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Title	<b>Proposed text and ASN.1 code for service flow Management</b>
Date Submitted	<b>2007-05-08</b>
Source(s)	Joey Chou Intel Corporation <a href="mailto:joey.chou@intel.com">[mailto:joey.chou@intel.com]</a>
Re:	
Abstract	This contribution proposes the text and ASN.1 code in wmanIf2mMib to support service flow management.
Purpose	Adoption
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# 1. Introduction

This contribution proposes the text and ASN.1 code in wmanIf2mMib to support service flow management.

## 2. Proposed changes

### 2.1 wmanIf2mBsCmObjects Change

#### 13.1.4.1 wmanIf2mBsCmObjects

##### 13.1.4.1.1 wmanIf2mBsCm

[Change Figure 16 as the following:]

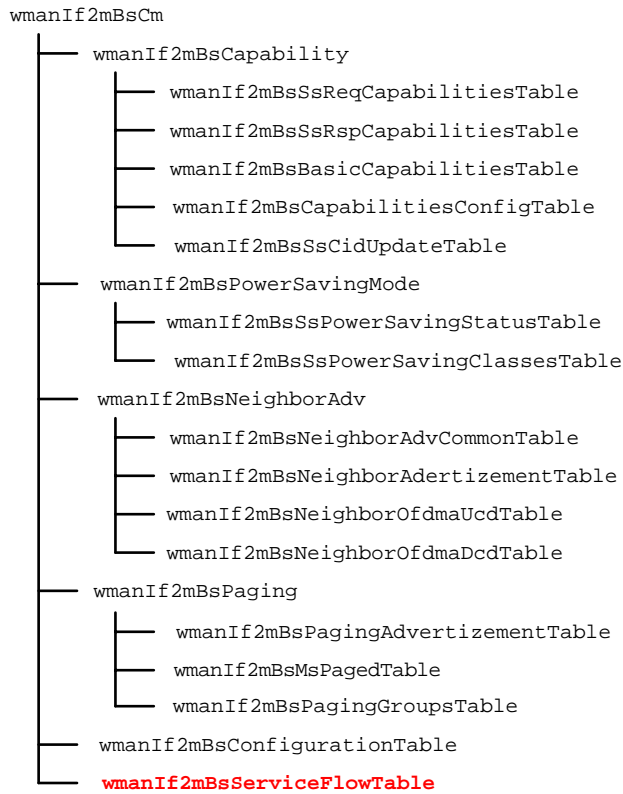


Figure 16— wmanIf2mBsCm structure

[Add the following subclause as below:]

##### 13.1.4.1.1.6 wmanIf2mBsServiceFlowTable

1 wmanIf2mBsServiceFlowTable contains the service flow database. When an SS first registers at  
 2 the BS, the BS should download the SS' service flow profile (e.g. QoS parameter set and  
 3 classification rules) from the home AAA server.

4 For fixed or normadic SS, its service flow profile will not be changed in the entire duration of the  
 5 session. For portable or mobile SS, when the SS handoffs to another BS, as part of the context  
 6 transfer, the serving BS should transfer service flow profile to the target BS. After the handoff, the  
 7 old serving BS shall change the wmanIf2BsServiceflowState of the service flows, previously used  
 8 by the SS to 'inactive'.

9 The BS may cleanup wmanIf2BsServiceFlowTable periodically, by removing those entries with  
 10 wmanIf2BsServiceflowState = 'inactive'.

11 **2.2 wmanIf2mSsObjects Change**

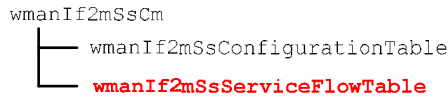
12 **13.1.4.2 wmanIf2mSsObjects**

13

14 **13.1.4.2.1 wmanIf2mSsCm**

15 [Change Figure 18 as the following:]

16



17

18

19 **Figure 18— wmanIf2mSsCm structure**

20

21 [Add the following subclause as below:]

22 **13.1.4.2.1.2 wmanIf2mSsServiceFlowTable**

23 wmanIf2mSsServiceFlowTable contains the service flow database. BS creates the service flow  
 24 after has downloaded the SS' service flow profile (e.g. QoS parameter set and classification rules)  
 25 from the home AAA server.

26

27 **2.3 wmanIf2mBsServiceFlowTable ASN.1 Code Change**

28 **13.2 ASN.1 Definitions of MIB Modules**

29 **13.2.3 wmanIf2mMib**

30 [Add the following ASN.1 code:]

31

32

33

34

35

36

```

-- XXX
WmanIf2mSfState ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "Defines the state of a service flow."
  
```

```

1         'inactive' - A service flow is inactive, when the MS owns
2                   this service flow has handoff to another BS.
3         'provisioned' - A service flow is provisioned, but not
4                   yet activated.
5         'admitted' - This maps to the 1st phase of the two-phase
6                   activation model that the bandwidth a service
7                   flow is reserved. But, no traffic can be
8                   sent on this service flow yet.
9         'active' - This maps to the 2nd phase of the two-phase
10                  activation model that bandwidth is granted,
11                  (e.g., is actively sending UL maps containing
12                  unsolicited grants for a UGS service flow)."
```

