Seq. #	Section number	your ini-tials	Cmnt type E, e, T, t	Part of NO vote	Corrected Text/Comment	Rationale	Disposition/Rebuttal

Section 8 comments from Ballot on Draft Standard D2 (Vic Hayes, Chair, AT&T WCND)

0.	8	HC	e		Replace Beacon_Interval with Beacon_Period to match MIB definitions	consistancy	
1.	8	BTh	T		**add MIB parameter Keep_Data_Local to control the setting of the To DS bit for data frames. Values are true and false or 1 and 0**	This variable needed to complement my proposal for controling the setting of the To DS bit for Data frames in an ESS from an associated STA. Don't know where in the section to put it.	Declined. Since it does not affect interoperability, being this specific about how the To_DS bit works is unnecessary.
2.	8	BTh	E	N	**add MIB variables...** aProbe_Delay aMin_Probe_Response_Time aMax_Probe_Response_Time	Section 8.1.3.2.2 uses these MIB variables; I can't find them defined in MIB tables	Accepted.
3.	8	BTh	E	N	**add...** aDTIM_Interval	can't find this one in MIB list	Accepted.
4.	8	BSi	T	N	**Complete rewrite of section 8 required since language is vauge and imprecise.**	**This is truely editorial, but it's so bad at present I can't vote yes to this standard even though I agree with the majority of the content of this section. I will try and produce a complete new section (including the proposed ad-hoc power management) for the November meeting.**	**Declined. Comment is vague and imprecise, and text text provided.**
5.	8	BTh	t	N	**add the following MIB variables in proper spot in 8...** a~~RTS~~Short_Retry_~~Max~~Limit a~~Data~~Long_Retry_~~Max~~Limit	Section 6.2.6.3 introduced many MIB variables that would need definition in 8. However, I wrote a new section so there are only two new and renamed variables. Is Retry_Max in section 8 the same as Long_Retry_Limit?	Accepted.
6.	8.1.1.1	BTh	E		**2 places change...** ~~Synchronization~~TSF ~~T~~timer	It's hard enough to follow this without two names for something. TSF timer seems best.	
7.	8.1.1.1	HC	T	N	In an infrastructure network, the AP shall be the timing master and shall perform the Timing Synchronization Function. ~~The AP shall initialize the TSF timer such that~~	What does this mean, how would it be done and why bother?	Accepted, more or less. New text forbids deliberate synchronoization of TSF timers

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					~~simultaneously started APs are not synchronized.~~ To synchronize the other stations in a BSS, the AP shall periodically transmit special frames called Beacons that contain a copy of its Synchronization Timer.		between APs.
8.	8.1.1.2	BTh	E		**change...** ~~Synchronization~~TSF ~~T~~timer	It's hard enough to follow this without two names for something. TSF timer seems best.	
9.	8.1.1.2	TM	e		remove extra space ... network, all Beacons		
10.	8.1.1.2	BTh	T	N	**in paragraph 2 I don't understand concept of "better" BSS within the same ESS, so can't offer corrected text change...** all Beacons and ~~p~~Probe~~<hyphen>~~<space>~~r~~Responses	Someone who understands what this paragraph is trying to say please step forward. There is definitely something wrong. Probe Response is not a hyphenated word but it is capitalized	Accepted.
11.	**8.1.1.2**	**RJa**	**T**	**N**	Second paragraph. Delete ability to jump between BSSs.	This seems dangerous to me. A station will no longer be able to communicate with stations it may have been talking to. Also, does a station accept beacon and timing and BSSID information from another STA even if it hasn't authenticated with that STA?	**Declined. The intent of the language is to allow roaming, not to require it.**
12.	**8.1.1.2**	**BPh**	**T,e**	**N**	**Replace last sentence of 1st para with:** **"STAs in an IBSS always adopt the timing of a Beacon or a Probe Response with a TSF value greater than their own TSF timer."** **Add the additional rule:** **"A STA joining an existing IBSS shall initialize its TSF timer to 0 and shall not transmit a Beacon or Probe Response until it hears a Beacon or Probe response from a member of that IBSS."** **To the last sentence add:** **...that received frame, "thereby joining the other IBSS."**	**Clarification and the new rules ensure that stations converge quickly on the best TSF timer value. The affect of new stations entering a BSS with out of synch TSF timers is minimized.**	**Accepted.**
13.	**8.1.2**	**BSI**	**t**	**N**	**Define exactly what PHY times to take into account for TSF time**	**Clarity.**	**Accepted.**

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14.	8.1.2.1	HC	E		refers to clause 5 when it means 6	old clause reference	
15.	8.1.2.1	TM	e		rules specified in ~~5~~6.	correct section reference	
16.	8.1.2.1	BTh	E	N	**change...** according to the ~~CSMA~~basic medium access rules specified in ~~5~~6.	Section 6 often refers to the basic medium access method so stick with that form of words. Reference is incorrect	
17.	8.1.2.1	HC	t	N	add sentance to end of first paragraph: The beacon period is included in beacon and probe response frames, and stations shall adopt that beacon period when joining the BSS.	clarification	Accepted.
18.	8.1.2.2	HC	E		refers to subclause 7.2 when it means 8.2	bad subclause reference	
19.	**8.1.2.2**	**BA**	**e**		section 8.~~27.2~~		
20.	**8.1.2.2**	**MB**	**e**		**Last paragraph, last sentence....This is described in more detail in ~~7.2~~ 8.2**		
21.	**8.1.2.2**	**RJa**	**e**		I believe reference to 7.2 is incorrect.		
22.	8.1.2.2	TM	e		more detail in ~~7~~8.2.	correct section reference	
23.	8.1.2.2	BTh	E	N	**change...** ~~7~~8.2.	Reference is incorrect	
24.	8.1.2.2	HC	t	N	Beacon generation in an ad hoc network is distributed. The beacon period is included in beacon and probe response frames, and stations shall adopt that beacon period when joining the IBSS. All members of the BSS participate in Beacon generation.	clarification	Accepted.
25.	**8.1.2.2**	**BSi**	**t**	**N**	**Specify range for 'random delay'**	**Unspecified**	**Accepted.**
26.	**8.1.2.2**	**BSi**	**T**	**N**	**Add text; the Beacon Interval within an IBSS is established by the STA that instanciates the IBSS.**	**Currently no way of establishing a common understanding of beacon interval in an IBSS.**	**Accepted.**
27.	**8.1.2.2.**	**FMa**	**T**	**N**	**Random delay procedure for Ad-hoc beacon generation has not been defined. My suggestion is to use the backoff mechanism that is used for a normal collision event.**	**Network becomes unfair if random delay mechanism is not uniform across implementations.**	**Accepted, with slightly different algorithm (CWax)**

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28.	8.1.2.3	BSi	t	N	**New TSF synchronisation for IBSS is not an improvement. Go back to the original D1 scheme of a STA setting its timer to half way between its current time and the timestamp in the received beacon.**	**Stations that have a late TSF time and due to randomisation do not transmit a beacon until some time after 'joining' an IBSS will not synchronise quickly. The previous algorithm allowed synchronisation even if communication was one-way. An alternative here might be to make a STA joining an IBSS listen for a beacon before doing anything.**	**Declined. The mechanism specified prevents just-initialized STA from disturbing everyone else. By accepted the comment #13 that suggests resetting TSF timer to 0 when joining a new IBSS, this problem goes away.**
29.	8.1.2.3	ZJ	T	N	Go back to the adjust-by-half coalescing mechanism	Adopting highest value may not converge	Declined (same reason).
30.	8.1.2.3	MRo	t	X	**Last Sentence, change timer accuracy to 25ppm (** The accuracy of the TSF timer shall be +/-.0025% ~~0.01%.~~	**The maximum timing error between two stations for a frequency hopper with 400ms dwells is 2 x 400ms x .0001=80 usec. This reduces the max error by 1/4 to 20 usecond. Both RF PHY's have 25 ppm references available.**	**Accepted.**
31.	8.1.2.3	TM	T	X	This section implies a PHY MIB variable definition which does not exist. Maximum RX/TX turnaround times are defined which could be used to define a coarse accuracy.		Accepted. It is assumed the commenter made this comment in the PHY MIB section as well.
32.	8.1.3	HC	T	N	A Station shall perform a scan whenever its aScan_State variable is True~~SCAN~~. A Station shall operate in either a Passive Scanning mode or an Active Scanning mode depending on the current value of the system variable aScan_Mode, which can take the values PASSIVE or ACTIVE. A station performs scanning when it has aScan_State equal True, and it is not currently a member of a BSS (as indicated by aCurrent_BSS_ID and aCurrent_ESS_ID). If it wishes to become part of a particular ESS (as indicated by aDesired_ESS_ID containing a non-zero	It is not clear to me what stations do with the results of their scans (with respect to joining networks, not synchronizing time) and I can't find clarification anywhere. So here is my shot at it.	Accepted, with modifications.

