

Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >	
Title	802.16.1 Comments Resolved at Session #9	
Date Submitted	2000-09-27	
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Re:	This document is output from 802.16.1 comment resolution at 802.16 Session #9.	
Abstract	<p>Comments were collected against the 802.16.1 Air Interface working document (IEEE 802.16.1-00/01r2 <http://ieee802.org/16/tg1/docs/802161-00_01r2.pdf>) as input to Session #9. This is a report of how comments were resolved at Session #9.</p> <p>Page 1: Comments sorted by commentor name</p> <p>Page 33: Comments sorted by page number</p>	
Purpose	Commentors can use this report to verify how their comments were resolved. The report also serves as a written record for future reference. Note that the meeting minutes should also be consulted to find exactly how comments were amended and other document-revision-oriented proceedings.	
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802.16.1 Comments Resolved at Session #9

Phil Guillemette, Spacebridge

Jeff Foerster, Intel

Brian Petry, 3Com

- 1 Sorted by Commentor Name.....1
- 2 Sorted by Page #/Line #.....33

1 Sorted by Commentor Name

<p>Page/Line: 81 /2 Item Number: 152</p> <p>Description: Make "PCD Count" typesetted in bold face</p> <p>Notes: OK</p>	<p>Commentor Name: Choi Hoon</p> <p>Reason: To fix a typo in draft #1</p>	<p>Type: Editorial</p> <p>Resolution: accepted</p>
<p>Page/Line: 81 /7 Item Number: 153</p> <p>Description: Insert "of" between "Number" and "Elements"</p> <p>Notes: OK</p>	<p>Commentor Name: Choi Hoon</p> <p>Reason: To fix a typo in draft #1</p>	<p>Type: Editorial</p> <p>Resolution: accepted</p>
<p>Page/Line: 110 /51 Item Number: 183</p> <p>Description: It is written as "transmission timings are linked via the Upstream TimeStamp within the DS-MAP and the US-MAP messages." But no messages such as DS-MAP or US-MAP message have been defined in the draft. Instead of adding DS-MAP and US-MAP messages, we can use already defined messages with similar function. Downstream and upstream information can be transmitted to CPEs periodically via Downstream Channel Descriptor message and Upstream Channel Descriptor message, respectively. Considering these messages don't have "Upstream TimeStamp" but have other timing information, new text can be "transmission timings are linked via the timing information within the Downstream Channel Descriptor and the Upstream Channel Descriptor messages."</p> <p>Notes: DS-MAP --> DL-MAP and US-MAP --> UL-MAP. Upstream TimeStamp --> Uplink TimeStamp. "...and the Allocation Start Time in the UL-MAP</p>	<p>Commentor Name: Choi Hoon</p> <p>Reason: To correct use of undefined messages in draft #1</p>	<p>Type: Technical</p> <p>Resolution: accepted-modified</p>
<p>Page/Line: 112 /46 Item Number: 192</p> <p>Description: Insert a space in a word "processby" to make "process by"</p> <p>Notes: OK</p>	<p>Commentor Name: Choi Hoon</p> <p>Reason: To fix a typo in draft #1</p>	<p>Type: Editorial</p> <p>Resolution: accepted</p>
<p>Page/Line: 121 /26 Item Number: 207</p> <p>Description: It is written as "The BS may allow collisions on either Requests or Data PDUs". Based on the current media access control of the draft, the Data PDUs are always transmitted via data slot without collision once they are granted a bandwidth for data. Therefore the new text should be "The BS may allow collisions on Requests PDUs only."</p> <p>Notes: Conflicts with previous commen.</p>	<p>Commentor Name: Choi Hoon</p> <p>Reason: To delete a misleading description in draft #1</p>	<p>Type: Technical</p> <p>Resolution: accepted-duplicate</p>
<p>Page/Line: 122 /57 Item Number: 208</p> <p>Description: Since the acronym "MSAP" is used in the draft, it seems better to add it in section 1.3. "MSAP MAC Service Access Point"</p> <p>Notes: OK; already done</p>	<p>Commentor Name: Choi Hoon</p> <p>Reason: To fix a typo in draft #1</p>	<p>Type: Editorial</p> <p>Resolution: accepted</p>
<p>Page/Line: 123 /31 Item Number: 210</p> <p>Description: In the entry of the third row, fourth column of the Table 16, it is written that Polling is not allowed for UGS-AD service flow type. But, periodic unicast polling is performed for the UGS-AD service type when the flow is inactive, as mentioned in section 2.9.3. Therefore the entry should be written as</p>	<p>Commentor Name: Choi Hoon</p> <p>Reason: To fix a typo in draft #1</p>	<p>Type: Editorial</p> <p>Resolution: accepted</p>

"Unicast polling is allowed when the flow is inactive".

Notes: OK

Page/Line: 123 /64 **Item Number:** 211
Description:
 "Piggy-back requests may be used to request additional bandwidth for a different connection using the Bandwidth Request Header."
 This is true only in the GPT mode because there is no way in the GPC mode to specify the ID of the connection for which this additional bandwidth request is made.
 Therefore it may be better to write as
 "Piggy-back requests may be used in the GPT mode to request additional bandwidth for a different connection using the Bandwidth Request Header."

Another solution may be to add Piggyback CID (PCID) field(2 octets) right after Grant Management field and before HCS field in the generic MAC header(Figure 13). Then the piggy-back requests may be used for both the GPT and GPC modes. This gives a new capability to the GPC mode, and it also makes the GPT mode more flexible to select either piggybacking or bandwidth stealing for the same purpose.

Notes: OK

Page/Line: 124 /9 **Item Number:** 212
Description:
 "The Bandwidth Management fields in the Generic MAC Header..." must be read as
 "The Grant Management fields in the Generic MAC Header..." as defined in the generic MAC header(Figure 13).

Notes:

Page/Line: 126 /31 **Item Number:** 214
Description:
 The word "CPE" in "The number of bytes requested shall be the total number that are desired by the CPE at the time of the request..." must be read as "connection" because the bandwidth is requested on a connection basis in either the GPT or GPC mode.

Notes: OK, changed "CPE" to "CPE for the connection"

Page/Line: 134 /53 **Item Number:** 225
Description:
 Insert a section explaining the definition and usage of the piggy-backing and bandwidth stealing.

Notes: No text supplied

Page/Line: 156 /8 **Item Number:** 239
Description:
 Font size of this line is smaller than other lines.

Notes: OK

Page/Line: 159 /54 **Item Number:** 240
Description:
 "Figure 5-43" must be read as "Figure 79"

Notes: OK

Page/Line: 160 /50 **Item Number:** 241
Description:
 "Bss" should be typesetted as "BSs"

Notes: OK

Page/Line: 162 /17 **Item Number:** 242
Description:
 "It useful" must be read as "It is useful"

Notes: OK

Page/Line: 164 /26 **Item Number:** 243
Description:
 Delete an extra period at the end of the line.

Notes: OK

Page/Line: 165 /56 **Item Number:** 247
Description:
 The word "modem" should be read as "CPE".

Notes: OK, changed globally in MAC.

Page/Line: 166 /2 **Item Number:** 248
Description:
 The reference number "2.13.8.4.1" should be read as "2.13.8.3.1".

Commentor Name: Choi Hoon **Type:** Editorial
Reason: To add additional information for better understanding.
Resolution: accepted

Commentor Name: Choi Hoon **Type:** Editorial
Reason: To fix a typo in draft #1.
Resolution: accepted

Commentor Name: Choi Hoon **Type:** Editorial
Reason: To fix a typo in draft #1.
Resolution: accepted

Commentor Name: Choi Hoon **Type:** Editorial
Reason: For better understanding of draft #1.
Resolution: rejected

Commentor Name: Choi Hoon **Type:** Editorial
Reason: To fix a typo in draft #1
Resolution: accepted

Commentor Name: Choi Hoon **Type:** Editorial
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Resolution: accepted

Commentor Name: Choi Hoon **Type:** Editorial
Reason: To fix a typo in draft #1
Resolution: accepted

Notes: OK

<p>Page/Line: 166 /31 Item Number: 249 Description: The reference number "2.13.8.4.2" should be read as "2.13.8.3". Notes: OK</p>	<p>Commentor Name: Choi Hoon Reason: To fix a typo in draft #1 Resolution: accepted</p>	<p>Type: Editorial</p>
<p>Page/Line: 167 /3 Item Number: 250 Description: The word "subse" should be read as "subset". Notes: OK</p>	<p>Commentor Name: Choi Hoon Reason: To fix a typo in draft #1 Resolution: accepted</p>	<p>Type: Editorial</p>
<p>Page/Line: 168 /15 Item Number: 251 Description: "the purpose..." should be typesetted as "The purpose...". Notes: OK</p>	<p>Commentor Name: Choi Hoon Reason: To fix a typo in draft #1 Resolution: accepted</p>	<p>Type: Editorial</p>
<p>Page/Line: 169 /8 Item Number: 252 Description: The character " " at the end of the line should be read as " : ". Notes: OK</p>	<p>Commentor Name: Choi Hoon Reason: To fix a typo in draft #1 Resolution: accepted</p>	<p>Type: Editorial</p>
<p>Page/Line: 177 /29 Item Number: 253 Description: "If the CPE checks that it can support the service and responds using ..." should be read as "If the CPE checks that it can support the service, it responds using ...". Notes: OK</p>	<p>Commentor Name: Choi Hoon Reason: To fix a typo in draft #1 Resolution: accepted</p>	<p>Type: Editorial</p>
<p>Page/Line: 180 /41 Item Number: 255 Description: Figure 92 is duplicated with Figure 91, so it must be deleted. Notes: Done.</p>	<p>Commentor Name: Choi Hoon Reason: To fix a typo in draft #1 Resolution: accepted</p>	<p>Type: Editorial</p>
<p>Page/Line: 204 /42 Item Number: 256 Description: A Figure of SDL for "DSD-Remote Holding Down" is missing. Figure 5-106 of IEEE 802.16.1mc-00/14r0 can be included for this figure as Figure 114 of the draft #1. Notes: Can't copy diagram from Acrobat version. Glen: can you supply it in FM?</p>	<p>Commentor Name: Choi Hoon Reason: To fix a typo in draft #1 Resolution: accepted</p>	<p>Type: Editorial</p>
<p>Page/Line: 3 /38 Item Number: 9 Description: The usage of Physical Channel Descriptor message from the previous documents has been changed into Downlink and Uplink Channel Descriptor messages in the current draft. All three messages instead of just the Downlink and Uplink Channel Descriptor messages are used in the current draft. This has made this draft difficult to read and understand. Sections 2.11.2 and sections 2.11.3 are examples of this problem. The editors should revise the draft so that only the Uplink and Downlink Channel Descriptor messages are used. Notes: OK. Treat as editorial.</p>	<p>Commentor Name: CondieMary Reason: To improve readability of the document. Resolution: accepted-duplicate</p>	<p>Type: Editorial</p>
<p>Page/Line: 26 /18 Item Number: 55 Description: Change "service class" to "service flow reference"</p>	<p>Commentor Name: CondieMary Reason: The SAP or MAC layer has no knowledge of the QoS parameters associated with a particular ATM VPI/VCI or IP address and therefore cannot select a particular connection id. Service class cannot be used because there may be multiple connections with the same service class. A combination of VPI/VCI and service class could be used to select a conn id but this means that the SAP would need to be configured with this information and there are no primitives defined to do this. In addition the service class would need to be parsed in real time and it is ASCII text. Similar problems exist for IP primitives. This change suggests used the service flow reference as the item for mapping. The service flow reference is in the config file and may be used for more detailed configuration to map customers/QoS to connection ids. The convergence layer would retain a service flow reference to connection id mapping. This avoids the need of the application layer from knowing the connection id, and also means that management primitives for static configurations are not required. However we believe that management primitives should be provided to allow application layers to create connections dynamically. The MAC provides this mechanism but there is no way for applications to activate it. Use of the service flow reference for this purpose is just one way this can be done. Contributions in this area and for dynamically creating</p>	<p>Type: Technical</p>

connections should be solicited.

Notes: OK

Page/Line: 27 /19 **Item Number:** 56

Description:

Delete the "encryption flag" parameter from the list.

Notes: OK

Page/Line: 29 /45 **Item Number:** 58

Description:

The contents from Section 5.3.1.2 of document 802.16.1.mc-00/14r1, dated April 14, 2000, should be inserted and modified appropriately.

Notes: text will be modified prior to resolving this comment. Glen Sater and Ken Stanwood will address the word smithing.

Page/Line: 30 /40 **Item Number:** 62

Description:

Change the phrase "64K connections within the sector" to "64K connections within the downstream channel".

Notes: OK

Page/Line: 32 /23 **Item Number:** 70

Description:

Change "DS-MAP" to "DL-MAP" in this line and also all other occurrences in the document.

Notes: OK

Page/Line: 34 /48 **Item Number:** 72

Description:

Change "center frequency" to "center radio frequency".

Notes: OK

Page/Line: 36 /10 **Item Number:** 83

Description:

This parameter should be deleted.

Notes: OK

Page/Line: 36 /46 **Item Number:** 88

Description:

The IP Address should be specified as 4 or 16 octets in length.

Notes: OK, same as previous.

Page/Line: 43 /23 **Item Number:** 93

Description:

Insert "See section 2.5.5.3 for encoding information."

Notes: Section 2.5.5.3 does not exist. Any suggestions?

Page/Line: 43 /37 **Item Number:** 94

Description:

Insert "See section 2.5.5.3 for encoding information."

Notes: Section 2.5.5.3 does not exist.

Page/Line: 43 /56 **Item Number:** 95

Description:

Change "the Service Flow Reference shall no longer be used" to "the Service Flow Reference shall no longer be used by the MAC. However it is used between the Application Convergence layers and the SAP to map data to connection ids."

Notes: Deferred pending inputs from a call for contributions regarding the convergence layer definitions.

Page/Line: 55 /18 **Item Number:** 111

Description:

48 bit MAC address conflicts with the requirements in rest of the document. (See page 84, line 30)

Does the CPE require 2 addresses - one 48 bit and one 64 bit?

Notes: Done already.

Page/Line: 57 /42 **Item Number:** 112

Description:

Change "TFTP Server Provisioned Modem Address" to "TFTP Server Provisioned CPE Address" and all other occurrences in the document.

Notes: OK

Commentor Name: CondieMary **Type:** Technical

Reason: **Resolution:** accepted

This parameter is not needed in this direction because the data has already been decrypted.

Commentor Name: CondieMary **Type:** Technical

Reason: **Resolution:** unresolved

The section 5.3.1.2 defines the concept of Service flows, frames and encoding of the data. This information appears to have been lost during the document edits. Insertion of this section will vastly improve the readability of the draft.

Commentor Name: CondieMary **Type:** Technical

Reason: **Resolution:** accepted

Connection ID should be local to a channel to allow simplified base station assignment of it. Since a CPE may only use 1 downstream channel, there is no ambiguity.

Commentor Name: CondieMary **Type:** Editorial

Reason: **Resolution:** accepted

To be consistent in the naming convention.

Commentor Name: CondieMary **Type:** Editorial

Reason: **Resolution:** accepted

To remove possible ambiguity with intermediate frequency.

Commentor Name: CondieMary **Type:** Technical

Reason: **Resolution:** accepted

There is no way that the CPE can know the number of subscribers since they may be hidden behind other devices such as routers.

Commentor Name: CondieMary **Type:** Technical

Reason: **Resolution:** accepted

To Support IP Version 6 protocol. The type of address may be determined from the length.

Commentor Name: CondieMary **Type:** Editorial

Reason: **Resolution:** accepted

To improve readability of document.

Commentor Name: CondieMary **Type:** Editorial

Reason: **Resolution:** accepted

To improve readability of document.

Commentor Name: CondieMary **Type:** Technical

Reason: **Resolution:** unresolved

The current convergence layer primitives are insufficient to allow for mapping of data to connections. Use of the service flow reference for this is just one way to do this. We should request contributions in this area.

Commentor Name: CondieMary **Type:** Technical

Reason: **Resolution:** rejected

To keep the requirements consistent throughout the standard.

Commentor Name: CondieMary **Type:** Editorial

Reason: **Resolution:** accepted

To accurately reflect the name of the network element.

Page/Line: 84 /22	Item Number: 159	Commentor Name: CondieMary	Type: Editorial
Description: Change the name "IUC Type" to "Modulation Type".		Reason: To avoid confusion and be consistent with the terminology.	Resolution: accepted-modified
Notes: see 158			
Page/Line: 84 /49	Item Number: 162	Commentor Name: CondieMary	Type: Editorial
Description: Change the name "IUC Type" to "Modulation Type".		Reason: To avoid confusion and be consistent with the terminology.	Resolution: accepted-duplicate
Notes: see 158			
Page/Line: 90 /54	Item Number: 172	Commentor Name: CondieMary	Type: Editorial
Description: Change "TFTP Server Provisioned Modem address" to "TFTP Server provisioned CPE address".		Reason: TFTP server provides the CPE address and not the modem address.	Resolution: accepted
Notes: OK. Global change of "modem" to CPE made within MAC section			
Page/Line: 110 /51	Item Number: 184	Commentor Name: CondieMary	Type: Editorial
Description: Change "US-MAP" to "UL-MAP" in this line and also all other occurrences in the document.		Reason: To be consistent in the naming convention.	Resolution: accepted
Notes: OK			
Page/Line: 110 /58	Item Number: 185	Commentor Name: CondieMary	Type: Technical
Description: Change the sentence "Each uses a frame.....of 1 millisecond" to "Each uses a frame duration as specified in section 3.3.1".		Reason: To align the MAC and PHY sections of the standard. In the PHY section the frame time is not fixed.	Resolution: accepted-modified
Notes: Also, delete paragraph beginning on page 111, line 1. Remove the "1 msec" on page 117, line 37. Better change the reference to 1ms in Figure 50 as			
Page/Line: 110 /62	Item Number: 187	Commentor Name: CondieMary	Type: Technical
Description: Change "the whole 1 millisecond frame" to "the whole frame".		Reason: To align the MAC and PHY sections of the standard. In the PHY section the frame time is not fixed.	Resolution: accepted
Notes: OK; done as part of an earlier change.			
Page/Line: 111 /8	Item Number: 189	Commentor Name: CondieMary	Type: Technical
Description: Change "which has a length of 4 modulation symbols each" to "which is a multiple of 4 modulation symbols each".		Reason: To align the MAC and PHY sections of the standard.	Resolution: rejected
Notes: PHY group shall define the PS to be 4 symbols in length.			
Page/Line: 111 /9	Item Number: 190	Commentor Name: CondieMary	Type: Technical
Description: Change the sentence "The number of PHY slots with each 1 mSec frame is arate" to "The number of PHY slots with each frame is arate".		Reason: To align the MAC and PHY sections of the standard.	Resolution: accepted-duplicate
Notes: OK			
Page/Line: 118 /42	Item Number: 199	Commentor Name: CondieMary	Type: Editorial
Description: Change "The request IE provides an upstream interval transmission" to "Via the Request IE the Base Station specifies an upstream interval transmission".		Reason: To accurately describe the purpose of an IE and improve readability.	Resolution: accepted
Notes: OK			
Page/Line: 118 /57	Item Number: 200	Commentor Name: CondieMary	Type: Editorial
Description: Change "The Initial Maintenance IE provides an interval network" to "Via the Initial Maintenance IE the Base Station specifies an interval network".		Reason: To accurately describe the purpose of an IE and improve readability.	Resolution: accepted
Notes: OK			
Page/Line: 119 /3	Item Number: 201	Commentor Name: CondieMary	Type: Editorial
Description: Change "The Station Maintenance IE provides an interval adjustment" to "Via the Station Maintenance IE the Base Station specifies an interval adjustment".		Reason: To accurately describe the purpose of an IE and improve readability.	Resolution: accepted
Notes: OK			
Page/Line: 142 /42	Item Number: 229	Commentor Name: CondieMary	Type: Technical
Description: CPE should not increase power if a collision has occurred.		Reason: Collisions during network entry, which may commonly occur after a local power failure, may cause a CPE to adjust its power to too high a level. This may result in interference and an unstable network. Possible solutions to alleviate this problem are:	Resolution: accepted-modified
<ul style="list-style-type: none"> - implementation of collision detection mechanism at the base station and an appropriate collision feed back mechanism . - to have base station transmit its actual transmit power in a message to CPE so that the CPE can determine maximum power to use. 			

- configure CPE with maximum transmit power (This is undesirable as it will add configuration to CPE).

In order to have a best possible solution in the standard, contributions should be invited to address this issue.

Notes: Consensus is for several retries with window backoff prior to raising power. Figure 67 must be updated to reflect this. Jim will update figure.

Page/Line: 144 /20	Item Number: 230	Commentor Name: CondieMary	Type: Editorial
Description: Change "CM" to "CPE".		Reason: To correct a typo.	Resolution: accepted
Notes: OK			
Page/Line: 148 /42	Item Number: 233	Commentor Name: CondieMary	Type: Technical
Description: After the "operational" state the CPE should not go into "Reg-Rsp" input state.		Reason: The CPE should not receive multiple Reg-Rsp. However if it is possible that the CPE can receive multiple Reg-Rsp due to glare/error scenarios then the CPE should verify the validity of the most recent reg-rsp with the data previously received. The text should also be updated to reflect this.	Resolution: accepted
Notes: Glen will supply a modified version of the diagram to replace figure 71.			
Page/Line: 150 /23	Item Number: 234	Commentor Name: CondieMary	Type: Editorial
Description: Change "TFTP Server IP" to "TFTP Server Provisioned Modem Address".		Reason: To make state diagrams consistent with the text description.	Resolution: accepted
Notes: "Modem" now replaced by "CPE"; diamond box can't hold much text			
Page/Line: 151 /43	Item Number: 235	Commentor Name: CondieMary	Type: Editorial
Description: Change "Service IDs" to "Connection IDs".		Reason: The concept of Service IDs have been changed to connection IDs.	Resolution: accepted
Notes: OK			
Page/Line: 165 /31	Item Number: 244	Commentor Name: CondieMary	Type: Editorial
Description: Change "SID" to "CID".		Reason: The concept of Service IDs have been changed to connection IDs.	Resolution: accepted
Notes: OK			
Page/Line: 165 /37	Item Number: 245	Commentor Name: CondieMary	Type: Editorial
Description: Change the column heading "Service Identifier" to "Connection Identifier".		Reason: The concept of Service IDs have been changed to connection IDs.	Resolution: accepted
Notes: OK			
Page/Line: 165 /40	Item Number: 246	Commentor Name: CondieMary	Type: Technical
Description: Change "SID" to "CID".		Reason: The concept of Service IDs have been changed to connection IDs.	Resolution: accepted
Notes:			
Page/Line: 267 /20	Item Number: 257	Commentor Name: CondieMary	Type: Editorial
Description: The reference configuration section should either be removed or made consistent with the section 1.14 starting at line 1 on page 17.		Reason: To avoid confusion.	Resolution: referred to editor
Notes: Editor recommends Section to be deleted. Ensure handled in Overview section.			
Page/Line: 297 /8	Item Number: 295	Commentor Name: CondieMary	Type: Editorial
Description: Change "upstream center frequency" to "upstream center radio frequency".		Reason: To avoid confusion between the radio and intermediate frequency.	Resolution: referred to editor
Notes: This table is recommended to be removed for the PHY, but this change should be check in the corresponding table in the MAC. Resolve comment 294			
Page/Line: 310 /58	Item Number: 311	Commentor Name: CondieMary	Type: Technical
Description: Delete the paragraph starting with "The following table of 5".		Reason: The channel bandwidths have not been reviewed. Data table is incomplete e.g., alpha factor, ETSI channelisation are not listed. Contributions should be solicited to address these areas.	Resolution: rejected
Notes: Vote: Accept 0, Rejected 3. Note, Band plans to be reviewed later. See meeting minutes for this discussion.			
Page/Line: 311 /4	Item Number: 312	Commentor Name: CondieMary	Type: Technical
Description: The table at the top of the page should be deleted.		Reason: The channel bandwidths have not been reviewed. Data table is incomplete e.g., alpha factor, ETSI channelisation are not listed. Contributions should be solicited to address these areas.	Resolution: rejected
Notes: Vote: Accept 0, Rejected 3. Note, Band plans to be reviewed later. See meeting minutes for this discussion.			
Page/Line: 30 /30	Item Number: 61	Commentor Name: EklundCarl	Type: Technical
Description: Change 'Basic Connection IDs' to Basic Connection ID and the NRT management Connection ID'		Reason: The intention of the Basic connection ID is to provide a shortened unique ID for an active terminal. Other sections of the document refer to a single Basic connection ID.	Resolution: rejected
Notes: OK; can be combined with previous change			

Page/Line: 36 /11	Item Number: 84	Commentor Name: EklundCarl	Type: Technical
Description: Remove this parameter		Reason: There is no defined mechanism to identify a subscriber.	Resolution: accepted-duplicate
Notes: OK; same as previous comment			
Page/Line: 36 /45	Item Number: 87	Commentor Name: EklundCarl	Type: Technical
Description: Change value from 4 to 16		Reason: To accomodate IPv6 terminals	Resolution: rejected
Notes: OK			
Page/Line: 39 /29	Item Number: 90	Commentor Name: EklundCarl	Type: Technical
Description: Change length from 6 to 8 and Value from Ethernet MAC address to EUI-64 ----- Delete section 2.3.2.6.		Reason: Inconsistency	Resolution: accepted-modified
Notes: OK			
Page/Line: 47 /34	Item Number: 98	Commentor Name: EklundCarl	Type: Technical
Description: Remove 'from the the end of the CRC. Remove footnote 2.		Reason: Historical remains	Resolution: accepted-duplicate
Notes: OK; see previous comment.			
Page/Line: 48 /31	Item Number: 99	Commentor Name: EklundCarl	Type: Technical
Description: Remove 'This value the end of the CRC. Remove footnote 3.		Reason: Historical remains	Resolution: accepted-duplicate
Notes: OK. See previous two comments.			
Page/Line: 48 /52	Item Number: 101	Commentor Name: EklundCarl	Type: Technical
Description: Remove 'from the the end of the CRC. Remove footnote 4.		Reason: Historical remains	Resolution: accepted-duplicate
Notes: OK			
Page/Line: 50 /18	Item Number: 104	Commentor Name: EklundCarl	Type: Technical
Description: Remove this parameter		Reason: Relic from times gone by	Resolution: accepted
Notes: OK			
Page/Line: 51 /10	Item Number: 106	Commentor Name: EklundCarl	Type: Technical
Description: Remove section 2.3.5.6.3		Reason: Inconsistent with rest of document.	Resolution: referred to group
Notes: deferred until input from Ken Stanwood who will consult with Glen Sater regarding how to deal with this section and the rules that are stated.			
Page/Line: 55 /18	Item Number: 110	Commentor Name: EklundCarl	Type: Technical
Description: Change the occurrences of 48 bit MAC address to EUI-64		Reason: Inconsistency	Resolution: rejected
Notes: Global change from EUI-64 to 48-bit MAC address.			
Page/Line: 66 /40	Item Number: 125	Commentor Name: EklundCarl	Type: Technical
Description: Add 'Convergence sublayer messages must not be transported on the Basic Connection ID nor on the NRT Management CID' ----- change "NRT" to "Secondary Managment CID"		Reason: Implied in the document but not stated clearly	Resolution: accepted-modified
Notes: OK			
Page/Line: 67 /8	Item Number: 128	Commentor Name: EklundCarl	Type: Technical
Description: Add requirement "MAC management messages must not be transported on transport connections" "..carried on Transport connections"		Reason: This is kind of implied in the document, but not stated clearly.	Resolution: accepted-modified
Notes: OK			
Page/Line: 78 /2	Item Number: 143	Commentor Name: EklundCarl	Type: Technical
Description: delete 'sorted by CID'		Reason: Sorting the CID makes no sense. Reception order makes more sense but is not necessarily the most efficient way of doing it.	Resolution: accepted-duplicate
Notes: OK; see previous comment.			
Page/Line: 114 /28	Item Number: 196	Commentor Name: EklundCarl	Type: Technical
Description: PHY control and MAC control sections should be clearly defined		Reason: Historical remains	Resolution: referred to group
Notes: create ad-hoc group to address this comment and bring suggestions to group. No-camping TLV by another name needed. Also need a TLV for the			
Page/Line: 126 /37	Item Number: 216	Commentor Name: EklundCarl	Type: Technical
Description: Move the statement about issuing data grant pendings to section describing GPC mode.		Reason: Data grant pendings only waste bandwidth for GPT terminals. Also as the terminal can used bandwidth differently from what the BS has intended the	Resolution: accepted-duplicate

issuing of grants pending serves no purpose.

Notes: Statement to be moved is already in section describing GPC mode. Deletion of the statement on page 126, line 37 is done.

Page/Line: 60 /44 **Item Number:** 115
Description:
 Under the Message formats, add a CRC checksum on each MAC message payload

Commentor Name: Foerster Jeff **Type:** Technical
Reason: It seems like all MAC messages should have an error detection capability associated with them in order to prevent reading erroneous messages. Currently, there is no error detection capability in the PHY Mode A Transmission convergence sublayer, and the error detection capability in the upstream is selectable. It seems like an error detection capability should be present in the PHY and/or the MAC layer. If it is not present in the PHY layer (as it currently is not in the PHY Mode A), then it either needs to be added to the PHY Mode A, or needs to be added to the MAC payload.
Resolution: accepted-modified

Notes: deferred to joint session with PHY group. Removed CRC from TC layer.

Page/Line: 70 /15 **Item Number:** 131
Description:
 Add the following parameter to Table 7:
 Spectrum Inversion | 0=inverted, 1=non-inverted

Commentor Name: Foerster Jeff **Type:** Technical
Reason: To make the PHY and MAC consistent, since this parameter was included in the
Resolution: accepted

Notes: This is a technical change. Designation changed to technical.

Page/Line: 73 /2 **Item Number:** 135
Description:
 Make the following changes to Table 8:

Commentor Name: Foerster Jeff **Type:** Technical
Reason: The smallest unit of reference in the channel should be a physical slot (PS)
Resolution: accepted-modified
 1. Under "Value" for "Preamble Length", change the second to be

consistent with the rest of the specification.

sentence to read, "The preamble must be an integer number of PSs."

2. Under "Value" for "Maximum Burst Size", change "bytes" in the first sentence to "PSs".

3. Under "Value" for "Guard Time Size", change "symbol times" to "PSs" in the first sentence.

Notes: Remove 2. From the comment and from the document.

Page/Line: 73 /23 **Item Number:** 136
Description:
 Remove the Rows starting with "FEC Error Correction (T)" and "FEC Codeword Information Bytes(k)" (Rows 4 and 5 in the table on page 73). Insert Rows

Commentor Name: Foerster Jeff **Type:** Editorial
Reason: The complete list of FEC parameters was missing from Table 8.
Resolution: accepted

Notes: This is close to technical. Edits have been done but should have group concurrence. Assume rows 3-11 remain also in Table 10.

Page/Line: 77 /58 **Item Number:** 141
Description:
 Add the following sentences at end of the paragraph beginning on line 54, "The time stamp represents the count state of the base station counter at the instant that the first byte of the Downlink MAP Message is transferred from the Downstream Transmission Convergence Sublayer to the Downstream Physical Media Dependent Sublayer."

Commentor Name: Foerster Jeff **Type:** Technical
Reason: To clear up the ambiguity that appears in the current specification with regard to the synchronization method.
Resolution: referred to group

Notes: Specify that this is for PHY mode A, i.e. PHY type = 5. The decision shall be deferred until input from PHY group is obtained with respect to proper

Page/Line: 84 /49 **Item Number:** 161
Description:
 Change the second row ("IUCType") to the Name "Downstream IUC Type Change Request" and the Value "=4-9, corresponding to Data Grants 1-6".
Notes: see 158

Commentor Name: Foerster Jeff **Type:** Technical
Reason: This request can be generalized to change the modulation/FEC pair rather than just the modulation type.
Resolution: accepted-duplicate

Page/Line: 86 /27 **Item Number:** 164
Description:
 Change "IUC-1 through IUC-6 Thresholds" to "Data Grant 1-6 Thresholds".

Commentor Name: Foerster Jeff **Type:** Technical
Reason: The thresholds should be for the different data grants, not IUCs. Note that there should be a threshold for each data grant that is supported.
Resolution: rejected

Notes:

Page/Line: 86 /41 **Item Number:** 166
Description:
 Change "IUC Type" heading to "Maximum Modulation Type Supported".

Commentor Name: Foerster Jeff **Type:** Technical
Reason: The "IUC Type" heading is unclear what it refers to. It appears that it was used to identify the highest modulation level that is supported by the CPE on the downlink.
Resolution: rejected

Notes: see 165

Page/Line: 88 /25 **Item Number:** 170
Description:
 1. Thresholds in Table 13.

Commentor Name: Foerster Jeff **Type:** Technical
Reason: The Data Grants have been generalized to support a modulation/FEC pair rather than just a modulation.
Resolution: accepted-duplicate
 1. Replace 16-QAM and 64-QAM Thresholds with Data Grant 1-6
 2. Also, change "IUC Type" Name to "Maximum Modulation Type To reflect the change from the previous comment.

2. Supported".

Notes: see 165

Page/Line: 91 /11 **Item Number:** 173

Commentor Name: Foerster Jeff **Type:** Editorial

Description:

Change "Modem Capabilities Encodings" to "Upstream and Downstream Modem Capabilities Encodings". Add the following after "Upstream and Downstream Modem Capabilities Encodings":
"These include the highest modulation order supported by the CPE (QPSK, 16-QAM, or 64-QAM), the optional FEC types supported by the CPE(BTC1 based on (32,26) Extended Hamming Code or BTC2 based on (64,57) Extended Hamming

Notes: OK

Page/Line: 110 /1 **Item Number:** 180

Description:

the PHY changes that allow for changes the modulation/FEC pair Type Change Request (DGC-REG) Message".

level.

"data grant type" except for after the word "QPSK". Also, replace "QPSK modulation" with "the most robust data grant type".

3. Under "Parameters shall be as follows:", it should read

Data Grant Types

- 0x00 = Data Grant Type 1
- 0x01 = Data Grant Type 2
- 0x02 = Data Grant Type 3
- 0x03 = Data Grant Type 4
- 0x04 = Data Grant Type 5
- 0x05 = Data Grant Type 6

Notes: First, change line 1 to read "Downlink Burst Type Change Request (DBTC-REG) Message. Update other areas of document to reflect this change. This

Page/Line: 110 /39 **Item Number:** 182

Description:

The discussions in Sections 3.2 and 3.3 in the PHY overlap the discussions in Section 2.6 of the MAC. I would recommend combining the information into a single section. One approach would be to do the following:

1. Change the title of Section 2.6 to "Duplexing Techniques, Framing, and Scheduling Intervals"
2. Insert Section 3.2 as the first subsection in Section 2.6.
3. Combine figures 119 and 50.
4. Remove sections 2.6.1.1 and 2.6.1.2.
5. Replace Section 2.6.3 with Section 3.3 (ending at subsection heading 3.3.1).
6. Insert Section 3.3.1 after Section 2.6.3.
7. Rearrange Section 2.6 in the document to lie just before the PHY layer discuss for easier referencing.

Notes: Discuss this comment with the PHY group.

Page/Line: 154 /48 **Item Number:** 238

Description:

consistent with the PHY that allows for modulation and FEC changes on to change modulation/FEC pairs rather than just modulation levels. For example, the beginning of the first sentence could be changed to "The downstream modulation/FEC format for data transmission (characterized by the Data Grant types 1-6) is determined by the BS according ...".

2. Also, the first sentence starting at line 58 should read something like the following, "The CPE applies an algorithm to determine its best operating modulation/FEC region in accordance with the threshold parameters established in the RNG-RSP message."

3. Update Figure 76 on page 155 to reflect modulation/FEC groups (or Data Grant Types) rather than just modulation groups.

Notes: replace "data grant type" with "burst type". In lines 52 and 55, "modulation format" should be replaced with "burst type". In line 45, "modulation" is

Page/Line: 267 /20 **Item Number:** 258

Description:

Remove Section 3.1.1 Reference Configuration.

Notes: Editor recommends Section to be deleted. Ensure handled in Overview section.

Page/Line: 268 /25 **Item Number:** 261

Description:

Change Section 3.1.4 title to "Physical Layers Overview".

Notes: Done.

Page/Line: 269 /32 **Item Number:** 263

Description:

The discussions in Sections 3.2 and 3.3 in the PHY overlap the discussions in Section 2.6 of the MAC. I would recommend combining the information into a single section. One approach would be to do the following:

Reason

To ensure these items get included in the Modem capabilities set exchange message for both the upstream and downstream channels.

Resolution: accepted

Commentor Name: Foerster Jeff **Type:** Technical

Reason

1. Change the Section 2.5.22 subtitle to "Downlink Data Grant To reflect

(reflected in the different data grant definitions) rather than just the

2. Change the first paragraph by replacing "modulation" with modulation

Resolution: referred to group

Commentor Name: Foerster Jeff **Type:** Editorial

Reason

Contain all the framing discussion in a single section to alleviate any intoconfusion and allow for easier referencing.

Resolution: accepted-modified

Commentor Name: Foerster Jeff **Type:** Technical

Reason

1. Update this section to reflect that the thresholds are used To be

a burst-by-burst basis rather than just the modulation level.

Resolution: accepted-modified

Commentor Name: Foerster Jeff **Type:** Editorial

Reason

This is already described by Figures 1, 3, and 5 in Sections 1.

Resolution: referred to editor

Commentor Name: Foerster Jeff **Type:** Editorial

Reason

To alleviate confusion between the title of Section 3 and subsection 3.1.4.

Resolution: referred to editor

Commentor Name: Foerster Jeff **Type:** Editorial

Reason

Contain all the framing discussion in a single section to alleviate any

Resolution: referred to editor

1. Delete sections 3.2, 3.3, and 3.3.1.
2. Make further changes to Section 2.6 as suggested in the following comment.

Notes: Need to verify that comparable changes occur in the MAC section. Possibly include pointers to relevant sections in the MAC.

Page/Line: 283 /55 **Item Number:** 273 **Commentor Name:** Foerster Jeff **Type:** Editorial
Description: Remove the table in Section 3.3.3.2.1. Add the following sentence to the end of the paragraph:
 "The downstream channel and burst profiles are communicated to the CPEs via
Reason: This table duplicates the information that is contained in the MAC section in Tables 9 and 10 of Section 2.5.2.2.
Resolution: referred to editor

Notes: Refer to MAC/PHY discussions to ensure that this table is contained in the MAC.

Page/Line: 284 /52 **Item Number:** 276 **Commentor Name:** Foerster Jeff **Type:** Editorial
Description: Remove the table in Section 3.3.3.2.2. Add the following to the end of the first sentence,
 "(i.e., including the highest modulation order supported, the optional FEC coding schemes supported, and the minimum shortened last codeword length supported)."
 Add the following to the end of the last sentence,
 "using the Registration Request and Response MAC messages described in Sections 2.5.7 and 2.5.8."
Reason: This information should be contained in the Registration Request message defined in Sections 2.5.7 and 2.5.8 of the MAC.
Resolution: referred to editor

Notes: Also added interleaving type supported to be discussed as a technical comment by Ran. Refer to MAC/PHY discussion.

Page/Line: 296 /58 **Item Number:** 294 **Commentor Name:** Foerster Jeff **Type:** Editorial
Description: Change the subsection 3.4.1 title to "Upstream Channel and Burst Descriptions". Remove the table in Section 3.4.1. Remove the paragraph in this section, and replace it with the following:
 "Since subscriber stations cannot transmit in the upstream channel until they have received some minimal configuration information from the base station, it's possible to support several different modem configurations that can be adjusted on an upstream channel basis or on a burst-by-burst basis. These parameters, and their ranges, are supported through MAC layer signaling, as described in Section 2.5.2.1."
Reason: The table of information is redundant with the information provided in the MAC portion of the document.
Resolution: referred to editor

Notes: Refer to PHY/MAC discussions to ensure this information is properly handled on either the PHY or MAC sections.

Page/Line: 297 /37 **Item Number:** 296 **Commentor Name:** Foerster Jeff **Type:** Editorial
Description: Remove Section 3.4.2.
Reason: This information is redundant with the information provided in the MAC portion of the document (Sections 2.5.2.1 and 2.6).
Resolution: referred to editor

Notes: Resolve Comment 294 first.

Page/Line: 299 /55 **Item Number:** 299 **Commentor Name:** Foerster Jeff **Type:** Editorial
Description: Remove Section 3.4.3.
Reason: This information is contained in Section 2.6 already, so there is no need to repeat it.
Resolution: referred to editor

Notes: Refer to PHY/MAC discussions to ensure this information is contained properly somewhere in either the MAC or the PHY section.

Page/Line: 3 /37 **Item Number:** 8 **Commentor Name:** Leiba Yigal **Type:** Editorial
Description: Insert MSAP (and it's meaning) into Acronyms and abbreviations section. Note also that EUI (Ethernet Unique Identifier) and UCD (Upstream Channel Descriptor) are commonly used and should also appear in this section.
Reason: MSAP used on page 122, line 57 without a previous definition.
Resolution: accepted

Notes: OK

Page/Line: 17 /47 **Item Number:** 45 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: Change MAC primitives at the Convergence Layer access point in such a way as to support the 3-way handshake protocol defined by the Dynamic Service
Reason: It seems that the MAC-CREATE-CONNECTION and MAC-CHANGE-CONNECTION primitives are inadequate for describing the 3-way handshake model used by the Dynamic Service Requests described in 2.13.7.2.
Resolution: referred to group

The Convergence Layer needs to be involved in the decision as to whether an offered connection as described in the MAC-CREATE-CONNECTION.response is to be accepted or not and to be able to accept or refuse the connection or change using an acknowledgement message.

Notes: Text not supplied

Page/Line: 18 /57 **Item Number:** 49 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: Add to the MAC-CREATE-CONNECTION.request primitive a field called 'ARQ parameters'. The ARQ parameters include details on whether ARQ is used or not for the connection, maximum re-transmission limit and acknowledgment
Reason: Add support for MAC level ARQ. See also related contribution titled 'Suggested modifications to 802.16.1 standard draft to support MAC level ARQ'
Resolution: accepted

Notes: OK

Page/Line: 20 /61 **Item Number:** 52 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: Add parameter to MAC-CREATE-CONNECTION.request in order to identify the parameter
Reason: It is not clear how the MAC knows which CL to inform. There is no
Resolution: accepted

Convergence Layer that will be associated with the connection. This is required in order to ensure that PDUs received from the wireless side can be demultiplexed by the MAC and sent to the Convergence Layer component

in any of the primitives that identifies the CL component issuing a request. Parameter only required until a connection ID is returned. After that, the association between CL and connection ID is known.

Notes: OK

Page/Line: 31 /3 **Item Number:** 63 **Commentor Name:** Leiba Yigal **Type:** Editorial
Description: The values of Connection Identifiers should be:
Reason: Incorrectly specified.
Resolution: referred to group

Temporary Registration 1..m
 Basic CID (m+1)..n
 Transport CID (n+1)..0xFDFFF

Notes: Should be considered technical

Page/Line: 40 /22 **Item Number:** 92 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: Delete sections 2.3.3.1.3 and 2.3.3.1.4 dealing with transmit equalizer taps
Reason: Use of equalizer on the transmitter side has unpredictable effect on the spectral shape of the RF power emitted by the CPE, and may cause harmful interference to adjacent channels. Further, the RF channel might change fast enough that transmitter equalization techniques are useless.
Resolution: accepted

Notes: Ask PHY group whether a pre-equalizer may be used. Deferred to joint session. May also want to discuss with TG2.

Page/Line: 63 /37 **Item Number:** 118 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: Add to the line, 'Alternatively, the CID can be the terminal ID of the CPE requesting the uplink bandwidth'
Reason: Enable a terminal to aggregate request bandwidth on behalf of all its connectiona. This mode reduces the amount of bandwidth requests considerably, and is useful for many types of services (e.g. best effort service).
Resolution: rejected

Notes: OK

Page/Line: 64 /16 **Item Number:** 120 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: Modify the name of CSI bit to 'ARQ bit'. When set, this bit will indicate that the packet belongs to an ARQ enabled connection.
Reason: Add support for MAC level ARQ. See also related contibution titled 'Suggested modifications to 802.16.1 standard draft to support MAC level ARQ'
Resolution: rejected

 instead of using the CSI bit, take the LSB of the FSN as an ARQ bit.

Notes: OK

Page/Line: 66 /32 **Item Number:** 123 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: Add a section describing ARQ operation, 'When the ARQ bit is set, the ARQ mechanism requires adding control and checksum fields to each ARQ enabled packet. The checksum field is four bytes
Reason: Add support for MAC level ARQ. See also related contibution titled 'Suggested modifications to 802.16.1 standard draft to support MAC level ARQ'
Resolution: referred to group

long, standard IEEE CRC-32, and it is appended at the end of the packet. The control field is two bytes long and is prepended at the beginning of the packet. The control bit structure contains a 4 bit <retry number> and a 12 bit <sequence number>. The retry number field is reset when a packet is first sent, and is incremented whenever it is retransmitted (up to the terminal value of 15). The sequence number field is assigned to each packet upon its first transmission, and then incremented. The sequence number does not change when a packet is retransmitted. These ARQ related fields are added only to packets for which the ARQ usage indication is set in the generic MAC header.'

Notes: Deferred for discussion with TG3.

Page/Line: 66 /45 **Item Number:** 126 **Commentor Name:** Leiba Yigal **Type:** Editorial
Description: Change "Generic Header" to "Generic MAC Header"
Reason: Clarification
Resolution: accepted

Notes: OK

Page/Line: 67 /43 **Item Number:** 129 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: Add to table 6 a management message called 'ACK'. The explanation for this message can be, 'The message will be an acknowledgment message sent to a sender for packets received correctly. The acknowledgment message may group together more than one packet, and will carry the sequence number(s) for packets that have been correctly received.'
Reason: Add support for MAC level ARQ. See also related contibution titled 'Suggested modifications to 802.16.1 standard draft to support MAC level ARQ'
Resolution: referred to group

Notes: Defer to TG1 and TG3 joint session.

Page/Line: 69 /6	Item Number: 130	Commentor Name: Leiba Yigal	Type: Editorial
Description: A detailed description of the contents of the MAC management header shown in		Reason: The structure of the MAC management header is not shown in detail, therefore it is not clear what it contains.	Resolution: rejected
Notes: Text not provided.			
Page/Line: 70 /15	Item Number: 132	Commentor Name: Leiba Yigal	Type: Technical
Description: Add to table 7 the following parameter, Name - FSDD/TDD frame time Type - 8 Time Reference - Duration of the TDD/FSDD frame Length - 4 Value - The number of PS contained in a FSDD or TDD frame. This TLV is only used if the PHY Type field of the DL-MAP message is {0, 1, 3} (TDD, FSDD).		Reason: Make the length of frames used flexible, in order to enable system optimization in terms of header overhead vs. latency required by the data services supported. (The reference to 1msec frame length appears numerous times in the draft, they should all be replaced by the frame length parameter)	Resolution: referred to group
Notes: put frame length code in the upper bits of the PHY Synchronisation field in figure 24. This also requires text to be added to the document to explain the			
Page/Line: 72 /7	Item Number: 134	Commentor Name: Leiba Yigal	Type: Technical
Description: Add another option to the value field, '4 = Adaptive modulation'		Reason: Include the adaptive modulation allowed under PHY mode-B in allowed modulation types	Resolution: rejected
Notes: OK			
Page/Line: 73 /39	Item Number: 137	Commentor Name: Leiba Yigal	Type: Technical
Description: For the maximum burst size parameter, change the size of the length field to 2		Reason: Allow longer uplink bursts to be specified by the burst profile	Resolution: accepted
Notes: OK			
Page/Line: 76 /7	Item Number: 138	Commentor Name: Leiba Yigal	Type: Technical
Description: Add another option to the value field, '4 = Adaptive modulation'		Reason: Include the adaptive modulation allowed under PHY mode-B in allowed modulation types	Resolution: rejected
Notes: OK			
Page/Line: 77 /9	Item Number: 139	Commentor Name: Leiba Yigal	Type: Technical
Description: Add to figure 23 a 32 bit parameter called 'FSDD/TDD frame duration'. This parameter will indicate duration of the TDD/FSDD frame (in nsec). This parameter is meaningful only for PHY types 0, 1, 3 (TDD, FSDD).		Reason: Enable any CPE to synchronize to the BST based on correctly receiving a DL map. The presence of frame duration information in the DL map enables the CPE to learn the frame duration dynamically, thus allowing a flexible frame size.	Resolution: rejected
Notes: Table entry made, but we need paragraph of explanation to go with this.			
Page/Line: 78 /7	Item Number: 145	Commentor Name: Leiba Yigal	Type: Technical
Description: Update figure 24 to contain only the PHY type (3 bits) and frame number (29 bits)		Reason: The reason for having 3 distinct counters, i.e. hyperframe number, multiframe number and frame number is not clear. Throughout all the draft there is not any reference to any specific use for any of these counters.	Resolution: accepted-modified
Notes: also update figure 50.			
Page/Line: 81 /12	Item Number: 154	Commentor Name: Leiba Yigal	Type: Editorial
Description: There seems to be some typo in this paragraph, as PHY type 5 is omitted while a PHY type 2 is mentioned. I believe that the paragraph should read 'Effective start time of the uplink allocation defined by the UL-MAP in units of mini-slots. The start time is relative to the start of a frame in which UL-MAP message is transmitted (PHY Type = {0,1,3}) or from BS initialization (PHY Type = 5).'		Reason: Fix typo in draft 1	Resolution: accepted
Notes: OK			
Page/Line: 86 /6	Item Number: 163	Commentor Name: Leiba Yigal	Type: Technical
Description: Delete lines 6 to 9 dealing with transmit equalizer information		Reason: Use of equalizer on the transmitter side has unpredictable effect on the spectral shape of the RF power emitted by the CPE, and may cause harmful interference to adjacent channels. Further, the RF channel might change fast enough that transmitter equalization techniques are useless.	Resolution: referred to group
Notes: defer to outcome of discussions with PHY and with TG3.			
Page/Line: 110 /35	Item Number: 181	Commentor Name: Leiba Yigal	Type: Technical
Description: Add modulation option '0x02 = 64-QAM'		Reason: The DMC-REQ message can be used to increase modulation as well as decrease	Resolution: rejected

it,

Notes: This is being addressed by comment 180.

Page/Line: 110 /62 **Item Number:** 186
Description:
 Change the length of the preamble in the Frame Control Header is to 72 QAM symbols.

Notes: referred to PHY group.

Page/Line: 113 /8 **Item Number:** 195
Description:
 Delete lines 8 to 11

Notes: These lines are required for burst FDD.

Page/Line: 120 /4 **Item Number:** 204
Description:
 Set the time relevance of PHY and MAC control Information for the TDD case (in figure 57) to point within the same frame and not to the next frame.

Notes: see 203

Page/Line: 137 /4 **Item Number:** 226
Description:
 No exact wording for change, but the paragraph (lines 4 to 16) should be updated to refer to modes A and B of this standard, rather than to DOCSIS PHY.

Notes: No text supplied

Page/Line: 145 /36 **Item Number:** 232
Description:
 Add more details about use of DHCP as to obtain an IP address.

Notes: Need text for change.

Page/Line: 180 /1 **Item Number:** 254
Description:
 Delete Figure 92 - it's the same as Figure 91.
Notes: OK

Page/Line: 285 /10 **Item Number:** 278
Description:
 Change the table such that code types 2 and 3 in the are optional, and only code 1 is mandatory.

Notes: Revised Comment: Code 1 and 3 are mandatory, Code 2 is optional.

Page/Line: 286 /23 **Item Number:** 281
Description:
 Insert more details about the proposed convolutional code (state machine and puncturing drawing).

Notes: Please recommend specific changes. Alok to recommend changes to bit shortening process to ensure an even number of bytes when using this code.

Page/Line: 291 /23 **Item Number:** 286
Description:
 Modify the sentence such that the only mandatory modulation is QPSK. 16QAM and 64QAM are optional.

Notes: Vote: 0 for, 8 against.

Page/Line: 293 /12 **Item Number:** 290

Commentor Name: Leiba Yigal **Type:** Technical
Reason **Resolution:** rejected
 The burst preamble has many duties. The preamble it is used to detect the start of the burst, but it could also be used for training equalizers, compensating for fast channel gain variations, and other kinds of channel impairments. It is therefore important in order to achieve a robust standard, to allow a preamble length that will enable extracting sufficient information from the preamble even in the presence of timing errors, frequency mismatches, channel gain variations, noise and multipath effects. The proposed length of the preamble introduces a negligible overhead (0.3% for 1msec frame at 25Msymbols/Sec).

Commentor Name: Leiba Yigal **Type:** Technical
Reason **Resolution:** rejected
 The restriction imposed on burst FDD systems is unnecessary, it does not simplify implementation, and will severely penalize performance in systems where most users are half duplex.

Commentor Name: Leiba Yigal **Type:** Technical
Reason **Resolution:** accepted-duplicate
 Forcing the uplink response to the downlink allocation map to be one frame apart inserts an unavoidable delay of one frame in the system. This inherent delay may become significant for frame length longer than 1msec. A practical system a TDD system will have a minimum ratio of downlink to uplink traffic higher than zero, so it can be guaranteed that there is enough time to process the downlink map and respond within the same frame.

Commentor Name: Leiba Yigal **Type:** Editorial
Reason **Resolution:** rejected
 The paragraph describing when the downstream signal is considered valid refers to a DOCSIS PHY rather than to the two specific PHY options of 802.16 PHY.

Commentor Name: Leiba Yigal **Type:** Editorial
Reason **Resolution:** rejected
 Use of DHCP to obtain an IP address as described in the current draft is not well defined. The CPE broadcast mode used by DHCP is not supported in the draft. The DHCP server location and its connection to the proposed MAC layer are not clear.

Commentor Name: Leiba Yigal **Type:** Editorial
Reason **Resolution:** accepted
 Duplication

Commentor Name: Leiba Yigal **Type:** Technical
Reason **Resolution:** accepted-modified
 Reduce the complexity (and hence the cost) of standard compliant equipment, while not preventing interested manufacturers from manufacturing better, yet more expensive equipment.

Vote: Accept 6, Reject 0

Commentor Name: Leiba Yigal **Type:** Technical
Reason **Resolution:** accepted
 Clarify the proposed coding option in the draft, and remove any ambiguity.

Commentor Name: Leiba Yigal **Type:** Technical
Reason **Resolution:** rejected
 Reduce the complexity (and hence the cost) of standard compliant equipment, while not preventing interested manufacturers from manufacturing better, yet more expensive equipment.

Commentor Name: Leiba Yigal **Type:** Technical

Description:

Modify figure 134 and figure 135 such that the bit mapping I and Q components are not interleaved. The bits should be interpreted I1,I2,I3,Q1,Q2,Q3. The bits to symbol translation for the I and Q components will then be identical. One axis (the other is identical) of figure 134 will then be described by the table below

I1,I2,I3 (Q1,Q2,Q3)	symbol I axis (Q axis)
0 0 0	3
0 0 1	1
0 1 0	5
0 1 1	7
1 0 0	-3
1 0 1	-1
1 1 0	-5
1 1 1	-7

Notes: Vote: 3 for and 1 for mapping from Comment 289, so this mapping accepted. Make consistent with 16-QAM.

Page/Line: 301 /44 **Item Number:** 301

Description:

Change the table such that code types 2 and 3 in the are optional, and only code 1 is mandatory.

Notes: Revised Comment: Code 1 and 3 are mandatory, Code 2 is optional. Vote: Accept 6, Reject 0

Page/Line: 304 /50 **Item Number:** 304

Description:

Modify the sentence such that the only mandatory modulation is QPSK. 16QAM and 64QAM are optional.

Notes: Vote: 5 for, 2 against. Accepted.

Page/Line: 306 /22 **Item Number:** 306

Description:

Modify the figure specifying gray 16 bit mapping. The bits should be interpreted I1,I2,Q1,Q2. The bits to symbol translation for the I and Q components will then be identical. One axis (the other is identical) of the figure will then be described by the table below

I1,I2 (Q1,Q2)	symbol I axis (Q axis)
0 0	1
0 1	3
1 0	-1
1 1	-3

Notes: Make mapping consistent with DS Mode B. Done.

Page/Line: 307 /21 **Item Number:** 307

Description:

Modify figure 141 and figure 142 such that the bit mapping I and Q components are not interleaved. The bits should be interpreted I1,I2,I3,Q1,Q2,Q3. The bits to symbol translation for the I and Q components will then be identical. One axis (the other is identical) of figure 141 will then be described by the table below

I1,I2,I3 (Q1,Q2,Q3)	symbol I axis (Q axis)
0 0 0	3
0 0 1	1
0 1 0	5
0 1 1	7
1 0 0	-3
1 0 1	-1
1 1 0	-5
1 1 1	-7

Notes: Make mapping consistent with DS Mode B. Done.

Page/Line: 310 /47 **Item Number:** 310

Reason

In the bit mapping for the QAM16 constellation the I and Q components are not interleaved, and it makes sense to keep the mapping consistent between QAM16

Resolution: accepted

Commentor Name: Leiba Yigal

Type: Technical

Reason

Reduce the complexity (and hence the cost) of standard compliant equipment, while not preventing interested manufacturers from manufacturing better, yet more expensive equipment.

Resolution: accepted-modified

Commentor Name: Leiba Yigal

Type: Technical

Reason

Reduce the complexity (and hence the cost) of standard compliant equipment, while not preventing interested manufacturers from manufacturing better, yet more expensive equipment.

Resolution: accepted

Commentor Name: Leiba Yigal

Type: Technical

Reason

The upstream channel is a burst modem, and the current, rotationally invariant bit mapping has no special advantage for it. The proposed bit mapping is the same as the one proposed for the burst modem in the downstream channel, and thus increases the standard consistency.

Resolution: accepted

Commentor Name: Leiba Yigal

Type: Technical

Reason

In the downstream channel, in the bit mapping for the QAM16 constellation, the I and Q components are not interleaved. It makes sense to keep the mapping across the burst modem in the upstream and downstream channel and across QAM16 and QAM64 constellations.

Resolution: accepted

Commentor Name: Leiba Yigal

Type: Technical

Description: Change sentence to read 'Subscriber station equipment should support symbol rates that lie in the interval 5 Mbaud to 40 Mbaud for the downstream and	Reason Specify identical Baud rate range for upstream and downstream. This enables using standard compliant equipment for point to point type of installations.	Resolution: accepted
Notes: Vote: Accepted 4 , Reject 3		
Page/Line: 1 /12 Item Number: 2	Commentor Name: Marin Scott	Type: Editorial
Description: Add reference numbers [1] ...	Reason References referred to in the text need to be numbered.	Resolution: accepted
Notes: OK. Some were never numbered originally and still need to have numbers added to them.		
Page/Line: 8 /57 Item Number: 17	Commentor Name: Marin Scott	Type: Editorial
Description: Change "base transceiver station (BTS)to one or more subscriber transceiver stations (STS)" to "base station (BS) to one or more subscriber stations (SS)" -----	Reason Use the terms as defined in Functional Requirements Document IEEE 802.16s-99/00r1. Note term CPE through the document should be replaced with SS. The replacement of BS for BTS occurs on several lines and figures.	Resolution: accepted-modified
Notes: modified to:		
Page/Line: 9 /49 Item Number: 22	Commentor Name: Marin Scott	Type: Editorial
Description: Change "protoco" to "protocol"	Reason spelling error	Resolution: accepted-duplicate
Notes: OK		
Page/Line: 9 /62 Item Number: 23	Commentor Name: Marin Scott	Type: Editorial
Description: Change Figure 4 with Figure 2-3 from document IEEE 802.16s-99/00r1	Reason Consistency with functional requirements.	Resolution: accepted
Notes: Only difference between the figures is terminology (BS vs BTS etc)	which should be discussed at group level.	
Page/Line: 10 /29 Item Number: 25	Commentor Name: Marin Scott	Type: Technical
Description: After "shown in" insert "Figure X". Then insert Figure 4-1 from the functional requirement document (IEEE 802.16s-99r1, p11).	Reason Incomplete sentence	Resolution: rejected
Notes: See previous comment.		
Page/Line: 10 /49 Item Number: 27	Commentor Name: Marin Scott	Type: Editorial
Description: Change "in the ATM World" to "for ATM protocols"	Reason There is no ATM World.	Resolution: accepted-duplicate
Notes: Alas.		
Page/Line: 11 /36 Item Number: 29	Commentor Name: Marin Scott	Type: Editorial
Description: Change entire paragraph to the paragraph beginning on page 13, line 26 of the functional requirements spec (IEEE 802.16s-99_00r1).	Reason Consistency with the functional requirements spec.	Resolution: accepted
Notes: OK		
Page/Line: 17 /11 Item Number: 39	Commentor Name: Marin Scott	Type: Editorial
Description: Delete "-proper"	Reason It's not clear what a "proper" service is. Delete "proper" or clearly distinguish from other MAC services.	Resolution: accepted
Notes: OK		
Page/Line: 17 /12 Item Number: 40	Commentor Name: Marin Scott	Type: Editorial
Description: Change "convergence sublayers" to "convergence sublayer (CL)"	Reason define acronym. Change to singular, because there is one layer.	Resolution: accepted
Notes: Plural dropped in two places, but CL abbreviation for Convergence Sublayer not added.		
Page/Line: 17 /14 Item Number: 42	Commentor Name: Marin Scott	Type: Editorial
Description: Change "These" to "The"	Reason Correct sentence grammar. Change to singular because there is a single layer.	Resolution: accepted
Notes: OK		
Page/Line: 17 /14 Item Number: 41	Commentor Name: Marin Scott	Type: Editorial
Description: After Figure 5. insert new sentence "The transmission convergence (TC) sublayer is	Reason Define acronym "TC".	Resolution: accepted
Notes: OK		
Page/Line: 17 /43 Item Number: 43	Commentor Name: Marin Scott	Type: Editorial
Description: Change "convergence sublayer access point" with "SAP"	Reason Assuming that the "convergence sublayer access point is the same as the SAP, then use the previously defined acronym "SAP". Alternatively, if the convergence	Resolution: accepted

sublayer access point is different from the SAP, then the sublayer access point

Notes: OK							
Page/Line:	17 /44	Item Number:	44	Commentor Name:	Marin Scott	Type:	Editorial
Description:	After "convergence sublayer" insert "(CL)"			Reason	define acronym.		
Notes:	Conflicts with previous request. Also, CS would be better abbreviation.			Resolution:	accepted		
Page/Line:	18 /34	Item Number:	48	Commentor Name:	Marin Scott	Type:	Editorial
Description:	change "rends" to "sends"			Reason	spelling.		
Notes:	OK			Resolution:	accepted		
Page/Line:	19 /30	Item Number:	50	Commentor Name:	Marin Scott	Type:	Editorial
Description:	after "connection ID" insert "(CID)"			Reason	Define acronym. Note that the document inconsistently uses connection ID, connection identifier, and CID in many places. String replace all but the first occurrence of "connection ID" and "connection identifier" with CID.		
Notes:	OK			Resolution:	accepted		
Page/Line:	19 /42	Item Number:	51	Commentor Name:	Marin Scott	Type:	Editorial
Description:	After "Request message" insert "(paragraph xxx)"			Reason	Dynamic Service Addition - Request message not yet defined in the document.		
Notes:	OK			Resolution:	accepted		
Page/Line:	24 /39	Item Number:	53	Commentor Name:	Marin Scott	Type:	Editorial
Description:	Change "MAA" to "XXX"			Reason	Note sure if MAA is a typo or intentional. If intentional, then define MAA. If typo, then change to correct value.		
Notes:	MAA added to definitions (HL-MAA and LL-MAA were already there, but not plain MAA)			Resolution:	accepted		
Page/Line:	25 /44	Item Number:	54	Commentor Name:	Marin Scott	Type:	Editorial
Description:	After "supported at the" insert "Mxxxx Pxxxx Lxxxx Sxxxx"			Reason	define acronym. For that mater, LLC, ATM, IP, and MPEG have been defined either.		
Notes:	All acronyms expanded in Abbreviations section.			Resolution:	accepted		
Page/Line:	29 /20	Item Number:	57	Commentor Name:	Marin Scott	Type:	Editorial
Description:	Change "CPE" to "SS"			Reason	Consistency with functional requirements, IEEE 802.16s-99_00r1. Note, String replace "CPE" with "SS" in several places.		
Notes:	SS and BS should be used			Resolution:	accepted-modified		
Page/Line:	30 /22	Item Number:	59	Commentor Name:	Marin Scott	Type:	Technical
Description:	after "addressing purposes" insert "[ref #]."			Reason	802.16 will need to have a plan for assigning EUIs. The standard should reference the EUI assignment process and not leave the reader to define any EUI.		
Notes:	Text of reference not provided.			Resolution:	accepted		
Page/Line:	31 /4	Item Number:	64	Commentor Name:	Marin Scott	Type:	Editorial
Description:	change "Connection Identifier" to "CID"			Reason	String replace all but the first occurrence of "connection ID" and "connection identifier" with CID.		
Notes:	OK			Resolution:	accepted		
Page/Line:	31 /9	Item Number:	65	Commentor Name:	Marin Scott	Type:	Technical
Description:	Delete lines 9 thru 15. ----- Temporary Registration and Basic CIDs are combined to be one range from 0x0001 to n. Transport and Secondary Management CIDs are combined to be one range from m+1 to 0xFDFF.			Reason	The notation "0..m", "m.n", and n..0xFDFF is unclear. Obviously, lines 9 thru 15 should be changed instead of deleted, but I couldn't even guess at what the notation means. If the CID has a 16-bit value, then all rows should have only 16-bit values. The notation "n..0xFDFF" appears to be a multiple of a 16-bit value, which is very confusing.		
Notes:	OK			Resolution:	accepted-modified		
Page/Line:	31 /17	Item Number:	66	Commentor Name:	Marin Scott	Type:	Editorial
Description:	after "request" insert "information element"			Reason	define acronym		
Notes:	OK but result is not clear.			Resolution:	accepted		
Page/Line:	31 /43	Item Number:	67	Commentor Name:	Marin Scott	Type:	Technical
Description:	Change "See" to "The BS and SS shall meet the timing requirements contained			Reason	To make it clear that stations that are compliant to 802.16.1 have time requirements.		
Notes:	OK			Resolution:	accepted		
Page/Line:	31 /60	Item Number:	68	Commentor Name:	Marin Scott	Type:	Technical

Description: delete "if present" ----- Change sentence to read as "Registration settings are found in the configuration file and shall be forwarded by the SS to the BS in its Registration	Reason Is the configuration file optional? Assume a configuration file is required the "if present" should be deleted.	Resolution: accepted-modified
Notes: OK		
Page/Line: 31 /61 Item Number: 69	Commentor Name: Marin Scott	Type: Editorial
Description: after "Registration Request." insert new sentence. For the subsequent settings,	Reason define "length"	Resolution: accepted
Notes: OK		
Page/Line: 33 /15 Item Number: 71	Commentor Name: Marin Scott	Type: Editorial
Description: after "wait for" insert "physical change descriptor"	Reason define acronym	Resolution: accepted
Notes: Possible conflict with earlier change to DCD		
Page/Line: 34 /48 Item Number: 73	Commentor Name: Marin Scott	Type: Technical
Description: change "Hz" to "kHz"	Reason Consistency with line 56. Note 2^32 is 4.29e9; therefore, to specify a frequency with a 32-bit word at, for example, 66 GHz, the units must be at least 100 Hz.	Resolution: accepted
Notes: OK		
Page/Line: 34 /61 Item Number: 74	Commentor Name: Marin Scott	Type: Editorial
Description: Change "this" to "xxx"	Reason "This" is ambiguous. "This" might be replaced with "upstream channel ID", but then	Resolution: accepted
Notes: Seems OK as is. "This" refers to the channel ID of the previous sentence.		
Page/Line: 34 /62 Item Number: 75	Commentor Name: Marin Scott	Type: Editorial
Description: Change "It" to "xxx"	Reason "It" is ambiguous. "It" might be replaced with "The upstream channel description	Resolution: accepted
Notes: OK; changed "It" to "This channel"		
Page/Line: 35 /5 Item Number: 76	Commentor Name: Marin Scott	Type: Editorial
Description: after "Object" insert "(NACO)"	Reason define acronym	Resolution: accepted
Notes: OK		
Page/Line: 35 /7 Item Number: 77	Commentor Name: Marin Scott	Type: Editorial
Description: After "Subscriber" insert "Network"	Reason Consistency with system reference point descriptions in para 1.7.1	Resolution: accepted
Notes: OK		
Page/Line: 35 /15 Item Number: 78	Commentor Name: Marin Scott	Type: Editorial
Description: change "On/Off" to "Value"	Reason Consistency with other paragraphs	Resolution: accepted
Notes: OK		
Page/Line: 35 /19 Item Number: 79	Commentor Name: Marin Scott	Type: Editorial
Description: Change "A Subscriber" to "Subscriber Network Equipment"	Reason Consistency with system reference point descriptions in para 1.7.1. (Subscribers	Resolution: accepted
Notes: OK		
Page/Line: 35 /22 Item Number: 80	Commentor Name: Marin Scott	Type: Editorial
Description: change "NACO off" to ""NACO=0"" off	Reason Is NACO off the same as "NACO=0"? Use only one notation. See also NACO in Page35, line 37.	Resolution: accepted
Notes: OK		
Page/Line: 35 /25 Item Number: 81	Commentor Name: Marin Scott	Type: Editorial
Description: before "ARP" insert "Axxx Rxxx Pxxx"	Reason Define acronym. DHCP, ICPEP, ToD, TFTP SYSLOG, and SNMP should also be defined.	Resolution: accepted
Notes: OK. Now defined in abbreviation list		
Page/Line: 35 /44 Item Number: 82	Commentor Name: Marin Scott	Type: Editorial
Description: delete "that can be used by the CPE"	Reason Confusing wording. Are there downstream modulation typed that can't be used by a	Resolution: accepted
Notes: Possibly. Refer to group for technical guidance.		
Page/Line: 36 /13 Item Number: 85	Commentor Name: Marin Scott	Type: Editorial

Description: Change "subscriber" to "xxxx"	Reason What is a subscriber? A channel, a network equipment, and billing account? Insert the answer in for "xxxx". If sentence is correct, then define subscriber in the context of the sentence.	Resolution: accepted
Notes: Similar comments have been marked technical. In any case, worth discussing in the group.		
Page/Line: 36 /28 Item Number: 86	Commentor Name: Marin Scott	Type: Editorial
Description: before "TFTP" insert "Txxx Fxxx Txxx Pxxx"	Reason define acronym	Resolution: accepted
Notes: Defined in Abbrev. Section		
Page/Line: 38 /29 Item Number: 89	Commentor Name: Marin Scott	Type: Editorial
Description: change "Appendix 2.3.1.9" to "x.x.x.x"	Reason Reference is incorrect.	Resolution: accepted
Notes: OK, changed to Section 2.3.1.9		
Page/Line: 44 /18 Item Number: 96	Commentor Name: Marin Scott	Type: Editorial
Description: After "Identifier" insert "(CID)"	Reason redefine acronym to avoid confusion.	Resolution: accepted
Notes: OK		
Page/Line: 63 /1 Item Number: 116	Commentor Name: Marin Scott	Type: Editorial
Description: After "Grant Management" insert "(GM)"	Reason define acronym	Resolution: accepted
Notes: OK		
Page/Line: 63 /30 Item Number: 117	Commentor Name: Marin Scott	Type: Editorial
Description: After "Bandwidth Request" insert "(BR)"	Reason define acronym	Resolution: accepted
Notes: OK		
Page/Line: 63 /51 Item Number: 119	Commentor Name: Marin Scott	Type: Editorial
Description: delete "based on that Identifier"	Reason The phrase isn't necessary, assuming "that identifier" is the CID and not some other identifier.	Resolution: accepted
Notes: OK		
Page/Line: 66 /23 Item Number: 121	Commentor Name: Marin Scott	Type: Editorial
Description: Change "Management" to "Grant Management"	Reason to make it clear which management PDU is being shown.	Resolution: accepted
Notes: OK		
Page/Line: 66 /28 Item Number: 122	Commentor Name: Marin Scott	Type: Editorial
Description: Change "Concatention" with "Concatenation showing example CIDs."	Reason Correct spelling and clarify that that the CIDs aren't hardcoded for only concatenation.	Resolution: accepted
Notes: OK		
Page/Line: 66 /33 Item Number: 124	Commentor Name: Marin Scott	Type: Editorial
Description: Insert "A User PDU is defined as a PDU that XXX and uses the header format define in YYY."	Reason User PDU not defined.	Resolution: rejected
Notes: unclear what is meant by xxx and yyy		
Page/Line: 67 /4 Item Number: 127	Commentor Name: Marin Scott	Type: Editorial
Description: delete "standard"	Reason if section 2.5.1 is the correct format, then delete the term "standard" because 2.5.1 describes a sub-layer PDU and not a "standard" PDU.	Resolution: rejected
Notes: Doesn't compute. If its contents are defined in a standard, then the PDU must be a standard PDU.		
Page/Line: 268 /16 Item Number: 260	Commentor Name: Ran Moshe	Type: Editorial
Description: Change the sentence " The continuous downstream mode has a higher coding due to the presence of a..." to "The continuous downstream mode is based on a..."	Reason The statement "The continuous downstream mode has a higher coding gain due to " is not true when using the optional BTC.	Resolution: accepted
Notes: Editor changed to Editorial Type rather than Technical.		
Page/Line: 271 /43 Item Number: 264	Commentor Name: Ran Moshe	Type: Editorial
Description: Insertion of a word modulation.	Reason the title of the Fig. should be "N physical slots, 4*N modulation symbols" [instead of : N physical slots, 4*N symbols]	Resolution: referred to editor
Notes: This figure is recommended to be removed and discussions moved to the MAC portion of the document.		
Page/Line: 282 /8 Item Number: 270	Commentor Name: Ran Moshe	Type: Editorial
Description: Change N to K	Reason Consistency	Resolution: referred to editor

Notes: Need to resolve Comment 269 first. Done.

Page/Line: 284 /40 **Item Number:** 275 **Commentor Name:** Ran Moshe **Type:** Technical
Description: **Reason:** **Resolution:** accepted
 add a field description for interleaving options-
 1 - non
 2- block
 3- reserved
 BTC has inherent interleaving capability. It is simply stated in terms of how we write the data into the array and how it is read out.

Notes: This will be handled in the MAC section of the document, but should be decided upon by the PHY group. Moshe and Dave to provide a

Page/Line: 284 /40 **Item Number:** 274 **Commentor Name:** Ran Moshe **Type:** Editorial
Description: **Reason:** **Resolution:** referred to editor
 Insertion of a missing sentence
 "...last codeword, based upon the allowable shortened codewords for the particular code type.
 Missing (typo) sentence

Notes: This table recommended to be removed with a reference to the MAC section where it is contained. Need to verify that MAC table is correct. Need to

Page/Line: 285 /30 **Item Number:** 279 **Commentor Name:** Ran Moshe **Type:** Editorial
Description: **Reason:** **Resolution:** accepted
 Change P to K
 Inconsistency. Packet size are the information block size and thus should be denoted by K. The same remark applies all over the document. [e.g., p.285 line:43, p.285 line:53, p.286 line:17]

Consistency. In this page it seems that what is ment by MAC blocks should be denoted as the dimension of the data. i.e., K.

Notes: Need to make sure constraint length designation does not conflict with this. Done.

Page/Line: 286 /18 **Item Number:** 280 **Commentor Name:** Ran Moshe **Type:** Technical
Description: **Reason:** **Resolution:** accepted
 Change the sentence , " MSB first" into "LSB first".
 denotes
 Using the RS options and RS + parity the first symbol out should be the LSB (i.e., the information part first then the parity check part)

Notes: Done.

Page/Line: 287 /18 **Item Number:** 283 **Commentor Name:** Ran Moshe **Type:** Technical
Description: **Reason:** **Resolution:** accepted-modified
 Change $g(x)$ to $g_1(x)$ in line 18
 Change $g(x)$ to $g_2(x)$ in line 23
 Insertion of a paragraph: in line 56.
 "The preferred encoder will have the same code for the columns and for the rows.
 Thus the constituent codes are the same, that is, $(n_1, k_1) = (n_2, k_2)$.
 This symmetric case will reduce the decoder complexity."

Notes: Accept first 2 lines, reject rest of comment.

Page/Line: 287 /31 **Item Number:** 284 **Commentor Name:** Ran Moshe **Type:** Technical
Description: **Reason:** **Resolution:** accepted
 Deletion of extra sequence of "p"
 When shortening a line or a column the parity checks are reset to zero.

Notes: This section has been revised according to further recommendations by John L., Moshe R., and Dave W. to add more detail to the BTC section.

Page/Line: 288 /24 **Item Number:** 285 **Commentor Name:** Ran Moshe **Type:** Editorial
Description: **Reason:** **Resolution:** accepted
 Change the code rate from 73 into 0.673
 Change the code rate from 17 into 0.717
 Change the code rate from 90 into 0.790
 Change the code rate from 08 into 0.608
 These are the correct figures for the code rates.

Notes: Comment changed to Editorial, since this was just a conversion problem into FM. Done.

Page/Line: 292 /8 **Item Number:** 289 **Commentor Name:** Ran Moshe **Type:** Technical
Description: **Reason:** **Resolution:** rejected
 Change Table 75 16-QAM constelltion and Table 76 to be consistent with 4,64QAM.
 The new table should be constructed according to the following rules:
 - +1 is 00, -1 is 10, +3 is 01 and -3 is 11
 - The pairing of the I and Q should be I1,Q1,I2,Q2
 Consistency. The final results is that in all the constellation the points
 for $I>0, Q>0$ start with 00
 for $I<0, Q>0$ start with 10
 for $I<0, Q<0$ start with 11
 for $I>0, Q<0$ start with 01

Notes: Vote: 1 for this method and 3 for mapping in Comment 290, so mapping in Comment 290 accepted.

Page/Line: 1 /1 **Item Number:** 1 **Commentor Name:** Row Paul **Type:** Editorial
Description: **Reason:** **Resolution:** accepted
 Search entire document for "PCD" and replace with "UCD" and/or "DCD" as appropriate in each case. Check all figures as well
 The PCD message has been replaced by the DCD and UCD messages.

Notes: OK

Page/Line: 2 /1 **Item Number:** 3 **Commentor Name:** Row Paul **Type:** Editorial
Description: **Reason:** **Resolution:** accepted
 Move Table 8 from section 2.5.2.2 to end of section 2.5.2.1
 Table 8 is part of UCD description rather than DCD

Notes: FrameMaker keeps moving it back. Leave it to the IEEE office, since

Page/Line: 2 /23	Item Number: 4	Commentor Name: Row Paul	Type: Editorial
Description: Amend last two Normative reference: ITU-T Recommendation J.116, "Interaction..... ITU-R Recommendation F.1499, "Radio transmission.....		Reason: These two recommendations are now approved by ITU-T and ITU-R	Resolution: accepted
Notes: OK			
Page/Line: 5 /16	Item Number: 10	Commentor Name: Row Paul	Type: Editorial
Description: Line 16 change "user" to "use"		Reason: Spelling mistake	Resolution: accepted
Notes: OK			
Page/Line: 6 /39	Item Number: 12	Commentor Name: Row Paul	Type: Editorial
Description: Line 39 change "ISDN" to "ISDN"		Reason: Spelling mistake	Resolution: accepted
Notes: OK			
Page/Line: 7 /1	Item Number: 14	Commentor Name: Row Paul	Type: Editorial
Description: p7 line 1 change "section A" to "section 1.5" also page 7 line 23 and page 9 line 33		Reason: Broken cross-references	Resolution: accepted
Notes: FM had embedded the whole referenced paragraph rather than the			
Page/Line: 13 /39	Item Number: 35	Commentor Name: Row Paul	Type: Technical
Description: Line 39 delete "[R. Sanders][conferred to ad-hoc QoS group]"		Reason: Appears to be a leftover comment which should be removed. Did this ad-hoc group report back?	Resolution: accepted
Notes: OK. Not sure; ask Sanders. Treat as editorial.			
Page/Line: 77 /64	Item Number: 142	Commentor Name: Row Paul	Type: Technical
Description: p 77 line 64 delete "sorted by IUC" p 78 line 1 delete "sorted by connection ID"		Reason: MAP information elements have to be in time order, which is not necessarily IUC order or connection ID order	Resolution: accepted-modified
Notes: Get extra wording from PHY section 3.3 in order to clarify sorting of IUC. Also, include reference to section 3.3.			
Page/Line: 272 /26	Item Number: 266	Commentor Name: Row Paul	Type: Technical
Description: Figure 123. Should there be a pointer to end of burst to CPE X?		Reason: Possible inconsistency in diagram	Resolution: referred to editor
Notes: This figure is recommended to be removed and discussions moved to the MAC portion of the document. This needs to be resolved with the MAC.			
Page/Line: 273 /13	Item Number: 267	Commentor Name: Row Paul	Type: Technical
Description: Amend second sentence in 3.3.2 second para "These packets consist of a one-byte synchronisation pattern (Byte 1) and a one-byte Pointer (Byte 2) followed by 186 bytes of payload (Bytes 3-188)"		Reason: To clarify the origin for the pointer field - is first byte of packet byte 0 or byte 1?	Resolution: accepted
Notes: Done.			
Page/Line: 282 /36	Item Number: 272	Commentor Name: Row Paul	Type: Technical
Description: Amend first sentence below figure 131 in 3.3.3.1 second para "The pointer field identifies the byte number in the packet (first byte = byte 1) which indicates....."		Reason: To clarify the origin for the pointer field - is first byte of packet byte 0 or byte 1?	Resolution: accepted
Notes: Done.			
Page/Line: 300 /17	Item Number: 300	Commentor Name: Row Paul	Type: Technical
Description: line 17 Amend sentence "The pointer field identifies the byte number in the packet (first byte = byte 1) which indicates....."		Reason: To clarify the origin for the pointer field - is first byte of packet byte 0 or byte 1?	Resolution: accepted
Notes: Done.			
Page/Line: 2 /57	Item Number: 5	Commentor Name: Sater Glen	Type: Editorial
Description: The "Definitions" section from the MAC draft was not carried forward into this draft. That text should be included in this section.		Reason: To improve readability of the document by defining terms.	Resolution: accepted
Notes: OK			
Page/Line: 17 /4	Item Number: 37	Commentor Name: Sater Glen	Type: Technical
Description: MSAP definitions for specific bearer transport ("convergence layers") should be defined seperately in each Annex that defines the operation of that convergence layer. The specific MSAP definitions may require modification as		Reason: To properly match the specific MSAP definition with the convergence process it is associated with.	Resolution: unresolved

the actual convergence processes are defined.

Notes: Need to get text for definitions

Page/Line: 17 / 4 **Item Number:** 38

Description:

The convergence processes as shown in Figure 5 are not defined. Each convergence process was to be written as a separate Annex to the main standard. The minimum set of processes were listed as part of the Session 7.5 minutes. Writing assignments were made for these sections of text but were not completed due to time constraints. A call for contributions (or equivalent) should be issued to complete this task.

Notes: Need people to supply the convergence layer text.

Page/Line: 93 / 35 **Item Number:** 176

Description:

Figure does not make sense. The standard TLV encoding format should be used

if this is defining a TLV. The channel MAC version does not matter here --

Notes: Addressed by earlier comment.

Page/Line: 145 / 33 **Item Number:** 231

Description:

All references to establishment of IP connectivity need to be handled through the Ethernet convergence process, which is not yet defined. Once this convergence process is defined, the IP connectivity establishment must use that portion of the MAC's protocol stack.

Notes: This should also be addressed within the call for contributions regarding the convergence sublayers. Glen is already tasked with drafting the call for

Page/Line: 0 / 1 **Item Number:** 0

Description:

See page v

I would like to see the table of contents go to lower level paragraphs.

Notes: FrameMaker would not generate 3 levels. IEEE office couldn't help since it is their policy to have only 2 levels of index in standards documents. I would

Page/Line: 3 / 27 **Item Number:** 6

Description:

Indentation of explanation of acronyms should be indented further.

Notes: OK

Page/Line: 3 / 33 **Item Number:** 7

Description:

LOS should be added to the acronym list.

Notes: OK

Page/Line: 5 / 16 **Item Number:** 11

Description:

Change the word "user" to "use".

Notes: OK

Page/Line: 7 / 1 **Item Number:** 13

Description:

The start of the first sentence is damaged, apparently by a missing section reference. The same thing happens on line 23. By the way, it is the third time we've said the exact same thing in 3 pages.

In line 6, "encryption., it" should be changed to "encryption. It"

Line 29 has a double period at the end of the line.

Notes: OK

Page/Line: 8 / 9 **Item Number:** 15

Description:

There is an extra space before the period at the end of the sentence.

Notes: OK

Page/Line: 8 / 57 **Item Number:** 16

Description:

This section, through page 10, line 18, including Figure 4, uses the terms BTS and STS. The remainder of the document uses Base Station and CPE. Either we add BTS and STS to the acronym list and use them throughout the document or we change this section, including the figure.

Notes: Need to get consensus of group on what terminology to use.

Page/Line: 8 / 62 **Item Number:** 18

Description:

Change the word "expected" to "allowed".

Notes: OK

Commentor Name: Sater Glen **Type:** Technical

Reason

The MAC proper tunnels other higher-layer protocols and does not provide a complete standard without these minimum set of definitions.

Resolution: unresolved

Commentor Name: Sater Glen **Type:** Editorial

Reason

To make the figure understandable.

Resolution: accepted

Commentor Name: Sater Glen **Type:** Technical

Reason

The current text violates the layering rules established by the core MAC protocol.

Resolution: referred to group

Commentor Name: StanwoodKen **Type:** Editorial

Reason

It was difficult to find things when performing the review.

Resolution: accepted

Commentor Name: StanwoodKen **Type:** Editorial

Reason

HL-MAA, LL-MAA, and UGS-AD run into their explanations.

Resolution: accepted

Commentor Name: StanwoodKen **Type:** Editorial

Reason

It is included in the document.

Resolution: accepted

Commentor Name: StanwoodKen **Type:** Editorial

Reason

Correct grammar.

Resolution: accepted

Commentor Name: StanwoodKen **Type:** Editorial

Reason

Typos.

Resolution: accepted

Commentor Name: StanwoodKen **Type:** Editorial

Reason

Typos.

Resolution: accepted

Commentor Name: StanwoodKen **Type:** Editorial

Reason

Consistency and completeness.

Resolution: rejected

Commentor Name: StanwoodKen **Type:** Editorial

Reason

Correctness - the standard can not support mobile CPEs, therefore they are not allowed.

Resolution: accepted

Page/Line: 9 /29	Item Number: 19	Commentor Name: StanwoodKen	Type: Editorial
Description: Change the word "are" to "is".		Reason: Grammar - the noun, One addition, and the verb, are, do not match.	Resolution: accepted
Notes: OK			
Page/Line: 9 /38	Item Number: 20	Commentor Name: StanwoodKen	Type: Editorial
Description: The text "the user of encryption. that" should be changed to "the use of encryption so that".		Reason: typo	Resolution: accepted
Notes: FM introduced whole paragraph here instead of section number.			
Page/Line: 9 /49	Item Number: 21	Commentor Name: StanwoodKen	Type: Editorial
Description: Change "protoco" to "protocol". Insert a space in "commonmodulation"		Reason: Typos.	Resolution: accepted
Notes: OK			
Page/Line: 10 /29	Item Number: 24	Commentor Name: StanwoodKen	Type: Editorial
Description: The figure and figure reference are missing. Also, this document should not show the "802.16" protocol stack, but the "802.16.1" protocol stack.		Reason: Typos, quality.	Resolution: accepted-modified
Notes: Additionally, line 35 refers to "special" protocols. We should say what we mean, not use cute, ambiguous term. -----			
Notes: Last item done. We need a good diagram here. The one from the functional requirements doesn't show sector antennas well, nor does it show multiple			
Page/Line: 10 /45	Item Number: 26	Commentor Name: StanwoodKen	Type: Editorial
Description: Delete the entire paragraph.		Reason: This whole paragraph is misleading. The TC layer is a layer between the DLC and the PHY. This is a very different topic than the "convergence sub-layers" being described here and is confusing with our true TC layers described in the PHY section of the document.	Resolution: accepted
Notes: OK			
Page/Line: 10 /56	Item Number: 28	Commentor Name: StanwoodKen	Type: Editorial
Description: Delete the phrase "the MAC protocol is simple".		Reason: It's an untrue editorial comment.	Resolution: accepted-modified
Notes: The proposed change would leave a non-grammatical half sentence.			
Page/Line: 11 /40	Item Number: 30	Commentor Name: StanwoodKen	Type: Editorial
Description: Change this requirement to a meaningful one.		Reason: This is a very "low bit rate" opinion of when to declare the link unavailable.	Resolution: rejected
Notes: What would be meaningful?			
Page/Line: 11 /56	Item Number: 31	Commentor Name: StanwoodKen	Type: Editorial
Description: Change "and cell radius" to ", modulation, and FEC".		Reason: No one is likely to be changing the cell radius quickly to accommodate weather conditions. We do, however, have the ability to change modulation and FEC, especially in PHY mode B.	Resolution: accepted
Notes: OK; also changed following sentence to match.			
Page/Line: 12 /35	Item Number: 32	Commentor Name: StanwoodKen	Type: Editorial
Description: Remove the word "be" after the word "is".		Reason: Typo.	Resolution: accepted
Notes: OK			
Page/Line: 12 /60	Item Number: 33	Commentor Name: StanwoodKen	Type: Editorial
Description: Remove period at end of bullet.		Reason: Consistency with other bullets.	Resolution: accepted
Notes: OK			
Page/Line: 12 /60	Item Number: 34	Commentor Name: StanwoodKen	Type: Editorial
Description: Insert a space between the word "Constant" and the period of the preceding sentence.		Reason: Typo.	Resolution: accepted
Notes: OK			
Page/Line: 15 /46	Item Number: 36	Commentor Name: StanwoodKen	Type: Editorial
Description: "64- bit" should be "EUI-64".		Reason: Clarity and completeness .	Resolution: accepted
Notes: OK			
Page/Line: 18 /17	Item Number: 47	Commentor Name: StanwoodKen	Type: Technical
Description: Delete last sentence of the paragraph.		Reason: The stated action never happens in any of the described primitive and	Resolution: accepted-duplicate

Notes: OK

Page/Line: 18 /17 **Item Number:** 46

Description:

Delete last sentence of the paragraph.

Modified sentence to read "In cases where it is necessary to.."

Notes: OK

Page/Line: 30 /29 **Item Number:** 60

Description:

The second sentence of the paragraph should be changed to:

"The Basic Connection IDs, assigned to a CPE at registration, are used by the BS MAC and the CPE MAC to exchange MAC control messages. The secondary management connection IDs, also assigned to a CPE at registration, are used by the BS MAC and the CPE MAC to exchange provisioning and higher level management information."

Change 'CPE' to 'SS', 'are' to 'is' and 'IDs' to 'ID'.

Notes: OK

Page/Line: 40 /19 **Item Number:** 91

Description:

Change sentence to: "The minimum number of CIDs a Modem can support is 3."

change to : " The minimum value is 2: a SS must support a Basic CID, a secondary management CID, and 0 or more transport CIDs."

Notes: OK; changed modem to CPE.

Page/Line: 47 /34 **Item Number:** 97

Description:

Change "CRC" to "MAC PDU Payload" and delete associated footnote.

Apply this change to other occurrences in the document.

Notes: OK

Page/Line: 48 /32 **Item Number:** 100

Description:

In line 32, change "CRC" to "MAC PDU Payload" and delete associated footnote.

Do the same in line 54.

In line 35, the value 1522 should be 1600, to allow for L2TP/PPP tunneling.

delete lines 35 and 36, but keep the sentence specified above except that CRC is changed to MAC PDU. Footnote 3 is still removed.

Notes: OK, see previous 2 comments.

Page/Line: 49 /12 **Item Number:** 102

Description:

In line 12, change "CRC" to "MAC PDU Payload" and delete associated footnote on line 64.

Notes: OK

Page/Line: 49 /31 **Item Number:** 103

Description:

delete the 2 words "and admitted"

Notes: Deferred until input has been given by Glen Sater who will investigate the matter.

Page/Line: 50 /18 **Item Number:** 105

Description:

Replace this section with one that properly describes the concept of Maximum Burst Length:

Change the section title to:
"2.3.5.6.1 Maximum Burst Duration"

Change lines 20-23 to:
"The value of this parameter specifies the maximum burst duration (in bytes) which a Service Flow is allowed."

Delete line 27-28 (line numbers don't line up correctly)

message sequences and never should happen.

Commentor Name: StanwoodKen **Type:** Technical

Reason

Resolution: accepted-modified
The stated action never happens in any of the described primitive and message sequences and never should happen.

Commentor Name: StanwoodKen **Type:** Technical

Reason

Resolution: accepted-modified
As the first sentence and other parts of the document point out, we have two control connections to allow differentiation of QoS between MAC Control and NMS type traffic.

Commentor Name: StanwoodKen **Type:** Technical

Reason

Resolution: accepted-modified
A modem is required to support 1) a basic CID, 2) a secondary management CID, 3) at least 1 user data CID.

Commentor Name: StanwoodKen **Type:** Technical

Reason

Resolution: accepted
This was an Ethernet based concept that went away with the merge. The MAC layer doesn't expect higher layers to have a CRC. If the higher layer protocol does include a CRC, it's just data to the MAC. MAC level error detection uses the HCS and the TC layer CRC.

Commentor Name: StanwoodKen **Type:** Technical

Reason

Resolution: accepted-modified
This was an Ethernet based concept that went away with the merge.

Commentor Name: StanwoodKen **Type:** Technical

Reason

Resolution: accepted-duplicate
This was an Ethernet based concept that went away with the merge.

Commentor Name: StanwoodKen **Type:** Technical

Reason

Resolution: referred to group
The timeout in this paragraph should only govern active QoS parameters. The timeout in paragraph 2.3.5.5.9 on line 44 of page 49 governs admitted QoS parameters.

Commentor Name: StanwoodKen **Type:** Technical

Reason

Resolution: accepted-duplicate
This is a DOCSIS concept that was modified by the merge.

Delete Note on lines 36-38.

Notes: OK. Some conflict with previous comment.

<p>Page/Line: 51 /35 Item Number: 107 Description: Bit #2 and Bit #3 should be changed to reserved. Notes: as 106</p>	<p>Commentor Name: StanwoodKen Type: Technical Reason Resolution: referred to group Request/Data opportunities went away. See Table 11 on page 83.</p>
<p>Page/Line: 51 /62 Item Number: 108 Description: The default behavior must be changed to one which works with the current system. I.E., dropping versus fragmenting. Notes: as 106</p>	<p>Commentor Name: StanwoodKen Type: Technical Reason Resolution: referred to group There are no longer "Primary Service Flows". Additionally, the behavior described can violate the concept of sending data in order.</p>
<p>Page/Line: 52 /42 Item Number: 109 Description: Change the second sentence to "The grant size includes the entire MAC PDU." Notes: OK</p>	<p>Commentor Name: StanwoodKen Type: Technical Reason Resolution: accepted "Frame Control byte" and "MAC frame", as used here, are concepts that went away with the merge.</p>
<p>Page/Line: 57 /51 Item Number: 113 Description: Delete the note on lines 51-52. Notes: OK</p>	<p>Commentor Name: StanwoodKen Type: Technical Reason Resolution: accepted This concept goes away with the merge.</p>
<p>Page/Line: 60 /5 Item Number: 114 Description: Insert the bulleted list referenced by the text or delete the reference. Notes: Changed "bulleted list" to "above list"</p>	<p>Commentor Name: StanwoodKen Type: Editorial Reason Resolution: accepted typo.</p>
<p>Page/Line: 71 /11 Item Number: 133 Description: The IUC concept needs to be broken into uplink IUC (UIUC) and downlink IUC (DIUC). Also page 75, line 27; page 78, line 43; page 79 line 15; page 80 line 31. Notes: Ken Stanwood will provide wording for this change.</p>	<p>Commentor Name: StanwoodKen Type: Technical Reason Resolution: accepted With the expanded PHY parameters (FEC) the UL and DL bursts can be very different and should have different IUCs. Also, some of the UL IUCs don't make sense for the DL (request, etc.).</p>
<p>Page/Line: 77 /36 Item Number: 140 Description: Delete "(PHY Type = 4)" from the figure heading. Notes: OK</p>	<p>Commentor Name: StanwoodKen Type: Editorial Reason Resolution: accepted The figure applies to all PHY types and there is no longer a PHY type 4.</p>
<p>Page/Line: 78 /7 Item Number: 144 Description: The reserved bits between the PHY Type and the Hyperframe number should be delineated with a dark line separating fields. Notes: OK (line not colored).</p>	<p>Commentor Name: StanwoodKen Type: Technical Reason Resolution: accepted The Hyperframe field is only 15 bits long.</p>
<p>Page/Line: 79 /15 Item Number: 146 Description: The connection identifier in the downlink TDMA map can be eliminated, allowing the DL map size to be reduced. Notes: OK</p>	<p>Commentor Name: StanwoodKen Type: Technical Reason Resolution: accepted Saves bandwidth. The terminals know, via unsolicited ranging responses, which burst types to listen to. Terminals can listen to all bursts which match their capabilities (including exclusion due to half-duplex operation) just as they would in TDM mode. This decrease the DL map size and decreases the differences between TDM and TDMA operation.</p>
<p>Page/Line: 79 /37 Item Number: 147 Description: There should be a table of DL IUCs like table 11. Notes: linked to one of Ken's earlier action items.</p>	<p>Commentor Name: StanwoodKen Type: Technical Reason Resolution: referred to group Clarity, missing information.</p>
<p>Page/Line: 80 /5 Item Number: 148 Description: Delete extra period before the word "Figure". Notes: OK</p>	<p>Commentor Name: StanwoodKen Type: Editorial Reason Resolution: accepted Typo.</p>
<p>Page/Line: 80 /8 Item Number: 149 Description: A "cell size", described in PS or minislots, should be broadcast to the CPEs either here in the UL MAP or in the UCD message. Notes: Put in as a new element in a TLV format in the UCD message. (This is also marked for further study.)</p>	<p>Commentor Name: StanwoodKen Type: Technical Reason Resolution: accepted-modified During an uncorrelated rain fade, a CPE might attempt to register on a BS in a different cell. The extra round trip delay could cause the CPE to trash the uplink by transmitting beyond the ranging opportunity. This field would allow the CPE to error check the cumulative Tx Time Advances it was given to help it determine that it is beyond the edge of the cell in which it's attempting registration.</p>

- Page/Line:** 80 / 17 **Item Number:** 150 **Commentor Name:** StanwoodKen **Type:** Editorial
Description: Change PCD to UCD. **Reason:** **Resolution:** accepted
 Additionally, PCD occurs throughout the document. It should be either UCD or DCD depending upon which message it pertains to. Additionally, there are places in the document where "Physical Channel Descriptor" should be changed. With increased functionality in the PHY, the PCD message was split into the separate UCD and DCD messages, but the change didn't fully ripple through the document.
- Notes:** Done already
- Page/Line:** 81 / 2 **Item Number:** 151 **Commentor Name:** StanwoodKen **Type:** Editorial
Description: The font of "PCD Count" (which really should be "UCD Count") should match the other items being described. **Reason:** **Resolution:** accepted
Notes: OK
 Format.
- Page/Line:** 81 / 40 **Item Number:** 155 **Commentor Name:** StanwoodKen **Type:** Technical
Description: Data Backoff Start and Data Backoff End should be changed to request Backoff Start and Request Backoff End, respectively. the two words "data and" should be deleted from line 42 and line 48. **Reason:** **Resolution:** accepted
 The concept of contention based data transfer was eliminated in the merge.
 This also affects the Figure on page 80 at line 28.
- Notes:** OK
- Page/Line:** 83 / 3 **Item Number:** 156 **Commentor Name:** StanwoodKen **Type:** Technical
Description: Need to add a "empty" IUC (different from NULL). This is particularly true for the DL TDMA map. **Reason:** **Resolution:** accepted
Notes: Ken Stanwood will righth text to address this comment. In case the BS needs to schedule gaps.
- Page/Line:** 83 / 49 **Item Number:** 157 **Commentor Name:** StanwoodKen **Type:** Technical
Description: Ranging request needs a status code parameter. **Reason:** **Resolution:** referred to group
Notes: defer this comment until input text is received from Ken Stanwood. CPE needs to be able to inform BS "I'm at max power, I'm at min power, my Tx advance is larger than the advertised cell size".
- Page/Line:** 84 / 22 **Item Number:** 158 **Commentor Name:** StanwoodKen **Type:** Technical
Description: "IUC Type" should be replaced with "Requested DL Modulation". **Reason:** **Resolution:** accepted-modified
 Alternatively, the values for this field should not be 1, 2, 3, but should be the DL IUC requested for optimal performance from the set advertised in the DCD messages. The modulation is what is being requested if the values are 1, 2, 3. If an IUC were requested, the values wold be different. This needs to be consistent.
 This affects line 49 also.
- Notes:** change "IUC Type" to "Requested Downlink Burst Type" on line 22. "Modulation" to "Downlink Burst" on line 25. "modulation" removed from line
- Page/Line:** 84 / 32 **Item Number:** 160 **Commentor Name:** StanwoodKen **Type:** Technical
Description: Change the first sentence to: "A required parameter until the Temporary CID has been received in the Ranging Response message". **Reason:** **Resolution:** accepted
Notes: OK
 After the receipt of the Temporary CID, the Temporary CID is a deterministic indication of which CPE sent the message, eliminating the need to repeat this field.
- Page/Line:** 86 / 27 **Item Number:** 165 **Commentor Name:** StanwoodKen **Type:** Technical
Description: The thresholds need to be better associated with the IUCs. According to Table 11 on page 83, IUCs 4-9 indicating data grant types 1-6 require thresholds, not IUCs 1-6. Also, Figure 76 on page 155 needs expanding to allow change via IUC, not just modulation. This concept needs to be for both uplink and downlink, and should probably be in the UCD and DCD messages, not the ranging responses. **Reason:** **Resolution:** accepted
Notes: line 27 is changed to "Burst Type Thresholds". The definition shall be deferred to the outcome of discussions with the PHY. This parameter shall be
 Clarity and compatibility of requirements.
- Page/Line:** 86 / 43 **Item Number:** 167 **Commentor Name:** StanwoodKen **Type:** Editorial
Description: Change "allow" to "allowed". In line 59, add the word "and" after the word "Header". **Reason:** **Resolution:** accepted
Notes: OK
 Typo.
- Page/Line:** 87 / 1 **Item Number:** 168 **Commentor Name:** StanwoodKen **Type:** Technical
Description: Change first sentence to: "A required parameter when the CID in the MAC header is the initialization CID". **Reason:** **Resolution:** accepted
Notes: see
 Clarification of requirement and efficiency of protocol.
- Page/Line:** 88 / 16 **Item Number:** 169 **Commentor Name:** StanwoodKen **Type:** Editorial

<p>Description: Insert the following sentence at the end of the description currently in the value column: "If this TLV is used, the Ranging Status TLV must be set to 1".</p> <p>Notes: OK</p>	<p>Reason Reduce ambiguity.</p>	<p>Resolution: accepted</p>
<p>Page/Line: 88 /25 Item Number: 171</p> <p>Description: Thresholds should be present for IUCs 4-9 and DL IUCs and probably should be moved to UCD and DCD messages.</p> <p>Notes: see 165</p>	<p>Commentor Name: StanwoodKen</p> <p>Reason Parameters are no longer sufficient given additional flexibility added to PHY.</p>	<p>Type: Technical</p> <p>Resolution: accepted-duplicate</p>
<p>Page/Line: 92 /53 Item Number: 174</p> <p>Description: The basic CID needs to be returned, too.</p> <p>Notes: include "Basic CID" with associated text, "The Basic CID for this SS.", prior to line 53 and modify "CID #2" to read as "Secondary Management CID".</p>	<p>Commentor Name: StanwoodKen</p> <p>Reason This is where it was supposed to happen, but it got lost in the editing.</p>	<p>Type: Technical</p> <p>Resolution: accepted-modified</p>
<p>Page/Line: 93 /35 Item Number: 175</p> <p>Description: The table should have a heading and a header as in Table 13 on page 88.</p> <p>Also, the redundant copies of the table should be removed.</p> <p>Notes: Already covered.</p>	<p>Commentor Name: StanwoodKen</p> <p>Reason Typo.</p>	<p>Type: Editorial</p> <p>Resolution: accepted</p>
<p>Page/Line: 94 /44 Item Number: 177</p> <p>Description: The text "refer to 2.3" should be "refer to section 2.3".</p> <p>Notes: OK</p>	<p>Commentor Name: StanwoodKen</p> <p>Reason Typo.</p>	<p>Type: Editorial</p> <p>Resolution: accepted</p>
<p>Page/Line: 102 /43 Item Number: 178</p> <p>Description: Insert a space before the word "Figure".</p> <p>Notes: PL</p>	<p>Commentor Name: StanwoodKen</p> <p>Reason Typo.</p>	<p>Type: Editorial</p> <p>Resolution: accepted</p>
<p>Page/Line: 109 /44 Item Number: 179</p> <p>Description: There should be a paragraph describing under what circumstances the CID in the MAC header is the Basic CID, or the multicast CID. Does it depend upon what CID the Multicast Poling Assignment Request was sent on?</p> <p>Notes: No text supplied</p>	<p>Commentor Name: StanwoodKen</p> <p>Reason Clarity, reduction of ambiguity.</p>	<p>Type: Editorial</p> <p>Resolution: rejected</p>
<p>Page/Line: 111 /8 Item Number: 188</p> <p>Description: Change the word "defines" to "defined".</p> <p>Also on line 12, insert the word "with" before "a 20 Mbaud".</p> <p>Notes: OK</p>	<p>Commentor Name: StanwoodKen</p> <p>Reason Typo.</p>	<p>Type: Editorial</p> <p>Resolution: accepted</p>
<p>Page/Line: 111 /53 Item Number: 191</p> <p>Description: Change the word millisecond to microsecond.</p> <p>----- New version of comment: It is recommended that all base station MACs within a network be provided with a common time reference accurate to one microsecond.</p> <p>Notes: Must raise this topic with the PHY group. (note that this comment is to be inserted in the TDD section)</p>	<p>Commentor Name: StanwoodKen</p> <p>Reason Millisecond accuracy is not sufficient to synchronize the TDD frame start and the TDD split across a network.</p>	<p>Type: Technical</p> <p>Resolution: accepted-modified</p>
<p>Page/Line: 112 /52 Item Number: 193</p> <p>Description: A document titled "Combining Burst FDD and FSDD modes in 802.16.1" is being submitted to further explain this change.</p> <p>This comment affects section 2.6.3 through page 114, line 28.</p> <p>The Burst FDD and FSDD variants of PHY mode B can be combined into a single variant that always starts a frame with TDM. TDM continues as long as it is feasible to allocate to either full-duplex terminals or terminals which are half-duplex yet can receive before they transmit in the current frame. After the feasibility of TDM is exhausted for the frame, the frame can continue with TDMA. Figures 52 and 53 would be</p>	<p>Commentor Name: StanwoodKen</p> <p>Reason This has the advantage that TDD, FDD TDM, and FSDD all share the same DL maps. It also has the advantage that you don't need to differentiate between Burst FDD and FSDD - they become one. The efficiency of FDD TDM and the statistical multiplexing gains of FSDD can be realized simultaneously.</p> <p>The change in no way affects systems that use PHY mode A.</p>	<p>Type: Technical</p> <p>Resolution: accepted-modified</p>

replaced
with a single figure showing the combined mode. This figure was given to
the editors
in "FDD_TDM_TDMA DL Subframe.vsd".

Depending upon the BS scheduling of the downlink, a system could still
choose to operate
the downlink TDM only, TDMA only or mixed TDM and TDMA.

Here are the specific edits for this section for this section:
////start of replacement text for section 2.6.3

In line 55, change "(TDD, Burst FDD and FSDD)" to "(TDD and Burst FDD)".

In line 57, change "has two optional forms as shown in Figure 39 and Figure
53" with
"allows TDM and TDMA to co-exist in the same frame as shown in Figure 52".

In line 58, change "In both cases it starts" with "The frame starts".

On page 113 change lines 1 through 22 with:
"All downlink subframes start with a TDMA section. They may optionally
contain a TDMA
section. This structure is shown in Figure 52. Whether an interval is TDM
or TDMA is
indicated by the DL IUC in the DL-MAP message in the Frame Control Header.

The TDM section is sorted by modulation with the modulation changed
indicated
in the
DL-MAP. They may optionally be sorted by CPE. Note that any one of the
differently
modulated TDM sections may be absent.

In the TDMA portion of the downlink subframe, downlink data destined to each
individual
CPE is grouped into one (preferable) or more bursts, each starting with a
short (e.g.,
12 symbols) preamble. The DL-MAP also contains a map of these bursts.

In TDD systems, the TDMA section would typically never be used, and no DL
IUCs in the
DL-MAP would be present except those indicating the TDM transitions. The
TDD case would
also contain a Tx/Rx Transition Gap (TRTG).

In FDD systems, the goal is to keep the TDMA section as short as possible.
Since full-
duplex FDD terminals and half-duplex FDD terminals which receive before they
transmit
can receive the TDM portion of the downlink. In general, TDMA bursts will
be present in
a frame only in those instances where a half-duplex terminal is required to
receive
before it transmits. This allows the efficiency (due to reduced overhead)
of TDM to be
used as much as possible while allowing co-existing TDMA to increase
statistical
multiplexing of half-duplex terminals.

Replace Figure 52 and Figure 53 with "FDD_TDM_TDMA DL Subframe.vsd" :

////end of replacement text for section 2.6.3

The change also affects the DL-MAP format described in pages 77-79 since the

map would
need to allow TDM style MAP elements followed by TDMA style MAP
elements.
This would be
achieved by specifically defining the DL IUCs (something that needs to be
done anyway),
to distinguish between TDM and TDMA. Since TDM is broadcast, TDM
intervals
would be
addressed to the broadcast channel ID. Alternatively, terminal/connection
IDs can be
completely removed in the DL-MAP by requiring all terminals to listen to all
intervals
with an IUC compatible (at or more robust than) with their negotiated DL
modulation/FEC.

Sections 3.2.1 and 3.2.2 on page 269 become combined in a similar fashion.

Figures 120, 122, and 123 on pages 271-272 become combined into a similar

Notes: picture and Ken will have to work his wording into the text that was merged from the PHY into the MAC.

Page/Line: 112 /58	Item Number: 194	Commentor Name: StanwoodKen	Type: Editorial
Description: Reference to Figure 39 should be Figure 52.		Reason: Typo.	Resolution: accepted
Notes: OK			
Page/Line: 114 /52	Item Number: 197	Commentor Name: StanwoodKen	Type: Technical
Description: MAC Version identifier and whether registration is allowed on this physical channel need to be added to some message, possibly the UL-MAP message.		Reason: Inconsistency in specification.	Resolution: rejected
Notes: No text supplied			
Page/Line: 115 /27	Item Number: 198	Commentor Name: StanwoodKen	Type: Editorial
Description: Line should end with the word "CPEs".		Reason: Typo.	Resolution: accepted
Notes: OK			
Page/Line: 119 /11	Item Number: 202	Commentor Name: StanwoodKen	Type: Technical
Description: This section should be reworded to discuss Data Grants 1-6 rather than Short and Long.		Reason: We now have an expanded definition of data grants compared to when this section was written.	Resolution: referred to group
Notes: Phil will do this.			
Page/Line: 119 /52	Item Number: 203	Commentor Name: StanwoodKen	Type: Technical
Description: The Uplink Subframe Map no pertains (according to the definition of the Alloc Start Time in the UL-MAP message) to the start of the current frame plus the Alloc start time (which could align with the next frame). Figures 57 and 58 on page 120 should be relabeled to indicate they are the maximum time the UL-MAPs can be referenced to. The document also should include a new figure showing the minimum time relevance for TDD (sent to editors as the file "TDD min time relevance.vsd" and a new figure showing the minimum time relevance for burst FDD (sent to the editors as the file "FDD min time relevance.vsd")		Reason: Consistency of requirements.	Resolution: accepted-modified
Notes: wording in line 51 must be clarified.			
Page/Line: 120 /55	Item Number: 205	Commentor Name: StanwoodKen	Type: Technical
Description: The CPE should report its processing time requirements in some message, or the standard should specify a minimum bound.		Reason: Interoperability of BS and CPEs.	Resolution: rejected
Notes: The minimum bound is already specified in table 2.			
Page/Line: 121 /26	Item Number: 206	Commentor Name: StanwoodKen	Type: Technical
Description: Change the word Data to Maintenance.		Reason: The standard does not allow data in contention slots, but does allow maintenance (at least initial) in contention slots.	Resolution: accepted-modified
Notes: also change "PDUs" for "intervals".			
Page/Line: 123 /6	Item Number: 209	Commentor Name: StanwoodKen	Type: Technical
Description: Add a row with Fragment = unfragmented, FC = 00, FSN = 0000.		Reason: For completeness of the requirement.	Resolution: accepted
Notes: OK			
Page/Line: 126 /14	Item Number: 213	Commentor Name: StanwoodKen	Type: Editorial
Description: Change "CPE" to "CPEs".		Reason: Typo.	Resolution: accepted
Notes: OK			
Page/Line: 126 /35	Item Number: 215	Commentor Name: StanwoodKen	Type: Technical
Description: The first sentence of the paragraph should start "In GPC mode".		Reason: Based on other descriptions in the document, GPC requests are incremental. GPT requests must, at least occasionally, be aggregate or the BS and CPE can get out of sync, but always using aggregate requests can be inefficient in certain boundary conditions. The same factors that require occasional aggregate requests in GPT mode cause the Data Grant Pending map entries	Resolution: accepted-modified
The following should be added to the end of the paragraph: "In GPT mode, additional requests or re-requests are based on timers and Data Grant Pending is		to be unnecessary and therefore wasteful of bandwidth.	
not required. In GPC mode all requests are incremental. In GPT mode most requests are incremental, but the CPE periodically issues aggregate requests			

(total data pending in queue), resetting the base station's perception of the connection's needs. Piggyback requests are always incremental."

The paragraph should be moved to be after the paragraph starting at line 41.

The most significant bit of the BR field of the bandwidth request in Figure 15, page 63 should be used to indicate incremental (0) or aggregate (1).

Notes: We will reserve the MSB of the BR field in the bandwidth request message for the purpose of possibly implementing aggregate vs. incremental

Page/Line: 126 /44 **Item Number:** 217 **Commentor Name:** StanwoodKen **Type:** Technical
Description: **Reason:** **Resolution:** accepted-duplicate
 Basic reason for feature was left out of explanation.
 Change 3rd sentence of paragraph to start: "This latter allows smaller UL maps and allows more".

Notes: OK

Page/Line: 126 /65 **Item Number:** 218 **Commentor Name:** StanwoodKen **Type:** Technical
Description: **Reason:** **Resolution:** accepted-modified
 This concept changed in the merge.

Change "Maximum Concatenated Burst" to "Maximum Burst Length".

Notes: if maximum burst length no longer exists, then footnotes 12 and 13 should be deleted. Line 28 is changed to "Any Data Grant IE." Line 29 is deleted.

Page/Line: 127 /7 **Item Number:** 219 **Commentor Name:** StanwoodKen **Type:** Technical
Description: **Reason:** **Resolution:** accepted-modified
 Definition of "frame" after the merge.

The box in Figure 60 which says "Await Frame arrival" should say "Await UL-MAP arrival". All other occurrences of "frame" in the figure should be changed to "PDU".

Notes: must replace remaining "frame" on drawing with "PDU", several cases, including the one which is now changed to "SDU" in figure 60.

Page/Line: 127 /62 **Item Number:** 220 **Commentor Name:** StanwoodKen **Type:** Technical
Description: **Reason:** **Resolution:** accepted
 Proper reason for functionality.

The second sentence of the paragraph should start "Since it is non-deterministic which request is being honored in this scheme,".

Notes: OK

Page/Line: 129 /3 **Item Number:** 221 **Commentor Name:** StanwoodKen **Type:** Technical
Description: **Reason:** **Resolution:** referred to group
 Correct GPT algorithm. Also modify for current definition of frame.

Changes to Figure 61:

The box containing "Await Frame arrival" should say "Await UL-Map arrival".

The "Data Grant Pending?" decision diamond along with its yes arrow should be deleted. The no arrows going in and out of the diamond should be consolidated into one no arrow.

The box "back-off and re-request for untransmitted portion of frame" should say "back-off and re-request for untransmitted portion of queue".

The box "Send untransmitted portion of frame with request for next frame in piggyback field" should say "Send untransmitted portion of PDU with request for queue contents in piggyback field".

All other occurrences of "frame" should say "PDU".

Notes: Ken Stanwood and Juan-Carlos Zuniga will go over this comment to come up with appropriate edits.

Page/Line: 130 /30 **Item Number:** 222 **Commentor Name:** StanwoodKen **Type:** Technical
Description: **Reason:** **Resolution:** accepted
 After the merge, this concept is taken care of by UGS w/AD.

Delete the entire paragraph.

Notes: OK

Page/Line: 132 /21 **Item Number:** 223 **Commentor Name:** StanwoodKen **Type:** Technical
Description: **Reason:** **Resolution:** accepted
 Corrections for compatibility with Tables 1 and 11.

Change "Registration" to "Initial Ranging". Change 0xFFFF to 0x0000, and change the IUC field to 2.

Notes: OK

Page/Line: 132 /49 **Item Number:** 224 **Commentor Name:** StanwoodKen **Type:** Technical
Description: **Reason:** **Resolution:** accepted
 Correction since they are allowed in unicast request intervals.

Insert "multicast or broadcast" before "Request intervals".

Notes: OK

Page/Line: 137 /8 **Item Number:** 227 **Commentor Name:** StanwoodKen **Type:** Technical
Description: **Reason:** **Resolution:** referred to group

PHY Mode B does not require this step.

Insert "(PHY Mode A only)" after "MPEG packetization".

Notes: Glen Sater will look at page 137, lines 1 through 28, and provide his recommended changes to the group.

Page/Line: 138 /38	Item Number: 228	Commentor Name: StanwoodKen	Type: Editorial
Description: Change "Wait for map for this channel" to Wait for UL-MAP for this channel".		Reason: Eliminate ambiguity.	Resolution: accepted
Notes: see 227.			
Page/Line: 152 /29	Item Number: 236	Commentor Name: StanwoodKen	Type: Technical
Description: Add the sentence "For GPT mode terminals, any allocation of uplink bandwidth constitutes a Periodic Ranging opportunity".		Reason: GPT terminals may send a Ranging request in any bandwidth they are given.	Resolution: accepted
Notes: OK			
Page/Line: 153 /52	Item Number: 237	Commentor Name: StanwoodKen	Type: Editorial
Description: Some strange overlay of text happened.		Reason: Typo.	Resolution: accepted
Notes: OK; changes had been made by overlays which didn't quite stay put.			
Page/Line: 267 /25	Item Number: 259	Commentor Name: StanwoodKen	Type: Editorial
Description: Insert the word "transmission" before the word "convergence".		Reason: Eliminate ambiguity and maintain consistency with the rest of the document.	Resolution: referred to editor
Also at line 47 Insert "Transmission" before "Convergence" in both of the lower convergence layers of the Figure.			
Notes: This figure is recommended to be deleted. Ensure this is handled properly in the overview section.			
Page/Line: 269 /2	Item Number: 262	Commentor Name: StanwoodKen	Type: Editorial
Description: Insert "by" before "16-QAM".		Reason: Typo.	Resolution: accepted
Also, on line 3, replace "modulations" with "modulation's".			
Notes: Done.			
Page/Line: 272 /11	Item Number: 265	Commentor Name: StanwoodKen	Type: Editorial
Description: Extraneous Figure heading on this line and again on line 63.		Reason: Typo.	Resolution: accepted
Notes: This figure is recommended to be removed and discussions moved to the MAC portion of the document.			
Page/Line: 279 /24	Item Number: 268	Commentor Name: StanwoodKen	Type: Editorial
Description: Extraneous Figure heading.		Reason: Typo.	Resolution: referred to editor
This happens throughout the remainder of the PHY sections			
Notes: Done.			
Page/Line: 282 /3	Item Number: 269	Commentor Name: StanwoodKen	Type: Technical
Description: A Figure identical to Figure 139 should be here showing the structure like Figure 124 shows the structure for PHY Mode A.		Reason: Clarity and Completeness.	Resolution: accepted
Notes: Moved to Technical comment to resolve placement of Scrambling. Done.			
Page/Line: 282 /30	Item Number: 271	Commentor Name: StanwoodKen	Type: Editorial
Description: This line should be above the figure or below the heading.		Reason: Format.	Resolution: referred to editor
The same thing happens on page 283, line 37.			
Notes: Done.			
Page/Line: 285 /5	Item Number: 277	Commentor Name: StanwoodKen	Type: Editorial
Description: This line should be inside the left box of the last row of the table.		Reason: Format.	Resolution: accepted
Notes: Should be subsection heading, not in the table.			
Page/Line: 286 /42	Item Number: 282	Commentor Name: StanwoodKen	Type: Editorial
Description: Extraneous Table Heading.		Reason: Formatting error.	Resolution: accepted
This happens throughout the remainder of the PHY sections.			
Notes: Done.			
Page/Line: 291 /37	Item Number: 287	Commentor Name: StanwoodKen	Type: Editorial
Description: Text is missing.		Reason: Formatting Error.	Resolution: accepted
Occurs again on Page 292, line 7 and page 293, line 11.			

Notes: References were added.			
Page/Line: 291 /53	Item Number: 288	Commentor Name: StanwoodKen	Type: Editorial
Description: Change "Table 72" to "Figure xxx".		Reason: Formatting Error.	Resolution: accepted
Same error occurs on page 292, line 29.			
Notes: Done.			
Page/Line: 293 /47	Item Number: 291	Commentor Name: StanwoodKen	Type: Editorial
Description: Change "Figure to "Table".		Reason: Formatting Error.	Resolution: accepted
Notes: Done.			
Page/Line: 296 /18	Item Number: 292	Commentor Name: StanwoodKen	Type: Editorial
Description: Equation should be inserted properly.		Reason: Formatting Error.	Resolution: accepted
Notes: Done.			
Page/Line: 296 /26	Item Number: 293	Commentor Name: StanwoodKen	Type: Editorial
Description: Table needs a heading.		Reason: Formatting Error.	Resolution: accepted
This occurs again on page 297, line 4; page 297, line 44; page 298, line 4; and various other tables throughout the remainder of the PHY section.			
Notes: Done.			
Page/Line: 299 /1	Item Number: 297	Commentor Name: StanwoodKen	Type: Editorial
Description: Fourth vertical line showing start of physical channels should line up with the start of the second CPE transition Gap.		Reason: Typo.	Resolution: referred to editor
Notes: This figure is recommended to be removed from the PHY, so the changed should be verified in the MAC.			
Page/Line: 299 /33	Item Number: 298	Commentor Name: StanwoodKen	Type: Editorial
Description: "Figure" should be "Table" and should be moved below text so it is at top of table.		Reason: Format.	Resolution: accepted
Notes: Done.			
Page/Line: 303 /11	Item Number: 302	Commentor Name: StanwoodKen	Type: Editorial
Description: Table appears to be missing.		Reason: Typo.	Resolution: accepted
Notes: This should have been a section title, not a table and has been fixed.			
Page/Line: 303 /54	Item Number: 303	Commentor Name: StanwoodKen	Type: Editorial
Description: Referenced Figure is missing and heading appears as text rather than as heading.		Reason: Typo.	Resolution: accepted
Notes: Figure has been added.			
Page/Line: 305 /35	Item Number: 305	Commentor Name: StanwoodKen	Type: Editorial
Description: Figure heading should start with "Figure xxx".		Reason: Typo.	Resolution: accepted
Same thing occurs again on page 306, line 46.			
Notes: Done.			
Page/Line: 309 /65	Item Number: 308	Commentor Name: StanwoodKen	Type: Editorial
Description: Should properly include equation.		Reason: Typo.	Resolution: accepted
Notes: Done.			
Page/Line: 310 /5	Item Number: 309	Commentor Name: StanwoodKen	Type: Editorial
Description: Extraneous Section heading.		Reason: Typo.	Resolution: accepted
Notes: Done.			
Page/Line: 312 /1	Item Number: 313	Commentor Name: StanwoodKen	Type: Technical
Description: Remainder of document is mostly TBD.		Reason: .	Resolution: rejected
Notes: Not sure what is recommended?			
Page/Line: 315 /49	Item Number: 314	Commentor Name: Zhang Wei	Type: Technical
Description: Insert input under "4.8.1 Propagation Conditions"		Reason: To provide an input in draft #1	Resolution: accepted-modified

Line of sight radio propagation conditions between base station and subscriber stations are required, to achieve high quality and availability service. Also, the subscriber stations need highly

directional antennas, which minimize the number of multipaths and interference from unexpected sources. The intersymbol interference may occur as a consequence of multipaths.

The severest propagation impairment is rain fade that may be estimated using ITU-R model [1] or Crane model [2]. Other impairments such as depolarization and loss due to atmospheric gases [1] are considered trivial.

[1] ITU-R Recommendation P.530-7, Propagation Data and Prediction Methods Required for the Design of Terrestrial Line-of-Sight Systems. 1997.

[2] R. K. Crane, Electromagnetic Wave Propagation Through Rain. New York, John Wiley & Sons, 1996.

Notes: Accept first paragraph of comment and reject second paragraph. Vote: Accept 2, Reject 1.

2 Sorted by Page #/Line

Page/Line: 0 / 1	Number: 0	Date: 9/5/00	Name: Stanwood Ken	Type: Editorial
Description: See page v I would like to see the table of contents go to lower level paragraphs.			Reason: It was difficult to find things when performing the review.	Resolution: accepted
Notes: FrameMaker would not generate 3 levels. IEEE office couldn't help since it is their policy to have only 2 levels of index in standards documents. I would				
Page/Line: 1 / 1	Number: 1	Date: 9/5/00	Name: Row Paul	Type: Editorial
Description: Search entire document for "PCD" and replace with "UCD" and/or "DCD" as appropriate in each case. Check all figures as well			Reason: The PCD message has been replaced by the DCD and UCD messages.	Resolution: accepted
Notes: OK				
Page/Line: 1 / 12	Number: 2	Date: 9/5/00	Name: Marin Scott	Type: Editorial
Description: Add reference numbers [1] ...			Reason: References referred to in the text need to be numbered.	Resolution: accepted
Notes: OK. Some were never numbered originally and still need to have numbers added to them.				
Page/Line: 2 / 1	Number: 3	Date: 9/5/00	Name: Row Paul	Type: Editorial
Description: Move Table 8 from section 2.5.2.2 to end of section 2.5.2.1			Reason: Table 8 is part of UCD description rather than DCD	Resolution: accepted
Notes: FrameMaker keeps moving it back. Leave it to the IEEE office, since				
Page/Line: 2 / 23	Number: 4	Date: 9/5/00	Name: Row Paul	Type: Editorial
Description: Amend last two Normative reference: ITU-T Recommendation J.116, "Interaction....." ITU-R Recommendation F.1499, "Radio transmission....."			Reason: These two recommendations are now approved by ITU-T and ITU-R	Resolution: accepted
Notes: OK				
Page/Line: 2 / 57	Number: 5	Date: 9/5/00	Name: Sater Glen	Type: Editorial
Description: The "Definitions" section from the MAC draft was not carried forward into this draft. That text should be included in this section.			Reason: To improve readability of the document by defining terms.	Resolution: accepted
Notes: OK				
Page/Line: 3 / 27	Number: 6	Date: 9/5/00	Name: Stanwood Ken	Type: Editorial
Description: Indentation of explanation of acronyms should be indented further.			Reason: HL-MAA, LL-MAA, and UGS-AD run into their explanations.	Resolution: accepted
Notes: OK				
Page/Line: 3 / 33	Number: 7	Date: 9/5/00	Name: Stanwood Ken	Type: Editorial
Description: LOS should be added to the acronym list.			Reason: It is included in the document.	Resolution: accepted
Notes: OK				
Page/Line: 3 / 37	Number: 8	Date: 9/5/00	Name: Leiba Yigal	Type: Editorial
Description: Insert MSAP (and it's meaning) into Acronyms and abbreviations section. Note also that EUI (Ethernet Unique Identifier) and UCD (Upstream Channel Descriptor) are commonly used and should also appear in this section.			Reason: MSAP used on page 122, line 57 without a previous definition.	Resolution: accepted
Notes: OK				
Page/Line: 3 / 38	Number: 9	Date: 9/5/00	Name: Condie Mary	Type: Editorial
Description: The usage of Physical Channel Descriptor message from the previous documents has been changed into Downlink and Uplink Channel Descriptor messages in the current draft. All three messages instead of just the Downlink and Uplink Channel Descriptor messages are used in the current draft. This has made this draft difficult to read and understand. Sections 2.11.2 and sections 2.11.3 are examples of this problem. The editors should revise the draft so that only the Uplink and Downlink Channel Descriptor messages are used.			Reason: To improve readability of the document.	Resolution: accepted-duplicate
Notes: OK. Treat as editorial.				
Page/Line: 5 / 16	Number: 11	Date: 9/5/00	Name: Stanwood Ken	Type: Editorial
Description: Change the word "user" to "use".			Reason: Correct grammar.	Resolution: accepted
Notes: OK				

Page/Line: 5 /16	Number: 10	Date: 9/5/00	Name: Row	Type: Paul	Resolution: Editorial
Description: Line 16 change "user" to "use"			Reason: Spelling mistake	Resolution: accepted	
Notes: OK					
Page/Line: 6 /39	Number: 12	Date: 9/5/00	Name: Row	Type: Paul	Resolution: Editorial
Description: Line 39 change "ISDN" to "ISDN"			Reason: Spelling mistake	Resolution: accepted	
Notes: OK					
Page/Line: 7 /1	Number: 14	Date: 9/5/00	Name: Row	Type: Paul	Resolution: Editorial
Description: p7 line 1 change "section A" to "section 1.5" also page 7 line 23 and page 9 line 33			Reason: Broken cross-references	Resolution: accepted	
Notes: FM had embedded the whole referenced paragraph rather than the					
Page/Line: 7 /1	Number: 13	Date: 9/5/00	Name: Stanwood	Type: Ken	Resolution: Editorial
Description: The start of the first sentence is damaged, apparently by a missing section reference. The same thing happens on line 23. By the way, it is the third time we've said the exact same thing in 3 pages.			Reason: Typos.	Resolution: accepted	
In line 6, "encryption., it" should be changed to "encryption. It"					
Line 29 has a double period at the end of the line.					
Notes: OK					
Page/Line: 8 /9	Number: 15	Date: 9/5/00	Name: Stanwood	Type: Ken	Resolution: Editorial
Description: There is an extra space before the period at the end of the sentence.			Reason: Typos.	Resolution: accepted	
Notes: OK					
Page/Line: 8 /57	Number: 16	Date: 9/5/00	Name: Stanwood	Type: Ken	Resolution: Editorial
Description: This section, through page 10, line 18, including Figure 4, uses the terms BTS and STS. The remainder of the document uses Base Station and CPE. Either we add BTS and STS to the acronym list and use them throughout the document or we change this section, including the figure.			Reason: Consistency and completeness.	Resolution: rejected	
Notes: Need to get consensus of group on what terminology to use.					
Page/Line: 8 /57	Number: 17	Date: 9/5/00	Name: Marin	Type: Scott	Resolution: Editorial
Description: Change "base transceiver station (BTS)to one or more subscriber transceiver stations (STS)" to "base station (BS) to one or more subscriber stations (SS)" -----			Reason: Use the terms as defined in Functional Requirements Document IEEE 802.16s-99/00r1. Note term CPE through the document should be replaced with SS. The replacement of BS for BTS occurs on several lines and figures.	Resolution: accepted-modified	
Notes: modified to:					
Page/Line: 8 /62	Number: 18	Date: 9/5/00	Name: Stanwood	Type: Ken	Resolution: Editorial
Description: Change the word "expected" to "allowed".			Reason: Correctness - the standard can not support mobile CPEs, therefore they are not allowed.	Resolution: accepted	
Notes: OK					
Page/Line: 9 /29	Number: 19	Date: 9/5/00	Name: Stanwood	Type: Ken	Resolution: Editorial
Description: Change the word "are" to "is".			Reason: Grammar - the noun, One addition, and the verb, are, do not match.	Resolution: accepted	
Notes: OK					
Page/Line: 9 /38	Number: 20	Date: 9/5/00	Name: Stanwood	Type: Ken	Resolution: Editorial
Description: The text "the user of encryption. that" should be changed to "the use of encryption so that".			Reason: typo	Resolution: accepted	
Notes: FM introduced whole paragraph here instead of section number.					
Page/Line: 9 /49	Number: 22	Date: 9/5/00	Name: Marin	Type: Scott	Resolution: Editorial
Description: Change "protoco" to "protocol"			Reason: spelling error	Resolution: accepted-duplicate	
Notes: OK					
Page/Line: 9 /49	Number: 21	Date: 9/5/00	Name: Stanwood	Type: Ken	Resolution: Editorial
Description: Change "protoco" to "protocol". Insert a space in "commonmodulation"			Reason: Typos.	Resolution: accepted	
Notes: OK					
Page/Line: 9 /62	Number: 23	Date: 9/5/00	Name: Marin	Type: Scott	Resolution: Editorial

Description: Change Figure 4 with Figure 2-3 from document IEEE 802.16s-99/00r1	Reason Consistency with functional requirements.	Resolution: accepted
Notes: Only difference between the figures is terminology (BS vs BTS etc) which should be discussed at group level.		
Page/Line: 10 /29 Number: 25 Date: 9/5/00	Name: Marin	Scott Type: Technical
Description: After "shown in" insert "Figure X". Then insert Figure 4-1 from the functional requirement document (IEEE 802.16s-99r1, p11).	Reason Incomplete sentence	Resolution: rejected
Notes: See previous comment.		
Page/Line: 10 /29 Number: 24 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: The figure and figure reference are missing. Also, this document should not show the "802.16" protocol stack, but the "802.16.1" protocol stack.	Reason Typos, quality.	Resolution: accepted-modified
Additionally, line 35 refers to "special" protocols. We should say what we mean, not use cute, ambiguous term. -----		
Notes: Last item done. We need a good diagram here. The one from the functional requirements doesn't show sector antennas well, nor does it show multiple		
Page/Line: 10 /45 Number: 26 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Delete the entire paragraph.	Reason This whole paragraph is misleading. The TC layer is a layer between the DLC and the PHY. This is a very different topic than the "convergence sub-layers" being described here and is confusing with our true TC layers described in the PHY section of the document.	Resolution: accepted
Notes: OK		
Page/Line: 10 /49 Number: 27 Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: Change "in the ATM World" to "for ATM protocols"	Reason There is no ATM World.	Resolution: accepted-duplicate
Notes: Alas.		
Page/Line: 10 /56 Number: 28 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Delete the phrase "the MAC protocol is simple". -----	Reason It's an untrue editorial comment.	Resolution: accepted-modified
Notes: The proposed change would leave a non-grammatical half sentence.		
Page/Line: 11 /36 Number: 29 Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: Change entire paragraph to the paragraph beginning on page 13, line 26 of the functional requirements spec (IEEE 802.16s-99_00r1).	Reason Consistency with the functional requirements spec.	Resolution: accepted
Notes: OK		
Page/Line: 11 /40 Number: 30 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Change this requirement to a meaningful one.	Reason This is a very "low bit rate" opinion of when to declare the link unavailable.	Resolution: rejected
Notes: What would be meaningful?		
Page/Line: 11 /56 Number: 31 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Change "and cell radius" to ", modulation, and FEC".	Reason No one is likely to be changing the cell radius quickly to accommodate weather conditions. We do, however, have the ability to change modulation and FEC, especially in PHY mode B.	Resolution: accepted
Notes: OK; also changed following sentence to match.		
Page/Line: 12 /35 Number: 32 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Remove the word "be" after the word "is".	Reason Typo.	Resolution: accepted
Notes: OK		
Page/Line: 12 /60 Number: 34 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Insert a space between the word "Constant" and the period of the preceding sentence.	Reason Typo.	Resolution: accepted
Notes: OK		
Page/Line: 12 /60 Number: 33 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Remove period at end of bullet.	Reason Consistency with other bullets.	Resolution: accepted
Notes: OK		
Page/Line: 13 /39 Number: 35 Date: 9/5/00	Name: Row	Paul Type: Technical
Description: Line 39 delete "[R. Sanders][conferred to ad-hoc QoS group]"	Reason Appears to be a leftover comment which should be removed. Did this ad-hoc group report back?	Resolution: accepted

Notes: OK. Not sure; ask Sanders. Treat as editorial.

Page/Line: 15 /46 **Number:** 36 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: "64- bit" should be "EUI-64". **Reason:** Clarity and completeness. **Resolution:** accepted
Notes: OK

Page/Line: 17 /4 **Number:** 37 **Date:** 9/5/00 **Name:** Sater Glen **Type:** Technical
Description: MSAP definitions for specific bearer transport ("convergence layers") should be defined separately in each Annex that defines the operation of that convergence layer. The specific MSAP definitions may require modification as the actual convergence processes are defined. **Reason:** To properly match the specific MSAP definition with the convergence process it is associated with. **Resolution:** unresolved

Notes: Need to get text for definitions

Page/Line: 17 /4 **Number:** 38 **Date:** 9/5/00 **Name:** Sater Glen **Type:** Technical
Description: The convergence processes as shown in Figure 5 are not defined. Each convergence process was to be written as a separate Annex to the main standard. The minimum set of processes were listed as part of the Session 7.5 minutes. Writing assignments were made for these sections of text but were not completed due to time constraints. A call for contributions (or equivalent) should be issued to complete this task. **Reason:** The MAC proper tunnels other higher-layer protocols and does not provide a complete standard without these minimum set of definitions. **Resolution:** unresolved

Notes: Need people to supply the convergence layer text.

Page/Line: 17 /11 **Number:** 39 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: Delete "-proper" **Reason:** It's not clear what a "proper" service is. Delete "proper" or clearly distinguish from other MAC services. **Resolution:** accepted

Notes: OK

Page/Line: 17 /12 **Number:** 40 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: Change "convergence sublayers" to "convergence sublayer (CL)" **Reason:** define acronym. Change to singular, because there is one layer. **Resolution:** accepted
Notes: Plural dropped in two places, but CL abbreviation for Convergence Sublayer not added.

Page/Line: 17 /14 **Number:** 41 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: After Figure 5. insert new sentence "The transmission convergence (TC) sublayer is" **Reason:** Define acronym "TC". **Resolution:** accepted

Notes: OK

Page/Line: 17 /14 **Number:** 42 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: Change "These" to "The" **Reason:** Correct sentence grammar. Change to singular because there is a single layer. **Resolution:** accepted

Notes: OK

Page/Line: 17 /43 **Number:** 43 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: Change "convergence sublayer access point" with "SAP" **Reason:** Assuming that the "convergence sublayer access point is the same as the SAP, then use the previously defined acronym "SAP". Alternatively, if the convergence sublayer access point is different from the SAP, then the sublayer access point **Resolution:** accepted

Notes: OK

Page/Line: 17 /44 **Number:** 44 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: After "convergence sublayer" insert "(CL)" **Reason:** define acronym. **Resolution:** accepted
Notes: Conflicts with previous request. Also, CS would be better abbreviation.

Page/Line: 17 /47 **Number:** 45 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: Change MAC primitives at the Convergence Layer access point in such a way as to support the 3-way handshake protocol defined by the Dynamic Service **Reason:** It seems that the MAC-CREATE-CONNECTION and MAC-CHANGE-CONNECTION primitives are inadequate for describing the 3-way handshake model used by the Dynamic Service Requests described in 2.13.7.2. **Resolution:** referred to group

The Convergence Layer needs to be involved in the decision as to whether an offered connection as described in the MAC-CREATE-CONNECTION.response is to be accepted or not and to be able to accept or refuse the connection or change using an acknowledgement message.

Notes: Text not supplied

Page/Line: 18 /17 **Number:** 47 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical

Description: Delete last sentence of the paragraph.			Reason The stated action never happens in any of the described primitive and message sequences and never should happen.	Resolution: accepted-duplicate
Notes: OK				
Page/Line: 18 /17 Number: 46 Date: 9/5/00		Name: Stanwood Ken	Type: Technical	
Description: Delete last sentence of the paragraph. ----- Modified sentence to read "In cases where it is necessary to.."		Reason The stated action never happens in any of the described primitive and message sequences and never should happen.	Resolution: accepted-modified	
Notes: OK				
Page/Line: 18 /34 Number: 48 Date: 9/5/00		Name: Marin Scott	Type: Editorial	
Description: change "reads" to "sends"		Reason spelling.	Resolution: accepted	
Notes: OK				
Page/Line: 18 /57 Number: 49 Date: 9/5/00		Name: Leiba Yigal	Type: Technical	
Description: Add to the MAC-CREATE-CONNECTION.request primitive a field called 'ARQ parameters'. The ARQ parameters include details on whether ARQ is used or not for the connection, maximum re-transmission limit and acknowledgment		Reason Add support for MAC level ARQ. See also related contribution titled 'Suggested modifications to 802.16.1 standard draft to support MAC level ARQ'	Resolution: accepted	
Notes: OK				
Page/Line: 19 /30 Number: 50 Date: 9/5/00		Name: Marin Scott	Type: Editorial	
Description: after "connection ID" insert "(CID)"		Reason Define acronym. Note that the document inconsistently uses connection ID, connection identifier, and CID in many places. String replace all but the first occurrence of "connection ID" and "connection identifier" with CID.	Resolution: accepted	
Notes: OK				
Page/Line: 19 /42 Number: 51 Date: 9/5/00		Name: Marin Scott	Type: Editorial	
Description: After "Request message" insert "(paragraph xxx)"		Reason Dynamic Service Addition - Request message not yet defined in the document.	Resolution: accepted	
Notes: OK				
Page/Line: 20 /61 Number: 52 Date: 9/5/00		Name: Leiba Yigal	Type: Technical	
Description: Add parameter to MAC-CREATE-CONNECTION.request in order to identify the parameter		Reason It is not clear how the MAC knows which CL to inform. There is no in any of the primitives that identifies the CL component issuing a request. Parameter only required until a connection ID is returned. After that, the association between CL and connection ID is known.	Resolution: accepted	
Notes: OK				
Page/Line: 24 /39 Number: 53 Date: 9/5/00		Name: Marin Scott	Type: Editorial	
Description: Change "MAA" to "XXX"		Reason Note sure if MAA is a typo or intentional. If intentional, then define MAA. If typo, then change to correct value.	Resolution: accepted	
Notes: MAA added to definitions (HL-MAA and LL-MAA were already there, but not plain MAA)				
Page/Line: 25 /44 Number: 54 Date: 9/5/00		Name: Marin Scott	Type: Editorial	
Description: After "supported at the" insert "Mxxxx Pxxxx Lxxxx Sxxxx"		Reason define acronym. For that mater, LLC, ATM, IP, and MPEG have been defined either.	Resolution: accepted	
Notes: All acronyms expanded in Abbreviations section.				
Page/Line: 26 /18 Number: 55 Date: 9/5/00		Name: Condie Mary	Type: Technical	
Description: Change "service class" to "service flow reference"		Reason The SAP or MAC layer has no knowledge of the QoS parameters associated with a particular ATM VPI/VCI or IP address and therefore cannot select a particular connection id. Service class cannot be used because there may be multiple connections with the same service class. A combination of VPI/VCI and service class could be used to select a conn id but this means that the SAP would need to be configured with this information and there are no primitives defined to do this. In addition the service class would need to be parsed in real time and it is ASCII text. Similar problems exist for IP primitives.	Resolution: unresolved	
				This change suggests used the service flow reference as the item for mapping. The service flow reference is in the config file and may be used for more detailed configuration to map customers/QoS to connection ids. The convergence layer would retain a service flow reference to connection id mapping. This avoids the need of the application layer from knowing the connection id, and also means that management primitives for static configurations are not required. However we

believe that management primitives should be provided to allow application layers to create connections dynamically. The MAC provides this mechanism but there is no way for applications to activate it.

Use of the service flow reference for this purpose is just one way this can be done. Contributions in this area and for dynamically creating connections should be solicited.

Notes: OK

Page/Line: 27 /19 **Number:** 56 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Technical
Description: Delete the "encryption flag" parameter from the list.
Reason: This parameter is not needed in this direction because the data has already been decrypted.
Resolution: accepted

Notes: OK

Page/Line: 29 /20 **Number:** 57 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: Change "CPE" to "SS"
Reason: Consistency with functional requirements, IEEE 802.16s-99_00r1. Note, String replace "CPE" with "SS" in several places.
Resolution: accepted-modified

Notes: SS and BS should be used

Page/Line: 29 /45 **Number:** 58 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Technical
Description: The contents from Section 5.3.1.2 of document 802.16.1.mc-00/14r1, dated April 14, 2000, should be inserted and modified appropriately.
Reason: The section 5.3.1.2 defines the concept of Service flows, frames and encoding of the data. This information appears to have been lost during the document edits. Insertion of this section will vastly improve the readability of the draft.
Resolution: unresolved

Notes: text will be modified prior to resolving this comment. Glen Sater and Ken Stanwood will address the word smithing.

Page/Line: 30 /22 **Number:** 59 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Technical
Description: after "addressing purposes" insert "[ref #]."
Reason: 802.16 will need to have a plan for assigning EUIs. The standard should reference the EUI assignment process and not leave the reader to define any EUI.
Resolution: accepted

Notes: Text of reference not provided.

Page/Line: 30 /29 **Number:** 60 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: The second sentence of the paragraph should be changed to:
 "The Basic Connection IDs, assigned to a CPE at registration, are used by the BS MAC and the CPE MAC to exchange MAC control messages. The secondary management connection IDs, also assigned to a CPE at registration, are used by the BS MAC and the CPE MAC to exchange provisioning and higher level management information."

 Change 'CPE' to 'SS', 'are' to 'is' and 'IDs' to 'ID'.
Reason: As the first sentence and other parts of the document point out, we have two control connections to allow differentiation of QoS between MAC Control and NMS type traffic.
Resolution: accepted-modified

Notes: OK

Page/Line: 30 /30 **Number:** 61 **Date:** 9/5/00 **Name:** Eklund Carl **Type:** Technical
Description: Change 'Basic Connection IDs' to Basic Connection ID and the NRT management Connection ID'
Reason: The intention of the Basic connection ID is to provide a shortened unique ID for an active terminal. Other sections of the document refer to a single Basic connection ID.
Resolution: rejected

Notes: OK; can be combined with previous change

Page/Line: 30 /40 **Number:** 62 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Technical
Description: Change the phrase "64K connections within the sector" to "64K connections within the downstream channel".
Reason: Connection ID should be local to a channel to allow simplified base station assignment of it. Since a CPE may only use 1 downstream channel, there is no ambiguity.
Resolution: accepted

Notes: OK

Page/Line: 31 /3 **Number:** 63 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Editorial
Description: The values of Connection Identifiers should be:
 Temporary Registration 1..m
 Basic CID (m+1)..n
 Transport CID (n+1)..0xFDFD
Reason: Incorrectly specified.
Resolution: referred to group

Notes: Should be considered technical

Page/Line: 31 /4 **Number:** 64 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: change "Connection Identifier" to "CID"
Reason: String replace all but the first occurrence of "connection ID" and "connection identifier" with CID.
Resolution: accepted

Notes: OK

Page/Line: 31 /9	Number: 65	Date: 9/5/00	Name: Marin	Scott Type: Technical
Description: Delete lines 9 thru 15.		Reason: The notation "0..m", "m.n", and n..0xFDFD is unclear. Obviously, lines 9 thru 15 should be changed instead of deleted, but I couldn't even guess at what the notation means. If the CID has a 16-bit value, then all rows should have only 16-bit values. The notation "n..0xFDFD" appears to be a multiple of a 16-bit value, which is very confusing.		
----- Temporary Registration and Basic CIDs are combined to be one range from 0x0001 to n.				
Transport and Secondary Management CIDs are combined to be one range from m+1 to 0xFDFD.				
Notes: OK				
Page/Line: 31 /17	Number: 66	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: after "request" insert "information element"		Reason: define acronym		
Notes: OK but result is not clear.				
Page/Line: 31 /43	Number: 67	Date: 9/5/00	Name: Marin	Scott Type: Technical
Description: Change "See" to "The BS and SS shall meet the timing requirements contained		Reason: To make it clear that stations that are compliant to 802.16.1 have time requirements.		
Notes: OK				
Page/Line: 31 /60	Number: 68	Date: 9/5/00	Name: Marin	Scott Type: Technical
Description: delete "if present"		Reason: Is the configuration file optional? Assume a configuration file is required the "if present" should be deleted.		
----- Change sentence to read as "Registration settings are found in the configuration file and shall be forwarded by the SS to the BS in its Registration				
Notes: OK				
Page/Line: 31 /61	Number: 69	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: after "Registration Request." insert new sentence. For the subsequent settings,		Reason: define "length"		
Notes: OK				
Page/Line: 32 /23	Number: 70	Date: 9/5/00	Name: Condie	Mary Type: Editorial
Description: Change "DS-MAP" to "DL-MAP" in this line and also all other occurrences in the document.		Reason: To be consistent in the naming convention.		
Notes: OK				
Page/Line: 33 /15	Number: 71	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: after "wait for" insert "physical change descriptor"		Reason: define acronym		
Notes: Possible conflict with earlier change to DCD				
Page/Line: 34 /48	Number: 72	Date: 9/5/00	Name: Condie	Mary Type: Editorial
Description: Change "center frequency" to "center radio frequency".		Reason: To remove possible ambiguity with intermediate frequency.		
Notes: OK				
Page/Line: 34 /48	Number: 73	Date: 9/5/00	Name: Marin	Scott Type: Technical
Description: change "Hz" to "kHz"		Reason: Consistency with line 56. Note 2^32 is 4.29e9; therefore, to specify a frequency with a 32-bit word at, for example, 66 GHz, the units must be at least 100 Hz.		
Notes: OK				
Page/Line: 34 /61	Number: 74	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: Change "this" to "xxx"		Reason: "This" is ambiguous. "This" might be replaced with "upstream channel ID", but then		
Notes: Seems OK as is. "This" refers to the channel ID of the previous sentence.				
Page/Line: 34 /62	Number: 75	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: Change "It" to "xxx"		Reason: "It" is ambiguous. "It" might be replaced with "The upstream channel description		
Notes: OK; changed "It" to "This channel"				
Page/Line: 35 /5	Number: 76	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: after "Object" insert "(NACO)"		Reason: define acronym		
Notes: OK				
Page/Line: 35 /7	Number: 77	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description:		Reason:		

After "Subscriber" insert "Network"				Consistency with system reference point descriptions in para 1.7.1
Notes: OK				
Page/Line: 35 /15	Number: 78	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: change "On/Off" to "Value"			Reason: Consistency with other paragraphs	Resolution: accepted
Notes: OK				
Page/Line: 35 /19	Number: 79	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: Change "A Subscriber" to "Subscriber Network Equipment"			Reason: Consistency with system reference point descriptions in para 1.7.1. (Subscribers	Resolution: accepted
Notes: OK				
Page/Line: 35 /22	Number: 80	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: change "NACO off" to ""NACO=0" off			Reason: Is NACO off the same as "NACO=0"? Use only one notation. See also NACO in Page35, line 37.	Resolution: accepted
Notes: OK				
Page/Line: 35 /25	Number: 81	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: before "ARP" insert "Axxx Rxxx Pxxx"			Reason: Define acronym. DHCP, ICPEP, ToD, TFTP SYSLOG, and SNMP should also be defined.	Resolution: accepted
Notes: OK. Now defined in abbreviation list				
Page/Line: 35 /44	Number: 82	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: delete "that can be used by the CPE"			Reason: Confusing wording. Are there downstream modulation typed that can't be used by a	Resolution: accepted
Notes: Possibly. Refer to group for technical guidance.				
Page/Line: 36 /10	Number: 83	Date: 9/5/00	Name: Condie	Mary Type: Technical
Description: This parameter should be deleted.			Reason: There is no way that the CPE can know the number of subscribers since they may be hidden behind other devices such as routers.	Resolution: accepted
Notes: OK				
Page/Line: 36 /11	Number: 84	Date: 9/5/00	Name: Eklund	Carl Type: Technical
Description: Remove this parameter			Reason: There is no defined mechanism to identify a subscriber.	Resolution: accepted-duplicate
Notes: OK; same as previous comment				
Page/Line: 36 /13	Number: 85	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: Change "subscriber" to "xxxx"			Reason: What is a subscriber? A channel, a network equipment, and billing account? Insert the answer in for "xxxx". If sentence is correct, then define subscriber in the context of the sentence.	Resolution: accepted
Notes: Similar comments have been marked technical. In any case, worth discussing in the group.				
Page/Line: 36 /28	Number: 86	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: before "TFTP" insert "Txxx Fxxx Txxx Pxxx"			Reason: define acronym	Resolution: accepted
Notes: Defined in Abbrev. Section				
Page/Line: 36 /45	Number: 87	Date: 9/5/00	Name: Eklund	Carl Type: Technical
Description: Change value from 4 to 16			Reason: To accomodate IPv6 terminals	Resolution: rejected
Notes: OK				
Page/Line: 36 /46	Number: 88	Date: 9/5/00	Name: Condie	Mary Type: Technical
Description: The IP Address should be specified as 4 or 16 octets in length.			Reason: To Support IP Version 6 protocol. The type of address may be determined from the length.	Resolution: accepted
Notes: OK, same as previous.				
Page/Line: 38 /29	Number: 89	Date: 9/5/00	Name: Marin	Scott Type: Editorial
Description: change "Appendix 2.3.1.9" to "x.x.x.x"			Reason: Reference is incorrect.	Resolution: accepted
Notes: OK, changed to Section 2.3.1.9				
Page/Line: 39 /29	Number: 90	Date: 9/5/00	Name: Eklund	Carl Type: Technical
Description: Change length from 6 to 8 and Value from Ethernet MAC addresses to EUI-64 -----			Reason: Inconsistency	Resolution: accepted-modified

Delete section 2.3.2.6.

Notes: OK

Page/Line: 40 /19 **Number:** 91 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: Change sentence to: "The minimum number of CIDs a Modem can support is 3." **Reason:** A modem is required to support 1) a basic CID, 2) a secondary management CID, 3) at least 1 user data CID. **Resolution:** accepted-modified

 change to : " The minimum value is 2: a SS must support a Basic CID, a secondary management CID, and 0 or more transport CIDs."

Notes: OK; changed modem to CPE.

Page/Line: 40 /22 **Number:** 92 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: Delete sections 2.3.3.1.3 and 2.3.3.1.4 dealing with transmit equalizer taps **Reason:** Use of equalizer on the transmitter side has unpredictable effect on the spectral shape of the RF power emitted by the CPE, and may cause harmful interference to adjacent channels. Further, the RF channel might change fast enough that transmitter equalization techniques are useless. **Resolution:** accepted

Notes: Ask PHY group whether a pre-equalizer may be used. Deferred to joint session. May also want to discuss with TG2.

Page/Line: 43 /23 **Number:** 93 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial
Description: Insert "See section 2.5.5.3 for encoding information." **Reason:** To improve readability of document. **Resolution:** accepted

Notes: Section 2.5.5.3 does not exist. Any suggestions?

Page/Line: 43 /37 **Number:** 94 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial
Description: Insert "See section 2.5.5.3 for encoding information." **Reason:** To improve readability of document. **Resolution:** accepted

Notes: Section 2.5.5.3 does not exist.

Page/Line: 43 /56 **Number:** 95 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Technical
Description: Change "the Service Flow Reference shall no longer be used" to "the Service Flow Reference shall no longer be used by the MAC. However it is used between the Application Convergence layers and the SAP to map data to connection ids." **Reason:** The current convergence layer primitives are insufficient to allow for mapping of data to connections. Use of the service flow reference for this is just one way to do this. We should request contributions in this area. **Resolution:** unresolved

Notes: Deferred pending inputs from a call for contributions regarding the convergence layer definitions.

Page/Line: 44 /18 **Number:** 96 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: After "Identifier" insert "(CID)" **Reason:** redefine acronym to avoid confusion. **Resolution:** accepted

Notes: OK

Page/Line: 47 /34 **Number:** 97 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: Change "CRC" to "MAC PDU Payload" and delete associated footnote. **Reason:** This was an Ethernet based concept that went away with the merge. The MAC layer doesn't expect higher layers to have a CRC. If the higher layer protocol does include a CRC, it's just data to the MAC. MAC level error detection uses the HCS and the TC layer CRC. **Resolution:** accepted

 Apply this change to other occurrences in the document.

Notes: OK

Page/Line: 47 /34 **Number:** 98 **Date:** 9/5/00 **Name:** Eklund Carl **Type:** Technical
Description: Remove from the the end of the CRC. Remove footnote 2. **Reason:** Historical remains **Resolution:** accepted-duplicate

Notes: OK; see previous comment.

Page/Line: 48 /31 **Number:** 99 **Date:** 9/5/00 **Name:** Eklund Carl **Type:** Technical
Description: Remove "This value the end of the CRC. Remove footnote 3." **Reason:** Historical remains **Resolution:** accepted-duplicate

Notes: OK. See previous two comments.

Page/Line: 48 /32 **Number:** 100 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: In line 32, change "CRC" to "MAC PDU Payload" and delete associated footnote. Do the same in line 54. In line 35, the value 1522 should be 1600, to allow for L2TP/PPP tunneling. **Reason:** This was an Ethernet based concept that went away with the merge. **Resolution:** accepted-modified

 delete lines 35 and 36, but keep the sentence specified above except that CRC is changed to MAC PDU. Footnote 3 is still removed.

Notes: OK, see previous 2 comments.

Page/Line: 48 /52 **Number:** 101 **Date:** 9/5/00 **Name:** Eklund Carl **Type:** Technical
Description: Remove from the the end of the CRC. Remove footnote 4. **Reason:** Historical remains **Resolution:** accepted-duplicate

Notes: OK

Page/Line: 49 /12	Number: 102	Date: 9/5/00	Name: Stanwood Ken	Type: Technical
Description: In line 12, change "CRC" to "MAC PDU Payload" and delete associated footnote on line 64.			Reason: This was an Ethernet based concept that went away with the merge.	Resolution: accepted-duplicate
Notes: OK				
Page/Line: 49 /31	Number: 103	Date: 9/5/00	Name: Stanwood Ken	Type: Technical
Description: delete the 2 words "and admitted"			Reason: The timeout in this paragraph should only govern active QoS parameters. The timeout in paragraph 2.3.5.5.9 on line 44 of page 49 governs admitted QoS parameters.	Resolution: referred to group
Notes: Deferred until input has been given by Glen Sater who will investigate the matter.				
Page/Line: 50 /18	Number: 104	Date: 9/5/00	Name: Eklund Carl	Type: Technical
Description: Remove this parameter			Reason: Relic from times gone by	Resolution: accepted
Notes: OK				
Page/Line: 50 /18	Number: 105	Date: 9/5/00	Name: Stanwood Ken	Type: Technical
Description: Replace this section with one that properly describes the concept of Maximum Burst Length: Change the section title to: "2.3.5.6.1 Maximum Burst Duration" Change lines 20-23 to: "The value of this parameter specifies the maximum burst duration (in bytes) which a Service Flow is allowed." Delete line 27-28 (line numbers don't line up correctly) Delete Note on lines 36-38.			Reason: This is a DOCSIS concept that was modified by the merge.	Resolution: accepted-duplicate
Notes: OK. Some conflict with previous comment.				
Page/Line: 51 /10	Number: 106	Date: 9/5/00	Name: Eklund Carl	Type: Technical
Description: Remove section 2.3.5.6.3			Reason: Inconsistent with rest of document.	Resolution: referred to group
Notes: deferred until input from Ken Stanwood who will consult with Glen Sater regarding how to deal with this section and the rules that are stated.				
Page/Line: 51 /35	Number: 107	Date: 9/5/00	Name: Stanwood Ken	Type: Technical
Description: Bit #2 and Bit #3 should be changed to reserved.			Reason: Request/Data opportunities went away. See Table 11 on page 83.	Resolution: referred to group
Notes: as 106				
Page/Line: 51 /62	Number: 108	Date: 9/5/00	Name: Stanwood Ken	Type: Technical
Description: The default behavior must be changed to one which works with the current system. I.E., dropping versus fragmenting.			Reason: There are no longer "Primary Service Flows". Additionally, the behavior described can violate the concept of sending data in order.	Resolution: referred to group
Notes: as 106				
Page/Line: 52 /42	Number: 109	Date: 9/5/00	Name: Stanwood Ken	Type: Technical
Description: Change the second sentence to "The grant size includes the entire MAC PDU.			Reason: "Frame Control byte" and "MAC frame", as used here, are concepts that went away with the merge.	Resolution: accepted
Notes: OK				
Page/Line: 55 /18	Number: 110	Date: 9/5/00	Name: Eklund Carl	Type: Technical
Description: Change the occurrences of 48 bit MAC address to EUI-64			Reason: Inconsistency	Resolution: rejected
Notes: Global change from EUI-64 to 48-bit MAC address.				
Page/Line: 55 /18	Number: 111	Date: 9/5/00	Name: Condie Mary	Type: Technical
Description: 48 bit MAC address conflicts with the requirements in rest of the document. (See page 84, line 30) Does the CPE require 2 addresses - one 48 bit and one 64 bit?			Reason: To keep the requirements consistent throughout the standard.	Resolution: rejected
Notes: Done already.				
Page/Line: 57 /42	Number: 112	Date: 9/5/00	Name: Condie Mary	Type: Editorial
Description: Change "TFTP Server Provisioned Modem Address" to "TFTP Server Provisioned CPE Address" and all other occurrences in the document.			Reason: To accurately reflect the name of the network element.	Resolution: accepted
Notes: OK				
Page/Line: 57 /51	Number: 113	Date: 9/5/00	Name: Stanwood Ken	Type: Technical
Description: Delete the note on lines 51-52.			Reason: This concept goes away with the merge.	Resolution: accepted

Notes: OK

Page/Line: 60 /5 **Number:** 114 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: Insert the bulleted list referenced by the text or delete the reference.
Reason: typo. **Resolution:** accepted

Notes: Changed "bulleted list" to "above list"

Page/Line: 60 /44 **Number:** 115 **Date:** 9/5/00 **Name:** Foerster Jeff **Type:** Technical
Description: Under the Message formats, add a CRC checksum on each MAC message payload
Reason: It seems like all MAC messages should have an error detection capability associated with them in order to prevent reading erroneous messages. Currently, there is no error detection capability in the PHY Mode A Transmission convergence sublayer, and the error detection capability in the upstream is selectable. It seems like an error detection capability should be present in the PHY and/or the MAC layer. If it is not present in the PHY layer (as it currently is not in the PHY Mode A), then it either needs to be added to the PHY Mode A, or needs to be added to the MAC payload.
Resolution: accepted-modified

Notes: deferred to joint session with PHY group. Removed CRC from TC layer.

Page/Line: 63 /1 **Number:** 116 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: After "Grant Management" insert "(GM)"
Reason: define acronym **Resolution:** accepted

Notes: OK

Page/Line: 63 /30 **Number:** 117 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: After "Bandwidth Request" insert "(BR)"
Reason: define acronym **Resolution:** accepted

Notes: OK

Page/Line: 63 /37 **Number:** 118 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: Add to the line, 'Alternatively, the CID can be the terminal ID of the CPE requesting the uplink bandwidth'
Reason: Enable a terminal to aggregately request bandwidth on behalf of all its connectiona. This mode reduces the amount of bandwidth requests considerably, and is useful for many types of services (e.g. best effort service).
Resolution: rejected

Notes: OK

Page/Line: 63 /51 **Number:** 119 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: delete "based on that Identifier"
Reason: The phrase isn't necessary, assuming "that identifier" is the CID and not some other identifier. **Resolution:** accepted

Notes: OK

Page/Line: 64 /16 **Number:** 120 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: Modify the name of CSI bit to 'ARQ bit'. When set, this bit will indicate that the packet belongs to an ARQ enabled connection.

instead of using the CSI bit, take the LSB of the FSN as an ARQ bit.
Reason: Add support for MAC level ARQ. See also related contibution titled 'Suggested modifications to 802.16.1 standard draft to support MAC level ARQ'
Resolution: rejected

Notes: OK

Page/Line: 66 /23 **Number:** 121 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: Change "Management" to "Grant Management"
Reason: to make it clear which management PDU is being shown. **Resolution:** accepted

Notes: OK

Page/Line: 66 /28 **Number:** 122 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: Change "Concatention" with "Concatenation showing example CIDs."
Reason: Correct spelling and clarify that that the CIDs aren't hardcoded for only concatenation. **Resolution:** accepted

Notes: OK

Page/Line: 66 /32 **Number:** 123 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: Add a section describing ARQ operation, 'When the ARQ bit is set, the ARQ mechanism requires adding control and checksum fields to each ARQ enabled packet. The checksum field is four bytes
long, standard IEEE CRC-32, and it is appended at the end of the packet. The control field is two bytes long and is prepended at the beginning of the packet. The control bit structure contains a 4 bit <retry number> and a 12 bit <sequence number>. The retry number field is reset when a packet is first sent, and is incremented whenever it is retransmitted (up to the terminal value of 15). The sequence number field is assigned to each packet upon its first transmission, and then incremented. The sequence number does not change when a packet is retransmitted. These ARQ related fields are added only to packets for which the ARQ usage indication is set in the generic MAC
Reason: Add support for MAC level ARQ. See also related contibution titled 'Suggested modifications to 802.16.1 standard draft to support MAC level ARQ'
Resolution: referred to group

long, standard IEEE CRC-32, and it is appended at the end of the packet. The control field is two bytes long and is prepended at the beginning of the packet. The control bit structure contains a 4 bit <retry number> and a 12 bit <sequence number>. The retry number field is reset when a packet is first sent, and is incremented whenever it is retransmitted (up to the terminal value of 15). The sequence number field is assigned to each packet upon its first transmission, and then incremented. The sequence number does not change when a packet is retransmitted. These ARQ related fields are added only to packets for which the ARQ usage indication is set in the generic MAC

header.'

Notes: Deferred for discussion with TG3.

Page/Line: 66 /33 **Number:** 124 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: Add 'Convergence sublayer messages must not be transported on the Basic Connection ID nor on the NRT Management CID'
 Insert "A User PDU is defined as a PDU that XXX and uses the header format define in YYY."
Reason: User PDU not defined.
Resolution: rejected

Notes: unclear what is meant by xxx and yyy

Page/Line: 66 /40 **Number:** 125 **Date:** 9/5/00 **Name:** Eklund Carl **Type:** Technical
Description: Add 'Convergence sublayer messages must not be transported on the Basic Connection ID nor on the NRT Management CID'
 change "NRT" to "Secondary Management CID"
Reason: Implied in the document but not stated clearly
Resolution: accepted-modified

Notes: OK

Page/Line: 66 /45 **Number:** 126 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Editorial
Description: Change "Generic Header" to "Generic MAC Header"
Reason: Clarification
Resolution: accepted

Notes: OK

Page/Line: 67 /4 **Number:** 127 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description: delete "standard"
Reason: if section 2.5.1 is the correct format, then delete the term "standard" because 2.5.1 describes a sub-layer PDU and not a "standard" PDU.
Resolution: rejected

Notes: Doesn't compute. If its contents are defined in a standard, then the PDU must be a standard PDU.

Page/Line: 67 /8 **Number:** 128 **Date:** 9/5/00 **Name:** Eklund Carl **Type:** Technical
Description: Add requirement "MAC management messages must not be transported on transport connections"
 This is kind of implied in the document, but not stated clearly.
Reason:
Resolution: accepted-modified

..carried on Transport connections"

Notes: OK

Page/Line: 67 /43 **Number:** 129 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: Add to table 6 a management message called 'ACK'. The explanation for this message can be, 'The message will be an acknowledgment message sent to a sender for packets received correctly. The acknowledgment message may group together more than one packet, and will carry the sequence number(s) for packets that have been correctly received.'
 Add support for MAC level ARQ. See also related contribution titled 'Suggested modifications to 802.16.1 standard draft to support MAC level ARQ'
Reason:
Resolution: referred to group

Notes: Defer to TG1 and TG3 joint session.

Page/Line: 69 /6 **Number:** 130 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Editorial
Description: A detailed description of the contents of the MAC management header shown in
 The structure of the MAC management header is not shown in detail, therefore it is not clear what it contains.
Reason:
Resolution: rejected

Notes: Text not provided.

Page/Line: 70 /15 **Number:** 131 **Date:** 9/5/00 **Name:** Foerster Jeff **Type:** Technical
Description: Add the following parameter to Table 7:
 Spectrum Inversion | 0=inverted, 1=non-inverted
 To make the PHY and MAC consistent, since this parameter was included in the
Reason:
Resolution: accepted

Notes: This is a technical change. Designation changed to technical.

Page/Line: 70 /15 **Number:** 132 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: Add to table 7 the following parameter,
 Name - FSDD/TDD frame time
 Type - 8
 Time Reference - Duration of the TDD/FSDD frame
 Length - 4
 Value - The number of PS contained in a FSDD or TDD frame. This TLV is only used if the PHY Type field of the DL-MAP message is {0, 1, 3} (TDD, FSDD).
 Make the length of frames used flexible, in order to enable system optimization in terms of header overhead vs. latency required by the data services supported. (The reference to 1msec frame length appears numerous times in the draft, they should all be replaced by the frame length parameter)
Reason:
Resolution: referred to group

Notes: put frame length code in the upper bits of the PHY Synchronisation field in figure 24. This also requires text to be added to the document to explain the

Page/Line: 71 /11 **Number:** 133 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: The IUC concept needs to be broken into uplink IUC (UIUC) and downlink IUC (DIUC).
 With the expanded PHY parameters (FEC) the UL and DL bursts can be very different and should have different IUCs. Also, some of the UL IUCs don't make sense for the DL (request, etc.).
Reason:
Resolution: accepted

Also page 75, line 27; page 78, line 43; page 79 line 15; page 80 line 31.

Notes: Ken Stanwood will provide wording for this change.

Page/Line: 72 /7	Number: 134	Date: 9/5/00	Name: Leiba	Yigal	Type: Technical
Description: Add another option to the value field, '4 = Adaptive modulation'			Reason: Include the adaptive modulation allowed under PHY mode-B in allowed modulation types		
Resolution: rejected					
Notes: OK					
Page/Line: 73 /2	Number: 135	Date: 9/5/00	Name: Foerster	Jeff	Type: Technical
Description: Make the following changes to Table 8: consistent with the rest of the specification. sentence to read, "The preamble must be an integer number of PSs." 2. Under "Value" for "Maximum Burst Size", change "bytes" in the first sentence to "PSs". 3. Under "Value" for "Guard Time Size", change "symbol times" to "PSs" in the first sentence.			Reason: The smallest unit of reference in the channel should be a physical slot (PS) 1. Under "Value" for "Preamble Length", change the second to be		
Resolution: accepted-modified					
Notes: Remove 2. From the comment and from the document.					
Page/Line: 73 /23	Number: 136	Date: 9/5/00	Name: Foerster	Jeff	Type: Editorial
Description: Remove the Rows starting with "FEC Error Correction (T)" and "FEC Codeword Information Bytes(k)" (Rows 4 and 5 in the table on page 73). Insert Rows			Reason: The complete list of FEC parameters was missing from Table 8.		
Resolution: accepted					
Notes: This is close to technical. Edits have been done but should have group concurrence. Assume rows 3-11 remain also in Table 10.					
Page/Line: 73 /39	Number: 137	Date: 9/5/00	Name: Leiba	Yigal	Type: Technical
Description: For the maximum burst size parameter, change the size of the length field to 2			Reason: Allow longer uplink bursts to be specified by the burst profile		
Resolution: accepted					
Notes: OK					
Page/Line: 76 /7	Number: 138	Date: 9/5/00	Name: Leiba	Yigal	Type: Technical
Description: Add another option to the value field, '4 = Adaptive modulation'			Reason: Include the adaptive modulation allowed under PHY mode-B in allowed modulation types		
Resolution: rejected					
Notes: OK					
Page/Line: 77 /9	Number: 139	Date: 9/5/00	Name: Leiba	Yigal	Type: Technical
Description: Add to figure 23 a 32 bit parameter called 'FSDD/TDD frame duration'. This parameter will indicate duration of the TDD/FSDD frame (in nsec). This parameter is meaningful only for PHY types 0, 1, 3 (TDD, FSDD).			Reason: Enable any CPE to synchronize to the BST based on correctly receiving a DL map. The presence of frame duration information in the DL map enables the CPE to learn the frame duration dynamically, thus allowing a flexible frame size.		
Resolution: rejected					
Notes: Table entry made, but we need paragraph of explanation to go with this.					
Page/Line: 77 /36	Number: 140	Date: 9/5/00	Name: Stanwood	Ken	Type: Editorial
Description: Delete "(PHY Type = 4)" from the figure heading.			Reason: The figure applies to all PHY types and there is no longer a PHY type 4.		
Resolution: accepted					
Notes: OK					
Page/Line: 77 /58	Number: 141	Date: 9/5/00	Name: Foerster	Jeff	Type: Technical
Description: Add the following sentences at end of the paragraph beginning on line 54, "The time stamp represents the count state of the base station counter at the instant that the first byte of the Downlink MAP Message is transferred from the Downstream Transmission Convergence Sublayer to the Downstream Physical Media Dependent Sublayer."			Reason: To clear up the ambiguity that appears in the current specification with regard to the synchronization method.		
Resolution: referred to group					
Notes: Specify that this is for PHY mode A, i.e. PHY type = 5. The decision shall be deferred until input from PHY group is obtained with respect to proper					
Page/Line: 77 /64	Number: 142	Date: 9/5/00	Name: Row	Paul	Type: Technical
Description: p 77 line 64 delete "sorted by IUC" p 78 line 1 delete "sorted by connection ID"			Reason: MAP information elements have to be in time order, which is not necessarily IUC order or connection ID order		
Resolution: accepted-modified					
Notes: Get extra wording from PHY section 3.3 in order to clarify sorting of IUC. Also, include reference to section 3.3.					
Page/Line: 78 /2	Number: 143	Date: 9/5/00	Name: Eklund	Carl	Type: Technical
Description: delete 'sorted by CID'			Reason: Sorting the CID makes no sense. Reception order makes more sense but is not necessarily the most efficient way of doing it.		
Resolution: accepted-duplicate					
Notes: OK; see previous comment.					
Page/Line: 78 /7	Number: 144	Date: 9/5/00	Name: Stanwood	Ken	Type: Technical
Description: The reserved bits between the PHY Type and the Hyperframe number should be delineated with a dark line separating fields.			Reason: The Hyperframe field is only 15 bits long.		
Resolution: accepted					

Notes: OK (line not colored).

Page/Line: 78 /7	Number: 145	Date: 9/5/00	Name: Leiba	Yigal	Type: Technical
Description: Update figure 24 to contain only the PHY type (3 bits) and frame number (29 bits)			Reason: The reason for having 3 distinct counters, i.e. hyperframe number, multiframe number and frame number is not clear. Through all the draft there is not any reference to any specific use for any of these counters.		
Notes: also update figure 50.					
Page/Line: 79 /15	Number: 146	Date: 9/5/00	Name: Stanwood	Ken	Type: Technical
Description: The connection identifier in the downlink TDMA map can be eliminated, allowing the DL map size to be reduced.			Reason: Saves bandwidth. The terminals know, via unsolicited ranging responses, which burst types to listen to. Terminals can listen to all bursts which match their capabilities (including exclusion due to half-duplex operation) just as they would in TDM mode. This decrease the DL map size and decreases the differences between TDM and TDMA operation.		
Notes: OK					
Page/Line: 79 /37	Number: 147	Date: 9/5/00	Name: Stanwood	Ken	Type: Technical
Description: There should be a table of DL IUCs like table 11.			Reason: Clarity, missing information.		
Notes: linked to one of Ken's earlier action items.					
Page/Line: 80 /5	Number: 148	Date: 9/5/00	Name: Stanwood	Ken	Type: Editorial
Description: Delete extra period before the word "Figure".			Reason: Typo.		
Notes: OK					
Page/Line: 80 /8	Number: 149	Date: 9/5/00	Name: Stanwood	Ken	Type: Technical
Description: A "cell size", described in PS or minislots, should be broadcast to the CPEs either here in the UL MAP or in the UCD message.			Reason: During an uncorrelated rain fade, a CPE might attempt to register on a BS in a different cell. The extra round trip delay could cause the CPE to trash the uplink by transmitting beyond the ranging opportunity. This field would allow the CPE to error check the cumulative Tx Time Advances it was given to help it determine that it is beyond the edge of the cell in which it's attempting registration.		
Notes: Put in as a new element in a TLV format in the UCD message. (This is also marked for further study.)					
Page/Line: 80 /17	Number: 150	Date: 9/5/00	Name: Stanwood	Ken	Type: Editorial
Description: Change PCD to UCD.			Reason: With increased functionality in the PHY, the PCD message was split into the separate UCD and DCD messages, but the change didn't fully ripple through the document.		
Additionally, PCD occurs throughout the document. It should be either UCD or DCD depending upon which message it pertains to. Additionally, there are places in the document where "Physical Channel Descriptor" should be changed					
Notes: Done already					
Page/Line: 81 /2	Number: 151	Date: 9/5/00	Name: Stanwood	Ken	Type: Editorial
Description: The font of "PCD Count" (which really should be "UCD Count") should match the other items being described.			Reason: Format.		
Notes: OK					
Page/Line: 81 /2	Number: 152	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description: Make "PCD Count" typesetted in bold face			Reason: To fix a typo in draft #1		
Notes: OK					
Page/Line: 81 /7	Number: 153	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description: Insert "of" between "Number" and "Elements"			Reason: To fix a typo in draft #1		
Notes: OK					
Page/Line: 81 /12	Number: 154	Date: 9/5/00	Name: Leiba	Yigal	Type: Editorial
Description: There seems to be some typo in this paragraph, as PHY type 5 is omitted while a PHY type 2 is mentioned. I believe that the paragraph should read 'Effective start time of the uplink allocation defined by the UL-MAP in units of mini-slots. The start time is relative to the start of a frame in which UL-MAP message is transmitted (PHY Type = {0,1,3}) or from BS initialization (PHY Type = 5).'			Reason: Fix typo in draft 1		
Notes: OK					
Page/Line: 81 /40	Number: 155	Date: 9/5/00	Name: Stanwood	Ken	Type: Technical

Description:

Data Backoff Start and Data Backoff End should be changed to request Backoff Start and Request Backoff End, respectively. the two words "data and" should be deleted from line 42 and line 48.

This also affects the Figure on page 80 at line 28.

Notes: OK

Page/Line: 83 /3 **Number:** 156 **Date:** 9/5/00

Description:

Need to add a "empty" IUC (different from NULL). This is particularly true for the DL TDMA map.

Notes: Ken Stanwood will righth text to address this comment.

Page/Line: 83 /49 **Number:** 157 **Date:** 9/5/00

Description:

Ranging request needs a status code parameter.

Notes: defer this comment until input text is received from Ken Stanwood.

Page/Line: 84 /22 **Number:** 158 **Date:** 9/5/00

Description:

"IUC Type" should be replaced with "Requested DL Modulation". Alternatively, the values for this field should not be 1, 2, 3, but should be the DL IUC requested for optimal performance from the set advertised in the DCD messages.

This affects line 49 also.

Notes: change "IUC Type" to "Requested Downlink Burst Type" on line 22. "Modulation" to "Downlink Burst" on line 25. "modulation" removed from line

Page/Line: 84 /22 **Number:** 159 **Date:** 9/5/00

Description:

Change the name "IUC Type" to "Modulation Type".

Notes: see 158

Page/Line: 84 /32 **Number:** 160 **Date:** 9/5/00

Description:

Change the first sentence to: "A required parameter until the Temporary CID has been received in the Ranging Response message".

Notes: OK

Page/Line: 84 /49 **Number:** 162 **Date:** 9/5/00

Description:

Change the name "IUC Type" to "Modulation Type".

Notes: see 158

Page/Line: 84 /49 **Number:** 161 **Date:** 9/5/00

Description:

Change the second row ("IUCType") to the Name "Downstream IUC Type Change Request" and the Value "=4-9, corresponding to Data Grants 1-6".

Notes: see 158

Page/Line: 86 /6 **Number:** 163 **Date:** 9/5/00

Description:

Delete lines 6 to 9 dealing with transmit equalizer information

Notes: defer to outcome of discussions with PHY and with TG3.

Page/Line: 86 /27 **Number:** 165 **Date:** 9/5/00

Description:

The thresholds need to be better associated with the IUCs. According to Table 11 on page 83, IUCs 4-9 indicating data grant types 1-6 require thresholds, not IUCs 1-6. Also, Figure 76 on page 155 needs expanding to allow change via IUC, not just modulation. This concept needs to be for both uplink and downlink, and should probably be in the UCD and DCD messages, not the ranging responses.

Notes: line 27 is changed to "Burst Type Thresholds". The definition shall be deferred to the outcome of discussions with the PHY. This parameter shall be

Page/Line: 86 /27 **Number:** 164 **Date:** 9/5/00

Description:

Change "IUC-1 through IUC-6 Thresholds" to "Data Grant 1-6 Thresholds".

Notes:

Page/Line: 86 /41 **Number:** 166 **Date:** 9/5/00

Reason

The concept of contention based data transfer was eliminated in the merge.

Resolution: accepted

Name: Stanwood Ken **Type:** Technical

Reason **Resolution:** accepted

In case the BS needs to schedule gaps.

Name: Stanwood Ken **Type:** Technical

Reason **Resolution:** referred to group

CPE needs to be able to inform BS "I'm at max power, I'm at min power, my Tx advance is larger than the advertised cell size".

Name: Stanwood Ken **Type:** Technical

Reason **Resolution:** accepted-modified

The modulation is what is being requested if the values are 1, 2, 3. If an IUC were requested, the values would be different. This needs to be consistent.

Name: Condie Mary **Type:** Editorial

Reason **Resolution:** accepted-modified

To avoid confusion and be consistent with the terminology.

Name: Stanwood Ken **Type:** Technical

Reason **Resolution:** accepted

After the receipt of the Temporary CID, the Temporary CID is a deterministic indication of which CPE sent the message, eliminating the need to repeat this field.

Name: Condie Mary **Type:** Editorial

Reason **Resolution:** accepted-duplicate

To avoid confusion and be consistent with the terminology.

Name: Foerster Jeff **Type:** Technical

Reason **Resolution:** accepted-duplicate

This request can be generalized to change the modulation/FEC pair rather than just the modulation type.

Name: Leiba Yigal **Type:** Technical

Reason **Resolution:** referred to group

Use of equalizer on the transmitter side has unpredictable effect on the spectral shape of the RF power emitted by the CPE, and may cause harmful interference to adjacent channels. Further, the RF channel might change fast enough that transmitter equalization techniques are useless.

Name: Stanwood Ken **Type:** Technical

Reason **Resolution:** accepted

Clarity and compatibility of requirements.

Name: Foerster Jeff **Type:** Technical

Reason **Resolution:** rejected

The thresholds should be for the different data grants, not IUCs. Note that there should be a threshold for each data grant that is supported.

Name: Foerster Jeff **Type:** Technical

Description: Change "IUC Type" heading to "Maximum Modulation Type Supported".	Reason The "IUC Type" heading is unclear what it refers to. It appears that it was used to identify the highest modulation level that is supported by the CPE on the downlink.	Resolution: rejected
Notes: see 165		
Page/Line: 86 /43 Number: 167 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Change "allow" to "allowed". In line 59, add the word "and" after the word "Header".	Reason Typo.	Resolution: accepted
Notes: OK		
Page/Line: 87 /1 Number: 168 Date: 9/5/00	Name: Stanwood	Ken Type: Technical
Description: Change first sentence to: "A required parameter when the CID in the MAC header is the initialization CID".	Reason Clarification of requirement and efficiency of protocol.	Resolution: accepted
Notes: see		
Page/Line: 88 /16 Number: 169 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Insert the following sentence at the end of the description currently in the value column: "If this TLV is used, the Ranging Status TLV must be set to 1".	Reason Reduce ambiguity.	Resolution: accepted
Notes: OK		
Page/Line: 88 /25 Number: 170 Date: 9/5/00	Name: Foerster	Jeff Type: Technical
Description: 1. Thresholds in Table 13. 2. Supported".	Reason 1. Replace 16-QAM and 64-QAM Thresholds with Data Grant 1-6 The Data Grants have been generalized to support a modulation/FEC pair rather than just a modulation. 2. Also, change "IUC Type" Name to "Maximum Modulation Type To reflect the change from the previous comment.	Resolution: accepted-duplicate
Notes: see 165		
Page/Line: 88 /25 Number: 171 Date: 9/5/00	Name: Stanwood	Ken Type: Technical
Description: Thresholds should be present for IUCs 4-9 and DL IUCs and probably should be moved to UCD and DCD messages.	Reason Parameters are no longer sufficient given additional flexibility added to PHY.	Resolution: accepted-duplicate
Notes: see 165		
Page/Line: 90 /54 Number: 172 Date: 9/5/00	Name: Condie	Mary Type: Editorial
Description: Change "TFTP Server Provisioned Modem address" to "TFTP Server provisioned CPE address".	Reason TFTP server provides the CPE address and not the modem address.	Resolution: accepted
Notes: OK. Global change of "modem" to CPE made within MAC section		
Page/Line: 91 /11 Number: 173 Date: 9/5/00	Name: Foerster	Jeff Type: Editorial
Description: Change "Modem Capabilities Encodings" to "Upstream and Downstream Modem Capabilities Encodings". Add the following after "Upstream and Downstream Modem Capabilities Encodings": "These include the highest modulation order supported by the CPE (QPSK, 16-QAM, or 64-QAM), the optional FEC types supported by the CPE(BTC1 based on (32,26) Extended Hamming Code or BTC2 based on (64,57) Extended Hamming	Reason To ensure these items get included in the Modem capabilities set exchange message for both the upstream and downstream channels.	Resolution: accepted
Notes: OK		
Page/Line: 92 /53 Number: 174 Date: 9/5/00	Name: Stanwood	Ken Type: Technical
Description: The basic CID needs to be returned, too.	Reason This is where it was supposed to happen, but it got lost in the editing.	Resolution: accepted-modified
Notes: include "Basic CID" with associated text, "The Basic CID for this SS.", prior to line 53 and modify "CID #2" to read as "Secondary Management CID".		
Page/Line: 93 /35 Number: 176 Date: 9/5/00	Name: Sater	Glen Type: Editorial
Description: Figure does not make sense. The standard TLV encoding format should be used	Reason To make the figure understandable.	Resolution: accepted
if this is defining a TLV. The channel MAC version does not matter here --		
Notes: Addressed by earlier comment.		
Page/Line: 93 /35 Number: 175 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: The table should have a heading and a header as in Table 13 on page 88.	Reason Typo.	Resolution: accepted

Also, the redundant copies of the table should be removed.

Notes: Already covered.

Page/Line: 94 /44 **Number:** 177 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: The text "refer to 2.3" should be "refer to section 2.3".
Reason: Typo.
Resolution: accepted
Notes: OK

Page/Line: 102 /43 **Number:** 178 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: Insert a space before the word "Figure".
Reason: Typo.
Resolution: accepted
Notes: PL

Page/Line: 109 /44 **Number:** 179 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: There should be a paragraph describing under what circumstances the CID in the MAC header is the Basic CID, or the multicast CID. Does it depend upon what CID the Multicast Poling Assignment Request was sent on?
Reason: Clarity, reduction of ambiguity.
Resolution: rejected
Notes: No text supplied

Page/Line: 110 /1 **Number:** 180 **Date:** 9/5/00 **Name:** Foerster Jeff **Type:** Technical
Description: the PHY changes that allow for changes the modulation/FEC pair Type Change Request (DGC-REG) Message".
Reason: 1. Change the Section 2.5.22 subtitle to "Downlink Data Grant To reflect (reflected in the different data grant definitions) rather than just the modulation
2. Change the first paragraph by replacing "modulation" with modulation
Resolution: referred to group
To reflect

level.
"Data grant type" except for after the word "QPSK". Also, replace "QPSK modulation" with "the most robust data grant type".
3. Under "Parameters shall be as follows:", it should read
Data Grant Types
0x00 = Data Grant Type 1
0x01 = Data Grant Type 2
0x02 = Data Grant Type 3
0x03 = Data Grant Type 4
0x04 = Data Grant Type 5
0x05 = Data Grant Type 6

Notes: First, change line 1 to read "Downlink Burst Type Change Request (DBTC-REG) Message. Update other areas of document to reflect this change. This

Page/Line: 110 /35 **Number:** 181 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: Add modulation option '0x02 = 64-QAM'
Reason: The DMC-REQ message can be used to increase modulation as well as decrease it,
Resolution: rejected

Notes: This is being addressed by comment 180.

Page/Line: 110 /39 **Number:** 182 **Date:** 9/5/00 **Name:** Foerster Jeff **Type:** Editorial
Description: The discussions in Sections 3.2 and 3.3 in the PHY overlap the discussions in Section 2.6 of the MAC. I would recommend combining the information into a single section. One approach would be to do the following:
1. Change the title of Section 2.6 to "Duplexing Techniques, Framing, and Scheduling Intervals"
2. Insert Section 3.2 as the first subsection in Section 2.6.
3. Combine figures 119 and 50.
4. Remove sections 2.6.1.1 and 2.6.1.2.
5. Replace Section 2.6.3 with Section 3.3 (ending at subsection heading 3.3.1).
6. Insert Section 3.3.1 after Section 2.6.3.
7. Rearrange Section 2.6 in the document to lie just before the PHY layer discuss for easier referencing.
Reason: Contain all the framing discussion in a single section to alleviate any intoconfusion and allow for easier referencing.
Resolution: accepted-modified

Notes: Discuss this comment with the PHY group.

Page/Line: 110 /51 **Number:** 183 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Technical
Description: It is written as "transmission timings are linked via the Upstream TimeStamp within the DS-MAP and the US-MAP messages." But no messages such as DS-MAP or US-MAP message have been defined in the draft. Instead of adding DS-MAP and US-MAP messages, we can use already defined messages with similar function. Downstream and upstream information can be transmitted to CPEs periodically via Downstream Channel Descriptor message and Upstream Channel Descriptor message, respectively. Considering these messages don't have "Upstream TimeStamp" but have other timing information, new text can be "transmission timings are linked via the timing information within the Downstream Channel Descriptor and the Upstream Channel Descriptor messages."
Reason: To correct use of undefined messages in draft #1
Resolution: accepted-modified

Notes: DS-MAP --> DL-MAP and US-MAP --> UL-MAP. Upstream TimeStamp --> Uplink TimeStamp. "...and the Allocation Start Time in the UL-MAP

Page/Line: 110 /51 **Number:** 184 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial

Description: Change "US-MAP" to "UL-MAP" in this line and also all other occurrences in the document.	Reason To be consistent in the naming convention.	Resolution: accepted
Notes: OK		
Page/Line: 110 /58 Number: 185 Date: 9/5/00	Name: Condie Mary	Type: Technical
Description: Change the sentence "Each uses a frame.....of 1 millisecond" to "Each uses a frame duration as specified in section 3.3.1".	Reason To align the MAC and PHY sections of the standard. In the PHY section the frame time is not fixed.	Resolution: accepted-modified
Notes: Also, delete paragraph beginning on page 111, line 1. Remove the "1 msec" on page 117, line 37. Better change the reference to 1ms in Figure 50 as		
Page/Line: 110 /62 Number: 187 Date: 9/5/00	Name: Condie Mary	Type: Technical
Description: Change "the whole 1 millisecond frame" to "the whole frame".	Reason To align the MAC and PHY sections of the standard. In the PHY section the frame time is not fixed.	Resolution: accepted
Notes: OK; done as part of an earlier change.		
Page/Line: 110 /62 Number: 186 Date: 9/5/00	Name: Leiba Yigal	Type: Technical
Description: Change the length of the preamble in the Frame Control Header is to 72 QAM symbols.	Reason The burst preamble has many duties. The preamble it is used to detect the start of the burst, but it could also be used for training equalizers, compensating for fast channel gain variations, and other kinds of channel impairments. It is therefore important in order to achieve a robust standard, to allow a preamble length that will enable extracting sufficient information from the preamble even in the presence of timing errors, frequency mismatches, channel gain variations, noise and multipath effects. The proposed length of the preamble introduces a negligible overhead (0.3% for 1msec frame at 25Msymbols/Sec).	Resolution: rejected
Notes: referred to PHY group.		
Page/Line: 111 /8 Number: 188 Date: 9/5/00	Name: Stanwood Ken	Type: Editorial
Description: Change the word "defines" to "defined".	Reason Typo.	Resolution: accepted
Also on line 12, insert the word "with" before "a 20 Mbaud".		
Notes: OK		
Page/Line: 111 /8 Number: 189 Date: 9/5/00	Name: Condie Mary	Type: Technical
Description: Change "which has a length of 4 modulation symbols each" to "which is a multiple of 4 modulation symbols each".	Reason To align the MAC and PHY sections of the standard.	Resolution: rejected
Notes: PHY group shall define the PS to be 4 symbols in length.		
Page/Line: 111 /9 Number: 190 Date: 9/5/00	Name: Condie Mary	Type: Technical
Description: Change the sentence "The number of PHY slots with each 1 mSec frame is arate" to "The number of PHY slots with each frame is a rate".	Reason To align the MAC and PHY sections of the standard.	Resolution: accepted-duplicate
Notes: OK		
Page/Line: 111 /53 Number: 191 Date: 9/5/00	Name: Stanwood Ken	Type: Technical
Description: Change the word millisecond to microsecond. ----- New version of comment: It is recommended that all base station MACs within a network be provided with a common time reference accurate to one microsecond.	Reason Millisecond accuracy is not sufficient to synchronize the TDD frame start and the TDD split across a network.	Resolution: accepted-modified
Notes: Must raise this topic with the PHY group. (note that this comment is to be inserted in the TDD section)		
Page/Line: 112 /46 Number: 192 Date: 9/5/00	Name: Choi Hoon	Type: Editorial
Description: Insert a space in a word "processby" to make "process by"	Reason To fix a typo in draft #1	Resolution: accepted
Notes: OK		
Page/Line: 112 /52 Number: 193 Date: 9/5/00	Name: Stanwood Ken	Type: Technical
Description: A document titled "Combining Burst FDD and FSDD modes in 802.16.1" is being submitted to further explain this change. This comment affects section 2.6.3 through page 114, line 28. The Burst FDD and FSDD variants of PHY mode B can be combined into a single	Reason This has the advantage that TDD, FDD TDM, and FSDD all share the same DL maps. It also has the advantage that you don't need to differentiate between Burst FDD and FSDD - they become one. The efficiency of FDD TDM and the statistical multiplexing gains of FSDD can be realized simultaneously. The change in no way affects systems that use PHY mode A.	Resolution: accepted-modified

variant that always starts a frame with TDM. TDM continues as long as it is feasible to allocate to either full-duplex terminals or terminals which are half-duplex yet can receive before they transmit in the current frame. After the feasibility of TDM is exhausted for the frame, the frame can continue with TDMA. Figures 52 and 53 would be replaced with a single figure showing the combined mode. This figure was given to the editors in "FDD_TDM_TDMA DL Subframe.vsd".

Depending upon the BS scheduling of the downlink, a system could still choose to operate the downlink TDM only, TDMA only or mixed TDM and TDMA.

Here are the specific edits for this section for this section:
 ////start of replacement text for section 2.6.3

In line 55, change "(TDD, Burst FDD and FSDD)" to "(TDD and Burst FDD)".

In line 57, change "has two optional forms as shown in Figure 39 and Figure 53" with "allows TDM and TDMA to co-exist in the same frame as shown in Figure 52".

In line 58, change "In both cases it starts" with "The frame starts".

On page 113 change lines 1 through 22 with:
 "All downlink subframes start with a TDMA section. They may optionally contain a TDMA section. This structure is shown in Figure 52. Whether an interval is TDM or TDMA is indicated by the DL IUC in the DL-MAP message in the Frame Control Header.

The TDM section is sorted by modulation with the modulation changed indicated in the DL-MAP. They may optionally be sorted by CPE. Note that any one of the differently modulated TDM sections may be absent.

In the TDMA portion of the downlink subframe, downlink data destined to each individual CPE is grouped into one (preferable) or more bursts, each starting with a short (e.g., 12 symbols) preamble. The DL-MAP also contains a map of these bursts.

In TDD systems, the TDMA section would typically never be used, and no DL IUCs in the DL-MAP would be present except those indicating the TDM transitions. The TDD case would also contain a Tx/Rx Transition Gap (TRTG).

In FDD systems, the goal is to keep the TDMA section as short as possible. Since full-duplex FDD terminals and half-duplex FDD terminals which receive before they transmit can receive the TDM portion of the downlink. In general, TDMA bursts will be present in a frame only in those instances where a half-duplex terminal is required to receive before it transmits. This allows the efficiency (due to reduced overhead) of TDM to be used as much as possible while allowing co-existing TDMA to increase statistical multiplexing of half-duplex terminals.

Replace Figure 52 and Figure 53 with "FDD_TDM_TDMA DL Subframe.vsd" :

////end of replacement text for section 2.6.3

The change also affects the DL-MAP format described in pages 77-79 since the

map would need to allow TDM style MAP elements followed by TDMA style MAP elements. This would be achieved by specifically defining the DL IUCs (something that needs to be done anyway), to distinguish between TDM and TDMA. Since TDM is broadcast, TDM

intervals would be addressed to the broadcast channel ID. Alternatively, terminal/connection IDs can be completely removed in the DL-MAP by requiring all terminals to listen to all intervals with an IUC compatible (at or more robust than) with their negotiated DL modulation/FEC.

Sections 3.2.1 and 3.2.2 on page 269 become combined in a similar fashion.

Figures 120, 122, and 123 on pages 271-272 become combined into a similar

Notes: picture and Ken will have to work his wording into the text that was merged from the PHY into the MAC.

Page/Line: 112 /58 **Number:** 194 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: Reference to Figure 39 should be Figure 52. **Reason:** Typo. **Resolution:** accepted

Notes: OK

Page/Line: 113 /8 **Number:** 195 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: Delete lines 8 to 11 **Reason:** The restriction imposed on burst FDD systems is unnecessary, it does not simplify implementation, and will severely penalize performance in systems where most users are half duplex. **Resolution:** rejected

Notes: These lines are required for burst FDD.

Page/Line: 114 /28 **Number:** 196 **Date:** 9/5/00 **Name:** Eklund Carl **Type:** Technical
Description: PHY control and MAC control sections should be clearly defined **Reason:** Historical remains **Resolution:** referred to group

Notes: create ad-hoc group to address this comment and bring suggestions to group. No-camping TLV by another name needed. Also need a TLV for the

Page/Line: 114 /52 **Number:** 197 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: MAC Version identifier and whether registration is allowed on this physical channel need to be added to some message, possibly the UL-MAP message. **Reason:** Inconsistency in specification. **Resolution:** rejected

Notes: No text supplied

Page/Line: 115 /27 **Number:** 198 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: Line should end with the word "CPEs". **Reason:** Typo. **Resolution:** accepted

Notes: OK

Page/Line: 118 /42 **Number:** 199 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial
Description: Change "The request IE provides an upstream interval transmission" to "Via the Request IE the Base Station specifies an upstream interval transmission". **Reason:** To accurately describe the purpose of an IE and improve readability. **Resolution:** accepted

Notes: OK

Page/Line: 118 /57 **Number:** 200 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial
Description: Change "The Initial Maintenance IE provides an interval network" to "Via the Initial Maintenance IE the Base Station specifies an interval network". **Reason:** To accurately describe the purpose of an IE and improve readability. **Resolution:** accepted

Notes: OK

Page/Line: 119 /3 **Number:** 201 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial
Description: Change "The Station Maintenance IE provides an interval adjustment" to "Via the Station Maintenance IE the Base Station specifies an interval adjustment". **Reason:** To accurately describe the purpose of an IE and improve readability. **Resolution:** accepted

Notes: OK

Page/Line: 119 /11 **Number:** 202 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: This section should be reworded to discuss Data Grants 1-6 rather than Short and Long. **Reason:** We now have an expanded definition of data grants compared to when this section was written. **Resolution:** referred to group

Notes: Phil will do this.

Page/Line: 119 /52 **Number:** 203 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: The Uplink Subframe Map no pertains (according to the definition of the Alloc Start Time in the UL-MAP message) to the start of the current frame plus the Alloc start time (which could align with the next frame). Figures 57 and 58 on page 120 should be relabeled to indicate they are the maximum time **Reason:** Consistency of requirements. **Resolution:** accepted-modified

The Uplink Subframe Map no pertains (according to the definition of the Alloc Start Time in the UL-MAP message) to the start of the current frame plus the Alloc start time (which could align with the next frame). Figures 57 and 58 on page 120 should be relabeled to indicate they are the maximum time

the UL-MAPs can be referenced to. The document also should include a new figure showing the minimum time relevance for TDD (sent to editors as the file "TDD min time relevance.vsd" and a new figure showing the minimum time relevance for burst FDD (sent to the editors as the file "FDD min time relevance.vsd")

Notes: wording in line 51 must be clarified.

Page/Line: 120 /4 **Number:** 204 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: Set the time relevance of PHY and MAC control Information for the TDD case (in figure 57) to point within the same frame and not to the next frame.
Reason: Forcing the uplink response to the downlink allocation map to be one frame apart inserts an unavoidable delay of one frame in the system. This inherent delay may become significant for frame length longer than 1msec. A practical system a TDD system will have a minimum ratio of downlink to uplink traffic higher than zero, so it can be guaranteed that there is enough time to process the downlink map and respond within the same frame.
Resolution: accepted-duplicate

Notes: see 203

Page/Line: 120 /55 **Number:** 205 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: The CPE should report its processing time requirements in some message, or the standard should specify a minimum bound.
Reason: Interoperability of BS and CPEs.
Resolution: rejected

The CPE should report its processing time requirements in some message, or the standard should specify a minimum bound.

Notes: The minimum bound is already specified in table 2.

Page/Line: 121 /26 **Number:** 206 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: Change the word Data to Maintenance.
Reason: The standard does not allow data in contention slots, but does allow maintenance (at least initial) in contention slots.
Resolution: accepted-modified

Notes: also change "PDUs" for "intervals".

Page/Line: 121 /26 **Number:** 207 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Technical
Description: It is written as "The BS may allow collisions on either Requests or Data PDUs".
Based on the current media access control of the draft, the Data PDUs are always transmitted via data slot without collision once they are granted a bandwidth for data.
Therefore the new text should be "The BS may allow collisions on Requests PDUs only."
Reason: To delete a misleading description in draft #1
Resolution: accepted-duplicate

Based on the current media access control of the draft, the Data PDUs are always transmitted via data slot without collision once they are granted a bandwidth for data.

Therefore the new text should be "The BS may allow collisions on Requests PDUs only."

Notes: Conflicts with previous comment.

Page/Line: 122 /57 **Number:** 208 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Editorial
Description: Since the acronym "MSAP" is used in the draft, it seems better to add it in section 1.3.
"MSAP MAC Service Access Point"
Reason: To fix a typo in draft #1
Resolution: accepted

"MSAP MAC Service Access Point"

Notes: OK; already done

Page/Line: 123 /6 **Number:** 209 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: Add a row with Fragment = unfragmented, FC = 00, FSN = 0000.
Reason: For completeness of the requirement.
Resolution: accepted

Add a row with Fragment = unfragmented, FC = 00, FSN = 0000.

Notes: OK

Page/Line: 123 /31 **Number:** 210 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Editorial
Description: In the entry of the third row, fourth column of the Table 16, it is written that Polling is not allowed for UGS-AD service flow type. But, periodic unicast polling is performed for the UGS-AD service type when the flow is inactive, as mentioned in section 2.9.3.
Therefore the entry should be written as "Unicast polling is allowed when the flow is inactive".
Reason: To fix a typo in draft #1
Resolution: accepted

In the entry of the third row, fourth column of the Table 16, it is written that Polling is not allowed for UGS-AD service flow type. But, periodic unicast polling is performed for the UGS-AD service type when the flow is inactive, as mentioned in section 2.9.3.

Therefore the entry should be written as "Unicast polling is allowed when the flow is inactive".

Notes: OK

Page/Line: 123 /64 **Number:** 211 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Editorial
Description: "Piggy-back requests may be used to request additional bandwidth for a different connection using the Bandwidth Request Header."
This is true only in the GPT mode because there is no way in the GPC mode to specify the ID of the connection for which this additional bandwidth request is made.
Therefore it may be better to write as "Piggy-back requests may be used in the GPT mode to request additional bandwidth for a different connection using the Bandwidth Request Header."
Reason: To add additional information for better understanding.
Resolution: accepted

"Piggy-back requests may be used to request additional bandwidth for a different connection using the Bandwidth Request Header."
This is true only in the GPT mode because there is no way in the GPC mode to specify the ID of the connection for which this additional bandwidth request is made.

Therefore it may be better to write as "Piggy-back requests may be used in the GPT mode to request additional bandwidth for a different connection using the Bandwidth Request Header."

Another solution may be to add Piggyback CID (PCID) field(2 octets) right after Grant Management field and before HCS field in the generic MAC header(Figure 13). Then the

piggy-back requests may be used for both the GPT and GPC modes. This gives a new capability to the GPC mode, and it also makes the GPT mode more flexible to select either piggybacking or bandwidth stealing for the same purpose.

Notes: OK

Page/Line: 124 /9 **Number:** 212 **Date:** 9/5/00 **Name:** Choi **Hoon** **Type:** Editorial
Description: **Reason:** **Resolution:** accepted
 "The Bandwidth Management fields in the Generic MAC Header..." must be read as
 "The Grant Management fields in the Generic MAC Header..." as defined in the generic MAC header(Figure 13).

Notes:

Page/Line: 126 /14 **Number:** 213 **Date:** 9/5/00 **Name:** Stanwood **Ken** **Type:** Editorial
Description: **Reason:** **Resolution:** accepted
 Change "CPE" to "CPEs".
Notes: OK

Page/Line: 126 /31 **Number:** 214 **Date:** 9/5/00 **Name:** Choi **Hoon** **Type:** Editorial
Description: **Reason:** **Resolution:** accepted
 The word "CPE" in "The number of bytes requested shall be the total number that are desired by the CPE at the time of the request..." must be read as "connection" because the bandwidth is requested on a connection basis in either the GPT or GPC mode.

Notes: OK, changed "CPE" to "CPE for the connection"

Page/Line: 126 /35 **Number:** 215 **Date:** 9/5/00 **Name:** Stanwood **Ken** **Type:** Technical
Description: **Reason:** **Resolution:** accepted-modified
 The first sentence of the paragraph should start "In GPC mode".
 The following should be added to the end of the paragraph: "In GPC mode, additional requests or re-requests are based on timers and Data Grant Pending is to not required. In GPC mode all requests are incremental. In GPC mode most requests are incremental, but the CPE periodically issues aggregate requests (total data pending in queue), resetting the base station's perception of the connection's needs. Piggyback requests are always incremental."

The paragraph should be moved to be after the paragraph starting at line 41.

The most significant bit of the BR field of the bandwidth request in Figure 15, page 63 should be used to indicate incremental (0) or aggregate (1).

Notes: We will reserve the MSB of the BR field in the bandwidth request message for the purpose of possibly implementing aggregate vs. incremental

Page/Line: 126 /37 **Number:** 216 **Date:** 9/5/00 **Name:** Eklund **Carl** **Type:** Technical
Description: **Reason:** **Resolution:** accepted-duplicate
 Move the statement about issuing data grant pendings to section describing GPC mode.
 Data grant pendings only waste bandwidth for GPT terminals. Also as the terminal can used bandwidth differently from what the BS has intended the issuing of grants pending serves no purpose.

Notes: Statement to be moved is already in section describing GPC mode. Deletion of the statement on page 126, line 37 is done.

Page/Line: 126 /44 **Number:** 217 **Date:** 9/5/00 **Name:** Stanwood **Ken** **Type:** Technical
Description: **Reason:** **Resolution:** accepted-duplicate
 Change 3rd sentence of paragraph to start: "This latter allows smaller UL maps and allows more".
 Basic reason for feature was left out of explanation.

Notes: OK

Page/Line: 126 /65 **Number:** 218 **Date:** 9/5/00 **Name:** Stanwood **Ken** **Type:** Technical
Description: **Reason:** **Resolution:** accepted-modified
 Change "Maximum Concatenated Burst" to "Maximum Burst Length".
 This concept changed in the merge.

Notes: if maximum burst length no longer exists, then footnotes 12 and 13 should be deleted. Line 28 is changed to "Any Data Grant IE." Line 29 is deleted.

Page/Line: 127 /7 **Number:** 219 **Date:** 9/5/00 **Name:** Stanwood **Ken** **Type:** Technical
Description: **Reason:** **Resolution:** accepted-modified
 The box in Figure 60 which says "Await Frame arrival" should say "Await UL-MAP arrival". All other occurrences of "frame" in the figure should be changed to "PDU".
 Definition of "frame" after the merge.

Notes: must replace remaining "frame" on drawing with "PDU", several cases, including the one which is now chnaged to "SDU" in figure 60.

Page/Line: 127 /62 **Number:** 220 **Date:** 9/5/00 **Name:** Stanwood **Ken** **Type:** Technical
Description: **Reason:** **Resolution:** accepted
 Proper reason for functionality.

The second sentence of the paragraph should start "Since it is non-deterministic which request is being honored in this scheme,".

Notes: OK

Page/Line: 129 /3 **Number:** 221 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: **Reason:** **Resolution:** referred to group
Correct GPT algorithm. Also modify for current definition of frame.

Changes to Figure 61:

The box containing "Await Frame arrival" should say "Await UL-Map arrival".

The "Data Grant Pending?" decision diamond along with its yes arrow should be deleted. The no arrows going in and out of the diamond should be consolidated into one no arrow.

The box "back-off and re-request for untransmitted portion of frame" should say "back-off and re-request for untransmitted portion of queue".

The box "Send untransmitted portion of frame with request for next frame in piggyback field" should say "Send untransmitted portion of PDU with request for queue contents in piggyback field".

All other occurrences of "frame" should say "PDU".

Notes: Ken Stanwood and Juan-Carlos Zuniga will go over this comment to come up with appropriate edits.

Page/Line: 130 /30 **Number:** 222 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: **Reason:** **Resolution:** accepted
Delete the entire paragraph.
After the merge, this concept is taken care of by UGS w/AD.

Delete the entire paragraph.

Notes: OK

Page/Line: 132 /21 **Number:** 223 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: **Reason:** **Resolution:** accepted
Corrections for compatibility with Tables 1 and 11.

Change "Registration" to "Initial Ranging". Change 0xFFFF to 0x0000, and change the IUC field to 2.

Notes: OK

Page/Line: 132 /49 **Number:** 224 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: **Reason:** **Resolution:** accepted
Correction since they are allowed in unicast request intervals.

Insert "multicast or broadcast" before "Request intervals".

Notes: OK

Page/Line: 134 /53 **Number:** 225 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** rejected
Insert a section explaining the definition and usage of the piggy-backing and bandwidth stealing.
For better understanding of draft #1.

Insert a section explaining the definition and usage of the piggy-backing and bandwidth stealing.

Notes: No text supplied

Page/Line: 137 /4 **Number:** 226 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Editorial
Description: **Reason:** **Resolution:** rejected
No exact wording for change, but the paragraph (lines 4 to 16) should be updated to refer to modes A and B of this standard, rather than to DOCSIS PHY.
The paragraph describing when the downstream signal is considered valid refers to a DOCSIS PHY rather than to the two specific PHY options of 802.16 PHY.

Notes: No text supplied

Page/Line: 137 /8 **Number:** 227 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: **Reason:** **Resolution:** referred to group
PHY Mode B does not require this step.
referred to group

Insert "(PHY Mode A only)" after "MPEG packetization".

Notes: Glen Sater will look at page 137, lines 1 through 28, and provide his recommended changes to the group.

Page/Line: 138 /38 **Number:** 228 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: **Reason:** **Resolution:** accepted
Change "Wait for map for this channel" to Wait for UL-MAP for this channel". Eliminate ambiguity.

Notes: see 227.

Page/Line: 142 /42 **Number:** 229 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Technical
Description: **Reason:** **Resolution:** accepted-modified
CPE should not increase power if a collision has occurred.
Collisions during network entry, which may commonly occur after a local power failure, may cause a CPE to adjust its power to too high a level. This may result in interference and an unstable network. Possible solutions to alleviate this problem are:

- implementation of collision detection mechanism at the base station and an appropriate collision feed back mechanism .
- to have base station transmit its actual transmit power in a message to CPE so that the CPE can determine maximum power to use.
- configure CPE with maximum transmit power (This is undesirable as it will add configuration to CPE).

In order to have a best possible solution in the standard, contributions should be invited to address this issue.

Notes: Consensus is for several retries with window backoff prior to raising power. Figure 67 must be updated to reflect this. Jim will update figure.

Page/Line: 144 /20 **Number:** 230 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial
Description: Change "CM" to "CPE". **Reason:** To correct a typo. **Resolution:** accepted
Notes: OK

Page/Line: 145 /33 **Number:** 231 **Date:** 9/5/00 **Name:** Sater Glen **Type:** Technical
Description: All references to establishment of IP connectivity need to be handled through the Ethernet convergence process, which is not yet defined. Once this convergence process is defined, the IP connectivity establishment must use that portion of the MAC's protocol stack. **Reason:** The current text violates the layering rules established by the core MAC protocol. **Resolution:** referred to group

Notes: This should also be addressed within the call for contributions regarding the convergence sublayers. Glen is already tasked with drafting the call for

Page/Line: 145 /36 **Number:** 232 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Editorial
Description: Add more details about use of DHCP as to obtain an IP address. **Reason:** Use of DHCP to obtain an IP address as described in the current draft is not well defined. The CPE broadcast mode used by DHCP is not supported in the draft. The DHCP server location and its connection to the proposed MAC layer are not clear. **Resolution:** rejected

Notes: Need text for change.

Page/Line: 148 /42 **Number:** 233 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Technical
Description: After the "operational" state the CPE should not go into "Reg-Rsp" input state. **Reason:** The CPE should not receive multiple Reg-Rsp. However if it is possible that the CPE can receive multiple Reg-Rsp due to glare/error scenarios then the CPE should verify the validity of the most recent reg-rsp with the data previously received. The text should also be updated to reflect this. **Resolution:** accepted

Notes: Glen will supply a modified version of the diagram to replace figure 71.

Page/Line: 150 /23 **Number:** 234 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial
Description: Change "TFTP Server IP" to "TFTP Server Provisioned Modem Address". **Reason:** To make state diagrams consistent with the text description. **Resolution:** accepted
Notes: "Modem" now replaced by "CPE"; diamond box can't hold much text

Page/Line: 151 /43 **Number:** 235 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial
Description: Change "Service IDs" to "Connection IDs". **Reason:** The concept of Service IDs have been changed to connection IDs. **Resolution:** accepted
Notes: OK

Page/Line: 152 /29 **Number:** 236 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: Add the sentence "For GPT mode terminals, any allocation of uplink bandwidth constitutes a Periodic Ranging opportunity". **Reason:** GPT terminals may send a Ranging request in any bandwidth they are given. **Resolution:** accepted
Notes: OK

Page/Line: 153 /52 **Number:** 237 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: Some strange overlay of text happened. **Reason:** Typo. **Resolution:** accepted
Notes: OK; changes had been made by overlays which didn't quite stay put.

Page/Line: 154 /48 **Number:** 238 **Date:** 9/5/00 **Name:** Foerster Jeff **Type:** Technical
Description: consistent with the PHY that allows for modulation and FEC changes on to change modulation/FEC pairs rather than just modulation levels. For example, the beginning of the first sentence could be changed to "The downstream modulation/FEC format for data transmission (characterized by the Data Grant types 1-6) is determined by the BS according ...". **Reason:** 1. Update this section to reflect that the thresholds are used To be a burst-by-burst basis rather than just the modulation level. **Resolution:** accepted-modified

2. Also, the first sentence starting at line 58 should read something like the following, "The CPE applies an algorithm to determine its best operating modulation/FEC region in accordance with the threshold parameters established in the RNG-RSP message."
3. Update Figure 76 on page 155 to reflect modulation/FEC groups (or Data Grant Types) rather than just modulation groups.

Notes: replace "data grant type" with "burst type". In lines 52 and 55, "modulation format" should be replaced with "burst type". In line 45, "modulation" is

Page/Line: 156 /8 **Number:** 239 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Editorial
Description: Font size of this line is smaller than other lines. **Reason:** To fix a typo in draft #1 **Resolution:** accepted
Notes: OK

Page/Line: 159 /54 **Number:** 240 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** accepted

"Figure 5-43" must be read as "Figure 79"				To fix a typo in draft #1		
Notes: OK						
Page/Line: 160 /50	Number: 241	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial	
Description: "Bss" should be typesetted as "BSs"			Reason: To fix a typo in draft #1	Resolution:	accepted	
Notes: OK						
Page/Line: 162 /17	Number: 242	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial	
Description: "It useful" must be read as "It is useful"			Reason: To fix a typo in draft #1	Resolution:	accepted	
Notes: OK						
Page/Line: 164 /26	Number: 243	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial	
Description: Delete an extra period at the end of the line.			Reason: To fix a typo in draft #1	Resolution:	accepted	
Notes: OK						
Page/Line: 165 /31	Number: 244	Date: 9/5/00	Name: Condie	Mary	Type: Editorial	
Description: Change "SID" to "CID".			Reason: The concept of Service IDs have been changed to connection IDs.	Resolution:	accepted	
Notes: OK						
Page/Line: 165 /37	Number: 245	Date: 9/5/00	Name: Condie	Mary	Type: Editorial	
Description: Change the column heading "Service Identifier" to "Connection Identifier".			Reason: The concept of Service IDs have been changed to connection IDs.	Resolution:	accepted	
Notes: OK						
Page/Line: 165 /40	Number: 246	Date: 9/5/00	Name: Condie	Mary	Type: Technical	
Description: Change "SID" to "CID".			Reason: The concept of Service IDs have been changed to connection IDs.	Resolution:	accepted	
Notes:						
Page/Line: 165 /56	Number: 247	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial	
Description: The word "modem" should be read as "CPE".			Reason: To fix a typo in draft #1	Resolution:	accepted	
Notes: OK, changed globally in MAC.						
Page/Line: 166 /2	Number: 248	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial	
Description: The reference number "2.13.8.4.1" should be read as "2.13.8.3.1".			Reason: To fix a typo in draft #1	Resolution:	accepted	
Notes: OK						
Page/Line: 166 /31	Number: 249	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial	
Description: The reference number "2.13.8.4.2" should be read as "2.13.8.3".			Reason: To fix a typo in draft #1	Resolution:	accepted	
Notes: OK						
Page/Line: 167 /3	Number: 250	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial	
Description: The word "subse" should be read as "subset".			Reason: To fix a typo in draft #1	Resolution:	accepted	
Notes: OK						
Page/Line: 168 /15	Number: 251	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial	
Description: "the purpose..." should be typesetted as "The purpose...".			Reason: To fix a typo in draft #1	Resolution:	accepted	
Notes: OK						
Page/Line: 169 /8	Number: 252	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial	
Description: The character " " " at the end of the line should be read as " : " .			Reason: To fix a typo in draft #1	Resolution:	accepted	
Notes: OK						
Page/Line: 177 /29	Number: 253	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial	
Description: "If the CPE checks that it can support the service and responds using ..." should be read as "If the CPE checks that it can support the service, it responds using ...".			Reason: To fix a typo in draft #1	Resolution:	accepted	
Notes: OK						
Page/Line: 180 /1	Number: 254	Date: 9/5/00	Name: Leiba	Yigal	Type: Editorial	
Description: Delete Figure 92 - it's the same as Figure 91.			Reason: Duplication	Resolution:	accepted	
Notes: OK						
Page/Line: 180 /41	Number: 255	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial	

Description: Figure 92 is duplicated with Figure 91, so it must be deleted.	Reason To fix a typo in draft #1	Resolution: accepted
Notes: Done.		
Page/Line: 204 /42 Number: 256 Date: 9/5/00	Name: Choi	Hoon Type: Editorial
Description: A Figure of SDL for "DSD-Remote Holding Down" is missing. Figure 5-106 of IEEE 802.16.1mc-00/14r0 can be included for this figure as Figure 114 of the draft #1.	Reason To fix a typo in draft #1	Resolution: accepted
Notes: Can't copy diagram from Acrobat version. Glen: can you supply it in FM?		
Page/Line: 267 /20 Number: 258 Date: 9/5/00	Name: Foerster	Jeff Type: Editorial
Description: Remove Section 3.1.1 Reference Configuration.	Reason This is already described by Figures 1, 3, and 5 in Sections 1.	Resolution: referred to editor
Notes: Editor recommends Section to be deleted. Ensure handled in Overview section.		
Page/Line: 267 /20 Number: 257 Date: 9/5/00	Name: Condie	Mary Type: Editorial
Description: The reference configuration section should either be removed or made consistent with the section 1.14 starting at line 1 on page 17.	Reason To avoid confusion.	Resolution: referred to editor
Notes: Editor recommends Section to be deleted. Ensure handled in Overview section.		
Page/Line: 267 /25 Number: 259 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Insert the word "transmission" before the word "convergence".	Reason Eliminate ambiguity and maintain consistency with the rest of the document.	Resolution: referred to editor
Also at line 47 Insert "Transmission" before "Convergence" in both of the lower convergence layers of the Figure.		
Notes: This figure is recommended to be deleted. Ensure this is handled properly in the overview section.		
Page/Line: 268 /16 Number: 260 Date: 9/5/00	Name: Ran	Moshe Type: Editorial
Description: Change the sentence " The continuous downstream mode has a higher coding due to the presence of a..." to "The continuous downstream mode is based on a..."	Reason The statement "The continuous downstream mode has a higher coding gain due to ." is not true when using the optional BTC.	Resolution: accepted
Notes: Editor changed to Editorial Type rather than Technical.		
Page/Line: 268 /25 Number: 261 Date: 9/5/00	Name: Foerster	Jeff Type: Editorial
Description: Change Section 3.1.4 title to "Physical Layers Overview".	Reason To alleviate confusion between the title of Section 3 and subsection 3.1.4.	Resolution: referred to editor
Notes: Done.		
Page/Line: 269 /2 Number: 262 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Insert "by" before "16-QAM".	Reason Typo.	Resolution: accepted
Also, on line 3, replace "modulations" with "modulation's".		
Notes: Done.		
Page/Line: 269 /32 Number: 263 Date: 9/5/00	Name: Foerster	Jeff Type: Editorial
Description: The discussions in Sections 3.2 and 3.3 in the PHY overlap the discussions in Section 2.6 of the MAC. I would recommend combining the information into confusion and allow for easier referencing a single section. One approach would be to do the following:	Reason Contain all the framing discussion in a single section to alleviate any	Resolution: referred to editor
1. Delete sections 3.2, 3.3, and 3.3.1.		
2. Make further changes to Section 2.6 as suggested in the following comment.		
Notes: Need to verify that comparable changes occur in the MAC section. Possibly include pointers to relevant sections in the MAC.		
Page/Line: 271 /43 Number: 264 Date: 9/5/00	Name: Ran	Moshe Type: Editorial
Description: Insertion of a word modulation.	Reason the title of the Fig. should be "N physical slots, 4*N modulation symbols" [instead of : N physical slots, 4*N symbols]	Resolution: referred to editor
Notes: This figure is recommended to be removed and discussions moved to the MAC portion of the document.		
Page/Line: 272 /11 Number: 265 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Extraneous Figure heading on this line and again on line 63.	Reason Typo.	Resolution: accepted
Notes: This figure is recommended to be removed and discussions moved to the MAC portion of the document.		
Page/Line: 272 /26 Number: 266 Date: 9/5/00	Name: Row	Paul Type: Technical
Description: Figure 123. Should there be a pointer to end of burst to CPE X?	Reason Possible inconsistency in diagram	Resolution: referred to editor
Notes: This figure is recommended to be removed and discussions moved to the MAC portion of the document. This needs to be resolved with the MAC.		
Page/Line: 273 /13 Number: 267 Date: 9/5/00	Name: Row	Paul Type: Technical
Description: Amend second sentence in 3.3.2 second para "These packets consist of a one-byte	Reason To clarify the origin for the pointer field - is first byte of packet byte 0	Resolution: accepted

synchronisation pattern (Byte 1) and a one-byte Pointer (Byte 2) followed by or byte 1?

186 bytes of payload (Bytes 3-188)"

Notes: Done.

Page/Line: 279 /24 **Number:** 268 **Date:** 9/5/00 **Name:** Stanwood **Ken** **Type:** Editorial
Description: Extraneous Figure heading. **Reason:** Typo. **Resolution:** referred to editor

This happens throughout the remainder of the PHY sections

Notes: Done.

Page/Line: 282 /3 **Number:** 269 **Date:** 9/5/00 **Name:** Stanwood **Ken** **Type:** Technical
Description: A Figure identical to Figure 139 should be here showing the structure like Figure 124 shows the structure for PHY Mode A. **Reason:** Clarity and Completeness. **Resolution:** accepted

Notes: Moved to Technical comment to resolve placement of Scrambling. Done.

Page/Line: 282 /8 **Number:** 270 **Date:** 9/5/00 **Name:** Ran **Moshe** **Type:** Editorial
Description: Change N to K **Reason:** Consistency **Resolution:** referred to editor

Notes: Need to resolve Comment 269 first. Done.

Page/Line: 282 /30 **Number:** 271 **Date:** 9/5/00 **Name:** Stanwood **Ken** **Type:** Editorial
Description: This line should be above the figure or below the heading. **Reason:** Format. **Resolution:** referred to editor

The same thing happens on page 283, line 37.

Notes: Done.

Page/Line: 282 /36 **Number:** 272 **Date:** 9/5/00 **Name:** Row **Paul** **Type:** Technical
Description: Amend first sentence below figure 131 in 3.3.3.1 second para "The pointer field identifies the byte number in the packet (first byte = byte 1) which indicates....." **Reason:** To clarify the origin for the pointer field - is first byte of packet byte 0 or byte 1? **Resolution:** accepted

Notes: Done.

Page/Line: 283 /55 **Number:** 273 **Date:** 9/5/00 **Name:** Foerster **Jeff** **Type:** Editorial
Description: Remove the table in Section 3.3.3.2.1. Add the following sentence to the end of the paragraph: "The downstream channel and burst profiles are communicated to the CPEs via
Reason: This table duplicates the information that is contained in the MAC section in Tables 9 and 10 of Section 2.5.2.2. **Resolution:** referred to editor

Notes: Refer to MAC/PHY discussions to ensure that this table is contained in the MAC.

Page/Line: 284 /40 **Number:** 274 **Date:** 9/5/00 **Name:** Ran **Moshe** **Type:** Editorial
Description: Insertion of a missing sentence " ...last codeword, based upon the allowable shortened codewords for the particular code type. **Reason:** Missing (typo) sentence **Resolution:** referred to editor

Notes: This table recommended to be removed with a reference to the MAC section where it is contained. Need to verify that MAC table is correct. Need to

Page/Line: 284 /40 **Number:** 275 **Date:** 9/5/00 **Name:** Ran **Moshe** **Type:** Technical
Description: add a field description for interleaving options-
1 - non
2- block
3- reserved **Reason:** BTC has inherent interleaving capability. It is simply stated in terms of how we write the data into the array and how it is read out. **Resolution:** accepted

Notes: This will be handled in the MAC section of the document, but should be decided upon by the PHY group. Moshe and Dave to provide a

Page/Line: 284 /52 **Number:** 276 **Date:** 9/5/00 **Name:** Foerster **Jeff** **Type:** Editorial
Description: Remove the table in Section 3.3.3.2.2. Add the following to the end of the first sentence, "(i.e., including the highest modulation order supported, the optional FEC coding schemes supported, and the minimum shortened last codeword length supported)." Add the following to the end of the last sentence, "using the Registration Request and Response MAC messages described in Sections 2.5.7 and 2.5.8."
Reason: This information should be contained in the Registration Request message defined in Sections 2.5.7 and 2.5.8 of the MAC. **Resolution:** referred to editor

Notes: Also added interleaving type supported to be discussed as a technical comment by Ran. Refer to MAC/PHY discussion.

Page/Line: 285 /5 **Number:** 277 **Date:** 9/5/00 **Name:** Stanwood **Ken** **Type:** Editorial
Description: This line should be inside the left box of the last row of the table. **Reason:** Format. **Resolution:** accepted

Notes: Should be subsection heading, not in the table.

Page/Line: 285 /10 **Number:** 278 **Date:** 9/5/00 **Name:** Leiba **Yigal** **Type:** Technical

Description: Change the table such that code types 2 and 3 in the are optional, and only code 1 is mandatory.	Reason Reduce the complexity (and hence the cost) of standard compliant equipment, while not preventing interested manufacturers from manufacturing better, yet more expensive equipment.	Resolution: accepted-modified
Notes: Revised Comment: Code 1 and 3 are mandatory, Code 2 is optional.	Vote: Accept 6, Reject 0	
Page/Line: 285 /30 Number: 279 Date: 9/5/00	Name: Ran	Moshe Type: Editorial
Description: Change P to K	Reason Inconsistency. Packet size are the information block size and thus should be denoted by K. The same remark applies all over the document. [e.g., p.285 line:43, p.285 line:53, p.286 line:17]	Resolution: accepted
Notes: Need to make sure constraint length designation does not conflict with this. Done.	Consistency. In this page it seems that what is ment by MAC blocks should be denoted as the dimension of the data. i.e., K.	
Page/Line: 286 /18 Number: 280 Date: 9/5/00	Name: Ran	Moshe Type: Technical
Description: Change the sentence , " MSB first" into "LSB first". denotes	Reason Using the RS options and RS + parity the first symbol out should be the LSB (i.e., the information part first then the parity check part)	Resolution: accepted
Notes: Done.		
Page/Line: 286 /23 Number: 281 Date: 9/5/00	Name: Leiba	Yigal Type: Technical
Description: Insert more details about the proposed convolutional code (state machine and puncturing drawing).	Reason Clarify the proposed coding option in the draft, and remove any ambiguity.	Resolution: accepted
Notes: Please recommend specific changes. Alok to recommend changes to bit shortening process to ensure an even number of bytes when using this code.		
Page/Line: 286 /42 Number: 282 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Extraneous Table Heading.	Reason Formatting error.	Resolution: accepted
This happens throughout the remainder of the PHY sections.		
Notes: Done.		
Page/Line: 287 /18 Number: 283 Date: 9/5/00	Name: Ran	Moshe Type: Technical
Description: Change $g(x)$ to $g_1(x)$ in line 18 Change $g(x)$ to $g_2(x)$ in line 23 Insertion of a paragraph: in line 56. "The preferred encoder will have the same code for the columns and for the rows. Thus the constituent codes are the same, that is, $(n_1, k_1) = (n_2, k_2)$. This symmetric case will reduce the decoder complexity."	Reason The generator polynomial for the columns code (n_1, k_1) is not necessarily identical to the generator polynomial of rows code (n_2, k_2) , as illustrated in the Fig. in lines 31-50. However, the symmetric case is preferred to reduce decoder complexity.	Resolution: accepted-modified
Notes: Accept first 2 lines, reject rest of comment.		
Page/Line: 287 /31 Number: 284 Date: 9/5/00	Name: Ran	Moshe Type: Technical
Description: Deletion of extra sequence of "p"	Reason When shortening a line or a column the parity checks are reset to zero.	Resolution: accepted
Notes: This section has been revised according to further recommendations by John L., Moshe R., and Dave W. to add more detail to the BTC section.		
Page/Line: 288 /24 Number: 285 Date: 9/5/00	Name: Ran	Moshe Type: Editorial
Description: Change the code rate from 73 into 0.673 Change the code rate from 17 into 0.717 Change the code rate from 90 into 0.790 Change the code rate from 08 into 0.608	Reason These are the correct figures for the code rates.	Resolution: accepted
Notes: Comment changed to Editorial, since this was just a conversion problem into FM. Done.		
Page/Line: 291 /23 Number: 286 Date: 9/5/00	Name: Leiba	Yigal Type: Technical
Description: Modify the sentence such that the only mandatory modulation is QPSK. 16QAM and 64QAM are optional.	Reason Reduce the complexity (and hence the cost) of standard compliant equipment, while not preventing interested manufacturers from manufacturing better, yet more expensive equipment.	Resolution: rejected
Notes: Vote: 0 for, 8 against.		
Page/Line: 291 /37 Number: 287 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Text is missing.	Reason Formatting Error.	Resolution: accepted
Occurs again on Page 292, line 7 and page 293, line 11.		
Notes: References were added.		
Page/Line: 291 /53 Number: 288 Date: 9/5/00	Name: Stanwood	Ken Type: Editorial
Description: Change "Table 72" to "Figure xxx".	Reason Formatting Error.	Resolution: accepted
Same error occurs on page 292, line 29.		

Notes: Done.

Page/Line: 292 / 8 **Number:** 289 **Date:** 9/5/00 **Name:** Ran **Moshe Type:** Technical

Description:
Change Table 75 16-QAM constelltion and Table 76 to be consistent with 4,64QAM.
The new table should be constructed according to the following rules:
- +1 is 00, -1 is 10, +3 is 01 and -3 is 11
- The pairing of the I and Q should be I1,Q1,I2,Q2

Reason: Consistency. The final results is that in all the constellation the points for I>0, Q>0 start with 00 for I<0, Q>0 start with 10 for I<0, Q<0 start with 11 for I>0, Q<0 start with 01
Resolution: rejected

Notes: Vote: 1 for this method and 3 for mapping in Comment 290, so mapping in Comment 290 accepted.

Page/Line: 293 / 12 **Number:** 290 **Date:** 9/5/00 **Name:** Leiba **Yigal Type:** Technical

Description:
Modify figure 134 and figure 135 such that the bit mapping I and Q components are not interleaved. The bits should be interpreted I1,I2,I3,Q1,Q2,Q3. The bits to symbol translation for the I and Q components will then be identical.
One axis (the other is identical) of figure 134 will then be described by the table below

Reason: In the bit mapping for the QAM16 constellation the I and Q components are not interleaved, and it makes sense to keep the mapping consistent between QAM16
Resolution: accepted

I1,I2,I3 (Q1,Q2,Q3) | symbol I axis (Q axis)

0 0 0		3
0 0 1		1
0 1 0		5
0 1 1		7
1 0 0		-3
1 0 1		-1
1 1 0		-5
1 1 1		-7

Notes: Vote: 3 for and 1 for mapping from Comment 289, so this mapping accepted. Make consistent with 16-QAM.

Page/Line: 293 / 47 **Number:** 291 **Date:** 9/5/00 **Name:** Stanwood **Ken Type:** Editorial

Description:
Change "Figure to "Table".
Notes: Done.

Reason: Formatting Error.
Resolution: accepted

Page/Line: 296 / 18 **Number:** 292 **Date:** 9/5/00 **Name:** Stanwood **Ken Type:** Editorial

Description:
Equation should be inserted properly.
Notes: Done.

Reason: Formatting Error.
Resolution: accepted

Page/Line: 296 / 26 **Number:** 293 **Date:** 9/5/00 **Name:** Stanwood **Ken Type:** Editorial

Description:
Table needs a heading.

Reason: Formatting Error.
Resolution: accepted

This occurs again on page 297, line 4; page 297, line 44; page 298, line 4; and various other tables throughout the remainder of the PHY section.

Notes: Done.

Page/Line: 296 / 58 **Number:** 294 **Date:** 9/5/00 **Name:** Foerster **Jeff Type:** Editorial

Description:
Change the subsection 3.4.1 title to "Upstream Channel and Burst Descriptions". Remove the table in Section 3.4.1. Remove the paragraph in this section, and replace it with the following:
"Since subscriber stations cannot transmit in the upstream channel until they have received some minimal configuration information from the base station, it's possible to support several different modem configurations that can be adjusted on an upstream channel basis or on a burst-by-burst basis. These parameters, and their ranges, are supported through MAC layer signaling, as described in Section 2.5.2.1."

Reason: The table of information is redundant with the information provided in the MAC portion of the document.
Resolution: referred to editor

Notes: Refer to PHY/MAC discussions to ensure this information is properly handled on either the PHY or MAC sections.

Page/Line: 297 / 8 **Number:** 295 **Date:** 9/5/00 **Name:** Condie **Mary Type:** Editorial

Description:
Change "upstream center frequency" to "upstream center radio frequency".
Notes: This table is recommended to be removed for the PHY, but this change should be check in the corresponding table in the MAC. Resolve comment 294

Reason: To avoid confusion between the radio and intermediate frequency.
Resolution: referred to editor

Page/Line: 297 / 37 **Number:** 296 **Date:** 9/5/00 **Name:** Foerster **Jeff Type:** Editorial

Description:
Remove Section 3.4.2.

Reason: This information is redundant with the information provided in the MAC portion of the document (Sections 2.5.2.1 and 2.6).
Resolution: referred to editor

Notes: Resolve Comment 294 first.

Page/Line: 299 / 1 **Number:** 297 **Date:** 9/5/00 **Name:** Stanwood **Ken Type:** Editorial

Description:

Reason:
Resolution: referred to editor

Fourth vertical line showing start of physical channels should line up with the start of the second CPE transition Gap. Typo.

Notes: This figure is recommended to be removed from the PHY, so the changed should be verified in the MAC.

Page/Line: 299 /33 Number: 298 Date: 9/5/00 Name: Stanwood Ken Type: Editorial
Description: "Figure" should be "Table" and should be moved below text so it is at top of table. Reason: Format. Resolution: accepted

Notes: Done.

Page/Line: 299 /55 Number: 299 Date: 9/5/00 Name: Foerster Jeff Type: Editorial
Description: Remove Section 3.4.3. Reason: This information is contained in Section 2.6 already, so there is no need to repeat it. Resolution: referred to editor

Notes: Refer to PHY/MAC discussions to ensure this information is contained properly somewhere in either the MAC or the PHY section.

Page/Line: 300 /17 Number: 300 Date: 9/5/00 Name: Row Paul Type: Technical
Description: line 17 Amend sentence "The pointer field identifies the byte number in the packet (first byte = byte 1) which indicates....." Reason: To clarify the origin for the pointer field - is first byte of packet byte 0 or byte 1? Resolution: accepted

Notes: Done.

Page/Line: 301 /44 Number: 301 Date: 9/5/00 Name: Leiba Yigal Type: Technical
Description: Change the table such that code types 2 and 3 in the are optional, and only code 1 is mandatory. Reason: Reduce the complexity (and hence the cost) of standard compliant equipment, while not preventing interested manufacturers from manufacturing better, yet more expensive equipment. Resolution: accepted-modified

Notes: Revised Comment: Code 1 and 3 are mandatory, Code 2 is optional. Vote: Accept 6, Reject 0

Page/Line: 303 /11 Number: 302 Date: 9/5/00 Name: Stanwood Ken Type: Editorial
Description: Table appears to be missing. Reason: Typo. Resolution: accepted

Notes: This should have been a section title, not a table and has been fixed.

Page/Line: 303 /54 Number: 303 Date: 9/5/00 Name: Stanwood Ken Type: Editorial
Description: Referenced Figure is missing and heading appears as text rather than as heading. Reason: Typo. Resolution: accepted

Notes: Figure has been added.

Page/Line: 304 /50 Number: 304 Date: 9/5/00 Name: Leiba Yigal Type: Technical
Description: Modify the sentence such that the only mandatory modulation is QPSK. 16QAM and 64QAM are optional. Reason: Reduce the complexity (and hence the cost) of standard compliant equipment, while not preventing interested manufacturers from manufacturing better, yet more expensive equipment. Resolution: accepted

Notes: Vote: 5 for, 2 against. Accepted.

Page/Line: 305 /35 Number: 305 Date: 9/5/00 Name: Stanwood Ken Type: Editorial
Description: Figure heading should start with "Figure xxx". Reason: Typo. Resolution: accepted

Same thing occurs again on page 306, line 46.

Notes: Done.

Page/Line: 306 /22 Number: 306 Date: 9/5/00 Name: Leiba Yigal Type: Technical
Description: Modify the figure specifying gray 16 bit mapping. The bits should be interpreted I1,I2,Q1,Q2. The bits to symbol translation for the I and Q components will then be identical. One axis (the other is identical) of the figure will then be described by the table below. Reason: The upstream channel is a burst modem, and the current, rotationally invariant bit mapping has no special advantage for it. The proposed bit mapping is the same as the one proposed for the burst modem in the downstream channel, and thus increases the standard consistency. Resolution: accepted

I1,I2 (Q1,Q2) | symbol I axis (Q axis)

Table with 2 columns: I1,I2 (Q1,Q2) and symbol I axis (Q axis). Rows: 0 0 | 1, 0 1 | 3, 1 0 | -1, 1 1 | -3

Notes: Make mapping consistent with DS Mode B. Done.

Page/Line: 307 /21 Number: 307 Date: 9/5/00 Name: Leiba Yigal Type: Technical
Description: Modify figure 141 and figure 142 such that the bit mapping I and Q components are not interleaved. The bits should be interpreted I1,I2,I3,Q1,Q2,Q3. The bits to symbol translation for the I and Q components will then be identical. Reason: In the downstream channel, in the bit mapping for the QAM16 constellation, the I and Q components are not interleaved. It makes sense to keep the mapping across the burst modem in the upstream and downstream channel and across QAM16. Resolution: accepted

One axis (the other is identical) of figure 141 will then be described by the table below

I1,I2,I3 (Q1,Q2,Q3) | symbol I axis (Q axis)

0 0 0		3
0 0 1		1
0 1 0		5
0 1 1		7
1 0 0		-3
1 0 1		-1
1 1 0		-5
1 1 1		-7

and QAM64 constellations.

Notes: Make mapping consistent with DS Mode B. Done.

Page/Line: 309 /65 **Number:** 308 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: Should properly include equation. **Reason:** Typo. **Resolution:** accepted
Notes: Done.

Page/Line: 310 /5 **Number:** 309 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: Extraneous Section heading. **Reason:** Typo. **Resolution:** accepted
Notes: Done.

Page/Line: 310 /47 **Number:** 310 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: Change sentence to read 'Subscriber station equipment should support symbol rates that lie in the interval 5 Mbaud to 40 Mbaud for the downstream and
Reason: Specify identical Baud rate range for upstream and downstream. This enables using standard compliant equipment for point to point type of installations.
Resolution: accepted
Notes: Vote: Accepted 4 , Reject 3

Page/Line: 310 /58 **Number:** 311 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Technical
Description: Delete the paragraph starting with "The following table of 5".
Reason: The channel bandwidths have not been reviewed. Data table is incomplete e.g., alpha factor, ETSI channelisation are not listed. Contributions should be solicited to address these areas.
Resolution: rejected
Notes: Vote: Accept 0, Rejected 3. Note, Band plans to be reviewed later. See meeting minutes for this discussion.

Page/Line: 311 /4 **Number:** 312 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Technical
Description: The table at the top of the page should be deleted.
Reason: The channel bandwidths have not been reviewed. Data table is incomplete e.g., alpha factor, ETSI channelisation are not listed. Contributions should be solicited to address these areas.
Resolution: rejected
Notes: Vote: Accept 0, Rejected 3. Note, Band plans to be reviewed later. See meeting minutes for this discussion.

Page/Line: 312 /1 **Number:** 313 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: Remainder of document is mostly TBD.
Reason: .
Resolution: rejected
Notes: Not sure what is recommended?

Page/Line: 315 /49 **Number:** 314 **Date:** 9/5/00 **Name:** Zhang Wei **Type:** Technical
Description: Insert input under "4.8.1 Propagation Conditions"
Reason: To provide an input in draft #1
Resolution: accepted-modified

Line of sight radio propagation conditions between base station and subscriber stations are required, to achieve high quality and availability service. Also, the subscriber stations need highly directional antennas, which minimize the number of multipaths and interference from unexpected sources. The intersymbol interference may occur as a consequence of multipaths.

The severest propagation impairment is rain fade that may be estimated using ITU-R model [1] or Crane model [2]. Other impairments such as depolarization and loss due to atmospheric gases [1] are considered trivial.

[1] ITU-R Recommendation P.530-7, Propagation Data and Prediction Methods Required for the Design of Terrestrial Line-of-Sight Systems. 1997.

[2] R. K. Crane, Electromagnetic Wave Propagation Through Rain. New York, John Wiley & Sons, 1996.

Notes: Accept first paragraph of comment and reject second paragraph. Vote: Accept 2, Reject 1.