REFERENCE

```

13         "Subclause 6.3.14.6 in IEEE Std 802.16-2004"
```

SYNTAX INTEGER {inactive(0),  
provisioned(1),  
admitted(2),  
active(3)}

```

19
20 -- XXX
21 WmanIf2mGlobalSrvClass ::= TEXTUAL-CONVENTION
22     STATUS current
23     DESCRIPTION
24         "Global Service Class Name contains 8 information fields
25         that map to predefined QoS attributes as shown in
26         subclause 6.3.14.4.1.
27
28         bit#0:    Uplink/Downlink indicator
29                   0 - uplink
30                   1 - downlink
31         bit#1-6:  Maximum sustained traffic rate in bps that is
32                   defined in Table 124b
33         bit#7:    0 - no traffic indication
34                   1 - traffic indication
35         bit#8-13: Maximum traffic burst defines the maximum burst
36                   size that must be accommodated for the service.
37         bit#14-19: Minimum reserved traffic rate parameter
38                   specifies the minimum rate, in bits per second,
39                   reserved for this service flow.
40         bit#20-25: Maximum latency specifies the maximum interval
41                   between the reception of a packet at CS of BS
42                   or SS and the arrival of the packet to the peer
43                   device.
44         bit#26:   SDU indicator specifies whether the SDUs on the
45                   service flow are fixed-length or variable-length.
46                   0 - variable length
47                   1 - fixed length
48         bit#27:   Paging indicator of an MS preference for the
49                   reception of paging advisory messages during
50                   idle mode. When set, it indicates that the BS
51                   may present paging advisory messages or other
52                   indicative messages to the MS when data SDUs
53                   bound for the MS are present while the MS is in
54                   Idle Mode.
55                   0 - no paging generation
56                   1 - paging generation"
```

REFERENCE

```

57         "Subclause 6.3.14.4.1 Table 124a in IEEE Std 802.16e-2005"
```

SYNTAX BITS {ulDlIndicator(0),  
maxSustainedRate0(1),  
maxSustainedRate1(2),  
maxSustainedRate2(3),  
maxSustainedRate3(4),  
maxSustainedRate4(5),

```

1           maxSustainedRate5(6),
2           trafficIndication(7),
3           maxTrafficBurst0(8),
4           maxTrafficBurst1(9),
5           maxTrafficBurst2(10),
6           maxTrafficBurst3(11),
7           maxTrafficBurst4(12),
8           maxTrafficBurst5(13),
9           minReservedRate0(14),
10          minReservedRate1(15),
11          minReservedRate2(16),
12          minReservedRate3(17),
13          minReservedRate4(18),
14          minReservedRate5(19),
15          maxLatency0(20),
16          maxLatency1(21),
17          maxLatency2(22),
18          maxLatency3(23),
19          maxLatency4(24),
20          maxLatency5(25),
21          sduIndicator(26),
22          pagingGeneration(27),
23          reserved0(28),
24          reserved1(29),
25          reserved2(30),
26          reserved3(31) }
27
28  -- XXX
29  WmanIf2mSfDirection ::= TEXTUAL-CONVENTION
30      STATUS          current
31      DESCRIPTION
32          "The direction of a service flow"
33      SYNTAX          INTEGER {downstream(1),
34                          upstream(2) }
35
36  -- XXX
37  WmanIf2mReqTxPolicy ::= TEXTUAL-CONVENTION
38      STATUS          current
39      DESCRIPTION
40          "Specify certain attributes for the associated service
41          flow. An attribute is enabled by setting the
42          corresponding bit position to 1.
43
44          bit#0: Service flow shall not use broadcast bandwidth
45                  request opportunities. (Uplink only)
46          bit#1: reserved
47          bit#2: The service flow shall not piggyback requests with
48                  data. (Uplink only)
49          bit#3: The service flow shall not fragment data.
50          bit#4: The service flow shall not suppress payload headers
51                  (CS parameter)
52          bit#5: The service flow shall not pack multiple SDUs (or
53                  fragments) into single MAC PDUs.
54          bit#6: The service flow shall not include CRC in the MAC
55                  PDU."
56      REFERENCE
57          "Subclause 11.13.12 in IEEE Std 802.16-2004"
58      SYNTAX          BITS {noBroadcastBwReq(0),
59                          reserved1(1),
60                          noPiggybackReq(2),
61                          noFragmentData(3),
62                          noPHS(4),
63                          noSduPacking(5),
64                          noCrc(6),

