

Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >
Title	<b>Sleep Mode Statistics</b>
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Re:	
Abstract	This contribution proposed the text and ASN.1 code for Sleep mode Statistics objects.
Purpose	Adoption
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1

1

2 **1. Introduction**

3

4 This contribution proposes the text for Section 15.2.1.1.2 and ASN.1 code Section 15.2.2 of IEEE P802.16i-06-001r1 draft.

5 **2. Sleep Mode Statistics**

6

7 This section proposes new table for Sleep Mode Statistics.

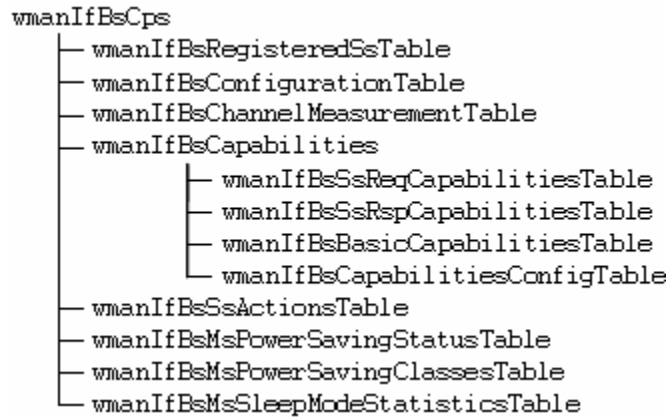
8

9 *[Replace Figure 7 in subclause 15.2.1.1.2 with the following:]*

10

11 **15.2.1.1.2 wmanIfBsCps**

12



13

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18

19 **Figure 7— wmanIfBsCps structure**

20

21 *[Insert a new subclause 15.2.1.1.2.8:]*

22

23 **15.2.1.1.2.8 wmanIfBsMsSleepModeStatisticsTable**

24

25 wmanIfBsMsPowerSavingClassesTable contains the sleep mode statistic for MS.

26 **3. ASN.1 Code for Sleep Mode Statistics**

27

28 The following lists the ASN.1 code for Sleep Mode Statistics.

29

30 *[Insert the following ASN.1 code to subclause 15.2:]*

31

```

32 --
33 -- Mobile Station Sleep Mode Statistics Table
34 --
35 wmanIfBsMsSleepModeStatisticsTable OBJECT-TYPE
36     SYNTAX      SEQUENCE OF WmanIfBsMsSleepModeStatisticsEntry
37     MAX-ACCESS  not-accessible
38     STATUS      current
39     DESCRIPTION
  
```

```

1         "This table contains the sleep mode statistic for MS. This
2         table shall be maintained as FIFO to store the sleep mode
3         statistics over a period of time that is subject to
4         implementation. This statistics information can be to
5         monitor, fine tuning, or debugging the power saving
6         performance of each MS. When the statistics entry for an
7         MS reaches the limit, it wraps around to the beginning, and
8         overwrites the oldest entry with the new entry. When the BS
9         roams to a different BS, all entries associated with such
10        MS will be deleted."
11    REFERENCE
12        "6.3.21 in IEEE Std 802.16e-2005"
13    ::= { wmanIfBsCps 8 }
14
15    wmanIfBsMsSleepModeStatisticsEntry OBJECT-TYPE
16    SYNTAX      WmanIfBsMsSleepModeStatisticsEntry
17    MAX-ACCESS  not-accessible
18    STATUS      current
19    DESCRIPTION
20        "Each entry in the table contains the event of an MS
21        entering the sleep mode. It is indexed by ifIndex,
22        wmanIfBsSsMacAddress, and wmanIfBsMsStatisticsIndex.
23        wmanIfBsMsStatisticsIndex is the index to sleep mode event
24        entry in the table, and should be increased monotonically,
25        and wraps around when it reaches the implementation
26        specific limit. A time stamp is provided in each entry to
27        indicate when the sleep mode event took place."
28    INDEX      { ifIndex,
29                wmanIfBsSsMacAddress,
30                wmanIfBsMsCid,
31                wmanIfBsMsStatisticsIndex }
32    ::= { wmanIfBsMsSleepModeStatisticsTable 1 }
33
34    WmanIfBsMsSleepModeStatisticsEntry ::= SEQUENCE {
35        wmanIfBsMsStatisticsIndex      Unsigned32,
36        wmanIfBsMsSleepWindowStarted  Unsigned32,
37        wmanIfBsMsListeningWindowStarted Unsigned32,
38        wmanIfBsMsPendingMsdu         INTEGER,
39        wmanIfBsMsSleepWindowTimeStamp DateAndTime}
40
41    wmanIfBsMsStatisticsIndex OBJECT-TYPE
42    SYNTAX      Unsigned32 (1 .. 4294967295)
43    MAX-ACCESS  read-only
44    STATUS      current
45    DESCRIPTION
46        "wmanIfBsMsStatisticsIndex identifies the entry in the
47        table where the latest sleep mode event took place."
48    ::= { wmanIfBsMsSleepModeStatisticsEntry 1 }
49
50    wmanIfBsMsSleepWindowStarted OBJECT-TYPE
51    SYNTAX      Unsigned32 (1 .. 166777215)
52    UNITS       "frame"
53    MAX-ACCESS  read-only
54    STATUS      current
55    DESCRIPTION
56        "wmanIfBsMsSleepWindowStarted identifies when the sleep
57        mode is activated.
58        wmanIfBsMsSleepWindowStarted = current frame number +
59        Start_frame_number.
60        The frame number is provided in the DL-MAP, and is
61        incremented by 1 MOD 2^24 each frame."
62    ::= { wmanIfBsMsSleepModeStatisticsEntry 2 }
63
64    wmanIfBsMsListeningWindowStarted OBJECT-TYPE
65    SYNTAX      Unsigned32 (1 .. 166777215)
66    UNITS       "frame"
67    MAX-ACCESS  read-only
68    STATUS      current
69    DESCRIPTION
70        "wmanIfBsMsListeningWindowStarted identifies when the sleep
71        mode is deactivated.
72        wmanIfBsMsListeningWindowStarted =

```

```
1           wmanIfBsMsListeningWindowStarted + sleep window
2           The frame number is provided in the DL-MAP, and is
3           incremented by 1 MOD 2^24 each frame."
4           ::= { wmanIfBsMsSleepModeStatisticsEntry 3 }
5
6   wmanIfBsMsPendingMsdu OBJECT-TYPE
7       SYNTAX      INTEGER
8       MAX-ACCESS  read-only
9       STATUS      current
10      DESCRIPTION
11          "Indicate the number of MAC SDU that are received from the
12           network during the sleep window."
13          ::= { wmanIfBsMsSleepModeStatisticsEntry 4 }
14
15  wmanIfBsMsSleepWindowTimeStamp OBJECT-TYPE
16      SYNTAX      DateAndTime
17      MAX-ACCESS  read-only
18      STATUS      current
19      DESCRIPTION
20          "This is the time when sleep window is started in seconds.
21           The definition of time is as in IETF RFC 868."
22          ::= { wmanIfBsMsSleepModeStatisticsEntry 5 }
23
24
```

