Project	IEEE 802.16 Broadband Wireless Access Working Group		
Title	Comments on 802.16s0-99/4: Input to online resolution		
Date Submitted	1999-09-08		
Source	Brian Petry 3Com 12230 World Trade Dr., San Diego CA, 92128	Voice: Fax: E-mail:	858-674-8533 brian_petry@3com.com
Re:	Comments database snapshot		
Abstract	A snapshot of comments received during the 1999-08 comment period.		
Purpose	To inform members and observers of comments received and begin on-line comment resolution.		
Notice	This document has been prepared to assist the IEEE 802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.		
Release	The contributor acknowledges and accepts that this contribution may be made publicly available by 802.16.		

Comments by page #/line#

Item Number: 203
Page Number: 0
Line Number: 5
Commentor Name: Park Yunsang

Description of Edit
Replace "quideline" with "guideline"

Reason for Edit:
Misspell

Date Received: 12/30/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 168
Page Number: 1
Line Number: 16
Commentor Name: Guillemette Phil

Description of Edit
Change 'and' for 'or'

Reason for Edit:
I think that is what is meant by the sentence.

Date Received: 12/30/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 114
Page Number: 1
Line Number: 38
Commentor Name: Jarrett David

Description of Edit
Change the second sentence as follows:

"One implementation may include the item because the target marketplace requires it or because it enhances the product for example, another implementation may omit the same item."

Reason for Edit:
To place the emphasis on the implementation and not the vendor. A specific vendor may have many different implementations.

Date Received: 8/24/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 169
Page Number: 1
Line Number: 43
Commentor Name: Guillemette Phil

Description of Edit
Change 'For the purpose of this document... by the MAC and PHY protocol layers.' to:

For the purposes of this document, a "system" constitutes: an 802.16 MAC and PHY implementation, in which at least one STS communicates with a BTS via a radio air interface, and services transported by the MAC and PHY protocol layers. In such a system, the BTS transmits information to the STS(s) via a point-to-multipoint (PMP) channel and the STS(s) transmit(s) information to the BTS via a shared channel, except in the case of a point-to-point physical link where both channels are dedicated.

Reason for Edit:
This change is meant to give a more accurate idea of what an 802.16 system looks like.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 115
Page Number: 1
Line Number: 44

Commentor Name: Jarrett David

Description of Edit

Change clause starting with "in which as least two .." as follows:

"... in which at least one STS communicates with a BTS via ..."

Reason for Edit:

To clarify the types of stations communicating, and to clarify that more than one STS may be part of the system. Note that terms STS and BTS need to be synchronized with the new terminology from the Terminology ad hoc group.

Date Received: 8/24/99
Comment Type: Technical
Notes:

Date Resolved:
Resolution Status: unresolved

Item Number: 116
Page Number: 1
Line Number: 44

Commentor Name: Jarrett David

Description of Edit

Remove clause "the interfaces to external networks," from the sentence

Reason for Edit:

The definition of an 802.16 System for the purposes of the Systems Requirements document should not include the external interfaces, since we will not specify them. Rather, we will specify the bearer services to be transported by the MAC and PHY layers, as well as internal aspects of the system.

Date Received: 8/24/99
Comment Type: Technical
Notes:

Date Resolved:
Resolution Status: unresolved

Item Number: 170
Page Number: 2
Line Number: 7

Commentor Name: Guillemette Phil

Description of Edit

change 'system' for 'network'

Reason for Edit:

In this context, 'networks' seems more appropriate than does 'systems.'

Date Received: 12/30/99
Comment Type: Technical
Notes:

Date Resolved:
Resolution Status: unresolved

Item Number: 117
Page Number: 2
Line Number: 8

Commentor Name: Jarrett David

Description of Edit

Remove the clause "interfaces immediately surrounding an 802.16 system, particularly"

Reason for Edit:

The definition of an 802.16 System for the purposes of the Systems Requirements document should not include the external interfaces, since we will not specify them. Rather, we will specify the bearer services to be transported by the MAC and PHY layers, as well as internal aspects of the system.

Date Received: 8/24/99
Comment Type: Technical
Notes:

Date Resolved:
Resolution Status: unresolved

Item Number: 171
Page Number: 2
Line Number: 9
Commentor Name: Guillemette Phil

Description of Edit	Reason for Edit:
insert 'bearer' before 'services'	To keep consistent with the rest of the paragraph and the document.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 172
Page Number: 2
Line Number: 9
Commentor Name: Guillemette Phil

Description of Edit	Reason for Edit:
insert 'that' after 'services'	grammar

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 173
Page Number: 2
Line Number: 10
Commentor Name: Guillemette Phil

Description of Edit	Reason for Edit:
change the sentence starting with 'These bearer...' to These bearer services have a direct impact on the requirements of the 802.16 MAC and PHY protocols.	wording

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 174
Page Number: 2
Line Number: 11
Commentor Name: Guillemette Phil

Description of Edit	Reason for Edit:
change 'Then, when...' to When the 802.16 working group produces an interoperable air interface standard that meets these system requirements, resulting 802.16 system provide the services required to neatly interface into many conceivable BWA networks.	wording

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 175
Page Number: 2
Line Number: 16
Commentor Name: Guillemette Phil

Description of Edit	Reason for Edit:
insert 'Work Group to' after '802.16'	wording

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 176
Page Number: 2
Line Number: 32
Commentor Name: Guillemette Phil

Description of Edit	Reason for Edit:
insert 'that' following 'standards'.	wording

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 192
Page Number: 3
Line Number: 25
Commentor Name: Guillemette Phil

Description of Edit	Reason for Edit:
delete lines 25 through 31 and make Bearer Services a complete section, section 3.	- with the other moving around, lines 25 through 31 are not required. - the section on bearer services should follow the System Model section because, with the other reordering of sections, by this point a clear picture of what an 802.16 system exists and how the 802.16 protocols fit in to that picture is clear. The bearer services section can now be made into the first section of requirements.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 118
Page Number: 3
Line Number: 26
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Reword first sentence as follows: "This section describes the bearer services that an 802.16 system at least SHOULD support (some services are MUST be supported)."	To clarify that some services will be required to be supported by the MAC and PHY layers.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 190
Page Number: 3
Line Number: 33
Commentor Name: Guillemette Phil