```

```

1             reserved2(7) }
2
3
4 -- XXX
5 WmanIf2mPhsRuleVerify ::= TEXTUAL-CONVENTION
6     STATUS          current
7     DESCRIPTION
8         "The value of this field indicates to the sending entity
9         whether or not the packet header contents are to be
10        verified prior to performing suppression. If PHSV is
11        enabled, the sender shall compare the bytes in the packet
12        header with the bytes in the PHSF that are to be
13        suppressed as indicated by the PHSM."
14    REFERENCE
15        "Subclause 11.13.19.3.7.5 in IEEE Std 802.16-2004"
16    SYNTAX          INTEGER {phsVerifyEnable(0),
17                       phsVerifyDisable(1)}
18
19 -- XXX
20 WmanIf2mSchedulingType ::= TEXTUAL-CONVENTION
21     STATUS          current
22     DESCRIPTION
23         "The scheduling service provided by a SC for an
24         upstream service flow. If the parameter is omitted
25         from an upstream QOS Parameter Set, this object takes
26         the value of bestEffort (2). This parameter must be
27         reported as undefined (1) for downstream QOS Parameter
28         Sets."
29    SYNTAX          INTEGER {undefined(1),
30                       bestEffort(2),
31                       nonRealTimePollingService(3),
32                       realTimePollingService(4),
33                       extRealTimePollingService(5),
34                       unsolicitedGrantService(6)}
35
36 -- XXX
37 WmanIf2mCsSpecification ::= TEXTUAL-CONVENTION
38     STATUS          current
39     DESCRIPTION
40         "Defines the types of convergence sublayer."
41    REFERENCE
42        "Subclause 11.13.19.1 in IEEE Std 802.16e-2005"
43    SYNTAX          INTEGER {reserved(0),
44                       packetIPv4(1),
45                       packetIPv6(2),
46                       packet802dot3Ethernet(3),
47                       packet802dot1QVlan(4),
48                       packetIPv4Over802dot3(5),
49                       packetIPv6Over802dot3(6),
50                       packetIPv4Over802dot1Q(7),
51                       packetIPv6Over802dot1Q(8),
52                       atm(9),
53                       packet802dot3EthernetRohcHc(10),
54                       packet802dot3EthernetEcrtPc(11),
55                       packetIp2RohcHc(12),
56                       packetIp2EcrtPc(13)}
57
58 -- XXX
59 WmanIf2mIpv6FlowLabel ::= TEXTUAL-CONVENTION
60     STATUS          current
61     DESCRIPTION
62         "The value of this field specifies the matching values for
63         the IPv6 Flow label field. As the flow label field has a
64         length of 20 bits, the first 4 bits of the most
65         significant byte shall be set to 0x0 and disregarded."
66    SYNTAX          OCTET STRING (SIZE(3))
67
68 -- XXX

```

```

1  WmanIf2mClassifierBitMap ::= TEXTUAL-CONVENTION
2      STATUS          current
3      DESCRIPTION
4          "A bit of of this object is set to 1 if the parameter
5          indicated by the comment was present in the classifier
6          encoding, and 0 otherwise.
7          Note: that BITS are encoded most significant bit first,
8          so that if e.g. bits 6 and 7 are set, this object is
9          encoded as the octet string '030000'H."
10     REFERENCE
11         "Subclause 11.13.19.3.4 in IEEE Std 802.16-2004"
12     SYNTAX          BITS {priority(0),
13                    ipTos(1),
14                    ipProtocol(2),
15                    ipMaskedSrcAddr(3),
16                    ipMaskedDestAddr(4),
17                    srcPort(5),
18                    destPort(6),
19                    destMacAddr(7),
20                    srcMacAddr(8),
21                    ethernetProtocol(9),
22                    userPriority(10),
23                    vlanId(11),
24                    ipv6FlowLabel(12)}
25
26     -- XXX
27     wmanIf2mBsServiceFlowTable OBJECT-TYPE
28         SYNTAX      SEQUENCE OF WmanIf2mBsServiceFlowEntry
29         MAX-ACCESS  not-accessible
30         STATUS      current
31         DESCRIPTION
32             "This table contains the service flow database. When an SS
33             first registers at the BS, the BS should download the
34             SS' service flow profile (e.g. QoS parameter set and
35             classification rules) from the home AAA server.
36
37             For fixed or normadic SS, its service flow profile will
38             not be changed in the entire duration of the session.
39
40             For portable or mobile SS, when the SS handoffs to another
41             BS, as part of the context transfer, the serving BS should
42             transfer service flow profile to the target BS. After the
43             handoff, the old serving BS shall change the
44             wmanIf2mBsServiceFlowState of the service flows, previously
45             used by the SS to 'inactive'.
46
47             The BS may cleanup wmanIf2mBsServiceFlowTable periodically,
48             by removing those entries with wmanIf2mBsServiceFlowState
49             = 'inactive'."
50         REFERENCE
51             "Subclause 6.3.14 in IEEE Std 802.16e-2005"
52         ::= { wmanIf2mBsCm 6 }
53
54     wmanIf2mBsServiceFlowEntry OBJECT-TYPE
55         SYNTAX      WmanIf2mBsServiceFlowEntry
56         MAX-ACCESS  not-accessible
57         STATUS      current
58         DESCRIPTION
59             "This table provides one row for each service flow. The
60             table is indexed by ifIndex, wmanIf2mBsSsMacAddress and
61             wmanIf2mBsSsSfId. ifIndex is associated with the BS sector.
62             It supports both unicast and multicast service flows:
63             Unicast - a SS (wmanIf2mBsSsMacAddress) may contain
64             multiple service flows (wmanIf2mBsSsSfId)

