
Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >	
Title	802.16.1 Task Group Review Comments for Session #9	
Date Submitted	2000/09/05	
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Re:	This document is a report of comments received for the task group review of the Air Interface for Fixed Broadband Wireless Access Systems , IEEE 802.16.1-00/01r1. These comments are input to session #9. Please refer to the task group review instructions and call-for-comments, IEEE 802.16.1-00/02r1, at http://ieee802.org/16/tg1/docs/802161-00_02r1.pdf .	
Abstract	This document lists all comments received. It is divided into two sections: Pages 2-37: Sorted by page number and then line number Pages 38-74: Sorted by submitter name, then page number, then line number Total comments: 315 PHY-specific comments (pp. 267-317): 58 MAC-specific comments (pp. 17-266): 220 General comments (pp. 0-16, 318-321): 37 Technical comments: 137 Editorial comments: 174 TBD comments: 4	
Purpose	Input to session #9. Comment submitters should verify that all their comments were received and processed correctly.	
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802.16.1 Task Group Review Comments for Session #9

Brian Petry

3Com

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: unresolved
Notes:					
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 Check all figures as well			Reason: The PCD message has been replaced by the DCD and UCD messages.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: unresolved
Notes:					
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: unresolved
Notes:					
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: unresolved
Notes:					
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: unresolved
Notes:					
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: unresolved
Notes:					
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: unresolved
Notes:					
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: unresolved
Notes:					
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: unresolved
Notes:					
Page/Line: 3 / 38	Number: 9	Date: 9/5/00	Name: Condie	Mary	Type: Technical
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: unresolved

Notes:

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:** unresolved

Notes:

Page/Line: 5 / 16 **Number:** 10 **Date:** 9/5/00 **Name:** Row Paul **Type:** Editorial
Description: Line 16 change "user" to "use"
Reason: Spelling mistake **Resolution:** unresolved

Notes:

Page/Line: 6 / 39 **Number:** 12 **Date:** 9/5/00 **Name:** Row Paul **Type:** Editorial
Description: Line 39 change "IDSN" to "ISDN"
Reason: Spelling mistake **Resolution:** unresolved

Notes:

Page/Line: 7 / 1 **Number:** 14 **Date:** 9/5/00 **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:** unresolved

Notes:

Page/Line: 7 / 1 **Number:** 13 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** 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:** unresolved

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

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

Notes:

Page/Line: 8 / 9 **Number:** 15 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: There is an extra space before the period at the end of the sentence.
Reason: Typos. **Resolution:** unresolved

Notes:

Page/Line: 8 / 57 **Number:** 17 **Date:** 9/5/00 **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:** unresolved

Notes:

Page/Line: 8 / 57 **Number:** 16 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** 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:** unresolved

Notes:

Page/Line: 8 / 62 **Number:** 18 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: Change the word "expected" to "allowed".
Reason: Correctness - the standard can not support mobile CPEs, therefore they are not allowed. **Resolution:** unresolved

Notes:

Page/Line: 9 / 29 **Number:** 19 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: Change the word "are" to "is".
Reason: Grammar - the noun, One addition, and the verb, are, do not match. **Resolution:** unresolved

Notes:

Page/Line: 9 / 38 **Number:** 20 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: The text "the user of encryption. that" should be changed to "the use of encryption so that".
Reason: typo. **Resolution:** unresolved

Notes:

Page/Line: 9 / 49	Number: 22	Date: 9/5/00	Name: Marin	Scott	Type: Editorial
Description:			Reason		Resolution: unresolved
Change "protoco" to "protocol"			spelling error		
Notes:					
Page/Line: 9 / 49	Number: 21	Date: 9/5/00	Name: Stanwood	Ken	Type: Editorial
Description:			Reason		Resolution: unresolved
Change "protoco" to "protocol". Insert a space in "commonmodulation"			Typos.		
Notes:					
Page/Line: 9 / 62	Number: 23	Date: 9/5/00	Name: Marin	Scott	Type: Editorial
Description:			Reason		Resolution: unresolved
Change Figure 4 with Figure 2-3 from document IEEE 802.16s-99/00r1			Consistency with functional requirements.		
Notes:					
Page/Line: 10 / 29	Number: 25	Date: 9/5/00	Name: Marin	Scott	Type: Editorial
Description:			Reason		Resolution: unresolved
After "shown in" insert "Figure X". Then insert Figure 4-1 from the functional requirement document (IEEE 802.16s-99r1, p11).			Incomplete sentence		
Notes:					
Page/Line: 10 / 29	Number: 24	Date: 9/5/00	Name: Stanwood	Ken	Type: Editorial
Description:			Reason		Resolution: unresolved
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.			Typos, quality.		
Notes:					
Additionally, line 35 refers to "special" protocols. We should say what we mean, not use cute, ambiguous term.					
Notes:					
Page/Line: 10 / 45	Number: 26	Date: 9/5/00	Name: Stanwood	Ken	Type: Editorial
Description:			Reason		Resolution: unresolved
Delete the entire paragraph.			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.		
Notes:					
Page/Line: 10 / 49	Number: 27	Date: 9/5/00	Name: Marin	Scott	Type: Editorial
Description:			Reason		Resolution: unresolved
Change "in the ATM World" to "for ATM protocols"			There is no ATM World.		
Notes:					
Page/Line: 10 / 56	Number: 28	Date: 9/5/00	Name: Stanwood	Ken	Type: Editorial
Description:			Reason		Resolution: unresolved
Delete the phrase "the MAC protocol is simple".			It's an untrue editorial comment.		
Notes:					
Page/Line: 11 / 36	Number: 29	Date: 9/5/00	Name: Marin	Scott	Type: Editorial
Description:			Reason		Resolution: unresolved
Change entire paragraph to the paragraph beginning on page 13, line 26 of the functional requirements spec (IEEE 802.16s-99_00r1).			Consistency with the functional requirements spec.		
Notes:					
Page/Line: 11 / 40	Number: 30	Date: 9/5/00	Name: Stanwood	Ken	Type: Editorial
Description:			Reason		Resolution: unresolved
Change this requirement to a meaningful one.			This is a very "low bit rate" opinion of when to declare the link unavailable.		
Notes:					
Page/Line: 11 / 56	Number: 31	Date: 9/5/00	Name: Stanwood	Ken	Type: Editorial
Description:			Reason		Resolution: unresolved
Change "and cell radius" to ", modulation, and FEC".			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.		
Notes:					
Page/Line: 12 / 35	Number: 32	Date: 9/5/00	Name: Stanwood	Ken	Type: Editorial
Description:			Reason		Resolution: unresolved
Remove the word "be" after the word "is".			Typo.		
Notes:					
Page/Line: 12 / 60	Number: 33	Date: 9/5/00	Name: Stanwood	Ken	Type: Editorial
Description:			Reason		Resolution: unresolved

Remove period at end of bullet.

Consistency with other bullets.

Notes:

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:** unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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:

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:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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 also shown in Figure 5."
Reason: Define acronym "TC".
Resolution: unresolved

Notes:

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: unresolved

Notes:

Page/Line: 17 / 44 **Number:**44 **Date:** 9/5/00 **Name:** Marin Scott **Type:** Editorial
Description:
Reason:
Resolution: unresolved

After "convergence sublayer" insert "(CL)"

define acronym.

Notes:

Page/Line: 17 / 47	Number: 45	Date: 9/5/00	Name: Leiba	Yigal	Type: Technical
Description:			Reason		Resolution: unresolved
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 Addition and Change operations.			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.		

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:

Page/Line: 18 / 17	Number: 47	Date: 9/5/00	Name: Stanwood	Ken	Type: Technical
Description:			Reason		Resolution: unresolved
Delete last sentence of the paragraph.			The stated action never happens in any of the described primitive and message sequences and never should happen.		

Notes:

Page/Line: 18 / 17	Number: 46	Date: 9/5/00	Name: Stanwood	Ken	Type: Technical
Description:			Reason		Resolution: unresolved
Delete last sentence of the paragraph.			The stated action never happens in any of the described primitive and message sequences and never should happen.		

Notes:

Page/Line: 18 / 34	Number: 48	Date: 9/5/00	Name: Marin	Scott	Type: Editorial
Description:			Reason		Resolution: unresolved
change "reads" to "sends"			spelling.		

Notes:

Page/Line: 18 / 57	Number: 49	Date: 9/5/00	Name: Leiba	Yigal	Type: Technical
Description:			Reason		Resolution: unresolved
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 window size.			Add support for MAC level ARQ. See also related contribution titled 'Suggested modifications to 802.16.1 standard draft to support MAC level ARQ'		

Notes:

Page/Line: 19 / 30	Number: 50	Date: 9/5/00	Name: Marin	Scott	Type: Editorial
Description:			Reason		Resolution: unresolved
after "connection ID" insert "(CID)"			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:

Page/Line: 19 / 42	Number: 51	Date: 9/5/00	Name: Marin	Scott	Type: Editorial
Description:			Reason		Resolution: unresolved
After "Request message" insert "(paragraph xxx)"			Dynamic Service Addition - Request message not yet defined in the document.		

Notes:

Page/Line: 20 / 61	Number: 52	Date: 9/5/00	Name: Leiba	Yigal	Type: Technical
Description:			Reason		Resolution: unresolved
Add parameter to MAC-CREATE-CONNECTION.request in order to identify the 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 associated with the connection.			It is not clear how the MAC knows which CL to inform. There is no parameter 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:

Page/Line: 24 / 39	Number: 53	Date: 9/5/00	Name: Marin	Scott	Type: Editorial
Description:			Reason		Resolution: unresolved
Change "MAA" to "XXX"			Note sure if MAA is a typo or intentional. If intentional, then define MAA. If typo, then change to correct value.		

Notes:

Page/Line: 25 / 44	Number: 54	Date: 9/5/00	Name: Marin	Scott	Type: Editorial
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Description:

After "supported at the" insert "Mxxxx Pxxxx Lxxxx Sxxxx"

Notes:

Page/Line: 26 / 18 **Number:** 55 **Date:** 9/5/00

Description:

Change "service class" to "service flow reference"

Reason

define acronym. For that mater, LLC, ATM, IP, and MPEG have been defined either.

Resolution:

unresolved

Name: Condie Mary

Type: Technical

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:

Page/Line: 27 / 19 **Number:** 56 **Date:** 9/5/00

Description:

Delete the "encryption flag" parameter from the list.

