Project	IEEE P802.16 Broadband Wireless Access Working Group		
Title	System Requirements Editing Status Following Session #2		
Date Submitted	10 August, 1999		
Source	Brian Petry 3Com 12230 World Trade Dr. San Diego CA, 92128	Voice: Fax: E-mail:	858-674-8533 858-674-8733 brian_petry@3com.com
Re:	Editor's Report: Comment Summary from session #2		
Abstract	This is a capture of the comment database from session #2 which shows the resolution of each comment.		
Purpose	Informational		
Notice	This document has been prepared to assist the IEEE P802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.		
Release	The contributor acknowledges and accepts that this contribution may be made publicly available by 802.16.		

At 802.16 session #2 in Denver, 4-6 August 1999, the System Requirements Task Group met to resolve outstanding comments on the System Requirements Working Draft, 802.16s0-99/2 (**http://grouper.ieee.org/groups/802/16/sysreq/contributions/80216s0-99_2.pdf)**. Going into the meeting 130 comments were outstanding. Of these, 35 were left over from session #1 (before we had a formal comment submission process) and noted in the document with square brackets. 95 others were received using a formal comment submission process (**http://grouper.ieee.org/groups/802/16/sysreq/contributions/80216sc-99_27.pdf**) and were entered into a database. One more comment was added to the database at session #2 (for the editor to change "802.16

Please note that some comments may have been neglected. At session #1, several people submitted comments to the editor (**http://grouper.ieee.org/groups/802/16/sysreq/contributions/80216sc-99_25.pdf)**. The call for contributions and comment submittal instructions (**http://grouper.ieee.org/groups/802/16/sysreq/contributions/80216sc-99_27.pdf**) instructed the commentors to resubmit their comments using the formal submission process, but some people may have missed those instructions and did not submit their comments. I suggest that people who submitted comments at session #1 review their comments and submit them at the next call for comments.

Following are some statistics for comments resolved at session #2 which were in the database:

27 Accepted
14 Accepted-Modified (Accepted, but with modifications made by the group)
10 Accepted-Duplicate (Duplicate of some other comment)
12 Conferred to Group (Conferred to an ad-hoc group to resolve the comment)
10 Conferred to Editor (Conferred to the editor to make changes: typos, etc.)
23 Rejected
96 Total

Following is a database report sorted by the commentor's name, page # and line #.

Disclaimer: the "Note" field, if present are miscellaneous notes made by the editor and may not represent the consensus of the group.

Comments by name/page #/line#

Page Number: 4
Line Number: 33
Item Number: 60
Commentor Name: Arefi Reza

Description of Edit
Delete the last sentence ("Furthermore, the thing that's doing ...") all the way to the end of the paragraph.

Reason for Edit:
This is inconsistent with Figure 2-1 in which multi-line POTS is considered as an application for small businesses. Also, it might prove economical in certain international markets. Let's not rule it out and leave it to the equipment manufacturers.

Date Received: 7/30/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 11
Line Number: 12
Item Number: 59
Commentor Name: Arefi Reza

Description of Edit
Replace "around 30 GHz" with "in Ka-band"

Reason for Edit:
802.16 will focus on 20-40 GHz and will cover BWA systems in 24 and 38 GHz as well as 30 GHz.

Date Received: 7/30/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes: (non consensus) Not in accordance/consistent with PAR

Page Number: 4
Line Number: 32
Item Number: 68
Commentor Name: Arnstein Donald

Description of Edit
Change sentence to read: An 802.16 network generally provides access to another network, and by itself is not intended to form a closed, end-to-end communication system.

Reason for Edit:
An 802.16 network may contain many end-to-end links in addition to connections to other networks.

Date Received: 8/2/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted-modified
Notes: use "access network" instead of "network"

Page Number: 6
Line Number: 24
Item Number: 69
Commentor Name: Arnstein Donald

Description of Edit
Change should to could, in principle,

Reason for Edit:
Mandatory provision of voice or fractional T1s could be costly in an 802.16 network intended for trunking.

Date Received: 8/2/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted-duplicate
Notes:

Page Number: 6
Line Number: 44
Item Number: 70
Commentor Name: Arnstein Donald

Description of Edit
Delete sentence beginning with, Since connecting

Reason for Edit:
Assumption that ATM converter will be expensive may not be true in a few years and is not appropriate for a requirements document.

Date Received: 8/2/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 11
Line Number: 16
Item Number: 71
Commentor Name: Arnstein Donald

Description of Edit
After end of sentence on line 16, insert: 802.16 systems will generally be multiple-cell frequency reuse systems.

Reason for Edit:
These figures show a single cell of a possible multiple cell system coverage that could extend for many miles to cover a city center or suburban area with frequency reuse patterns that depend on terrain and blockage. In addition, access to the core network could be distributed over many BTS's which might be interconnected. Thus the topology for the reference model in 3-3 should include multiple interconnected base stations.

Date Received: 8/2/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 23
Line Number: 35
Item Number: 74
Commentor Name: Arnstein Donald

Description of Edit
Replace lines 35 through 4 on the next page with the following: Since 802.16 networks employ an air interface, the network designer must be cognizant of threats to security associated with the physical layout of BTS's and subscriber terminals, antenna patterns, ability of an intruder to monitor and intercept transmissions, as well as securityand financial vulnerability of applications and services listed in Section 2.0

Reason for Edit:
These paragraphs attempt to apply a solution ("strong cryptographic algorithms") to a problem which has not been defined. To this end, it is suggested that 802.16 form a security forum working group reporting to Systems Requirements to report back on an agreed-upon set of threats to 802.16 networks and the resulting matrix of derived requirements associated with those threats. The columns of the matrix will be Target Markets and Applications, the rows of the matrix will be Security Mechanisms, including authentication, capacity protection, authorization, privacy, and conditional access.