```



```

1           Multicast - a service flow (wmanIf2mBsSsSfId) may be
2           multicast to multiple SS
3           (wmanIf2mBsSsMacAddress)"
4   INDEX { ifIndex, wmanIf2mBsSsMacAddress, wmanIf2mBsSsSfId }
5   ::= { wmanIf2mBsServiceFlowTable 1 }
6
7   WmanIf2mBsServiceFlowEntry ::= SEQUENCE {
8       wmanIf2mBsSsMacAddress           MacAddress,
9       wmanIf2mBsServiceFlowDirection  WmanIf2mSfDirection,
10      wmanIf2mBsProvisionedGlobalServiceClass WmanIf2mGlobalSrvClass,
11      wmanIf2mBsAdmittedGlobalServiceClass  WmanIf2mGlobalSrvClass,
12      wmanIf2mBsActiveGlobalServiceClass    WmanIf2mGlobalSrvClass,
13      wmanIf2mBsProvisionedQoSProfileIndex  INTEGER,
14      wmanIf2mBsAdmittedQoSProfileIndex    INTEGER,
15      wmanIf2mBsActiveQoSProfileIndex      INTEGER,
16      wmanIf2mBsClassifierRuleIndex        Unsigned32,
17      wmanIf2mBsPhsRuleIndex               INTEGER,
18      wmanIf2mBsArqAttributeIndex          INTEGER,
19      wmanIf2mBsServiceFlowState           WmanIf2mSfState,
20      wmanIf2mBsCid                        INTEGER,
21      wmanIf2mBsSfCsSpecification          WmanIf2mCsSpecification,
22      wmanIf2mBsSfMinTolerableTrafficRate  Unsigned32,
23      wmanIf2mBsSfReqTxPolicy              WmanIf2mReqTxPolicy,
24      wmanIf2mBsSfTargetSaid               INTEGER,
25      wmanIf2mBsSfEstablishTime            TimeStamp,
26      wmanIf2mBsSfTerminateTime            TimeStamp}
27
28   wmanIf2mBsSsMacAddress OBJECT-TYPE
29       SYNTAX      MacAddress
30       MAX-ACCESS  not-accessible
31       STATUS      current
32       DESCRIPTION
33           "The MAC address of the SS that the service flow is
34           associated with."
35       ::= { wmanIf2mBsServiceFlowEntry 1 }
36
37   wmanIf2mBsServiceFlowDirection OBJECT-TYPE
38       SYNTAX      WmanIf2mSfDirection
39       MAX-ACCESS  read-only
40       STATUS      current
41       DESCRIPTION
42           "An attribute indicating the direction of a service flow."
43       ::= { wmanIf2mBsServiceFlowEntry 2 }
44
45   wmanIf2mBsProvisionedGlobalServiceClass OBJECT-TYPE
46       SYNTAX      WmanIf2mGlobalSrvClass
47       MAX-ACCESS  read-only
48       STATUS      current
49       DESCRIPTION
50           "This object defines the ProvisionedQoSParamSet for this
51           service flow. When '0' is returned from reading this object
52           , it means either no global service class is defined, or
53           its Qos profile may be defined in
54           wmanIf2mBsProvisionedQoSProfileIndex."
55       REFERENCE
56           "Subclause 6.3.14.4.1 Table 124a in IEEE Std 802.16e-2005"
57       ::= { wmanIf2mBsServiceFlowEntry 3 }
58
59   wmanIf2mBsAdmittedGlobalServiceClass OBJECT-TYPE
60       SYNTAX      WmanIf2mGlobalSrvClass
61       MAX-ACCESS  read-only
62       STATUS      current
63       DESCRIPTION
64           "This object defines the AdmittededQoSParamSet for this

```

```

1         service flow. When '0' is returned from reading this object
2         , it means either no global service class is defined, or
3         its Qos profile may be defined in
4         wmanIf2mBsAdmittedQoSProfileIndex. AdmitteddedQoSParamSet is
5         a subset of ProvisionedQoSParamSet."
6     REFERENCE
7         "Subclause 6.3.14.4.1 Table 124a in IEEE Std 802.16e-2005"
8     ::= { wmanIf2mBsServiceFlowEntry 4 }
9
10    wmanIf2mBsActiveGlobalServiceClass OBJECT-TYPE
11        SYNTAX      WmanIf2mGlobalSrvClass
12        MAX-ACCESS  read-only
13        STATUS      current
14        DESCRIPTION
15            "This object defines the ActiveQoSParamSet for this service
16            flow. When '0' is returned from reading this object, it
17            means either no global service class is defined, or its Qos
18            profile may be defined in wmanIf2mBsActiveQoSProfileIndex.
19            ActiveQoSParamSet is a subset of AdmitteddedQoSParamSet."
20        REFERENCE
21            "Subclause 6.3.14.4.1 Table 124a in IEEE Std 802.16e-2005"
22        ::= { wmanIf2mBsServiceFlowEntry 5 }
23
24    wmanIf2mBsProvisionedQoSProfileIndex OBJECT-TYPE
25        SYNTAX      INTEGER (1 .. 65535)
26        MAX-ACCESS  read-only
27        STATUS      current
28        DESCRIPTION
29            "This index points to an entry in wmanIf2mCmnQoSProfileTable
30            that defines the ProvisionedQoSParamSet of a service flow.
31            If WmanIf2mSfState = 'provisioned', then
32            ProvisionedQoSParamSet is the QoS profile for this service
33            flow. When '0' is returned from reading this object, it
34            means the QoS profile either is not defined, or is defined
35            in wmanIf2mBsProvisionedQoSProfileIndex."
36        REFERENCE
37            "Subclause 6.3.13 and 6.3.14 in IEEE Std 802.16-2004"
38        ::= { wmanIf2mBsServiceFlowEntry 6 }
39
40    wmanIf2mBsAdmittedQoSProfileIndex OBJECT-TYPE
41        SYNTAX      INTEGER (1 .. 65535)
42        MAX-ACCESS  read-only
43        STATUS      current
44        DESCRIPTION
45            "This index points to an entry in wmanIf2mCmnQoSProfileTable
46            that defines the AdmittedQoSParamSet of a service flow. If
47            WmanIf2mSfState = 'admitted', then AdmittedQoSParamSet is
48            the QoS profile for this service flow. When '0' is returned
49            from reading this object, it means the QoS profile either
50            is not defined, or is defined in
51            wmanIf2mBsAdmittedQoSProfileIndex. AdmitteddedQoSParamSet is
52            a subset of ProvisionedQoSParamSet."
53        REFERENCE
54            "Subclause 6.3.13 and 6.3.14 in IEEE Std 802.16-2004"
55        ::= { wmanIf2mBsServiceFlowEntry 7 }
56
57    wmanIf2mBsActiveQoSProfileIndex OBJECT-TYPE
58        SYNTAX      INTEGER (1 .. 65535)
59        MAX-ACCESS  read-only
60        STATUS      current
61        DESCRIPTION
62            "This index points to an entry in wmanIf2mCmnQoSProfileTable
63            that defines the ActiveQoSParamSet of a service flow. If
64            WmanIf2mSfState = 'active', then ActiveQoSParamSet is the

