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Title	<b>Proposed text and ASN.1 code for QoS Management</b>
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Re:	
Abstract	This contribution proposes the text and ASN.1 code in wmanIf2Mib to support QoS management.
Purpose	Adoption
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1

1

## 2. Introduction

2

3 This contribution proposes the text and ASN.1 code in wmanlf2Mib to support QoS management.

## 2. Proposed changes

4

### 2.1 wmanlf2Mib Change

5

#### 13.1.3.3 wmanlf2CmnObjects

6

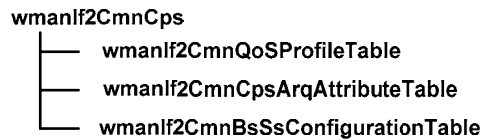
##### 13.1.3.3.2 wmanlf2CmnCps

7

8

9 [Change Figure 13 as the following:]

10



11

12

Figure 13—wmanlf2CmnCps structure

13

14

15 [Change the following subclause as below:]

##### 13.1.3.3.2.1 wmanlf2CmnCpsServiceFlowTable

16

17 ~~wmanlf2CmnCpsServiceFlowTable contains Service Flow managed objects that are~~  
18 ~~common in BS and SS.~~

##### 13.1.3.3.2.1 wmanlf2CmnQoSProfileTable

19

20 wmanlf2CmnQoSProfileTable contains QoS profiles that are associated with service flows or CIDs  
21 via the wmanlf2CmnQoSProfileIndex.

##### 13.1.3.3.2.2 wmanlf2CmnArqAttributeTable

22

23 wmanlf2CmnArqAttributeTable contains ARQ parameters that are associated with the Service  
24 Flows.

25

### 2.2 ASN.1 Code Change

26

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

27

##### 13.2.2 wmanlf2Mib

28

29 [Delete the following ASN.1 code:]

```

1  wmanIf2CmnCpsServiceFlowTable OBJECT TYPE
2  SYNTAX SEQUENCE OF WmanIf2CmnCpsServiceFlowEntry
3  MAX ACCESS not accessible
4  STATUS current
5  DESCRIPTION
6  "This table contains Service Flow managed objects that
7  are common in BS and SS."
8  ::= { wmanIf2CmnCps 1 }
9
10 wmanIf2CmnCpsServiceFlowEntry OBJECT TYPE
11 SYNTAX WmanIf2CmnCpsServiceFlowEntry
12 MAX ACCESS not accessible
13 STATUS current
14 DESCRIPTION
15 "This table provides one row for each created service
16 flow for a given MacAddress, and is indexed by ifIndex,
17 wmanIf2CmnCpsCpsSfMacAddress, and wmanIf2CmnCpsSfId.
18 IfIndex is associated with the BS sector."
19 INDEX { ifIndex, wmanIf2CmnCpsSfMacAddress,
20 wmanIf2CmnCpsSfId }
21 ::= { wmanIf2CmnCpsServiceFlowTable 1 }
22
23 WmanIf2CmnCpsServiceFlowEntry ::= SEQUENCE {
24 wmanIf2CmnCpsSfMacAddress MacAddress,
25 wmanIf2CmnCpsSfId Unsigned32,
26 wmanIf2CmnCpsSfCid WmanIf2CidType,
27 wmanIf2CmnCpsSfDirection INTEGER,
28 wmanIf2CmnCpsSfState WmanIf2SfState,
29 wmanIf2CmnCpsTrafficPriority INTEGER,
30 wmanIf2CmnCpsMaxSustainedRate Unsigned32,
31 wmanIf2CmnCpsMaxTrafficBurst Unsigned32,
32 wmanIf2CmnCpsMinReservedRate Unsigned32,
33 wmanIf2CmnCpsToleratedJitter Unsigned32,
34 wmanIf2CmnCpsMaxLatency Unsigned32,
35 wmanIf2CmnCpsFixedVsVariableSduInd INTEGER,
36 wmanIf2CmnCpsSduSize Unsigned32,
37 wmanIf2CmnCpsSfSchedulingType WmanIf2SfSchedulingType,
38 wmanIf2CmnCpsArgqEnable TruthValue,
39 wmanIf2CmnCpsArgqWindowSize INTEGER,
40 wmanIf2CmnCpsArgqBlockLifetime INTEGER,
41 wmanIf2CmnCpsArgqSynchLossTimeout INTEGER,
42 wmanIf2CmnCpsArgqDeliverInOrder TruthValue,
43 wmanIf2CmnCpsArgqRxPurgeTimeout INTEGER,
44 wmanIf2CmnCpsArgqBlockSize INTEGER,
45 wmanIf2CmnCpsMinRsvdTolerableRate Unsigned32,
46 wmanIf2CmnCpsReqTxPolicy BITS,
47 wmanIf2CmnCpsSfCsSpecification WmanIf2CsSpecification,
48 wmanIf2CmnCpsTargetSaid INTEGER}
49
50 wmanIf2CmnCpsSfMacAddress OBJECT TYPE
51 SYNTAX MacAddress
52 MAX ACCESS not accessible
53 STATUS current
54 DESCRIPTION
55 "When this table is implemented on the basestation, this
56 object contains the SS Mac address, the reported service
57 flow was created for. On the SS, the value returned is
58 the SS's own Mac address."
59 ::= { wmanIf2CmnCpsServiceFlowEntry 1 }
60
61 wmanIf2CmnCpsSfId OBJECT TYPE
62 SYNTAX Unsigned32 ( 1 .. 4294967295)
63 MAX ACCESS read only
64 STATUS current