Name: Condie Mary

Type: Technical

Reason

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

Resolution:

unresolved

Notes:

Page/Line: 29 / 20 **Number:** 57 **Date:** 9/5/00

Description:

Change "CPE" to "SS"

Name: Marin Scott

Type: Editorial

Reason

Consistency with functional requirements, IEEE 802.16s-99_00r1. Note, String replace "CPE" with "SS" in several places.

Resolution:

unresolved

Notes:

Page/Line: 29 / 45 **Number:** 58 **Date:** 9/5/00

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.

Name: Condie Mary

Type: Technical

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:

Page/Line: 30 / 22 **Number:** 59 **Date:** 9/5/00

Description:

after "addressing purposes" insert "[ref #]."

Name: Marin Scott

Type: Technical

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:

unresolved

Notes:

Page/Line: 30 / 29 **Number:** 60 **Date:** 9/5/00

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."

Name: Stanwood Ken

Type: Technical

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:

unresolved

Notes:

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: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
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.	Resolution: unresolved
Notes:				
Page/Line: 31 / 17	Number: 66	Date: 9/5/00	Name: Marin Scott	Type: Editorial
Description: after "request" insert "information element"			Reason: define acronym	Resolution: unresolved
Notes:				
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 in"			Reason: To make it clear that stations that are compliant to 802.16.1 have time requirements.	Resolution: unresolved
Notes:				
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.	Resolution: unresolved
Notes:				
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"	Resolution: unresolved
Notes:				
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.	Resolution: unresolved
Notes:				
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	Resolution: unresolved
Notes:				

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.	Resolution: unresolved
Notes:				
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.	Resolution: unresolved
Notes:				
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	Resolution: unresolved
Notes:				
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 message", but I'm not sure that is what the author intended.	Resolution: unresolved
Notes:				
Page/Line: 35 / 5	Number: 76	Date: 9/5/00	Name: Marin Scott	Type: Editorial
Description: after "Object" insert "(NACO)"			Reason: define acronym	Resolution: unresolved
Notes:				
Page/Line: 35 / 7	Number: 77	Date: 9/5/00	Name: Marin Scott	Type: Editorial
Description: After "Subscriber" insert "Network"			Reason: Consistency with system reference point descriptions in para 1.7.1	Resolution: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
Page/Line: 35 / 22	Number: 80	Date: 9/5/00	Name: Marin Scott	Type: Editorial
Description: change "NACO off" to ""NACO=0"".			Reason: Is NACO off the same as "NACO=0"? Use only one notation. See also NACO off in Page35, line 37.	Resolution: unresolved
Notes:				
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: unresolved
Notes:				
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 CPE?	Resolution: unresolved
Notes:				
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: unresolved
Notes:				
Page/Line: 36 / 11	Number: 84	Date: 9/5/00	Name: Eklund Carl	Type: Technical
Description:			Reason:	Resolution: unresolved

Remove this parameter

There is no defined mechanism to identify a subscriber.

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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 address to EUI-64
Reason: Inconsistency
Resolution: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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 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:

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: unresolved

Notes:

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 **Resolution:** unresolved
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.

Notes:

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** **Resolution:** unresolved
Historical remains

Notes:

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** **Resolution:** unresolved
Historical remains

Notes:

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. **Reason** **Resolution:** unresolved
Do the same in line 54. This was an Ethernet based concept that went away with the merge.
In line 35, the value 1522 should be 1600, to allow for L2TP/PPP tunneling.

Notes:

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** **Resolution:** unresolved
Historical remains

Notes:

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** **Resolution:** unresolved
This was an Ethernet based concept that went away with the merge.

Notes:

Page/Line: 49 / 31 **Number:**103 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: delete the 2 words "and admitted" **Reason** **Resolution:** unresolved
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.

Notes:

Page/Line: 50 / 18 **Number:**104 **Date:** 9/5/00 **Name:** Eklund Carl **Type:** Technical
Description: Remove this parameter **Reason** **Resolution:** unresolved
Relic from times gone by

Notes:

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: **Reason** **Resolution:** unresolved
This is a DOCSIS concept that was modified by the merge.

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.

Notes:

Page/Line: 51 / 10 **Number:**106 **Date:** 9/5/00 **Name:** Eklund Carl **Type:** Technical
Description: Remove section 2.3.5.6.3 **Reason** **Resolution:** unresolved
Inconsistent with rest of document.

Notes:

Page/Line: 51 / 35 **Number:**107 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved

Bit #2 and Bit #3 should be changed to reserved.

Request/Data opportunities went away. See Table 11 on page 83.

Notes:

Page/Line: 51 / 62 **Number:** 108 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
The default behavior must be changed to one which works with the current system. I.E., dropping versus fragmenting. There are no longer "Primary Service Flows". Additionally, the behavior described can violate the concept of sending data in order.

Notes:

Page/Line: 52 / 42 **Number:** 109 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Change the second sentence to "The grant size includes the entire MAC PDU." "Frame Control byte" and "MAC frame", as used here, are concepts that went away with the merge.

Notes:

Page/Line: 55 / 18 **Number:** 110 **Date:** 9/5/00 **Name:** Eklund Carl **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Change the occurrences of 48 bit MAC address to EUI-64 Inconsistency

Notes:

Page/Line: 55 / 18 **Number:** 111 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Technical
Description: **Reason** **Resolution:** unresolved
48 bit MAC address conflicts with the requirements in rest of the document. (See page 84, line 30) To keep the requirements consistent throughout the standard.
Does the CPE require 2 addresses - one 48 bit and one 64 bit?

Notes:

Page/Line: 57 / 42 **Number:** 112 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
Change "TFTP Server Provisioned Modem Address" to "TFTP Server Provisioned CPE Address" and all other occurrences in the document. To accurately reflect the name of the network element.

Notes:

Page/Line: 57 / 51 **Number:** 113 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Delete the note on lines 51-52. This concept goes away with the merge.

Notes:

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

Notes:

Page/Line: 60 / 44 **Number:** 115 **Date:** 9/5/00 **Name:** Foerster Jeff **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Under the Message formats, add a CRC checksum on each MAC message payload. 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.

Notes:

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

Notes:

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

Notes:

Page/Line: 63 / 37 **Number:** 118 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Add to the line, 'Alternatively, the CID can be the terminal ID of the CPE requesting the uplink bandwidth' 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).

Notes:

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: unresolved
Notes:					
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.			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: unresolved
Notes:					
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: unresolved
Notes:					
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: unresolved
Notes:					
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 header.'			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: unresolved
Notes:					
Page/Line: 66 / 33	Number: 124	Date: 9/5/00	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: unresolved
Notes:					
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'			Reason Implied in the document but not stated clearly		Resolution: unresolved
Notes:					
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: unresolved
Notes:					
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: unresolved
Notes:					
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"			Reason This is kind of implied in the document, but not stated clearly.		Resolution: unresolved
Notes:					
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.'

Notes:

Page/Line: 69 / 6	Number: 130	Date: 9/5/00	Name: Leiba	Yigal	Type: Editorial
Description:			Reason		Resolution: unresolved
A detailed description of the contents of the MAC management header shown in figure 19 is needs to be inserted.			The structure of the MAC management header is not shown in detail, therefore it is not clear what it contains.		

Notes:

Page/Line: 70 / 15	Number: 131	Date: 9/5/00	Name: Foerster	Jeff	Type: Editorial
Description:			Reason		Resolution: unresolved
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 PHY Upstream channel description.		

Notes:

Page/Line: 70 / 15	Number: 132	Date: 9/5/00	Name: Leiba	Yigal	Type: Technical
Description:			Reason		Resolution: unresolved
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)		

Notes:

Page/Line: 71 / 11	Number: 133	Date: 9/5/00	Name: Stanwood	Ken	Type: Technical
Description:			Reason		Resolution: unresolved
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.			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.).		

Notes:

Page/Line: 72 / 7	Number: 134	Date: 9/5/00	Name: Leiba	Yigal	Type: Technical
Description:			Reason		Resolution: unresolved
Add another option to the value field, '4 = Adaptive modulation'			Include the adaptive modulation allowed under PHY mode-B in allowed modulation types		

Notes:

Page/Line: 73 / 2	Number: 135	Date: 9/5/00	Name: Foerster	Jeff	Type: Technical
Description:			Reason		Resolution: unresolved
Make the following changes to Table 8:			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 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:

Page/Line: 73 / 23	Number: 136	Date: 9/5/00	Name: Foerster	Jeff	Type: Editorial
Description:			Reason		Resolution: unresolved
Remove the Rows starting with "FEC Error Correction (T)" and "FEC Codeword			The complete list of FEC parameters was missing from Table 8.		

Information Bytes(k)" (Rows 4 and 5 in the table on page 73). Insert Rows 3-11 from Table 10 into Table 8.

Notes:

Page/Line: 73 / 39	Number: 137	Date: 9/5/00	Name: Leiba	Yigal	Type: Technical
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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: unresolved
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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. Throughout all the draft there is not any reference to any specific use for any of these counters.		Resolution: unresolved	
Notes:						
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: unresolved	
Notes:						
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.		Resolution: unresolved	
Notes:						
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.		Resolution: unresolved
Notes:						
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.			Resolution: unresolved
Notes:						
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.			Resolution: unresolved
Notes:						
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.			Resolution: unresolved
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 to either "Uplink Channel Descriptor" or "Downlink Channel Descriptor".						
Notes:						
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.			Resolution: unresolved
Notes:						
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			Resolution: unresolved
Notes:						
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			Resolution: unresolved
Notes:						
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			Resolution: unresolved
Notes:						
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.			Reason The concept of contention based data transfer was eliminated in the merge.			Resolution: unresolved
This also affects the Figure on page 80 at line 28.						
Notes:						
Page/Line: 83 / 3	Number: 156	Date: 9/5/00	Name: Stanwood		Ken	Type: Technical
Description: Need to add a "empty" IUC (different from NULL). This is particularly true for the DL TDMA map.			Reason In case the BS needs to schedule gaps.			Resolution: unresolved
Notes:						

Page/Line: 83 / 49 **Number:** 157 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: Ranging request needs a status code parameter. **Reason:** 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". **Resolution:** unresolved

Notes:

Page/Line: 84 / 22 **Number:** 158 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
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. **Reason:** 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. **Resolution:** unresolved

This affects line 49 also.