```

```

1           QoS profile for this service flow. When '0' is returned
2           from reading this object, it means the QoS profile either
3           is not defined, or is defined in
4           wmanIf2mBsActiveQoSProfileIndex. ActiveQoSParamSet is a
5           subset of AdmittedQoSParamSet."
6   REFERENCE
7           "Subclause 6.3.13 and 6.3.14 in IEEE Std 802.16-2004"
8   ::= { wmanIf2mBsServiceFlowEntry 8 }
9
10  wmanIf2mBsClassifierRuleIndex OBJECT-TYPE
11      SYNTAX      Unsigned32 (1 .. 4294967295)
12      MAX-ACCESS  read-only
13      STATUS      current
14      DESCRIPTION
15          "This index points to an entry in
16          wmanIf2mCmnClassifierRuleTable that defines the
17          classification rules for a service flow. When '0' is
18          returned from reading this object, it means the
19          classification rules are not defined for this service
20          flow."
21      REFERENCE
22          "Subclause 11.13.19.3.4 in IEEE Std 802.16-2004"
23      ::= { wmanIf2mBsServiceFlowEntry 9 }
24
25  wmanIf2mBsPhsRuleIndex OBJECT-TYPE
26      SYNTAX      INTEGER (1 .. 255)
27      MAX-ACCESS  read-only
28      STATUS      current
29      DESCRIPTION
30          "This index points to an entry in wmanIf2mCmnPhsRuleTable
31          that defines the packet suppression rules for a service
32          flow. When '0' is returned from reading this object, it
33          means the PHS rules are not defined for this service
34          flow."
35      REFERENCE
36          "Subclause 11.13.19.3.5 in IEEE Std 802.16-2004"
37      ::= { wmanIf2mBsServiceFlowEntry 10 }
38
39  wmanIf2mBsArqAttributeIndex OBJECT-TYPE
40      SYNTAX      INTEGER (1 .. 65535)
41      MAX-ACCESS  read-only
42      STATUS      current
43      DESCRIPTION
44          "This index points to an entry in
45          wmanIf2mCmnArqAttributeTable that defines the ARQ
46          attributes for a service flow. When '0' is returned from
47          reading this object, it means the ARQ attributes are not
48          defined for this service flow."
49      REFERENCE
50          "Subclause 11.13.19.3.5 in IEEE Std 802.16-2004"
51      ::= { wmanIf2mBsServiceFlowEntry 11 }
52
53  wmanIf2mBsServiceFlowState OBJECT-TYPE
54      SYNTAX      WmanIf2mSfState
55      MAX-ACCESS  read-only
56      STATUS      current
57      DESCRIPTION
58          "wmanIf2mBsServiceFlowState determines the state of a service
59          flow."
60      REFERENCE
61          "Subclause 6.3.14.6, in IEEE Std 802.16-2004"
62      ::= { wmanIf2mBsServiceFlowEntry 12 }
63
64  wmanIf2mBsCid OBJECT-TYPE

```

```

1      SYNTAX      INTEGER (0 .. 65535)
2      MAX-ACCESS  read-only
3      STATUS      current
4      DESCRIPTION
5          "A 16 bit channel identifier points to the connection being
6          created by DSA for this service flow. When '0' is returned
7          from reading this object, it means no CID has been assigned
8          to this service flow yet."
9      ::= { wmanIf2mBsServiceFlowEntry 13 }
10
11  wmanIf2mBsSfCsSpecification OBJECT-TYPE
12      SYNTAX      WmanIf2mCsSpecification
13      MAX-ACCESS  read-only
14      STATUS      current
15      DESCRIPTION
16          "This parameter specifies the convergence sublayer
17          encapsulation mode."
18      REFERENCE
19          "Subclause 11.13.19.1 in IEEE Std 802.16-2004"
20      ::= { wmanIf2mBsServiceFlowEntry 14 }
21
22  wmanIf2mBsSfMinTolerableTrafficRate OBJECT-TYPE
23      SYNTAX      Unsigned32
24      UNITS       "bps"
25      MAX-ACCESS  read-only
26      STATUS      current
27      DESCRIPTION
28          "Minimum Tolerable Traffic Rate = R (bits/sec) with time
29          base T(sec) means the following. Let S denote additional
30          demand accumulated at the MAC SAP of the transmitter
31          during an arbitrary time interval of the length T. Then the
32          amount of data forwarded at the receiver to CS (in bits)
33          during this interval should be not less than min {S, R * T}
34          ."
35      REFERENCE
36          "Subclause 11.13.9 in IEEE Std 802.16-2004"
37      ::= { wmanIf2mBsServiceFlowEntry 15 }
38
39  wmanIf2mBsSfReqTxPolicy OBJECT-TYPE
40      SYNTAX      WmanIf2mReqTxPolicy
41      MAX-ACCESS  read-only
42      STATUS      current
43      DESCRIPTION
44          "The value of this parameter provides the capability to
45          specify certain attributes for the associated service flow.
46          An attribute is enabled by setting the corresponding bit
47          position to 1."
48      REFERENCE
49          "Subclause 11.13.12 in IEEE Std 802.16-2004"
50      ::= { wmanIf2mBsServiceFlowEntry 16 }
51
52  wmanIf2mBsSfTargetSaid OBJECT-TYPE
53      SYNTAX      INTEGER (0 .. 65535)
54      MAX-ACCESS  read-only
55      STATUS      current
56      DESCRIPTION
57          "The target SAID parameter indicates the SAID onto which the
58          service flow being set up shall be mapped."
59      REFERENCE
60          "Subclause 11.13.17 in IEEE Std 802.16e-2005"
61      ::= { wmanIf2mBsServiceFlowEntry 17 }
62
63  wmanIf2mBsSfEstablishTime OBJECT-TYPE
64      SYNTAX      TimeStamp

