Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Renaming of handover and paging SAP primitives in section**
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Source(s)	Ronald Mao Huawei Technologies Co., Ltd. 10180 Telesis Ct #365 San Diego, CA 92121 Voice: 001-858-882-0335 Fax: 001-858-882-0350 rmao@huawei.com
Re:	Contribution on IEEE 802.16-2004/IEEE802.16g
Abstract	This contribution proposes to update the primitive names in sections 14.5.9.1 of 16g r2.
Purpose	Adoption
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1 Problem Statement

The purpose of this contribution is to update M-SAP and C-SAP primitive names based on universal naming schema.

2 Proposed Text

14.5.9.1 Mobility Parameters

<Section Note: Requirements for different kinds of handoff (Hard-Handoff, FBSS, SHO). Thresholds etc.>

14.5.9.1.1 Handover Context for Connections

Handover context for connections is the set of information which is shared between the serving BS and the target BS for re-establishment of the transport connections during HO. HO context is consisted of the following information.

General MS Information
It is the information required to identify the MS. IP address and MAC address of the MS can be included in this information.

MS Capability Information
It is the information about MS capabilities which need to be negotiated with the serving BS at the initial network entry.

Security Information
It is the information negotiated during PKM procedure. If the MS and the target BS can derive the AK for them without the help of the serving BS, AK key may be excluded from this information.

Service Flow Information
It is the information negotiated during DSx-related procedure.

MAC state Information
It is the information used to maintain MAC state machine and to manage MAC PDU transmission.

For the re-establishment of connections at target BS during HO, serving BS shall provide target BS with the HO context through the mobility management entity in NCMS using HO primitives. If the target BS can not re-use some information in the HO context for restoring the former MAC state or re-establishing connections, the mobility management entity in NCMS may exclude the information from the shared HO context.

14.5.9.1.2 Neighbor BS List Management

Neighbor BS list management primitives are illustrated in the following figure,

Figure 1 NCMS Initiated Neighbor BS List Management Primitives

Figure 2 BS Initiated Neighbor BS List Management Primitives

14.5.9.1.2.1 Primitives for managing Neighbor BS List

14.5.9.1.2.1.1 ~~NBR_BS_Update.request~~C-HO-REQ~~-~~

This primitive is used by an 802.16 entity or NCMS to trigger a neighbor BS list management procedure. The Operation Type included in this primitive defines the type of neighbor BS list management procedure to be performed. The possible Operation Types for this primitive are listed in Table xxx.

Operation Type	Description

Set	Update neighbor BS list

14.5.9.1.2.1.1.1 Function

This primitive is issued by a mobility management entity in an 802.16 Entity or NCMS ~~-~~ to inform ~~BS~~ of neighbor BS list and channel information for ~~those~~ neighbor BSs.

14.5.9.1.2.1.1.2 Semantics of the service primitive

The parameters of the primitive are as follow:

~~**C-CM-REQNBR_BS_Update.request**~~
(
`Operation_type: Set,`
`Action_type: NBR_BS_Update,`
`Object_ID: NCMS or BS,`
`Attribute_List:` Number of neighbor BSs,
List of neighbor BS information
)

Number of neighbor BSs
The number of the current active neighbor BSs

List of neighbor BS information
This parameter includes channel information for neighbor BSs. BS ID and UCD/DCD parameters per each neighbor BS may be included in this parameter

14.5.9.1.2.1.1.3 When generated

14.5.9.1.2.1.1.3.1 NCMS Initiated

This primitive is generated when the mobility management entity in NCMS ~~NCMS~~ recognizes that initialization of BS is completed or there are some changes in neighbor BS list or in channel information of one of neighbor BSs.

14.5.9.1.2.1.1.3.2 802.16 Entity Initiated

This primitive is generated when one or more parameters in DCD and UCD are changed to inform mobility management entity of such changes.