Notes:

Page/Line: 84 / 22 **Number:** 159 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial
Description: Change the name "IUC Type" to "Modulation Type". **Reason:** To avoid confusion and be consistent with the terminology. **Resolution:** unresolved

Notes:

Page/Line: 84 / 32 **Number:** 160 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: Change the first sentence to: "A required parameter until the Temporary CID has been received in the Ranging Response message". **Reason:** 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. **Resolution:** unresolved

Notes:

Page/Line: 84 / 49 **Number:** 161 **Date:** 9/5/00 **Name:** Foerster Jeff **Type:** Technical
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". **Reason:** This request can be generalized to change the modulation/FEC pair rather than just the modulation type. **Resolution:** unresolved

Notes:

Page/Line: 84 / 49 **Number:** 162 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial
Description: Change the name "IUC Type" to "Modulation Type". **Reason:** To avoid confusion and be consistent with the terminology. **Resolution:** unresolved

Notes:

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

Notes:

Page/Line: 86 / 27 **Number:** 165 **Date:** 9/5/00 **Name:** Stanwood Ken **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:** Clarity and compatibility of requirements. **Resolution:** unresolved

Notes:

Page/Line: 86 / 27 **Number:** 164 **Date:** 9/5/00 **Name:** Foerster Jeff **Type:** Technical
Description: Change "IUC-1 through IUC-6 Thresholds" to "Data Grant 1-6 Thresholds". **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:** unresolved

Notes:

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

Notes:

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: unresolved
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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 Code), and the minimum shortened last codeword size supported by the CPE."			Reason To ensure these items get included in the Modem capabilities set exchange message for both the upstream and downstream channels.		Resolution: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes: Also, the redundant copies of the table should be removed.						
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: unresolved	

if this is defining a TLV. The channel MAC version does not matter here -- this should be the MAC version supported by the CPE.

Notes:

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:** unresolved

Notes:

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:** unresolved

Notes:

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:** unresolved

Notes:

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

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:

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:** unresolved

Notes:

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:
Reason: Contain all the framing discussion in a single section to alleviate any confusion and allow for easier referencing. **Resolution:** unresolved

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:

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
Reason: To correct use of undefined messages in draft #1 **Resolution:** unresolved

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."

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Also on line 12, insert the word "with" before "a 20 Mbaud".

Notes:

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: unresolved

Notes:

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 arate".
Reason: To align the MAC and PHY sections of the standard.
Resolution: unresolved

Notes:

Page/Line: 111 / 53 **Number:** 191 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: Change the word millisecond to microsecond.
Reason: Millisecond accuracy is not sufficient to synchronize the TDD frame start and the TDD split across a network.
Resolution: unresolved

Notes:

Page/Line: 112 / 46 **Number:** 192 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Editorial
Description:
Reason:
Resolution: unresolved

Insert a space in a word "processby" to make "process by"

To fix a typo in draft #1

Notes:

Page/Line: 112 / 52 **Number:** 193 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical

Description: **Reason:** **Resolution:** unresolved

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 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 fro 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 picture and their associated text in section 3.3 on pages 271 and 272 must be changed to reflect the merge.

Notes:

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: unresolved
Notes:					
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: unresolved
Notes:					
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: unresolved
Notes:					
Page/Line: 114 / 52	Number: 197	Date: 9/5/00	Name: Stanwood	Ken	Type: Technical
Description:			Reason: Inconsistency in specification.		Resolution: unresolved

MAC Version identifier and whether registration is allowed on this physical channel need to be added to some message, possibly the UL-MAP message.

Notes:

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

Notes:

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

Notes:

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

Notes:

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

Notes:

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

Notes:

Page/Line: 119 / 52 **Number:** 203 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
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:

Page/Line: 120 / 4 **Number:** 204 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
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.
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.

Notes:

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

Notes:

Page/Line: 121 / 26 **Number:** 206 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: **Reason:** **Resolution:** unresolved

Change the word Data to Maintenance.

The standard does not allow data in contention slots, but does allow maintenance (at least initial) in contention slots.

Notes:

Page/Line: 121 / 26 **Number:** 207 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
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."

Notes:

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

Notes:

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

Notes:

Page/Line: 123 / 31 **Number:** 210 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
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:

Page/Line: 123 / 64 **Number:** 211 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
"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:

Page/Line: 124 / 9 **Number:** 212 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
"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:** unresolved
Change "CPE" to "CPEs".
Typo.

Notes:

Page/Line: 126 / 31 **Number:** 214 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Editorial

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:

Page/Line: 126 / 35 **Number:**215 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical

Description:

The first sentence of the paragraph should start "In GPC mode".

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 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:

Page/Line: 126 / 37 **Number:**216 **Date:** 9/5/00 **Name:** Eklund Carl **Type:** Technical

Description:

Move the statement about issuing data grant pendings to section describing GPC mode.

Notes:

Page/Line: 126 / 44 **Number:**217 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical

Description:

Change 3rd sentence of paragraph to start: "This latter allows smaller UL maps and allows more".

Notes:

Page/Line: 126 / 65 **Number:**218 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical

Description:

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

Notes:

Page/Line: 127 / 7 **Number:**219 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical

Description:

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:

Page/Line: 127 / 62 **Number:**220 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical

Description:

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

Notes:

Page/Line: 129 / 3 **Number:**221 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical

Description:

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.

Reason

To fix a typo in draft #1.

Resolution: unresolved

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 to be unnecessary and therefore wasteful of bandwidth.

Resolution: unresolved

Reason

Data grant pendings only waste bandwidth for GPT terminals. Also as the terminal can use bandwidth differently from what the BS has intended the issuing of grants pending serves no purpose.

Resolution: unresolved

Reason

Basic reason for feature was left out of explanation.

Resolution: unresolved

Reason

This concept changed in the merge.

Resolution: unresolved

Reason

Definition of "frame" after the merge.

Resolution: unresolved

Reason

Proper reason for functionality.

Resolution: unresolved

Reason

Correct GPT algorithm. Also modify for current definition of frame.

Resolution: unresolved

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:

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

Delete the entire paragraph.

Notes:

Page/Line: 132 / 21 **Number:**223 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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:

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

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

Notes:

Page/Line: 134 / 53 **Number:**225 **Date:** 9/5/00 **Name:** Choi Hoon **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
For better understanding of draft #1.

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

Notes:

Page/Line: 137 / 4 **Number:**226 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
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:

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

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

Notes:

Page/Line: 138 / 38 **Number:**228 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
Eliminate ambiguity.

Change "Wait for map for this channel" to Wait for UL-MAP for this channel".

Notes:

Page/Line: 142 / 42 **Number:**229 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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:

CPE should not increase power if a collision has occurred.

- 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:

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: unresolved
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
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: unresolved	
Notes:						
Page/Line: 154 / 48	Number: 238	Date: 9/5/00	Name: Foerster	Jeff	Type: Technical	
Description: 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 consistent with a burst-by-burst basis rather than just the modulation level.		Resolution: unresolved	
Notes: 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:						
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: unresolved	
Notes:						

Page/Line: 159 / 54	Number: 240	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description:		Reason			Resolution: unresolved
"Figure 5-43" must be read as "Figure 79"		To fix a typo in draft #1			
Notes:					
Page/Line: 160 / 50	Number: 241	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description:		Reason			Resolution: unresolved
"Bss" should be typesetted as "BSs"		To fix a typo in draft #1			
Notes:					
Page/Line: 162 / 17	Number: 242	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description:		Reason			Resolution: unresolved
"It useful" must be read as "It is useful"		To fix a typo in draft #1			
Notes:					
Page/Line: 164 / 26	Number: 243	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description:		Reason			Resolution: unresolved
Delete an extra period at the end of the line.		To fix a typo in draft #1			
Notes:					
Page/Line: 165 / 31	Number: 244	Date: 9/5/00	Name: Condie	Mary	Type: Editorial
Description:		Reason			Resolution: unresolved
Change "SID" to "CID".		The concept of Service IDs have been changed to connection IDs.			
Notes:					
Page/Line: 165 / 37	Number: 245	Date: 9/5/00	Name: Condie	Mary	Type: Editorial
Description:		Reason			Resolution: unresolved
Change the column heading "Service Identifier" to "Connection Identifier".		The concept of Service IDs have been changed to connection IDs.			
Notes:					
Page/Line: 165 / 40	Number: 246	Date: 9/5/00	Name: Condie	Mary	Type: Technical
Description:		Reason			Resolution: unresolved
Change "SID" to "CID".		The concept of Service IDs have been changed to connection IDs.			
Notes:					
Page/Line: 165 / 56	Number: 247	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description:		Reason			Resolution: unresolved
The word "modem" should be read as "CPE".		To fix a typo in draft #1			
Notes:					
Page/Line: 166 / 2	Number: 248	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description:		Reason			Resolution: unresolved
The reference number "2.13.8.4.1" should be read as "2.13.8.3.1".		To fix a typo in draft #1			
Notes:					
Page/Line: 166 / 31	Number: 249	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description:		Reason			Resolution: unresolved
The reference number "2.13.8.4.2" should be read as "2.13.8.3".		To fix a typo in draft #1			
Notes:					
Page/Line: 167 / 3	Number: 250	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description:		Reason			Resolution: unresolved
The word "subse" should be read as "subset".		To fix a typo in draft #1			
Notes:					
Page/Line: 168 / 15	Number: 251	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description:		Reason			Resolution: unresolved
"the purpose..." should be typesetted as "The purpose...".		To fix a typo in draft #1			
Notes:					
Page/Line: 169 / 8	Number: 252	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description:		Reason			Resolution: unresolved
The character " " " at the end of the line should be read as " : " .		To fix a typo in draft #1			
Notes:					
Page/Line: 177 / 29	Number: 253	Date: 9/5/00	Name: Choi	Hoon	Type: Editorial
Description:		Reason			Resolution: unresolved
"If the CPE checks that it can support the service and responds using ..." should be read as		To fix a typo in draft #1			
"If the CPE checks that it can support the service, it responds using ...".					
Notes:					
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: unresolved
Notes:		
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: unresolved
Notes:		
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: unresolved
Notes:		
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: unresolved
Notes:		
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: unresolved
Notes:		
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: unresolved
Notes: Also at line 47 Insert "Transmission" before "Convergence" in both of the lower convergence layers of the Figure.		
Notes:		
Page/Line: 268 / 16 Number: 260 Date: 9/5/00 Name: Ran Moshe	Type: Technical	
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: unresolved
Notes:		
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: unresolved
Notes:		
Page/Line: 269 / 2 Number: 262 Date: 9/5/00 Name: Stanwood Ken	Type: Editorial	
Description: Insert "by" before "16-QAM".	Reason Typo.	Resolution: unresolved
Notes: Also, on line 3, replace "modulations" with "modulation's".		
Notes:		
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 a single section. One approach would be to do the following: 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.	Reason Contain all the framing discussion in a single section to alleviate any confusion and allow for easier referencing.	Resolution: unresolved
Notes:		
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: unresolved
Notes:		
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: unresolved

Notes:

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: unresolved

Notes:

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 synchronisation pattern (Byte 1) and a one-byte Pointer (Byte 2) followed by or byte 1?
Reason: To clarify the origin for the pointer field - is first byte of packet byte 0
Resolution: unresolved

186 bytes of payload (Bytes 3-188)"

Notes:

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

This happens throughout the remainder of the PHY sections

Notes:

Page/Line: 282 / 3 **Number:**269 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
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: unresolved

Notes:

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

Notes:

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: unresolved

The same thing happens on page 283, line 37.

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

Page/Line: 284 / 52 **Number:**276 **Date:** 9/5/00 **Name:** Foerster Jeff **Type:** Editorial
Description:
Reason:
Resolution: unresolved

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."

This information should be contained in the Registration Request message defined in Sections 2.5.7 and 2.5.8 of the MAC.

Notes:

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

Notes:

Page/Line: 285 / 10 **Number:** 278 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
 Change the table such that code types 2 and 3 in the are optional, and only code 1 is mandatory.
 Reduce the complexity (and hence the cost) of standard compliant equipment, while not preventing interested manufacturers from manufacturing better, yet more expensive equipment.

Notes:

Page/Line: 285 / 30 **Number:** 279 **Date:** 9/5/00 **Name:** Ran Moshe **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
 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:

Page/Line: 286 / 18 **Number:** 280 **Date:** 9/5/00 **Name:** Ran Moshe **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
 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:

Page/Line: 286 / 23 **Number:** 281 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
 Insert more details about the proposed convolutional code (state machine and puncturing drawing).
 Clarify the proposed coding option in the draft, and remove any ambiguity.

Notes:

Page/Line: 286 / 42 **Number:** 282 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
 Extraneous Table Heading.
 Formatting error.

This happens throughout the remainder of the PHY sections.

Notes:

Page/Line: 287 / 18 **Number:** 283 **Date:** 9/5/00 **Name:** Ran Moshe **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
 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:

Page/Line: 287 / 31 **Number:** 284 **Date:** 9/5/00 **Name:** Ran Moshe **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
 Deletion of extra sequence of "p"
 When shortening a line or a column the parity checks are reset to zero.

Notes:

Page/Line: 288 / 24 **Number:** 285 **Date:** 9/5/00 **Name:** Ran Moshe **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
 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
 These are the correct figures for the code rates.

Change the code rate from 08 into 0.608

Notes:

Page/Line: 291 / 23 **Number:** 286 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
 Modify the sentence such that the only mandatory modulation is QPSK. Reduce the complexity (and hence the cost) of standard compliant equipment, while not preventing interested manufacturers from manufacturing better, yet more expensive equipment.
 16QAM and 64QAM are optional.

Notes:

Page/Line: 291 / 37 **Number:** 287 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
 Text is missing. Formatting Error.

Occurs again on Page 292, line 7 and page 293, line 11.

Notes:

Page/Line: 291 / 53 **Number:** 288 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
 Change "Table 72" to "Figure xxx". Formatting Error.

Same error occurs on page 292, line 29.

Notes:

Page/Line: 292 / 8 **Number:** 289 **Date:** 9/5/00 **Name:** Ran Moshe **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
 Change Table 75 16-QAM constelltion and Table 76 to be consistent with Consistency. The final results is that in all the constellation the points 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
 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:

Page/Line: 293 / 12 **Number:** 290 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
 Modify figure 134 and figure 135 such that the bit mapping I and Q 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 and QAM64 constellations.
 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)

I1	I2	I3	Q1	Q2	Q3	Symbol
0	0	0	0	0	0	3
0	0	1	0	0	0	1
0	1	0	0	0	0	5
0	1	1	0	0	0	7
1	0	0	0	0	0	-3
1	0	1	0	0	0	-1
1	1	0	0	0	0	-5
1	1	1	0	0	0	-7

Notes:

Page/Line: 293 / 47 **Number:** 291 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
 Change "Figure to "Table". Formatting Error.

Notes:

Page/Line: 296 / 18 **Number:** 292 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
 Equation should be inserted properly. Formatting Error.

Notes:

Page/Line: 296 / 26 **Number:** 293 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
 Table needs a heading. Formatting Error.

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:

Page/Line: 296 / 58 **Number:** 294 **Date:** 9/5/00 **Name:** Foerster Jeff **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
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.

Notes:

Page/Line: 297 / 8 **Number:** 295 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
Change "upstream center frequency" to "upstream center radio frequency".
Reason: To avoid confusion between the radio and intermediate frequency.

Notes:

Page/Line: 297 / 37 **Number:** 296 **Date:** 9/5/00 **Name:** Foerster Jeff **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
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).

Notes:

Page/Line: 299 / 1 **Number:** 297 **Date:** 9/5/00 **Name:** Stanwood Ken **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
Fourth vertical line showing start of physical channels should line up with the start of the second CPE transition Gap.
Reason: Typo.

Notes:

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

Notes:

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

Notes:

Page/Line: 300 / 17 **Number:** 300 **Date:** 9/5/00 **Name:** Row Paul **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
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?

Notes:

Page/Line: 301 / 44 **Number:** 301 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
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.

Notes:

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

Notes:

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

Notes:

Page/Line: 304 / 50 **Number:** 304 **Date:** 9/5/00 **Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
Modify the sentence such that the only mandatory modulation is QPSK.
Reason: Reduce the complexity (and hence the cost) of standard compliant equipment,

16QAM and 64QAM are optional.

while not preventing interested manufacturers from manufacturing better, yet more expensive equipment.

Notes:

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:** unresolved

Same thing occurs again on page 306, line 46.

Notes:

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:** unresolved

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

0 0		1
0 1		3
1 0		-1
1 1		-3

Notes:

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

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:

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

Notes:

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

Notes:

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:** unresolved

Notes:

Page/Line: 310 / 58 **Number:** 311 **Date:** 9/5/00 **Name:** Condie Mary **Type:** Technical
Description: **Reason:** **Resolution:** unresolved

Delete the paragraph starting with "The following table of 5".

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.

Notes:

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: unresolved

Notes:

Page/Line: 312 / 1	Number: 313	Date: 9/5/00	Name: Stanwood Ken	Type: Technical
Description: Remainder of document is mostly TBD.			Reason: .	Resolution: unresolved

Notes:

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: unresolved

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:

Page/Line: 81 / 2 **Item Number:** 152 **Commentor Name:** Choi Hoon **Type:** Editorial
Description: Make "PCD Count" typesetted in bold face **Reason:** To fix a typo in draft #1 **Resolution:** unresolved
Notes:

Page/Line: 81 / 7 **Item Number:** 153 **Commentor Name:** Choi Hoon **Type:** Editorial
Description: Insert "of" between "Number" and "Elements" **Reason:** To fix a typo in draft #1 **Resolution:** unresolved
Notes:

Page/Line: 110 / 51 **Item Number:** 183 **Commentor 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:** unresolved
Notes:

Page/Line: 112 / 46 **Item Number:** 192 **Commentor 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:** unresolved
Notes:

Page/Line: 121 / 26 **Item Number:** 207 **Commentor 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:** unresolved
Notes:

Page/Line: 122 / 57 **Item Number:** 208 **Commentor 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:** unresolved
Notes:

Page/Line: 123 / 31 **Item Number:** 210 **Commentor 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:** unresolved
Notes:

Page/Line: 123 / 64 **Item Number:** 211 **Commentor 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
Reason: To add additional information for better understanding. **Resolution:** unresolved
Notes:

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:

Page/Line: 124 / 9 **Item Number:** 212 **Commentor Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
"The Bandwidth Management fiels in the Generic MAC Header..." To fix a typo in draft #1.
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 **Commentor Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
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:

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

Notes:

Page/Line: 156 / 8 **Item Number:** 239 **Commentor Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
Font size of this line is smaller than other lines. To fix a typo in draft #1

Notes:

Page/Line: 159 / 54 **Item Number:** 240 **Commentor Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
"Figure 5-43" must be read as "Figure 79" To fix a typo in draft #1

Notes:

Page/Line: 160 / 50 **Item Number:** 241 **Commentor Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
"Bss" should be typesetted as "BSS" To fix a typo in draft #1

Notes:

Page/Line: 162 / 17 **Item Number:** 242 **Commentor Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
"It useful" must be read as "It is useful" To fix a typo in draft #1

Notes:

Page/Line: 164 / 26 **Item Number:** 243 **Commentor Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
Delete an extra period at the end of the line. To fix a typo in draft #1

Notes:

Page/Line: 165 / 56 **Item Number:** 247 **Commentor Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
The word "modem" should be read as "CPE". To fix a typo in draft #1

Notes:

Page/Line: 166 / 2 **Item Number:** 248 **Commentor Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
The reference number "2.13.8.4.1" should be read as "2.13.8.3.1". To fix a typo in draft #1

Notes:

Page/Line: 166 / 31 **Item Number:** 249 **Commentor Name:** Choi Hoon **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
The reference number "2.13.8.4.2" should be read as "2.13.8.3". To fix a typo in draft #1

Notes:

Page/Line: 167 / 3 **Item Number:** 250 **Commentor Name:** Choi Hoon **Type:** Editorial

Description: The word "subse" should be read as "subset".		Reason To fix a typo in draft #1	Resolution: unresolved
Notes:			
Page/Line: 168 / 15	Item Number: 251	Commentor Name: Choi	Hoon
Description: "the purpose..." should be typesetted as "The purpose...".		Reason To fix a typo in draft #1	Type: Editorial Resolution: unresolved
Notes:			
Page/Line: 169 / 8	Item Number: 252	Commentor Name: Choi	Hoon
Description: The character " " at the end of the line should be read as " : ".		Reason To fix a typo in draft #1	Type: Editorial Resolution: unresolved
Notes:			
Page/Line: 177 / 29	Item Number: 253	Commentor Name: Choi	Hoon
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	Type: Editorial Resolution: unresolved
Notes:			
Page/Line: 180 / 41	Item Number: 255	Commentor Name: Choi	Hoon
Description: Figure 92 is duplicated with Figure 91, so it must be deleted.		Reason To fix a typo in draft #1	Type: Editorial Resolution: unresolved
Notes:			
Page/Line: 204 / 42	Item Number: 256	Commentor Name: Choi	Hoon
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	Type: Editorial Resolution: unresolved
Notes:			
Page/Line: 3 / 38	Item Number: 9	Commentor Name: Condie	Mary
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.	Type: Technical Resolution: unresolved
Notes:			
Page/Line: 26 / 18	Item Number: 55	Commentor Name: Condie	Mary
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.	Type: Technical 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:

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

Notes:

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

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

Notes:

Page/Line: 32 / 23 **Item Number:** 70 **Commentor 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.
Resolution: unresolved

Notes:

Page/Line: 34 / 48 **Item Number:** 72 **Commentor Name:** Condie Mary **Type:** Editorial
Description: Change "center frequency" to "center radio frequency".
Reason: To remove possible ambiguity with intermediate frequency.
Resolution: unresolved

Notes:

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

Notes:

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

Notes:

Page/Line: 43 / 23 **Item Number:** 93 **Commentor Name:** Condie Mary **Type:** Editorial
Description: Insert "See section 2.5.5.3 for encoding information."
Reason: To improve readability of document.
Resolution: unresolved

Notes:

Page/Line: 43 / 37 **Item Number:** 94 **Commentor Name:** Condie Mary **Type:** Editorial
Description: Insert "See section 2.5.5.3 for encoding information."
Reason: To improve readability of document.
Resolution: unresolved

Notes:

Page/Line: 43 / 56 **Item Number:** 95 **Commentor Name:** Condie Mary **Type:** Technical
Description: Change "the Service Flow Reference shall no longer be used" to "the Service Flow Reference shall no longer 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:

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

Notes:

Page/Line: 57 / 42 **Item Number:** 112 **Commentor Name:** Condie Mary **Type:** Editorial
Description:
Reason:
Resolution: unresolved

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

To accurately reflect the name of the network element.

Notes:

Page/Line: 84 / 22 **Item Number:** 159 **Commentor Name:** Condie Mary **Type:** Editorial
Description: Change the name "IUC Type" to "Modulation Type".
Reason: To avoid confusion and be consistent with the terminology.
Resolution: unresolved

Notes:

Page/Line: 84 / 49 **Item Number:** 162 **Commentor Name:** Condie Mary **Type:** Editorial
Description: Change the name "IUC Type" to "Modulation Type".
Reason: To avoid confusion and be consistent with the terminology.
Resolution: unresolved

Notes:

Page/Line: 90 / 54 **Item Number:** 172 **Commentor 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: unresolved

Notes:

Page/Line: 110 / 51 **Item Number:** 184 **Commentor 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: unresolved

Notes:

Page/Line: 110 / 58 **Item Number:** 185 **Commentor 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: unresolved

Notes:

Page/Line: 110 / 62 **Item Number:** 187 **Commentor 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: unresolved

Notes:

Page/Line: 111 / 8 **Item Number:** 189 **Commentor 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: unresolved

Notes:

Page/Line: 111 / 9 **Item Number:** 190 **Commentor 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 arate".
Reason: To align the MAC and PHY sections of the standard.
Resolution: unresolved

Notes:

Page/Line: 118 / 42 **Item Number:** 199 **Commentor 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: unresolved

Notes:

Page/Line: 118 / 57 **Item Number:** 200 **Commentor 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: unresolved

Notes:

Page/Line: 119 / 3 **Item Number:** 201 **Commentor 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: unresolved

Notes:

Page/Line: 142 / 42 **Item Number:** 229 **Commentor Name:** Condie Mary **Type:** Technical
Description:
Reason:
Resolution: unresolved

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:

Page/Line: 144 / 20 **Item Number:** 230 **Commentor Name:** Condie Mary **Type:** Editorial
Description: Change "CM" to "CPE".
Reason: To correct a typo.
Resolution: unresolved

Page/Line: 148 / 42 **Item Number:** 233 **Commentor 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: unresolved

Notes:

Page/Line: 150 / 23 **Item Number:** 234 **Commentor 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: unresolved

Page/Line: 151 / 43 **Item Number:** 235 **Commentor 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: unresolved

Page/Line: 165 / 31 **Item Number:** 244 **Commentor Name:** Condie Mary **Type:** Editorial
Description: Change "SID" to "CID".
Reason: The concept of Service IDs have been changed to connection IDs.
Resolution: unresolved

Page/Line: 165 / 37 **Item Number:** 245 **Commentor 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: unresolved

Notes:

Page/Line: 165 / 40 **Item Number:** 246 **Commentor Name:** Condie Mary **Type:** Technical
Description: Change "SID" to "CID".
Reason: The concept of Service IDs have been changed to connection IDs.
Resolution: unresolved

Notes:

Page/Line: 267 / 20 **Item Number:** 257 **Commentor 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: unresolved

Notes:

Page/Line: 297 / 8 **Item Number:** 295 **Commentor Name:** Condie Mary **Type:** Editorial
Description: Change "upstream center frequency" to "upstream center radio frequency".
Reason: To avoid confusion between the radio and intermediate frequency.
Resolution: unresolved

Notes:

Page/Line: 310 / 58 **Item Number:** 311 **Commentor 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: unresolved

Notes:

Page/Line:	311 / 4	Item Number:	312	Commentor 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:	unresolved
Notes:									
Page/Line:	30 / 30	Item Number:	61	Commentor 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:	unresolved
Notes:									
Page/Line:	36 / 11	Item Number:	84	Commentor Name:	Eklund	Carl	Type:	Technical	
Description:	Remove this parameter			Reason	There is no defined mechanism to identify a subscriber.			Resolution:	unresolved
Notes:									
Page/Line:	36 / 45	Item Number:	87	Commentor Name:	Eklund	Carl	Type:	Technical	
Description:	Change value from 4 to 16			Reason	To accomodate IPv6 terminals			Resolution:	unresolved
Notes:									
Page/Line:	39 / 29	Item Number:	90	Commentor Name:	Eklund	Carl	Type:	Technical	
Description:	Change length from 6 to 8 and Value from Ethernet MAC address to EUI-64			Reason	Inconsistency			Resolution:	unresolved
Notes:									
Page/Line:	47 / 34	Item Number:	98	Commentor Name:	Eklund	Carl	Type:	Technical	
Description:	Remove 'from the the end of the CRC. Remove footnote 2.			Reason	Historical remains			Resolution:	unresolved
Notes:									
Page/Line:	48 / 31	Item Number:	99	Commentor Name:	Eklund	Carl	Type:	Technical	
Description:	Remove 'This value the end of the CRC. Remove footnote 3.			Reason	Historical remains			Resolution:	unresolved
Notes:									
Page/Line:	48 / 52	Item Number:	101	Commentor Name:	Eklund	Carl	Type:	Technical	
Description:	Remove 'from the the end of the CRC. Remove footnote 4.			Reason	Historical remains			Resolution:	unresolved
Notes:									
Page/Line:	50 / 18	Item Number:	104	Commentor Name:	Eklund	Carl	Type:	Technical	
Description:	Remove this parameter			Reason	Relic from times gone by			Resolution:	unresolved
Notes:									
Page/Line:	51 / 10	Item Number:	106	Commentor Name:	Eklund	Carl	Type:	Technical	
Description:	Remove section 2.3.5.6.3			Reason	Inconsistent with rest of document.			Resolution:	unresolved
Notes:									
Page/Line:	55 / 18	Item Number:	110	Commentor Name:	Eklund	Carl	Type:	Technical	
Description:	Change the occurrences of 48 bit MAC address to EUI-64			Reason	Inconsistency			Resolution:	unresolved
Notes:									
Page/Line:	66 / 40	Item Number:	125	Commentor 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'			Reason	Implied in the document but not stated clearly			Resolution:	unresolved
Notes:									
Page/Line:	67 / 8	Item Number:	128	Commentor Name:	Eklund	Carl	Type:	Technical	
Description:	Add requirement "MAC management messages must not be transported on transport connections"			Reason	This is kind of implied in the document, but not stated clearly.			Resolution:	unresolved
Notes:									
Page/Line:	78 / 2	Item Number:	143	Commentor 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:	unresolved

Notes:

Page/Line: 114 / 28 **Item Number:** 196 **Commentor Name:** Eklund Carl **Type:** Technical
Description: PHY control and MAC control sections should be clearly defined
Reason: Historical remains **Resolution:** unresolved

Notes:

Page/Line: 126 / 37 **Item Number:** 216 **Commentor Name:** Eklund Carl **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 issuing of grants pending serves no purpose.
Resolution: unresolved

Notes:

Page/Line: 60 / 44 **Item Number:** 115 **Commentor Name:** Foerster Jeff **Type:** Technical
Description: Under the Message formats, add a CRC checksum on each MAC message payload for error detection?
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: unresolved

Notes:

Page/Line: 70 / 15 **Item Number:** 131 **Commentor Name:** Foerster Jeff **Type:** Editorial
Description: Add the following parameter to Table 7:
Spectrum Inversion | 0=inverted, 1=non-inverted
Reason: To make the PHY and MAC consistent, since this parameter was included in the PHY Upstream channel description.
Resolution: unresolved

Notes:

Page/Line: 73 / 2 **Item Number:** 135 **Commentor Name:** Foerster Jeff **Type:** Technical
Description: Make the following changes to Table 8:
Reason: The smallest unit of reference in the channel should be a physical slot (PS)
Resolution: unresolved
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:

Page/Line: 73 / 23 **Item Number:** 136 **Commentor Name:** Foerster Jeff **Type:** Editorial
Description: Remove the Rows starting with "FEC Error Correction (T)" and "FEC Codeword
Reason: The complete list of FEC parameters was missing from Table 8.
Resolution: unresolved

Information Bytes(k)" (Rows 4 and 5 in the table on page 73). Insert Rows 3-11 from Table 10 into Table 8.