```

```

1         MAX-ACCESS read-only
2         STATUS current
3         DESCRIPTION
4             "Indicates the date and time when the service flow is
5             established that means wmanIf2mBsServiceFlowState is
6             either in 'provisioned', 'admitted', or 'active' state."
7         ::= { wmanIf2mBsServiceFlowEntry 19 }
8
9     wmanIf2mBsSfTerminateTime OBJECT-TYPE
10        SYNTAX TimeStamp
11        MAX-ACCESS read-only
12        STATUS current
13        DESCRIPTION
14            "Indicates the date and time when the service flow is
15            terminated that means wmanIf2mBsServiceFlowState is
16            in 'inactive' state."
17        ::= { wmanIf2mBsServiceFlowEntry 18 }
18
19

```

## 20 2.4 wmanIf2mSsServiceFlowTable ASN.1 Code Change

### 21 13.2 ASN.1 Definitions of MIB Modules

#### 22 13.2.4 wmanIf2Mib

23  
24 [\[Add the following ASN.1 code:\]](#)

```

25
26 -- XXX
27 wmanIf2mSsServiceFlowTable OBJECT-TYPE
28     SYNTAX SEQUENCE OF WmanIf2mSsServiceFlowEntry
29     MAX-ACCESS not-accessible
30     STATUS current
31     DESCRIPTION
32         "This table contains the service flow database. BS creates
33         the service flow after has downloaded the SS' service flow
34         profile (e.g. QoS parameter set and classification rules)
35         from the home AAA server."
36     REFERENCE
37         "Subclause 6.3.14 in IEEE Std 802.16e-2005"
38     ::= { wmanIf2mSsCm 2 }
39
40 wmanIf2mSsServiceFlowEntry OBJECT-TYPE
41     SYNTAX WmanIf2mSsServiceFlowEntry
42     MAX-ACCESS not-accessible
43     STATUS current
44     DESCRIPTION
45         "This table provides one row for each service flow. The
46         table is indexed by ifIndex, and wmanIf2mSsSfId. ifIndex is
47         associated with the BS sector."
48     INDEX { ifIndex, wmanIf2mSsSfId }
49     ::= { wmanIf2mSsServiceFlowTable 1 }
50
51 WmanIf2mSsServiceFlowEntry ::= SEQUENCE {
52     wmanIf2mSsSfId Unsigned32,
53     wmanIf2mSsServiceFlowDirection WmanIf2mSfDirection,
54     wmanIf2mSsProvisionedGlobalServiceClass WmanIf2mGlobalSrvClass,
55     wmanIf2mSsAdmittedGlobalServiceClass WmanIf2mGlobalSrvClass,
56     wmanIf2mSsActiveGlobalServiceClass WmanIf2mGlobalSrvClass,
57     wmanIf2mSsProvisionedQoSProfileIndex INTEGER,
58     wmanIf2mSsAdmittedQoSProfileIndex INTEGER,
59     wmanIf2mSsActiveQoSProfileIndex INTEGER,