Seq. #	Section number	your ini-tials	Cmnt type E, e, T, t	Part of NO vote	Corrected Text/Comment	Rationale	Disposition/Rebuttal
					value), it shall passively scan for Beacon frames containing that ESSID, or it shall actively transmit Probe frames containing that ESSID. When it finds a BSS with the desired ESSID, it shall associate with the AP of the BSS if it is an infrastructure BSS (which is indicated by the capability information within the Beacon and Probe Response frames). If the station finds an IBSS with the desired ESSID, it joins by simply adopting the BSSID. If a station with aScan_State equal to TRUE, which is not current a member of a BSS, does not have a particular ESS which it wants to join (as indicated by aDesired_ESS_ID containg a vaule of zero), it shall passively scan for any Beacon Frames, or actively transmit Probe frames containing the broadcast ESSID. If the station finds any BSS, it may attempt to join. If a station's scanning does not result in finding a BSS with the desired ESSID, or does not result in finding any BSS, the station may start an IBSS. If a station has aScan_State equal to False, and is not currently a member of a BSS, it may start its own BSS without scanning for a BSS to join first. When a station starts a BSS, that BSS shall have BSSID equal to the station'saStation_ID If either aActing_as_AP_Status or aActing_as_Wireless_AP_Status is True, then the STA shall start an infrastructure BSS. If both are False, the STA shall start an IBSS. In either case, if aDesired_ESS_ID is non-zero, that shall be the ESSID of the new BSS. If aDesired_ESS_ID is zero, the ESSID may be choosen by the STA. add aDesired_ESS_ID to lists in: 8.4.1.1.4, 8.4.2.1.1 (GET)		

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					add new section: 8.4.4.1.x aDesired_ESS_ID Desired_ESS_ID ATTRIBUTE WITH APPROPRIATE SYNTAX octet string; BEHAVIOUR DEFINED AS "This attribute shall contain the ID of the extended service set (ESS) of which the station is to become a member. A zero value indicates that the station may join, or start, and ESS with any ESSID. A non-zero value indicates that the station shall only join, or start, a BSS with this ESS ID."; REGISTERED AS { iso(1) member-body(2) us(840) ieee802dot11(10036) SMT(0) attribute(7) desired_ess_id(7) };		
33.	8.1.3.1	ZJ	t	N	Change "for a maximum" to "for no longer than a maximum"	Should not require STA to stick around any longer than it feels like - it may move on as soon as it hears something	Accepted.
34.	8.1.3.2.1	BTh	E		**capitalize Probe(s) 6 places** **capitalize Probe Response(s) 3 places**	The proper style capitalizes frame names	
35.	8.1.3.2.1	TM	e		add the following text Stations, subject to criteria below, receiving probes ...	For instance, in an ad-hoc network, only the last station to send a beacon should respond, not all that receive the probe	
36.	8.1.3.2.1	TM	e		figure 8-2 should be corrected show that proper awake periods		
37.	8.1.3.2.1	TM	t		There is the possibility that not all stations will correctly receive a beacon and will therefore introduce extra beacons into an ad-hoc network as well as introduce multiple responses to probes.	A problem which comes to surface is that when a station receives multiple probe responses, it will not know which to use to set its timer	Declined. The current algorithm handles this properly.
38.	**8.1.3.2.1**	**DW**	**T**	**Y**	**Two problems:** **-It should be made clear that not all stations send a Probe Response, but only AP's, and stations in an Ad-**		**First part accepted as part of accepting comment #36. Declined second part, since**

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					Hoc network that have transmitted the last Beacon. -At least in an AP, Probe responses should be send with a prior random backoff, to prevent that multiple AP's on the same channel will respond simultaneously. This will prevent unnecessary retransmissions.		**typically there is only one AP on a channel, and making active scanning slower just to support this case does not seem warranted.**
39.	8.1.3.2.2	BTh	e		**add...** If CCA indicates no activity <u>when</u> Probe_Timer **Can't understand how Figure 8-3 illustrates the text which doesn't mention a Probe Timer 2 at all.**	grammar Something is wrong with Figure 8-3 but I can't determine how to fix it.	
40.	8.1.3.2.2	TM	e		e) If CCA indicates no activity *<u>when</u>* Probe_Timer reaches aMin_Probe_Response_Time, the clear NAV and <u>s</u>can next channel, ~~f~~*<u>else</u>* when Probe_Timer reaches aMax_Probe_Response_Time, process all received Probe responses, clear NAV and scan next channel.	this is proper structure showing the decision path	
41.	8.1.3.2.2	BSi	t	N	**Delete the delay before probing - step (a)**	**Doesn't seem to achieve anything. No explanation. aProbe_delay time is not defined in the MIB**	**Declined. This delay ensures proper CCA function for some PHYs.**
42.	**8.1.3.3**	**DW**	**E**		**Not the ESSID but the Capability field does indicate whether the BSS is part of an Infrastructure or an IBSS.**		
43.	8.1.3.3	ZJ	t		STA should be allowed to scan for an existing IBSS before starting a new one	Current text just says to start a new one, without the option of joining one that is already out there	Accepted. This is already how it works.
44.	**8.1.3.3**	**BSi**	**t**	**N**	**Text in step (b) that reads 'Else if the ESSID designates an adhoc network' needs clarification since an ESSID as defined cannot be used to indicate an IBSS or an infrastructure BSS. Perhaps add a MIB SMT attribute to select whether a STA sets up an IBSS if it can't find a given ESSID ?**	**Text in step (b) that reads 'Else if the ESSID designates an adhoc network' needs clarification since an ESSID as defined cannot be used to indicate an IBSS or an infrastructure BSS**	**Accepted, with slightly different text.**
45.	8.1.3.3	BTh	T	N	**Please define how an ESSID designates an ad hoc network**	The definition of an ESSID field in a Beacon only talks about an ESS which doesn't exist in an ad hoc network the last time I checked. This is broken; I hope someone smarter than me has the	Accepted, with slightly different text.

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						answer.	
46.	8.1.4	BTh	T	N	**change...** Beacon or ~~p~~Probe ~~r~~Response frame **Please define how an ESSID should look in the Beacon of an ad hoc network**	Style says frame names should be capitalized I don't understand this and can't fix it.	Reejected. 4.3.2.1 defines beacon frame format.
47.	8.1.4	ZJ	T	N	Go back to the adjust-by-half coalescing mechanism	Adopting highest value may not converge	Declined (see above).
48.	8.1.5	HC	E		Stations shall use their TSF Timer~~TIMER~~ to time the aDwell_Interval. The aDwell_Interval is the length of time that stations will stay on each frequency in their hopping sequence. Once stations are synchronized, they have the same TSF Timer~~TIMER~~ value. [TSF Timer~~TIMER~~ + aDwell_Offset] MOD aDwell_Interval = 0	consistancy	
49.	8.1.5	BTh	E	N	**change...** Frequency Hoppe~~d~~ing PHY ~~p~~Probe ~~r~~Response **change 3 places...** TSF~~TIMER~~ timer **change 3 places...** aCurrent_Dwell_~~Interval~~Time	typo Style says capitalize frame names Style says TSF timer based on earlier chapters. There is no such Dwell_Interval; I guess its the same as Current_Dwell_Time.	
50.	**8.1.5**	**BA**	**T**	**N**	Parameter aDwell_Offset is not defined anywhere else in document.	If used, aDwell_Offset must be included with the FH parameters in beacons and probe response messages. Better approach would be to delete aDwell_Offset from equation.	**Accepted. aDwell_Offset is gone.**
51.	8.1.5	KJ	t	N	aDwell_Interval and aDwell_Offset are not defined. They should be added to the MIB	There is a PHY MIB value of aCurrent_Dwell_Time which is the same as a_Dwell_Interval. One or the other could be used, and the duplicate eliminated from the MIB	Accepted.
52.	**8.1.5**	**RJa**	**T**	**N**	Parameter aDwell_Offset is not defined anywhere else in	If used, aDwell_Offset must be	**Accepted. aDwell_Offset is gone.**