Description of Edit	Reason for Edit:
move the section 'Target Markets' to follow the Scope as section 1.2.	- this section is an informative section describing part of the goal of the 802.16 protocols and why they are being created.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 177
Page Number: 3
Line Number: 38

Commentor Name: Guillemette Phil

Description of Edit

change paragraph to:

A broadband wireless access (BWA) system based on 802.16 protocols is expected to address markets similar to those addressed by existing wired broadband access technologies such as:
ù copper digital subscriber line (DSL) technologies;
ù digital data over cable TV hybrid fiber/coax (HFC) networks;
ù Integrated Services Digital Network (ISDN);
ù aggregated telephony-oriented connections (e.g., T1, E1, ISDN-PRI etc.)
ù the services that such networks carry: data, voice and audio/video [8].

Reason for Edit:

clarity and to remove requirement

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 119
Page Number: 3
Line Number: 42

Commentor Name: Jarrett David

Description of Edit

Remove the clause "and aggregated telephony-oriented connections (e.g., T1, E1, ISDN-PRI, etc.)" and replace with

", legacy TDM digital transmission systems (e.g., Full and Fractional T1 and E1, etc.),"

Reason for Edit:

To clarify the wording.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 178
Page Number: 4
Line Number: 1

Commentor Name: Guillemette Phil

Description of Edit

change paragraph to:

The initial target markets to be addressed by the 802.16 protocols in BWA networks are small to large businesses, multi-tenant dwellings such as high rise buildings, and single-family residences.

Reason for Edit:

this should not be a requirement, but more of a straight statement of fact.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 253
Page Number: 4
Line Number: 2

Commentor Name: Sandler Howard

Description of Edit

Change "SHALL" to "SHOULD"

Reason for Edit:

Entire section 2 of the document on services is described as "SHOULD" on page 3, line 26. It does not make sense to make residential access a "SHALL" requirement, when no other services are. If it remains "SHALL", there is a danger that the standard will try to address cost issues to meet this "SHALL" at the expense of QoS issues, as all other services, e.g. for commercial use, remain only "SHOULD" level requirements.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 120
Page Number: 4
Line Number: 2
Commentor Name: Jarrett David

Description of Edit
Replace "SHALL" with "MAY" and also remove clause "when technology permits."

Reason for Edit:
We probably don't want to have requirements that cannot yet be fulfilled, or any requirement for residential services in general.

Date Received: 8/24/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 179
Page Number: 4
Line Number: 5
Commentor Name: Guillemette Phil

Description of Edit
delete this paragraph

Reason for Edit:
the paragraph adds no real value to the document and does not address the topic of the section which is target markets.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 204
Page Number: 4
Line Number: 6
Commentor Name: Park Yunsang

Description of Edit
Replace "etc." with "etc.."

Reason for Edit:
A period is required at the end of sentence.

Date Received: 12/30/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 205
Page Number: 4
Line Number: 8
Commentor Name: Park Yunsang

Description of Edit
Insert space between sentence.

Reason for Edit:
Two spaces are required between sentences.

Date Received: 12/30/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 180
Page Number: 4
Line Number: 10
Commentor Name: Guillemette Phil

Description of Edit
delete this paragraph

Reason for Edit:
this section is not meant for requirements, furthermore, the content belongs in the topology section and not the target markets. Adds no value to the section.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 121
Page Number: 4
Line Number: 11
Commentor Name: Jarrett David

Description of Edit
Change "SHOULD" to "MUST not preclude"

Reason for Edit:
The _requirements_ shouldn't preclude this, but the requirements don't need to address it more directly.

Date Received: 8/24/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 206
Page Number: 4
Line Number: 21
Commentor Name: Park Yunsang

Description of Edit
Insert:
Figure 2-1 Summary of 802.16 "Example" Applications and Services

Reason for Edit:
Better description for the figure.

Date Received: 12/30/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 254
Page Number: 5
Line Number: 0
Commentor Name: Sandler Howard

Description of Edit
Change 802.16 P-MP Radio under column "Wireless Solution" for section III of the pyramid to "Fixed Wireless Access"

Reason for Edit:
Section III of the pyramid appears to describe MMDS-type systems. The PAR for 802.16.1 specifically addresses frequencies above 10 GHz, not microwave (which although technically goes up to 30 GHz, is generally understood to mean systems at 2.5 and 3.5 GHz). Also, < 2 Mb/s is not broadband, but is wideband according to ITU definitions. Broadband means above primary rate access.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 207
Page Number: 5
Line Number: 2
Commentor Name: Park Yunsang

Description of Edit
Change "righgs" with "rings"

Reason for Edit:
misspell

Date Received: 12/30/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 209
Page Number: 5
Line Number: 2
Commentor Name: Park Yunsang

Description of Edit
delete "Today"

Reason for Edit:
"Today" is not objective time scale.

Date Received: 12/30/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 208
Commentor Name: Park Yunsang
Page Number: 5
Line Number: 2

Description of Edit	Reason for Edit:
Change "INter" with "Inter"	misspell

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 193
Commentor Name: Guillemette Phil
Page Number: 5
Line Number: 4

Description of Edit	Reason for Edit:
replace paragraph with This section describes typical bearer services supported by an 802.16 system. In this document, bearer services refer to the services provided by the protocols that can appear in the layer sitting directly over the MAC layer. The meaning of bearer services in this document also includes the types of networks that are able to interface with 802.16 based BWA networks. [12] [54].	- clarify the wording and the meaning of bearer services.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 210
Commentor Name: Park Yunsang
Page Number: 5
Line Number: 8

Description of Edit	Reason for Edit:
change "Overcome" with "have"	LOS is required in upper microwave band.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 211
Commentor Name: Park Yunsang
Page Number: 5
Line Number: 10

Description of Edit	Reason for Edit:
delete (!)	Does not contain any meaningful message.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 194
Commentor Name: Guillemette Phil
Page Number: 5
Line Number: 12

Description of Edit	Reason for Edit:
delete paragraph	- the topic of this paragraph is bordering implementation issues and does not really add value to the topic of the section in terms of system requirements due to bearer services.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 122
Page Number: 5
Line Number: 14
Commentor Name: Jarrett David

Description of Edit
Inset the word "all" between "consider" and "the bearer services"

Reason for Edit:
Should consider all services, whether required to be supported directly of not.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 212
Page Number: 5
Line Number: 19
Commentor Name: Park Yunsang

Description of Edit
Insert:
"In today's network," the streams flow...

Reason for Edit:
The sentence preclude the case that subscribers originate the multicast "request".

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 213
Page Number: 5
Line Number: 22
Commentor Name: Park Yunsang

Description of Edit
Insert:
"Future Digital Audio/Video Multicast system will allow individual subscribers to broadcast for other member of the network."

Reason for Edit:
We should not preclude some possible functionaries of the future Digital Audio/Video Multicast system.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 123
Page Number: 5
Line Number: 26
Commentor Name: Jarrett David

Description of Edit
Change "SHOULD" to "MAY"

Reason for Edit:
To make direct support for digital telephony in the MAC optional

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 124
Page Number: 6
Line Number: 8
Commentor Name: Jarrett David

Description of Edit
Change "Voice Telephony over ATM (VtoA)" to "Voice and Telephony over ATM (VTOA)"

Reason for Edit:
Consistency with the relevant standards/specifications.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 125
Page Number: 6
Line Number: 11
Commentor Name: Jarrett David

Description of Edit
Insert the following sentence:

"802.16 systems and protocols MUST support the QoS requirements of these services, as defined in Section 6."

Reason for Edit:
Although digital telephony is optional to be supported directly by the MAC and PHY, the MAC and PHY must support the needed QoS to be able to support these services indirectly.

Date Received: 8/24/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 162
Page Number: 6
Line Number: 12
Commentor Name: van Waes Nico

Description of Edit
Delete line 12 through 16 ("As mentioned... 2.2.2.2)

Reason for Edit:
Repetitive, speculative and fluff

Date Received: 8/27/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 126
Page Number: 6
Line Number: 13
Commentor Name: Jarrett David

Description of Edit
Change "an 802.16 system" to "the PSTN and/or a private trunking network"

Reason for Edit:
Clarify what 802.16 systems are connecting.

Date Received: 8/24/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 214
Page Number: 6
Line Number: 16
Commentor Name: Park Yunsang

Description of Edit
Insert:
"However, recent advance in high speed switching
may allow us dynamically allocated voice trunks, which
can be used for future 802.16 systems." Another.....

Reason for Edit:
Trunks can also be dynamically allocated (e.g.,TR303).

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 163
Page Number: 6
Line Number: 18
Commentor Name: van Waes Nico

Description of Edit
Insert "relevant" before "properties" and delete line 20 through 31,

Reason for Edit:
The important features are bandwidth, delay and reliability.
It is useless to provide a list of features which, although true,
have no bearing on the 802.16 PHY & MAC design.

Date Received: 8/27/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 127
Page Number: 6
Line Number: 34
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Insert "and the D channel" between "channels" and "active," and change "128" to "144"	Clarify the full bandwidth for ISDN BRI.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 128
Page Number: 6
Line Number: 40
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Insert "(as specified in Section 6)" between "certain level" and "to support." Also, Replace next sentence with "The specific amount of delay SHOULD be variable based on the quality of service sold to the end user."	To clarify requirements for maximum delay, and configurable delay in implementations.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 215
Page Number: 6
Line Number: 41
Commentor Name: Park Yunsang

Description of Edit	Reason for Edit:
change "Gain" with "Again"	misspell

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 129
Page Number: 7
Line Number: 1
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Replace "can be varied" with "SHOULD be variable"	Clarify requirements terminology.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 216
Page Number: 7
Line Number: 13
Commentor Name: Park Yunsang

Description of Edit	Reason for Edit:
delete: "For asynchronous timing, the timing on the circuits at the output of the access network SHALL be +/- 150 ppm for DS (ANSI T1.403-1995) and +/- 50 ppm for E1 (ITU-T G.703). Note that the DS1 spec is relaxed for older equipment: newer equipment can meet the more stringent +/- 32 ppm spec. In either case, DS1 carried over the access network SHALL have jitter and wander characteristics as specified in ITU-T G.823 and E1s as specified in G.824.1"	Spec may be somewhat related in old legacy systems. Note that DS1 spec is old.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 217
Page Number: 7
Line Number: 20
Commentor Name: Park Yunsang

Description of Edit
delete:
"What do these properties mean to BWA system requirement?"

Reason for Edit:
Does not convey any information.

Date Received: 12/30/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 218
Page Number: 7
Line Number: 34
Commentor Name: Park Yunsang

Description of Edit
change "SHOULD" with "MUST"

Reason for Edit:
It is a mandatory requirement for 802.16 system.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 130
Page Number: 7
Line Number: 34
Commentor Name: Jarrett David

Description of Edit
Replace "SHOULD" with "MUST"

Reason for Edit:
Consistent with previous comments that must support transport requirements (QoS) for digital telephony.

Date Received: 8/24/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 219
Page Number: 7
Line Number: 38
Commentor Name: Park Yunsang

Description of Edit
delete:
"Of high speed, connection-oriented services, ATM
is the dominant technology."

Reason for Edit:
The sentence is not required.

Date Received: 12/30/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 131
Page Number: 7
Line Number: 38
Commentor Name: Jarrett David

Description of Edit
Delete first sentence ("Of high-speed ..."). Also, in next sentence change "routed" to "switched."

Reason for Edit:
Sentence adds no value to the requirements.

Date Received: 8/24/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 220
Page Number: 7
Line Number: 39
Commentor Name: Park Yunsang

Description of Edit
delete "small"

Reason for Edit:
Not required.

Date Received: 12/30/99
Comment Type: Editorial
Date Resolved:
Resolution Status: unresolved
Notes:

Item Number: 221
Page Number: 7
Line Number: 39
Commentor Name: Park Yunsang

Description of Edit
change "routed" with "switched"

Reason for Edit:
More accurate expression.

Date Received: 12/30/99
Comment Type: Technical
Date Resolved:
Resolution Status: unresolved
Notes:

Item Number: 132
Page Number: 7
Line Number: 44
Commentor Name: Jarrett David

Description of Edit
Change first sentence to "802.16 protocols MUST directly transport ATM Cell Relay Service efficiently and preserve its QoS features (see Section 6)."
Also, remove the second sentence ("Thus, 802.16 systems ...").

Reason for Edit:
Clarify the level of support for ATM services for the MAC/PHY work.

Date Received: 8/24/99
Comment Type: Technical
Date Resolved:
Resolution Status: unresolved
Notes:

Item Number: 164
Page Number: 8
Line Number: 4
Commentor Name: van Waes Nico

Description of Edit
Replace line 4 through 7 with
802.16 SHALL not terminate the UNI signalling, but could interpret it to the extent necessary to allow efficient multiple access.

Reason for Edit:
Clarifies the level of ATM support.

Date Received: 8/27/99
Comment Type: Technical
Date Resolved:
Resolution Status: unresolved
Notes:

Item Number: 133
Page Number: 8
Line Number: 6
Commentor Name: Jarrett David

Description of Edit
Change "may" to "SHOULD"

Reason for Edit:
Need more stringent requirement for ATM signaling support.

Date Received: 8/24/99
Comment Type: Technical
Date Resolved:
Resolution Status: unresolved
Notes:

Item Number: 134
Page Number: 8
Line Number: 14
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Insert work "directly" after "MUST"	To clarify that MAC should directly carry IP.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 222
Page Number: 8
Line Number: 14
Commentor Name: Park Yunsang

Description of Edit	Reason for Edit:
change "MUST" to "SHOULD"	To consider the legacy of PMP systems.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 223
Page Number: 8
Line Number: 15
Commentor Name: Park Yunsang

Description of Edit	Reason for Edit:
Change "supported" with "transported"	To make the meaning of the sentence more clear.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 165
Page Number: 8
Line Number: 33
Commentor Name: van Waes Nico

Description of Edit	Reason for Edit:
Replace paragraph with: "The 802.16 protocols MAY support bridged LAN services.	Whether or not LAN bridging is implemented in a device does not make devices incompatible and hence does not need to be a must. The rest is fluff.

Date Received: 8/27/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 224
Page Number: 8
Line Number: 36
Commentor Name: Park Yunsang

Description of Edit	Reason for Edit:
change "SHALL" with "SHOULD"	802.16 system is an access network not a LAN.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 135
Page Number: 8
Line Number: 36

Commentor Name: Jarrett David

Description of Edit

Change "SHALL" to "MAY" and insert at end of sentence the phrase ", whether directly or indirectly."

Reason for Edit:

To clarify that Bridged LAN service support is optional, and may not necessarily be support directly by the MAC.

Date Received: 8/24/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 225
Page Number: 8
Line Number: 41

Commentor Name: Park Yunsang

Description of Edit

replace:
"These services do not place any special requirements on 802.16 systems (MAC and PHY protocols) not already covered in the above sections."
with
"Some services do not place any special requirements on 802.16 systems. Some services do place special requirements on 802.16 systems, which were not already covered in the above sentence, for example, Frame Relay service impose special requirement."

Reason for Edit:

Frame Relay services needs special requirements in term of QoS translation.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 136
Page Number: 9
Line Number: 10

Commentor Name: Jarrett David

Description of Edit

Change "SHOULD not" to "is not expected to"
Also on next line, change "SHOULD" to "is expected to"

Reason for Edit:

By definition, services in section 2.2.6 should have have any explicit requirements.

Date Received: 8/24/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 137
Page Number: 9
Line Number: 19

Commentor Name: Jarrett David

Description of Edit

Add the following text:

"The 802.16 protocols SHOULD not preclude the transport of the above mentioned services."

Reason for Edit:

To clarify level of support for the services in this section.

Date Received: 8/24/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 191
Page Number: 9
Line Number: 20
Commentor Name: Guillemette Phil

Description of Edit
move this section along with subsections to follow the introduction as section 2.

Reason for Edit:
This section is still informative and is still laying down the ground work required to understand the system requirements.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 181
Page Number: 9
Line Number: 20
Commentor Name: Guillemette Phil

Description of Edit
insert '802.16' before 'System'

Reason for Edit:
clarity

Date Received: 12/30/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 182
Page Number: 9
Line Number: 21
Commentor Name: Guillemette Phil

Description of Edit
replace paragraph with

This section presents a high level description of an 802.16 system model to be used as a framework for developing the 802.16 protocol standards. The model describes some of the main features of an 802.16 system, and the terminology to be used by the 802.16 working group in the creation of the standards.

Reason for Edit:
wording

Date Received: 12/30/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 183
Page Number: 9
Line Number: 26
Commentor Name: Guillemette Phil

Description of Edit
replace paragraph with

As mentioned in section 1.1, an 802.16 "system" constitutes: an 802.16 MAC and PHY implementation in which at least one STS communicates with a BTS via
a radio air interface, and services transported by the MAC and PHY protocol layers. An 802.16 system employs point-to-multipoint (P-MP) forward path radios links with carriers primarily centered in the vicinity of 30 GHz, or more generally in the range from 10 GHz to 66 GHz, to connect a base transceiver station (BTS) to one or more subscriber transceiver stations (STS) [4][9]. The return path, STS to BTS, usually consists of a radio link also within 10 GHz to 66 GHz that is shared between several STSs except for when a point-to-point radio link is used for high bandwidth STSs. Radio communications around 30 GHz require line-of-sight (LOS) between a BTS and STS. Figure 2-1 and Figure 2-3 [13] depict some typical 802.16 systems. 802.16 systems are generally located within multiple-cell radio network, i.e. multiple BTS coverage areas.

Reason for Edit:
- this is an informative section, requirements should not be present.
- clarity and removal of unnecessary verbage.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 138
Page Number: 9
Line Number: 27
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Change part of the sentence starting with "in which at least two ..." to: "in which at least one STS communicates with a BTS via a radio air interface, and services transported by the MAC and PHY protocols."	Consistent with comments on P1L44, make clear that at least one STS is communicating with a BTS, and that 802.16 system does not include interfaces to external network elements.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 226
Page Number: 9
Line Number: 30
Commentor Name: Park Yunsang

Description of Edit	Reason for Edit:
change "10 GHz to 66 GHz" with "2.4 GHz to 66 GHz"	2.4 GHz range was used to be PMP frequency. Besides, FCC changed to 2.4 GHz as bi-direction services.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 197
Page Number: 9
Line Number: 31
Commentor Name: Fishel George

Description of Edit	Reason for Edit:
BTS,STS Vs. base station, subscriber terminal should be addressed by the new Vocabulary/Terminolgy ad hoc.	This is why the ad hoc was formed.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 139
Page Number: 9
Line Number: 34
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Change "around 30 GHz" to "in the above range"	To make consistent with previous statements.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 166
Page Number: 9
Line Number: 36
Commentor Name: van Waes Nico

Description of Edit	Reason for Edit:
Replace "802.16 systems SHALL generally be multiple-cell frequency reuse systems." with	The word SHALL implies a requirement for the MAC or PHY, which is not true in the given context. The word "networks" is used purposely.

Date Received: 8/27/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 140
Page Number: 9
Line Number: 37
Commentor Name: Jarrett David

Description of Edit
Remove work "generally"

Reason for Edit:
Not clear to have a requirement that applies in general.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 227
Page Number: 9
Line Number: 38
Commentor Name: Park Yunsang

Description of Edit
insert:
transmit power, LOS blockage, "availability requirement", and rain fall.

Reason for Edit:
The range of 802.16 radios varies with availability requirement.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 184
Page Number: 10
Line Number: 7
Commentor Name: Guillemette Phil

Description of Edit
replace paragraph with

In general, within an 802.16 system, T the BTS radio transmits information to the STS(s) via a point-to-multipoint (PMP) physical channel, and the STS(s) radio transmit(s) information to the BTS via a shared physical channel, except in the case of a point-to-point (PP) physical link where both physical channels are PTP. In either case, the STS employs a highly directional radio pointed at the BTS. Note that with this arrangement, direct radio communications between subscriber stations is not possible. Furthermore, the 802.16 system does not define radio communications between base stations.

Reason for Edit:
- clarity of wording
- clarify description of an 802.16 system
- removal of requirements from this section (informative)
- co-location of radios in BTS is not relevant to this section or to the interfaces being described in this standard.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 256
Page Number: 10
Line Number: 7
Commentor Name: Sandler Howard

Description of Edit
Insert "at least" before "one BTS".
Change "BTS" to "BS" (base station)
Change "STS" to "SS" (subscriber station)

Reason for Edit:
It will be awkward going forward to describe every cell site as consisting of multiple systems. The 'at least' allows the definition of system to expand to include the whole cell site and associated subscribers. The reason for removing "transceiver" from the acronyms is that one-way broadcast equipment may consist of only transmitter or only receiver, not transceiver.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 228
Page Number: 10
Line Number: 11
Commentor Name: Park Yunsang

Description of Edit
insert:
"The PMP system SHALL not preclude coexisting a PMP and P2P systems in the same sector."

Reason for Edit:
It will give more flexibility to customers.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 141
Page Number: 10
Line Number: 15
Commentor Name: Jarrett David

Description of Edit
Change"may" to "will likely"

Reason for Edit:
May implies an option, which does not appear to be what is meant here.

Date Received: 8/24/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 185
Page Number: 11
Line Number: 2
Commentor Name: Guillemette Phil

Description of Edit
replace paragraph with

The frequency bands used by 802.16 systems vary among governed geographies [19]. Typical bands allocated for 802.16 use are very wide, allowing for the bands to be channelized.

Reason for Edit:
- this is an informative section and should not contain requirements.
- clarity of wording
- removal of verbage without value to this section

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 142
Page Number: 11
Line Number: 5
Commentor Name: Jarrett David

Description of Edit
Remove text up to line 7 "the time being"

Reason for Edit:
Removed text does not add to the requirements statements.

Date Received: 8/24/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 143
Page Number: 12
Line Number: 1

Commentor Name: Jarrett David

Description of Edit

Want to change the figure as follows:

- Remove terms SNI and BNI, as these conflict with definitions in ETSI BRAN (what we call BNI, they call SNI!).
- Add multiple STS
- Add the following nodes inside the STS box, connected together, from left to right:
 - Service IW
 - 802.16 MA
 - 802.16 PH
- Give examples of the types of interfaces that might connect from the Subscriber Network to the Service IWF (10/100 Base T, Twisted Pair, DS1/E1, ...)
- In at least one of the STS boxes, show that Digital Audio/Video multicast service will connect directly from the Service IWF to the 802.16 PHY
- In the BTS box, show the following nodes, connected together, from left to right:
 - 802.16 PH
 - 802.16 MA
 - Service IW
 - Air Interface Control (above and connected to the PHY and MAC
 - Management Agent (below and connected to the PHY and MAC
- Show a cloud for a Management Network below the BTS box, connected to the Management Agent in the BTS, and with an EMS box connected to the cloud
- Show the Core Network as a cloud connected to the Service IWF in the BTS, with output interfaces from the cloud leading to PSTN, Intranet/VPN, Internet, and Video Distribution Headend
- Use the term "802.16 Air Interface"
- Show the repeater in a box
- Use some representation for an antenna (e.g., a half-oval) from the STS, BTS, and Repeater towards the 802.16 Air Interface

Reason for Edit:

To ajust the figure to more closely reflect the recent agreements on the definition of an 802.16 System.

Date Received: 8/24/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 230
Page Number: 12
Line Number: 5

Commentor Name: Park Yunsang

Description of Edit

replace
"Since all data traffic in an 802.16 network MUST go through the base transceiver station (BTS), it is convenient for the BTS to serve as a radio resource supervisor, which controls the allocation of bandwidth on the radio channel [10]."
with
"Since all data traffic in a single cell of an 802.16 network MUST go through a base transceiver station (BTS), that station will serve as a local radio supervisor."

Reason for Edit:

The sentence possibly convey mis-concept that PMP is a single cell system. But, it is not true.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 186
Page Number: 12
Line Number: 8
Commentor Name: Guillemette Phil

Description of Edit
delete ', but...'

Reason for Edit:
- point is already implied within the first sentence.
- the way it is written it adds no value to this section.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 231
Page Number: 12
Line Number: 12
Commentor Name: Park Yunsang

Description of Edit
change "initiated" with "transmitted".

Reason for Edit:
Better wording

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 229
Page Number: 12
Line Number: 12
Commentor Name: Park Yunsang

Description of Edit
delete:
broadcast "bus (using LAN terminology)", since ...

Reason for Edit:
Does not require.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 187
Page Number: 12
Line Number: 12
Commentor Name: Guillemette Phil

Description of Edit
delete '(using LAN terminology)'

Reason for Edit:
- adds no real value to this section.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 188
Page Number: 12
Line Number: 14
Commentor Name: Guillemette Phil

Description of Edit
delete the remainder of the paragraph starting with

', 802.16 protocols...'

Reason for Edit:
- this is an informative section and should not contain requirements.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 189
Page Number: 12
Line Number: 18

Commentor Name: Guillemette Phil

Description of Edit

Replace paragraph with the following

The resulting topology is very similar to a Hybrid Fiber Coax (HFC) digital data over cable TV return channel network [69][69][3].

Reason for Edit:

- clarifies first sentence.
- removes information that does not add value to the topic of this section

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 144
Page Number: 12
Line Number: 18

Commentor Name: Jarrett David

Description of Edit

Remove entire paragraph

Reason for Edit:

Text is not relevant to the requirements statements.

Date Received: 8/24/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 232
Page Number: 12
Line Number: 24

Commentor Name: Park Yunsang

Description of Edit

insert:

" 3.3 Legacy of the Systems

At the time an 802.16 system is developed, there will be many legacy systems to exist in the LMDS market. In order for these system to be considered to compliance, these must be a transition plan, which will permit the optional conversion from legacy to new standard within a period of 3 years. "

Reason for Edit:

Legacy should be the one of the most important issues for this standard.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 145
Page Number: 13
Line Number: 26

Commentor Name: Jarrett David

Description of Edit

Replace sentence with "This protocol stack model is intended to help develop terminology, and possibly protocol architecture."

Reason for Edit:

Removes unnecessary text, and removes the word "should" which is to be used to imply requirements (which this is not).

Date Received: 8/24/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 146
Page Number: 15
Line Number: 3
Commentor Name: Jarrett David

Description of Edit

Remove rest of paragraph beginning with "For instance, large ..." Replace with the following:

"The following scales of capacity SHALL be supported:

* Dedicating an all the bandwidth from a single BTS channel to a single subscriber.
* Assigning bandwidth to a collection of STS'es communicating with a particular BTS channel such that their aggregate peak bandwidth exceeds the rate that a single BTS channel can support (i.e., link overprovisioning).
* Assigning as little as 1% of the bandwidth of the link from a BTS channel to an STS
* Provisioning "pico-systems" in dense metropolitan areas [6] that implement short-radius beams to a few subscribers."

Reason for Edit:

To clarify exactly what scalability is required, for both bandwith per user and type of link.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 196
Page Number: 15
Line Number: 8
Commentor Name: Marin Scott

Description of Edit

In section 5.1, delete all but the first sentence.

Reason for Edit:

The examples of scalability contain several editorial flaws (e.g. "high [?] requirement", short-radius beams, and wide-beam system). In addition the second sentence, which contains an example, also contains a SHOULD. It's probably not a good practice to put requirements in examples because one could argue that examples aren't requirements. Rather than spend a lot of meeting time repairing the examples, I recommend we simply delete the example sentences.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 233
Page Number: 15
Line Number: 13
Commentor Name: Park Yunsang

Description of Edit

change "Bandwidth" with "Throughput"

Reason for Edit:

better word.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 147
Page Number: 15
Line Number: 14
Commentor Name: Jarrett David

Description of Edit

Change first sentence to:

"802.16 protocols SHALL be optimized to provide the peak per-user capacity from 2 to 155 Mbps to an STS sufficiently close to the BTS."

Reason for Edit:

The current text has no requirement statement.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 234
Page Number: 15
Line Number: 15
Commentor Name: Park Yunsang

Description of Edit
add at the end of the sentence:
"and when frequency reuse in adjacent sector is not required. If wide scale of frequency reuse is required by the network operator, then the peak capacity will be distributed to multiple sectors."

Reason for Edit:
In order to accommodate large number of subscribers, frequency reuse in term of sectorizartion is required for the system. In that case, it is possible that the network operator can not support 155 Mbps for an STS.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 148
Page Number: 15
Line Number: 16
Commentor Name: Jarrett David

Description of Edit
Add to the end of the paragraph:

"However, 802.16 protocols SHALL not preclude the ability of an 802.16 system to deliver less than 2 Mbps peak per-user capacity."

Reason for Edit:
To further clarify the bandwidth ranges 802.16 protocols should support.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 235
Page Number: 15
Line Number: 19
Commentor Name: Park Yunsang

Description of Edit
change "SHOULD" with "SHALL"

Reason for Edit:
Customers want flexibility.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 255
Page Number: 15
Line Number: 19
Commentor Name: Sandler Howard

Description of Edit
Change "SHOULD"to "MAY"

Reason for Edit:
Flexible asymmetry basically requires TDD. 802.16.2 has not determined that TDD is feasible to meet coexistence requirements. As such, it is premature to put emphasis on such a feature.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 236
Page Number: 15
Line Number: 31
Commentor Name: Park Yunsang

Description of Edit
insert:
An 802.16 system SHOULD be available to transport all services at "better than" their requirement maximum error rates.....