```

```

1      wmanIf2mSsClassifierRuleIndex      Unsigned32,
2      wmanIf2mSsPhsRuleIndex            INTEGER,
3      wmanIf2mSsArqAttributeIndex        INTEGER,
4      wmanIf2mSsServiceFlowState        WmanIf2mSfState,
5      wmanIf2mSsSfCsSpecification        WmanIf2mCsSpecification,
6      wmanIf2mSsSfMinTolerableTrafficRate Unsigned32,
7      wmanIf2mSsSfReqTxPolicy            WmanIf2mReqTxPolicy,
8      wmanIf2mSsSfTargetSaid             INTEGER,
9      wmanIf2mSsSfEstablishTime          TimeStamp,
10     wmanIf2mSsSfTerminateTime          TimeStamp}
11
12     wmanIf2mSsSfId OBJECT-TYPE
13         SYNTAX      Unsigned32 (1 .. 4294967295)
14         MAX-ACCESS  not-accessible
15         STATUS      current
16         DESCRIPTION
17             "A 32 bit quantity that uniquely identifies a service flow."
18             ::= { wmanIf2mSsServiceFlowEntry 1 }
19
20     wmanIf2mSsServiceFlowDirection OBJECT-TYPE
21         SYNTAX      WmanIf2mSfDirection
22         MAX-ACCESS  read-only
23         STATUS      current
24         DESCRIPTION
25             "An attribute indicating the direction of a service flow."
26             ::= { wmanIf2mSsServiceFlowEntry 2 }
27
28     wmanIf2mSsProvisionedGlobalServiceClass OBJECT-TYPE
29         SYNTAX      WmanIf2mGlobalSrvClass
30         MAX-ACCESS  read-only
31         STATUS      current
32         DESCRIPTION
33             "This object defines the ProvisionedQoSParamSet for this
34             service flow. When '0' is returned from reading this object
35             , it means either no global service class is defined, or
36             its Qos profile may be defined in
37             wmanIf2mSsProvisionedQoSProfileIndex."
38         REFERENCE
39             "Subclause 6.3.14.4.1 Table 124a in IEEE Std 802.16e-2005"
40             ::= { wmanIf2mSsServiceFlowEntry 3 }
41
42     wmanIf2mSsAdmittedGlobalServiceClass OBJECT-TYPE
43         SYNTAX      WmanIf2mGlobalSrvClass
44         MAX-ACCESS  read-only
45         STATUS      current
46         DESCRIPTION
47             "This object defines the AdmittededQoSParamSet for this
48             service flow. When '0' is returned from reading this object
49             , it means either no global service class is defined, or
50             its Qos profile may be defined in
51             wmanIf2mSsAdmittedQoSProfileIndex. AdmittededQoSParamSet is
52             a subset of ProvisionedQoSParamSet."
53         REFERENCE
54             "Subclause 6.3.14.4.1 Table 124a in IEEE Std 802.16e-2005"
55             ::= { wmanIf2mSsServiceFlowEntry 4 }
56
57     wmanIf2mSsActiveGlobalServiceClass OBJECT-TYPE
58         SYNTAX      WmanIf2mGlobalSrvClass
59         MAX-ACCESS  read-only
60         STATUS      current
61         DESCRIPTION
62             "This object defines the ActiveQoSParamSet for this service
63             flow. When '0' is returned from reading this object, it
64             means either no global service class is defined, or its Qos

```

```

1         profile may be defined in wmanIf2mSsActiveQoSProfileIndex.
2         ActiveQoSParamSet is a subset of AdmittedQoSParamSet."
3     REFERENCE
4         "Subclause 6.3.14.4.1 Table 124a in IEEE Std 802.16e-2005"
5     ::= { wmanIf2mSsServiceFlowEntry 5 }
6
7     wmanIf2mSsProvisionedQoSProfileIndex OBJECT-TYPE
8     SYNTAX      INTEGER (1 .. 65535)
9     MAX-ACCESS  read-only
10    STATUS      current
11    DESCRIPTION
12        "This index points to an entry in wmanIf2mCmnQoSProfileTable
13        that defines the ProvisionedQoSParamSet of a service flow.
14        If WmanIf2mSfState = 'provisioned', then
15        ProvisionedQoSParamSet is the QoS profile for this service
16        flow. When '0' is returned from reading this object, it
17        means the QoS profile either is not defined, or is defined
18        in wmanIf2mSsProvisionedQoSProfileIndex."
19    REFERENCE
20        "Subclause 6.3.13 and 6.3.14 in IEEE Std 802.16-2004"
21    ::= { wmanIf2mSsServiceFlowEntry 6 }
22
23    wmanIf2mSsAdmittedQoSProfileIndex OBJECT-TYPE
24    SYNTAX      INTEGER (1 .. 65535)
25    MAX-ACCESS  read-only
26    STATUS      current
27    DESCRIPTION
28        "This index points to an entry in wmanIf2mCmnQoSProfileTable
29        that defines the AdmittedQoSParamSet of a service flow. If
30        WmanIf2mSfState = 'admitted', then AdmittedQoSParamSet is
31        the QoS profile for this service flow. When '0' is returned
32        from reading this object, it means the QoS profile either
33        is not defined, or is defined in
34        wmanIf2mSsAdmittedQoSProfileIndex. AdmittedQoSParamSet is
35        a subset of ProvisionedQoSParamSet."
36    REFERENCE
37        "Subclause 6.3.13 and 6.3.14 in IEEE Std 802.16-2004"
38    ::= { wmanIf2mSsServiceFlowEntry 7 }
39
40    wmanIf2mSsActiveQoSProfileIndex OBJECT-TYPE
41    SYNTAX      INTEGER (1 .. 65535)
42    MAX-ACCESS  read-only
43    STATUS      current
44    DESCRIPTION
45        "This index points to an entry in wmanIf2mCmnQoSProfileTable
46        that defines the ActiveQoSParamSet of a service flow. If
47        WmanIf2mSfState = 'active', then ActiveQoSParamSet is the
48        QoS profile for this service flow. When '0' is returned
49        from reading this object, it means the QoS profile either
50        is not defined, or is defined in
51        wmanIf2mSsActiveQoSProfileIndex. ActiveQoSParamSet is a
52        subset of AdmittedQoSParamSet."
53    REFERENCE
54        "Subclause 6.3.13 and 6.3.14 in IEEE Std 802.16-2004"
55    ::= { wmanIf2mSsServiceFlowEntry 8 }
56
57    wmanIf2mSsClassifierRuleIndex OBJECT-TYPE
58    SYNTAX      Unsigned32 (1 .. 4294967295)
59    MAX-ACCESS  read-only
60    STATUS      current
61    DESCRIPTION
62        "This index points to an entry in
63        wmanIf2mCmnClassifierRuleTable that defines the
64        classification rules for a service flow. When '0' is

