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| Mapping Accounting and monitoring to IEEE 802 Technologies | | | |
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# Abstract

This document proposes updated texts for the mapping to IEEE 802 technologies for function of accounting and monitoring.



### Mapping to IEEE 802 Technologies

#### Overview

The following table provides an overview about the functions of accounting and monitoring supported by the various IEEE 802 technologies with some of the references to the related sections of the specifications.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 802.3 | 802.11 | 802.16 | 802.22 |
| Monitoring | 30.1.2, 30.1.4  management models  30.2.2  Managed object  30.2.5  Capabilities  5.2.4.2  transmit variables and procedures  5.2.4.3  receive variables and procedures  5.2.4.4  common procedures | 10.11  radio measurement procedures  6.3.14  6.3.16  6.3.34  measurement primitives | 13.1.3.3.1  13.1.3.4.4  13.1.3.4.6  MIB modules | 13.1.2.3.1  13.1.2.4.4  13.1.2.4.6  MIB description |
| Collection & mediation | Annex 30B  (reference to to IEEE Std 802.3.1-2011 Clause C.1) | Annex C.3 MIB detail | 14.2.1  Accounting management | Yes (MIB) |
| Accounting & policy configuration | 802.1X | 802.1X | 14.2.1  Accounting management | Yes(MIB) |

The following table provides the mapping of accounting and monitoring specific attributes, in form of examples of MIB objects, in the various IEEE 802 technologies.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 802.3 | 802.11 | 802.16 | 802.22 |
| Transmit volume | 5.2.2.1  aFramesTransmittedOK  aOctetsTransmittedOK  aMulticastFramesXmittedOK  aBroadcastFramesXmittedOK | Annex C.3 dot11TransmittedFragmentCount  dot11GroupTransmittedFrameCount  dot11TransmittedFrameCount | 13.1.3.3.1  wman If2BsOtaUsageDataRecordTable  (wmanIf2BsMacSduCount,  wmanIf2BsOctetCount) | 13.1.2.3.1  wranIfBsOtaUsageDataRecordTable |
| Receive volume | 5.2.2.1  aFramesReceivedOK  aOctetsReceivedOK  aMulticastFramesReceivedOK  aBroadcastFramesReceivedOK | Annex C.3  dot11ReceivedFragmentCount  dot11GroupReceivedFrameCount | 13.1.3.3.1  wman If2BsOtaUsageDataRecordTable  (wmanIf2BsMacSduCount,  wmanIf2BsOctetCount) | 13.1.2.3.1  wranIfBsOtaUsageDataRecordTable |
| Throughput |  |  | 13.1.3.4.4  wmanIf2BsThroughputMetricsTable:  (wmanIf2BsAvgDlUserThroughput,  wmanIf2BsAvgUlUserThroughput,  wmanIf2BsAvgDlMacThroughput,  wmanIf2BsAvgUlMacThroughput,  wmanIf2BsAvgDlPhyThroughput,  wmanIf2BsAvgUlPhyThroughput,  wmanIf2BsPeakDlUserThroughput,  wmanIf2BsPeakUlUserThroughput,  wmanIf2BsPeakDlMacThroughput,  wmanIf2BsPeakUlMacThroughput,  wmanIf2BsPeakDlPhyThroughput,  wmanIf2BsPeakUlPhyThroughput,  wmanIf2BsAvgDlCellEdgeThroughput,  wmanIf2BsAvgUlCellEdgeThroughput,  wmanIf2BsThroughputMeasurements) | 13.1.2.4.4  wranIfBsThroughputMetricsTable:  (wranIfBsAvgDsUserThroughput,  wranIfBsAvgUsUserThroughput,  wranIfBsAvgDsMacThroughput,  wranIfBsAvgUsMacThroughput,  wranIfBsAvgDsPhyThroughput,  wranIfBsAvgUsPhyThroughput,  wranIfBsPeakDsUserThroughput,  wranIfBsPeakUsUserThroughput,  wranIfBsPeakDsMacThroughput,  wranIfBsPeakUsMacThroughput,  wranIfBsPeakDsPhyThroughput,  wranIfBsAvgUsPhyThroughput,  wranIfBsAvgDsCellEdgeThroughput,  wranIfBsAvgUsCellEdgeThroughput,  wranIfBsNumThroughputMeasurements) |
| ~~Path utilization~~ | - | - | - | - |
| QoS parameters |  |  | 13.2.3  wmanIf2BsOtaQoSProfileIndex  13.2.4  wmanIf2mBs2ndMgmtDlQoSProfileIndex  wmanIf2mBs2ndMgmtUlQoSProfileIndex  wmanIf2mBsBasicCidDlQosProfileIndex  wmanIf2mBsBasicCidUlQosProfileIndex  wmanIf2mBsPrimaryCidDlQosProfileIndex  wmanIf2mBsPrimaryCidUlQosProfileIndex  wmanIf2mBsProvisionedQoSProfileIndex  wmanIf2mBsAdmittedQoSProfileIndex  wmanIf2mBsActiveQoSProfileIndex  wmanIf2mBsQoSProfileTable (  wmanIf2mBsQoSProfileIndex,  wmanIf2mBsQosServiceClassName,  wmanIf2mBsQosUlGrantScheduleType,  wmanIf2mBsQosTrafficPriority,  wmanIf2mBsQosMaximumSustainedRate,  wmanIf2mBsQosMinimumReservedRate,  wmanIf2mBsQosMaximumTrafficBurst,  wmanIf2mBsQosToleratedJitter,  wmanIf2mBsQosMaxLatency,  wmanIf2mBsQosUnsolicitedGrantInterval,  wmanIf2mBsQosSduSize,  wmanIf2mBsQosUnsolicitedPollInterval)  13.2.5  wmanIf2fBsProvServiceClassTable (  wmanIf2fBsQoSProfileIndex,  wmanIf2fBsQosServiceClassName,  wmanIf2fBsQoSTrafficPriority,  wmanIf2fBsQoSMaxSustainedRate,  wmanIf2fBsQoSMaxTrafficBurst,  wmanIf2fBsQoSMinReservedRate,  wmanIf2fBsQoSToleratedJitter,  wmanIf2fBsQoSMaxLatency,  wmanIf2fBsQoSFixedVsVariableSduInd,  wmanIf2fBsQoSSduSize,  wmanIf2fBsQosScSchedulingType,  wmanIf2fBsQosScArqEnable,  wmanIf2fBsQosScArqWindowSize,  wmanIf2fBsQosArqTxRetryTimeout,  wmanIf2fBsQosArqRxRetryTimeout,  wmanIf2fBsQosScArqBlockLifetime,  wmanIf2fBsQosScArqSyncLossTimeout,  wmanIf2fBsQosScArqDeliverInOrder,  wmanIf2fBsQosScArqRxPurgeTimeout,  wmanIf2fBsQosScArqBlockSizeReq,  wmanIf2fBsQosScArqBlockSizeRsp,  wmanIf2fBsQosReqTxPolicy,  wmanIf2fBsQosFragmentSeqNumType,  wmanIf2fBsQosMbsService,  wmanIf2fBsQosServiceClassRowStatus) | 13.1.2.3.1.1.9  wranIfBsOtaQoSProfileIndex  13.1.3  wranIfBsProvSfTable  wranIfBsScTable (  wranIfBsScIndex,  wranIfBsScIndex,  wranIfBsQosTrafficPriority,  wranIfBsQosMaxSustainedRate,  wranIfBsQosTrafficSize,  wranIfBsQosMinReservedRate,  wranIfBsQosToleratedJitter,  wranIfBsQosMaxLatency,  wranIfBsQosEnableVariableLengthSdus,  wranIfBsQosSchedulingType,  wranIfBsQosArqEnable,  wranIfBsQosArqWindowSize,  wranIfBsQosArqTxRetryTimeout,  wranIfBsQosArqRxRetryTimeout,  wranIfBsQosArqBlockLifetime,  wranIfBsQosArqSyncLossTimeout,  wranIfBsQosArqDeliverInOrderEnable,  wranIfBsQosArqRxPurgeTimeout,  wranIfBsQosArqBlockSizeReq,  wranIfBsQosArqBlockSizeRsp,  wranIfBsQosReqTxPolicy) |
| Performance statistics | 5.2.2.1  aSingleCollisionFrames  aMultipleCollisionFrames  aFrameCheckSequenceErrors  aAlignmentErrors  aFramesWithDeferredXmissions  aLateCollisions  aFramesAbortedDueToXSColls  aFramesLostDueToIntMACXmitError  aFramesLostDueToIntMACRcvError  aFramesWithExcessiveDeferral  aInRangeLengthErrors  aOutOfRangeLengthField  aFrameTooLongErrors | Annex C.3  dot11QosCountersTablefor  (dot11QosCountersIndex  dot11QosTransmittedFragmentCount  dot11QosReceivedFragmentCount  dot11QosTransmittedFrameCount  dot11QosMPDUsReceivedCount  dot11QosFailedCount  dot11QosRetryCount  dot11QosMultipleRetryCount  dot11QosFrameDuplicateCount  dot11QosDiscardedFrameCount  dot11QosRetriesReceivedCount) | 13.1.3.4.6  wmanIf2BsPacketErrorRateTable:  (wmanIf2BsDlPacketsSent,  wmanIf2BsDlPacketsErrored,  wmanIf2BsDlPacketErrorRate,  wmanIf2BsUlPacketsReceived,  wmanIf2BsUlPacketsErrored,  wmanIf2BsUlPacketErrorRate) | 13.1.2.4.6  wranIfBsPacketErrorRateTable:  (wranIfBsDsPacketsErrored,  wranIfBsDsPacketErrorRate,  wranIfBsUsPacketsReceived,  wranIfBsUsPacketsErrored,  wranIfBsUsPacketErrorRate) |
| Accounting status | 802.1X-2010 13.3.3  ieee8021XPaePortLogonConnectStatus  ieee8021XPaePortPortValid | 802.1X-2010 13.3.3  ieee8021XPaePortLogonConnectStatus  ieee8021XPaePortPortValid | 13.2.4  wmanIf2mBsServiceFlowState  13.2.5  wmanIf2fBsSfState | 13.1.3.3.1.4  wranIfBsSfState |

#### IEEE 802.3 specifics

#### IEEE 802.11 specifics

#### IEEE 802.16 specifics

#### IEEE 802.22 specifics