Date Received: 8/2/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes:

Page Number: 20
Line Number: 1
Item Number: 48
Commentor Name: Arunachalam Arun

Description of Edit
Move sections 6.1 and 6.2 into 6.3.

Reason for Edit:
The present text assumes that QoS and CoS are almost synonymous and classes definition is kept open. In my proposal, the classes defined are service classes that are provided in radio access networks (generic) which will be mapped to various classes of service used by ATM and IP core networks . Thus, present sections 6.1 and 6.2 should be moved to section 6.3 that addresses mapping. The exact mapping will be agreed upon by service providers using SLAs.

Date Received: 7/29/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** conferred to group
Notes:

Page Number: 20
Line Number: 1
Item Number: 47
Commentor Name: Arunachalam
Arun

Description of Edit

Sections 3 and 4 of contribution (80216sc-99_28.pdf) should be inserted in original section 6.0

Reason for Edit:

The present text assumes that QoS and CoS are almost synonymous and classes definition is kept open. In my proposal, the classes defined are service classes that are provided in radio access networks (generic) which will be mapped to various classes of service used by ATM and IP core networks . Thus, present sections 6.1 and 6.2 should be moved to section 6.3 that addresses mapping. The exact mapping will be agreed upon by service providers using SLAs.

Date Received: 7/29/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** conferred to group
Notes: Conferred to ad hoc group; J. Mollenauer chair

Page Number: 32
Line Number: 1
Item Number: 49
Commentor Name: Arunachalam
Arun

Description of Edit

Add reference to revised M.1079 (June 1999) titled "PERFORMANCE and Quality
of Service (QoS) REQUIREMENTS FOR INTERNATIONAL MOBILE TELECOMMUNICATIONS-2000 (IMT-2000)

Reason for Edit:

Add reference

Date Received: 7/29/99 **Date Resolved:** 8/6/99
Comment Type: Editorial **Resolution Status:** conferred to group
Notes: Conferred to QoS group

Page Number: 25
Line Number: 26
Item Number: 54
Commentor Name: Chang
Chi-Yuan

Description of Edit

Delete lines 26-33.

Reason for Edit:

These statements are implementation specific. In system requirement, we only define what shall be supported,
NOT how to support.

Date Received: 7/29/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 1
Line Number: 24
Item Number: 62
Commentor Name: Costa
Jose

Description of Edit

Replace "802.16 network" by "802.16 radio interface" and do a global change in the document.

Reason for Edit:

To be consistent with the generally understood meaning of the terms "network" and "radio interface."

Date Received: 8/2/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** accepted-modified
Notes: Modification: deleted parenthetical comment

Page Number: 11
Line Number: 18
Item Number: 57
Commentor Name: Duhamel Robert

Description of Edit

Insert the following:

Guideline for service providers choice of rain model;

Rain availability is crucial for the network design goals i.e. minimum toll quality DS0 and minimizing the number of hubs deployed. A 99.995% availability goal seems to be a good trade off as a function of the number of hubs deployed. Rain rate estimation is statistical and not an exact science. This fact makes the selection of which rain model to use i.e. ITU, Crane or local rain rate difficult. Therefore the service provider should carefully consider the choice of models used. In general it is probably better to err on the side of being conservative in which case the Crane model would be selected over the ITU model. The Crane Model accounts for more rain loss vs. the ITU model. Actual field test data should be taken as a further guide to assist in validating a rain model. Local rain data may show that both the ITU and Crane models are not conservative enough. In high rain rate regions where 99.999% availability may be required special designs with higher gain antennas for example more narrow beamwidth Hub sector antennas and higher gain subscriber antennas may be required. This is one approach that will allow a compromise in network hub costs.

Reason for Edit:

Technical expansion to present text.

Date Received: 7/30/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes: (non consensus) rework requirements text and place in proper point in doc

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Page Number: 12
Line Number: 29
Item Number: 58
Commentor Name: Duhamel Robert

Description of Edit

Insert the following:

The ACI value should conform to EIA TSB10-F Annex B "Methods for Computing the Interference Objectives of Digital Receivers i.e. the C/N threshold should degrade less than or equal to 1 DB in a worst case C/N faded condition that includes both ACI and Co-channel RFI. The power spectral mask should conform to FCC Part 101.111 a (2) ii for frequencies greater than 15 GHz.

The Hub and Subscriber radio equipment should be developed for spectrally efficient channelization schemes. Two approaches are submitted for consideration:

1. Minimize the frequency separation between adjacent channels. The channel plan would include multiple contiguous adjacent channels on the same polarity within a sector with no available cross polarization discrimination. Guard bands between channels may be required.

2. Stagger the assignment of frequencies. Using a 4 90 degree sector Hub as an example, the 0 degree azimuth sector would have every odd numbered channel assigned on a given antenna polarity. The 180 degree sector would have an even numbered channel assigned on the opposite polarity. This wold allow relaxed RF/IF channel filtering characteristics. The drawback to this approach is that it would require more complex frequency management than approach 1. Testing would need to be performed to verify the feasibility.

Reason for Edit:

Technical expansion to present text.

Date Received: 7/30/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes: rework into requirements-oriented text

Page Number: 12
Line Number: 32
Item Number: 56
Commentor Name: Duhamel Robert

Description of Edit

Comment: Upstream contention is an issue for FDMA.

Insert the following:

Upstream contention is NOT an issue for FDMA or TDMA circuits because these circuits are dedicated. However if DAMA is used in conjunction with FDMA or TDMA dedicated circuits than contention is an issue. Request for unused channels may be on a contention basis.

Reason for Edit:

Technical expansion to present text

Date Received: 7/30/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes: contention issue addressed elsewhere; too specific to MAC/PHY impl.