Notes:

Page/Line: 77 / 58 **Item Number:** 141 **Commentor 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: unresolved

Notes:

Page/Line: 84 / 49 **Item Number:** 161 **Commentor Name:** Foerster Jeff **Type:** Technical
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".
Reason: This request can be generalized to change the modulation/FEC pair rather than just the modulation type.
Resolution: unresolved

Notes:

Page/Line: 86 / 27 **Item Number:** 164 **Commentor Name:** Foerster Jeff **Type:** Technical
Description: Change "IUC-1 through IUC-6 Thresholds" to "Data Grant 1-6 Thresholds".
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: unresolved

Notes:

Page/Line: 86 / 41 **Item Number:** 166 **Commentor 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: unresolved

Notes:

Page/Line: 88 / 25 **Item Number:** 170 **Commentor 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: unresolved

Notes:

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 Code), and the minimum shortened last codeword size supported by the CPE."
Reason: To ensure these items get included in the Modem capabilities set exchange message for both the upstream and downstream channels.
Resolution: unresolved

Notes:

Page/Line: 110 / 1 **Item Number:** 180 **Commentor Name:** Foerster Jeff **Type:** Technical

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
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

- 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:

Page/Line: 110 / 39 **Item Number:** 182 **Commentor 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 confusion and allow for easier referencing.
Resolution: unresolved

Notes:

Page/Line: 154 / 48 **Item Number:** 238 **Commentor Name:** Foerster Jeff **Type:** Technical

Description:
1. Update this section to reflect that the thresholds are used To be consistent with
Reason:
Resolution: unresolved

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

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

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:

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

Notes:

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

Notes:

Page/Line: 269 / 32 **Item Number:** 263 **Commentor 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: **Reason:** Contain all the framing discussion in a single section to alleviate any confusion and allow for easier referencing. **Resolution:** unresolved

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:

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:** unresolved

Notes:

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:** unresolved

Notes:

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:** unresolved

Notes:

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:** unresolved

Notes:

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:** unresolved

Notes:

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:** unresolved

Notes:

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 Addition and Change operations. **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:** unresolved

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:

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 window size. **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:** unresolved

Notes:

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 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 associated with the connection. **Reason:** It is not clear how the MAC knows which CL to inform. There is no parameter 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:** unresolved

Notes:

Page/Line: 31 / 3 **Item Number:** 63 **Commentor 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)..0xFDFE **Reason:** Incorrectly specified. **Resolution:** unresolved

Notes:

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:** unresolved

Notes:

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 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:** unresolved

Notes:

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

Notes:

Page/Line: 66 / 32 **Item Number:** 123 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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 header.'

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:

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

Notes:

Page/Line: 67 / 43 **Item Number:** 129 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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.'

Notes:

Page/Line: 69 / 6 **Item Number:** 130 **Commentor Name:** Leiba Yigal **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
A detailed description of the contents of the MAC management header shown in figure 19 is needs to be inserted. The structure of the MAC management header is not shown in detail, therefore it is not clear what it contains.

Notes:

Page/Line: 70 / 15 **Item Number:** 132 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Add to table 7 the following parameter, 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)
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).

Notes:

Page/Line: 72 / 7 **Item Number:** 134 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Add another option to the value field, '4 = Adaptive modulation' Include the adaptive modulation allowed under PHY mode-B in allowed modulation types

Notes:

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: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
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 it,	Resolution: unresolved
Notes:				
Page/Line: 110 / 62	Item Number: 186	Commentor 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: unresolved

Notes:

Page/Line: 113 / 8 **Item Number:** 195 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
Delete lines 8 to 11 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.

Notes:

Page/Line: 120 / 4 **Item Number:** 204 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
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. 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.

Notes:

Page/Line: 137 / 4 **Item Number:** 226 **Commentor Name:** Leiba Yigal **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
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:

Page/Line: 145 / 36 **Item Number:** 232 **Commentor Name:** Leiba Yigal **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
Add more details about use of DHCP as to obtain an IP address. 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.

Notes:

Page/Line: 180 / 1 **Item Number:** 254 **Commentor Name:** Leiba Yigal **Type:** Editorial
Description: **Reason:** **Resolution:** unresolved
Delete Figure 92 - it's the same as Figure 91. Duplication

Notes:

Page/Line: 285 / 10 **Item Number:** 278 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
Change the table such that code types 2 and 3 in the are optional, and only code 1 is mandatory. Reduce the complexity (and hence the cost) of standard compliant equipment, while not preventing interested manufacturers from manufacturing better, yet more expensive equipment.

Notes:

Page/Line: 286 / 23 **Item Number:** 281 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
Insert more details about the proposed convolutional code (state machine and puncturing drawing). Clarify the proposed coding option in the draft, and remove any ambiguity.

Notes:

Page/Line: 291 / 23 **Item Number:** 286 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
Modify the sentence such that the only mandatory modulation is QPSK. 16QAM and 64QAM are optional. Reduce the complexity (and hence the cost) of standard compliant equipment, while not preventing interested manufacturers from manufacturing better, yet more expensive equipment.

Notes:

Page/Line: 293 / 12 **Item Number:** 290 **Commentor Name:** Leiba Yigal **Type:** Technical
Description: **Reason:** **Resolution:** unresolved
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
and QAM64 constellations.

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:

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

Notes:

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

Notes:

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

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

0 0		1
0 1		3
1 0		-1
1 1		-3

Notes:

Page/Line: 307 / 21 **Item Number:** 307 **Commentor 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. One axis (the other is identical) of figure 141 will then be described by the table below
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: unresolved

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:

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

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

Page/Line: 9 / 49 **Item Number:** 22 **Commentor Name:** Marin Scott **Type:** Editorial
Description: Change "protoco" to "protocol"
Reason: spelling error
Resolution: unresolved

Notes:

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: unresolved

Notes:

Page/Line: 10 / 29 **Item Number:** 25 **Commentor Name:** Marin Scott **Type:** Editorial
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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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 also shown in Figure 5."
Reason: Define acronym "TC".
Resolution: unresolved

Notes:

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

Notes:					
Page/Line: 17 / 44	Item Number: 44	Commentor Name: Marin	Scott	Type: Editorial	
Description:		Reason:		Resolution:	unresolved
After "convergence sublayer" insert "(CL)"					
Notes:					
Page/Line: 18 / 34	Item Number: 48	Commentor Name: Marin	Scott	Type: Editorial	
Description:		Reason:		Resolution:	unresolved
change "reads" to "sends"					
Notes:					
Page/Line: 19 / 30	Item Number: 50	Commentor Name: Marin	Scott	Type: Editorial	
Description:		Reason:		Resolution:	unresolved
after "connection ID" insert "(CID)"					
Notes:					
Page/Line: 19 / 42	Item Number: 51	Commentor Name: Marin	Scott	Type: Editorial	
Description:		Reason:		Resolution:	unresolved
After "Request message" insert "(paragraph xxx)"					
Notes:					
Page/Line: 24 / 39	Item Number: 53	Commentor Name: Marin	Scott	Type: Editorial	
Description:		Reason:		Resolution:	unresolved
Change "MAA" to "XXX"					
Notes:					
Page/Line: 25 / 44	Item Number: 54	Commentor Name: Marin	Scott	Type: Editorial	
Description:		Reason:		Resolution:	unresolved
After "supported at the" insert "Mxxxx Pxxxx Lxxxx Sxxxx"					
Notes:					
Page/Line: 29 / 20	Item Number: 57	Commentor Name: Marin	Scott	Type: Editorial	
Description:		Reason:		Resolution:	unresolved
Change "CPE" to "SS"					
Notes:					
Page/Line: 30 / 22	Item Number: 59	Commentor Name: Marin	Scott	Type: Technical	
Description:		Reason:		Resolution:	unresolved
after "addressing purposes" insert "[ref #]."					
Notes:					
Page/Line: 31 / 4	Item Number: 64	Commentor Name: Marin	Scott	Type: Editorial	
Description:		Reason:		Resolution:	unresolved
change "Connection Identifier" to "CID"					
Notes:					
Page/Line: 31 / 9	Item Number: 65	Commentor Name: Marin	Scott	Type: Technical	
Description:		Reason:		Resolution:	unresolved
Delete lines 9 thru 15.					
Notes:					
Page/Line: 31 / 17	Item Number: 66	Commentor Name: Marin	Scott	Type: Editorial	
Description:		Reason:		Resolution:	unresolved
after "request" insert "information element"					
Notes:					
Page/Line: 31 / 43	Item Number: 67	Commentor Name: Marin	Scott	Type: Technical	
Description:		Reason:		Resolution:	unresolved

Change "See" to "The BS and SS shall meet the timing requirements contained in"

To make it clear that stations that are compliant to 802.16.1 have time requirements.

Notes:

Page/Line: 31 / 60 **Item Number:** 68 **Commentor 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.
Resolution: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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 message", but I'm not sure that is what the author intended.
Resolution: unresolved

Notes:

Page/Line: 35 / 5 **Item Number:** 76 **Commentor Name:** Marin Scott **Type:** Editorial
Description: after "Object" insert "(NACO)"
Reason: define acronym
Resolution: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

Page/Line: 35 / 22 **Item Number:** 80 **Commentor Name:** Marin Scott **Type:** Editorial
Description: change "NACO off" to ""NACO=0"".
Reason: Is NACO off the same as "NACO=0"? Use only one notation. See also NACO off in Page35, line 37.
Resolution: unresolved

Notes:

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: unresolved

Notes:

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 CPE?		Resolution: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
Page/Line: 63 / 1	Item Number: 116	Commentor Name: Marin	Scott	Type: Editorial
Description: After "Grant Management" insert "(GM)"		Reason define acronym		Resolution: unresolved
Notes:				
Page/Line: 63 / 30	Item Number: 117	Commentor Name: Marin	Scott	Type: Editorial
Description: After "Bandwidth Request" insert "(BR)"		Reason define acronym		Resolution: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
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: unresolved
Notes:				
Page/Line: 268 / 16	Item Number: 260	Commentor Name: Ran	Moshe	Type: Technical
Description: Change the sentence " The continuous downstream mode has a higher coding due to the presence of a..."		Reason The statement "The continuous downstream mode has a higher coding gain due		Resolution: unresolved

to "The continuous downstream mode is based on a..."

to "." is not true when using the optional BTC.

Notes:

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: unresolved

Notes:

Page/Line: 282 / 8	Item Number: 270	Commentor Name: Ran Moshe	Type: Editorial
Description: Change N to K		Reason: Consistency	Resolution: unresolved

Notes:

Page/Line: 284 / 40	Item Number: 274	Commentor 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: unresolved

Notes:

Page/Line: 284 / 40	Item Number: 275	Commentor 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: unresolved

Notes:

Page/Line: 285 / 30	Item Number: 279	Commentor 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: unresolved

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:

Page/Line: 286 / 18	Item Number: 280	Commentor 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: unresolved

Notes:

Page/Line: 287 / 18	Item Number: 283	Commentor Name: Ran Moshe	Type: Technical
Description: Change g(x) to g1(x) in line 18 Change g(x) to g2(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, (n1,k1) = (n2,k2). This symmetric case will reduce the decoder complexity."		Reason: The generator polynomial for the columns code (n1,k1) is not necessarily identical to the generator polynomial of rows code (n2,k2), as illustrated in the Fig. in lines 31-50.However, the symmetric case is preferred to reduce decoder complexity.	Resolution: unresolved

Notes:

Page/Line: 287 / 31	Item Number: 284	Commentor 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: unresolved

Notes:

Page/Line: 288 / 24	Item Number: 285	Commentor Name: Ran Moshe	Type: Technical
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: unresolved

Notes:

Page/Line: 292 / 8	Item Number: 289	Commentor Name: Ran Moshe	Type: Technical
Description: Change Table 75 16-QAM constelltion and Table 76 to be consistent with 4,64QAM.		Reason: Consistency. The final results is that in all the constellation the points	Resolution: unresolved

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

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:

Page/Line: 1 / 1 **Item Number:** 1 **Commentor 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: unresolved

Notes:

Page/Line: 2 / 1 **Item Number:** 3 **Commentor 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: unresolved

Notes:

Page/Line: 2 / 23 **Item Number:** 4 **Commentor Name:** Row Paul **Type:** Editorial
Description: Amend last two Normative reference:
Reason: These two recommendations are now approved by ITU-T and ITU-R

ITU-T Recommendation J.116, "Interaction....."

ITU-R Recommendation F.1499, "Radio transmission....."

Notes:

Page/Line: 5 / 16 **Item Number:** 10 **Commentor Name:** Row Paul **Type:** Editorial
Description: Line 16 change "user" to "use"
Reason: Spelling mistake
Resolution: unresolved

Notes:

Page/Line: 6 / 39 **Item Number:** 12 **Commentor Name:** Row Paul **Type:** Editorial
Description: Line 39 change "IDSN" to "ISDN"
Reason: Spelling mistake
Resolution: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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: unresolved

Notes:

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
Reason: To clarify the origin for the pointer field - is first byte of packet byte 0 or byte 1?
Resolution: unresolved

186 bytes of payload (Bytes 3-188)"

Notes:

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
Reason: To clarify the origin for the pointer field - is first byte of packet byte 0
Resolution: unresolved

indicates....."

or byte 1?

Notes:

Page/Line: 300 / 17 **Item Number:** 300 **Commentor Name:** Row Paul **Type:** Technical
Description: **Reason** **Resolution:** unresolved
line 17 Amend sentence "The pointer field identifies the byte number in the packet (first byte = byte 1) which indicates....."

or byte 1?

Notes:

Page/Line: 2 / 57 **Item Number:** 5 **Commentor Name:** Sater Glen **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
The "Definitions" section from the MAC draft was not carried forward into this draft. That text should be included in this section.

Notes:

Page/Line: 17 / 4 **Item Number:** 37 **Commentor Name:** Sater Glen **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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.

Notes:

Page/Line: 17 / 4 **Item Number:** 38 **Commentor Name:** Sater Glen **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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:

Page/Line: 93 / 35 **Item Number:** 176 **Commentor Name:** Sater Glen **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
Figure does not make sense. The standard TLV encoding format should be used To make the figure understandable.

if this is defining a TLV. The channel MAC version does not matter here -- this should be the MAC version supported by the CPE.

Notes:

Page/Line: 145 / 33 **Item Number:** 231 **Commentor Name:** Sater Glen **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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:

Page/Line: 0 / 1 **Item Number:** 0 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
See page v It was difficult to find things when performing the review.
I would like to see the table of contents go to lower level paragraphs.

Notes:

Page/Line: 3 / 27 **Item Number:** 6 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
Indentation of explanation of acronyms should be indented further. HL-MAA, LL-MAA, and UGS-AD run into their explanations.

Notes:

Page/Line: 3 / 33 **Item Number:** 7 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
LOS should be added to the acronym list. It is included in the document.

Notes:

Page/Line: 5 / 16 **Item Number:** 11 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
Change the word "user" to "use". Correct grammar.

Notes:

Page/Line: 7 / 1 **Item Number:** 13 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
The start of the first sentence is damaged, apparently by a missing section Typos.

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:

Page/Line: 8 / 9 **Item Number:** 15 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: There is an extra space before the period at the end of the sentence. **Reason:** Typos. **Resolution:** unresolved
Notes:

Page/Line: 8 / 57 **Item Number:** 16 **Commentor Name:** Stanwood Ken **Type:** 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:** unresolved
Notes:

Page/Line: 8 / 62 **Item Number:** 18 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: Change the word "expected" to "allowed". **Reason:** Correctness - the standard can not support mobile CPEs, therefore they are not allowed. **Resolution:** unresolved
Notes:

Page/Line: 9 / 29 **Item Number:** 19 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: Change the word "are" to "is". **Reason:** Grammar - the noun, One addition, and the verb, are, do not match. **Resolution:** unresolved
Notes:

Page/Line: 9 / 38 **Item Number:** 20 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: The text "the user of encryption. that" should be changed to "the use of encryption so that". **Reason:** typo. **Resolution:** unresolved
Notes:

Page/Line: 9 / 49 **Item Number:** 21 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: Change "protoco" to "protocol". Insert a space in "commonmodulation" **Reason:** Typos. **Resolution:** unresolved
Notes:

Page/Line: 10 / 29 **Item Number:** 24 **Commentor 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:** unresolved

Additionally, line 35 refers to "special" protocols. We should say what we mean, not use cute, ambiguous term.

Notes:

Page/Line: 10 / 45 **Item Number:** 26 **Commentor 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:** unresolved
Notes:

Page/Line: 10 / 56 **Item Number:** 28 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: Delete the phrase "the MAC protocol is simple". **Reason:** It's an untrue editorial comment. **Resolution:** unresolved
Notes:

Page/Line: 11 / 40 **Item Number:** 30 **Commentor 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:** unresolved
Notes:

Page/Line: 11 / 56 **Item Number:** 31 **Commentor 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 **Resolution:** unresolved

weather conditions. We do, however, have the ability to change modulation and FEC, especially in PHY mode B.

Notes:

Page/Line: 12 / 35 **Item Number:** 32 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: Remove the word "be" after the word "is". **Reason:** Typo. **Resolution:** unresolved

Notes:

Page/Line: 12 / 60 **Item Number:** 34 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: Insert a space between the word "Constant" and the period of the preceding sentence. **Reason:** Typo. **Resolution:** unresolved

Notes:

Page/Line: 12 / 60 **Item Number:** 33 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: Remove period at end of bullet. **Reason:** Consistency with other bullets. **Resolution:** unresolved

Notes:

Page/Line: 15 / 46 **Item Number:** 36 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: "64- bit" should be "EUI-64". **Reason:** Clarity and completeness. **Resolution:** unresolved

Notes:

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

Notes:

Page/Line: 18 / 17 **Item Number:** 47 **Commentor 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:** unresolved

Notes:

Page/Line: 30 / 29 **Item Number:** 60 **Commentor 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."
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:** unresolved

Notes:

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

Notes:

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

Notes:

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

Notes:

Page/Line: 49 / 12 **Item Number:** 102 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: In line 12, change "CRC" to "MAC PDU Payload" and delete associated **Reason:** This was an Ethernet based concept that went away with the merge. **Resolution:** unresolved

footnote on line 64.

Notes:

Page/Line: 49 / 31	Item Number: 103	Commentor 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: unresolved

Notes:

Page/Line: 50 / 18	Item Number: 105	Commentor Name: Stanwood Ken	Type: Technical
Description: Replace this section with one that properly describes the concept of Maximum Burst Length:		Reason: This is a DOCSIS concept that was modified by the merge.	Resolution: unresolved

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.

Notes:

Page/Line: 51 / 35	Item Number: 107	Commentor 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: unresolved

Notes:

Page/Line: 51 / 62	Item Number: 108	Commentor 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: unresolved

Notes:

Page/Line: 52 / 42	Item Number: 109	Commentor 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: unresolved

Notes:

Page/Line: 57 / 51	Item Number: 113	Commentor Name: Stanwood Ken	Type: Technical
Description: Delete the note on lines 51-52.		Reason: This concept goes away with the merge.	Resolution: unresolved

Notes:

Page/Line: 60 / 5	Item Number: 114	Commentor Name: Stanwood Ken	Type: Editorial
Description: Insert the bulleted list referenced by the text or delete the reference.		Reason: typo.	Resolution: unresolved

Notes:

Page/Line: 71 / 11	Item Number: 133	Commentor Name: Stanwood Ken	Type: Technical
Description: The IUC concept needs to be broken into uplink IUC (UIUC) and downlink IUC (DIUC).		Reason: 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.).	Resolution: unresolved

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

Notes:

Page/Line: 77 / 36	Item Number: 140	Commentor 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: unresolved

Notes:

Page/Line: 78 / 7	Item Number: 144	Commentor 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: unresolved

Notes:

Page/Line:	79 / 15	Item Number:	146	Commentor 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.			Resolution:	unresolved
Notes:									
Page/Line:	79 / 37	Item Number:	147	Commentor Name:	Stanwood	Ken	Type:	Technical	
Description:	There should be a table of DL IUCs like table 11.			Reason	Clarity, missing information.			Resolution:	unresolved
Notes:									
Page/Line:	80 / 5	Item Number:	148	Commentor Name:	Stanwood	Ken	Type:	Editorial	
Description:	Delete extra period before the word "Figure".			Reason	Typo.			Resolution:	unresolved
Notes:									
Page/Line:	80 / 8	Item Number:	149	Commentor 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.			Resolution:	unresolved
Notes:									
Page/Line:	80 / 17	Item Number:	150	Commentor 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.			Resolution:	unresolved
	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 to either "Uplink Channel Descriptor" or "Downlink Channel Descriptor".								
Notes:									
Page/Line:	81 / 2	Item Number:	151	Commentor 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.			Resolution:	unresolved
Notes:									
Page/Line:	81 / 40	Item Number:	155	Commentor 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.			Reason	The concept of contention based data transfer was eliminated in the merge.			Resolution:	unresolved
	This also affects the Figure on page 80 at line 28.								
Notes:									
Page/Line:	83 / 3	Item Number:	156	Commentor Name:	Stanwood	Ken	Type:	Technical	
Description:	Need to add a "empty" IUC (different from NULL). This is particularly true for the DL TDMA map.			Reason	In case the BS needs to schedule gaps.			Resolution:	unresolved
Notes:									
Page/Line:	83 / 49	Item Number:	157	Commentor Name:	Stanwood	Ken	Type:	Technical	
Description:	Ranging request needs a status code parameter.			Reason	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".			Resolution:	unresolved
Notes:									
Page/Line:	84 / 22	Item Number:	158	Commentor Name:	Stanwood	Ken	Type:	Technical	
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			Reason	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.			Resolution:	unresolved

advertised in the DCD messages.

This affects line 49 also.

Notes:

Page/Line: 84 / 32 **Item Number:** 160 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Change the first sentence to: "A required parameter until the Temporary CID has been received in the Ranging Response message". 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.

Notes:

Page/Line: 86 / 27 **Item Number:** 165 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Clarity and compatibility of requirements.

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:

Page/Line: 86 / 43 **Item Number:** 167 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
Change "allow" to "allowed". In line 59, add the word "and" after the word "Header". Typo.

Notes:

Page/Line: 87 / 1 **Item Number:** 168 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Clarification of requirement and efficiency of protocol.

Change first sentence to: "A required parameter when the CID in the MAC header is the initialization CID".

Notes:

Page/Line: 88 / 16 **Item Number:** 169 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
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". Reduce ambiguity.

Notes:

Page/Line: 88 / 25 **Item Number:** 171 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Parameters are no longer sufficient given additional flexibility added to PHY.
Thresholds should be present for IUCs 4-9 and DL IUCs and probably should be moved to UCD and DCD messages.

Notes:

Page/Line: 92 / 53 **Item Number:** 174 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
This is where it was supposed to happen, but it got lost in the editing.

The basic CID needs to be returned, too.

Notes:

Page/Line: 93 / 35 **Item Number:** 175 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
The table should have a heading and a header as in Table 13 on page 88. Typo.

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

Notes:

Page/Line: 94 / 44 **Item Number:** 177 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
The text "refer to 2.3" should be "refer to section 2.3". Typo.

Notes:

Page/Line: 102 / 43 **Item Number:** 178 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
Insert a space before the word "Figure". Typo.

Notes:

Page/Line: 109 / 44 **Item Number:** 179 **Commentor 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?

Notes:**Page/Line:** 111 / 8**Item Number:** 188**Commentor Name:** Stanwood

Ken

Type: Editorial**Description:**

Change the word "defines" to "defined".

Reason

Clarity, reduction of ambiguity.

Resolution: unresolved

Also on line 12, insert the word "with" before "a 20 Mbaud".

Notes:**Page/Line:** 111 / 53**Item Number:** 191**Commentor Name:** Stanwood

Ken

Type: Technical**Description:**

Change the word millisecond to microsecond.

Reason

Millisecond accuracy is not sufficient to synchronize the TDD frame start and the TDD split across a network.

Resolution: unresolved**Notes:****Page/Line:** 112 / 52**Item Number:** 193**Commentor 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.

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.

Resolution: unresolved

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 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".

The change in no way affects systems that use PHY mode A.

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 from 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 picture and their associated text in section 3.3 on pages 271 and 272 must be changed to reflect the merge.

Notes:

Page/Line: 112 / 58	Item Number: 194	Commentor Name: Stanwood	Ken	Type: Editorial
Description: Reference to Figure 39 should be Figure 52.		Reason: Typo.		Resolution: unresolved

Notes:

Page/Line: 114 / 52 **Item Number:** 197 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Inconsistency in specification.

MAC Version identifier and whether registration is allowed on this physical channel need to be added to some message, possibly the UL-MAP message.

Notes:

Page/Line: 115 / 27 **Item Number:** 198 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
Line should end with the word "CPEs".
Notes: Typo.

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

Notes:

Page/Line: 119 / 52 **Item Number:** 203 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Consistency of requirements.

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:

Page/Line: 120 / 55 **Item Number:** 205 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
Interoperability of BS and CPEs.

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

Notes:

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

Notes:

Page/Line: 123 / 6 **Item Number:** 209 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
For completeness of the requirement.

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

Notes:

Page/Line: 126 / 14 **Item Number:** 213 **Commentor Name:** Stanwood Ken **Type:** Editorial
Description: **Reason** **Resolution:** unresolved
Change "CPE" to "CPEs".
Notes: Typo.

Page/Line: 126 / 35 **Item Number:** 215 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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 to be unnecessary and therefore wasteful of bandwidth.
The first sentence of the paragraph should start "In GPC mode".

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 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:

Page/Line: 126 / 44 **Item Number:** 217 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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:

Page/Line: 126 / 65 **Item Number:** 218 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
This concept changed in the merge.

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

Notes:

Page/Line: 127 / 7 **Item Number:** 219 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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:

Page/Line: 127 / 62 **Item Number:** 220 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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:

Page/Line: 129 / 3 **Item Number:** 221 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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:

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

Delete the entire paragraph.

Notes:

Page/Line: 132 / 21 **Item Number:** 223 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved
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:

Page/Line: 132 / 49 **Item Number:** 224 **Commentor Name:** Stanwood Ken **Type:** Technical
Description: **Reason** **Resolution:** unresolved

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

Notes:

Page/Line:	137 / 8	Item Number:	227	Commentor Name:	Stanwood	Ken	Type:	Technical
Description:				Reason			Resolution:	unresolved

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

Notes:

Page/Line:	138 / 38	Item Number:	228	Commentor Name:	Stanwood	Ken	Type:	Editorial
Description:				Reason			Resolution:	unresolved

Change "Wait for map for this channel" to Wait for UL-MAP for this channel".

Notes:

Page/Line:	152 / 29	Item Number:	236	Commentor Name:	Stanwood	Ken	Type:	Technical
Description:				Reason			Resolution:	unresolved

Add the sentence "For GPT mode terminals, any allocation of uplink bandwidth

constitutes a Periodic Ranging opportunity".

Notes:

Page/Line:	153 / 52	Item Number:	237	Commentor Name:	Stanwood	Ken	Type:	Editorial
Description:				Reason			Resolution:	unresolved

Some strange overlay of text happened.

Notes:

Page/Line:	267 / 25	Item Number:	259	Commentor Name:	Stanwood	Ken	Type:	Editorial
Description:				Reason			Resolution:	unresolved

Insert the word "transmission" before the word "convergence".

Eliminate ambiguity and maintain consistency with the rest of the document.

Also at line 47 Insert "Transmission" before "Convergence" in both of the lower convergence layers of the Figure.

Notes:

Page/Line:	269 / 2	Item Number:	262	Commentor Name:	Stanwood	Ken	Type:	Editorial
Description:				Reason			Resolution:	unresolved

Insert "by" before "16-QAM".

Typo.

Also, on line 3, replace "modulations" with "modulation's".

Notes:

Page/Line:	272 / 11	Item Number:	265	Commentor Name:	Stanwood	Ken	Type:	Editorial
Description:				Reason			Resolution:	unresolved

Extraneous Figure heading on this line and again on line 63.

Typo.

Notes:

Page/Line:	279 / 24	Item Number:	268	Commentor Name:	Stanwood	Ken	Type:	Editorial
Description:				Reason			Resolution:	unresolved

Extraneous Figure heading.

Typo.

This happens throughout the remainder of the PHY sections

Notes:

Page/Line:	282 / 3	Item Number:	269	Commentor Name:	Stanwood	Ken	Type:	Editorial
Description:				Reason			Resolution:	unresolved

A Figure identical to Figure 139 should be here showing the structure like Figure 124 shows the structure for PHY Mode A.

Clarity and Completeness.

Notes:

Page/Line:	282 / 30	Item Number:	271	Commentor Name:	Stanwood	Ken	Type:	Editorial
Description:				Reason			Resolution:	unresolved

This line should be above the figure or below the heading.

Format.

The same thing happens on page 283, line 37.

Notes:

Page/Line:	285 / 5	Item Number:	277	Commentor Name:	Stanwood	Ken	Type:	Editorial
Description:				Reason			Resolution:	unresolved

This line should be inside the left box of the last row of the table.

Format.

Notes:

Page/Line:	286 / 42	Item Number:	282	Commentor Name:	Stanwood	Ken	Type:	Editorial
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Description: Extraneous Table Heading.			Reason Formatting error.		Resolution: unresolved
This happens throughout the remainder of the PHY sections.					
Notes:					
Page/Line: 291 / 37	Item Number: 287	Commentor Name: Stanwood		Ken	Type: Editorial
Description: Text is missing.		Reason Formatting Error.			Resolution: unresolved
Occurs again on Page 292, line 7 and page 293, line 11.					
Notes:					
Page/Line: 291 / 53	Item Number: 288	Commentor Name: Stanwood		Ken	Type: Editorial
Description: Change "Table 72" to "Figure xxx".		Reason Formatting Error.			Resolution: unresolved
Same error occurs on page 292, line 29.					
Notes:					
Page/Line: 293 / 47	Item Number: 291	Commentor Name: Stanwood		Ken	Type: Editorial
Description: Change "Figure to "Table".		Reason Formatting Error.			Resolution: unresolved
Notes:					
Page/Line: 296 / 18	Item Number: 292	Commentor Name: Stanwood		Ken	Type: Editorial
Description: Equation should be inserted properly.		Reason Formatting Error.			Resolution: unresolved
Notes:					
Page/Line: 296 / 26	Item Number: 293	Commentor Name: Stanwood		Ken	Type: Editorial
Description: Table needs a heading.		Reason Formatting Error.			Resolution: unresolved
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:					
Page/Line: 299 / 1	Item Number: 297	Commentor Name: Stanwood		Ken	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: unresolved
Notes:					
Page/Line: 299 / 33	Item Number: 298	Commentor 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: unresolved
Notes:					
Page/Line: 303 / 11	Item Number: 302	Commentor Name: Stanwood		Ken	Type: Editorial
Description: Table appears to be missing.		Reason Typo.			Resolution: unresolved
Notes:					
Page/Line: 303 / 54	Item Number: 303	Commentor Name: Stanwood		Ken	Type: Editorial
Description: Referenced Figure is missing and heading appears as text rather than as heading.		Reason Typo.			Resolution: unresolved
Notes:					
Page/Line: 305 / 35	Item Number: 305	Commentor Name: Stanwood		Ken	Type: Editorial
Description: Figure heading should start with "Figure xxx".		Reason Typo.			Resolution: unresolved
Same thing occurs again on page 306, line 46.					
Notes:					
Page/Line: 309 / 65	Item Number: 308	Commentor Name: Stanwood		Ken	Type: Editorial
Description: Should properly include equation.		Reason Typo.			Resolution: unresolved
Notes:					
Page/Line: 310 / 5	Item Number: 309	Commentor Name: Stanwood		Ken	Type: Editorial

Description:
Extraneous Section heading.
Notes:

Reason
Typo.

Resolution: unresolved

Page/Line: 312 / 1 **Item Number:** 313

Commentor Name: Stanwood Ken

Type: Technical

Description:
Remainder of document is mostly TBD.

Reason
.

Resolution: unresolved

Notes:

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: unresolved

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: