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Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b>	
Title	<b>802.16.3 Functional Requirements Comment Database Report for Session #7</b>	
Date Submitted	<b>2000-04-28</b>	
Source	Brian Petry 3Com 12230 World Trade Dr. San Diego, CA 92128	Voice: 858-674-8533 Fax: E-mail:brian_petry@3com.com
Re:	This is a report of comments received on the 802.16.3 Functional Requirements, 802.16.3-00/02. These comments are input to 802.16 session #7.	
Abstract	This is a database dump of comments received. The database is sorted by type (editorial/technical), then page number, then line number.	
Purpose	The 802.16.3 Functional Requirements Task Group should use this report to assist in the comment resolution meetings at session #7.	
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 public by 802.16.	
IEEE Patent Policy	The contributor is familiar with the IEEE Patent Policy, which is set forth in the IEEE-SA Standards Board Bylaws < <a href="http://standards.ieee.org/guides/bylaws">http://standards.ieee.org/guides/bylaws</a> > and includes the statement:  “IEEE standards may include the known use of patent(s), including patent applications, if there is technical justification in the opinion of the standards-developing committee and provided the IEEE receives assurance from the patent holder that it will license applicants under reasonable terms and conditions for the purpose of implementing the standard.”	

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# Comments by type/page #/line#

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**Item Number** 48

**Page Number** 0

**Line Number:** 0

**Commentor Name:** Jansson

Leif

**Description of Edi**

The section numbering is wrong.

**Reason for Edit:**

Editorial.

\*\*Rejected because editor will clean up the requirements summary appendix\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

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**Item Number** 74

**Page Number** 0

**Line Number:** 0

**Commentor Name:** Kasslin

Mika

**Description of Edi**

Delete rows M9, M10 and M12.

**Reason for Edit:**

These statements don't occur in the text.

\*\*Editor's note: Rejected because the editor will revise this appendix\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

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**Item Number** 110

**Page Number** 1

**Line Number:** 4

**Commentor Name:** Satapathy

Durga

**Description of Edi**

The BWA system is intended to provide packet, cell and other transport services.

**Reason for Edit:**

To expand the scope of BWA standard.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 80

**Page Number** 1

**Line Number:** 5

**Commentor Name:** Kostas

Demosthenes

**Description of Edi**

Deletion of sentence starting at end of this line

**Reason for Edit:**

Sentence is redundant with second Paragraph.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 20

**Page Number** 1

**Line Number:** 5

**Commentor Name:** Goldhammer

Marianna

**Description of Edi**

Insert "data" after "packet"

**Reason for Edit:**

clarification

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 6 **Commentor Name:** Freedman  
Avi  
**Page Number** 1  
**Line Number:** 45  
**Description of Edi** **Reason for Edit:**  
Delete comma after "networks" Grammar

**Date Received:** 4/28/00 **Date Resolved:**  
**Comment Type:** Editorial **Resolution Status:** unresolved  
**Notes:**

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**Item Number** 149 **Commentor Name:** Wachira  
Muya  
**Page Number** 2  
**Line Number:** 7  
**Description of Edi** **Reason for Edit:**  
Replace "service" by "service capabilities" in lines 7 and 8 (two places) To generalize the field of application of the 802.16.3 systems. We need to focus on services capabilities so that operators may build services according to their own market requirements.  
\*\*Editor's note: Rejected because the change could not be located\*\*

**Date Received:** 4/28/00 **Date Resolved:**  
**Comment Type:** Editorial **Resolution Status:** rejected  
**Notes:**

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**Item Number** 150 **Commentor Name:** Wachira  
Muya  
**Page Number** 2  
**Line Number:** 10  
**Description of Edi** **Reason for Edit:**  
Replace "802.16.3 systems provide" by "802.16.3 systems will be able to provide" Grammar  
\*\*Editor's note: Okay to use WILL?\*\*\*

**Date Received:** 4/28/00 **Date Resolved:**  
**Comment Type:** Editorial **Resolution Status:** unresolved  
**Notes:**

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**Item Number** 84 **Commentor Name:** Kostas  
Demosthenes  
**Page Number** 2  
**Line Number:** 18  
**Description of Edi** **Reason for Edit:**  
As an example, Figure 1 shows how the 802.16.3 PHY and MAC layers relate to some other 802 standards. To Clarify that this is only an example: i.e., the 802.16.3 PHY and MAC will relate to others.

**Date Received:** 4/28/00 **Date Resolved:**  
**Comment Type:** Editorial **Resolution Status:** unresolved  
**Notes:**

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**Item Number** 86 **Commentor Name:** Kostas  
Demosthenes  
**Page Number** 2  
**Line Number:** 22  
**Description of Edi** **Reason for Edit:**  
Change title of Figure 1 to  
Figure 1: Relationship between 802.16.3 and other 802 Protocol Standards(...) To avoid misunderstanding of the phrase "other Protocol Standards"

**Date Received:** 4/28/00 **Date Resolved:**  
**Comment Type:** Editorial **Resolution Status:** unresolved  
**Notes:**

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**Item Number** 152

**Commentor Name:** Wachira  
Muya

**Page Number** 3  
**Line Number:** 30

**Description of Edit**

Replace "similar to wired broadband access technologies such as.." by "similar to those of certain wired access technologies such as..".

**Reason for Edit:**

It is the markets that are similar

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Editorial      **Resolution Status:** unresolved  
**Notes:**

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**Item Number** 153

**Commentor Name:** Wachira  
Muya

**Page Number** 3  
**Line Number:** 42

**Description of Edit**

Replace "fixed position customers" by "fixed position customer stations"

**Reason for Edit:**

To improve the text

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Editorial      **Resolution Status:** unresolved  
**Notes:**

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**Item Number** 9

**Commentor Name:** Freedman  
Avi

**Page Number** 4  
**Line Number:** 7

**Description of Edit**

Insert space between "802.16.3" and "MAC"

**Reason for Edit:**

Typo

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Editorial      **Resolution Status:** unresolved  
**Notes:**

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**Item Number** 154

**Commentor Name:** Wachira  
Muya

**Page Number** 4  
**Line Number:** 7

**Description of Edit**

Replace "in section, an 802.16.3" with "in section 1.1, an 802.16.3"  
  
Other missing section numbers on page 5 line 27 (see section 8); page 6 line 23 (see section 6); page 7 line 2 (section 2), line 24 (Section 6) page 9 (in section 3.1); page 11 line 3 (see section 5.5), line 27 (section 5.7); page 12 line 15 (section 6.2); page 13 (section 3?)

**Reason for Edit:**

Missing section numbers.  
\*\*Editor's note: Editor will verify section numbering, etc.\*\*

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Editorial      **Resolution Status:** unresolved  
**Notes:**

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**Item Number** 10

**Commentor Name:** Freedman  
Avi

**Page Number** 4  
**Line Number:** 11

**Description of Edi**

Insert space between "to" and "3.5"

**Reason for Edit:**

Typo

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 155

**Commentor Name:** Wachira  
Muya

**Page Number** 4  
**Line Number:** 22

**Description of Edi**

Replace "the standard \*in\* more generally applicable...1 GHz to 10 GHz" with  
"the standard  
\*is\* more generally applicable... 2 GHz to 11 GHz"

**Reason for Edit:**

Correct typo and maintain consistency on the upper frequency limit.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 156

**Commentor Name:** Wachira  
Muya

**Page Number** 4  
**Line Number:** 23

**Description of Edi**

Replace "The standard is" with "Equipment based on this standard is".

**Reason for Edit:**

Clarification.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 158

**Commentor Name:** Wachira  
Muya

**Page Number** 4  
**Line Number:** 26

**Description of Edi**

Replace "systems" with "system"

**Reason for Edit:**

Grammar.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 159

**Commentor Name:** Wachira  
Muya

**Page Number** 5  
**Line Number:** 4

**Description of Edi**

Replace "concern for" by "the interest of"  
\*\*Editor's note: Rejected because text is fine\*\*

**Reason for Edit:**

To improve the text

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

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**Item Number** 160

**Page Number** 5

**Line Number:** 5

**Commentor Name:** Wachira  
Muya

**Description of Edi**

Replace "subscribers" by "subscriber stations"

**Reason for Edit:**

To be consistent. The system consists of stations.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 161

**Page Number** 5

**Line Number:** 7

**Commentor Name:** Wachira  
Muya

**Description of Edi**

Instead of "radiating" would "transmitting" or "emitting" be more appropriate here?

**Reason for Edit:**

To use a better term  
\*\*Editor's note: Rejected because no specific change specified\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

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**Item Number** 162

**Page Number** 5

**Line Number:** 12

**Commentor Name:** Wachira  
Muya

**Description of Edi**

Replace "possible" by "supported"

**Reason for Edit:**

To be precise.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 89

**Page Number** 5

**Line Number:** 22

**Commentor Name:** Kostas  
Demosthenes

**Description of Edi**

The ending of second sentence should read,  
"... envisaged, but the 802.16.3 protocols focus on the Air Interface shown in the simplified model of Figure 2.2."

**Reason for Edit:**

Clarify

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 90

**Page Number** 5

**Line Number:** 23

**Commentor Name:** Kostas  
Demosthenes

**Description of Edi**

Replace sentence starting on this line, and the sentence following with  
"Also shown in Figure 2.2 are typical configurations of the Base Station (BS) and the Subscriber Station (SS), that include the functions of "Indoor Units"(IU) and "Outdoor Units" (OU). However, the physical separation and protocols between OU and IU are beyond the scope of this document."

**Reason for Edit:**

Makes meaning clearer

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 91

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 5

**Line Number:** 26

**Description of Edi**

Change the sentence starting in the middle of this line and the sentence that follows with,

"An additional function to this System Reference Model that should be considered is Security. The BS Network Interface (BNI) and the SS Network Interface (SNI) are also shown."

**Reason for Edit:**

Facilitate reading

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 164

**Commentor Name:** Wachira  
Muya

**Page Number** 5

**Line Number:** 27

**Description of Edi**

Replace "(see section)." With "(see section 8)."

**Reason for Edit:**

Missing section number.  
\*\*Rejected. Editor will clean up section references\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

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**Item Number** 23

**Commentor Name:** Goldhammer  
Marianna

**Page Number** 6

**Line Number:** 0

**Description of Edi**

Change "voice, data and video" to "data, voice and video"

**Reason for Edit:**

Consistence throughout the document

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 22

**Commentor Name:** Goldhammer  
Marianna

**Page Number** 6

**Line Number:** 1

**Description of Edi**

Change "voice, data and video" to "packet data, voice and in some cases video"

**Reason for Edit:**

Make a correlation between the market size for each service and the order

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 11

**Commentor Name:** Freedman  
Avi

**Page Number** 6

**Line Number:** 1

**Description of Edi**

Change "A base" to "Base"

**Reason for Edit:**

Refer to "interfaces"

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 165

**Commentor Name:** Wachira  
Muya

**Page Number** 6

**Line Number:** 1

**Description of Edi**

Replace "residential networks" by "residential (customer premises) networks"

**Reason for Edit:**

To further clarify.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 111

**Commentor Name:** Satapathy  
Durga

**Page Number** 6

**Line Number:** 4

**Description of Edi**

Replace "which are sometimes called interworking functions(IWFs)," by "and related interworking functions (IWFs),"

**Reason for Edit:**

Need to address both interfaces and any interworking functions.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 92

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 6

**Line Number:** 4

**Description of Edi**

Delete "which are sometimes called interworking functions(IWFs),"

**Reason for Edit:**

Incorrect phrase. Interfaces are no interworking functions.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 166

**Commentor Name:** Wachira  
Muya

**Page Number** 6

**Line Number:** 8

**Description of Edi**

Replace "(see section)." With "(see section 3)."

**Reason for Edit:**

Missing section number.  
\*\*Editor's note: Editor will clean up section references\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 12

**Commentor Name:** Freedman  
Avi

**Page Number** 6

**Line Number:** 11

**Description of Edi**

Remove space in "comm on"

**Reason for Edit:**

Typo

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**



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**Item Number** 93

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 6

**Line Number:** 22

**Description of Edi**

Change sentence to read,  
"The Subscriber Stations may identify the bandwidth needed to achieve the required QoS (see section) , but the BS has the "smarts" to allocate bandwidth."

**Reason for Edit:**

Improve English

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 94

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 6

**Line Number:** 26

**Description of Edi**

Replace the paragraph starting on this line with

In the downstream direction, within a channel, the network topology is similar to a contentionless broadcast bus, since the transmissions are transmitted by the base station, and more than one Subscribe Station can share a downstream channel. In the upstream direction the topology is similar to a contention-oriented bus, and thus 802.16.3 protocols MUST provide the means to multiplex traffic from multiple SS, resolve contention, and allocate bandwidth in the upstream direction.

**Reason for Edit:**

To simplify reading

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 95

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 6

**Line Number:** 34

**Description of Edi**

Change paragraph under Section 3 to read,  
This section describes some services that an 802.16.3 system SHOULD support. In what follows both the target markets and their associated bearer services are described.

**Reason for Edit:**

To streamline the meaning. Original paragraph found confusing

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 168

**Commentor Name:** Wachira  
Muya

**Page Number** 6

**Line Number:** 35

**Description of Edi**

delete "bearer"

**Reason for Edit:**

The section on bearer services from original document was deleted.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 96

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 7

**Line Number:** 5

**Description of Edi**

Replace this paragraph with  
"This Section describes typical services supported by an 802.16.3 system.  
In this document services refer to the services provided by the MAC layer to  
the layer above it. The term services is also used in this document as an  
adjective to qualify the type of networks that interface with 802.16.3-based  
BWA networks(12)(54)."

**Reason for Edit:**

To streamline the meaning. Original paragraph found confusing

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 97

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 7

**Line Number:** 11

**Description of Edi**

Delete sentence starting on this line

**Reason for Edit:**

Not clear of its meaning

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 64

**Commentor Name:** Kasslin  
Mika

**Page Number** 7

**Line Number:** 15

**Description of Edi**

Replace "telephony" with "voice services" throughout the whole  
section.

**Reason for Edit:**

Consistence throughout the section

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 112

**Commentor Name:** Satapathy  
Durga

**Page Number** 7

**Line Number:** 17

**Description of Edi**

Change sentence beginning in line 17 to:  
"The access transport will be packet based or cell based."

**Reason for Edit:**

See no need to limit transport of voice services to packet based.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 98

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 7

**Line Number:** 18

**Description of Edi**

Delete lines 18 through 24

**Reason for Edit:**

Unnecessary and confusing verbiage

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 113

**Page Number** 7

**Line Number:** 29

**Commentor Name:** Satapathy  
Durga

**Description of Edi**

Delete the sentence  
"Voice connectivity will be provided by a VOIP protocol and may involve low rate vocoding."

**Reason for Edit:**

See no need to limit voice services to VOIP.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 26

**Page Number** 7

**Line Number:** 34

**Commentor Name:** Goldhammer  
Marianna

**Description of Edi**

Delete "low"

**Reason for Edit:**

The VoIP delay is not low

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 114

**Page Number** 8

**Line Number:** 9

**Commentor Name:** Satapathy  
Durga

**Description of Edi**

Insert  
"3.1.2 ATM Services  
  
The 802.16.3 system MUST provide efficient transport for CBR, VBR (rt and nrt), UBR and ABR services."

**Reason for Edit:**

To ensure 802.16.3 standard supports ATM-based BWA solutions.  
\*\*Editor's note: rejected because of duplicate comment from Kostas\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

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**Item Number** 115

**Page Number** 8

**Line Number:** 9

**Commentor Name:** Satapathy  
Durga

**Description of Edi**

Change section number from 3.1.2 to 3.1.3

**Reason for Edit:**

Above insertion  
\*\*Editor's note: rejected because editor will do cleanup/numbering/etc.\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

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**Item Number** 116

**Page Number** 8

**Line Number:** 11

**Commentor Name:** Satapathy  
Durga

**Description of Edi**

Change section number from 3.1.3 to 3.1.4  
\*\*Editor's note: rejected because editor will do cleanup/numbering/etc.\*\*

**Reason for Edit:**

Above insertion

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

**Item Number** 134

**Page Number** 9

**Line Number:** 21

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Figure 4-1 : Change "Auto / Video" to "Audio / Video"

Change "DAVIC" to "DAV TC"

**Reason for Edit:**

Typo

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

**Item Number** 43

**Page Number** 10

**Line Number:** 13

**Commentor Name:** Jansson  
Leif

**Description of Edi**

What is DAV and DAVIC ?