Page Number: 18
Line Number: 37
Item Number: 55
Commentor Name: Duhamel Robert

Description of Edit

Comment: "Availability in access portion. POTS toll quality at least G826.F1189"
Insert the following:
Minimum Voice Circuit Performance Requirements: The BER value recommended in CCITT G.821 is a minimum value. For speech communication, a value of 1 x 10-6 is considered adequate for excellent quality performance. When the value is worse than 1 x 10-6, the link is considered to be degraded and maintenance should be initiated to improve the BER. After 10 seconds at a value of 1 x 10-3, the link is considered to be unavailable (i.e. failed).

Reason for Edit:

Technical expansion to present text.

Date Received: 7/20/99 **Date Resolved:** 5/8/99
Comment Type: Technical **Resolution Status:** conferred to group
Notes:

Page Number: 23
Line Number: 12
Item Number: 80
Commentor Name: Guillemette Phil

Description of Edit

Insert "Resource Management"

Reason for Edit:

Resource management was forgotten in the list of management functions.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** rejected
Notes:

Page Number: 23
Line Number: 30
Item Number: 81
Commentor Name: Guillemette Phil

Description of Edit

Delete "The 802.16 working group may consider ... security specification [68][3]."

Reason for Edit:

Serves no purpose in terms of system requirements.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Editorial **Resolution Status:** accepted
Notes:

Page Number: 23
Line Number: 30
Item Number: 82
Commentor Name: Guillemette Phil

Description of Edit
Delete lines 35 through 42.

Reason for Edit:
The security requirements that are "mandatory" and those that "optional" will be highlighted in 8.1 subsections.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 23
Line Number: 31
Item Number: 83
Commentor Name: Guillemette Phil

Description of Edit
Insert after 1st sentence, "Some procedures are mandatory for 802.16 compliance and others are optional. Whether a procedure is mandatory or optional will be specified in the 802.16 interoperability standard."

Reason for Edit:
This is just to highlight that not all security procedures are mandatory.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** rejected
Notes:

Page Number: 24
Line Number: 7
Item Number: 84
Commentor Name: Guillemette Phil

Description of Edit
Change lines 7 through 10 to

"There are two levels of authentication for an 802.16 network. The first level of authentication is when the STS authenticates itself with the BTS at the STS's network entry. This initial authentication must be very strong in order to prevent 'enemy' STS from entering the network or an 'enemy' BTS from emulating a real BTS. Once the initial authentication at this level is complete, future authentication at this level can be a little more relaxed. This level of authentication must be provided by the 802.16 MAC layer.

The second level of authentication is between the subscriber and the BWA network. This may or may not be the responsibility of the 802.16 protocols. It may be handled by higher layer protocols.

An additional level of authentication may exist between the other two. This additional layer is the authentication of the subscriber with the STS. This is beyond the scope of the 802.16 protocol."

Reason for Edit:
This change is to reflect the different levels of authentication.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted-modified
Notes:

Page Number: 24
Line Number: 17
Item Number: 85
Commentor Name: Guillemette Phil

Description of Edit
Delete lines 17 through 31.

Reason for Edit:
Authorisation is directly related to authentication and therefore does not require to be addressed seperately.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** rejected
Notes:

Page Number: 24
Line Number: 38
Item Number: 86
Commentor Name: Guillemette Phil

Description of Edit	Reason for Edit:
Delete "Public-key-based mechnisms are in wide use today."	Adds no value.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 6
Line Number: 30
Item Number: 108
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Replace current lines 30-35 with: Note that many forms of digital telephony are possible: * Narrowband/Voice Frequency Telephony - POTS (supporting FAX services), Centrex, ISDN BRI * NxDSO Trunking - Fractional DS1/E1 to PBXs and/or data equipment, ISDN PRI * Full DS1/E1 - transparent mapping including all framing information	So that this section will completely reflect the types of digital telephony that an 802.16 can carry.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 6
Line Number: 37
Item Number: 98
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Remove paragraph	The digital telephony section does not need to address ATM in general.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Editorial **Resolution Status:** accepted
Notes:

Page Number: 7
Line Number: 5
Item Number: 99
Commentor Name: Jarrett David

Description of Edit	Reason for Edit:
Remove Paragraph	The digital telephony section does not need to address ATM in general.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Editorial **Resolution Status:** accepted
Notes:

Page Number: 8
Line Number: 6
Item Number: 97
Commentor Name: Jarrett David

Description of Edit

Insert a bullet:

* Timing - (Fractional) DS1/E1 services require timing to be delivered from the network to the end user's equipment, whether the timing is synchronous with the network (i.e., based on the serving network's clock) or asynchronous with the network (based on a clock other than the serving network's clock). For synchronous timing, the timing source shall be traceable to a Primary Reference Source (PRS). For asynchronous timing, the timing on the circuits at the output of the access network shall be +/- 150 ppm for DS1 (ANSI T1.403-1995) and +/- 50 ppm for E1 (ITU-T G.703). Note that the DS1 spec is relaxed for older equipment; newer equipment can meet the more stringent +/- 32 ppm spec. In either case, DS1s carried over the acccess network shall have jitter and wander characteristics as specified in ITU-T G.823, and E1s as specified in G.824.

Reason for Edit:

Timing is a necessary function for these circuit service.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted-modified
Notes: Saved the first couple sentences; conferred numbers/detail to ad hoc group

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Page Number: 8
Line Number: 29
Item Number: 100
Commentor Name: Jarrett David

Description of Edit

Remove text beginning with "Although few ATM networks ..." until the end of the paragraph.

Reason for Edit:

This text is opinion and does not place any requirements.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Editorial **Resolution Status:** accepted
Notes:

Page Number: 11
Line Number: 12
Item Number: 106
Commentor Name: Jarrett David

Description of Edit

Change text to
"... vicinity around 30 GHz, but possibly in the range from 10 GHz to 66 GHz, to connect a ..."

Reason for Edit:

The Interoperability PAR mentions that this work "applies to systems operating in the vicinity of 30 GHz but is broadly applicable to systems operating between 10 and 66 GHz." The System Requirements should be consistent.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Editorial **Resolution Status:** accepted-modified
Notes: wording slightly modified

Page Number: 17
Line Number: 32
Item Number: 101
Commentor Name: Jarrett David

Description of Edit

Change to the following
"... receive adequate power 100% of the time and not counting equipment availability."

Reason for Edit:

Equipment availability will also impact overall link availability. It should be clear that this specification only covers impacts on availability due to propagation effects.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 18
Line Number: 2
Item Number: 102
Commentor Name: Jarrett David

Description of Edit
Add to the end of this paragraph:
"The 802.16 specifications shall not preclude the ability of the radio link to be engineered for different link availabilities, based on the preference of the system operator."

Reason for Edit:
The 802.16 specifications should not take away any deployment flexibility from the system operator.

Date Received: 8/3/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 22
Line Number: 14
Item Number: 107
Commentor Name: Jarrett David

Description of Edit
Change text to
"Minimum Cell Rate (MCR). The minimum cell rate supported by a connection (applies to ABR service only).

Reason for Edit:
The definition of MCR contained currently is not correct.

Date Received: 8/3/99 **Date Resolved:** 8/5/99
Comment Type: Editorial **Resolution Status:** conferred to group
Notes:

Page Number: 25
Line Number: 6
Item Number: 103
Commentor Name: Jarrett David

Description of Edit
Change to
"The 802.16 MAC supports 802 "universal" 48 bit addresses."

Reason for Edit:
Should not limit the 802.16 MAC to 6 Byte addresses - we should have the flexibility to specify a more byte efficient address for the MAC layer.

Date Received: 8/3/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted-duplicate
Notes:

Page Number: 25
Line Number: 26
Item Number: 104
Commentor Name: Jarrett David

Description of Edit
Remove through line 33

Reason for Edit:
Should not limit the 802.16 MAC to IEEE 6 Byte addresses - we should have the
flexibility to specify a more byte efficient address for the MAC layer.
Then, each over-riding service will have its address space converged to the MAC layer address.

Date Received: 8/3/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted-duplicate
Notes:

Page Number: 25
Line Number: 35
Item Number: 105
Commentor Name: Jarrett David

Description of Edit
Remove

Reason for Edit:
Should not limit the 802.16 MAC primitives to those for 802.2, since the latter do not have any support for timing or priority which are both needed in 802.16. In addition, other 802 MAC layers (e.g., 802.6, 802.9) already support an expanded set of MAC primitives.

Date Received: 8/3/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted-duplicate
Notes:

Page Number: 1
Line Number: 35
Item Number: 76
Commentor Name: Mascioli Tony

Description of Edit
Change "These bearer services impact directly" to "This system interoperability and compatibility impacts directly on

Reason for Edit:
more accurate terminology

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** rejected
Notes:

Page Number: 5
Line Number: 6
Item Number: 87
Commentor Name: Mascioli Tony

Description of Edit
Insert "Residential" into figure 2-1

Reason for Edit:
As it is today, the price points do not allow for an effective cost margin however, in the future, the price points should allow the residential market to be accessed.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** rejected
Notes: residences are not excluded from the figure (as well as hospitals, corporate headquarters, etc.) (not a consensus note)

Page Number: 6
Line Number: 11
Item Number: 88
Commentor Name: Mascioli Tony

Description of Edit
Delete "I. Frigui: delete this paragraph"

Reason for Edit:
We should not remove the ability to efficiently transport digital audio/video streams to subscribers. Otherwise we may be limiting the future applications of the 802.16 protocols and hinder their potential for success.

Date Received: 8/3/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted-duplicate
Notes:

Page Number: 6
Line Number: 24
Item Number: 90
Commentor Name: Mascioli Tony

Description of Edit
Delete "However, since an 802.16 network may ... radio is a dubious proposition."

Reason for Edit:
This sentence does not really belong here. It makes a statement that is true because of today's technology but will not hold true once technology advances. Also the reference to POTS should not be there.

Date Received: 8/3/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted-duplicate
Notes:

Page Number: 7
Line Number: 14
Item Number: 91
Commentor Name: Mascioli Tony

Description of Edit
Delete lines 14 through 32

Reason for Edit:
The properties of telephony services need not be defined within the scope of this document, instead refer to 2.2.2.2. This section should refer to bandwidth, delay and reliability only.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted-modified
Notes: deleted power bullet only

Page Number: 8
Line Number: 2
Item Number: 92
Commentor Name: Mascioli Tony

Description of Edit
Delete lines 2 through 5.

Reason for Edit:
The properties of telephony services need not be defined within the scope of this document, instead refer to 2.2.2.2. This section should refer to bandwidth, delay and reliability only.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** rejected
Notes: Group wanted to leave it

Page Number: 8
Line Number: 31
Item Number: 93
Commentor Name: Mascioli Tony

Description of Edit
Delete "Whether ATM will dominate the future ... may someday compete with ATM."

Reason for Edit:
This sentence has no relevance to the scope of this document and is purely speculative in nature.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted-duplicate
Notes:

Page Number: 11
Line Number: 18
Item Number: 94
Commentor Name: Mascioli Tony

Description of Edit
Delete "it is expected that the maximum usable range of 802.16 radios falls in the region of 5 to 15 Km."

