Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Proposed text and ASN.1 code to support MOB_PAG-ADV**
Date Submitted	**2007-03-13**
Source(s)	Joey Chou [mailto:joey.chou@intel.com] Intel Corporation
Re:	
Abstract	This contribution proposes the text and ASN.1 code in wmanIf2mMib to support MOB_PAG-ADV message.
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 (Version 1.0) <http://ieee802.org/16/ipr/patents/policy.html>, including the statement "IEEE standards may include the known use of patent(s), including patent applications, if there is technical justification in the opinion of the standards-developing committee and provided the IEEE receives assurance from the patent holder that it will license applicants under reasonable terms and conditions for the purpose of implementing 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:r.b.marks@ieee.org> as early as possible, in written or electronic form, of any patents (granted or under application) that may cover technology that is under consideration by or has been approved by IEEE 802.16. The Chair will disclose this notification via the IEEE 802.16 web site <http://ieee802.org/16/ipr/patents/notices>.

Table of Content

1

1. Introduction

This contribution proposes the text and ASN.1 code in wmanIf2mMib to support MOB_PAG-ADV message.

2. Proposed changes

2.1 wmanIf2mMib Change

13.1.4.1 wmanIf2mBsObjects

13.1.4.1.1 wmanIf2mBsCm

[Change Figure 19 as the following:]

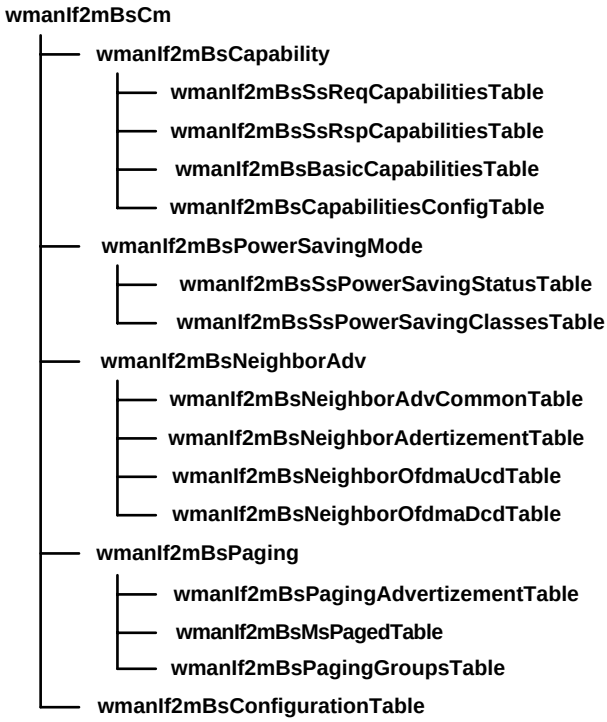

Figure 19—wmanIf2mBsCm structure

[Add the following text to subclause 13.1.4.1.1:]

13.1.4.1.1.4 wmanIf2mBsPaging

13.1.4.1.1.4.1 wmanIf2mBsPagingAdvertizementTable

wmanIf2mBsPagingAdvertizementTable contains the attributes that BS broadcasts in the MOB_PAG-ADV message.

13.1.4.1.1.4.2 wmanIf2mBsMsPagedTable

wmanIf2mBsMsPagedTable contains the MSs that are paged in the MOB_PAG-ADV message.

13.1.4.1.1.4.2 wmanIf2mBsPagingGroupsTable

wmanIf2mBsPagingGroupsTable contains paging group IDs that BS can broadcast in the MOB_PAG-ADV message.

2.2 ASN.1 Code Change

13.2 ASN.1 Definitions of MIB Modules

13.2.4 wmanIf2mMib

[Add the following code to WMAN-IF2m-MIB:]

```
WmanIf2mPagingAction ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "Paging action instruction to MS
             0b00 = No Action Required
             0b01 = Perform Ranging to establish location and
                    acknowledge message
             0b10 = Enter Network"
        REFERENCE
            "Subclause 6.3.2.3.56, Table 109p in IEEE Std 802.16e-2005"
        SYNTAX      INTEGER {noAction(0),
                             performRanging(1),
                             enterNetwork(2)}


WmanIf2mSsMacAddrHash ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
          "24 bit SS MAC address hash that is obtained by computing a
           CRC24 on the MS 48-bit MAC address."
        REFERENCE
            "Subclause 6.3.2.3.56, Table 109p in IEEE Std 802.16e-2005"
        SYNTAX      OCTET STRING (SIZE(3))

wmanIf2mBsPaging OBJECT IDENTIFIER ::= { wmanIf2mBsCm 4 }

-- XXX
-- wmanIf2mBsPagingAdvertizementTable
--
wmanIf2mBsPagingAdvertizementTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2mBsPagingAdvertizementEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            " This table contains the attributes that BS broadcasts in
             the MOB_PAG-ADV message."
        REFERENCE
            "Subclause 6.3.2.3.56, Table 109p in IEEE Std 802.16e-2005"
```

```
        ::= { wmanIf2mBsPaging 1 }

wmanIf2mBsPagingAdvertizementEntry OBJECT-TYPE
        SYNTAX      WmanIf2mBsPagingAdvertizementEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by ifIndex."
        INDEX { ifIndex }
        ::= { wmanIf2mBsPagingAdvertizementTable 1 }

WmanIf2mBsPagingAdvertizementEntry ::= SEQUENCE {
        wmanIf2mBsPagingGroupListIndex          INTEGER,
        wmanIf2mBsPagingRspWindow               INTEGER,
        wmanIf2BsBsToPagingAdvRowStatus         RowStatus}

wmanIf2mBsPagingGroupListIndex OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
          "wmanIf2mBsPagingGroupListIndex maps to
           wmanIf2mBsPagingGroupListId in wmanIf2mBsPagingGroupsTable
           , and is used to identify the list of paging group IDs."
        ::= { wmanIf2mBsPagingAdvertizementEntry 1 }

wmanIf2mBsPagingRspWindow OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 255)
        UNITS       "Frames"
        MAX-ACCESS  read-create
        STATUS      current
        DESCRIPTION
          "OFDMA-PHY specific parameter used to indicate the time
           window during which the MS shall transmit the CDMA code at
           the transmission opportunity assigned in the CDMA code and
           transmission opportunity assignment TLV. The start of the
           window is the next frame after receiving the MOB_PAG-ADV."
        REFERENCE
            "Subclause 11.17.2 in IEEE Std 802.16e-2005"
        ::= { wmanIf2mBsPagingAdvertizementEntry 2 }

wmanIf2BsBsToPagingAdvRowStatus OBJECT-TYPE
        SYNTAX          RowStatus
        MAX-ACCESS      read-create
        STATUS          current
        DESCRIPTION
            "This object is used to ensure that the write, create,
             delete operation to multiple columns is guaranteed to
             be treated as atomic operation by agent."
        ::= { wmanIf2mBsPagingAdvertizementEntry 3 }

wmanIf2mBsMsPagedTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2mBsMsPagedEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains the MSs that are paged in the
             MOB_PAG-ADV message."
        REFERENCE
            "Subclause 6.3.2.3.56, Table 109p in IEEE Std 802.16e-2005"
        ::= { wmanIf2mBsPaging 2 }

wmanIf2mBsMsPagedEntry OBJECT-TYPE
        SYNTAX      WmanIf2mBsMsPagedEntry
```

```
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is indexed by wmanIf2mBsSsMacAddress."