Reason for Edit:
To make the meaning of the sentence more clear.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 195
Page Number: 15
Line Number: 32

Commentor Name: Marin Scott

Description of Edit

replace "99.99%" with "from about 99.9% to 99.999%"

Reason for Edit:

The link availability requirements vary over a substantial range and a single requirement such as 99.99% applies to only a portion of the intended use of 802.16 systems. For some services (e.g. video broadcast) and in some markets (e.g. emerging countries), 99.9% is acceptable and allows for relatively low cost system installation. For telephony services in developed countries, 99.99% is a common requirements. Some business customers may require (an be willing to pay for) 99.999% link availability. The requirements aren't hard limits thus the use of the term "from about."

The 802.16 spec should allow a range of link availabilities that are adaptable to a specific deployment and a specific customer. The link availability depends on the operators willingness to increase system cost to provide high link availability.

In addition, link availability increases as the distance between the hub and terminal decreases. Link availability is typically quoted at the edge of the coverage area but varies substantially depending on the terminal location. A single number doesn't adequately describe the requirement.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 198
Page Number: 16
Line Number: 11

Commentor Name: Fishel George

Description of Edit

Add "and other factors" after "size)". Also add an additional reference number following [53] for ITU-R PN530 (Propigation of Data and rprediction Methods for Design of terestrial Line of Sight Systems) and add this to the references section.

Reason for Edit:

Other items i.e. ice, snow, fog, are factors not just rain.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 237
Page Number: 16
Line Number: 14

Commentor Name: Park Yunsang

Description of Edit

change:
"the 802.16 protocols MUST be flexible in consumed radio bandwidth (spectral efficiency), cell radius, and transmit power to accommodate a rain allowance that varies with geography [11]."
with
"the 802.16 protocols SHOULD be flexible in consumed radio bandwidth (spectral efficiency), cell radius, or transmit power to accommodate a rain allowance that varies with geography [11]"

Reason for Edit:

Manufacturers need to assess the implications of rainfall and to develop means to compensate. These can include one or more of the suggested actions in the system design. Implementation of a specific designed compensation measure at a given point in time (e.g., bandwidth, power) would depend on the specific environmental circumstances.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 257
Page Number: 16
Line Number: 21

Commentor Name: Duhamel Robert

Description of Edit

suggested insert: "During rain conditions, the BTS SHOULD issue a MAC command
message to the STSs to raise the STS transmit power in order to maintain the target link availability. These transmit power control adjustments will minimize RFI and allow the upstream link to have uniform QoS in a given cell radius during any weather condition regardless of the distance between the BTS and STS."

Reason for Edit:

Technical expansion.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 149
Page Number: 16
Line Number: 23

Commentor Name: Jarrett David

Description of Edit

Move this paragraph to after line 8.

Reason for Edit:

Since the paragraphs at line 5 and line 23 both discuss error performance, they should be kept together.

Date Received: 8/24/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 238
Page Number: 16
Line Number: 32

Commentor Name: Park Yunsang

Description of Edit

replace:
"allow for detection of errors by the MAC (e.g., by CRC) with 1,2, or 3 errored bits (a Hamming Distance of 4) [7]."
with
"permit transfer of reliability information that was determined by PHY layer, for example number of elements corrected by a Reed-Solomon decoder. Another measure of reliability of information is maximum likelihood decision metrics."

Reason for Edit:

It is more reliable and efficient to use information that already exists in the PHY layer than to ask the MAC layer derives new reliability information.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 150
Page Number: 16
Line Number: 35

Commentor Name: Jarrett David

Description of Edit

Remove entire paragraph

Reason for Edit:

This does not add much to the requirements, and will be addressed in Section 6.

Date Received: 8/24/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 151
Page Number: 17
Line Number: 8
Commentor Name: Jarrett David

Description of Edit
Remove entire line/sentence.

Reason for Edit:
Does not add to the requirements statements.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 251
Page Number: 17
Line Number: 15
Commentor Name: Myers Bill

Description of Edit
Change to: *Media Access Delay - The protocol induced delay between the BTS and the STS for an existing session (including flow control, jitter buffering, etc. but excluding signalling).

Reason for Edit:
Clarify MAC delay so as to not include session setup control.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 239
Page Number: 17
Line Number: 17
Commentor Name: Park Yunsang

Description of Edit
Insert:
The following 802.16 system "round trip" delay

Reason for Edit:
To make clear that the transit delay is for round trip delay.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 240
Page Number: 17
Line Number: 33
Commentor Name: Park Yunsang

Description of Edit
Delete:
"The radio propagation time is 3.3usec/km [cite G.114]. If the distance between STS and BTS is 5 km, this propagation time is 16.7usec."

Reason for Edit:
These sentences are not required for this document.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 241
Page Number: 17
Line Number: 37
Commentor Name: Park Yunsang

Description of Edit
Insert:
suggested to be "less than" 19.5 ms

Reason for Edit:
19.5 ms is a huge delay. The delay should much less than that.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 242
Page Number: 18
Line Number: 2
Commentor Name: Park Yunsang

Description of Edit
insert:
802.16 system capacity "requirement" is defined...

Reason for Edit:
To make the meaning of the sentence more clear.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 252
Page Number: 18
Line Number: 2
Commentor Name: Myers Bill

Description of Edit
Change to: " ... peak bandwidth requirements and load factor based on quality of service guarantees."

Reason for Edit:
Clarify that capacity is a function of peak bandwidths modified by each user instaneous session loading factors and not the sum of all users times peak bandwidths.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 244
Page Number: 18
Line Number: 3
Commentor Name: Park Yunsang

Description of Edit
change "This capacity" with "The delivered capacity"

Reason for Edit:
better wording

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 243
Page Number: 18
Line Number: 3
Commentor Name: Park Yunsang

Description of Edit
Change "bandwidth" with "throughput"

Reason for Edit:
better terminology

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 245
Page Number: 18
Line Number: 12
Commentor Name: Park Yunsang

Description of Edit
Insert:
Upstream/Downstream Channels "Data Rates"

Reason for Edit:
To make the meaning of the sentence more clear.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 246
Page Number: 18
Line Number: 13
Commentor Name: Park Yunsang

Description of Edit	Reason for Edit:
change "bandwidth" with "data rate"	To make the meaning of the sentence more clear.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 152
Page Number: 18
Line Number: 42
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Change to "... bearer services with respect to allocation and prioritization of bandwidth."	To clarify the wording.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 153
Page Number: 19
Line Number: 1
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Change "fixed" to "constant rate"	To clarify the wording

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 154
Page Number: 19
Line Number: 4
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Remove the word "Permanent" and the letter "P" from "PVC"	To clarify that connections can be any type of VC (PVC, SVC, SPVC, ...)

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 155
Page Number: 21
Line Number: 33
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Remove sentence starting "The 802.16 standards SHALL ..."	Not useful to have a requirement to consider something.

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 156
Page Number: 21
Line Number: 39
Commentor Name: Jarrett David

Description of Edit
Add to the section title "or BTS"

Reason for Edit:
To increase the scope of the section.

Date Received: 8/24/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 157
Page Number: 21
Line Number: 40
Commentor Name: Jarrett David

Description of Edit
Change "from the BTS" to "remote from the STS"

Reason for Edit:
Should not need to be at the BTS to do this.

Date Received: 8/24/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 199
Page Number: 21
Line Number: 41
Commentor Name: Fishel George

Description of Edit
after current sentence, add "An STS should not transmit unless authorized by the BTS." and add "The transmit power of the STS is controlled by the BTS and the BTS should prevent the STS from transmitting at maximum power during clear sky conditions." add "The STS can elevate transmit power to overcome attenuation in excess of clear sky path loss only under the direction of the BTS."

Reason for Edit:
Should have a complete description.

Date Received: 12/30/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 158
Page Number: 21
Line Number: 41
Commentor Name: Jarrett David

Description of Edit
Add after current text:

"The operator also MUST have the means to shut down a BTS remotely. The 802.16 protocols SHOULD support that transmission from an STS or BTS be shut
down automotically in case of malfunction (e.g., power exceeds limits)."

Reason for Edit:
To add necessary requirements for malfunction handling.

Date Received: 8/24/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 200
Page Number: 22
Line Number: 6
Commentor Name: Fishel George

Description of Edit

after Last sentence, add "The 802.16 systems support the Communications Assistance for Law Enforcement Act (CAECO, "wire tap law") in the following ways: [tbd]".

7.4 Transmit power
This should be supported!

Reason for Edit:

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 201
Page Number: 22
Line Number: 7
Commentor Name: Fishel George

Description of Edit

Add new paragraph:
"7.4 Transmit power

On any authorized frequency, the average power delivered to an antenna must be the minimum amount of power necessary to carry out the communications desired." Add (FCC Part 101.113) and ITU-R Radio Regulations, as references

Reason for Edit:

We must follow these regulations!

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 247
Page Number: 22
Line Number: 8
Commentor Name: Park Yunsang

Description of Edit

Change "SHALL" with "SHOULD"

Reason for Edit:

To consider the legacy of PMP systems.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 202
Page Number: 23
Line Number: 15
Commentor Name: Fishel George

Description of Edit

The minimum requirement should be no security. As security of data transmission is normally a function of higher level protocols, its duplicating effort, adding cost, and increasing latency to require security of the air-way information.

Reason for Edit:

The user should not be forced to use crypto.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 248
Page Number: 23
Line Number: 21

Commentor Name: Park Yunsang

Description of Edit
Change "SHALL" with "SHOULD"

Reason for Edit:
"SHALL strive to..." does less make sense than "Should strive to"

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 249
Page Number: 23
Line Number: 22

Commentor Name: Park Yunsang

Description of Edit
Replace:
"Some particulars with the 802 model (see IEEE standards for Local and Metropolitan Area Networks: Overview and Architecture (IEEE Std 302-1990)[21]) are:"
with
"The particular features of 802 model which are listed below SHOULD be studied to see if these features SHOULD apply for 802.16 model:"

Reason for Edit:
802.16 is neither LAN nor MAN. For example, for MAC multicasting, we SHOULD not preclude the upstream direction multicast such as web hosting.

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 159
Page Number: 23
Line Number: 40

Commentor Name: Jarrett David

Description of Edit
Should not accept the addition of the proposed text to the System Requirements document, because the items contained either 1) are already addressed elsewhere, 2) should be addressed in other sections if not already addressed, or 3) should be in the MAC specification. The following are specific text edits:

- Remove 10.0
- Remove 10.1 -10.3 (should be addressed in MAC specification)
- Remove 10.4 (already address in Section 4.0 where appropriate)
- Remove 10.5 (shold go into a new section 7.4 with specific parameters to be monitored and tracked in the MIB)

Reason for Edit:
To address this defered contribution

Date Received: 8/24/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** unresolved
Notes:

Item Number: 250
Page Number: 24
Line Number: 22

Commentor Name: Park Yunsang

Description of Edit
Change "Policying" with "policing"

Reason for Edit:
misspell

Date Received: 12/30/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** unresolved
Notes:

Item Number: 160
Page Number: 24
Line Number: 33
Commentor Name: Jarrett David

Description of Edit
Remove the definition of BNI

Reason for Edit:
Not necessary, since the System Requirements should not discuss these interfaces.

Date Received: 8/24/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes:

Item Number: 167
Page Number: 25
Line Number: 5
Commentor Name: van Waes Nico

Description of Edit
Insert:
The MAC MUST support the following duplex schemes:
TDD and half-duplex FDD.
To improve frequency re-use and interference resilience, the MAC SHOULD support smart antenna's.

Reason for Edit:
Definition of duplex schemes.
The support of smart antenna's, although seemingly premature at this point, may become important a few years down the road.

Date Received: 8/27/99
Date Resolved:
Comment Type: Technical
Resolution Status: unresolved
Notes:

Item Number: 161
Page Number: 25
Line Number: 40
Commentor Name: Jarrett David

Description of Edit
Remove definition of SNI

Reason for Edit:
Not necessary, since the Systems Requirements should not discuss these interfaces.

Date Received: 8/24/99
Date Resolved:
Comment Type: Editorial
Resolution Status: unresolved
Notes: