Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Inconsistencies and Recommended Remedies for Document IEEE P802.16f/D1**
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Re:	Contribution to support comment to IEEE 802.16 Working Group Letter Ballot #16
Abstract	The document under consideration in the letter ballot #16 contains discrepancies between the MIB description, listing and representation
Purpose	To correct inconsistencies in the document IEEE P802.16f/D1, October 2004
Notice	
Release	
Patent Policy and Procedures	

Inconsistencies and Recommended Remedies for Document IEEE P802.16f/D1

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1. Problem Statement

The implementation of the MIB as described in document IEEE P802.16f/D1 shows many inconsistencies between the graphic tree representation (figure 2), the structural description section 5 and the listing of the implementation of wmanIfMib inn section 6. This document lists all found inconsistencies and proposes fixes.

2. Problem Listing

1. Figure 2 does not describe the complete MIB structure but only to level 4 in the hierarchy. This should be stated. Furthermore, wmanIfBsObjects,wmanIfSsObjects and wmanIfCmnObjects no childs of wmanIfMib. Intermediate level wmanIfMibObjects is missing.
2. Section 5.1.1.4 describing wamIfBsSsPacketCounterTable in wmanIfBsCps is missing.
3. Figure 2 refers to wmanIfBsChMeasurementTable in the third branch of wmanIfBsCps while section 5.1.2.3 refers to that branch as wmanIfBsStatisticsTable. Section 6 lists it as wmanIfBsStatisticCounter. Furthermore listing in 6 has two more statistics subsections (wmanIfBsChMeasurementTable & wmanIfBsFecCounterTable) which are not shown in Figure 2.
4. Figure 2 misses the subsections of wmanIfBsPkm (wmanIfBsPkmBaselineTable, wmanIfBsPkmAuthTable and wmanIfBsPkmTekTable). Furthermore in section 6, this branch is referred to as wmanIfBsPkmObjects. In section 6 wmanIfBsPkmTekTable is referred to as wmanIfBsPkmTEKTable. Convention seems to be to use only first letter capitalized. Hence, change all instances of TEK to Tek. Along this line change TLV to Tlv, DHCP to Dhcp, MAP to Map, EIRP to Eirp, TTG to Ttg, RTG to Rtg and RSS to Rss.
5. Figure 2 wmanIfBsNotification branch ends, so does section 5.1.4 listing. However, listing in section 6 includes branches wmanIfBsTrapDefinitions and wmanIfBsTrapControl. Furthermore wmanIfBsTrapDefinitions contains Trap responses and another branch with the definitions for those traps. It seems very confusing and maybe it would be simpler if a lower level branch wmanIfTrapBsEvents were created (same level as wmanIfBsTrapDefinitions and wmanIfBsTrapControl) and the trap reponses moved there.
6. WmanIfSsConfigurationTable lacks reference to p802.16REVd/D5.
7. In figure 2 the following groups losted in section 5 are missing:

   5.2.3 wmanIfSsPkmAuthTable

   5.2.3.1 wmanIfSsPkmTekTable

   5.2.3.2 wmanIfSsPkmCertificatesTable

   For consistency with the corresponding branch in the BS section they should branch off from 5.2.2. wmanIfSsPkm which is in section 6 referred to as wmanIfSsPkmObjects. The listing in section 6 is in fact according to the BS section. In section 6 but wmanIfSsPkmCertificatesTable is referred to as wmanIfSsDeviceCertTable
8. **5.2.4 wmanIfSsTraps** is referred to as wmanIfSsNotification in figure 2 and section 6. Taking 7. Into account the section has to be renumbered to 5.2.3. In this group the trap definitions and thresholds are in the TrapControl branch instead of in the TrapDefinition branch. Harmonization with the corresponding BS section would increase readability.
9. Entries in wmanIfCmnBsSsConfigurationTable lack reference to standard.
10. In Figure 2 in wmanIfCmnCps third subbranch is wmanIfCmnSsChMeasurementTable, in listing 6 wmanIfCmnStatCounter becomes it's mother (with another sibling wmanIfCmnSsFecCounterTable).
11. Figure 2 and 5.3.3. refer to wmanIfCmnPrivacy but listing in 6 uses wmanIfCmnPkmObjects. The latter is aligned to BS and SS sections. Branch wmanIfCmnCrypotSuiteTable is missing in figure 2

3. Proposed Remedies

To 1.)

p.13, l.7 add:
Figure 2 shows the first 5 levels of MIB structure of wmanIfMib for 802.16. The MIB structure is organized based on the reference model as defined in IEEE 802.16REVd/D5 standard.

l.61: Figure 2— First 5 levels of wmanIfMib Structure
In figure 2 add:

wmanIfMib ----- wmanIfMibObjects_____ wmanIfBsObjects
| _____ wmanIfSsObjects
| _____ wmanIfCmnObjects

To 2.)

At p.8 l.36 insert
5.1.1.4. wmanIfBsSsPacketCounterTable
This table contains counters to keep track of the number of packets or octets that have been received or transmitted on the per servie flow basis.

To 3.)

At p.8 l.56 change title:
5.1.2.3 wmanIfBsStatistic~~sTable~~Counter

in figure 2 modify:

---~~wmanIfBsChMeasurementTable~~ wmanIfBsStatisticCounter
|_____ wmanIfBsChMeasurementTable
|_____ wmanIfBsFecTable

To 4.)

In figure 2 add branches

--- wmanIfBsPkmObjects _____ wmanIfBsPkmBaseTable
|_____wmanIfBsPkmAuthTable
|_____wmanIfBsPkmTekTable

on p.9 l.1 and l.3 replace:
wmanIfBsPkmObjects

on p.9 l.7 modify:
wmanIfBsPkmBase~~line~~Table

on p.58 in lines 27,29,39,40,53,5456-65,
on p.59 in lines 1-13,17,27,30,45,48,60,62,
on p.60 in lines 8,10,22,25,38,40,51,54,65,
on p.61 in lines 2,10,13,26,37,48,58,61,
on p.62 in lines 4,21,34,37,50,52,63,
on p.80 in line 1,
on p.85 in lines 40-62:
on p.86 in lines 1,9,12,25,27,39,42,52,55,
on p.87 in lines 2,4,20,23,34,36,47,49,57,60,
on p.88 in lines 4,6,15,18,27,30,39,42,51,54,

on p.89 in lines 4,6,17,19,33,36,47

change T~~EK~~ek

on p.91 line 49
change T~~LV~~lv

on p.92 line 11
change D~~HCP~~hcp

on p.42 line 25 and p.55 l.29
change M~~AP~~ap

on p.121 line 23 and 39
change E~~IRP~~irp

on p.121 line 25 and p.122 l.1
change T~~TG~~tg

on p.121 line 26 and p.122 l.13
change R~~TG~~tg

on p.121 line 27 and p.122 l.25
change R~~SS~~ss

To 5.)

In figure 2 add branches:

--- wmanIfBsNotification _____ wmanIfBsTrapDefinitions
|_____wmanIfBsTrapControl
|_____wmanIfBsTrapEvents

p.9 l.27:
5.1.4 wmanIfBsNotification
The wmanIfBsNotification group contains BS traps information~~. to report fault events and exceptions, such as power status, RSSI threshold crossing.~~

5.1.4.1 wmanIfBsTrapDefinitions

This group contains trap threshold definitions for BS fault events and exceptions such as power status, RSSI threshold crossing.

5.1.4.2 wmanIfBsTrapControl
This object is used to enable Base Station traps.

5.1.4.3 wmanIfBsTrapEvents
This object is used to track Base Station trap events.

p.63 l.8 add :
wmanIfBsTrapEvents OBJECT IDENTIFIER ::= { wmanIfBsNotification 3 }

p.67 l.46
::= { ~~wmanIfBsTrapDefinitions 3~~ wmanIfBsTrapEvents 1}

p.67 l.63

::= { ~~wmanIfBsTrapDefinitions 4~~ wmanIfBsTrapEvents 2}

p.68 l.15
::= { ~~wmanIfBsTrapDefinitions 5~~ wmanIfBsTrapEvents 3}

p.68 l.24
::= { ~~wmanIfBsTrapDefinitions 6~~ wmanIfBsTrapEvents 4}

p.68 l.24
::= { wmanIfBsTrapDefinitions ~~7~~3 }

p.70 l.20
::= { ~~wmanIfBsTrapDefinitions 8~~ wmanIfBsTrapEvents 5}
p.70 l.31
::= { ~~wmanIfBsTrapDefinitions 9~~ wmanIfBsTrapEvents 6}
p.70 l.48
::= { ~~wmanIfBsTrapDefinitions 10~~ wmanIfBsTrapEvents 7}

To 6.)

p.72 l.58 insert:

REFERENCE
"Section 10.1 in IEEE 802.16REVd/D5-2004"

To 7.)

p.9 l.57:
5.2.2 wmanIfSsPkmObjects

p.9, l.63 add.:
5.2.2.1 wmanIfSsPkmBaseTable
This table describes the basic PKM attributes of each SS wireless interface

p.10 l.l.:
5.2.~~3~~2.2 wmanIfSsPkmAuthTable
p.10 l.l.:
5.2.~~3.1~~2.3 wmanIfSsPkmTekTable
p.10 l.l.:
5.2.~~3.2~~2.4 ~~wmanIfSsPkmCertificatesTable~~ wmanIfSsDeviceCertTable

To 8.)

In figure 2 add branches:

--- wmanIfSsNotification _____ wmanIfSsTrapDefinitions
|_____wmanIfSsTrapControl
|_____wmanIfSsTrapEvents

p.10 l.18 modify:

5.2.3~~4 wmanIfSsTraps~~ wmanIfSsNotification

The wmanIfBSsTraps group contains SS traps information.to report fault events and exceptions, such as power status, RSSI threshold crossing.

p.10 l.23 add
5.2.3.1 wmanIfSsTrapDefinitions
This group contains trap threshold definitions for SS fault events and exceptions such as RSSI threshold crossing.

5.2.3.2 wmanIfSsTrapControl
This object is used to enable SS traps.

5.2.3.3 wmanIfSsTrapEvents
This object is used to track SS trap events.

p.90 l.6
::= { wmanIfSsTrapControl 2 wmanIfSsTrapDefinitions 1}

p.91 l.58
::= { wmanIfSsTrapDefinitions 1 wmanIfSsTrapEvents 1}

p.92 l.8
::= { wmanIfSsTrapDefinitions 2 wmanIfSsTrapEvents 2}

p.92 l.18
::= { wmanIfSsTrapDefinitions 3 wmanIfSsTrapEvents 3}

p.92 l.32
::= { wmanIfSsTrapDefinitions 4 wmanIfSsTrapEvents 4}

p.92 l.43
::= { wmanIfSsTrapDefinitions 52}

To 9)

p.109 l.64 add:
REFERENCE
"Section 10.1 in IEEE 802.16REVd/D5-2004"

To 10)

p.10 l.51

5.3.2.3 wmanIfCmnSsChMeasurementTable wmanIfCmnSsStatCounterTable

in figure 2 modify:

---wmanIfCmnSsChMeasurementTable wmanIfCmnSsStatCounterTable
|_____ wmanIfCmnSsChMeasurementTable
|_____ wmanIfCmnSsFecCounterTable

To 11)

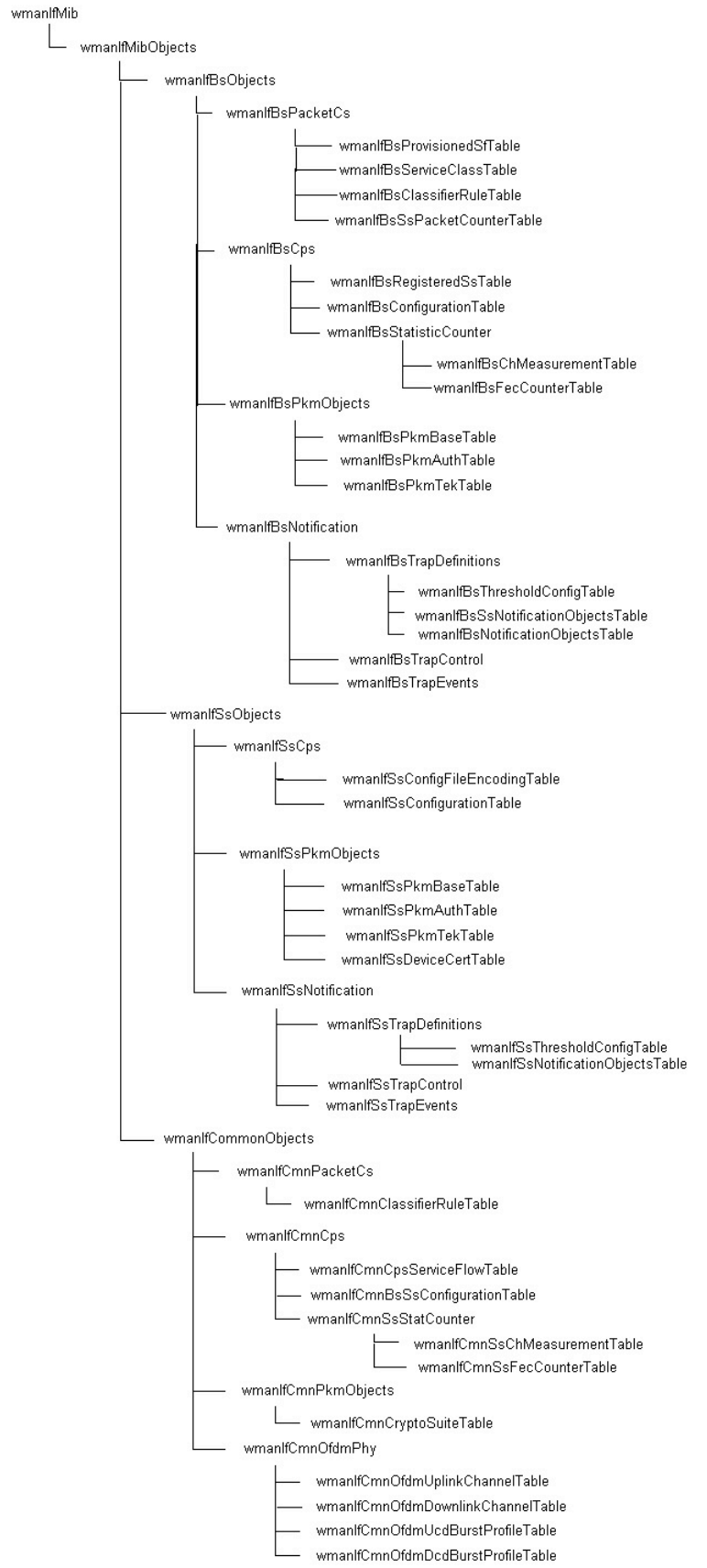
p.10 l.56
5.3.3 wmanIfCmnPrivacy wmanIfCmnPkmObjects

in figure 2 modify:

---~~wmanIfCmnPrivacy~~ wmanIfCmnPkmObjectgs
|_____wmanIfCmnCryptoSuiteTable

4. Appendix

Below is an updated Version of Figure 2 showing MIB structure according changes described above


wmanIfMib
wmanIfMibObjects
wmanIfBsObjects
wmanIfBsPacketCs
wmanIfBsProvisionedSfTable
wmanIfBsServiceClassTable
wmanIfBsClassifierRuleTable
wmanIfBsSsPacketCounterTable
wmanIfBsCps
wmanIfBsRegisteredSsTable
wmanIfBsConfigurationTable
wmanIfBsStatisticCounter
wmanIfBsChMeasurementTable
wmanIfBsFecCounterTable
wmanIfBsPkmObjects
wmanIfBsPkmBaseTable
wmanIfBsPkmAuthTable
wmanIfBsPkmTekTable
wmanIfBsNotification
wmanIfBsTrapDefinitions
wmanIfBsThresholdConfigTable
wmanIfBsSsNotificationObjectsTable
wmanIfBsNotificationObjectsTable
wmanIfBsTrapControl
wmanIfBsTrapEvents
wmanIfSsObjects
wmanIfSsCps
wmanIfSsConfigFileEncodingTable
wmanIfSsConfigurationTable
wmanIfSsPkmObjects
wmanIfSsPkmBaseTable
wmanIfSsPkmAuthTable
wmanIfSsPkmTekTable
wmanIfSsDeviceCertTable
wmanIfSsNotification
wmanIfSsTrapDefinitions
wmanIfSsThresholdConfigTable
wmanIfSsNotificationObjectsTable
wmanIfSsTrapControl
wmanIfSsTrapEvents
wmanIfCommonObjects
wmanIfCmnPacketCs
wmanIfCmnClassifierRuleTable
wmanIfCmnCps
wmanIfCmnCpsServiceFlowTable
wmanIfCmnBsSsConfigurationTable
wmanIfCmnSsStatCounter
wmanIfCmnSsChMeasurementTable
wmanIfCmnSsFecCounterTable
wmanIfCmnPkmObjects
wmanIfCmnCryptoSuiteTable
wmanIfCmnOfdmPhy
wmanIfCmnOfdmUplinkChannelTable
wmanIfCmnOfdmDownlinkChannelTable
wmanIfCmnOfdmUcdBurstProfileTable
wmanIfCmnOfdmDcdBurstProfileTable

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