14.5.9.1.2.1.1.4 Effect of receipt

14.5.9.1.2.1.1.4.1 NCMS Initiated

A BS receiving C-CM-REQ~~NBR_BS_Update.request~~ shall update internal information about neighbor BSs and adopt the information into subsequent MOB_NBR-ADV messages. The BS also shall response to this primitive by sending NBR_BS_update.response.

14.5.9.1.2.1.1.4.2 802.16 Entity Initiated

If mobility management entity in NCMS receives this primitive, it shall inform neighbor BSs of those changes.

14.5.9.1.2.1.2 C-CM-RSP~~NBR_BS_Update.response~~

14.5.9.1.2.1.1 C-HO-REQ

This primitive is used by an 802.16 entity or NCMS to respond a neighbor BS list management trigger. The Operation Type included in this primitive defines the type of neighbor BS list procedure to be performed. The possible Operation Types for this primitive are listed in Table xxx.

Operation Type	Description
Set	Update neighbor BS list

14.5.9.1.2.1.2.1 Function

This primitive is issued by ~~BS~~ an 802.16 Entity or NCMS to response to C-CM-REQ~~NBR_BS_Update.request~~.

14.5.9.1.2.1.2.2 Semantics of the service primitive

The parameters of the primitive are as follow:

C-CM-RSP~~NBR_BS_Update.response~~
(
`Operation_type: Set,`
`Action_type: NBR_BS_Update,`
`Object_ID: NCMS,`
`Attribute_List:` Result
)

14.5.9.1.2.1.2.3 When generated

14.5.9.1.2.1.2.3.1 802.16 Entity Initiated

This primitive is generated when 802.16 Entity ~~BS~~ receives C-CM-REQ~~NBR_BS_Update.request~~.

14.5.9.1.2.1.2.3.2 NCMS Initiated

This primitive is generated when the mobility management entity in NCMS receives C-CM-REQ.

14.5.9.1.2.1.2.4 Effect of receipt

14.5.9.1.2.1.2.4.1 802.16 Entity Initiated

The mobility management entity in NCMS shall inform the neighbor BS of the updating result.

14.5.9.1.2.1.2.4.2 NCMS Initiated

If the value of result field in C-CM-RSP is not success, then BS shall retransmit C-CM-REQ within pre-defined number of times.

~~**14.5.9.1.2.1.3 NBR_BS_Update.indication**~~

~~**14.5.9.1.2.1.3.1 Function**~~

~~This primitive is issued by BS to inform the mobility management entity in NCMS of changes in UCD and DCD.~~

~~**14.5.9.1.2.1.3.2 Semantics of the service primitive**~~

~~The parameters of the primitive are as follow:~~

~~**NBR_BS_Update.indication**~~
~~(~~
~~DCD configuration change count,~~
~~UCD configuration change count,~~
~~DCD parameters,~~
~~UCD parameters~~
~~)~~

~~**14.5.9.1.2.1.3.3 When generated**~~

~~This primitive is generated when one or more parameters in DCD and UCD are changed to inform mobility management entity of such changes.~~

~~**14.5.9.1.2.1.3.4 Effect of receipt**~~

~~If mobility management entity in NCMS receives this primitive, it shall inform neighbor BSs of those changes.~~

~~**14.5.9.1.2.1.4 NBR_BS_Update.confirmation**~~

~~**14.5.9.1.2.1.4.1 Function**~~

~~This primitive is issued by mobility management entity in NCMS to respond to NBR_BS_Update.indication.~~

~~**14.5.9.1.2.1.4.2 Semantics of the service primitive**~~

~~The parameters of the primitive are as follow:~~

~~**NBR_BS_Update.confirmation**~~
~~(~~
~~Result~~
~~)~~

~~**14.5.9.1.2.1.4.3 When generated**~~

~~This primitive is generated when mobility management entity receives NBR_BS_Update.indication.~~

~~**14.5.9.1.2.1.4.4 Effect of receipt**~~

~~If the value of result field in NBR_BS_Update.confirmation is not success, then BS shall retransmit NBR_BS_Update.indication within pre-defined number of times.~~

14.5.9.1.3 Connection Management during handover

Updated by Ronald Mao, 12/29/05