```

```

1  _____ DESCRIPTION
2  _____ "A 32 bit quantity that uniquely identifies a service flow
3  _____ to both the subscriber station and base station (BS)."  

4  _____ ::= { wmanIf2CmnCpsServiceFlowEntry 2 }
5
6  wmanIf2CmnCpsSfCid OBJECT TYPE
7  _____ SYNTAX _____ WmanIf2CidType
8  _____ MAX ACCESS read only
9  _____ STATUS current
10 _____ DESCRIPTION
11 _____ "A 16 bit channel identifier to identify the connection
12 _____ being created by DSA."  

13 _____ ::= { wmanIf2CmnCpsServiceFlowEntry 3 }
14
15 wmanIf2CmnCpsSfDirection OBJECT TYPE
16 _____ SYNTAX _____ INTEGER {downstream(1),
17 _____ upstream(2)}
18 _____ MAX ACCESS read only
19 _____ STATUS current
20 _____ DESCRIPTION
21 _____ "An attribute indicating the service flow is downstream or
22 _____ upstream."  

23 _____ ::= { wmanIf2CmnCpsServiceFlowEntry 4 }
24
25 wmanIf2CmnCpsSfState OBJECT TYPE
26 _____ SYNTAX _____ WmanIf2SfState
27 _____ MAX ACCESS read only
28 _____ STATUS current
29 _____ DESCRIPTION
30 _____ "wmanIf2CmnCpsSfState indicates the service flow state:
31 _____ Authorized (1), Admitted (2), and Active (3) service
32 _____ flow state."  

33 _____ REFERENCE
34 _____ "Subclause 6.3.14.6, in IEEE Std 802.16-2004"  

35 _____ ::= { wmanIf2CmnCpsServiceFlowEntry 5 }
36
37 wmanIf2CmnCpsTrafficPriority OBJECT TYPE
38 _____ SYNTAX _____ INTEGER (0 .. 7)
39 _____ MAX ACCESS read only
40 _____ STATUS current
41 _____ DESCRIPTION
42 _____ "The value of this parameter specifies the priority
43 _____ assigned to a service flow. For uplink service flows,  

44 _____ the BS should use this parameter when determining  

45 _____ precedence in request service and grant generation,  

46 _____ and the SS shall preferentially select contention  

47 _____ Request opportunities for Priority Request CIDs  

48 _____ based on this priority"  

49 _____ REFERENCE
50 _____ "Subclause 11.13.5 in IEEE Std 802.16-2004"  

51 _____ ::= { wmanIf2CmnCpsServiceFlowEntry 6 }
52
53 wmanIf2CmnCpsMaxSustainedRate OBJECT TYPE
54 _____ SYNTAX _____ Unsigned32
55 _____ UNITS "b/s"  

56 _____ MAX ACCESS read only
57 _____ STATUS current
58 _____ DESCRIPTION
59 _____ "This parameter defines the peak information rate  

60 _____ of the service. The rate is expressed in bits per  

61 _____ second and pertains to the SDUs at the input to  

62 _____ the system."  

63 _____ REFERENCE
64 _____ "Subclause 11.13.6 in IEEE Std 802.16-2004"