Reason for Edit:
More realistic terrestrial applications are in the 1-3 Km range when considering such factors as QoS and appropriate SNR that maintains QoS and BER. Working group should derive appropriate propagation model.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 17
Line Number: 1
Item Number: 95
Commentor Name: Mascioli Tony

Description of Edit
Delete figure 5-1

Reason for Edit:
As the pico cell network is defined in figure 5-1, the complexity imposed on frequency planning, co-channel and adjacent frequency interference, impose a high penalty on the network management system. this in turn makes the end-to-end system more complex but would be suited for stand alone campus environments. Perhaps the pico cell network can be incorporated as an extension of the standard in the future.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 17
Line Number: 5
Item Number: 96
Commentor Name: Mascioli Tony

Description of Edit
Change "1-50 Mbps" to "2-155 Mbps"

Reason for Edit:
This change is for consistency with the remainder of the document.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted-modified
Notes: Changed the whole sentence.

Page Number: 17
Line Number: 6
Item Number: 77
Commentor Name: Mascioli Tony

Description of Edit
Delete "But 802.16 protocols should allow... " to and including line 14.

Reason for Edit:
These lines add no value to the 802.16 system requirements.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted-modified
Notes: Changed sentence to be more clear

Page Number: 17
Line Number: 31
Item Number: 78
Commentor Name: Mascioli Tony

Description of Edit
Change "(see section 5.4)" to "(see section 5.5)".

Reason for Edit:
error in reference

Date Received: 8/3/99 **Date Resolved:** 8/5/99
Comment Type: Editorial **Resolution Status:** accepted-duplicate
Notes:

Page Number: 20
Line Number: 15
Item Number: 79
Commentor Name: Mascioli Tony

Description of Edit

Insert "- frequency reuse
- antenna sectoring patterns
- digital baseband filtering
- type of modulation
- RF equipment
- back off power requirements
- traffic statistics/profiles
- average fade rate of the channel
- accurate rain fade prediction model"

Reason for Edit:

to creat a more complete list

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted-modified
Notes: only kept modulation types

Page Number: 18
Line Number: 5
Item Number: 72
Commentor Name: Myers William (Bill)

Description of Edit

Insert " A period of unavailable time begins at the onset of ten consecutive SES events based on the following definitions (cite G.826).

Severely Errored Second (SES) is defined as a one-second period which contains (30% errored blocks.

Errored Block (EB): A block is defined as a set of consecutive bits associated with the path. Consecutive bits may not be contiguous in time. A block is typified as data block containing an error detection code for in service performance monitoring. An errored block is a block in which one or more bits are in error."

Reason for Edit:

To define the unavailability start time for availability predictions consistent with ITU standards.

Date Received: 8/2/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** conferred to group
Notes:

Page Number: 18
Line Number: 25
Item Number: 73
Commentor Name: Myers William (Bill)

Description of Edit

Change title from "Error Rates" to "Error Performance".

Reason for Edit:

To define the unavailability start time for availability predictions consistent with ITU standards.

Date Received: 8/3/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 26
Line Number: 1
Item Number: 75
Commentor Name: Myers William (Bill)

Description of Edit	Reason for Edit:
Insert new paragraph: " x. MAC Functional Requirements The following describes the functional requirements to be performed by the wireless MAC. In conjunction with the PHY equipment, the MAC assures that QoS requirements for the wireless segment are met such as delay, delay variation, etc. and performs the following tasks. x.1 Framing and Timing x.2 Link Acquisition - Download to subscriber the local channel plan, data rate options, modulation options, FEC types, and timeslot arrangement employed at specific cell. - Establishes link at proper upstream power and frequency - Provide timeslot timing calibration. x.3 Link Maintenance - Provide upstream power control and frequency control (optional) to maintain specified error rate performance during link dynamics such as rain fades. - Provide timeslot timing control. - Interference detection and mitigation - Redundant hardware control x.4 Resource Allocation - Admission control for connections based on available resources. - Dynamic allocation of channels and timeslots according to traffic and traffic priority requirements. - Policying of traffic conflicts. - Buffer management x.5 Link Monitoring - Provide status of link performance (errored seconds, etc) - Provide status of hardware - Maintain status of bandwidth and resources available - Fault detection, isolation and correlation."	Basic functionality definition for the MAC sublayer is required at the system level.

Date Received: 8/2/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted-modified
Notes: Conferred to unresolved category; call for comments

Page Number: 0
Line Number: 0
Item Number: 110
Commentor Name: Petry Brian

Description of Edit	Reason for Edit:
Change occurances of "802.16 network" to "802.16 system"	Use concise terminology

Date Received: 8/4/99 **Date Resolved:** 8/4/99
Comment Type: Technical **Resolution Status:** conferred to editor
Notes:

Page Number: 1
Line Number: 2
Item Number: 63
Commentor Name: Petry Brian

Description of Edit	Reason for Edit:
Delete lines 2-5 (editor's note)	Editor's note shouldn't be relevant any more

Date Received: 8/1/99 **Date Resolved:**
Comment Type: Editorial **Resolution Status:** accepted
Notes:

Page Number: 1
Line Number: 16
Item Number: 64
Commentor Name: Petry Brian

Description of Edit

Change the rest of the paragraph from "The System Requirements will not" to: The System Requirements will not be published and sold by the IEEE. The requirements are binding to the future development of 802.16 air interface protocols. Thus the forthcoming MAC and PHY protocol standard must comply with the system requirements."

Reason for Edit:

To reflect the "binding" nature of the document, as decided by the sysreq task group at the Montreal session (#1).

Date Received: 8/1/99 **Date Resolved:** 8/4/99
Comment Type: Technical **Resolution Status:** accepted-modified
Notes:

Page Number: 1
Line Number: 20
Item Number: 66
Commentor Name: Petry Brian

Description of Edit

Capitalize the "requirements" words which we use.