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					document.	included with the FH parameters in beacons and probe response messages. Better approach would be to delete aDwell_Offset from equation.	
53.	8.1.5	ZJ	T	N	Add after second paragraph: "Access Points select hop sequence according to an algorithm not specified by this standard."	We should be explicit on that point.	Declined. Standard need not be explicit about things it does not cover.
54.	**8.2**	**BPh**	**T**		**add the text from paper 95/137r2 describing ad hoc power management.**	**This is a simple way to do ad hoc power management that does not place a burden on stations not wishing to participate.**	**Accepted.**
55.	**8.2**	**BA**	**T**	**N**	Need to include some form of power management mode for Ad Hoc networks.	It is quite possible that some networks will always operate in an Ad Hoc configuration (i.e., no AP). These networks also need power management capability. A very simple approach such as everyone wakes up every beacon and stations with buffered data send an ATIM within TBD usec after beacon would be sufficient.	**Accepted.**
56.	8.2	DM	T	N	Add section 8.2.2 Power Management in an Independent BSS. Insert text per 802.11-95/137r2.	Ad hoc power management must be defined for the standard to be attractive to horizontal market segments. The consumer market is where the main market for 802.11 is expected to be in a few years. Without ad hoc power management the 802.11 system becomes much less attractive for these applications.	Accepted.
57.	8.2	FMi	t	N	Incorporate changes from Clause 9 of document 95–222 to define some currently unspecified boundary conditions regarding issuance of PS–Polls and setting of TIMs.	Clarify some ill–defined aspects of power save behavior, especially in cases where the beacon interval ends with the readout of a TIM–indicated MSDU incomplete.	Accepted, with some editorial corrections.
58.	**8.2**	**RJa**	**T**	**N**	Need to include some form of power management mode for Ad Hoc networks.	It is quite possible that some networks will always operate in an Ad Hoc configuration (i.e., no AP). These networks also need power management capability. A very simple approach	**Accepted, with 95/137r2 text.**

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						such as everyone wakes up every beacon and stations with buffered data send an ATIM within TBD usec after beacon would be sufficient.	
59.	8.2, 4.2.3.1, 4.2.3.2, 4.2.3.9, 4.4.2, 4.4.2.9, 8.4	BSi	T	N	Add contents of paper P802.11-95/137r2 (Rick White, Simon Black). Note that the second sentance of point (g) of 8.2.2.4 should read - 'All STAs shall use the backoff procedure defined in subclause 6.2.6.2 for transmission of the first frame following the *ATIM window*.' Not also that the ATIM management frame should be added back into the table of managament frames with type = Management (coding 00), subtype ATIM (coding 1001). A gap exists in the table of subtypes in D2.0 where the ATIM was removed.	The May 1995 letter ballot removed power management for ad-hoc networks. A number of members were not in agreement with this action, but realised that additional work was necessary in order to define a practical scheme. The support of ad-hoc netowks within the standard is an important feature, allowing anumber of users to create a network to share data without pre-planning. Considering the typical scenarios where ad-hoc networks may be deployed - meeting rooms, conferences and airport lounges - participant will often be using battery powered notebook computing devices. Minimising battery drain will be important in these applications and power management is thus essential in ad-hoc networks. Shemes that appoint an AP within an ad-hoc network assume that at least one STA is capable of this function (which may not be the case).	Accepted.
60.	8.2.1	DM	e		Change numbering to remove single subsections. There should always be more than 1 subsection.	If there is only one subsection then the subsection should become a section of the next higher level. The purpose of a subsection is to break a section down into more parts. If there is only one part then it doesn't warrant a subsection.	
61.	8.2.1.1	TT	e		Change section reference from 4.3 to 4.4.		
62.	8.2.1.1	BTh	E	N	change...	Incorrect reference	

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					4.34.		
63.	8.2.1.1	BA	T	N	Forth paragraph states that AP will respond to a poll with the buffered data. This should be changed to let the AP respond with an ACK and then send the buffered data in a subsequent set of messages.	It will not always be practical to store the data buffered for a user in a place where it can be accessed in time to support transmission after an SIFS interval. A better approach would be to allow the AP to ACK the poll and then send the data (drawn from another memory location possibly off the WLAN card) in a subsequent message.	**Declined, though other parts of the draft state that the AP can indeed respond with an ACK.**
64.	8.2.1.1	RJa	T	N	Forth paragraph states that AP will respond to a poll with the buffered data. This should be changed to let the AP respond with an ACK and then send the buffered data in a subsequent set of messages.	It will not always be practical to store the data buffered for a user in a place where it can be accessed in time to support transmission after an SIFS interval. A better approach would be to allow the AP to ACK the poll and then send the data (drawn from another memory location possibly off the WLAN card) in a subsequent message. This might possibly decrease the power consumption of the STA since larger memories could be used in the AP and the STA could go longer without waking.	**Declined, though other parts of the draft state that the AP can indeed respond with an ACK.**
65.	8.2.1.1	ZJ	T	N	Change "following a Delivery TIM" to "following the next Delivery TIM".	We should not allow an implementation to buffer multidestination traffic indefinitely	Accepted.
66.	8.2.1.2	TM	e		for clarity add the following ...(except for broadcasts *which will be delivered following a DTIM*)		
67.	8.2.1.2	HC	T	N	last paragraph: Stations inform the AP of their current ~~To change~~ power management mode~~s, a station shall inform the AP~~ using the Power Managment bits in the Frame Control Field of all frames. Completion of ~~through~~ a successful frame exchange between a station and the AP ~~initiated by the station~~ ensures that the AP is aware of any change in the	clarification	Implictly accepted by incorporating Michael's Clause 9 changes.

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					station's power management mode..		
68.	8.2.1.2	BTh	t	N	**change...** ~~P~~power ~~M~~managment ~~M~~mode (aPower_M~~anagement_Mode~~State) **change in definition of Active Mode...** a station shall always be in the Awake state. **change in definition of Power Save...** listen for selected TIMs and to ~~transmit~~receive buffered frames.	Style seems to demand lower case here. Can't find Power_Management_Mode in MIB list; guess it is Power_Mgt_State. adding always removes ambiguity. receive buffered frames is more exact and all encompasing than transmit.	Covered by Michael's 95/222 suggestions.
69.	8.2.1.2	TT	t	NO	Add to the last sentence of Power Save or PS heading: 'In PS mode, a station shall be in the Doze state and shall enter the Awake state to listen for selected TIMs, and to transmit, and shall remain in the Awake state to listen for it's Poll's response.		**Implicitly accepted.**
70.	**8.2.1.3**	**MB**	**e**		**4th sentence.... as part of the association process (see ~~7.3~~ 8.3)**		
71.	**8.2.1.3 8.2.1.6**	**DW**	**e**		**Update references.**		
72.	8.2.1.3	BTh	E	N	**change...** (see ~~7.3~~4.3.1.5)	reference to 7.3 is definitely wrong; 4.3.1.5 is a weak reference but at least it is on the topic	
73.	8.2.1.4	BTh	e		**change...** ~~t~~Target ~~b~~Beacon ~~t~~Transmission ~~t~~Time	Style for this set of words is capitalized	
74.	**8.2.1.4**	**MB**	**e**		**3rd Paragraph should reference a specific figure.** **~~The following figure~~ Figure 8-4 illustrates....**		
75.	8.2.1.4	TM	t		As shown in figure 8-4, it is possible for PS stations not to receive broadcasts if their power down time is greater than the DTIM time.	Should an effort be made in the spec to force adherance to DTIM times?	Acknowledged, but stations should be able to decide whether they want to receive broadcasts
76.	**8.2.1.4**	**BSi**	**t**	**N**	**Need to add some text to say that if there are too many multicast frames to send within one beacon interval after a DTIM then the unsent frames will be reannounced in the next Beacon.**	**Hole in specification.**	
77.	8.2.1.4	ZJ	T	N	Add "before transmitting any unicast frames" to the end of the first sentence.	AP should not make everyone wait to hear multidestination traffic.	Accepted.

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78.	8.2.1.5	BTh	e		**change 2 places...** ~~P~~power ~~M~~management mode	Previous style didn't capitalize this	
79.	8.2.1.5	ZJ	t	N	Change "immediately" to "as soon as possible" in (h)	Otherwise it implies a STA can switch PS mode as a way of getting its frames put at the head of the queue.	Accepted, with modified text.
80.	**8.2.1.5**	**TT**	**t**	**NO**	Replace f) with: Upon receiving a Poll from a station in the PS mode the AP shall forward the first frame that is buffered for that station.	Current wording could be interpreted to mean that all the buffered frames are sent upon receiving a single Poll.	**Accepted, with different text.**
81.	8.2.1.5	TM	T	X	regarding comment g) where is the aging function described. This should be part of the spec in order to define maximum PS times.		Declined. STA told the AP its listen interval when it associated, and AP should act accordingly.
82.	8.2.1.6	TM	e		comment b) ...defined in ~~5~~6.		
83.	8.2.1.6	BTh	E	N	**change 2 places...** ~~P~~power ~~M~~management **change 2 places...** CF<u><hyphen></u>Aware **change...** defined in ~~5~~6.	Previous style didn't capitalize this I believe there is a hyphen in CF-Aware The reference is definitely wrong; section 6 is a weak reference but probably covers it someplace.	
84.	8.2.1.7	TM	t		comment b) requires wasted time to search all blocks for set bits. Each station should Poll after a random delay regardless of only one packet buffered		Declined. This would waste bandwidth/power to save a small amount of compute time.
85.	**8.2.1.7**	**BA**	**T**	**N**	c) If the Power Management bits in the received frame indicate that more traffic for that station is buffered, the station shall <u>stay awake until a frame is received from the AP indicating that no more data is buffered for the station.</u>~~Poll until no more frames are buffered for that station~~	It is more efficient to avoid the continual transmission of probe messages to the AP. A STA knows there is additional data buffered for it and the AP knows that it has the STAs attention so it can just continue to transmit until the buffer is empty.	**Declined. Since other stations can grab the medium after the first MSDU, this would require the station to remain awake during other transmissions (possibly) unnecessarily.**
86.	**8.2.1.7**	**RJa**	**T**	**N**	c) If the Power Management bits in the received frame indicate that more traffic for that station is buffered, the station shall <u>stay awake until a frame is received from the AP indicating that no more data is buffered for the station.</u>~~Poll until no more frames are buffered for that station~~	Seems more efficient to avoid the continual transmission of probe messages to the AP. A STA knows there is additional data buffered for it and the AP knows that it has the STAs attention so it can just continue to	**Declined. Since other stations can grab the medium after the first MSDU, this would require the station to remain awake during other transmissions (possibly) unnecessarily.**

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						transmit until the buffer is empty.	
87.	8.2.1.7	TT	t	NO	Insert between b) and c): c') The station shall remain in the Awake state until it receives the response frame to its poll, or it receives another Beacon whose TIM inidicates that the AP does not have any frames buffered for this station. If the bit corresponding to the station's SID is set in the TIM, the station shall issue another Poll to retrieve the buffered frame.	It was unclear what the station should do in the case of the response frame from the AP being lost due to max retries. Rather than using another timer the beacon interval and the contents of the TIM are used instead.	**Accepted.**
88.	8.2.1.7, 4.4	BSi	t	N	In step (b) random delay needs to be defined **In step (c) this needs to say explicitly that you poll for an MSDU - ie you may receive a sequence of fragments for a single poll (and you don't have to poll for each fragment). Need to be careful if an ACK goes missing and another beacon gets in in the middle of a fragmented frame - need to re-announce and poll for the rest of the frame.** Also how are management frames sent to PS stations - if this is by polling there's another frame sequence for **4.4 - PS-Poll-Management-Ack and PS-Poll-Management-Ack-Management-Ack.**	Completeness of specification. **Ditto** Omission in specification.	Accepted. **Accepted.** Accepted.
89.	8.2.1.7.	FMa	t	N	**need to add statement that if multicast SID is set, then STA must remain awake (note that statement d) is not really sufficient)**		**Accepted by virtue of earlier comment resolution.**
90.	8.2.1.7.	FMa	t	N	**when STA stays awake for multicast, how long must it stay awake? - add parameter: aMulticast_Wait_Time**		**Declined. Mechanism already has ways of detecting when the multidestination traffic is done (at worst, wait for next beacon)**
91.	8.2.1.7. b)	FMa	T	N	**text specifies that "random delay" shall be used if more than one TIM bit is set - what are the parameters of the random delay? My suggestion is to use the backoff mechanism that is used for a normal collision event.**	**This may have already been the intent of the standard, but the 2.0 text is perfectly unclear in that intent. Random delay mechanism must be specified to insure that**	**Accepted.**

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						network access is fair - if some implementations include one random delay process and others include different random delay processes, then network is unfair.	
92.	8.2.1.8	BTh	e		**change...** CF<hyphen>Aware	I believe there is a hyphen in CF-Aware	
93.	8.2.1.8	ZJ	t		The text here and in 4.3.2.1 need to be harmonized. The AP should have the option of not setting the bit in the TIM for a station that has buffered traffic but that it knows it won't be polling during this CFP.	The semantics of having your bit in the TIM set is different for CF-aware stations than non-CF-aware stations.	Accepted, since the text already makes this distinction clear.
94.	8.2.1.x	HC	T	N	add new section: 8.2.1.10 AP Aging Function The AP shall have an aging function to delete pending traffic when it has been buffered for an excessive period of time. That function shall be based on the Listen_Interval of the STA for which the traffic is buffered. For instance, traffic may be discarded by the AP if two or three Listen_Intervals have passed and that STA has not polled for the buffered traffic - but the AP aging function shall not cause the buffered traffic to be discarded after any period which is shorter than the Listen_Interval of the STA for which the traffic is buffered.	Subclause 8.2.1 refers in several places to the AP having "an aging function to delete pending traffic when it was buffered for an excessive amount of time". I don't think this should be totally left up to the implementation. If an implementation chooses to discard traffic buffered for 3 beacon periods, then another vendor's STA comes along with a listen interval of 6 beacon periods, there is incompatability. So I propose that discarding must be done based upon the listen interval of the station for which the traffic is destined.	Accepted, with modified text.
95.	**8.2.2**	**Mjo**	**T**	**N**	**as per document 95/137r1:** **"Power Management in an Ad Hoc Network"**	**ad hoc power management is a market necessity**	**Accepted, but it was 137r2.**
96.	8.2.2	ZJ	T	N	Add section, using proposed text from 95/137r2	The mechanism developed during the August meeting seems workable	Accepted.
97.	8.3	BTh	e		**change...** aAccess pPoint	I think style says this should be capitalized	
98.	8.3	FMi	t	N	Incorporate changes from Clause 10 of document 95–222	Clarify some ill–defined aspects of	Accepted with modifications to

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					to define some currently unspecified boundary conditions related to reassociation, and possible interactions between scanning while associated and reassociation.	association and reassociation, especially in cases where a power save station with buffered traffic reassociates, and cases where associations time out while reassociation is in progress.	some sections to incorporate other comment resolutions.
99.	8.3 - 8.3.4	TM	e		these sections have many spacing, punctuation, and grammar errors		
100.	8.3.1	HC	e		b) ... failsafter c) ... Responseframe	typos	
101.	8.3.1	BTh	e		**change 5 places...** aAccess ~~p~~Point **add...** frame transmission fails_after the... Association Respones_frame is received	I think style says this should be capitalized typos	
102.	**8.3.1**	**ws**	**e**		**under a) - should be "transmit an"**	**grammar**	
103.	**8.3.1**	**ws**	**e**		**under c) - "Responseframe"**	**typeo**	
104.	8.3.1	ZJ	t		Add text to indicate that STA needs to authenticate with an AP before attempting to associate.	To be consistent with other verbiage elsewhere	Accepted.
105.	8.3.2	HC	e		a) ... the response.. c) ... Disribution	typos	
106.	8.3.2	BTh	e		**change 3 places...** aAccess ~~p~~Point **change...** Association ~~r~~Response **change...** value is "successful", the ~~assigned~~ Station ID assigned to the station	I think style says this should be capitalized better grammar	
107.	**8.3.2**	**ws**	**e**		**under a) - should be "transmit an"**	**grammar**	
108.	8.3.2 8.3.4	FMi	T	N	A basic means by which DS entities at APs (and portals) determine whether a given station is associated anywhere	To focus strictly on establishing mixed–vendor interoperability between	Declined by MAC group vote.

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	8.3.5 (new) 4.5 (new) 2.4.2.2				in an ESS, and obtain the address of the AP with which that station is currently associated, need to be defined in the standard. This can be done WITHOUT defining the distribution system implementation strategy, and WITHOUT restricting DSS to be either centralized or distributed. What is necessary is to define a few, simple reporting and query frames which DS entities can exchange over the DSM of an ESS, along with some MIB attributes to configure use of these frames. The changes to define these frames and MIB attributes alter the sections of the draft listed below. The modified text, and new text to be inserted, appear in document 95–223. • 2.4.2.2: Adds a statement that basic mechanisms for exchange of association information are defined within the standard, even though the way the information is stored and managed is not specified. • 4.5 (new): Define the formats of the association information frames. • 8.3.2: Defines how association information frames are used in the association procedure. • 8.3.4: Defines how association information frames are used in the reassociation procedure • 8.3.5 (new): Define the relationship between distribution system services and the association information frames defined in 4.5.	wireless stations (APs and remote stations in the infrastructure case) ignores a major portion of the problem being addressed by 802.11. Because the coverage ranges of most of the 802.11 PHYs are substantially shorter than are needed to provide spatial extent comparable to wired 802 networks, the "normal" configurations of 802.11 LANs are expected to be ESS networks used for physical coverage extension (see document 95–188). Therefore, the 802.11 protocol should provide for standardized, interoperable, exchange of the minimum set of association information over the DSM, symmetric with the 802.11 protocol providing standardized, interoperable transfer of that association information between BSSes of the ESS (reassocation, as a mechanism to implement BSS–transition mobility). There is precedent for defining intra–medium coverage extension mechanisms within 802 MAC/PHY standards — 802.3 defines the repeater used to provide physical range extension for their (coaxial cable) medium; and 802.5 defines an inter–MAU interface, which is different from the station–to–MAU interface. A particular advantage of the mechanism defined in 95–223 is that the implementation of distribution system services is still not specified by 802.11. The benefits of ESSes	

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						composed of APs (and portals) from multiple vendors are available by just defining some frames for exchange of association information over the DSM. The location(s) of the entities which send and receive those frames is arbitrary, as are other implementation decisions, such as centralized versus distributed management and storage of the association information, and inform–on–association_response versus query–on–reassociation_request strategies for supporting mobility transitions within the ESS. NOTE: While not a part of this ballot item, nor a required provision for this item to be beneficial, the limitations on the extent of an ESS discussed in document 95–188, Clause 1, and implemented by other comments in this ballot (updating sections 1.1, 2.2.x, and 2.3.x), are useful to simplify the scope and maximize the usefulness of these mechanisms. The mechanisms proposed in document 95–223 are applicable within an ESS (new definition from 95–188, Clause 1), and will not be usable in many possible configurations of a MESS.	
109.	8.3.3	HC	e		c) ... Responseframe	typo	
110.	8.3.3	BTh	e		**change 5 places...** a<u>A</u>ccess ~~p~~<u>P</u>oint **change...** Reassociation Respone_frame is received	I think style says this should be capitalized typo	

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111.	8.3.3	TM	e		b) If transmission fails, *after appropriate number of retries,* the station ...		
112.	8.3.3	ZJ	t	N	Delete (b)	STA should have the option of scanning and attempting to associate with APs in whatever order it likes	Accepted.
113.	8.3.4	HC	e		a) ... the response..	typo	
114.	8.3.4	BTh	e		**change 2 places...** aAccess pPoint **change...** value is "successful", the ~~assigned~~ Station ID assigned to the station	I think style says this should be capitalized better grammar	
115.	8.4						Accepted.
116.	8.4	HC	E		add to 8.4.1.2.2, 8.4.2.2.1, 8.4.3.2.2, aACK_Timeout **8.4.4.2 MAC Attribute Templates** **add: 8.4.4.2.x aACK_Timeout** aACK_Timeout ATTRIBUTE WITH APPROPRIATE SYNTAX integer; BEHAVIOUR "This attribute specifies the length of time, in microseconds, in which an ACK frame will received in response to transmission of a frame which requires acknowledgement, timed from receipt of PHY_DATA.confirm at the MAC. The following equation is used to determine aACK_Timeout: aSIFS_Time+aACK_Time"; REGISTERED AS { iso(1) member-body(2) us(840) ieee802dot11(10036) MAC(1) attribute(7) ack_timeout(41) };	6.2.9 refers to Ack_Timeout which is undefined.	Accepted.
117.	8.4	HC	T	N	remove aSIFS from subclauses 8.4.1.2.2, 8.4.2.2.1.,	This is a PHY MIB parameters, it is defined in 10. 1.4.11 and that is where	Accepted.

Seq. #	Section number	your ini-tials	Cmnt type E, e, T, t	Part of NO vote	Corrected Text/Comment	Rationale	Disposition/Rebuttal
					8.4.3.2.2. remove subclause: 8.4.4.2.25 aSIFS	it belongs.	
118.	8.4	BSi	T	N	Go through standard and pick up all MIB attributes that are missing. Counters need to be clear about whether they refer to MPDUs or MSDUs Should be separate limits for RTS and Data retries. nFrame error rate exceeded - how is frame error rate defined ? Propose delete.	Cleanup, consistency, ...	Accepted Declined; not specific enough Accepted with 95/201 changes Accepted (it's gone)
119.	8.4	BTh	T	N	**add these MIB variables in this section...** Authentication_Type Default_WEP_Key WEP_Default WEP_Key_Mapping WEP_Key_Mapping_Length	Section 5.3.2 introduces all these MIB variables. I think they should be included in the MIB variable description. If they are in section 8 and I missed them I apologize to the committee for wasting their time with this comment.	<DEFERRED>
120.	8.4	BTh	t	N	**Add...** aPoll_Inactivity	Section 6.3.5.2 used this MIB variable so it needs definition.	Declined; the variable does not affect station operation, so it will be removed from 6.3.5.2.
121.	8.4	BTh	T	N	**add...** aMax_Transmit_MSDU_Lifetime aMax_Receive_MSDU_Lifetime	sections 6.4 and 6.5 use these MIB variables. I can't find them defined.	Accepted.
122.	8.4 5.3.2 4.3.1.3	FMi	T	N	Incorporate changes from document 95–198 to provide a means to configure a station to exclude unencrypted MSDUs received from the WM. Also, for 4.3.1.3, incorporate changes from Clause 11 of document 95–222 to add the exclusion of unencrypted frames to the indicated capabilities of a station.	Plug an existing hole in the WEP security model. For details of the problem and a description of this solution, see document 95–187.	Accepted.
123.	8.4	FMi	T	N	Incorporate changes from document 95–211 to add a Key	Provide a useful enabling mechanism	Accepted.

Seq. #	Section number	your ini-tials	Cmnt type E, e, T, t	Part of NO vote	Corrected Text/Comment	Rationale	Disposition/Rebuttal
	5.2.5 5.3.2				ID field to the IV field of the WEP frames to allow many common key management techniques to be used with WEP. Warning: If these changes, as well as the changes from document 95–212 are adopted, it is important to make these updates AFTER the updates to 5.2.5 from document 95–212.	(already present in HIPERLAN) that is available at no "cost" because there is already space (the pad octet in the IV field) to hold the necessary infomation. For a detailed reasons for and usage of the Key ID, see document 95–187.	
124.	8.4.1	TM	e/t		~~This summary is for informational purposes only. If any erros exist, the formal definitions have precedence.~~	This standard should be complete and all cross references made correct. This disclaimer is not needed	Declined; we don't want any questions about this point.
125.	8.4.1.1	HC	t	N	add aDTIM_Interval to lists in subclauses: 8.4.1.1.1., 8.4.2.1.1., 8.4.3.1.1 8.4.4.1.x aDTIM_Interval DTIM_Interval ATTRIBUTE WITH APPROPRIATE SYNTAX integer; BEHAVIOUR DEFINED AS "This attribute indicates the number of beacon intervals between beacon frames which contain DTIMs. If this DTIM_Interval is one, there is a DTIM in every beacon frame."; REGISTERED AS { iso(1) member-body(2) us(840) ieee802dot11(10036) MAC(1) attribute(7) dtim_interval(###) };	subclause 8.2.1.4 refers to MIB parameter aDTIM_Interval The example of the value one is there to defines what "between" means. Without it, if the value is two, is there a DTIM every 2nd beacon, or are there two beacons between each beacon with a DTIM - it would not be clear.	Accepted.
126.	8.4.1.1.1	HC	e		aListen_Interval is in the list twice	typo	
127.	8.4.1.1.1	TM	e		aListen_Interval appears twice		
128.	**8.4.1.1.1**	**TT**	**e**		aListen_Interval and aPassive_Scan_Duration are listed		

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					twice.		
129.	8.4.1.1.1.	BPa	e		aPassiveScanDuration and aListenInterval appear twice		
130.	8.4.1.1.2	TM	e		change algortithms to algorithms		
131.	8.4.1.1.3	TM	e/t		there is no group/subfield containing the WEP_KEY_MAPPING table		Fixed.
132.	8.4.1.2.2.	TT	t	NO	Add to agOperation_grp list: aRTS_Retry_Max aMax_Transmit_MSDU_Lifetime aMax_Receive_MSDU_Lifetime	These are used in the standard, yet are not listed in the MIB.	Accepted.
133.	8.4.1.2.3	TM	e		remove the return from aRetry_Count		
134.	8.4.1.2.4	TM	e/t		If we are so worried about data security, should a Promiscuous mode be advertised? What use is this feature if all packets are encrypted and the keys are not known?		Declined. Promiscuous mode is useful.
135.	8.4.1.2.4	ZJ	t	N	Add aPower_Management_Mode	It was omitted, evidently	Accepted.
136.	8.4.1.3.1	DM	e		Change numbering to remove single subsections. There should always be more than 1 subsection.	If there is only one subsection then the subsection should become a section of the next higher level. The purpose of a subsection is to break a section down into more parts. If there is only one part then it doesn't warrant a subsection.	
137.	8.4.2.1	DW	E	Y	**The following MIB variables are missing:** **- Don't we need a aAttribute_State list indexed by Station addresses (AP and Stations).** **aMax_MSDU_Lifetime(6.4)** **aMax_Receive_MSDU_Lifetime (6.5)** **aPoll_Inactivity (6.3.5.2)** **aProbe_Delay (8.1.3.2.2)** **aMin_Probe_response_Time(8.1.3.2.2)** **aMax_Probe_Response_Time(8.1.3.2.2)** **aDwell_offset (8.1.5)** **aDwell_Interval (8.1.5)** **Any Hopping sequence states??????**		**Accepted, mostly.**

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					mismatch between aPower_Management_Mode (8.2.1.2) and aPower _Mgt_State, Need Mode! aDTIM_interval (8.2.1.4)		
138.	8.4.2.1.1	DM	e		Change numbering to remove single subsections. There should always be more than 1 subsection.	If there is only one subsection then the subsection should become a section of the next higher level. The purpose of a subsection is to break a section down into more parts. If there is only one part then it doesn't warrant a subsection.	
139.	8.4.2.2, 6.2.6.3,	HCH C	T	N	*6.2.6.3 RTS/CTS Recovery Procedure and Retransmit Limits* Many circumstances may cause an error to occur in a RTS/CTS exchange. For instance, CTS may not be returned after the RTS transmission. This can happen due to a collision with another RTS or a DATA frame, or due to interference during the RTS or CTS frame. It can however also be that CTS fails to be returned because the remote station has an active carrier sense condition, indicating a busy medium time period. If ~~after~~ a STA transmits an RTS ~~is transmitted~~ and does not receive a ~~the~~ CTS from the destination STA within ~~fails in any manner within a predetermined~~ CTS_Timeout ~~,(T1), then a new RTS~~ the STA shall ~~be generated while~~retransmit the RTS following the basic access rules for backoff. Since this ~~pending transmission~~ is a retransmission attempt, the CW shall be modified~~doubled~~ as per the backoff rules. ~~This process shall continue until the aRTS_Retry_Counter reaches an aRTS_Retry_Max limit.~~ If, following a successfull RTS/CTS exchange, a STA transmits a directed DATA frame and does not receive	Data larger than aRTS_Threshold is not going to get between stations because any one of the RTS didn't make it, the CTS didn't make it, the DATA frame didn't make it, or the ACK didn't make it. Obvioudly, only the latter two apply to data shorter than aRTS_Threshold. It is true there may be different causes for an RTS or not to make it, than there may be for DATA to not make it to its destination. The reasons for the ACK to not make it back may be more similar to those that casued the RTS/CTS to not work. So there is really no saying that the conditions that cause short frame failures apply only to the RTS/CTS failure, and not to the DATA/ACK failure. Basically, there can be a myriad of conditions that cause data to not get from STA to STA, and trying to account for each and give different retry limits for each possible cause is far more trouble than it is worth. The entire frame exchange, either	Declined, since MAC group voted to adopt the different scheme in 95/201.

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					an ACK within ACK_Timeout, the STA shall retransmit the RTS as in the procedure described above. If a STA transmits a directed DATA frame shorter than aRTS_Threshold (i.e. no preceding RTS/CTS was used), and does not receive an ACK within ACK_Timeout, the STA shall retransmit the DATA frame following the basic rules for backoff. Since this is a retransmission attempt, the CW shall be modifed as per the backoff rules. Each retransmission attempt shall be counted, whether the retransmission is of an RTS due to no CTS received, or of a DATA frame due to no ACK received. I.E. the transmission ateempt of an RTS associated with a DATA frame is considered a transmission attempt of that DATA. When aRetry_Max retransmissions have been made. the transmission of the DATA frame shall be considered to have failed, and no more retransmission attempts shall be made.. ~~The same backoff mechanism shall be used when no ACK frame is received within a predetermined ACK_Window (T3) after a directed DATA frame has been transmitted. Since the pending transmission is a retransmission attempt the CW will begreater than one as per the backoff rules. This process shall continue until the aData_Retry_Coutner reaches aData_Retry_Max limit.~~ **8.4.2.2.1 oMac** ... aACK_Time GET, a~~RTS~~_Retry_max GET-REPLACE, ~~aDATA_Retry_max GET-REPLACE~~ aMax_Frame_Length GET,	RTS/CTS/DATA/ACK or just DATA/ACK, should be considered an attempt to send the data. Regardless of which step failed, it should be considered one try or retry, and there should be one Retry_Max to cover the whole thing.	