**Reason for Edit:**

Specify.

\*\*Editor's note: Rejected because no specific change suggested\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

**Item Number** 105

**Page Number** 10

**Line Number:** 18

**Commentor Name:** Kostas  
Demosthenes

**Description of Edi**

Sentence should read

"Specifying protocols that can maintain a specified/mandatory performance levels in the face of rapidly changing channel characteristics(e.g., due to multipath) is a problem that the 802.16.3 work group has to consider."

**Reason for Edit:**

Clarification

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

**Item Number** 106

**Page Number** 10

**Line Number:** 28

**Commentor Name:** Kostas  
Demosthenes

**Description of Edi**

Change sentence to read

"The 802.16.3 protocols SHOULD allow for increases in capacity and performance."

**Reason for Edit:**

Clarification

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

**Item Number** 33

**Page Number** 10

**Line Number:** 30

**Commentor Name:** Goldhammer  
Marianna

**Description of Edi**

Replace "Bandwidth" with "Capacity"

**Reason for Edit:**

Bandwidth is measured in Hz, not bit/s

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 171

**Page Number** 10

**Line Number:** 33

**Commentor Name:** Wachira  
Muya

**Description of Edi**

Replace "delivered bandwidth " to "delivered capacity"

**Reason for Edit:**

Capacity is the correct term for bits/sec.  
\*\*Editor's note: Rejected because of duplicate comment from Goldhammer\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

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**Item Number** 70

**Page Number** 11

**Line Number:** 3

**Commentor Name:** Kasslin  
Mika

**Description of Edi**

Replace 99.94% with 99.95%

**Reason for Edit:**

More commonly used value

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 46

**Page Number** 12

**Line Number:** 7

**Commentor Name:** Jansson  
Leif

**Description of Edi**

What is "transit delay"?

**Reason for Edit:**

Specify.  
\*\*Editor's note: Rejected because no specific change suggested\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

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**Item Number** 18

**Page Number** 13

**Line Number:** 25

**Commentor Name:** Freedman  
Avi

**Description of Edi**

Remove space within "T he"

**Reason for Edit:**

Typo

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 47

**Page Number** 15

**Line Number:** 12

**Commentor Name:** Jansson  
Leif

**Description of Edi**

Replace "face" with "case".  
\*\*Editor's note: Rejected because "face" is fine\*\*

**Reason for Edit:**

Editorial.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

---

**Item Number** 179

**Page Number** 17

**Line Number:** 0

**Commentor Name:** Wachira  
Muya

**Description of Edit**

Insert "Techniques for" before "Separation"

**Reason for Edit:**

To indicate that TDD is not the separation itself as implied in the draft text.  
\*\*Rejected because editor will revise the requirements appendices\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

---

**Item Number** 177

**Page Number** 17

**Line Number:** 0

**Commentor Name:** Wachira  
Muya

**Description of Edit**

Replace "according to negotiated user requirements" with "according to dynamically negotiated user requirements and/or network availability"

**Reason for Edit:**

To introduce the concept of dynamism in the definition and also indicate that network availability could also trigger/cause/impact this variability.  
\*\*Rejected because editor will revise the requirements appendices\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

---

**Item Number** 178

**Page Number** 17

**Line Number:** 0

**Commentor Name:** Wachira  
Muya

**Description of Edit**

Insert "Techniques for" before "Separation"

**Reason for Edit:**

To indicate that FDD is not the separation itself as implied in the draft text.  
\*\*Rejected because editor will revise the requirements appendices\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

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**Item Number** 176

**Page Number** 17

**Line Number:** 21

**Commentor Name:** Wachira  
Muya

**Description of Edit**

Replace the term "bandwidth" with "capacity"

**Reason for Edit:**

Referring to capacity as "bandwidth" is colloquial usage, and we should use the correct terms - bandwidth expressed in Hz and capacity in bit/s or bps.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 174

**Commentor Name:** Wachira

**Page Number** 17

Muya

**Line Number:** 22

**Description of Edi**

The Appendices should be numbered  
A. Requirements Summary  
A.1 Mandatory  
A.2 Recommended (R)  
A.3 Optional (O)  
B. Vocabulary of Terms  
B.1 Definitions  
B.2 Acronyms and Abbreviations  
Appropriate page numbering should be used.

**Reason for Edit:**

Ease of reference.  
\*\*Rejected because editor will clean up numbering and references\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** rejected

**Notes:**

---

**Item Number** 75

**Commentor Name:** Kasslin

**Page Number** 22

Mika

**Line Number:** 0

**Description of Edi**

Delete the last incomplete sentence "This" through "provisioning"

**Reason for Edit:**

Useless and misleading sentence

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 76

**Commentor Name:** Kasslin

**Page Number** 22

Mika

**Line Number:** 0

**Description of Edi**

Delete "Protocol" till end of text

**Reason for Edit:**

Incomplete and irrelevant sentence

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 77

**Commentor Name:** Kasslin

**Page Number** 25

Mika

**Line Number:** 0

**Description of Edi**

Replace 99.94% with 99.95%

**Reason for Edit:**

Consistency with the text in section 5.4 if the corresponding earlier comment is approved.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 78

**Commentor Name:** Kasslin

**Page Number** 26

Mika

**Line Number:** 0

**Description of Edi**

Delete the following bullet points:  
"- Radio range (shaped sector radius)  
"- Width of the sector

**Reason for Edit:**

Consistency with the text in section 5.7 if the corresponding earlier comment is approved.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Editorial

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 49

**Commentor Name:** Jansson

**Page Number** 0

Leif

**Line Number:** 0

**Description of Edi**

Delete R17.

**Reason for Edit:**

This is not requirement on a BWA system.  
\*\*Rejected because editor will re-work this appendix by scanning the document body to verify all requirements\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** rejected

**Notes:**

---

**Item Number** 109

**Commentor Name:** Petry

**Page Number** 0

Brian

**Line Number:** 1

**Description of Edi**

Change title to "Functional Requirements for the 802.16.3 Interoperability Standard"; make other changes throughout document as necessary.

**Reason for Edit:**

A simple, meaningful title that won't change as revisions are made and the document is completed.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 85

**Commentor Name:** Kostas

**Page Number** 1

Demosthenes

**Line Number:** 4

**Description of Edi**

The BWA system is intended to support a wide-range of transport capabilities (e.g., frame relay, ATM, IP, and Ethernet 802.11) that in turn can support a wide-range of services (e.g., telephone, data, and video)

**Reason for Edit:**

To explicitly state the reason for this BWA

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 79

**Commentor Name:** Kostas

**Page Number** 1

Demosthenes

**Line Number:** 4

**Description of Edi**

The BWA system is intended to support a wide-range of transport capabilities (e.g., frame relay, ATM, IP, and Ethernet 802.11) that in turn can support a wide-range of services (e.g., telephone, data, and video)

**Reason for Edit:**

To explicitly state the reason for this BWA

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**



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**Item Number** 51

**Page Number** 1

**Line Number:** 4

**Commentor Name:** Kasslin  
Mika

**Description of Edi**

Replace sentence "The BWA" through "services" with "The BWA system shall support all services (real time and non real time) in a packet oriented manner."

**Reason for Edit:**

Clearly defined requirement that clarifies the initial sentence.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 39

**Page Number** 1

**Line Number:** 4

**Commentor Name:** Jansson  
Leif

**Description of Edi**

Replace sentence "The BWA" through "services" with "The BWA system shall support all services (real time and non real time) in a packet oriented manner."

**Reason for Edit:**

Clearly defined requirement that clarifies meaning of the sentence.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 5

**Page Number** 1

**Line Number:** 4

**Commentor Name:** Freedman  
Avi

**Description of Edi**

Change "Broadband Wireless Access (BWA)" to "Wideband Wireless Access (WWA)" all over the document.