        INDEX { wmanIf2mBsSsMacAddress }
        ::= { wmanIf2mBsMsPagedTable 1 }

WmanIf2mBsMsPagedEntry ::= SEQUENCE {
        wmanIf2mBsSsMacAddrHash                 WmanIf2mSsMacAddrHash,
        wmanIf2mBsPagingActionCode              WmanIf2mPagingAction,
        wmanIf2mBsCdmaCodeAndTxOpportunity      INTEGER}

-- XXX
wmanIf2mBsSsMacAddrHash OBJECT-TYPE
        SYNTAX      WmanIf2mSsMacAddrHash
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
          "The hash is obtained by computing a CRC24 on the MS 48-bit
             MAC address. The polynomial for the calculation is
             0x1864CFB"
        REFERENCE
            "Subclause 6.3.2.3.56, Table 109p in IEEE Std 802.16e-2005"
        ::= { wmanIf2mBsMsPagedEntry 1 }

-- XXX
wmanIf2mBsPagingActionCode OBJECT-TYPE
        SYNTAX      WmanIf2mPagingAction
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
          "Paging action instruction to MS."
        REFERENCE
            "Subclause 6.3.2.3.56, Table 109p in IEEE Std 802.16e-2005"
        ::= { wmanIf2mBsMsPagedEntry 2 }

-- XXX
wmanIf2mBsCdmaCodeAndTxOpportunity OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "OFDMA-PHY specific parameter used to indicate CDMA code
             and transmission opportunity assigned to one or more MSs
             being paged in this message. One CDMA code and
             transmission opportunity assignment in the TLV corresponds
             to one MS paged. If wmanIf2mBsPagingActionCode is 'No
             Action Required', then it should return 0."
        REFERENCE
            "Subclause 11.17.1 in IEEE Std 802.16e-2005"
        ::= { wmanIf2mBsMsPagedEntry 3 }

-- XXX
wmanIf2mBsPagingGroupsTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF WmanIf2mBsPagingGroupsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table contains paging group IDs that BS can broadcast
             in the MOB_PAG-ADV message."
        REFERENCE
            "Table 109f and Table 358 in IEEE Std 802.16e-2005"
        ::= { wmanIf2mBsPaging 3 }
```

```
wmanIf2mBsPagingGroupsEntry OBJECT-TYPE
        SYNTAX      WmanIf2mBsPagingGroupsEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This table is doubled indexed by
             wmanIf2mBsPagingGroupListId and wmanIf2mBsPagingGroupId.
             Each entry contains a paging group ID. If multiple paging
             group IDs are to be formed in a list that will be
             broadcast by a BS, these paging group IDs should be
             identified by the same wmanIf2mBsPagingGroupListId value."
        INDEX { wmanIf2mBsPagingGroupListId,
                wmanIf2mBsPagingGroupId }
        ::= { wmanIf2mBsPagingGroupsTable 1 }

WmanIf2mBsPagingGroupsEntry ::= SEQUENCE {
        wmanIf2mBsPagingGroupListId             INTEGER,
        wmanIf2mBsPagingGroupId                 INTEGER,
        wmanIf2BsBsToPageGroupsRowStatus        RowStatus}

-- XXX
wmanIf2mBsPagingGroupListId OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "The index to the wmanIf2mBsPagingGroupsTable."
        REFERENCE
            "Table 109f in IEEE Std 802.16e-2005"
        ::= { wmanIf2mBsPagingGroupsEntry 1 }

-- XXX
wmanIf2mBsPagingGroupId OBJECT-TYPE
        SYNTAX      INTEGER (0 .. 65535)
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
            "This field indicates the ID of the paging group."
        REFERENCE
            "Subclause 6.3.2.3.47, Table 109f in IEEE Std 802.16e-2005"
        ::= { wmanIf2mBsPagingGroupsEntry 2 }

wmanIf2BsBsToPageGroupsRowStatus OBJECT-TYPE
        SYNTAX          RowStatus
        MAX-ACCESS      read-create
        STATUS          current
        DESCRIPTION
            "This object is used to ensure that the write, create,
             delete operation to multiple columns is guaranteed to
             be treated as atomic operation by agent."
        ::= { wmanIf2mBsPagingGroupsEntry 3 }
```