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					...		
140.	8.4.2.2.1	DM	e		Change numbering to remove single subsections. There should always be more than 1 subsection.	If there is only one subsection then the subsection should become a section of the next higher level. The purpose of a subsection is to break a section down into more parts. If there is only one part then it doesn't warrant a subsection.	
141.	8.4.2.2.1	TM	e		aMultiple_Retry;_Count Get-Replace, remove semicolon and add tab		
142.	**8.4.2.2.1**	TT	e	NO	aFrame_Retry_Count should be aRetry_Count. correct spelling of aMultiple_Retry_Count delete aFrame_With_Protocol_Error_Count	Not in Attribute templates.	
143.	**8.4.2.2.1**	TT	t	NO	Add to oMAC list: aRTS_Retry_Max GET-REPLACE aMax_Transmit_MSDU_Lifetime GET-REPLACE aMax_Receive_MSDU_Lifetime GET-REPLACE	These are used in the standard, yet are not listed in the MIB.	Accepted, with appropriately modified text.
144.	8.4.2.3.1	DM	e		Change numbering to remove single subsections. There should always be more than 1 subsection.	If there is only one subsection then the subsection should become a section of the next higher level. The purpose of a subsection is to break a section down into more parts. If there is only one part then it doesn't warrant a subsection.	
145.	8.4.3.2	KJ	E		all mac(0) or MAC(0) should be changed to mac(1) or MAC(1) and all final level numbers should be renumbered since many have been deleted and others added with duplicate levels		
146.	8.4.3.2.3	TM	e		aFCS_Error;_Count change comma to underscore		
147.	8.4.3.2.3	TM	t		aFrame_Too_Long_Count --- this attribute should be deleted aFrame_Too_Short_Count or aFrame_Loss_Carrier_Count might be more appropriate	There is no way to determine if a frame is too long. Dring the receive process, a packet length will be determined and that number of bits will be transferred to the MAC. Additional bits (such as those bits being chipped while the	Accepted

Seq. #	Section number	your ini-tials	Cmnt type E, e, T, t	Part of NO vote	Corrected Text/Comment	Rationale	Disposition/Rebuttal
						DSSS transmitter ramps down) will be ignored. If the appropriate packet length was not transferred, a CRC error will result. It is possible to detect for short frames by observing the CCA status for loss of carrier or tracking.	
148.	**8.4.4**	**DW**	**E** **T**		-Behaviour description of aStation_ID is not given. - Same for Current_AP_MAC_Address, but why do we need this because we also have the Current_BSS_ID, which is equal in an IS,and can be used in Ad-Hoc also. -There are several parameters that do not have a behaviour description. -8.4.4.1.8 does refer to 802.10. this reference should be deleted, and the attribute should be explicitly defined. -According to 4.3.1.1 we need a Beacon Interval parameter in Kusec. Both should be alligned. - What is the function of aMax_MPDU_Time. It needs to be defined whether this includes the PHY PLCP preamble and Header, which is different per PHY. aSIFS and aPIFS and aDIFS are PHY dependent. Where should they be specified, and only need SIFS and Slot time specification.		Accepted Fixed Accepted Accepted Accepted. They are in the PHY MIB now.
149.	8.4.4.1.11	HC	t	N	Privacy_Invoke ATTRIBUTE WITH APPROPRIATE SYNTAX BOOLEAN~~privacy_invoke.type~~;	This is boolean - it is either invoked or not. Loose the comment.	Accepted
150.	**8.4.4.1.11**	**TT**	**t**	**NO**	change type from privacy_invoke.type to Boolean	Privacy Invoke only has two states.	**Accepted**
151.	8.4.4.1.12	HC			Associated_State ATTRIBUTE WITH APPROPRIATE SYNTAX Boolean~~Associated_State.type~~; BEHAVIOUR DEFINED AS "This attribute shall indicate~~An enumerated type that describes~~ the current associated state of the station.";	This is boolean - you are either assoicated or not. Loose the comment.	Accepted

Seq. #	Section number	your initials	Cmnt type E, e, T, t	Part of NO vote	Corrected Text/Comment	Rationale	Disposition/Rebuttal
152.	8.4.4.1.13	HC	t	N	BEHAVIOUR "The beacon period shall indicate the time, in microseconds, between the transmission of beacon frames if the station is acting as an Access Point. If the station is not an Access Point but is associated with one, the beacon period shall indicate the time, in micro~~nano~~seconds, between the expected arrival of beacon frames. If the station is not an Access Point and is not associated with one, the beacon period shall indicate the time, in micro~~nano~~seconds, between the transmission of beacon frames.";	consistancy	Accepted
153.	8.4.4.1.15	HC	t	N	BEHAVIOUR DEFINED AS "This attribute defines the maximum time that a station will remain on a single channel during a passive scan of that channel, in microseconds.";	units needed	Accepted
154.	8.4.4.1.15	KJ	t	N	Behaviour should define time measure in Kmicroseconds		Accepted
155.	**8.4.4.1.15**	**TT**	**t**	**NO**	Change Behaviour sentance to read: 'This attribute defines the maximum time, in units of 1024 microseconds, that a station will remain on a single channel during a passive scan of that channel.'	Need to specify units.	**Accepted**
156.	8.4.4.1.7	HC	T	N	BEHAVIOUR DEFINED AS "This attribute shall be a set of the identities of the most recently known Access Points. ~~The Access Point with which the station is currently associated, if any, shall always be the first element of the set.~~ Access Points may be included in this list even if the station did not associate with them. A station may delete AP identities from this set using any algorithm of its choosing. The set may include fewer AP identities than the number of APs the station has encountered ";	The current AP is in aCurrent_AP_MAC_Address, why duplicate it and have to rearrange this list whenever the association is changed?	Accepted.

Seq. #	Section number	your ini-tials	Cmnt type E, e, T, t	Part of NO vote	Corrected Text/Comment	Rationale	Disposition/Rebuttal
157.	8.4.4.2	KJ	t	N	should have MIB element to count missing ACKs. **ACK_Failure_Count** ACK_Failure_Count ATTRIBUTE DERIVED FROM "ISO/IEC 10165-2":counter; BEHAVIOUR DEFINED AS "This counter shall increment when an ACK is not received to a unicast DATA frame."; REGISTERED AS { iso(1) member-body(2) us(840) ieee802dot11(10036) MAC(1) attribute(7) ack_failure_count(x) };	A specific count of failures to deliver DATA frames is critical to managing radio systems.	Accepted
158.	8.4.4.2, 6.3.3.4	HCH C	T	N	second paragraph: The minimum value for aCFP_Max_Duration, ~~if the PCF is going to be used, is two times aMax_MPDU plus the time required to send the initial Beacon frame and the CF-End frame of the CFP. This allows sufficient time for the AP to send one Data frame to a station, while polling that station, and for the polled station to respond with one Data frame.~~shall be calcualted using the following formula: aRTS_Time+aSIFS+aCTS_Time+ ((aSIFS+aFragmentation_Threshold+ aSIFS+aACK_Time) *(aMax_MSDU/aFragmentation_Threshold)) +aPIFS This ensures that when a STA sets its NAV to CF_Max_Duration at TBTT, that NAV does not come	This paragraph addresses minimum CF_Max_duration as if its purpose is to make sure implementations are built which ensure a certain amount of CF traffic may pass. I don't beleive this should be so. If I want to build an implementation where the CF_Max_Duration only allows one data transfer, or even small number of small MPDUs, I should be allowed to. Given that, then it seems the point of a minimum CF_Max_Duration is to make sure that stations which set their NAVs to CF_Max_Duration at TBTT do not clear them before the beacon containing CF_Dur_Remaining is actually sent.	Declined. The current mechanism allows the AP to send at least one frame down and expect one frame up without either party having to check whether there is enough time remaining in the CFP to allow the transmission. Since STA set their NAV to whatever the AP says the CFP duration is, the AP can ensure there is enough time for it to transmit such a beacon anyway. Having the minimum just simplifies station logic w.r.t. checking how much CFP time

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					clear before the PC gets a chance to access the medium to send the beacon containg the CF_Rem_Duration which changes that NAV to the actual PCF duration. If adopted, the above change also requies the addition to aRTS_Time to the lists in subclauses 8.4.1.2.2, 8.4.2.2.1 and 8.4.3.2.2, and definition as follows: 8.4.4.2.x aRTS_Time RTS_Time ATTRIBUTE WITH APPROPRIATE SYNTAX integer; BEHAVIOUR DEFINED AS "This attribute indicates the length of time it takes to transmit a RTS frame."; REGISTERED AS { iso(1) member-body(2) us(840) ieee802dot11(10036) MAC(1) attribute(7) rts_time(33) };		remains all the time.
159.	8.4.4.2.10	TT	e		Change title of this section from: aCollision_Count to: aRetry_Count.		
160.	8.4.4.2.11	TT	e		Change title of this section from: aSingle_Collision_Count to: aSingle_Retry_Count.		
161.	8.4.4.2.24	TT	t	NO	Change first sentence to read: 'This attribute is the amount of time, in microseconds, required to complete an RTS/CTS handshake.	Need to specify units.	Accepted
162.	8.4.4.2.25	TT	t	NO	Change first sentence to read: 'This attribute indicates the length, in microseconds, of the	Need to specify units.	Accepted
163.	8.4.4.2.26	HC	t	N	add formula for PIFS: BEHAVIOUR DEFINED AS "This attribute indicates the length of the priority	complete specification (marked as technical to ensure I am correct)	Declined. PIFS is in the PHY MIB now.

Seq. #	Section number	your ini-tials	Cmnt type E, e, T, t	Part of NO vote	Corrected Text/Comment	Rationale	Disposition/Rebuttal
					interframe space. The following equation is used to determine aPIFS: aSIFs+aSlot_Time";		
164.	8.4.4.2.26	HC	t	N	add formula for DIFS: BEHAVIOUR DEFINED AS "This attribute indicates the length of the distributed interframe space The following equation is used to determine aPIFS: aSIFs+aSlot_Time+aSlot_Time";	complete specification (marked as technical to ensure I am correct)	Declined. DIFS is in the PHY MIB now.
165.	8.4.4.2.26	TT	t	NO	Change first sentence to read: 'This attribute indicates the length, in microseconds, of the	Need to specify units.	Accepted
166.	8.4.4.2.27	TT	t	NO	Change first sentence to read: 'This attribute indicates the length, in microseconds, of the	Need to specify units.	Accepted
167.	8.4.4.2.28	HC	t	N	Add to BEHAVIOUR DEFINED AS: Setting this attribute to zero will have the effect of turning on the RTS/CTS handshake for all MPDUs.	section 6.2 says that this attribute is used to select "always, never or only on frames ...". The always part should be made explicit, since the never part was.	Accepted
168.	8.4.4.2.32	HC	t	N	BEHAVIOUR DEFINED AS "This attribute indicates the length of time it takes to transmit a CTS frame, in nanoseconds.";	units needed	Accepted, but using microseconds (by agreed-upon convention)
169.	8.4.4.2.32	TT	t	NO	Change first sentence to read: 'This attribute indicates the length of time , in microseconds, it takes to transmit	Need to specify units.	Accepted
170.	8.4.4.2.33	HC	t	N	BEHAVIOUR DEFINED AS "This attribute indicates the length of time it takes to transmit an ACK frame, in nonseconds.";	units needed	Accepted, but using microseconds (by agreed-upon convention)
171.	8.4.4.2.33	TT	t	NO	Change first sentence to read: 'This attribute indicates the length of time , in	Need to specify units.	Accepted

Seq. #	Section number	your ini-tials	Cmnt type E, e, T, t	Part of NO vote	Corrected Text/Comment	Rationale	Disposition/Rebuttal
					microseconds, it takes to transmit		
172.	8.4.4.2. 35	HC	t	N	No text, only questions.	Where does the value that goes into Max_Frame_Length come from? I assume it must be constant per PHY, couldn't we just use aMPDU_Max_Lngth_1M and aMPDU_Max_Lngth_2M (listed in 10.1.2, but not defined). How doe the MAC know which one to use when it needs to do a calcuation involving Max_Frame_Length?	No text, only answer: the maximum MSDU length is fixed at 2304. Text updated to reflect this fact correctly.
173.	8.4.4.2. 36	HC	T	N	BEHAVIOUR "This attribute specifies the current maximum size, in bytes, of the MPDU that will be delivered to the PHY. An MSDU will be broken into fragments if its size exceeds the value of this attribute after adding MAC headers and trailers. The default value for this attribute shall be equal to the maximum size PSDU of the attached PHY and shall never exceed the maximum size PSDU of the attached PHY. ~~The minimum value of this attribute shall never be less than 256.~~";	The value of this MIB parameter is always maximum size PSDU. Where maximum size PSDU is specified, it should say that that value must never be less than 256. We can't have the MAC reading the max PSDU size from the PHY, then saying,"oh that's less than 256 which is my allowable minimum, so I'll use 256 instead."	Declined; the MAC is not intended to support PHYs that are incapable of 256-octet MPDUs.
174.	8.4.4.2. 36	HC	t	N	BEHAVIOUR "This attribute specifies the current maximum size, in bytes, of the MPDU that will be delivered to the PHY. An MSDU will be broken into fragments if its size exceeds the value of this attribute after adding MAC headers and trailers. The default value for this attribute shall be equal to the maximum size PSDU of the attached PHY and shall never exceed the maximum size PSDU of the attached PHY. ~~The minimum value of this attribute shall never be less than 256.~~";	This is a value specified by the PHY. If it has a minimum it should be in the definition of max PSDU for the PHY. It wouldn't be good if the PHY reported max PSDU as 200, and the MAC said "OK, but my minimum fragment threshold is 256, so I'll always send that to the PHY", which is what happens if you specify this minimum.	Ditto.

Seq. #	Section number	your ini-tials	Cmnt type E, e, T, t	Part of NO vote	Corrected Text/Comment	Rationale	Disposition/Rebuttal
175.	8.4.4.2.39	HC	t	N	Scan_State ATTRIBUTE WITH APPROPRIATE SYNTAX booleanEnumerated Type; BEHAVIOUR DEFINED AS "An enumerated type that dDescribes whether the station is scanning. True means the station is scanning, false means it is not."; REGISTERED AS { iso(1) member-body(2) us(840) ieee802dot11(10036) MAC(1) attribute(7) Scan_State(40) };	This is a boolean - you are either scanning or not.	Accepted.
176.	8.4.5 8.4.6 8.4.7 8.4.8	ZJ	T	N	Fill in these sections	Tough Job, but somebody's got to do it.	Accepted
177.	8.4.6	HC	T	N	No Text.	Subclause needs to be filled in or removed, but I don't have the xpertise to suggest text.	Accepted
178.	8.4.6.2.1	DM	e		Change numbering to remove single subsections. There should always be more than 1 subsection.	If there is only one subsection then the subsection should become a section of the next higher level. The purpose of a subsection is to break a section down into more parts. If there is only one part then it doesn't warrant a subsection.	Declined
179.	8.4.7	HC	T	N	NoText.	Subclause needs to be filled in or removed, but I don't have the xpertise to suggest text.	Accepted
180.	8.4.8	HC	T	N	No Text.	Subclause needs to be filled in or removed, but I don't have the xpertise to suggest text.	Accepted
181.	8.4.8.1	DM	e		Change numbering to remove single subsections. There should always be more than 1 subsection.	If there is only one subsection then the subsection should become a section of the next higher level. The purpose of a subsection is to break a section down into more parts. If there is only one part then it doesn't warrant a	Declined

Seq. #	Section number	your ini-tials	Cmnt type E, e, T, t	Part of NO vote	Corrected Text/Comment	Rationale	Disposition/Rebuttal
						subsection.	
182.	8.4.x.x.x	TM	e		change BEHAVIOUR to BEHAVIOR throughout this section	American spellings have been used throughout the rest of the document	Declined. ISO requires this syntax.
183.	**8.5.4.2**	MRo	**T**	**X**	**Section Incomplete**		Accepted