**Reason for Edit:**

To distinguish 802.16.3 activity from 802.16.1

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 117

**Page Number** 1

**Line Number:** 5

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Insert after "packet and other services" the words "to individual residential, SME, SOHO and tele-commuter end-user locations."

**Reason for Edit:**

To more fully reflect the purpose of the PAR and to differentiate 802.16.3 from other 802 air interfaces.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 52

**Commentor Name:** Kasslin  
Mika

**Page Number** 1  
**Line Number:** 11

**Description of Edi**

Delete lines 11 to 15

**Reason for Edit:**

Contradictory with "MUST comply" in next paragraph. Statement on revisions and changes is obvious and fluff.  
\*\*Editor's note: Rejected because it's already deleted\*\*

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** rejected  
**Notes:**

---

**Item Number** 81

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 1  
**Line Number:** 17

**Description of Edi**

Change second sentence on this line to read "These functional requirements, with possible future amendments, are to be used to identify the constraints in the development of the 802.16.3 air interface standard. Such terms as SHALL, MUST and SHOULD as used herein are to indicate the relative importance of a requirement."

**Reason for Edit:**

Third Paragraph Second Sentence is not consistent with the Second Paragraph. Second Paragraph states that this document provides "guidelines" and the third Paragraph states that "The requirements with future amendments, are binding"... the air interface standard MUST comply... with the functional requirements".

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** unresolved  
**Notes:**

---

**Item Number** 118

**Commentor Name:** Trinkwon  
David

**Page Number** 1  
**Line Number:** 44

**Description of Edi**

Replace "at least one subscriber station" with " a large number of end-user locations"

**Reason for Edit:**

This is the defining characteristic of 802.16.3 FWA/BWA solutions. Also, the word "subscriber" implies a billable public service whereas some end user services will be corporate extranet, VPN or private network extensions, not "billable" in the conventional sense. Also, the word Station implies a single customer termination whereas most of the likely applications will be multi-line / multi-service. The air interface delivers an access "pipe" to a location over which services can be delivered to one or more end-user ports or terminal points.

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** unresolved  
**Notes:**

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**Item Number** 82

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 1  
**Line Number:** 46

**Description of Edi**

Change sentence to read, "So, "Functional Requirements" describes the 802.16.3 MAC and PHY Layer functions and system parameters that need be specified so that the BWA system can support a wide-range of transport capabilities (e.g., Frame Relay, ATM, and Ethernet 802.11), that in turn can support a wide-range of Services (e.g., telephone, data, and video)

**Reason for Edit:**

To explicitly state the reason for this BWA

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** unresolved  
**Notes:**

---

**Item Number** 151

**Page Number** 2

**Line Number:** 15

**Commentor Name:** Wachira  
Muya

**Description of Edi**

Add a new sentence: "As far as possible, these should be common across the 802.16 systems"

**Reason for Edit:**

Commonality improves efficiency.  
\*\*Editor's note: OK to use "SHOULD?"

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 83

**Page Number** 2

**Line Number:** 17

**Commentor Name:** Kostas  
Demosthenes

**Description of Edi**

Change sentence to read "The 802.16.3 air interface interoperability SHALL interwork with existing local, metropolitan, and wide area network standards."

**Reason for Edit:**

To more explicitly state the reason for this Air interface interworking capabilities.  
In a requirements document the emphasis of being part of a family of standards is misleading.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 87

**Page Number** 2

**Line Number:** 24

**Commentor Name:** Kostas  
Demosthenes

**Description of Edi**

Insert a Figure 0. That depicts the how the 802.16.3 MAC and PHY Layers relate to the supported upper layer protocols (e.g., Frame Relay, ATM, 802.11); i.e., 802.16.3 Protocol Reference Model

**Reason for Edit:**

To explicitly depict the more general application of the PHY and MAC being developed and not just the family.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 7

**Page Number** 3

**Line Number:** 29

**Commentor Name:** Freedman  
Avi

**Description of Edi**

Exchange the paragraph between lines 29 and 35 (starting with "A broadband wireless access" with the next paragraph (between lines 37 and 42, starting with "The target markets to be addressed...)

**Reason for Edit:**

The definition of the markets is more important than the examples of possible services.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 8  
**Page Number** 3  
**Line Number:** 30

**Commentor Name:** Freedman  
Avi

**Description of Edi**

Change "markets" to "services"

**Reason for Edit:**

The technologies provide services and are not special to markets.

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** unresolved  
**Notes:**

**Item Number** 40  
**Page Number** 3  
**Line Number:** 34

**Commentor Name:** Jansson  
Leif

**Description of Edi**

Delete lines 34 to 35

**Reason for Edit:**

This is a mixture of access technologies and services.

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** unresolved  
**Notes:**

**Item Number** 88  
**Page Number** 3  
**Line Number:** 36

**Commentor Name:** Kostas  
Demosthenes

**Description of Edi**

Insert a bullet "Point-to-Point ATM access"

**Reason for Edit:**

To include an important broadband access alternative

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** unresolved  
**Notes:**

**Item Number** 119  
**Page Number** 3  
**Line Number:** 36

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Insert new paragraph :

"The critical parameters for serving these markets using wireless access technology is the combination of coverage / capacity factors that affects access cost per user, the deployability, maintainability and product costs associated with the customer premise installation, and the spectrum efficiency / reuse for economically serving the required number of customer locations with a minimum number of base station locations and backhaul routes "

**Reason for Edit:**

To capture the essence of the key challenge for a commercially viable / successful BWA solution for the 802.16.3 target markets.

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** unresolved  
**Notes:**

**Item Number** 53  
**Page Number** 3  
**Line Number:** 36

**Commentor Name:** Kasslin  
Mika

**Description of Edi**

Add fifth competing technology: Native Ethernet

**Reason for Edit:**

To add this market segment.

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** unresolved  
**Notes:**

---

**Item Number** 41

**Commentor Name:** Jansson

**Page Number** 3

Leif

**Line Number:** 36

**Description of Edi**

Add one more competing technology: Fiber

**Reason for Edit:**

To add this market segment.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 120

**Commentor Name:** Trinkwon

**Page Number** 3

David

**Line Number:** 38

**Description of Edi**

Insert "Telecommuters" between "SOHO" and "small businesses" .  
Proposal : To invite contributions on definitions of these terms and associated traffic model assumptions, demographic density / distribution criteria and typical clutter / propagation implications.

**Reason for Edit:**

These have specific traffic / service / revenue characteristics which need to be taken into account when determining the capacity, efficiency, availability and other characteristics of the air interface.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 21

**Commentor Name:** Goldhammer

**Page Number** 3

Marianna

**Line Number:** 38

**Description of Edi**

Insert "telecommuters" after "SOHO"

**Reason for Edit:**

To add this market segment

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 121

**Commentor Name:** Trinkwon

**Page Number** 3

David

**Line Number:** 38

**Description of Edi**

replace second / subsequent sentences with "In accordance with ITU-R definitions, FWA (and hence BWA) provides access to one or more (public and private) core networks, rather than forming an end-to-end communication system. 802.16.3 systems serve fixed location customers, but who might be geographically or re-locatable or even nomadic (but not mobile).

**Reason for Edit:**

To align the requirement with established ITU and FWA terminology / practice.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 122

**Commentor Name:** Trinkwon

**Page Number** 4

David

**Line Number:** 8

**Description of Edi**

Replace "at least one subscriber station" with " a large number of end-user locations"

**Reason for Edit:**

This is the defining characteristic of 802.16.3 FWA/BWA solutions. Also, the word "subscriber" implies a billable public service whereas some end user services will be corporate extranet, VPN or private network extensions, not "billable" in the conventional sense. Also, the word Station implies a single customer termination whereas most of the likely applications will be multi-line / multi-service. The air interface delivers an access "pipe" to a location over which services can be delivered to one or more end-user ports or terminal points.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 1

**Commentor Name:** Abu-Dayya

**Page Number** 4

Adnan

**Line Number:** 11

**Description of Edi**

Replace "from 1 GHz to 10 GHz" with "2 GHz to 11 GHz"  
\*\*Editor's note: Rejected because change is already there\*\*

**Reason for Edit:**

To be consistent with the PAR.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** rejected

**Notes:**

---

**Item Number** 54

**Commentor Name:** Kasslin

**Page Number** 4

Mika

**Line Number:** 11

**Description of Edi**

Replace 3.5 with 4.2

**Reason for Edit:**

Fits CEPT recommendations and covers all the bands.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 55

**Commentor Name:** Kasslin

**Page Number** 4

Mika

**Line Number:** 13

**Description of Edi**

Replace "near line-of-sight" with "non line-of-sight"

**Reason for Edit:**

Non line-of-sight operation is also possible, not restricted to near line-of-sight.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 56

**Commentor Name:** Kasslin

**Page Number** 4

Mika

**Line Number:** 13

**Description of Edit**

Replace "require" with "benefits from"

**Reason for Edit:**

There is no direct need for NLOS operation, though signal attenuation from partial obstructions is still low enough to be technically compensated for (=solution for NLOS operation). This feature improves the system performance.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 2

**Commentor Name:** Abu-Dayya

**Page Number** 4

Adnan

**Line Number:** 17

**Description of Edit**

Replace "NLOS blockage" with "channel characteristics"

**Reason for Edit:**

A more meaningful metric in link design.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 123

**Commentor Name:** Trinkwon

**Page Number** 4

David

**Line Number:** 17

**Description of Edit**

Replace "NLOS" with "Non Line-of-Sight, Near Line-of-Sight and Line-of-Sight"

**Reason for Edit:**

The commercial objective (already achieved by some conventional FWA systems) is Non Line-of-Sight, especially in shorter range urban / cluttered environments.  
Near LOS and pure LOS is commercially tolerable / preferable in suburban and rural deployments where range or propagation through foliage is more critical. The air interface must be able to cope with all three types of deployment, simultaneously if possible.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 124

**Commentor Name:** Trinkwon

**Page Number** 4

David

**Line Number:** 18

**Description of Edit**

Insert "regulatory" in front of "and atmospheric conditions".

**Reason for Edit:**

Regulatory restrictions on bandwidth, power, coexistence, sharing and other licensing criteria can significantly affect the air interface, and can vary from country to country.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 57

**Commentor Name:** Kasslin  
Mika

**Page Number** 4

**Line Number:** 19

**Description of Edit:**

Insert after conditions. "Figure <as inserted below> shows an example deployment configuration. The base station can serve individual buildings, multiple subscribers in multiple buildings (using multiple radio links), or multiple subscribers in a single building by use of a single radio link and further in-building distribution systems. It shows the use of a repeater and route diversity in order to provide coverage in difficult areas.  
This does not imply the use of these features in all systems. However it does require the capability to implement them if required, and leave them out if not."

**Reason for Edit:**

This figure displays the typical deployment configuration of HIPERACCESS and is more comprehensive than the currently shown figure, which depicts a specific scenario. This should also be our basis in the interest of convergence of standards

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 157

**Commentor Name:** Wachira  
Muya

**Page Number** 4

**Line Number:** 24

**Description of Edit:**

Replace "require near line-of-sight (NLOS)" by "will be required to support both line-of-sight (LOS) and non line-of-sight" (NLOS)"

**Reason for Edit:**

To permit universal applicability of the standard.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 58

**Commentor Name:** Kasslin  
Mika

**Page Number** 5

**Line Number:** 0

**Description of Edit:**

Replace figure 2-1 with figure 4-3 from TR 101 177 V1.1.1 (1998-05) by ETSI/BRAN/HIPERACCESS

**Reason for Edit:**

This figure displays the typical deployment configuration of HIPERACCESS and is more comprehensive than the currently shown figure, which depicts a specific scenario. This should also be our basis in the interest of convergence of standards

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 59

**Commentor Name:** Kasslin  
Mika

**Page Number** 5

**Line Number:** 6

**Description of Edit:**

Delete lines 6 to 12: "The base station" through "possible."

**Reason for Edit:**

The antenna solution is the manufacturer's and providers turf, not to be mandated by 802.16.3.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**



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**Item Number** 125

**Page Number** 5

**Line Number:** 7

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Insert "or adaptive array (spacial reuse)" between "shaped sector" and "antenna"

**Reason for Edit:**

Spatial reuse will be an important technical; possibility for meeting the challenging spectral efficiency and economic deployability criteria for 802.16.3 target markets.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 127

**Page Number** 5

**Line Number:** 9

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Replace sentence with " Omnidirectional antenna are often used as an initial (low capacity, low cost) base-station in competitive overlay or rural deployments, but might be enhanced later to sectored configurations to increase capacity or range as customer penetration / loadings or distances dictate. It might also be necessary to reconfigure coverage from a single "Super-cell" to a multi-cell coverage plan at some point in the life of a base station, while minimising the number and cost of customer units wjich need re-pointing or re-installation.

**Reason for Edit:**

802.16.3 deployments are nothing like conventional mobile or LMDS-like coverage / deployment plans, and special measures must be taken to ensure the lowest cost configuration at differing / evolving points in the evolution of the access network and its associated businesses.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 126

**Page Number** 5

**Line Number:** 10

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Delete "highly"

**Reason for Edit:**

FWA customer antennae are typically 15 - 30 degree beamwidth to assist with low cost / complexity deployment processes, especially with a esirable capabil;ity for customer installability or technicians with minimal training / skills.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 128

**Page Number** 5

**Line Number:** 13

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Replace "are" with "might be"

**Reason for Edit:**

Omni-Directional and adaptive array antenna confugrations are equally probable in future FWA/BWA deployments, for economic and deployability / capacity management reasons.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 60

**Commentor Name:** Kasslin  
Mika

**Page Number** 5

**Line Number:** 13

**Description of Edi**

Delete the beginning of the sentence starting with "Since the base" through "oriented". Start the sentence with "Multiple base station radios will likely,".

**Reason for Edit:**

The antenna solution is the manufacturer's and providers turf, not to be mandated by 802.16.3.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 129

**Commentor Name:** Trinkwon  
David

**Page Number** 5

**Line Number:** 14

**Description of Edi**

Insert "might" between "and" and "even".

**Reason for Edit:**

This is implementation dependent, and can change.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 163

**Commentor Name:** Wachira  
Muya

**Page Number** 5

**Line Number:** 23

**Description of Edi**

Remove the sentence starting on line 23, and also the following sentence.

**Reason for Edit:**

From a standards perspective, there is no need to differentiate between outdoor and indoor units. That is an implementation issue. At the subscriber end, the antenna could even be indoors, and at the BTS end, everything except the antenna might be indoors.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 61

**Commentor Name:** Kasslin  
Mika

**Page Number** 5

**Line Number:** 23

**Description of Edi**

Delete lines 23 to 26: "Also" through "document."

**Reason for Edit:**

The decision on an IDU/ODU vs. an ODU solution itself is entirely outside the scope of this document.  
\*\*\*Editor's note: Rejected because of duplicate comment from Kostas\*\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** rejected

**Notes:**

**Item Number** 62

**Page Number** 6

**Line Number:** 0

**Commentor Name:** Kasslin  
Mika

**Description of Edi**

In Figure 2-2 delete the drawings inside the SS and BS boxes and delete the terms IDU and ODU.

**Reason for Edit:**

The decision on an IDU/ODU vs. an ODU solution itself is entirely outside the scope of this document.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 13

**Page Number** 6

**Line Number:** 12

**Commentor Name:** Freedman  
Avi

**Description of Edi**

Add optional Central Control Station and more base station to diagram

**Reason for Edit:**

The diagram may be adequate for 802.16.1 but it is too simplistic for 802.16.3, where there is high influence between stations. A diagram similar to the ETSI TM4 reference diagram should be used.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 130

**Page Number** 6

**Line Number:** 12

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Amend Figure 2-2 to show :

- a) Local Power within the SS box, supplying the IDU and ODU.
- b) Multiple ODU's per IDU at the BS
- c) Remote IDU's from the BS IDU. These Remote units / antenna would be located away from the BS site to improve coverage / economics in range or capacity limited deployments.
- d) The BS IDU might not be located at the BS - it might be at another location (which might be the same as the public switch / router)
- e) The switch / router might not be public - it might be a private / corporate edge device which might, or might not have public network gateways / connections behind it.

**Reason for Edit:**

To reflect economic / service characteristics of the 802.16.3 target markets and existing FWA practice / experience in many countries.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 167

**Page Number** 6

**Line Number:** 12

**Commentor Name:** Wachira  
Muya

**Description of Edi**

In the figure, remove the reference to IDU and ODU.

**Reason for Edit:**

From a standards perspective, there is no need to differentiate between outdoor and indoor units. That is an implementation issue.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 131

**Page Number** 6

**Line Number:** 26

**Commentor Name:** Trinkwon  
David

**Description of Edi**

- a) Delete "within a channel" (Line 26) and "more than one subscriber could share a downstream channel" (Lines 27,28)
- b) Delete "if subscriber stations share a channel" (Lines 28,29)
- c) Change "bandwidth" to "capacity" (Line 31)

**Reason for Edit:**

In FWA/BWA for the 802.16.3 target markets, customer units are always in contention for capacity / bandwidth (not channels in the frequency or radio sense). Not all downstream methods are "broadcast" - beamforming techniques can address individual customers for improved simultaneous frequency reuse within the same cell.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 63

**Page Number** 6

**Line Number:** 26

**Commentor Name:** Kasslin  
Mika

**Description of Edi**

Delete lines 26 through 29: "In the" through "contention-oriented bus," and start the sentence with "802.16.3 protocols".

**Reason for Edit:**

This text is both fluff (who cares about similarities) and the poor arbitrary usage of the word channel might be mis-interpreted as implicitly mandating FDD.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 42

**Page Number** 6

**Line Number:** 29

**Commentor Name:** Jansson  
Leif

**Description of Edi**

Delete lines 29 to 32

**Reason for Edit:**

This text is to fluffy.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 169

**Page Number** 6

**Line Number:** 33

**Commentor Name:** Wachira  
Muya

**Description of Edi**

Propose to replace this section by:

Section 3: Service Capabilities

An 802.16.3 system SHALL support fixed wireless access to IP networks at bit rates of up to 10 Mbit/s. Voice services will be carried as "voice over IP."

**Reason for Edit:**

To generalize the field of application of the 802.16.3 systems. We need to focus on services capabilities so that operators may build services according to their own market requirements.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 50

**Page Number** 7

**Line Number:** 0

**Commentor Name:** Jansson

Leif

**Description of Edi**

Change to mandatory.

**Reason for Edit:**

This is important for a good BWA system.

\*\*Editor's note: Rejected because the change request does not specify what to change\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** rejected

**Notes:**

---

**Item Number** 24

**Page Number** 7

**Line Number:** 10

**Commentor Name:** Goldhammer

Marianna

**Description of Edi**

Change the phrase starting with "The MAC and PHY protocols" with:"The MAC and PHY protocols will not have explicit support for each and every service, due to the fact that generic data streams SHALL be used for transport. The MAC and PHY protocols SHALL provide for QoS service specific support. Service specific QoS meaning is very low BER for data services, delay for real time services, etc.

**Reason for Edit:**

Clarification

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 14

**Page Number** 7

**Line Number:** 17

**Commentor Name:** Freedman

Avi

**Description of Edi**

Add "mainly" between "be" and "packet".

**Reason for Edit:**

There is no reason to assume nor to limit voice services to Voice over packets. Other mechanisms may be found to be better.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 65

**Page Number** 7

**Line Number:** 18

**Commentor Name:** Kasslin

Mika

**Description of Edi**

Delete lines 18 to 21: "The consumer" through "services")"

**Reason for Edit:**

The statement does not provide any valuable information.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 15

**Commentor Name:** Freedman  
Avi

**Page Number** 7

**Line Number:** 18

**Description of Edi**

Change "will be recovered" with "may be recovered"

**Reason for Edit:**

See above

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 132

**Commentor Name:** Trinkwon  
David

**Page Number** 7

**Line Number:** 21

**Description of Edi**

Change to "(supporting FAX and analog modem services)"

**Reason for Edit:**

Customers will continue to have / use analog modems over any presented "voice" port / circuit. The air interface might need to dynamically allocate appropriate resources to accommodate the modem transmissions at up to V.90 rates.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 66

**Commentor Name:** Kasslin  
Mika

**Page Number** 7

**Line Number:** 25

**Description of Edi**

Delete the entire subsection 3.1.1.1

**Reason for Edit:**

These statements here add nothing but fluff. The requirements for telephony services are sufficiently dealt with in the QoS section. The statement before this subsection already refers there, so there's no need to repeat that here without any hard values.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 16

**Commentor Name:** Freedman  
Avi

**Page Number** 7

**Line Number:** 29

**Description of Edi**

change "will be provided by VoIP" to "might be provided by VoIP"

**Reason for Edit:**

See above.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 25

**Commentor Name:** Goldhammer  
Marianna

**Page Number** 7

**Line Number:** 32

**Description of Edi**

Insert after business). "The required bandwidth is minimized with VoIP, the associated codecs providing a very good compression: 8kb/s for G.729, 6.3kb/s for G.723. The compression result is the increase of the delay.

**Reason for Edit:**

To make clear what is VoIP rate

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 99

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 7

**Line Number:** 34

**Description of Edi**

-second bullet, should be modified to read,

"Delay - as apparent to the end user, the amount of delay and delay variation MUST be kept within acceptable limits. Again the specific amount of delay and delay variation acceptable is based on the QoS sold to the end user."

**Reason for Edit:**

To include delay variation and improve English

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 27

**Commentor Name:** Goldhammer  
Marianna

**Page Number** 7

**Line Number:** 34

**Description of Edi**

Change "MUST" with "SHOULD"

**Reason for Edit:**

The delay amount is depending on many factors, the MAC being only one of them. The delay amount, due to echo cancellers used with VoIP, is not extremely critical.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 28

**Commentor Name:** Goldhammer  
Marianna

**Page Number** 7

**Line Number:** 36

**Description of Edi**

Insert after the conversation. "The QoS requirements should take into account the characteristics of the VoIP technology: codec end-to-end delay of 50ms for 10ms frame (G.729), 120ms for 30ms frame (G.723), the possibility to transmit concatenated voice packets, the mandatory use of echo cancellers.

**Reason for Edit:**

Give a feeling of what VoIP delay is

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 29

**Commentor Name:** Goldhammer  
Marianna

**Page Number** 7

**Line Number:** 39

**Description of Edi**

Insert new paragraph with bullet: BER level The MAC and PHY protocols SHOULD provide for a reasonable BER Level for voice services. BER of 10-4 is sufficient for voice services and 10-5 for FAX.

**Reason for Edit:**

Make clear the BER issue

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 30

**Commentor Name:** Goldhammer  
Marianna

**Page Number** 8

**Line Number:** 6

**Description of Edi**

Insert new numbered paragraph: Internet protocol properties  
Bullet: Packet length - the IP datagrams are characterized by variable length. The MAC protocols MUST support efficiently variable length packets.  
Bullet: Bit Error Rate - the TCP/IP protocol, as known from literature, drops its performance by 90% when the packet error rate reaches 10%. The MAC and PHY protocols MUST provide means for realible data transport, the BER target for cellular deployment SHELL be 10-9, equivalent to the performance of wired networks.

**Reason for Edit:**

important issue

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 100

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 8

**Line Number:** 9

**Description of Edi**

Insert before this line Section  
"3.1.1.1.1.1 ATM Protocol Services

The 802.16.3 system MUST transport constant bit rate(CBR), non-real-time variable-bit-rate(non-rt VBR), real-time variable-bit-rate(rt VBR) and ABR ATM services."

**Reason for Edit:**

Important MAN based services

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 133

**Commentor Name:** Trinkwon  
David

**Page Number** 8

**Line Number:** 10

**Description of Edi**

Add "including always on, ad hoc and on-demand communication in either or both directions "

**Reason for Edit:**

This ha important connotations for non-circuit oriented concentrated air interface access systems, and will be increasing important to support alerts, telemetry and appliance / control functions in residential and small business environments.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**



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**Item Number** 101

**Page Number** 8

**Line Number:** 13

**Commentor Name:** Kostas  
Demosthenes

**Description of Edit:**

Delete this sentence

**Reason for Edit:**

No basis given for prejudging now other services' requirements

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 102

**Page Number** 8

**Line Number:** 16

**Commentor Name:** Kostas  
Demosthenes

**Description of Edit:**

Delete lines 17 through 33 of this Section

**Reason for Edit:**

This is informational text on a specific user or the 802.16.3. PHY and MAC and thus does not belong in this requirements document

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 31

**Page Number** 9

**Line Number:** 0

**Commentor Name:** Goldhammer  
Marianna

**Description of Edit:**

Delete right column, avoiding the MAC layer for DAVIC

**Reason for Edit:**

Video is a service that should be supported exactly in the same way as other services

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 67

**Page Number** 9

**Line Number:** 0

**Commentor Name:** Kasslin  
Mika

**Description of Edit:**

Delete both DAVIC and DIGITAL AUTO/VIDEO from the right column in the figure.  
\*\*Editor's note: Rejected because of duplicate comment from Goldhammer\*\*

**Reason for Edit:**

These titles and references are misleading and irrelevant. It is impossible to guarantee services if a parallel Video stream gobbles up bandwidth without consulting the MAC. Digital audio/video should run on top of the MAC, not alongside.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** rejected

**Notes:**

---

**Item Number** 17

**Page Number** 9

**Line Number:** 28

**Commentor Name:** Freedman  
Avi

**Description of Edit:**

Change "DAVIC" to "DAVIC or other"

**Reason for Edit:**

No reason to limit the convergence layer to DAVIC.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 32

**Page Number** 9

**Line Number:** 45

**Commentor Name:** Goldhammer  
Marianna

**Description of Edi**

Insert: The IEEE 802.16.3 protocol stack SHALL be the same for all the supported services.

**Reason for Edit:**

It is no reason to provide special means to the VIDEO service, which is not the main application and generally the allocated bandwidth size will not permit video service offering

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 135

**Page Number** 10

**Line Number:** 3

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Replace "In the downstream direction ? more than one subscriber station" with  
  
"Since customer units will contend for capacity to/from one or more base stations,

**Reason for Edit:**

To reflect the deployment, capacity management and economic characteristics for the 802.16.3 target markets.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 103

**Page Number** 10

**Line Number:** 6

**Commentor Name:** Kostas  
Demosthenes

**Description of Edi**

sentence beginning on this line should read,  
  
"Note that the function of the MAC layer can include error correction by retransmission, or Automatic Repeat Request(ARQ)."

**Reason for Edit:**

In the below 11GHz bands ARQ should be a MAC requirement as it very effectively meets the needs of many applications.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 68

**Page Number** 10

**Line Number:** 6

**Commentor Name:** Kasslin  
Mika

**Description of Edi**

Delete lines 6 to 8: "Note that" through "layer."  
\*\*Editor's note: Rejected because of duplicate comment from Kostas\*\*

**Reason for Edit:**

ARQ shouldn't be ruled out already in this phase.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** rejected

**Notes:**

---

**Item Number** 104

**Page Number** 10

**Line Number:** 7

**Commentor Name:** Kostas  
Demosthenes

**Description of Edi**

Delete sentence starting on this line

**Reason for Edit:**

MAC needs to support ARQ

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

---

**Item Number** 69

**Page Number** 10

**Line Number:** 12

**Commentor Name:** Kasslin  
Mika

**Description of Edi**

Delete " and DAV" in the sentence starting on line 11: "Like the"

**Reason for Edit:**

DAV (Digital Audio/Video?) should run on top of the MAC, any MAC convergence layer does not have to deal with its needs.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 34

**Page Number** 10

**Line Number:** 16

**Commentor Name:** Goldhammer  
Marianna

**Description of Edi**

Insert paragraph 6 Wireless media characteristics  
Sub-paragraph 6.1 Duplex model  
Paragraph start The radio regulations permit two access modes:  
Frequency Division Duplex - FDD and Time Division Duplex -  
TDD. The MAC and PHY protocol MUST support both FDD  
and TDD duplex modes. Spectral efficiency is maximized in  
FDD with full-duplex operation, while in TDD with means to  
avoid collocation problems and more complex interference  
scenarios. The PHY and MAC protocols MUST provide for full  
duplex operation, while preserving the QoS, BER and spectral  
efficiency requirements for data and voice traffic. The MAC and  
PHY protocols MUST provide means to resolve the collocation  
and interference problems in TDD deployment.

**Reason for Edit:**

Missing paragraph

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 36

**Commentor Name:** Goldhammer  
Marianna

**Page Number** 10

**Line Number:** 16

**Description of Edi**

Insert paragraph 6.3 Cellular deployment  
New paragraph In cellular deployment, due to interference, the system spectral efficiency can be considerably lowered. The PHY and MAC protocols SHOULD permit good frequency reuse factors, providing at least 2bit/s/cell. In order to reduce the interference level, the PHY and MAC protocols MUST permit power control per subscriber up-link and SHOULD permit power control per subscriber down-link. The PHY and MAC protocols SHALL permit real-time changing of power levels, as function of propagation conditions, in order to use the minimum power needed for the target BER.

**Reason for Edit:**

Missing paragraph

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 35

**Commentor Name:** Goldhammer  
Marianna

**Page Number** 10

**Line Number:** 16

**Description of Edi**

Insert paragraph 6.2 Channelization  
New paragraph The standardization bodies providing channelization recommendations are ITU-R, CEPT and FCC. The allocated bandwidth per operator varies between 5MHz and 120MHz. In Europe, the typical allocated bandwidth is 14MHz. The operators target a good frequency reuse factor, using 4-6 sectors for Base Stations. The Base Station bandwidth per sector can be between 1.75MHz and 7MHz in in CEPT countries and between 2MHz and 6MHz in MMDS. The MAC and PHY protocols MUST permit the operation with channel spacing per sector of 1.75, 3.5 and 7MHz when using ETSI masks and 2, 3, 5 and 6MHz when using other masks. The typical value for performance analysis SHOULD be 3.5MHz for ETSI mask and 3MHz for MMDS mask.

**Reason for Edit:**

Missing paragraph

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 3

**Commentor Name:** Abu-Dayya  
Adnan

**Page Number** 10

**Line Number:** 20

**Description of Edi**

replace "will be a difficult problem for" with "will be a requirement for"

**Reason for Edit:**

The target markets "residential and small businesses" mandate a non-line-of-sight requirement. Hence, the airlink should be robust in multipath environments.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 4  
**Page Number** 10  
**Line Number:** 21

**Commentor Name:** Abu-Dayya  
Adnan

**Description of Edi**

Delete "The 802.16.3 system capacity ...will also be difficult"

**Reason for Edit:**

Not a very meaningful sentence; serves no purpose.

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** unresolved  
**Notes:**

**Item Number** 44  
**Page Number** 10  
**Line Number:** 22

**Commentor Name:** Jansson  
Leif

**Description of Edi**

Delete "local LOS obstruction"

**Reason for Edit:**

The target performance levels shall be higher.

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** unresolved  
**Notes:**

**Item Number** 136  
**Page Number** 10  
**Line Number:** 26

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Add "in particular, the activities being carried out within the Joint Rapporteur Group (JRG) 8A/9B (with references etc)

**Reason for Edit:**

To draw specific attention to this important group.

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** unresolved  
**Notes:**

**Item Number** 170  
**Page Number** 10  
**Line Number:** 31

**Commentor Name:** Wachira  
Muya

**Description of Edi**

Replace "provide the peak capacity from 2-10 Mbps " to "provide the capacity from 1-10 Mbps "

**Reason for Edit:**

To accommodate the narrower channel bandwidths that might be required to work into realistic frequency re-use plans in areas where spectrum is limited, e.g. MMDS operators with only a few channels, 3.5 GHz band where 802.16.3 system must share 25 MHz with legacy circuit-switched FWA systems.

