doc.: IEEE P802.11-96/47-2 R5

Seq.	Section	your	Cmnt	Part	mment/Rationale	C. rected Text	Disposition/Rebuttal
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		tials	E, e,	NO			
			T, t	vote			

# **Results of Ballot on Draft Standard D3.0**

# General comments, comments on first clauses and on Annexes and resolutions

Seq. #	Section number	your ini- tials	Cmnt type E, e, T, t	Part of NO vote	Comment/Rationale	Corrected Text	Disposition/Rebuttal
1.	?	maf	t	Y		Need an explicit statement that CF- POLL and other CF frame types shall not be used outside of the CF- period.	-1
2.	0	RM	Τ	Y	At least one company has indicated that it holds specific patent claims for which licensing will be necessary to implement the standard. The revised IEEE patent policy detailed in document 96/14 requires that there be <i>Compelling Technical Justification</i> to include a patented feature. The required analysis to determine technical justification has not been performed for the patent claims indicated in document 96/5 the patents generally cited in 96/5a.		
					Furthermore, the committee has an obligation to make a reasonable effort to determine what additional patents may be applicable to the draft standard, and make conscious decisions when to include patented technology or employ public domain, i.e., <i>royalty free</i> , alternatives. Otherwise we may burden the standard with commercially unacceptable royalties or limit the international acceptance of this standard.		
					It appears that the intent, if not the letter, of the revised patent policy was correctly considered in the process used to include the WEP algorithm in the standard (a licensable trade secret rather than a patent). This same		

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	1	<u> </u>			model must be used for other relevant intellectual		r	
					property as well.			
3.	A.1	db	E	Y	missing paren	a) By the user, or potential user, of the implementation, as a basis for initially checking the possibility of interworking with another implementation (note that, while interworking can never be guaranteed, failure to interwork can often be predicted from		
						incompatible PICS proformas <u>).</u>		I
_4.	A.2.1	db	E	Y	missing reference = A.xxxxx	Correct or remove reference.		
5.	A.3.1	db	Т	Y	The sentence was incorrect.	The PICS proforma for a station		
					Clause A.4.4 is the MAC and must always be present.	consists of clauses A.4.1, thruA.4.2,		1
					Only only PHY is required, and also only one PHY	A.4.3 and A.4.4 inclusive, and at least		
					may be present in a single instance of an	one of A.4.4 <u>5</u> , A.4. <u>56</u> , orand A.4.76		
					implemenetation. The MAC does not handle multiple	corresponding to the for each PHY		
					PHYs simultaniously within a single implementation	implemented.		
					instance.			
6.	A.3.4	db	Т	Y	The text in this section says "where " <pred>" is a predicate as described below,", but no def of <pred> is given that I can find. The missing definition must be provided or the annex can not be interpreted correctly.</pred></pred>	provide missing information re <pred></pred>		
7.	A.4	sb	Т	n	PCF conformance statement incomplete (section 6.8), wrong numbering and reflects D2.1 protocol.	See paper on reformated, corrected and completed PICS (SAB)	1	
8.	A.4.3 A.4.4 A.4.5 A.4.6	db	Т	Y	The clause references are all incorrect. They need to be corrected.	Correct all section refs to make annex consitant with the Draft clauses.		

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9. A.4.3	db	b T	Ŷ	<ul> <li>This section needs major work - it is simply more incorrect than correct.</li> <li>Item 2: All implementions are STAs. All APs are STAs (See definition clauses). Therefore this capability is a mandatory requirement not an option. Change it's status to M.</li> <li>Item 3: This is dependant on item 1, the PCF is required to reside in an AP, so if impl can't do AP it can't do PCF - item is not shown as conditional.</li> <li>Item 4: this is not an option. No text in the draft makes it an option, all stations must be Cf aware I believe. Make status = M</li> <li>Item 5: this is propoerly an option, if wep is implemented then I believe shared key auth shall also</li> </ul>	Correct the section to repair at least the errors noted at left.	
				<ul> <li>be implemented, thus this is part of a set, but it is represented as an independant item.</li> <li>Item 6: This is not an option - if a STA can be an AP and it supports the frame formats then it supprot WDS from the 802.11 point of view. Note that something more than 802.11 may be required to create a WDS, but that is not relevant to the 802.11 PICs.</li> <li>Item 7: throw this item away and start over. The correct question is: Does the impl support exactly one of the specified PHYs? If so, which one?</li> </ul>		
10. A.4.4	db	b T	Y	w/o the requested change the Draft is technically	Defines several physical layer	Plenary Motion 8 Mar 96
10. A.4.4 1.2				incorrect - since approved "standard" language was	(PHY) signaling	
r I				not used the draft does not corectly convey operational requirements.	techniques and interface functions that <u>shall<del>may</del></u>	

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						be controlled by the 802.11 MAC.	
11.	A.4.4 3	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	<b>ESS Basic Rate Set.</b> The set of data transfer rates which all the stations in an ESS <u>shall</u> <del>must</del> be capable of using to receive frames from the WM.	Plenary Motion 8 Mar 96
12.	A.4.4 3	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	Net Allocation Vector (NAV). An indicator, maintained by each station, of time periods when transmission onto the WM <u>shallmay</u> not be initiated by the station whether or not the Station's CCA function senses the WM as being busy.	Plenary Motion 8 Mar 96
13.	A.4.4 5.1.1.2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	Because of limitations on wireless PHY ranges, wireless LANs intended to cover reasonable geographic distances <u>maymust</u> be built from basic coverage building blocks.	Plenary Motion 8 Mar 96
14.	A.4.4 5.2.1	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The association between a STA and a BSS is dynamic (STAs turn on, turn off, come within range and go out of range). To become a member of an infrastructure BSS a station <u>shallmust</u> become "Associated".	Plenary Motion 8 Mar 96
15.	A.4.4 5.3	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	802.11 has chosen to use the IEEE 802 48 bit address space (see clause 4). Thus 802.11 addresses <u>shallwill</u> be compatible with, and unique within, the address space used by the 802 LAN	Plenary Motion 8 Mar 96