```

```

1         returned from reading this object, it means the
2         classification rules are not defined for this service
3         flow."
4     REFERENCE
5         "Subclause 11.13.19.3.4 in IEEE Std 802.16-2004"
6     ::= { wmanIf2mSsServiceFlowEntry 9 }
7
8     wmanIf2mSsPhsRuleIndex OBJECT-TYPE
9     SYNTAX      INTEGER (1 .. 255)
10    MAX-ACCESS  read-only
11    STATUS      current
12    DESCRIPTION
13        "This index points to an entry in wmanIf2mCmnPhsRuleTable
14        that defines the packet suppression rules for a service
15        flow. When '0' is returned from reading this object, it
16        means the PHS rules are not defined for this service
17        flow."
18    REFERENCE
19        "Subclause 11.13.19.3.5 in IEEE Std 802.16-2004"
20    ::= { wmanIf2mSsServiceFlowEntry 10 }
21
22    wmanIf2mSsArqAttributeIndex OBJECT-TYPE
23    SYNTAX      INTEGER (1 .. 65535)
24    MAX-ACCESS  read-only
25    STATUS      current
26    DESCRIPTION
27        "This index points to an entry in
28        wmanIf2mCmnArqAttributeTable that defines the ARQ
29        attributes for a service flow. When '0' is returned from
30        reading this object, it means the ARQ attributes are not
31        defined for this service flow."
32    REFERENCE
33        "Subclause 11.13.19.3.5 in IEEE Std 802.16-2004"
34    ::= { wmanIf2mSsServiceFlowEntry 11 }
35
36    wmanIf2mSsServiceFlowState OBJECT-TYPE
37    SYNTAX      WmanIf2mSfState
38    MAX-ACCESS  read-only
39    STATUS      current
40    DESCRIPTION
41        "wmanIf2mSsServiceFlowState determines the state of a
42        service flow."
43    REFERENCE
44        "Subclause 6.3.14.6, in IEEE Std 802.16-2004"
45    ::= { wmanIf2mSsServiceFlowEntry 12 }
46
47    wmanIf2mSsSfCsSpecification OBJECT-TYPE
48    SYNTAX      WmanIf2mCsSpecification
49    MAX-ACCESS  read-only
50    STATUS      current
51    DESCRIPTION
52        "This parameter specifies the convergence sublayer
53        encapsulation mode."
54    REFERENCE
55        "Subclause 11.13.19.1 in IEEE Std 802.16-2004"
56    ::= { wmanIf2mSsServiceFlowEntry 13 }
57
58    wmanIf2mSsSfMinTolerableTrafficRate OBJECT-TYPE
59    SYNTAX      Unsigned32
60    UNITS       "bps"
61    MAX-ACCESS  read-only
62    STATUS      current
63    DESCRIPTION
64        "Minimum Tolerable Traffic Rate = R (bits/sec) with time

```



```

1         base T(sec) means the following. Let S denote additional
2         demand accumulated at the MAC SAP of the transmitter during
3         an arbitrary time interval of the length T. Then the amount
4         of data forwarded at the receiver to CS (in bits) during
5         this interval should be not less than  $\min \{S, R * T\}$ ."
6     REFERENCE
7         "Subclause 11.13.9 in IEEE Std 802.16-2004"
8     ::= { wmanIf2mSsServiceFlowEntry 14 }
9
10    wmanIf2mSsSfReqTxPolicy OBJECT-TYPE
11        SYNTAX      WmanIf2mReqTxPolicy
12        MAX-ACCESS  read-only
13        STATUS      current
14        DESCRIPTION
15            "The value of this parameter provides the capability to
16            specify certain attributes for the associated service flow.
17            An attribute is enabled by setting the corresponding bit
18            position to 1."
19        REFERENCE
20            "Subclause 11.13.12 in IEEE Std 802.16-2004"
21        ::= { wmanIf2mSsServiceFlowEntry 15 }
22
23    wmanIf2mSsSfTargetSaid OBJECT-TYPE
24        SYNTAX      INTEGER (0 .. 65535)
25        MAX-ACCESS  read-only
26        STATUS      current
27        DESCRIPTION
28            "The target SAID parameter indicates the SAID onto which the
29            service flow being set up shall be mapped."
30        REFERENCE
31            "Subclause 11.13.17 in IEEE Std 802.16-2004"
32        ::= { wmanIf2mSsServiceFlowEntry 16 }
33
34    wmanIf2mSsSfEstablishTime OBJECT-TYPE
35        SYNTAX      TimeStamp
36        MAX-ACCESS  read-only
37        STATUS      current
38        DESCRIPTION
39            "Indicates the date and time when the service flow is
40            established that means wmanIf2mBsServiceFlowState is
41            either in 'provisioned', 'admitted', or 'active' state."
42        ::= { wmanIf2mSsServiceFlowEntry 17 }
43
44    wmanIf2mSsSfTerminateTime OBJECT-TYPE
45        SYNTAX      TimeStamp
46        MAX-ACCESS  read-only
47        STATUS      current
48        DESCRIPTION
49            "Indicates the date and time when the service flow is
50            terminated that means wmanIf2mBsServiceFlowState is in
51            'inactive' state."
52        ::= { wmanIf2mSsServiceFlowEntry 18 }
53
54
55

```

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