```

```

1  ----- ::= { wmanIf2CmnCpsServiceFlowEntry 7 }
2
3  wmanIf2CmnCpsMaxTrafficBurst OBJECT TYPE
4  ----- SYNTAX ----- Unsigned32
5  ----- UNITS ----- "byte"
6  ----- MAX ACCESS read only
7  ----- STATUS ----- current
8  ----- DESCRIPTION
9  ----- "This parameter defines the maximum burst size that
10 ----- must be accommodated for the service."
11 ----- REFERENCE
12 ----- "Subclause 11.13.7 in IEEE Std 802.16-2004"
13 ----- ::= { wmanIf2CmnCpsServiceFlowEntry 8 }
14
15 wmanIf2CmnCpsMinReservedRate OBJECT TYPE
16 ----- SYNTAX ----- Unsigned32
17 ----- UNITS ----- "byte"
18 ----- MAX ACCESS read only
19 ----- STATUS ----- current
20 ----- DESCRIPTION
21 ----- "This parameter specifies the minimum rate reserved
22 ----- for this service flow."
23 ----- REFERENCE
24 ----- "Subclause 11.13.8 in IEEE Std 802.16-2004"
25 ----- ::= { wmanIf2CmnCpsServiceFlowEntry 9 }
26
27 wmanIf2CmnCpsToleratedJitter OBJECT TYPE
28 ----- SYNTAX ----- Unsigned32
29 ----- UNITS ----- "millisecond"
30 ----- MAX ACCESS read only
31 ----- STATUS ----- current
32 ----- DESCRIPTION
33 ----- "This parameter defines the Maximum delay
34 ----- variation (jitter) for the connection."
35 ----- REFERENCE
36 ----- "Subclause 11.13.13 in IEEE Std 802.16-2004"
37 ----- ::= { wmanIf2CmnCpsServiceFlowEntry 10 }
38
39 wmanIf2CmnCpsMaxLatency OBJECT TYPE
40 ----- SYNTAX ----- Unsigned32
41 ----- UNITS ----- "millisecond"
42 ----- MAX ACCESS read only
43 ----- STATUS ----- current
44 ----- DESCRIPTION
45 ----- "The value of this parameter specifies the maximum
46 ----- latency between the reception of a packet by the BS
47 ----- or SS on its network interface and the forwarding
48 ----- of the packet to its RF Interface."
49 ----- REFERENCE
50 ----- "Subclause 11.13.14 in IEEE Std 802.16-2004"
51 ----- ::= { wmanIf2CmnCpsServiceFlowEntry 11 }
52
53 wmanIf2CmnCpsFixedVsVariableSduInd OBJECT TYPE
54 ----- SYNTAX ----- INTEGER {variableLength(0),
55 ----- fixedLength(1)}
56 ----- MAX ACCESS read only
57 ----- STATUS ----- current
58 ----- DESCRIPTION
59 ----- "The value of this parameter specifies whether the SDUs
60 ----- on the service flow are variable length (0) or
61 ----- fixed length (1). The parameter is used only if
62 ----- packing is on for the service flow. The default value
63 ----- is 0, i.e., variable length SDUs."
64 ----- REFERENCE

```

```

1  ----- "Subclause 11.13.15 in IEEE Std 802.16-2004"
2  ----- DEFVAL { variableLength }
3  ----- ::= { wmanIf2CmnCpsServiceFlowEntry 12 }
4
5  wmanIf2CmnCpsSduSize OBJECT-TYPE
6  ----- SYNTAX Unsigned32
7  ----- UNITS "byte"
8  ----- MAX ACCESS read-only
9  ----- STATUS current
10 ----- DESCRIPTION
11 ----- "The value of this parameter specifies the length of the
12 ----- SDU for a fixed length SDU service flow. This parameter
13 ----- is used only if packing is on and the service flow is
14 ----- indicated as carrying fixed length SDUs. The default
15 ----- value is 49 bytes, i.e., VC switched ATM cells with PHS.
16 ----- The parameter is relevant for both ATM and Packet
17 ----- Convergence Sublayers."
18 ----- REFERENCE
19 ----- "Subclause 11.13.16 in IEEE Std 802.16-2004"
20 ----- DEFVAL { 49 }
21 ----- ::= { wmanIf2CmnCpsServiceFlowEntry 13 }
22
23 wmanIf2CmnCpsSfSchedulingType OBJECT-TYPE
24 ----- SYNTAX WmanIf2SfSchedulingType
25 ----- MAX ACCESS read-only
26 ----- STATUS current
27 ----- DESCRIPTION
28 ----- "Specifies the upstream scheduling service used for
29 ----- upstream service flow. If the referenced parameter
30 ----- is not present in the corresponding 802.16 QoS
31 ----- Parameter Set of an upstream service flow, the
32 ----- default value of this object is bestEffort(2)."
33 ----- REFERENCE
34 ----- "Subclause 11.13.11 in IEEE Std 802.16-2004"
35 ----- DEFVAL { bestEffort }
36 ----- ::= { wmanIf2CmnCpsServiceFlowEntry 14 }
37
38 wmanIf2CmnCpsArqEnable OBJECT-TYPE
39 ----- SYNTAX TruthValue
40 ----- MAX ACCESS read-only
41 ----- STATUS current
42 ----- DESCRIPTION
43 ----- "True(1) ARQ enabling is requested for the connection."
44 ----- ::= { wmanIf2CmnCpsServiceFlowEntry 15 }
45
46 wmanIf2CmnCpsArqWindowSize OBJECT-TYPE
47 ----- SYNTAX INTEGER (1..1024)
48 ----- MAX ACCESS read-only
49 ----- STATUS current
50 ----- DESCRIPTION
51 ----- "Indicates the maximum number of unacknowledged
52 ----- fragments at any time."
53 ----- ::= { wmanIf2CmnCpsServiceFlowEntry 16 }
54
55 wmanIf2CmnCpsArqBlockLifetime OBJECT-TYPE
56 ----- SYNTAX INTEGER (0 .. 65535)
57 ----- UNITS "10 us"
58 ----- MAX ACCESS read-only
59 ----- STATUS current
60 ----- DESCRIPTION
61 ----- "The maximum time interval an ARQ fragment will be
62 ----- managed by the transmitter ARQ machine, once
63 ----- initial transmission of the fragment has occurred.
64 ----- If transmission or retransmission of the fragment

```

```

1  _____ is not acknowledged by the receiver before the
2  _____ time limit is reached, the fragment is discarded.
3  _____ A value of 0 means Infinite."
4  _____ ::= { wmanIf2CmnCpsServiceFlowEntry 17 }
5
6  wmanIf2CmnCpsArqSyncLossTimeout OBJECT TYPE
7  _____ SYNTAX _____ INTEGER (0 .. 65535 )
8  _____ UNITS _____ "10 us"
9  _____ MAX ACCESS read only
10 _____ STATUS _____ current
11 _____ DESCRIPTION
12 _____ "The maximum interval before declaring a loss
13 _____ of synchronization of the sender and receiver
14 _____ state machines. A value of 0 means Infinite."
15 _____ ::= { wmanIf2CmnCpsServiceFlowEntry 18 }
16
17 wmanIf2CmnCpsArqDeliverInOrder OBJECT TYPE
18 _____ SYNTAX _____ TruthValue
19 _____ MAX ACCESS read only
20 _____ STATUS _____ current
21 _____ DESCRIPTION
22 _____ "Indicates whether or not data is to be delivered
23 _____ by the receiving MAC to its client application
24 _____ in the order in which data was handed off to the
25 _____ originating MAC."
26 _____ ::= { wmanIf2CmnCpsServiceFlowEntry 19 }
27
28 wmanIf2CmnCpsArqRxPurgeTimeout OBJECT TYPE
29 _____ SYNTAX _____ INTEGER (0 .. 65535)
30 _____ UNITS _____ "10 us"
31 _____ MAX ACCESS read only
32 _____ STATUS _____ current
33 _____ DESCRIPTION
34 _____ "Indicates the time interval the ARQ window is advanced
35 _____ after a fragment is received. A value of 0 means
36 _____ Infinite."
37 _____ ::= { wmanIf2CmnCpsServiceFlowEntry 20 }
38
39 wmanIf2CmnCpsArqBlockSize OBJECT TYPE
40 _____ SYNTAX _____ INTEGER (1..2040)
41 _____ UNITS _____ "byte"
42 _____ MAX ACCESS read only
43 _____ STATUS _____ current
44 _____ DESCRIPTION
45 _____ "This value of this parameter specifies the size of an
46 _____ ARQ block. This parameter shall be established by
47 _____ negotiation during the connection creation dialog."
48 _____ REFERENCE
49 _____ "Subclause 11.13.18.8 in IEEE Std 802.16-2004"
50 _____ ::= { wmanIf2CmnCpsServiceFlowEntry 21 }
51
52 wmanIf2CmnCpsMinRsvdTolerableRate OBJECT TYPE
53 _____ SYNTAX _____ Unsigned32
54 _____ UNITS _____ "b/s"
55 _____ MAX ACCESS read only
56 _____ STATUS _____ current
57 _____ DESCRIPTION
58 _____ "Minimum Tolerable Traffic Rate = R (bits/sec) with
59 _____ time base T(sec) means the following. Let S denote
60 _____ additional demand accumulated at the MAC SAP of the
61 _____ transmitter during an arbitrary time interval of the
62 _____ length T. Then the amount of data forwarded at the
63 _____ receiver to CS (in bits) during this interval should
64 _____ be not less than min {S, R * T}."

```



```

1  _____ REFERENCE
2  _____ "Subclause 11.13.9 in IEEE Std 802.16-2004"
3  _____ ::= { wmanIf2CmnCpsServiceFlowEntry 22 }
4
5  wmanIf2CmnCpsReqTxPolicy OBJECT-TYPE
6  _____ SYNTAX      BITS {noBroadcastBwReq(0),
7  _____          reserved1(1),
8  _____          noPiggybackReq(2),
9  _____          noFragmentData(3),
10 _____          noPHS(4),
11 _____          noSduPacking(5),
12 _____          noCre(6),
13 _____          reserved2(7)}
14 _____ MAX ACCESS  read only
15 _____ STATUS      current
16 _____ DESCRIPTION
17 _____ "The value of this parameter provides the capability to
18 _____ specify certain attributes for the associated service
19 _____ flow. An attribute is enabled by setting the
20 _____ corresponding bit position to 1."
21 _____ REFERENCE
22 _____ "Subclause 11.13.12 in IEEE Std 802.16-2004"
23 _____ ::= { wmanIf2CmnCpsServiceFlowEntry 23 }
24
25  wmanIf2CmnSfCsSpecification OBJECT-TYPE
26  _____ SYNTAX      WmanIf2CsSpecification
27  _____ MAX ACCESS  read only
28  _____ STATUS      current
29  _____ DESCRIPTION
30 _____ "This parameter specifies the convergence sublayer
31 _____ encapsulation mode."
32 _____ REFERENCE
33 _____ "Subclause 11.13.19.1 in IEEE Std 802.16-2004"
34 _____ ::= { wmanIf2CmnCpsServiceFlowEntry 24 }
35
36  wmanIf2CmnCpsTargetSaid OBJECT-TYPE
37  _____ SYNTAX      INTEGER (0 .. 65535)
38  _____ MAX ACCESS  read only
39  _____ STATUS      current
40  _____ DESCRIPTION
41 _____ "The target SAID parameter indicates the SAID onto
42 _____ which the service flow being set up shall be mapped."
43 _____ REFERENCE
44 _____ "Subclause 11.13.17 in IEEE Std 802.16-2004"
45 _____ ::= { wmanIf2CmnCpsServiceFlowEntry 25 }
46
47
48  [Add the following ASN.1 code:]
49
50
51  wmanIf2CmnQoSProfileTable OBJECT-TYPE
52  _____ SYNTAX      SEQUENCE OF WmanIf2CmnQoSProfileEntry
53  _____ MAX-ACCESS  not-accessible
54  _____ STATUS      current
55  _____ DESCRIPTION
56 _____ "This table contains QoS profiles that are associated with
57 _____ service flows or CIDs via the wmanIf2CmnQoSProfileIndex.
58
59 _____ The following table shows the required parameters for
60 _____ different UL grant scheduling type.
61 _____ 0 - not required
62 _____ 1 - required
63 _____ 0-1 - optional
64

```

```

1           QoS Parameters                    BE  ertPS  UGS  rtPS  nrtPS
2           -----
3           Traffic priority                  0-1  0-1   0    0-1  0-1
4           Max sustained traffic rate        0-1  0-1   0    0-1  0-1
5           Min reserved traffic rate         0    1     1     1    1
6           Minimum traffic burst             0    0-1   0    0-1  0-1
7           Tolerated jitter                 0    0-1  0-1   0     0
8           Maximum latency                  0    1     1     1     0
9           Unsolicited Grant Interval        0    1     1     0     0
10          SDU size                          0    0    0-1   0     0
11          Unsolicited Polling Interval      0    0     0     1     0"
12  REFERENCE
13          "Subclause 6.3.14.4 in IEEE Std 802.16-2004"
14  ::= { wmanIf2CmnCps 1 }
15
16  wmanIf2CmnQoSProfileEntry OBJECT-TYPE
17      SYNTAX      WmanIf2CmnQoSProfileEntry
18      MAX-ACCESS  not-accessible
19      STATUS      current
20      DESCRIPTION
21          "This table provides one row for each QoS parameter Set."
22      INDEX { ifIndex, wmanIf2CmnQoSProfileIndex }
23      ::= { wmanIf2CmnQoSProfileTable 1 }
24
25  WmanIf2CmnQoSProfileEntry ::= SEQUENCE {
26      wmanIf2CmnQoSProfileIndex              INTEGER,
27      wmanIf2CmnQoSServiceClassName          OCTET STRING,
28      wmanIf2CmnQoSUlGrantScheduleType      WmanIf2SchedulingType,
29      wmanIf2CmnQoSTrafficPriority           INTEGER,
30      wmanIf2CmnQoSMaximumSustainedRate     Unsigned32,
31      wmanIf2CmnQoSMinimumReservedRate      Unsigned32,
32      wmanIf2CmnQoSMaximumTrafficBurst      Unsigned32,
33      wmanIf2CmnQoSMaxLatency               Unsigned32,
34      wmanIf2CmnQoSUnsolicitedGrantInterval Unsigned32,
35      wmanIf2CmnQoSsduSize                  Unsigned32,
36      wmanIf2CmnQoSUnsolicitedPollInterval  Unsigned32}
37
38
39  wmanIf2CmnQoSProfileIndex OBJECT-TYPE
40      SYNTAX      INTEGER (1 .. 65535)
41      MAX-ACCESS  not-accessible
42      STATUS      current
43      DESCRIPTION
44          "The index value which uniquely identifies an entry in the
45          wmanIf2CmnQoSProfileTable"
46      ::= { wmanIf2CmnQoSProfileEntry 1 }
47
48  wmanIf2CmnQoSServiceClassName OBJECT-TYPE
49      SYNTAX      OCTET STRING (SIZE(2..128))
50      MAX-ACCESS  read-only
51      STATUS      current
52      DESCRIPTION
53          "This object is the Null-terminated string of ASCII
54          characters. It refers to a predefined BS service
55          configuration to be used for a service flow."
56      REFERENCE
57          "Subclause 11.13.3 in IEEE Std 802.16-2004"
58      ::= { wmanIf2CmnQoSProfileEntry 2 }
59
60  wmanIf2CmnQoSUlGrantScheduleType OBJECT-TYPE
61      SYNTAX      WmanIf2SchedulingType
62      MAX-ACCESS  read-only
63      STATUS      current
64      DESCRIPTION

```

```

1           "This parameter specifies the Uplink grant scheduling type
2           that shall be enabled for the associated uplink service
3           flow upstream service flow. If the parameter is not
4           present in the corresponding 802.16 QoS Parameter Set of
5           an upstream service flow, the default value is assumed."
6   REFERENCE
7           "Subclause 11.13.11 in IEEE Std 802.16e-2004"
8   DEFVAL      {bestEffort}
9   ::= { wmanIf2CmnQoSProfileEntry 3 }
10
11  wmanIf2CmnQoSTrafficPriority OBJECT-TYPE
12      SYNTAX      INTEGER (0..7)
13      MAX-ACCESS  read-only
14      STATUS      current
15      DESCRIPTION
16          "The value of this parameter specifies the priority assigned
17          to a service flow. For uplink service flows, the BS should
18          use this parameter when determining precedence in request
19          service and grant generation, Higher numbers indicate
20          higher priority"
21      REFERENCE
22          "Subclause 11.13.5 in IEEE Std 802.16e-2005"
23      ::= { wmanIf2CmnQoSProfileEntry 4 }
24
25  wmanIf2CmnQoSMaximumSustainedRate OBJECT-TYPE
26      SYNTAX      Unsigned32
27      UNITS       "bps"
28      MAX-ACCESS  read-only
29      STATUS      current
30      DESCRIPTION
31          "This parameter defines the peak information rate of the
32          service. The rate is expressed in bits per second and
33          pertains to the SDUs at the input to the Convergence
34          Sublayer."
35      REFERENCE
36          "Subclause 11.13.6 in IEEE Std 802.16e-2005"
37      ::= { wmanIf2CmnQoSProfileEntry 5 }
38
39  wmanIf2CmnQoSMinimumReservedRate OBJECT-TYPE
40      SYNTAX      Unsigned32
41      UNITS       "bps"
42      MAX-ACCESS  read-only
43      STATUS      current
44      DESCRIPTION
45          "This parameter specifies the minimum rate reserved for this
46          service flow. It specifies the minimum amount of data to be
47          transported on behalf of the service flow when averaged
48          over time."
49      REFERENCE
50          "Subclause 11.13.8 in IEEE Std 802.16e-2004"
51      ::= { wmanIf2CmnQoSProfileEntry 6 }
52
53  wmanIf2CmnQoSMaximumTrafficBurst OBJECT-TYPE
54      SYNTAX      Unsigned32
55      UNITS       "byte"
56      MAX-ACCESS  read-only
57      STATUS      current
58      DESCRIPTION
59          "This parameter defines the maximum burst size that must be
60          accommodated for the service. It defines the maximum
61          continuous burst the system should accommodate for the
62          service assuming the service is not currently using any of
63          its available resources."
64      REFERENCE

```

```

1         "Subclause 11.13.7 in IEEE Std 802.16-2004"
2         ::= { wmanIf2CmnQoSProfileEntry 7 }
3
4 wmanIf2CmnQoSSToleratedJitter OBJECT-TYPE
5     SYNTAX      Unsigned32
6     UNITS       "millisecond"
7     MAX-ACCESS  read-only
8     STATUS      current
9     DESCRIPTION
10        "This parameter defines the Maximum delay variation (jitter)
11        for the connection."
12    REFERENCE
13        "Subclause 11.13.13 in IEEE Std 802.16-2004"
14    ::= { wmanIf2CmnQoSProfileEntry 8 }
15
16 wmanIf2CmnQoSMaxLatency OBJECT-TYPE
17     SYNTAX      Unsigned32
18     UNITS       "millisecond"
19     MAX-ACCESS  read-only
20     STATUS      current
21     DESCRIPTION
22        "This parameter specifies the maximum latency between the
23        ingress of a packet to the Convergence Sublayer and the
24        forwarding of the SDU to its Air Interface."
25    REFERENCE
26        "Subclause 11.13.14 in IEEE Std 802.16-2004"
27    ::= { wmanIf2CmnQoSProfileEntry 9 }
28
29 wmanIf2CmnQoSUnsolicitedGrantInterval OBJECT-TYPE
30     SYNTAX      Unsigned32
31     UNITS       "millisecond"
32     MAX-ACCESS  read-only
33     STATUS      current
34     DESCRIPTION
35        "This object specifies the nominal interval between
36        successive data grant opportunities for a service flow."
37    REFERENCE
38        "Subclause 11.13.20 in IEEE Std 802.16e-2004"
39    ::= { wmanIf2CmnQoSProfileEntry 10 }
40
41 wmanIf2CmnQoSsduSize OBJECT-TYPE
42     SYNTAX      Unsigned32
43     UNITS       "byte"
44     MAX-ACCESS  read-only
45     STATUS      current
46     DESCRIPTION
47        "This parameter specifies the length of the SDU for a
48        fixed-length SDU service flow. It is used only if packing
49        is on and the service flow is indicated as carrying
50        fixed-length SDUs. If this object is omitted in the QoS
51        parameter set, it should return 0 that means the
52        variable-length service flow."
53    REFERENCE
54        "Subclause 11.13.16 in IEEE Std 802.16-2004"
55    ::= { wmanIf2CmnQoSProfileEntry 11 }
56
57 wmanIf2CmnQoSUnsolicitedPollInterval OBJECT-TYPE
58     SYNTAX      Unsigned32
59     UNITS       "millisecond"
60     MAX-ACCESS  read-only
61     STATUS      current
62     DESCRIPTION
63        "This object specifies the maximal nominal interval between
64        successive polling grants opportunities for this Service

```

```

1         Flow."
2     REFERENCE
3         "Subclause 11.13.21 in IEEE Std 802.16e-2004"
4     ::= { wmanIf2CmnQoSProfileEntry 12 }
5
6     -- XXX
7     wmanIf2CmnArqAttributeTable OBJECT-TYPE
8         SYNTAX      SEQUENCE OF WmanIf2CmnArqAttributeEntry
9         MAX-ACCESS  not-accessible
10        STATUS      current
11        DESCRIPTION
12            "This table contains ARQ parameters that are associated
13             with the Service Flows."
14        ::= { wmanIf2CmnCps 2 }
15
16     wmanIf2CmnArqAttributeEntry OBJECT-TYPE
17        SYNTAX      WmanIf2CmnArqAttributeEntry
18        MAX-ACCESS  not-accessible
19        STATUS      current
20        DESCRIPTION
21            "This table provides one row for each created service flow
22             for a given MacAddress, and is indexed by ifIndex, and
23             wmanIf2CmnArqIndex. IfIndex is associated with the BS
24             sector."
25        INDEX      { ifIndex, wmanIf2CmnArqIndex }
26        ::= { wmanIf2CmnArqAttributeTable 1 }
27
28     WmanIf2CmnArqAttributeEntry ::= SEQUENCE {
29         wmanIf2CmnArqIndex          INTEGER,
30         wmanIf2CmnArqEnable        TruthValue,
31         wmanIf2CmnArqWindowSize    INTEGER,
32         wmanIf2CmnArqBlockLifetime INTEGER,
33         wmanIf2CmnArqSyncLossTimeout INTEGER,
34         wmanIf2CmnArqDeliverInOrder TruthValue,
35         wmanIf2CmnArqRxPurgeTimeout INTEGER,
36         wmanIf2CmnArqBlockSize     INTEGER,
37         wmanIf2CmnArqAckProcessingTime INTEGER}
38
39     wmanIf2CmnArqIndex OBJECT-TYPE
40        SYNTAX      INTEGER ( 1 .. 65535)
41        MAX-ACCESS  not-accessible
42        STATUS      current
43        DESCRIPTION
44            "The index value which uniquely identifies an entry in the
45             in the wmanIf2CmnArqAttributeTable."
46        ::= { wmanIf2CmnArqAttributeEntry 1 }
47
48     wmanIf2CmnArqEnable OBJECT-TYPE
49        SYNTAX      TruthValue
50        MAX-ACCESS  read-only
51        STATUS      current
52        DESCRIPTION
53            "True(1) ARQ enabling is requested for the connection."
54        ::= { wmanIf2CmnArqAttributeEntry 2 }
55
56     wmanIf2CmnArqWindowSize OBJECT-TYPE
57        SYNTAX      INTEGER (1..1024)
58        MAX-ACCESS  read-only
59        STATUS      current
60        DESCRIPTION
61            "Indicates the maximum number of unacknowledged fragments
62             at any time."
63        ::= { wmanIf2CmnArqAttributeEntry 3 }
64

```

```

1  wmanIf2CmnArqBlockLifetime OBJECT-TYPE
2      SYNTAX      INTEGER (0 .. 65535)
3      UNITS       "10 us"
4      MAX-ACCESS  read-only
5      STATUS      current
6      DESCRIPTION
7          "The maximum time interval an ARQ fragment will be managed
8              by the transmitter ARQ machine, once initial transmission
9              of the fragment has occurred. If transmission or
10             retransmission of the fragment is not acknowledged by the
11             receiver before the time limit is reached, the fragment is
12             discarded. A value of 0 means Infinite."
13     ::= { wmanIf2CmnArqAttributeEntry 4 }
14
15  wmanIf2CmnArqSyncLossTimeout OBJECT-TYPE
16      SYNTAX      INTEGER (0 .. 65535 )
17      UNITS       "10 us"
18      MAX-ACCESS  read-only
19      STATUS      current
20      DESCRIPTION
21          "The maximum interval before declaring a loss of
22             synchronization of the sender and receiver state machines.
23             A value of 0 means Infinite."
24     ::= { wmanIf2CmnArqAttributeEntry 5 }
25
26  wmanIf2CmnArqDeliverInOrder OBJECT-TYPE
27      SYNTAX      TruthValue
28      MAX-ACCESS  read-only
29      STATUS      current
30      DESCRIPTION
31          "Indicates whether or not data is to be delivered by the
32             receiving MAC to its client application in the order in
33             which data was handed off to the originating MAC."
34     ::= { wmanIf2CmnArqAttributeEntry 6 }
35
36  wmanIf2CmnArqRxPurgeTimeout OBJECT-TYPE
37      SYNTAX      INTEGER (0 .. 65535)
38      UNITS       "10 us"
39      MAX-ACCESS  read-only
40      STATUS      current
41      DESCRIPTION
42          "Indicates the time interval the ARQ window is advanced
43             after a fragment is received. A value of 0 means
44             Infinite."
45     ::= { wmanIf2CmnArqAttributeEntry 7 }
46
47  wmanIf2CmnArqBlockSize OBJECT-TYPE
48      SYNTAX      INTEGER (1..2040)
49      UNITS       "byte"
50      MAX-ACCESS  read-only
51      STATUS      current
52      DESCRIPTION
53          "This value of this parameter specifies the size of an ARQ
54             block. This parameter shall be established by negotiation
55             during the connection creation dialog."
56      REFERENCE
57          "Subclause 11.13.18.8 in IEEE Std 802.16-2004"
58     ::= { wmanIf2CmnArqAttributeEntry 8 }
59
60  wmanIf2CmnArqAckProcessingTime OBJECT-TYPE
61      SYNTAX      INTEGER (0 .. 255)
62      UNITS       "millisecond"
63      MAX-ACCESS  read-only
64      STATUS      current

```

1           DESCRIPTION  
2            "This parameter indicates the number of ms required by the  
3            ARQ receiver to process the received ARQ blocks and provide  
4            a valid ACK or NAK."  
5           REFERENCE  
6            "Subclause 11.13.18.9 in IEEE Std 802.16e-2005"  
7            ::= { wmanIf2CmnArqAttributeEntry 9 }  
8  
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10  
  
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