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I						family. The 802.11 choice of address space implies that for many instantiations of the 802.11 architecture, the wired LAN MAC address space and the 802.11 MAC address space <u>maywill</u> be the same. In those	
16.	A.4.4 5.4.1.2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	Messages received from an integrated LAN (via a Portal) by the DS for an 802.11 STA <u>shallwill</u> invoke the Integration Service before the message is distributed by the Distribution Service.	Plenary Motion 8 Mar 96
17.   	A.4.4 5.4.2	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	required for the Distribution Service to operate is provided by the Association services. Before a data message <u>mayean</u> be handled by the Distribution service, a STA <u>shallmust</u> be "Associated".	Plenary Motion 8 Mar 96
18.	A.4.4 5.4.2.2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	Before a STA is allowed to send a data message via an AP, it <u>shallmust</u> first become associated with the AP. The act of becoming associated invokes the Association service which provides the STA to AP	Plenary Motion 8 Mar 96
19.	A.4.4 5.4.2.4	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The Disassociation Service is invoked whenever an existing Association is tomust be terminated. Disassociation is a Distribution System Service. In an ESS this tells the DS to void	Plenary Motion 8 Mar 96

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						existing association information. Attempts to send messages to a disassociated STA <u>shallwill</u> be unsuccessful.	I
						The Disassociation Service <u>mayean</u> be invoked by either party to an Association (STA or AP). Disassociation is a notification, not a request. Disassociation cannot be refused by either party to the association.	I
						APs <u>maymight</u> need to disassociate STAs to enable the AP to be removed from a network for service or for other reasons.	Π
20.	A.4.4 5.4.3.1. 1	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	use), the Authentication service <u>mayean</u> be invoked independently of the Association service. Pre-authentication is typically done by a STA while it is already associated with an AP (which it previously authenticated with). 802.11 does not require that STAs pre-authenticate with APs. However, Authentication <u>shall</u> <u>beis</u> required <u>before</u> an Association <u>mayean</u> be established. If the Authentication is left until Reassociation time, this may impact the speed with which a STA <u>mayean</u>	Plenary Motion 8 Mar 96
						Reassociate between APs, limiting BSS-transition mobility performance. The use of Pre-authentication	

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21.	A.4.4	db	Т	Y	w/o the requested change the Draft is technically	The Deauthentication Service is	Plenary Motion 8 Mar 96
250	5.4.3.2				incorrect - since approved "standard" language was	invoked whenever an existing	
					not used the draft does not corectly convey	Authentication is tomust be terminated.	
					operational requirements.		
22.	A.4.4	db	Т	Y	w/o the requested change the Draft is technically	The Deauthentication Service <u>mayean</u>	Plenary Motion 8 Mar 96
	5.4.3.2				incorrect - since approved "standard" language was	be invoked by either authenticated party	
					not used the draft does not corectly convey	(mobile STA or AP). Deauthentication	
					operational requirements.	is not a request, it is a notification.	
Ú,						Deauthentication shallcan not be	
						refused by either party.	
23.	A.4.4	db	T	Y	w/o the requested change the Draft is technically	The default privacy state for all 802.11	Plenary Motion 8 Mar 96
	5.4.3.3		-		incorrect - since approved "standard" language was	Stations is "in the clear". If the Privacy	
					not used the draft does not corectly convey	Service is not invoked, all messages	
Ĕ.					operational requirements.	shallwill be sent unencrypted. If this	
10						default is not acceptable to one party or	
Ê						the other, Data frames shallwill not be	
· ·						successfully communicated between the	
						LLC entities. Unencrypted Data frames	
24.	A.4.4	db	Т	Y	w/o the requested change the Draft is technically	As noted previously some services	Plenary Motion 8 Mar 96
	5.5				incorrect - since approved "standard" language was	shallmust be completed successfully	
					not used the draft does not corectly convey	before others maycan be invoked.	
					operational requirements.		
25.	A.4.4	db	Т	Y	w/o the requested change the Draft is technically	Deauthentication	Plenary Motion 8 Mar 96
	5.5				incorrect - since approved "standard" language was	Deauthentication	
					not used the draft does not corectly convey	notification	
					operational requirements.	when in state 2	
						changes the	
						Station's state	
						from 2 to 1. The	
25						Station	
						<u>shall</u> must	
						become	
						Authenticated	
						again prior to	
						sending class 2	

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						frames.	
26.	A.4.4 5.5	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey	• Disassociation Disassociation notification changes a Stations state from 3	Plenary Motion 8 Mar 96
					operational requirements.	to 2. This Station state from 5 become Associated again if it wishes to utilize the DS.	ľ
						• Deauthentication Deauthentication	
						notification when in state 3	
						implies Disassociation	
						as well, changing the Station's state	
						from 3 to 1. The station	
						station shall <del>must</del> become	I
						Authenticated again prior to	
						another Association.	
27.	A.4.4 5.6	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was	An independent BSS consists of STAs which are directly connected. Thus	Plenary Motion 8 Mar 96
					not used the draft does not corectly convey operational requirements.	there <u>iswill</u> (by definition) only be one BSS. Further, since there is no <u>physical</u>	I
						DS, there cannot be a Portal, an integrated wired LAN, or	
28.	A.4.4 5.7	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was	Each Service is supported by one or more 802.11 messages. This clause	Plenary Motion 8 Mar 96
					not used the draft does not corectly convey operational requirements.	specifies the information items which shall <del>must</del> be minimally present in the	1

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						messages to support the service.	
<b>29.</b>	A.4.4 5.7.1	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	When a Station wishes to send data to another Station it sends a Data message. In an ESS the message <u>shall</u> <del>will</del> be handled by the Distribution Service. In an ad hoc case, the Data message is sent directly. The	Plenary Motion 8 Mar 96
30.	A.4.4 5.7.4	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	Information Items: IEEE address of the station which is being disassociated. This <u>shallmay</u> be a broadcast address in the case of an AP disassociating with all Associated Stations.	Plenary Motion 8 Mar 96
31.	A.4.4 6.1.1	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	This service provides peer LLC entities with the ability to exchange MAC Service Data Units. To support this service, the local MAC shall use the underlying PHY-level services to transport an MSDU to a peer MAC entity, where it may be delivered to the peer LLC. Such asynchronous MSDU transport is performed on a best-effort connectionless basis. There are no guarantees that the submitted MSDU shall be delivered successfully. Broadcast and multicast transport is part of the asynchronous data	Plenary Motion 8 Mar 96

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32.	A.4.4 6.1.4	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	intentionally reorder MSDUs. However, since MSDUs <u>mayean</u> transit a DS, and a DS <u>maymight</u> reorder MSDUs, it is not possible for the MAC to guarantee MSDU ordering.	Plenary Motion 8 Mar 96
33.	A.4.4 6.2.1.1	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	When Generated This primitive is generated by the LLC sublayer entity whenever a MSDU <u>is</u> <u>tomust</u> be transferred to a peer LLC sublayer entity or entities.	Plenary Motion 8 Mar 96
34.	A.4.4 6.2.1.2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The source_address parameter <u>shall</u> <del>must</del> be an individual address as specified by the SA field of the incoming frame.	Plenary Motion 8 Mar 96
35.	A.4.4 7.1.3.1. 7	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	particular STA within a frame sequence defined in clause 4.4. The value shall indicate the mode in which the station <u>shall</u> will be after the completion of the frame sequence. A value of '1' shall indicate that the STA <u>shall</u> will be in Power Save Mode. A value of '0' shall indicate that the STA <u>shall</u> will be in Active Mode. This field shall always be set to '0' in frames transmitted by an AP.	Plenary Motion 8 Mar 96
36.	A.4.4 7.1.3.2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was	that has been processed by the WEP algorithm. The WEP field shallmay	Plenary Motion 8 Mar 96

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#	number	ini-	type	of				
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					not used the draft does not corectly convey operational requirements.	only be set to '1' within frames of Type Data and frames of Type Management, Subtype Authentication. The WEP field shall be set to '0' in	
37.	A.4.4 7.1.3.4	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	source address, destination address, transmitting station address and receiving station address. The usage of the four address fields in each frame type <u>iswill be</u> -indicated by the abbreviations BSSID, DA, SA, RA, TA indicating BSS Identifier, Destination Address, Source Address, Receiver Address and Transmitter Address, respectively. Some frames may <u>not</u> <u>containomit</u> some of the address fields.	Plenary Motion 8 Mar 96
38.	A.4.4 7.2.2.1	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	A station shall use the contents of Address 1 field to perform address matching for receive decisions. In cases where the Address 1 field contains a group address, the BSSID <u>shallmust</u> also be validated to ensure that the broadcast, or multicast originated in the same BSS.	Plenary Motion 8 Mar 96
<b>39.</b>	A.4.4 7.3.1.6	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The Listen Interval field shall be used to indicate to the AP how often an STA <u>shallwill</u> wake to listen to Beacon Management Frames. The value of this parameter shall be the STA's aListen_Interval MIB	Plenary Motion 8 Mar 96
<b>40.</b>	A.4.4 7.3.2.1	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The DTIM Count field shall indicate how many Beacons (including the current frame) <u>shall</u> will appear before the next DTIM. A DTIM Count of 0	Plenary Motion 8 Mar 96

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						shall indicate that the current TIM is a DTIM. The DTIM	
41.	A.4.4 7.3.2.1	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	in the bitmap are all 0. In this case, the Bitmap Offset subfield value <u>shallwill</u> contain the number N1, and the Length field <u>shallwill</u> be set to $(N2 - N1 + 4)$ .	Plenary Motion 8 Mar 96   
42.	A.4.4 7.3.2.4	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The Supported Rates element shall specify all the rates which this station is capable of receiving. The information field is encoded as 1 to 8 octets where each octet describes a single supported rate in units of 100 kbit/s (e.g. a 1 Mbps rate <u>shallwill</u> be encoded as 0x0A).	Plenary Motion 8 Mar 96
43.	A.4.4 7.3.2.5	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	CFP_Count shall indicate how many DTIMs (including the current frame) <u>shallwill</u> appear before the next CFP start. A CFP_Count of 0 shall indicate that the current DTIM marks the	Plenary Motion 8 Mar 96
44.	A.4.4 8.1.2.4	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	what it believes to be the shared WEP key. It shall then compare the challenge text recovered to that sent in frame 2 of the sequence. If they are the same then the two stations <del>must</del> have the same shared key. This	Plenary Motion 8 Mar 96
45.	A.4.4 8.3.2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	this section. All MIB variables that hold WEP keys are externally read-only - the contents <u>shallmay</u> not be read via MAC management SAPs. See Clause 8 for the formal MIB variable definitions.	Plenary Motion 8 Mar 96
46.	A.4.4 9.1.2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was	of the distributed coordination function. This access method uses a point	Plenary Motion 8 Mar 96

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		-	T, t	vote			

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11					not used the draft does not corectly convey	coordinator, which shallmust operate at	
					operational requirements.	the access point of the BSS, to	
						determine which station currently has	
						the right to transmit. The	
47.	A.4.4	db	Т	Y	w/o the requested change the Draft is technically	When a frame is received from the LLC	Plenary Motion 8 Mar 96
	9.1.4				incorrect - since approved "standard" language was	with a MSDU size greater than	
					not used the draft does not corectly convey	aFragmentation_Threshold, the frame	
					operational requirements.	shallmust be fragmented. The MSDU is	
						divided into MPDUs. Each MPDU is a	
		)				fragment with a	
48.	A.4.4	db	Т	Y	w/o the requested change the Draft is technically	frame and the returning ACK frame. All	Plenary Motion 8 Mar 96
	9.2				incorrect - since approved "standard" language was	stations within the reception range of	·
					not used the draft does not corectly convey	either the originating station (which	
					operational requirements.	transmits the RTS) or the destination	
					<b>T</b>	station (which transmits the CTS)	
T I						shall <del>will</del> learn of the medium	
						reservation. Thus a station maycan be	
- 1						"hidden" from the originating station	
						and still know about the impending use	
						of the medium to transmit a data frame.	
						of the medium to transmit a data frame.	
49.	A.4.4	db	Т	Y	w/o the requested change the Draft is technically	The RTS/CTS mechanism shall <del>can</del> not	Plenary Motion 8 Mar 96
~~ [ ]	9.2	uo	•	-	incorrect - since approved "standard" language was	be used for broadcast and multicast	
	1.4				not used the draft does not corectly convey	frames because there are multiple	
					operational requirements.	destinations. This mechanism need not	
					operational requirements.	be used for every data frame	
						transmission. Because the	
						ualisinission. Decause the	
50	A 4 4	45		V	w/a the requested sharpes the Droft is technically	A STA configurad not to initiate the	Disnamy Mation 8 Man 06
50.	A.4.4	db	Т	Y	w/o the requested change the Draft is technically	A STA configured not to initiate the	Plenary Motion 8 Mar 96
50.	A.4.4 9.2	db	T	Y	incorrect - since approved "standard" language was	RTS/CTS mechanism shallmust still	Plenary Motion 8 Mar 96
50.		db	T	Y	incorrect - since approved "standard" language was not used the draft does not corectly convey	RTS/CTS mechanism <u>shallmust</u> still update its Virtual Carrier Sense	Plenary Motion 8 Mar 96
50.		db	T	Y	incorrect - since approved "standard" language was	RTS/CTS mechanism <u>shallmust</u> still update its Virtual Carrier Sense mechanism with the duration	Plenary Motion 8 Mar 96
50.		db	T	Y	incorrect - since approved "standard" language was not used the draft does not corectly convey	RTS/CTS mechanism <u>shallmust</u> still update its Virtual Carrier Sense mechanism with the duration information contained in an RTS or	Plenary Motion 8 Mar 96
50.		db	T	Y	incorrect - since approved "standard" language was not used the draft does not corectly convey	RTS/CTS mechanism <u>shallmust</u> still update its Virtual Carrier Sense mechanism with the duration information contained in an RTS or CTS frame, and <u>shallmust</u> always	Plenary Motion 8 Mar 96
<b>50.</b> [		db	T	Y	incorrect - since approved "standard" language was not used the draft does not corectly convey	RTS/CTS mechanism <u>shallmust</u> still update its Virtual Carrier Sense mechanism with the duration information contained in an RTS or	Plenary Motion 8 Mar 96

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51.	A.4.4 9.2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The medium access protocol allows for stations to support different sets of data rates. All STAs <u>shallmust</u> receive all the Basic Rate Set and transmit at one or more of the Basic Rate Set data rates. To support the proper operation of the RTS/CTS and the Virtual Carrier Sense mechanism, all STAs <u>shallmust</u> be able to detect the RTS and CTS frames. For this reason the RTS and CTS frames <u>shallmust</u> be transmitted at one of these mandatory rates.	Plenary Motion 8 Mar 96
52.	A.4.4 9.2.3.1	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The SIFS timing <u>shall</u> will be achieved when the transmission of the subsequent frame is started at the Tx_SIFS Slot boundary as specified in clause <b>Error! Reference source not</b> found.	Plenary Motion 8 Mar 96
53.	A.4.4 9.2.4	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	<u>deliver an MPDU.</u> The CW <u>shall</u> remain at a value of aCWmax for the remaining retries. This	Plenary Motion 8 Mar 96
54.	A.4.4 9.2.5.2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	A STA in backoff <u>shallmust</u> monitor the medium for carrier activity during backoff slots. If no carrier	Plenary Motion 8 Mar 96
55.	A.4.4 9.2.5.2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	the backoff timer shall not be decrement for that slot; The medium <u>shall</u> must be sensed as idle for the duration of a DIFS period before the backoff procedure is allowed to resume. Transmission shall	Plenary Motion 8 Mar 96

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56.	A.4.4 9.2.5.2	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The effect of this procedure is that when multiple stations are deferring and go into random backoff, then the station selecting the lowest delay through the random function <u>shallwill</u> win the contention. The advantage of this approach is that stations that lost contention <u>shallwill</u> defer again until after the next medium busy event, and will then likely have a shorter backoff delay than new stations entering the	Plenary Motion 8 Mar 96
57.	A.4.4 9.2.5.3	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	required to transmit the ACK frame plus a SIFS. Since this pending transmission is a retransmission attempt the CW <u>shall</u> will be increased (per the backoff rules). This process shall continue until the	Plenary Motion 8 Mar 96
58.	A.4.4 9.2.5.5	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	MSDU have been sent, an acknowledgment is not received, or the station is restricted from can not sending any additional fragments due to a dwell time boundary. Should the sending of the fragments be	Plenary Motion 8 Mar 96
59. 	A.4.4 9.2.5.5	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	When the source station releases the channel following its fragment, it shallwill immediately monitor the	Plenary Motion 8 Mar 96
<b>60.</b>	A.4.4 9.2.5.5	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	fragment and receive an acknowledgment due to an impending dwell boundary, it <u>shallwill</u> contend for	Plenary Motion 8 Mar 96
61.	A.4.4 9.2.5.5	db •	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	If the source station does not receive an acknowledgment frame, it <u>shallwill</u> attempt to retransmit according to the backoff algorithm. When the time arrives to retransmit the fragment, the source station <u>shallwill</u> contend for	Plenary Motion 8 Mar 96

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		10				access in the contention window.	
62.	A.4.4 9.2.5.5	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	After a station contends for the channel to retransmit a fragment of a MSDU, it <u>shallwill</u> start with the last fragment that was not acknowledged. The destination station will-receives the fragments in order (since the source sends them one at a time, in order). It is possible however, that the destination station may receive duplicate fragments. It shall be the responsibility of the receiving station to discard duplicate fragments. This <u>maywill</u> occur if the destination station sends an acknowledgment and the source does not receive it. The source <u>shallwill</u> retransmit the same fragment after executing the backoff algorithm and contending for the channel.	Plenary Motion 8 Mar 96
						A station <u>shall</u> will transmit after the SIFS only under the following conditions during a fragment burst:	
63.	A.4.4 9.2.5.5	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	If a multiple fragment MSDU does not require an acknowledgment (for example, a broadcast/multicast packet	Plenary Motion 8 Mar 96
					operational requirements.	transmitted by the Access Point), the source station <u>shallwill</u> transmit all fragments of the MSDU without releasing the channel, as long as there is	1
						enough time left in the dwell time. If there is not, the station <u>shallwill</u> transmit as many fragments as possible and recontend for the channel during	1

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<b>64.</b>	A.4.4 9.2.5.6	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	the next dwell time. The spacing between fragments of a broadcast/multicast frame shall be equal to the SIFS The following is a description of using RTS/CTS for the first fragment of a fragmented MSDU. RTS/CTS <u>maywill</u> also be used for retransmitted fragments if their size warrants it. The RTS/CTS frames define the	Plenary Motion 8 Mar 96
<b>65.</b>	A.4.4 9.2.5.6	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	Each frame contains information that defines the duration of the next transmission. The RTS <u>shallwill</u> update the NAV to indicate busy until the end of ACK 1. The CTS <u>shallwill</u> also update the NAV to indicate busy until the end of ACK 1. Both Fragment 1 and ACK 1 <u>shallwill</u> update the NAV to indicate busy until the end of ACK 2. This is done by using the duration field in the DATA and ACK frames. This <u>shallwill</u> continue until the last Fragment which has a duration of one ACK time plus one SIFS time and its ACK which <u>shallwill</u> have the duration set to zero. Each Fragment and ACK acts as a virtual RTS and CTS, therefore no RTS/CTS frame needs to be generated even though subsequent fragments are larger the aRTS_Threshold. In the case where an acknowledgment is not received by the source station, the NAV <u>shallwill</u> be marked busy for next frame exchange. This is the worst case situation. This is shown in <b>Error!</b> <b>Reference source not found.</b> . If the	Plenary Motion 8 Mar 96

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						acknowledgment is not sent by the destination station, stations that <u>mayean</u> only hear the destination station <u>shallwill</u> not update their NAV and be free to access the channel. All stations that hear the source <u>shallwill</u> be free to access the channel after the NAV from Frame 1 has expired.	
66.	A.4.4 9.2.7	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	the MPDU is directed to the AP. The Broadcast/Multicast message <u>shall</u> will be distributed into the BSS. The station originating the message <u>shall</u> will receive the message as a Broadcast/Multicast message. Therefore all stations <u>shall</u> must filter out Broadcast/Multicast messages which contain their address as the source address.	Plenary Motion 8 Mar 96
67.	A.4.4 9.2.9	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	sequence number and fragment number) field within Data and Management frames. MPDUs which are part of the same MSDU shall have the same sequence number, and different MSDUs <u>shall</u> will (with a high probability) have a different sequence number.	Plenary Motion 8 Mar 96
68.	A.4.4 9.2.9	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	There is the small possibility that a frame <u>maywill</u> be improperly rejected due to such a match; however, this occurrence would be rare and <del>will</del> simply results in a lost frame (similar to	Plenary Motion 8 Mar 96

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						an FCS error in Ethernet).	
<b>69.</b>	A.4.4 9.2.10	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	and the different MAC Slot Boundaries Tx_SIFS, Tx_PIFS and Tx_DIFS. These Slot Boundaries define when the transmitter <u>shallean</u> be turned on by the MAC to meet the different IFS timings on the medium,	Plenary Motion 8 Mar 96
70.	A.4.4 9.2.10	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The tolerances are specified in the MIB, and <u>shallwill</u> only apply to the SIFS specification, so that tolerances <u>shallwill</u> not accumulate.	Plenary Motion 8 Mar 96
71.   	A.4.4 9.3.1	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	delay. In the case of a busy medium due to DCF traffic, the beacon <u>shallwill</u> be delayed for the time required to complete the current DCF frame exchange. The longest delay <del>will</del> occur <u>s</u> <u>when</u> if the current frame exchange is an MSDU which is larger than both aRTS_Threshold and aFragment_Threshold. In	Plenary Motion 8 Mar 96
72.	A.4.4 9.3.3.1	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	A CF-Poll bit in the Subtype field of these frames <u>shall</u> will allow the stations to send their data frames if any. Stations shall respond to the CF-Poll immediately when a frame is queued, by sending this frame	Plenary Motion 8 Mar 96
73.	A.4.4 9.3.3.1	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	addressed to a different station than the one being acknowledged. This <u>shallean</u> only occur if the acknowledged frame/fragment was marked as last fragment in the frame control. CF- Aware stations that	Plenary Motion 8 Mar 96
74.	A.4.4	db	Т	Y	w/o the requested change the Draft is technically	A CF-Aware station shallmust respond	Plenary Motion 8 Mar 96

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	9.3.3.1				incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	to a CF-Poll. If the station has no frame to send when polled, the response shall be a Null frame. If the station has no frame to send when polled, but an acknowledgment is	
75.	A.4.4 9.4	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	is invoked for the MPDU If WEP is active for the MPDU, then the MPDU <u>shallwill</u> be expanded by IV and ICV (see clause <b>Error! Reference source</b> <b>not found.</b> ), this <u>mayean</u> result in a fragment larger than aFragmentation_Threshold.	Plenary Motion 8 Mar 96
76.	A.4.4 9.4	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	Since the control of the channel iswill be lost at a dwell time boundary and the station shallwill have to contend for the channel after the dwell boundary, it is required that the acknowledgment of a fragment be	Plenary Motion 8 Mar 96
77.	A.4.4 9.5	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	MSDU. Only the last or sole fragment of the MSDU <u>shallwill</u> have this bit set to zero. All other fragments of the MSDU <u>shallwill</u> have this bit set to one.	Plenary Motion 8 Mar 96   
78.	A.4.4 9.5	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The destination station <u>shallean</u> reconstruct the MSDU by combining the fragments in order of Fragment Number portion of the Sequence Control Field. If WEP has been applied to the fragment it shall be	Plenary Motion 8 Mar 96
79.	A.4.4 9.5	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey	not yet complete. As soon as the station receives the fragment with the More Fragments bit set to zero, the station	Plenary Motion 8 Mar 96

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					operational requirements.	knows that no more fragments <u>maywill</u> be received for the MSDU.	
<b>80.</b>   	A.4.4 9.5	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	To properly reassemble MPDUs into an MSDU, a destination station <u>shall</u> must discard any duplicated fragments received. If a station receives a fragment with the same Source, Destination, and Sequence Control Field as a previous fragment, then the station <u>shall</u> must discard the duplicate fragment. However an acknowledge <u>shallmust</u> be sent in response to a duplicate fragment of a directed MSDU.	Plenary Motion 8 Mar 96
81.	A.4.4 9.6	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The following set of rules <u>shall</u> must be followed by all the stations to ensure coexistence and interoperability on Multirate Capable PHYs. All Control Frames are transmitted at the aBSS_Basic_Rate_Set (which as specified before belongs to the ESS_BASIC_RATE) so they <u>shall</u> will be understood by all the stations in the ESS.	Plenary Motion 8 Mar 96
82.	A.4.4 10.2	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	This <u>shall</u> will be used to initialize the management entities, the MIBs and the datapath entities. It may include a list of parameters for items to be initialized to non-default values. The .confirm <u>shall</u> will indicate success or failure of	Plenary Motion 8 Mar 96

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						the request.	
83.	A.4.4 11.1.1.2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	Beacons and Probe Responses carry a TSF time element. A station receiving such a frame from another station in an IBSS with the same ESS ID <u>shallwill</u> compare the TSF time with its own TSF time. If the	Plenary Motion 8 Mar 96
84.	A.4.4 11.1.2.1	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	Beacons <u>shall</u> will be scheduled at the nominal beacon interval. This is shown in <b>Error! Reference source not</b> found.	Plenary Motion 8 Mar 96
85.	A.4.4 11.1.2.2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	The Beacon transmission <u>shall</u> will always occur during the Awake Period of stations that are operating in a low power mode. This is described in more detail in <u>??8.2</u> .	Plenary Motion 8 Mar 96
86.	A.4.4 11.1.5	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	Stations shall use their TSF timer to time the aCurrent_Dwell_Time. The aCurrent_Dwell_Time is the length of time that stations <u>shallwill</u> stay on each frequency in their hopping sequence. Once stations are synchronized, they have the same TSF timer value.	Plenary Motion 8 Mar 96
87.	A.4.4 11.2.1	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	(PS) shall transmit a short PS-Poll frame to the AP, which <u>shall</u> will respond with the corresponding	Plenary Motion 8 Mar 96
88.	A.4.4 11.2.1.1	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was	Power Save or PS	Plenary Motion 8 Mar 96

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						1	
					not used the draft does not corectly convey	Station listens to selected Beacons	
					operational requirements.	(based upon its aListen_Interval) and	
1						sends PS-Poll frames to the AP if the	
						TIM element in the most recent Beacon	
						indicates a directed MSDU buffered for	
						that station. The AP shallwill transmit	
- "I						buffered directed MSDUs to a PS	
						station only in response to a PS-Poll	
						from that station, or during the	
						contention free period in the case of a	
						CF-Aware PS station. In PS Mode, a	
1						station shall <del>will</del> be in the Doze state	
						and shall <del>will</del> enter the Awake state to	
1						receive selected Beacons, to received	
						broadcast and multicast transmissions	
						broadcast and multicast transmissions	
89.	A.4.4	db	T	Y	w/o the requested change the Draft is technically	The TIM shallwill identify the stations	Plenary Motion 8 Mar 96
0,11	11.2.1.2		-		incorrect - since approved "standard" language was	for which traffic is pending and	
	11.2.1.2				not used the draft does not corectly convey	buffered in the AP. This	
					operational requirements.		
90.	A.4.4	db	Т	Y	w/o the requested change the Draft is technically	SID of CF-Aware stations. A CF-	Plenary Motion 8 Mar 96
201	11.2.1.5	u.,	-		incorrect - since approved "standard" language was	Aware station for which the TIM	
	11141110				not used the draft does not corectly convey	element of the most recent Beacon	
					operational requirements.	indicated buffered MSDUs or	
1					operational requirements.	management frames shallmust be in the	
54.S						Awake state at least until the receipt of	
	1					a directed frame from the AP in which	
						the Frame	
91.	A.4.4	db	T	Y	w/o the requested change the Draft is technically	stations are awake. The announcement	Plenary Motion 8 Mar 96
×1.	11.2.2.1	u.			incorrect - since approved "standard" language was	is done via an Ad Hoc Traffic	renary mouth o mar 70
	11.4.4.1				not used the draft does not corectly convey	Indication Message (ATIM). A power	
					operational requirements.	conserving station listens for these	
						announcements to determine if its	
1						receiver <u>shallmust</u> be left on.	
						receiver <u>sman</u> must be left on.	
ļ						When a MSDU is to be transmitted to a	

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						Save (PS) mode, the transmitting	
						station first transmits an ATIM frame	
						during the ATIM Window, in which all	
						the stations including those operating in	
						a Power Save (PS) mode are awake.	
						The ATIM Window is defined as a	
						specific period of time following a	5
						beacon during which only ATIM	
						frames mayean be transmitted. ATIMs	
						are randomized after the beacon using	
						the backoff procedure. ATIMs are	
						acknowledged. If a station receives an	
						ATIM frame during the ATIM	
						Window, it shallwill acknowledge the	
						ATIM and stay awake for the entire	
						Beacon Interval waiting for the	
						announced MSDU(s) to be received. If	
						a Station does not receive an ATIM, it	
						mayean go back to PS Mode after the	
						end of the ATIM Window. MSDUs	
						announced by ATIMs are randomized	
						after the ATIM Window using the	
						backoff procedure. If a station	
						transmitting the ATIM does not receive	
						an acknowledgment, the station	
						shallwill execute the backoff procedure	1
						for retransmission of the ATIM.	
						It is possible that an ATIM mayean be	1
						received from more that one station and	1.0
						that a station that receives an ATIM	
						may receive more than a single MSDU	
						from the transmitting station. ATIM	
						frames are only	
92.	A.4.4	db	Т	Y	w/o the requested change the Draft is technically	An ATIM shallwill have a destination	Plenary Motion 8 Mar 96
	11.2.2.1				incorrect - since approved "standard" language was	address of broadcast/multicast for	- I
					not used the draft does not corectly convey	broadcast/multicast MSDUs. All	
					operational requirements.	stations shallwill remain awake if they	

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						receive an ATIM with a broadcast/multicast destination address.	
93.	A.4.4 11.4.4.1 .20	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	"This attribute defines the maximum time, in kmicroseconds, that a station <u>shallwill</u> remain on a single channel during a passive scan of that channel. The default value of this attribute shall be	Plenary Motion 8 Mar 96
94.	A.4.4 11.4.4.1 .27	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	"This attribute defines the period of time, in microseconds, after a target beacon transmission time in an IBSS during which stations buffering frames for Power Save mode stations <u>shall</u> will attempt to notify those stations by transmitting an ATIM frame. The ATIM window begins at the	Plenary Motion 8 Mar 96
95.	A.4.4 11.4.4.2 .2	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	"A set of MAC_Addresses identifying the multicast addresses for which this station <u>maywill</u> receive frames. The default value of this attribute shall be null."	Plenary Motion 8 Mar 96
<b>96.</b>   	A.4.4 11.4.4.2 .24	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	"This attribute indicates the number of bytes in an MPDU, below which an RTS/CTS handshake <u>shall</u> will not be performed. An RTS/CTS handshake shall be performed for all frames where the length of the MPDU is equal to or larger than this threshold. Setting this attribute to be larger than the maximum MSDU size <u>shall</u> will have the effect of turning off the RTS/CTS handshake for frames transmitted by this station. Setting this attribute to zero <u>shall</u> will have the effect of turning on the	Plenary Motion 8 Mar 96

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						RTS/CTS handshake for all MPDUs for frames transmitted by this station. The default value of this	
97.	A.4.4 11.4.2 .30	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	"This attribute specifies the length of time, in microseconds, in which an ACK frame <u>maywill</u> be received in response to transmission of a frame which requires acknowledgment, timed from receipt	Plenary Motion 8 Mar 96
98.	A.4.4 11.4.4.2 .31	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	"This attribute indicates the maximum number of transmission attempts of a frame, the length of which is less than or equal to aFragmentation_Threshold, that <u>shallwill</u> be made before a failure condition is indicated. The default value of this attribute shall be 5.";	Plenary Motion 8 Mar 96
99.	A.4.4 11.4.4.2 .32	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	"This attribute indicates the maximum number of transmission attempts of a frame, the length of which is greater than aFragmentation_Threshold, that <u>shallwill</u> be made before a failure condition is indicated. The default value of this attribute shall be 7.";	Plenary Motion 8 Mar 96
100.	A.4.4 11.4.4.2 .33	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	"This attribute specifies the maximum MSDU length that <u>shallwill</u> be accepted for transmission. The value of this attribute shall be 2304 octets.";	Plenary Motion 8 Mar 96
101.	A.4.4 11.4.4.2 .34	db	Τ	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	"This attribute specifies the current maximum size, in octets, of the MPDU that <u>maywill</u> be delivered to the PHY. An MSDU <u>shall</u> will be broken into	Plenary Motion 8 Mar 96

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102.	A.4.4 11.4.5.2 .2	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	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 Add_Group_Address action shall add the specified group address to the list of group addresses that <u>shallwill</u> be accepted by the station.";	Plenary Motion 8 Mar 96
<b>103.</b>	A.4.4 11.4.5.2 .3	db	T	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	"The Delete_Group_Address action shall remove the specified group address from the list of group addresses that <u>shallwill</u> be accepted by the station.";	Plenary Motion 8 Mar 96
104.	A.4.4	db	Т	Y	The MAC pics section is missing huge pieces, in particular it has no references to any of clauses 5 or 6.	Fill out MAC pics section to include contents of clauses 5 and 6.	
105.	A4.4 5.1.1.3	db	Т	Y	w/o the requested change the Draft is technically incorrect - since approved "standard" language was not used the draft does not corectly convey operational requirements.	Another aspect of mobile stations is that they <u>maywill</u> often be battery powered and hence power management is an important consideration. For example, it cannot be presumed that a station's receiver	Plenary Motion 8 Mar 96
106.	A4.4	db	Τ	Y	The MAC Pics is not consistant with the rest of the draft. Many of my LB comments are the result of cross checking and correcting the use of "must", "will" etc to "shall" - this means that the pics annex is missing required information.	Correct A.4.4 to include all examples of missing "shall" and "shall not" noted in my other LB comments. Cross check all clauses for use of "shall" against the pics section - every shall in a draft clause must be reflected in a line of the pics.	
107.	All	vh	Е		The document is not consistent in the unit of the data rate. Although IEEE still uses the unit Mbps, ISO and the ITU consistently use Mbit/s (and I agree with this unit). As we want to have the ISO adopt our standard, IEEE agrees with the use of the unit Mbit/s	Use thriughout the document the unit Mbit/s instead of Mbps (clause 14.3.3.1.1). Mb/s (clause 14.7.2) , Mbit/sec (table 40)	
108.	All	VZ	E		Use the x for multiplication rather than an asterisk. See		

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				r			
100					page 250.		
109.	Annex	VZ	E		Please add an informative annex titled "Bibliography" and include all items such as the book by Bruce Schneier mentioned in the footnote on page 62. Also include any other documents mentioned in the text that do not appear in the references clause, such as Document FCC 15.247, ETS 300-328 (from page 217), ANSI C95.1-1991 (from page 202), IEC 825-1 and ANSI Z136.1 on page 252, etc.		
110.	Annex	vz	Е		Tables and figures that appear in annexes use their own numbering scheme, for example, figure B.1, figure B.2, figure C.1, etc.		
111.	Annex A	vz	E		Add the following footnote to the PICS proforma in annex A: Copyright release for PICS proformas: Users of this standard may freely reproduce the PICS proforma in this annex so that it can be used for its intended purpose and may further publish the completed PICS.		
112.	Annex A	mif	t	Y	The MAC PICS Proforma has inadequate coverage of the point coordination function, and certain other aspects of the MAC frame exchange sequences. This needs to be corrected to reduce the probability of non-interoperable, but allegedly conformat implementations.	A list of items needing coverage will be brought to the March meeting. In keeping with the Email from Simon Black which acknowledged some of the shortcomings of the D3.0 MAC PICS Proforma, and the statement that he would bring an updated version to the meeting, specific text changes are not included here. I will be available to participate in the update of the MAC PICS Proforma to improve PCF and frame sequence coverage during the March meeting.	
113.	Annex C	mif	t	Y	The MAC State Machines are inconsistent with the recent updates to the MAC, and had some errors and omissions at the time of their insertion. Document 96/002 contains an update that the author believes is consistent with the D3.0 text and takes D2.1 LB comments on the state	Replace Annex C with the material from document 96/002.	

Ballot on D3.0, comment on first clauses, annexes and general comments R5 28

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					machines into account to the extent they are still relevant with other changes leading to D3.0.		
114.	Artwor k	VZ	E		Attempt to use the same font size in your artwork. The preferred font and size is Helvetica 8 pt. Smaller font sizes may become illegible when copied. For example, figure 66 on page 182 is unacceptable. Also, figure 68 on page 185, and figure 71 on page 188. Figure 74 on page 201 is much too large and bold. Use shading carefullyfigure 85 has an illegible block of text due to the shading (see page 232). Figure 90 on page 249 is too large and bold. Font size on figure 92, page 260, is too small.		
115.	Foreword	RM	e		The list of present and past voting members seems short. At one time, voting membership exceeded 100?		
116.	Forewor d	BO	Т	Y	No credit is given to subgroup chairs. These folks did a tremendous amount of work and deserve credit.	Add Dave Bagby, Dean Kawaguchi, Larry Van Der Jaqt	Resloved by Plenary action Monday Mar '96 mtg.
117.	Forewor d	во	Т	Y	If the editors of the individual PHY clauses desrve an "*", each of the clause editors for the remainder of the document deserve credit.	Add "*" to Tom Baumgartner, Dave Bagby, Carolyn Heide, Simon Black, Tom Siep or remove "*" from Dean Kawaguchi, Ed Geiger, Jim Renfro, Mike Trompower	Resloved by Plenary action Monday Mar '96 mtg.
118.	Forwor d	vh	Ε		The title of the voters-list does not match, the title explains that old voters were in the list, which was not true, further details of activities is needed	Keep the list as of the time the draft is aproved for submission to Sponsor ballot and announce that in the title. Start list with current 802.11 chair, MAC group chair and Phy group chair, followed by the names of the two main editors. Mark in the list with voters, the subgroup chairs and subgroup editors at the time of submission to Sponsor Ballot.	Resloved by Plenary action Monday Mar '96 mtg.
119.	Genera 1	јус			<ul> <li>There many mistakes and ommissions in this draft as it stands. Without going through all, but to cite a few examples:-</li> <li>1. Simon Black indicated 3 items in the MAC PICs</li> <li>2. Naftali Chayat indicated Hop sequence formula errors</li> </ul>		No action taken - none requested in comment and the comment was not marked for category, assumed editorial and the general examples cited have been improved during Mar 96 mtg.

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					3. Bob Ohara has submitted a number of editorial changes.		Author is requested to be more specific with future reviews as this would make it much easier to understand what is desired.
120.	Genera l 14.6.13, 14.6.14. 5	vh	Е		Scrutinize the whole document on units. In 14.6.13, I found usec in stead of µs and in 14.5.14.5 Khz in stead of kHz		to understand what is desired.
121.	General	cr	?	y	See comment on previous ballot	see comment previous ballot	
122.	Genera	vh	Т	у	<ul> <li>The PAR requires:</li> <li>A minimally conformant IEEE P802.11 network will meet all of the P802 requirements except that 5.6.1 will be met at least 99.9 % of the time on a daily basis, in 99.9 % of the total geography of the service area.</li> <li>IEEE P802.11 will define approaches to allow a minimally conformant network to achieve full conformance over the total geography of the service area.</li> <li>I have not found anywhere in the standard a place where the minimally conformant network has been defined.</li> </ul>	<ol> <li>A minimally conformant network consist of a set of two stations, separated by 20 m(eter) in an environment that shows a delay spread of (@@ to be defined) and having interference from another station, using the same PHY and the same frequency/sequence, placed 25 m from both stations (this station to transmit with the same power as the other two stations) and an interferer that generates a 1 kHz signal in the middle of the band with an equivalent distance/power density so that the receiving station receives a signal of (@@ to be defined).</li> <li>To achieve full conformance, an implementation needs to add additional antennas at @@ cm or a dual station implementation with the antennas separated by @@ cm.</li> </ol>	
123.	Genera	vh	Т	у	The Wireless MAC shall support both connectionless		

Ballot on D3.0, comment on first clauses, annexes and general comments R5

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	1				service as defined in the MAC Service definition at rates between 1 and 20 Mbit/s as well as a service supporting packetized voice.		
124.	Genera l 3.x 4.x 5.x 7.x 9.x 11.x prob others.	db	T	Y	<ul> <li>In my D1 LB comments I wrote up the history and politics that lead to the current broken multi-rate mechanism. Those comments are hereby included in these D3 letter ballot comments by explicit reference.</li> <li>In my D2 LB comments I wrote up more of the problems associated with the multi-rate mechanism. I hereby include those comments in these D3 letter ballot comments by explicit reference.</li> <li>During the January 1996 802.11 meeting it was acknowleedged by the 802.11 plenary session that there are known problems with the multi-rate mechanism: only two people voted in a straw poll that there were no problems (reference official minuites of the mtg), further a motion was placed in front of the group asking them to either correct the problems or remove the deficient mechanism from the draft (motion #1) - the 802.11 group has declined to do either on a vote of 5 approving, 16 opposing, 2 abstaining.</li> </ul>	Either correct ALL known and/or acknowledged deficiencies associated with the D3 multirate mechanism or remove the flawed multi-rate "feature" from the draft entirely.	
					<ul> <li>This is clearly a vote to leave the mecahanism broken.</li> <li>This is unacceptable, unprofessional behavior in the opinion of this 802.11 voting member.</li> <li>Until the group resolves this issue in a manner satisfactory to this reviewer, my vote on forwarding the Draft to sponser ballot shall remain "NO". Unless some resolution is reached, I anticipate carrying this issue to both the executive cmtee and to the sponser ballot group (as part of the NO votes that must be presented along with the sponser ballot if the draft is forwarded with any unresolved No votes).</li> </ul>		

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125.	Global	vz	Е		Do not use boldface for emphasis within the text. Use quotation marks or italics, as necessary, but do not overuse.		
126.	global	maf	E	Y		CFP-Rate should be changed to CFP-interval	
127.	global	maf	t	Y	$k = x \ 1000$ $K = x \ 1024$	all references that use "k" for meaning multiply by 1024 should be changed to "K" (case is VERY important here)	
128.	title	vz	E		On the title page and on the header that appears on each page, header is incorrect	Put the full title, "IEEE P802.11, Draft Standard for Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specification"	6

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