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Comments received on Letter Ballot on 97/154-r2, 802.11 maintenance (including jan's and Henri's ballot input)

Legend:
de = Darwin Engwer
jbi = John Biddick
mho = Maarten Hoeben

wdi = Wim Diepstraten
as = Anil Sanwalka
tt = Tom Tsoulogiannis
jzw = Jihnny Zweig

vh = Vic Hayes
jbo = Jan Boer
hmo = Henri Moelard

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1	various	de	t	Y	The abbreviation "TU" is not defined.	Define it, or change all references to "Kus"?	
2	dot11AuthenticationType	de	t	Y	Allowing a only a single Authentication type is too limiting. In the future, more types may be added, and it may make sense (even with only two types defined) to allow more than one type of authentication to be enabled. A more flexible mechanism of determining what mix of algorithms may be enabled would be better.	Delete "dot11AuthenticationType" and add an entry to each row in the AuthenticationAlgorithmsTable that controls whether that type of authentication is currently enabled or disabled (i.e. a boolean).	

3	dot11GroupAddressesTable	de	t	Y	Add a global boolean flag that controls whether an AP filters frames according to its GAT.	Add:
						`dot11FilterMulticasts`
						`OBJECT-TYPE`
						`SYNTAX INTEGER { true (1), false (2) }`
						`MAX-ACCESS read-write`
						`STATUS current`
						`DESCRIPTION`
						`"When set to true, this variable instructs an AP to discard any group-addressed frames from the Distribution System that are not addressed to any of the addresses in the Group Addresses Table. Default value is false."`
						`::= { dot11StationConfigEntry 10 }`	

1	Annex D.	jbi	e	No	**pg. 5, dot11AuthenticationType, Next to last sentence in description; ....selected from the set in the AuthenticationAlgorithms attribute.**	**....selected from the set in the dot11AuthenticationAlgorithms attribute.**	
2	Annex D.	jbi	e	No	**pg. 8, dot11Algorithm**	**dot11AuthenticationAlgorithms**	
1	7.3.2.3	mho	e	N	**It is proposed that the MIB variables aCurrentSet, aCurrentPattern and aCurrentIndex are added to the text of clause 7.3.2.3. Take care to use the right variable names.**	**Use dot11CurrentSet, dot11CurrentPattern, dot11CurrentIndex instead.**	

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2	Annex D	mho	e	N	**The describtion of the MIB variable dot11AuthenticationType reads;** This attribute shall indicate the authentication <u>algorithms acceptable</u> to the STA during the authentication sequence. **My understanding of this variable is, that it configures the STA to use a particular algorithm from the list dot11AuthenticationAlgorithms.** **Take care to use the right variable names.**	**Change the first sentence of the desribtion to:** This attribute shall indicate the authentication algorithm used by the STA during the authentication sequence. **Change aAuthenticationAlgorithms to dot11AuthenticationAlgorithms.**	
3	Annex D	mho	t	N	**Do we realy want to limit the range from dot11AuthenticationType ? Since the value of this variable is selected from the aAuthenticationAlgorithms set, we don't want the range constraints in this variable.**	**Remove range constraint '(1..2)'**	
4	Annex D	mho	t	N	**The variable dot11WEPDefaultKeyIndex has range constraints (0..3). (1..4) makes more sense in a MIB. 0 must be avoided!**	**Change (0..3) to (1..4)**	
5	Annex D	mho	t	N	**The variable dot11WEPDefaultKeyID has range constraints (0..3). (1..4) makes more sense in a MIB (see also comment 4).**	**Change (0..3) to (1..4)**	
6	Annex D	mho	t	N	**The range constraint on the variable dot11WEPKeyMappingIndex does not make sense. The Index range is implementation dependent.**	**Remove (0..4)**	
7	Annex D	mho	T	Y	**The RowStatus object from the Dot11WEPKeyMappingEntry has been removed. The dot11WEPKeyMappingStatus was originaly introduced to be able to dynamically add and remove key mappings.**	**Reintroduce the RowStatus object**	
1	Annex D p13	wdi	T	Y	dot11RTSThreshold specifies "..equal to or larger than this threshold". This contradicts with specifications of dot11ShortRetryLimit ("less than or equal to") and dot11LongRetryLimit ("greater than").	Change specification of dot11RTSThreshold to "..greater than this threshold".	
2	Annex D p14	wdi	E	Y	The description of dot11FragmentationThreshold lacks the specification that this applies only to directed frames of type data or management.	Change description of dot11FragmentationThreshold to include this specification, in the same way it is done in the description of dot11RTSThreshold.	

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1	Annex D	as	T	Y	All MIB attribute names in the new text have "dot11" prepended before the portion that is referenced in the text of the standard.	This means that all references to MIB attributes in the text have to be corrected.	
2	Annex D	as	T	Y	In addition some MIB attributes that previously had names beginning with "a" such as aCurrentPattern have been changed to dot11CurrentPattern. The whole point of changing Appendix D was to improve consistency within the standard. However, the new text makes Appendix D completely inconsistent with the textual and formal descriptions in the standard.	This means that it is not simply a matter of removing all the "dot11" text from the new text to get the correct attribute names.	
1	Annex D	tt	t	Yes	The proposed MIB has changed all the MIB variable names to begin with dot11. In order to do this then all references in the standard to MIB variables by name should also be changed.	Either leave the names how they were or add direction to the Editors to replace all existing MIB variable references with the new names throughout the standard	

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1	none	jzw	T	Y	There are a number of parameters that have to do with the operation of an 802.11 LAN station that system administrators and network managers need to be able to access that are not in the MIB. Their omission will create a situation in which parameters vital to the operation of the network must be accessed in each device through a manufacturer-proprietary management interface that may be different for each type of device in the network. This destroys much of the advantage inherent in specifying an 802.11 MIB in the first place. In particular, the following parameters should be accessible through the MIB: The Power Management Mode (Clause 10.3.1). The Desired SSID and BSS type for scanning, starting, joining, associating and reassociating (Clauses 10.3.2, 10.3.3, 10.3.6, 10.3.7, and 10.3.10). The Operational Rate Set for associating and starting a BSS (Clauses 10.3.3, 10.3.10). The Beacon Period, DTIM Period, BSS Basic Rate Set and Operational Rate Set to use for starting a BSS (Clause 10.3.10). The Association Timeout (analogous to dot11AuthenticationResponseTimeout).	Add these to the MIB in the appropriate places (I can do the copy/paste and generate new text if required) in the MIB. It is unclear to me whether Clause 11 and other sections of the document need to change. Given that the SNMPv2 MIB and the GDMO MIB are different already, it would seem to be acceptable to add them to the SNMP MIB with the understanding that they apply to the parameters of the corresponding primitives in Clause 10.	
2	various	jzw	t	Y	The abbreviation "TU" is not defined.	Change "TU" to "microseconds" where appropriate, or define the abbreviation.	
3	dot11Authenti cationT ype	jzw	t	Y	I think it is not appropriate to have a single variable that controls which Authentication type is allowed. In the future, more types may be added, and it may make sense in some circumstances (even with only two types defined) to allow more than one type of authentication to be allowed. We need a more flexible mechanism of determining what mix of algorithms may be enabled.	Delete "dot11AuthenticationType" and add an entry to each row in the AuthenticationAlgorithmsTable that controls whether that type of authentication is currently enabled or not (a boolean).	

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4	**dot11WEPKeyMappingWEPkey**	**jzw**	**E**	**Y**	The WEP keys should be write-only, and the word "Key" at the end of the identifier should be capitalized for consistency.	Rename to "dot11WEPKeyMappingWEPKey" and change MAX-ACCESS to "write".	

5	**dot11GroupAddresses Table**	**jzw**	**t**	**Y**	There should be a boolean flag (not in the Group Addresses Table) that controls whether an AP should filter frames according to its GAT.	Add:
						`dot11FilterMulticasts`
						`OBJECT-TYPE`
						`SYNTAX INTEGER { true (1), false`
						`(2) }`
						`MAX-ACCESS read-write`
						`STATUS current`
						`DESCRIPTION`
						`"When set to true, this variable`
						`instructs an AP to discard any`
						`group-addressed frames from the`
						`Distribution System that are not`
						`addressed to any of the addresses`
						`in the Group Addresses Table.`
						`Default value is false."`
						`::= { dot11StationConfigEntry 10 }`	

6	**Dot11PhyOperationEntry**	**jzw**	**T**	**Y**	It is inconceivable to me that a network administrator would care about most of the values in the PHY operation group table. These values can easily be read from the specifications available from the manufacturer of any specific product, do not change over time, and do not affect operation of the LAN. They are in the PHY MIB only as a means of communication between the PHY and the MAC, and they should not be exposed through the management interface.
					At any rate, useless variables like this should not be mandatory to implement for conformance. It should be kept in mind that there is nontrivial implementation cost of implementing SNMP variables.
						Delete from MIB:
						`dot11SlotTime,`
						`dot11CCATime,`
						`dot11RxTxTurnaroundTime,`
						`dot11TxPLCPDelay,`
						`dot11RxTxSwitchTime,`
						`dot11TxRampOnTime,`
						`dot11TxRFDelay,`
						`dot11SIFSTime,`
						`dot11RxRFDelay,`
						`dot11RxPLCPDelay,`
						`dot11MACProcessingDelay,`
						`dot11TxRampOffTime,`
						`dot11PreambleLength,`
						`dot11PLCPHeaderLength,`
						`dot11MPDUDurationFactor,`
						`dot11AirPropagationTime,`
						`dot11HopTime—`
						And delete references to them in the conformance section.	

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7	various	jzw	T	Y	Several PHY variables apply only to things that change on a microsecond-by-microsecond basis and cannot conceivably be useful to a network administrator. They should be deleted.	Delete: `dot11CurrentTxAntenna`, `dot11CurrentChannelNumber` `dot11CurrentIndex`, And delete references to them in the conformance section.	
1	General	vh	T	Y	The PICS Proforma points to Annex C for the management in formation base attributes.	Check and point to Annex D where appropriate	
2	General	vh	E	N	There are no copyrignt protection items nor is there a coverpage	Add the required attributes to make this an official draft standard.	
1	Annex D p7	hmo	t	N	I do not understand the need for dot11AuthenticationAlgorithmsIndex	Remove this object.	
2	Annex D p13	hmo	e	N	dot11RTSThreshold is specified in number of bytes; this should be in number of octets.	Change description of dot11RTSThreshold to "..number of octets in an MPDU".	
3	Annex D p13	hmo	e	N	The description of dot11ShortRetryLimit refers to "aRTSThreshold"	Change description of dot11ShortRetryLimit to refer to dot11RTSThreshold.	
4	Annex D p13	hmo	e	N	The description of dot11LongRetryLimit refers to "aRTSThreshold"	Change description of dot11LongRetryLimit to refer to dot11RTSThreshold.	
5	Annex D p16	hmo	E	Y	In the description of dot11TransmittedFragmentCount, the term "fragment" is ambiguous. Is an MPDU conveying a complete MSDU to be considered a fragment?	Change "fragment" to "MPDU".	
6	Annex D p16	hmo	E	Y	In the description of dot11TransmittedFragmentCount, the term "successfully delivered" is not defined.	Change description to: "The total number of MPDUs of type Data or Management delivered successfully; i.e. directed MPDUs transmitted and being acknowledged, as well as non-directed MPDUs transmitted.	

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7	Annex D p16	hmo	E	Y	In the description of dot11MulticastTransmittedFrameCount, the term "frame" is ambiguous. If the message is fragmented, should all fragments be counted?	Change description to: "The total number of MSDUs, of which the Destination Address is a multicast/broadcast MAC address, transmitted successfully. When operating as a STA in an ESS, where these frames are directed to the AP, this implies having received an acknowledgment to all associated MPDUs."	
8	Annex D p16	hmo	E	N	In the description of dot11FailedCount, the term "frame" is ambiguous.	Change description to: "The number of times a MSDU is not transmitted successfully because the retry limit (either the ShortRetryLimit or the LongRetryLimit) is reached, due to no acknowledgment or CTS received."	
9	Annex D p16	hmo	E	N	In the description of dot11RetryCount, the term "frame" is ambiguous.	Change description to: "The number of MSDUs successfully transmitted after one or more retransmissions."	
10	Annex D p16	hmo	E	N	In the description of dot11MultipleRetryCount, the term "frame" is ambiguous.	Change description to: "The number of MSDUs successfully transmitted after more than one retransmission (on the total of all associated fragments)."	
11	Annex D p16	hmo	T	N	A counter for the total number of unicast MSDUs transmitted successfully (dot11UnicastTransmittedFrameCount) is missing.	Add a counter with description: "The total number of MSDUs, of which the Destination Address is a unicast MAC address, transmitted successfully. This implies having received an acknowledgment to all associated MPDUs."	
12	Annex D p17	hmo	E	Y	In the description of dot11ReceivedFragmentCount, the term "fragment" is ambiguous. Is an MPDU conveying a complete MSDU to be considered a fragment?	Change "fragment" to "MPDU".	

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13	Annex D p17/18	hmo	E	Y	In the description of dot11MulticastReceivedFrameCount, the term "frame" is ambiguous.	Change description to: "The total number of MSDUs, of which the Destination Address is a multicast/broadcast MAC address, received successfully."	
14	Annex D p18	hmo	E	Y	In the description of dot11FCSErrorCount, the term "frame" is ambiguous.	Change "frame" to "MPDU".	
15	Annex D p18	hmo	t	N	I do not understand the need for dot11GroupAddressesIndex	Remove this object.	
16	Annex D p26	hmo	T	Y	Object dot11MPDUMaxLength must be defined per ifIndex.	Define a new TABLE structure for this, indexed by ifIndex.	
17	Annex D p26/27	hmo	e	N	Description of dot11PhyAntennaTable specifies indexing by STA ID; this should be by ifIndex.	Change description (as for dot11PhyAntennaEntry)	
18	Annex D p34 and p35	hmo	t	N	For dot11RegDomainsSupportedTable a "list terminator" is defined. Why? Normal (SNMP) management protocol procedures provide adequate provisions for detecting the end of a table.	Remove the list terminator.	
19	Annex D p35	hmo	t	N	For dot11RegDomainsSupportedTable a dot11RegDomainsSupportIndex is defined. Why?	Remove this object.	
20	Annex D p39	hmo	T	Y	The compliance statements are not in-line with Annex A (PC15).	Bring these in-line.	
21	Annex D p40	hmo	T	Y	The dot11SMTPrivacy group contains attribute dot11WEPUndecryptableCount, while this attribute has been moved from the dot11PrivacyTable to the dot11StationConfigTable, as it is also needed when Privacy is not supported.	Remove it from the dot11SMTPrivacy group, and included in the dot11MACStatistics or dot11CountersGroup.	
22	Annex D p40	hmo	T	Y	The dot11SMTPrivacy group contains attribute dot11PrivacyOptionImplemented, while this attribute is also needed when Privacy is not supported.	Remove it from the dot11SMTPrivacy group, and included in the dot11SMTBase.	
23	Annex D p40 and p41	hmo	T	Y	The Group Addresses are included in two (mandatory) groups: dot11MACbase and dot11MacGroupAddresses. Is this intentional? Why?	Remove the dot11MacGroupAddresses conformancegroup.	
24	Annex D p41	hmo	T	Y	I also don't understand the description of dot11MacGroupAddresses: "Set of Group Addresses for AP" Why a special group, and why for AP only?	Remove the dot11MacGroupAddresses conformancegroup.	

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25	**Annex D p39 and p40 and p43**	**hmo**	**T**	**Y**	The dot11CountersGroup is optional according to the MODULE section on page 39-40, but described as mandatory in the group definition itself. Why would there be two optional groups with counters?	Define dot11CountersGroup as MANDATORY.	
26	**Annex D p42**	**hmo**	**e**	**N**	The description of dot11PhyTxPowerComplianceGroup refers to Access Point power only. Is this correct?	Explain or replace "Access Point" by 'transmit'.	
1	**Annex D p21-26**	**jbo**	**T**	**Y**	The following objects in the dot11PhyOperationGroup: dot11SlotTime, dot11CCATime, dot11RxTxTurnaroundTime, dot11TxPLCPDelay, dot11RxTxSwitchTime, dot11TxRampOnTime, dot11TxRFDelay, dot11SIFSTime, dot11RxRFDelay, dot11RxPLCPDelay, dot11MACProcessingDelay, dot11TxRampOffTime, dot11PreambleLength, dot11PLCPHeaderLength, dot11MPDUDurationFactor, dot11AirPropagationTime, dot11CWmin, and dot11CWMax, make no sense as management objects. Many of these items have fixed values, either defined in the standard or defined by the implementation. They serve no management purpose. They just confuse the network manager, and put a burden on the implementations, especially as this group is mandatory. (they have been removed before, but got reintroduced by the rewrite)	Remove these objects.	
2	**Annex D p22**	**jbo**	**e**	**N**	In the description of dot11SlotTime, "'s" should be "μs" (microsecond)	Replace "'s" by "μs".	
3	**Annex D p32**	**jbo**	**T**	**Y**	dot11CCAModeSupported is defined as an INTEGER, whereas the description defines it as a list.	Define a new TABLE structure for this, indexed by ifIndex.	

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4	Annex D p39	jbo	T	Y	Too many Phy groups are defined MANDATORY. The support for multiple antennas, and multiple power levels, multiple regulatory domains, and multiple rates, is all optional.	Define dot11PhyAntennaComplianceGroup, dot11PhyTxPowerComplianceGroup, dot11PhyRegDomainsSupportGroup, dot11PhyAntennasListGroup, and dot11PhyRateGroup, as OPTIONAL.	

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