**Date Received:** 4/28/00      **Date Resolved:**  
**Comment Type:** Technical      **Resolution Status:** unresolved  
**Notes:**

**Item Number** 144

**Page Number** 10

**Line Number:** 31

**Commentor Name:** Trinkwon

David

**Description of Edi**

Change "2 to 10Mb/s" to "up to 5Mb/s in either or both directions"

**Reason for Edit:**

PAR used 2-10Mb/s to denote the aggregate (shared) channel rate. This part of the FRD refers to the capacity delivered to an individual residential or SME customer location, and is meant to be comparable to DSL or cable modems in realistic wireline deployments

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 137

**Page Number** 10

**Line Number:** 32

**Commentor Name:** Trinkwon

David

**Description of Edi**

Change "subscriber station" to "residential or SME customer location"

**Reason for Edit:**

Clarification

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 71

**Page Number** 11

**Line Number:** 5

**Commentor Name:** Kasslin

Mika

**Description of Edi**

Delete sentence "Note that" through "a year."

**Reason for Edit:**

Irrelevant information.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 138

**Page Number** 11

**Line Number:** 21

**Commentor Name:** Trinkwon

David

**Description of Edi**

Change "foliage" to "reflections and foliage"

**Reason for Edit:**

Completeness

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 72

**Page Number** 11

**Line Number:** 27

**Commentor Name:** Kasslin

Mika

**Description of Edi**

Insert after "see section)." "In a multicell environment intercell interference can not be neglected as an outage increasing factor."

**Reason for Edit:**

There should be a requirement providing that some level of interference resilience is supported.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 172

**Page Number** 11

**Line Number:** 33

**Commentor Name:** Wachira  
Muya

**Description of Edi**

Replace "from about 99.9 To 99.94% " with "from about 99.9 To 99.99% "

**Reason for Edit:**

To be consistent with market requirements and technology capabilities.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 139

**Page Number** 11

**Line Number:** 35

**Commentor Name:** Trinkwon  
David

**Description of Edi**

BER should be changed from 10e-9 to 10e-6 or 10e-7 in accordance with ITU FWA recs (see JRG8a/9B inputs)

**Reason for Edit:**

10e-9 is typical; for feeder links and trunk facilities for T1-T3 CBR pipes. It is not typical / necessary / economic for distribution / access connections to residential; / SME customers, or packet-based links / services.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 45

**Page Number** 11

**Line Number:** 44

**Commentor Name:** Jansson  
Leif

**Description of Edi**

Delete the hole sentence "In a telephony network" through "300 ms [15][17][75]"

**Reason for Edit:**

This is not requirement on a BWA system.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 37

**Page Number** 12

**Line Number:** 4

**Commentor Name:** Goldhammer  
Marianna

**Description of Edi**

Delete from row 4 to row 14

**Reason for Edit:**

Telephony will be delivered using VoIP, and the requirements here are relevant only for classic 64kb/s voice.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 145

**Page Number** 12

**Line Number:** 13

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Change jitter specification to 20mS

**Reason for Edit:**

More realistic requirement for certain forms of implementation.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 140

**Commentor Name:** Trinkwon

**Page Number** 12

David

**Line Number:** 23

**Description of Edi**

Delete 'channel'

**Reason for Edit:**

802.16.3 links might not be "channel" oriented (e.g OFDM or CDMA)

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 141

**Commentor Name:** Trinkwon

**Page Number** 12

David

**Line Number:** 26

**Description of Edi**

Repalce Bullets with :

Bullet : Radio Range, width of sector(s) and/or adaptive array parameters  
Bullet : Upstream / downstream link and user rates / asymmetry/ dynamics  
Bullet : Types of Duplex (FDD, TDD, Paired TDD)  
Bullet : Types of Modulation / Multiple Access (DS,SS etc, TDMA, CDMA, FDMA, SDMA or combinations)

**Reason for Edit:**

To differentiate from traditional 802.16.1 concepts and embrace traditional plus emerging FWA practices / experiences.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 73

**Commentor Name:** Kasslin

**Page Number** 12

Mika

**Line Number:** 26

**Description of Edi**

Delete bullet points on lines 26 and 27.

**Reason for Edit:**

Implementation issue, leave to manufacturers and providers (range determined by number of sectors and antenna type etc.)

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 19

**Commentor Name:** Freedman

**Page Number** 13

Avi

**Line Number:** 1

**Description of Edi**

All reference should be revisited

**Reason for Edit:**

Most of the reference are not releavant to 802.16.3

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**



**Item Number** 38

**Commentor Name:** Goldhammer  
Marianna

**Page Number** 13

**Line Number:** 21

**Description of Edi**

Change from table the 10ms in row 7 to "1/4 of the VoIP codec end-to-end delay"

**Reason for Edit:**

Requirements non consistent with VoIP

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 146

**Commentor Name:** Trinkwon  
David

**Page Number** 13

**Line Number:** 21

**Description of Edi**

In Table 1 :

- a) All one-way delays should be 20ms
- b) Delete circuit-based parameters - rest of FRD stipulates packet based (and maybe cell based) services only.
- c) Change BER 10 - 8 on last line to 10 - 6
- d) Add note that MOS refers to 4.5 scale (not 5.0 scale)

**Reason for Edit:**

More realistic requirements.  
\*\*Editor's note: (d) rejected because no specific change specified\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** rejected

**Notes:**

**Item Number** 173

**Commentor Name:** Wachira  
Muya

**Page Number** 13

**Line Number:** 21

**Description of Edi**

In Table 1 column 4 row 7 replace "10 ms " with "100 ms "

**Reason for Edit:**

Delay of 10 ms for packet-oriented connections is too short. VoIP can tolerate up to about 150 ms delay, as long as frame error rate is below about 1%.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 107

**Commentor Name:** Kostas  
Demosthenes

**Page Number** 14

**Line Number:** 20

**Description of Edi**

Change Sentence to read  
"The 802.16.3 protocols SHALL define a set of parameters to meet the required QoS parameters for the supported services (e.g., ATM CBR Services and IP) "

**Reason for Edit:**

To include the support of additional services

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 108

**Page Number** 14

**Line Number:** 32

**Commentor Name:** Kostas  
Demosthenes

**Description of Edi**

The last sentence parenthesis should read  
(such as those required for IP- and ATM-based services)

**Reason for Edit:**

To include the support of additional services to IP

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 147

**Page Number** 15

**Line Number:** 3

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Replace "CMIP/CMIS" with SNMP/CORBA

**Reason for Edit:**

More appropriate for Access networks / environments, especially for residential and SME markets

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 142

**Page Number** 15

**Line Number:** 15

**Commentor Name:** Trinkwon  
David

**Description of Edi**

This needs further elaboration / discussion / contribution. Power control loops are probably fundamental for most FWA / customer unit applications and it must not be possible to exceed a maximum permitted power level. Also, if a SU is "shut down" it must be possible to re-enable it (without visiting the customer location) to diagnose and fix / dispatch etc. There are also functions necessary to handle Primary / secondary power conditions, software downloads/ upgrades, performance and error statistics, and to re-program the allowed base station / channel lists for a given SU - or all Sus in a given area / subset of criteria.

**Reason for Edit:**

Expand the requirement to better match the needs of the 802.16.3 target markets.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

**Item Number** 143

**Page Number** 15

**Line Number:** 27

**Commentor Name:** Trinkwon  
David

**Description of Edi**

Needs further expansion / contribution to handle installation, service suspend/resume, relocation, geolocation and anti-cloning processes.

**Reason for Edit:**

To better match the needs for the 802.16.3 target markets.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**

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**Item Number** 175

**Commentor Name:** Wachira  
Muya

**Page Number** 17

**Line Number:** 0

**Description of Edi**

Once the revision of the main text is complete, Tables 2 to 4 should be revised to correspond with the changes made in the document.

**Reason for Edit:**

Consistency with the text in section 1 to 9.  
\*\*Rejected because editor will revise the requirements appendices\*\*

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** rejected

**Notes:**

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**Item Number** 148

**Commentor Name:** Trinkwon  
David

**Page Number** 17

**Line Number:** 8

**Description of Edi**

Delete 2nd, 3rd and 4th bullets relating to 802 conformance.

**Reason for Edit:**

Not relevant / practicable for FWA/BWA applications for residential and SME markets.

**Date Received:** 4/28/00

**Date Resolved:**

**Comment Type:** Technical

**Resolution Status:** unresolved

**Notes:**