

Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >
Title	FCAPS based structure for Mobile MIB, IEEE 802.16i
Date Submitted	2006-09-17
Source(s)	Eero Wallenius, Ph.D., Nokia Oyj, E-mail: eero.wallenious@nokia.com Marko Siiskonen, Nokia Oyj, E-mail: marko.siiskonen@nokia.com Mikko Kylväjä, Nokia Oyj, E-mail: mikko.kylvaja@nokia.com
Re:	Comment on P802.16i-06/001r3
Abstract	This contribution proposes the modification of the Mobile MIB 802.16i structures based on FCAPS model where applicable to clarify the differentiate the different tasks, related functionalities and their detailed FCAPS properties, parameters, counters gauges.
Purpose	Adoption
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1. Introduction

The purpose of the restructuring is to clarify the structure of the WiMax Mobile MIB according to TMF defined FCAPS model (FM, CM, AM, PM and SM). This would enable to insert and locate individual category group and item more easily and the MIB would be more readable by the people designing and implementing their part of the system as people usually dealing with each of the categories are different and the development processes are quite separated with each other.

All future contribution should following this basic course. Additional subcategories can be added as needed and main categories not needed may be left out when applicaple.

2. Proposed Text Changes

Substitute from line 3 page 280 to line 30 page289 with the following text (starting from next page)

wmaxIfBsFmMobility OBJECT IDENTIFIER ::= { wmanIfBsFmObjects x } -- e.g. x=0
wmaxIfBsCmMobility OBJECT IDENTIFIER ::= { wmanIfBsCmObjects x } -- e.g. x=7
wmaxIfBsAmMobility OBJECT IDENTIFIER ::= { wmanIfBsAmObjects x } -- e.g. x=0
wmaxIfBsPmMobility OBJECT IDENTIFIER ::= { wmanIfBsPmObjects x } -- e.g. x=0
wmaxIfBsSmMobility OBJECT IDENTIFIER ::= { wmanIfBsSmObjects x } -- e.g. x=0

wmaxIfMsFmMobility OBJECT IDENTIFIER ::= { wmanIfBsFmObjects x } -- e.g. x=0
wmaxIfMsCmMobility OBJECT IDENTIFIER ::= { wmanIfBsCmObjects x } -- e.g. x=0
wmaxIfMsAmMobility OBJECT IDENTIFIER ::= { wmanIfBsAmObjects x } -- e.g. x=0
wmaxIfMsPmMobility OBJECT IDENTIFIER ::= { wmanIfBsPmObjects x } -- e.g. x=0
wmaxIfMsSmMobility OBJECT IDENTIFIER ::= { wmanIfBsSmObjects x } -- e.g. x=0

wmanIfBsCmHOConfiguration OBJECT IDENTIFIER ::= { wmanIfBsCmMobility 2 }

wmaxIfBsCmMobilityOperatorId OBJECT-TYPE
SYNTAX Integer32
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"An unique operator identifier."
::= { wmanIfBsCmHOConfiguration 1 }

wmaxIfBsCmMobilityBsId OBJECT-TYPE
SYNTAX WmanIfBsIdType
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"An unique BS identifier."
::= { wmanIfBsCmHOConfiguration 2 }

wmaxIfBsCmHOSupport OBJECT-TYPE
SYNTAX BITS
{
MDHO/FBSS HO not supported(0),
FBSS/MDHO DLRf combining supported(1),
MDHO DL soft combining supported monitoring single MAP from anchor BS(2),
MDHO DL soft combining supported monitoring MAPS from active BSs(3),
reserved1(5),
reserved2(6),
reserved3(7)
}
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"The Handover supported field indicates what type(s) of HO the BS and the MS supports."
::= { wmanIfBsCmHOConfiguration 3 }

wmaxIfBsCmHOResourceRetainTime OBJECT-TYPE
SYNTAX Integer32
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"The Resource_Retain_Time is the duration for MS s connection information that will be retained in serving BS. BS shall start Resource_Retain_Time timer at MS notification of pending HO attempt through MOB_HO-IND or by detecting an MS drop. The unit of this value is 100 milliseconds."
::= { wmanIfBsCmHOConfiguration 4 }

wmaxIfBsCmHOProcessOptimizationMSTimer OBJECT-TYPE
SYNTAX INTEGER

MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"The duration in frames MS shall wait until receipt of the next unsolicited network re-entry MAC management message as indicated in the HO Process Optimization element of the RNG-RSP message"
 ::= { wmanIfBsCmHOConfiguration 5 }

wmanIfBsCmHORetransmissionTimer OBJECT-TYPE

SYNTAX INTEGER
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"After a MS transmits MOB_MSHO-REQ to initiate a handover process, it shall start MS Handover Retransmission Timer and shall not transmit another MOB_MSHO-REQ until the expiration of the MS Handover Retransmission Timer."
 ::= { wmanIfBsCmHOConfiguration 6 }

wmanIfBsCmHOMobilityModeSupport OBJECT-TYPE

SYNTAX BITS
 {
 handover support(0),
 sleep-mode support(1),
 idle-mode support(2)
 }
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"This parameter is to represent the supported mobility mode."
 ::= { wmanIfBsCmHOConfiguration 7 }

wmanIfBsCmHOMsConnectProcessingTime OBJECT-TYPE

SYNTAX INTEGER
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"Time in ms the MS needs to process information on connections provided in RNRGRSP or REG-RSP message during HO."
 ::= { wmanIfBsCmHOConfiguration 8 }

wmanIfBsCmHOMsTekProcessingTime OBJECT-TYPE

SYNTAX INTEGER
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"Time in ms the MS needs to completely process TEK information during HO."
 ::= { wmanIfBsCmHOConfiguration 9 }

wmanIfBsCmHOULPermutationBase OBJECT-TYPE

SYNTAX OCTET STRING
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"This parameter is used for uplink subcarrier allocation."
 ::= { wmanIfBsCmHOConfiguration 10 }

wmanIfBsCmHODLPermutationBase OBJECT-TYPE

SYNTAX OCTET STRING
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"This parameter is used for downlink subcarrier allocation."
 ::= { wmanIfBsCmHOConfiguration 11 }

wmaxIfBsCmHOPreambleIndex OBJECT-TYPE
 SYNTAX OCTET STRING
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "This parameter is used for downlink synchronization by MS."
 ::= { wmanIfBsCmHOConfiguration 12 }

wmaxIfBsCmHOSegmentNumber OBJECT-TYPE
 SYNTAX INTEGER
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "This parameter is an unique segment identifier ."
 ::= { wmanIfBsCmHOConfiguration 13 }

wmaxIfBsCmAdjacencyNeighbourBsTable OBJECT-TYPE
 SYNTAX SEQUENCE OF WmanIfNeighbourBsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This table contains neighbouring BS"
 ::= { wmanIfBsCmHOConfiguration 14 }

wmaxIfBsCmAdjacencyNeighbourBsEntry OBJECT-TYPE
 SYNTAX WmanIfNeighbourBsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This table is indexed by wmanIfNeighbourBsId."
 INDEX { ifIndex, wmanIfNeighbourBsId }
 ::= { wmanIfBsCmAdjacencyNeighbourBsTable 1 }

wmaxIfBsCmAdjacencyNeighbourBsId OBJECT-TYPE
 SYNTAX WmanIfBsIdType
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "The neighbouring BS identifier."
 ::= { wmanIfBsCmAdjacencyNeighbourBsEntry 1 }

wmaxIfBsCmAdjacencyNeighbourBsFAIndex OBJECT-TYPE
 SYNTAX INTEGER
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Frequency Assignment Index."
 ::= { wmanIfBsCmAdjacencyNeighbourBsEntry 2 }

wmaxIfBsCmAdjacencyNeighbourBsEIRP OBJECT-TYPE
 SYNTAX INTEGER (-128..127)
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Neighbour BS EIRP."
 ::= { wmanIfBsCmAdjacencyNeighbourBsEntry 3 }

wmaxIfBsCmAdjacencyNeighbourBsHOProcessOptimization OBJECT-TYPE
 SYNTAX Integer32
 MAX-ACCESS read-write
 STATUS current

DESCRIPTION

"Identifies re-entry process management current HO attempt due to the availability of MS service and operational status post-HO

::= { wmanIfBsCmAdjacencyNeighbourBsEntry 4 }

wmanIfBsCmAdjacencyNeighbourBsSchedulingServiceSupport OBJECT-TYPE

SYNTAX BITS

```
{
    real-time polling service(0),
    extended real-time polling service(1),
    non-real-time polling service(2),
    unsolicited grant service(3),
    best effort(4)
}
```

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This parameter is used to indicate neighbouring BS scheduling service type."

::= { wmanIfBsCmAdjacencyNeighbourBsEntry 5 }

wmanIfBsCmAdjacencyNeighbourBsBandwidth OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This parameter is used to indicate neighbouring BS bandwidth."

::= { wmanIfBsCmAdjacencyNeighbourBsEntry 6 }

wmanIfBsCmAdjacencyNeighbourBsFFTSIZE OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This parameter is used to indicate neighbouring BS FFT size."

::= { wmanIfBsCmAdjacencyNeighbourBsEntry 7 }

wmanIfBsCmAdjacencyNeighbourBsCyclePrefix OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This parameter is used to indicate neighbouring BS Cycle prefix."

::= { wmanIfBsCmAdjacencyNeighbourBsEntry 8 }

wmanIfBsCmAdjacencyNeighbourBsFrameDurationCode OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This parameter is used to indicate neighbouring BS Frame duration code."

::= { wmanIfBsCmAdjacencyNeighbourBsEntry 9 }

wmanIfBsCmAdjacencyNeighbourBsULPermutationBase OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This parameter is used to indicate neighbouring BS uplink permutation base."

::= { wmanIfBsCmAdjacencyNeighbourBsEntry 10 }

wmanIfBsCmAdjacencyNeighbourBsDLPermutationBase OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-
STATUS current
DESCRIPTION

"This parameter is used to indicate neighbouring BS downlink permutation base."
 ::= { wmanIfBsCmAdjacencyNeighbourBsEntry 11 }

wmanIfBsCmAdjacencyNeighbourBsSegmentNumber OBJECT-TYPE

SYNTAX Integer32
MAX-ACCESS read-write
STATUS current
DESCRIPTION

"This parameter is used to indicate neighbouring BS segment number."
 ::= { wmanIfBsCmAdjacencyNeighbourBsEntry 12 }

wmanIfBsCmAdjacencyNeighbourBsPreambleIndex OBJECT-TYPE

SYNTAX Integer32
MAX-ACCESS read-write
STATUS current
DESCRIPTION

"This parameter is used to indicate neighbouring BS preamble index."
 ::= { wmanIfBsCmAdjacencyNeighbourBsEntry 13 }

wmanIfBsCmPagingGroupTable OBJECT-TYPE

SYNTAX SEQUENCE OF WmanIfBsPagingGroupEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION

"This table contains paging group related parameters."
 ::= { wmanIfBCmMobility 3 }

wmanIfBsCmPagingGroupEntry OBJECT-TYPE

SYNTAX WmanIfBsPagingGroupEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION

"This table is indexed by wmanIfBsPagingGroupId."
 INDEX { wmanIfBsPagingGroupId }
 ::= { wmanIfBsCmPagingGroupTable 1 }

wmanIfBsCmPagingGroupEntry ::= SEQUENCE {
 wmanIfBsCmPagingControlId IpAddress,
 wmanIfBsCmPagingGroupId INTEGER,
 wmanIfBsCmMgmtResourceHoldingTimerInteger32,
 wmanIfBsCmT46Timer Integer32,
 wmanIfBsCmPagingRetryCount INTEGER,
 wmanIfBsCmREQDuration INTEGER,
 wmanIfBsCmMACHashSkipThresholdInteger32,
 wmanIfBsCmCDMATransmissionOpportunityAssignmentINTEGER,
 wmanIfBsCmPagingResponseWindow INTEGER,
 wmanIfBsCmIdleModeTimer INTEGER,
 wmanIfBsCmIdleModeSystemTimer INTEGER,
 wmanIfBsCmPagingIntervalLength INTEGER,
 wmanIfBsCmPagingCycle INTEGER
 }

wmanIfBsCmPagingControlId OBJECT-TYPE

SYNTAX IpAddress
MAX-ACCESS read-write
STATUS current
DESCRIPTION

"This parameter is used to indicate paging controller identifier connected by BS."
 ::= { wmanIfBsCmPagingGroupEntry 1 }

wmaxIfBsCmPagingGroupId OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This parameter is used to indicate the paging group identifier assigned to BS by network."

::= { wmanIfBsCmPagingGroupEntry 2 }

wmaxIfBsCmPagingMgmtResourceHoldingTimer OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Time the BS maintain connection information with the MS after the BS send DREG-CMD to the MS"

::= { wmanIfBsCmPagingGroupEntry 3 }

wmaxIfBsCmPagingT46Timer OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Time the BS waits for DREGREQ in case of unsolicited Idle Mode initiation from BS."

::= { wmanIfBsCmPagingGroupEntry 4 }

wmaxIfBsCmPagingRetryCount OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Number of retries on paging transmission. If the BS does not receive RNG-REQ from the MS until this value decreases to zero, it determines that the MS is unavailable."

::= { wmanIfBsCmPagingGroupEntry 5 }

wmaxIfBsCmPagingREQDuration OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Waiting value for the DREG-REQ message re-transmission (measured in frames)."

::= { wmanIfBsCmPagingGroupEntry 6 }

wmaxIfBsCmPagingMACHashSkipThreshold OBJECT-TYPE

SYNTAX Integer32

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Maximum number of successive MOB_PAG-ADV messages that may be sent from a BS without individual notification for an MS for which BS is allowed to skip MS MAC Address Hash when the Action Code for the MS is 0b00,'No Action Required'."

::= { wmanIfBsCmPagingGroupEntry 7 }

wmaxIfBsCmPagingCDMATransmissionOpportunityAssignment OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The CDMA code and transmission opportunity assignment field indicates the assigned code and transmission opportunity for a MS who is paged to use over dedicated CDMA ranging region."

::= { wmanIfBsCmPagingGroupEntry 8 }

wmaxIfBsCmPagingResponseWindow OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The Page-Response Window indicates the Page-Response window for a MS who is paged to transmit the assigned code for CDMA ranging channel."

::= { wmanIfBsCmPagingGroupEntry 9 }

wmaxIfBsCmPagingIdleModeTimer OBJECT-TYPE

SYNTAX INTEGER (128..65536)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"MS timed interval to conduct Location Update. Set timer to MS Idle Mode Timeout capabilities setting. Timer recycles on successful Idle Mode Location Update."

::= { wmanIfBsCmPagingGroupEntry 10 }

wmaxIfBsCmPagingIdleModeSystemTimer OBJECT-TYPE

SYNTAX INTEGER (128..65536)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"For BS acting as Paging Controller, timed interval to receive notification of MS Idle Mode Location Update. Set timer to MS Idle Mode Timeout. Timer recycles on successful Idle Mode Location Update."

::= { wmanIfBsCmPagingGroupEntry 11 }

wmaxIfBsCmPagingIntervalLength OBJECT-TYPE

SYNTAX INTEGER (2..5)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Time duration of Paging Interval of the BS."

::= { wmanIfBsCmPagingGroupEntry 12 }

wmaxIfBsCmPagingCycle OBJECT-TYPE

SYNTAX INTEGER

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Cycle in which the paging message is transmitted within the paging group."

::= { wmanIfBsCmPagingGroupEntry 13 }