Update

14.2.9.3.2.3 C-PG-NOTFY

This primitive is used by BS to notify a location update procedure has been completed. The Event Type included in this primitive defines the type of location update procedure to be performed. The possible Operation Types for this primitive are listed in Table below:

Event Type	Description
Location_Update_CMPLT	Notify the NCMS the location update procedure is completed

14.2.9.3.2.3.1 Function

This primitive is issued by the BS to NCMS.

14.2.9.3.2.3.2 Semantics of the service primitive

The parameters of the primitives are as follows:

C-PG-NOTFY
(
Message_id,
Event_Type(Location_Update_CMPLT)
Object_ID: NCMS,
Attribute_List:
            MS MAC Address
            BS ID
            Location Update Result

)

MS MAC Address
            48-bit MAC address which will identify MS
BS ID
            Identifier of serving BS
Location Update Result
            Notify the result of authentication interaction between BS and NCMS:
                        0x00=Failure of Idle Mode Location Update. The MS shall perform Network Re-entry from Idle Mode
                        0x01=Success of Idle Mode Location Update
                        others: Reserved

14.2.9.3.2.2.3 When generated

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This primitive is generated at a BS when it received C-PG-RSP and finished authentication procedure. This primitive is in order to notify NCMS that the location update procedure has been completed.

14.2.9.3.2.2.4 Effect of receipt

The NCMS receives this message and get the information that the location update has been completed.