Reason for Edit:

Call attention to explicit "requirements" language.

Date Received: 8/1/99 **Date Resolved:** 8/4/99
Comment Type: Technical **Resolution Status:** conferred to editor
Notes:

Page Number: 1
Line Number: 20
Item Number: 65
Commentor Name: Petry Brian

Description of Edit

Insert text:

Throughout this document, the words that are used to define the significance of particular requirements are capitalized. These words are:

"MUST" This word or the adjective "REQUIRED" means that the item is an absolute requirement..

"MUST NOT" This phrase means that the item is an absolute prohibition.

"SHOULD" This word or the adjective "RECOMMENDED" means that there may exist valid reasons in particular circumstances to ignore this item, but the full implications should be understood and the case carefully weighed before choosing a different course.

"SHOULD NOT" This phrase means that there may exist valid reasons in particular circumstances when the listed behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.

"MAY" This word or the adjective "OPTIONAL" means that this item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because it enhances the product, for example; another vendor may omit the same item.

Reason for Edit:

Define explicit "requirements" language

Date Received: 8/1/99 **Date Resolved:** 8/4/99
Comment Type: Technical **Resolution Status:** accepted-modified
Notes:

Page Number: 16
Line Number: 9
Item Number: 12
Commentor Name: Petry
Brian

Description of Edit	Reason for Edit:
Insert "not" before "to provide"	Correction of typo

Date Received: 7/20/99 **Date Resolved:** 7/20/99
Comment Type: Editorial **Resolution Status:** accepted
Notes:

Page Number: 2
Line Number: 8
Item Number: 16
Commentor Name: Sanders
Ray

Description of Edit	Reason for Edit:
Replace Modeel with Model	typo

Date Received: 7/28/99 **Date Resolved:** 8/4/99
Comment Type: Editorial **Resolution Status:** conferred to editor
Notes:

Page Number: 4
Line Number: 28
Item Number: 17
Commentor Name: Sanders
Ray

Description of Edit	Reason for Edit:
Replace sentence with the following: "BWA systems are not meant to focus on mobile telephone systems. Support for low speed voice channels such as Voice over IP, Voice over Frame Relay and similar services may be included."	To not proscribe possible future services that could be important to the market even though early-to-market systems may not include such services.

Date Received: 7/28/99 **Date Resolved:** 8/4/99
Comment Type: Technical **Resolution Status:** rejected
Notes: Deleted original sentence, but didn't accept additional text proposed by Ray.

Page Number: 4
Line Number: 41
Item Number: 18
Commentor Name: Sanders
Ray

Description of Edit	Reason for Edit:
Change "access point is for" to "access point may be"	To unambiguously include both individual and multiple users within the definition of the term "subscriber"

Date Received: 7/18/99 **Date Resolved:** 8/4/99
Comment Type: Editorial **Resolution Status:** rejected
Notes:

Page Number: 5
Line Number: 9
Item Number: 19
Commentor Name: Sanders
Ray

Description of Edit	Reason for Edit:
Change the lower limit on Mass Market Access Characteristics & Applications from 64 Kbps to <=64 Kbps	So that support for low speed channels such as Voice Over IP, et al are not precluded from support even though early systems may support only channels whose aggregate bandwidth is greater than or equal 64 Kbps.

Date Received: 7/18/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** conferred to editor
Notes: Modified: instead of <=64 Kbps, use < 2 Mbps

Page Number: 6
Line Number: 14
Item Number: 20
Commentor Name: Sanders Ray

Description of Edit
Change "and do not" to "and may"

Reason for Edit:
Although early systems may include only support for Digital Audio/Video Multicast from streams originating within the infrastructure network, it is plausible to assume that return path bandwidths (particularly for streaming audio) from a BWA remote terminal that is to be broadcast to a plurality of subscribers. The system requirements should not preclude this possibility.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes: (not consensus) doesn't form a logical sentence; nature of multicast is downstream

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Page Number: 6
Line Number: 36
Item Number: 21
Commentor Name: Sanders Ray

Description of Edit
Add a bullet paragraph with the following text: "Voice Over IP, Voice Over Frame Relay and similar services."

Reason for Edit:
To add services that need be supported in the BWA environment

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted-modified
Notes: Added Voice Telephony over ATM (VToA)

Page Number: 6
Line Number: 39
Item Number: 22
Commentor Name: Sanders Ray

Description of Edit
before the words "voice traffic' inert the words "packet-based"

Reason for Edit:
To support needed service types

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 7
Line Number: 2
Item Number: 23
Commentor Name: Sanders Ray

Description of Edit
Delete the sentence beginning "The unused channel’s bandwidth generally"

Reason for Edit:
Time Assigned Speech Interpolation (TASI) has been around for several decades as a means of using periods of silence in conversational speech dynamically. Similar systems are now employed in commercial Voice Over IP and Voice Over Frame Relay networks. Therefore, the sentence that was included is not literally true.

Date Received: 7/28/99 **Date Resolved:** 11/5/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 8
Line Number: 7
Item Number: 24
Commentor Name: Sanders Ray

Description of Edit
Change the word "does" to "do"

Reason for Edit:
grammar

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Editorial **Resolution Status:** conferred to editor
Notes:

Page Number: 8
Line Number: 39
Item Number: 25
Commentor Name: Sanders Ray

Description of Edit
Change the word "preserve" to the words "preserve or even enhance"

Reason for Edit:
A BWA system should not cause a degradation of ATM QoS features. However, where a bandwidth-on-demand mechanism can be included in the 802.16 MC/PHY layer standard, it is plausible to expect that certain ATM QoS features may be enhanced.

Date Received: 7/28/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** rejected
Notes:

Page Number: 13
Line Number: 8
Item Number: 26
Commentor Name: Sanders Ray

Description of Edit
Change the words "pereater to bypass" to "repeaters or reflectors"

Reason for Edit:
Reflectors have been used at microwave frequencies to bypass objects.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 13
Line Number: 28
Item Number: 27
Commentor Name: Sanders Ray

Description of Edit
The term "igure" should be "Figure"

Reason for Edit:
typo

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Editorial **Resolution Status:** accepted-duplicate
Notes:

Page Number: 13
Line Number: 33
Item Number: 28
Commentor Name: Sanders Ray

Description of Edit
Recommendation: A section or subsection should be devoted to repeater requirements. Actually, the word "repeater" may not be the best choice. The function of such a unit should be to aggregate duplex traffic between a base and a number of STS's. Such an aggregation station could be composed of either a radio repeater, or could be an STS to which a number of other (smaller) STS's are attached by means other than radio (e.g., wireline, optical or fiber).

Reason for Edit:
Line of Site restrictions imposed by BWA frequency range make it mandatory that the reach of any base station be extended by any cost effective means that should not be limited to radio.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes: Comment does not propose a concise change to the document. Perhaps Ray could propose a specific change.

Page Number: 14
Line Number: 16
Item Number: 29
Commentor Name: Sanders Ray

Description of Edit
Change the word "can" to "may"

Reason for Edit:
The word "can" may imply a mandatory requirement in some people's minds. This is not likely to be the intended meaning.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Editorial **Resolution Status:** accepted
Notes:

Page Number: 17
Line Number: 19
Item Number: 30
Commentor Name: Sanders Ray

Description of Edit	Reason for Edit:
Replace "for generic Internet access--" with "for generic Internet access such as Web browsing where servers are connected directly to a base station rather than at remote stations--"	As BWA networks grow in numbers and in bandwidth, there will be less assurance that servers will be attached only at base stations. This will likely be particularly true for corporate networks.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes:

Page Number: 17
Line Number: 31
Item Number: 33
Commentor Name: Sanders Ray

Description of Edit	Reason for Edit:
change "99.99%" to "99.999%"	To reduce ambiguity potential and to recognize that if a network's end-to-end availability objective is for 99.99%, a tighter limit is required for tandem network elements such as BWA systems.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes:

Page Number: 17
Line Number: 31
Item Number: 32
Commentor Name: Sanders Ray

Description of Edit	Reason for Edit:
change "see Section 5.4" to "see Section 5.5"	typo

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Editorial **Resolution Status:** conferred to editor
Notes:

Page Number: 17
Line Number: 31
Item Number: 31
Commentor Name: Sanders Ray

Description of Edit	Reason for Edit:
Change "maximum" to "worst case"	To reduce ambiguity potential and to recognize that if a network's end-to-end availability objective is for 99.99%, a tighter limit is required for tandem network elements such as BWA systems.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes:

Page Number: 19
Line Number: 2
Item Number: 34
Commentor Name: Sanders Ray

Description of Edit	Reason for Edit:
Change "16E-6" to "1.6E-8"	2E-4 / 1522 / 8 = 1.64 E-8

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** conferred to group
Notes: to CoS/QoS ad hoc

Page Number: 19
Line Number: 4
Item Number: 35
Commentor Name: Sanders Ray

Description of Edit	Reason for Edit:
Change 5.6E-9 to 7.1E-10	3E-7 / 53 / 8 = 7.1E-10

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** conferred to group
Notes:

Page Number: 19
Line Number: 8
Item Number: 36
Commentor Name: Sanders Ray

Description of Edit	Reason for Edit:
Add Note: BER for a BWA system is only one component of a network's end-to-end BER	Further analysis is required to determine definitive error rate requirements for BWA systems. It is not the case that "one size fits all".

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** conferred to group
Notes:

Page Number: 19
Line Number: 30
Item Number: 37
Commentor Name: Sanders Ray

Description of Edit	Reason for Edit:
Change "5usec/km" to "3.3 usec/km" and change "235 usec" to "16.7 usec"	Speed of radio propagation is close to 3E5 km/usec or 0.3 km/usec so that delay is 3.3 usec/km. The larger value of 5 usec/km appears nominally associated with non-wireless media.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 20
Line Number: 27
Item Number: 38
Commentor Name: Sanders Ray

Description of Edit	Reason for Edit:
Add the following: "A topic for further study is the need for RAKE receiver capability with BWA systems. It is true that narrow beamwidth antennas at remote sites reduce the effects of multipath transmission compared to other wireless systems such as cellular telephone systems, but even so, in built-up metropolitan areas with tall buildings, it is not clear that multipath effects can be neglected."	Currently service providers overcome multipath problems by careful antenna siting. For today's customer focus, this may be satisfactory. (Input from service providers is needed!) As the market expands, siting is likely to become more and more difficult.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes: We do not have data to support multipath (Gene says 15-25 dB down for first bounce from original signal). This is also implementation-specific: explai

Page Number: 20
Line Number: 42
Item Number: 39
Commentor Name: Sanders Ray

Description of Edit
Replace the sentence starting with "This form of allocation . . ." with "TDM bandwidth allocation may be performed dynamically to allow for both 1) turning up fixed bandwidth Permanent Virtual Circuits (PVCs) and 2) for dynamically changing bandwidth of a virtual circuit once it has been established."

Reason for Edit:
The use of PHY layer "mini-slots" makes this type of operation feasible and could lead to innovative support for higher level QoS needs.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** conferred to group
Notes:

Page Number: 21
Line Number: 17
Item Number: 40
Commentor Name: Sanders Ray

Description of Edit
Add "Video on Demand (VoD)" after the word "videoconferencing"

Reason for Edit:
As BWA data rates increase and video compression technology improves, VoD may well become an important service that should be anticipated within the 802.16 standard.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** conferred to group
Notes:

Page Number: 22
Line Number: 44
Item Number: 41
Commentor Name: Sanders Ray

Description of Edit
Add the following paragraph:
"The basic mechanism available within BWA systems for supporting QoS requirements is to allocate bandwidth to various services. BWA systems should include a mechanism that can support dynamically-variable-bandwidth channels and paths (such as those defined for ATM and IP environments)."

Reason for Edit:
To suggest that dynamic allocation mechanisms be explored within MAC and PHY deliberations.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** conferred to group
Notes:

Page Number: 23
Line Number: 19
Item Number: 42
Commentor Name: Sanders Ray

Description of Edit
Add after "discarding data," the following: "dynamically controlling bandwidth available to a user,"

Reason for Edit:
To clarify what "other appropriate means" might include

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 23
Line Number: 22
Item Number: 43
Commentor Name: Sanders Ray

Description of Edit	Reason for Edit:
Add to the end of the sentence the following: "or unauthorized system access"	A suggested additional system requirement.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes: Should be addressed in the security/authentication area

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Page Number: 25
Line Number: 8
Item Number: 44
Commentor Name: Sanders Ray

Description of Edit	Reason for Edit:
Add to sentence the following: "even though a multicast server may be located at a remote station"	To clarify that servers need not always be connected to a base station by collocation or connections to remote sites not a part of the BWA system.

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes:

Page Number: 25
Line Number: 27
Item Number: 45
Commentor Name: Sanders Ray

Description of Edit	Reason for Edit:
change "chouldbe" to "should be"	typo

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Editorial **Resolution Status:** conferred to editor
Notes:

Page Number: 12
Line Number: 26
Item Number: 67
Commentor Name: Shafer David

Description of Edit	Reason for Edit:
Delete Lines 26,27,30,31	This standard intends to address multiple spectrum allocations. One of the tasks of the PHY group should be to determine the proper duplexing method or methods. The duplexing method or methods chosen must meet the system requirements while being consistent with the recommended practices of the coexistence task group.

Date Received: 8/2/99 **Date Resolved:** 8/6/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 4
Line Number: 1
Item Number: 61
Commentor Name: Shirali Chet

Description of Edit

Inserting of the system Architecture diagram in the System Requirements document. (refer to Chet's diagram).

Reason for Edit:

In the IEEE Austin plenary meeting, an out line was prepared where in all the members had agreed that there is a requirement of an architecture diagram. Margarete Ralston from Wytec inc., had contributed a system architecture diagram, a modification of which was supposed to be in the SR draft document. Phasecom is contributing a generic reference diagram, which should be part of the draft SR document. It is felt that this diagram or its modification could be part of all the documents produced by the PHY and the MAC group as well.

Date Received: 7/30/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** rejected
Notes: (non-consensus note) Frequencies may not be correct; client-side specifics may be too limiting; physical configuration may not be appropriate; term "L

Page Number: 9
Line Number: 6
Item Number: 52
Commentor Name: van Waes Nico

Description of Edit

Change lines 6-15 to:
The popularity and importance of Internet Protocol (IP) service needs no argument. The importance of the IP service will further increase in the near future with technologies such as VoIP and real time multi-media emerging.

A great majority of the traffic transported in a 802.16 network will be IP. Therefore the 802.16 network must transport variable length IP datagrams efficiently. Both IP version 4 and 6 must be supported. Especially for efficient transport of IPv6, TCP/IP header compression over the air interface should be supported.

The 802.16 IP service must provide support for real-time and non-real-time services. It should be possible to support the emerging IP QoS efforts, Differentiated Services [43, 44] and Integrated Services [42].

Reason for Edit:

Rather than stating what are the key factors of IP, the sysreq should state what the standard should facilitate.

Date Received: 7/29/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted-modified
Notes:

Page Number: 9
Line Number: 16
Item Number: 50
Commentor Name: van Waes Nico

Description of Edit

Delete lines 16-17 "* Cable TV ... services [12]."

Reason for Edit:

This is a statement about DOCSIS, not a system requirement.

Date Received: 7/29/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted-duplicate
Notes:

Page Number: 9
Line Number: 19
Item Number: 51
Commentor Name: van Waes
Nico

Description of Edit
Delete lines 19-26.

Reason for Edit:
The first part is a philosophical discussion , not a system requirement. The second part, whether 802.16 will support both IP and ATM, does not belong in this IP description section.

Date Received: 7/29/99 **Date Resolved:** 8/5/99
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 9
Line Number: 27
Item Number: 53
Commentor Name: van Waes
Nico

Description of Edit
Delete lines 27-30.

Reason for Edit:
This statement lacks meaning, since there is no definition of what comprises "best effort delivery".

Date Received: 7/29/99 **Date Resolved:**
Comment Type: Technical **Resolution Status:** accepted
Notes:

Page Number: 14
Line Number: 1
Item Number: 13
Commentor Name: van Waes
Nico

Description of Edit
Change obectives to objectives.

Reason for Edit:
typo

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Editorial **Resolution Status:** conferred to editor
Notes:

Page Number: 14
Line Number: 38
Item Number: 14
Commentor Name: van Waes
Nico

Description of Edit
Change loical to logical

Reason for Edit:
typo

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Editorial **Resolution Status:** conferred to editor
Notes:

Page Number: 14
Line Number: 39
Item Number: 15
Commentor Name: van Waes
Nico

Description of Edit
Change orderin to ordering

Reason for Edit:
typo

Date Received: 7/28/99 **Date Resolved:** 8/5/99
Comment Type: Editorial **Resolution Status:** conferred to editor
Notes: