

Document under Review: **P802.16e/D5**

Ballot Number: **0000754**

Comment Date

Comment # **1902**

Comment submitted by: James

Gilb

Member

2004-11-04

Comment Type **Technical, Binding**

Starting Page # **339**

Starting Line # **14**

Fig/Table#

Section **E**

This annex has empty subclauses, e.g., E.1.1

Suggested Remedy

Either delete the subclause or provide the missing information for all of the empty subclauses.

Proposed Resolution

Recommendation:

Recommendation by

Reason for Recommendation

Resolution of Group

Decision of Group: Rejected

Reason for Group's Decision/Resolution

This comment was rejected due to the comment's lack of specific text for the empty subclauses, however, it is recognized that such text is needed and it is currently under development by members of the working group.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions i) to do

Remove undefined clauses E.1.1 and E.1.2?

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D5**

Ballot Number: **0000754**

Comment Date

Comment # **1874**

Comment submitted by: James

Gilb

Member

2004-11-04

Comment Type **Technical, Binding** Starting Page # **332** Starting Line # **vario** Fig/Table# Section **C**

The MSC references 2 commands, I-am-host-of and MSS-info-req, that do not appear in this document or in 802.16-2001, are they defined in 802.16-2004?

Suggested Remedy

If they are not defined in 802.16-2004, these need to be replaced with the actual command name that is passed over the air.

Proposed Resolution

Recommendation:

Recommendation by

Reason for Recommendation

Resolution of Group

Decision of Group: Rejected

Reason for Group's Decision/Resolution

These messages are backbone messages which are not passed over the air. Appendix C is purely informative text. It is expected that these messages will be defined further in P802.16g.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions |) none needed

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D5**

Ballot Number: **0000754**

Comment Date

Comment # **1867**

Comment submitted by: James

Gilb

Member

2004-11-04

Comment Type **Technical, Binding** Starting Page # **319** Starting Line # Fig/Table# Section **C**

[Page 319-332; various lines]

The following commands are in the figure, but not the document: HO-notification-*, HO-pre-*. Are they defined in 802.16-2004?

Suggested Remedy

If they are not defined in 802.16-2004, these need to be replaced with the actual command name that is passed over the air.

Proposed Resolution

Recommendation:

Recommendation by

Reason for Recommendation

Resolution of Group

Decision of Group: Rejected

Reason for Group's Decision/Resolution

These messages are backbone messages which are not passed over the air. Appendix C is purely informative text. It is expected that these messages will be defined further in P802.16g.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions |) none needed

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D5**

Ballot Number: **0000754**

Comment Date

Comment # **1010**

Comment submitted by: James

Gilb

Member

2004-11-04

Comment Type **Technical, Binding** Starting Page # **147** Starting Line # **25**

Fig/Table# Section **7.8.1.2.2**

The cross refernces (See 7.x.x.x) are missing the subclause numbers.

Suggested Remedy

Provide the correct subclause numbers here and throughout the draft, e.g., search for x.x.

Proposed Resolution

Recommendation:

Recommendation by

Reason for Recommendation

Resolution of Group

Decision of Group: Accepted

Provide the correct subclause numbers here and throughout the draft, e.g., search for x.x.

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions c) instructions unclear

Editor's Questions and Concerns

What are the correct subclauses that are supposed to go in here?

Editor's Action Items

Document under Review: **P802.16e/D6**

Ballot Number: **0001010**

Comment Date

Comment # **3002**

Comment submitted by: James

Gilb

Member

2005/03/09

Comment Type **Technical, Binding** Starting Page # **Gen** Starting Line # Fig/Table# Section **T**

I submitted 18 comments, but only 3 were answered in the files that were provided. I am repeating essentially all of my comments because the group did not bother to address them.

Suggested Remedy

The group needs to make sure that all comments are addressed before going out to ballot.

Proposed Resolution

Recommendation: **Accepted**

Recommendation by

Reason for Recommendation

Resolution of Group

Decision of Group: **Accepted**

All comments, including those of Mr. Gilb, have always been, and will continue to be, addressed.

In the previous recirculation package, we recirculated the responses to all four of Mr. Gilb's comments that he had marked as "Technical". We did not recirculate the responses to the 14 comments Mr. Gilb had marked as "Editorial". In the current recirculation, we will provide access to the responses to editorial as well as technical comments.

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions |) none needed

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D6**Ballot Number: **0001010**

Comment Date

Comment # **3385**

Comment submitted by: James

Gilb

Member

2005/03/09

Comment Type **Technical, Binding** Starting Page # **332** Starting Line # **vario** Fig/Table# Section **C**

"The MSC references 2 commands, I-am-host-of and MS-info-req, that do not appear in this document or in 802.16-2001. It is incorrect to justify it by claiming a forward reference to an unpublished draft, i.e., 802.16g."

Suggested Remedy

"Either define the commands or delete them. If the MSCs don't work without them, then delete the MSCs because they can't possibly inform the reader if they use undefined commands"

Proposed Resolution Recommendation: **Accepted**

Recommendation by

Remove Figure C20

Reason for Recommendation**Resolution of Group**Decision of Group: **Accepted**

Remove Figure C20

Reason for Group's Decision/Resolution**Group's Notes****Group's Action Items**

Refer these figures over to 802.16g

Editor's Notes

Editor's Actions k) done

Editor's Questions and Concerns**Editor's Action Items**

Document under Review: **P802.16e/D6**

Ballot Number: **0001010**

Comment Date

Comment # **3384**

Comment submitted by: James

Gilb

Member

2005/03/09

Comment Type **Technical, Binding** Starting Page # **319** Starting Line # **vario** Fig/Table# Section **C**

{pages 319-332:}

"The following commands are in the figure, but not the document: HO-notification-*, HO-pre-*. It is incorrect to justify it by claiming a forward reference to an unpublished draft, i.e., 802.16g."

Suggested Remedy

"Either define the commands or delete them. If the MSCs don't work without them, then delete the MSCs because they can't possibly inform the reader if they use undefined commands"

Proposed Resolution

Recommendation: **Accepted-Modified**

Recommendation by

Remove Figure C6 through Figure C12, Figure C18, Figure C19.

Reason for Recommendation

Resolution of Group

Decision of Group: **Accepted-Modified**

Remove Figure C6 through Figure C12, Figure C18, Figure C19.

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Refer these figures over to 802.16g

Editor's Notes

Editor's Actions k) done

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D6**Ballot Number: **0001010**

Comment Date

Comment # **3044**

Comment submitted by: James

Gilb

Member

2005/03/09

Comment Type **Editorial (was Technical)** Starting Page # **14** Starting Line # **26** Fig/Table# Section **6.3.2.1.1**

"Two different formats are used for the figures describing the headers, which is confusing to the reader."

Suggested Remedy

Replace figure 19 and all similar figures with one like Figure 20a..

Proposed ResolutionRecommendation: **Accepted-Modified**

Recommendation by

Replace figure 19 with one like Figure 20a..

Reason for Recommendation**Resolution of Group**Decision of Group: **Accepted-Modified**

Replace figure 19 with one like Figure 20a..

Note: The Group has reclassified this comment as Editorial.

Reason for Group's Decision/Resolution**Group's Notes****Group's Action Items****Editor's Notes**

Editor's Actions k) done

Editor's Questions and Concerns**Editor's Action Items**

Document under Review: **P802.16e/D6**

Ballot Number: **0001010**

Comment Date

Comment # **3003**

Comment submitted by: James

Gilb

Member

2005/03/09

Comment Type **Technical, Binding** Starting Page # **all** Starting Line # **vario** Fig/Table# Section **various**

The level of editorial problems with this draft is such that even a 40 day ballot would not be sufficient to list all of them in detail.

Suggested Remedy

Spend some time to fix the draft so that it adheres to the 2005 IEEE Style Guide and have a 40 day ballot to review the draft.

Proposed Resolution Recommendation: **Accepted-Modified** Recommendation by

Reason for Recommendation

Resolution of Group Decision of Group: **Accepted-Modified**

Substantial editorial changes are being implemented in the standard and will comply with 2005 style guidelines.

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes Editor's Actions 1) none needed

The 2005 Style Manual is actually in the "review" stages at this point. Sections of it still have to be presented to ProCom. The important change that is being implemented now is to the reference clause. The title has been changed to "Normative References," which I did, but the group will have to change the introductory paragraph as needed. See the Style Guide for more info.

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D6**

Ballot Number: **0001010**

Comment Date

Comment # **3323**

Comment submitted by: James

Gilb

Member

2005/03/09

Comment Type **Technical, Satisfied (was**

Starting Page # **259**

Starting Line # **5**

Fig/Table#

Section

8.4.5.3.21.3

"The table, 258l, is missing its title."

Suggested Remedy

Add a title.

Proposed Resolution

Recommendation: **Accepted**

Recommendation by

Add the tile: Skip IE

Reason for Recommendation

Resolution of Group

Decision of Group: **Accepted**

Add the tile: Skip IE

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions k) done

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D6**Ballot Number: **0001010**

Comment Date

Comment # **3250**

Comment submitted by: James

Gilb

Member

2005/03/09

Comment Type **Technical, Binding** Starting Page # **184** Starting Line # **12** Fig/Table# Section **7.2.2.2**

The cross refernces (See 7.x.x.x) are missing the subclause numbers.

Suggested Remedy

"Provide the correct subclause numbers here and throughout the draft, e.g., search for x.x. This was supposed to be fixed from the last revision, yet many remain in the current draft. I counted at least 6."

Proposed Resolution Recommendation: Accepted**Recommendation by**

"Provide the correct subclause numbers here and throughout the draft, e.g., search for x.x. This was supposed to be fixed from the last revision, yet many remain in the current draft. I counted at least 6."

Reason for Recommendation**Resolution of Group****Decision of Group: Accepted**

Provide the correct subclause numbers here and throughout the draft, e.g., search for x.x.

Reason for Group's Decision/Resolution**Group's Notes****Group's Action Items****Editor's Notes****Editor's Actions** k) done**Editor's Questions and Concerns****Editor's Action Items**

Document under Review: **P802.16e/D6**

Ballot Number: **0001010**

Comment Date

Comment # **3363**

Comment submitted by: James

Gilb

Member

2005/03/09

Comment	Type	Technical, Satisfied (was	Starting Page #	275	Starting Line #	1	Fig/Table#	Section	8.4.5.4.10.6
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There is a picture here without a figure title. It looks suspiciously like Figure 229c.

Suggested Remedy

Probably the best thing to do here is to delete the extra picture. Even better would be for the draft to have been read through by a few people before it was sent for ballot with so many obvious mistakes.

Proposed Resolution Recommendation: **Accepted**

Recommendation by

Delete the first figure (page 275).

Reason for Recommendation

Resolution of Group

Decision of Group: Accepted

Delete the first figure (page 275).

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions k) done

You need a title for the second (now the first) figure in 8.4.5.4.10.6. Also, you will need to provide electronic copies of these figures with your submittal to the IEEE, since they are not drawn into the Frame file.

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D6**

Ballot Number: **0001010**

Comment Date

Comment # **3468**

Comment submitted by: James

Gilb

Member

2005/03/09

Comment Type **Technical, Binding**

Starting Page # **446**

Starting Line # **12**

Fig/Table#

Section

8.4.9.2.5.1

It is not proper to mark a subclause as informative (see 2005 IEEE Style Guide).

Suggested Remedy

[Move this text to an informative Annex.](#)

Proposed Resolution

Recommendation:

Recommendation by

Reason for Recommendation

Resolution of Group

Decision of Group: Rejected

[Same issue was addressed by comment 3457.](#)

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions |) none needed

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D7**

Ballot Number: **0001037**

Comment Date

Comment # **4379**

Comment submitted by: Brian

Kiernan

Member

2005/04/28

Comment Type **Technical, Binding** Starting Page # **573** Starting Line # **1** Fig/Table# Section **12**

I object to the resolution of comments #3520 and #3521, both of which dealt with system profiles.

Without adoption of definitive system profiles 802.16e cannot, by any stretch of the imagination, be called a standard. It can't even be called a "cookbook". In reality it is more like a shopping list from which anybody can pick any combination of non-interoperable ingredients.

Definitive system profiles are absolutely required. Despite the shortcomings identified as the reason for their rejection, the system profiles proposed during the last recirc were at least a starting point in defining an interoperable set of parameters.

Suggested Remedy

Adopt contribution C80216e-05_60r2 or any subsequent updates or revisions to it.

Proposed Resolution

Recommendation:

Recommendation by

Reason for Recommendation

Resolution of Group

Decision of Group: Superseded

Reason for Group's Decision/Resolution

See comment 4353.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions |) none needed

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D7**Ballot Number: **0001037**

Comment Date

Comment # **4353**Comment submitted by: **Rajesh****Bhalla**

Member

2005/04/28

Comment Type **Technical, Satisfied (was** Starting Page # **527** Starting Line # **30** Fig/Table# Section **12.4**

The Comment #1851,#1859,#1860,#1861 in 80216-05_010r1.pdf did not provide specific resolution. I believe that specific system profiles should be included in the standard for mobility operation.

Suggested Remedy

Adopt contribution C80216e-05_60r2 or the latest revision.

Proposed ResolutionRecommendation: **Accepted-Modified**

Recommendation by

Table 422d, change Operation mode from "TDD (licensed bands only)" to "TDD/FDD (licensed bands only)"

Under "12.4.2.2 Basic Packet PMP..." add the following:

-- Support for PKM v2

Reason for Recommendation**Resolution of Group**Decision of Group: **Rejected****Reason for Group's Decision/Resolution**

Vote: 10-12

Reason: The proposed profile is incomplete.

Group's Notes**Group's Action Items****Editor's Notes**

Editor's Actions |) none needed

Editor's Questions and Concerns**Editor's Action Items**

Document under Review: **P802.16e/D7**Ballot Number: **0001037**

Comment Date

Comment # **4387**Comment submitted by: **Remi****Chayer**

Member

2005/04/28

Comment	Type	Starting Page #	Starting Line #	Fig/Table#	Section
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I object to the resolution of Comment 3250 in 80216-05_12r3 (which was related to comments #1850, #1859, #1861 and #1864 in 80216-05_010). It is important to include complete profiles in the document. Contribution C80216e-05_60r2 was a start.

Suggested Remedy

The working group should start developing complete profiles based on the input from the participants.

Proposed Resolution**Recommendation:****Recommendation by****Reason for Recommendation****Resolution of Group****Decision of Group: **Rejected-Duplicate******Reason for Group's Decision/Resolution**[See 4353](#)**Group's Notes****Group's Action Items****Editor's Notes****Editor's Actions** |) none needed**Editor's Questions and Concerns****Editor's Action Items**

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5003**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment Type **Technical, Binding**Starting Page # **3**Starting Line # **1**

Fig/Table#

Section **1.4.2**

It is not proper to mark a subclause as informative (see 2005 IEEE Style Guide).

Suggested Remedy

Move this text to an informative Annex.

Proposed ResolutionRecommendation: **Accepted-Modified**

Recommendation by

*[In 1.4.2 Network model for mobile communications (informative), page 3, line 1, move entire subclause to new Annex F as informative text]**[In 3. Definitions, page 10, line 16, add to end of section as:]*'**3.84 backbone network**: communication mechanism by which two or more base station (BS)s communicate to each other, and may also include communication with other networks. The method of communication for backbone networks is outside the scope of this standard.'**Reason for Recommendation****Resolution of Group**Decision of Group: **Accepted-Modified***[In 1.4.2 Network model for mobile communications (informative), page 3, line 1, move entire subclause to new Annex F as informative text]**[In 3. Definitions, page 10, line 16, add to end of section as:]*'**3.84 backbone network**: communication mechanism by which two or more base station (BS)s communicate to each other, and may also include communication with other networks. The method of communication for backbone networks is outside the scope of this standard.'**Reason for Group's Decision/Resolution****Group's Notes****Group's Action Items****Editor's Notes****Editor's Actions****Editor's Questions and Concerns****Editor's Action Items**

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5004**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment	Type	Technical, Binding	Starting Page #	9	Starting Line #	vario	Fig/Table#	Section	3
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Definitions need to stand on their own, so acronyms need to be spelled out in each of the definitions. In most cases it is better to avoid using them altogether. 3.73 is an example, BS, MSS and HO need to be spelled out.

Suggested Remedy

Spell out the acronyms in each of the definitions. The response is that BS is widely used. However the other acronyms, SHO, MSS, etc. are not widely used and are specific only to this draft. Even BS can be misunderstood and should be spelled out. Only acronyms that are extremely well known, such as RF, RFIC, CMOS, etc. do not need to be spelled out. The IEEE staff cannot make this determination. Do the right thing and spell them out.

Proposed Resolution	Recommendation: Accepted-Modified	Recommendation by
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Replace "handoff" with "handover" throughout the text (5 instances)".

In Clause 4, remove the definition for "BBM - break before make"

In Clause 4, remove the definition for "MBB - make before break"

[In 3. Definitions, page 9, line 1, modify identified definitions as:]

'3.5.1 neighbor BS: For any mobile station (MS), a neighbor BS is a base station (BS) (other than the serving BS) whose downlink transmission can be received by the mobile station (MS).

3.5.2 serving BS: For any mobile station (MS), the serving BS is the base station (BS) with which the mobile station (MS) has most recently completed registration at initial network-entry or during a handover (HO).

3.5.3 target BS: The base station (BS) that a mobile station (MS) intends to be registered with at the end of a handover (HO).

3.5.4 active BS: An active BS is informed of the mobile station (MS)' capabilities, security parameters, service flows and full MAC context information. For soft handover (SHO), the mobile station (MS) transmits/receives data to/from all active BSs in the active set.'

'3.71 active set: ~~Active set is applicable to SHO and FBSS.~~ The active set contains a list of active BSs to the mobile station (MS). The active set is managed by the mobile station (MS) and base station (BS). ~~The active set is applicable to soft handover (SHO) and fast BS switching (FBSS)'~~

'3.73 anchor BS: For soft handover (SHO) or fast BS switching (FBSS) supporting mobile station (MS)s, this is a base station (BS) where the mobile station (MS) is registered, synchronized ~~with~~, performs ranging ~~with~~ and monitors the downlink DL for control information. For fast BS switching (FBSS) supporting mobile station (MS), this is the serving BS that is designated to transmit/receive data to/from the mobile station (MS) at a given frame.

3.74 FA index: A network specific logical frequency assignment (FA) index assignment. FA index assignment is used in combination with operator specific configuration information provided to the mobile station (MS) in a method outside the scope of this standard.

3.75 fast BS switching (FBSS): base station (BS) switching that utilizes a fast switching mechanism to improve link quality. The mobile station (MS) is only transmitting/receiving data to/from one of the active BS (anchor BS) at any given frame. The anchor BS can change from frame to frame depending on the base station (BS) selection scheme.

- 3.76 frequency assignment (FA): A frequency assignment (FA) denotes a logical assignment of ~~downlinkDL~~ center frequency and channel bandwidth programmed to the base station (BS).
- 3.77 handover (HO): The process in which an mobile station (MS) migrates from the air-interface provided by one base station (BS) to the air-interface provided by another base station (BS).
- 3.78 group key encryption key (GKEK): ~~Encrypted by the KEK that is derived from the AK. The GKEK is a random number generated by the BS or an ASA used to encrypt the GTEKs sent in multicast messages by the BS to MSs in the same multicast group.~~
- 3.80 mobile station (MS): A subscriber station (SS) capable of communicating while in motion. A mobile station (MS) is always a subscriber station (SS) unless specifically excepted otherwise in the standard.
- 3.81 ~~Orderly~~ power down procedure: The procedure that the mobile station (MS) performs when powering down as directed by (e.g., user input or prompted by a automatic power down mechanism).
- 3.82 scanning interval: A time period intended for the mobile station (MS) to monitor neighbor BSs to determine the suitability of the base station (BS)s as targets for handover (HO).
- 3.83 soft handover (SHO): The process in which an mobile station (MS) migrates from the air-interface provided by one or more base station (BS)s to the air-interface provided by other one or more base station (BS)s. This process is accomplished in the ~~downlinkDL~~ by having two or more base station (BS)s transmitting the same MAC/PHY protocol data unit (PDU)s to the mobile station (MS) such that diversity combining can be performed by the mobile station (MS). In the ~~uplinkUL~~ it is accomplished by having two or more base station (BS)s receiving (demodulating, decoding) the same protocol data unit (PDU)s from the mobile station (MS), such that diversity combining of the received protocol data unit (PDU)s can be performed among the base station (BS)s.

Reason for Recommendation

Resolution of Group

Decision of Group: **Accepted-Modified**

Replace "handoff" with "handover" throughout the text (5 instances)".

In Clause 4, remove the definition for "BBM - break before make"

In Clause 4, remove the definition for "MBB - make before break"

[In 3. Definitions, page 9, line 1, modify identified definitions as:]

3.5.1 neighbor BS: For any mobile station (MS), a neighbor BS is a base station (BS) (other than the serving BS) whose downlink transmission can be received by the mobile station (MS).

3.5.2 serving BS: For any mobile station (MS), the serving BS is the base station (BS) with which the mobile station (MS) has most recently completed registration at initial network-entry or during an handover (HO).

3.5.3 target BS: The base station (BS) that an mobile station (MS) intends to be registered with at the end of a handover (HO).

3.5.4 active BS: An active BS is informed of the mobile station (MS)'s capabilities, security parameters, service flows and full MAC context information. For soft handover (SHO), the mobile station (MS) transmits/receives data to/from all active BSs in the active set.'

'3.71 active set: ~~Active set is applicable to SHO and FBSS.~~ The active set contains a list of active BSs to the mobile station (MS). The active set is managed by the mobile station (MS) and base station (BS). ~~The active set is applicable to soft handover (SHO) and fast BS switching (FBSS).'~~'

'3.73 anchor BS: For soft handover (SHO) or fast BS switching (FBSS) supporting mobile station (MS)s, this is a base station (BS) where the mobile station (MS) is registered, synchronized ~~with~~, performs ranging ~~with~~ and monitors the downlinkDL for control information. For fast BS switching (FBSS) supporting mobile station (MS), this is the serving BS that is designated to transmit/receive data to/from the mobile station (MS) at a given frame.

3.74 FA index: A network specific logical frequency assignment (FA) index assignment. FA index assignment is used in combination with operator specific configuration information provided to the mobile station (MS) in a method outside the scope of this standard.

3.75 fast BS switching (FBSS): base station (BS) switching that utilizes a fast switching mechanism to improve link quality. The mobile station (MS) is only transmitting/receiving data to/from one of the active BS (anchor BS) at any given frame. The anchor BS can change from frame to frame depending on the base station (BS) selection scheme.

3.76 frequency assignment (FA): A frequency assignment (FA) denotes a logical assignment of downlinkDL center frequency and channel bandwidth programmed to the base station (BS).

3.77 handover (HO): The process in which an mobile station (MS) migrates from the air-interface provided by one base station (BS) to the air-interface provided by another base station (BS).

3.78 group key encryption key (GKEK): ~~Encrypted by the KEK that is derived from the AK. The GKEK is a random number generated by the BS or a network entity (for example, an ASA server) used to encrypt the GTEKs sent in multicast messages by the BS to MSs in the same multicast group.'~~

3.80 mobile station (MS): A subscriber station (SS) capable of communicating while in motion. ~~A mobile station (MS) is always a subscriber station~~

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**

Ballot Number: **0001045**

Comment Date

Comment # **5026**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment Type **Editorial, Binding** Starting Page # **18ff** Starting Line # **59** Fig/Table# Section **6.3.2.1.4.1**

The standard is not supposed to go more than 5 deep in subclauses. Even 5 deep should be avoided. 6 deep is just silly. Reorganize the subclauses so that standard doesn't have ridiculous subclause numbers like 6.3.2.3.9.11.

Suggested Remedy

Change as indicated here and throughout the draft It is incorrect to justify the current silliness based on the errors present in the previous standard. Resist the urge to continue making mistakes and fix them.

Proposed Resolution

Recommendation: Rejected

Recommendation by

Reason for Recommendation

This is an amendment draft, not a revision draft. To fix the problem we would have to restructure the base document entirely, possibly changing context, relationships, and dependencies, all of which is out-of-scope. Silly or not, we are constrained by the document we are amending. The IEEE staff obviously did not think it was *excessively* silly when they approved the 802.16-2004 document only last year. When we conduct our next revision of the standard, we can correct this problem.

Resolution of Group

Decision of Group: Rejected

Reason for Group's Decision/Resolution

This is an amendment draft, not a revision draft. To fix the problem we would have to restructure the base document entirely, possibly changing context, relationships, and dependencies, all of which is out-of-scope. Silly or not, we are constrained by the document we are amending. The IEEE staff obviously did not think it was *excessively* silly when they approved the 802.16-2004 document only last year. When we conduct our next revision of the standard, we can correct this problem.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**

Ballot Number: **0001045**

Comment Date

Comment # **5032**

Comment submitted by: **Beomjoon**

Kim

Other

2005/06/08

Comment Type **Technical, Non-binding**
Correction

Starting Page # **024**

Starting Line # **42**

Fig/Table#

Section

6.3.2.1.2.1.6

Suggested Remedy

Support of this subheader shall be negotiated between the BS and ~~MSS~~ MS as part of the registration dialog (REG-REQ/RSP).

Proposed Resolution

Recommendation:

Recommendation by

Reason for Recommendation

Resolution of Group

Decision of Group: Accepted

Support of this subheader shall be negotiated between the BS and ~~MSS~~ MS as part of the registration dialog (REG-REQ/RSP).

Reason for Group's Decision/Resolution

Group's Notes

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Document under Review: **P802.16e/D8**

Ballot Number: **0001045**

Comment Date

Comment # **5037**

Comment submitted by: **Beomjoon**

Kim

Other

2005/06/08

Comment	Type	Technical, Non-binding	Starting Page #	026	Starting Line #	28	Fig/Table#	Section	6.3.2.1.2.1.7
Correction									

Suggested Remedy

Support of this subheader shall be negotiated between the BS and ~~MSS~~ MS as part of the registration dialog (REG-REQ/RSP).

Proposed Resolution

Recommendation:

Recommendation by

Reason for Recommendation

Resolution of Group

Decision of Group: Accepted

Support of this subheader shall be negotiated between the BS and ~~MSS~~ MS as part of the registration dialog (REG-REQ/RSP).

Reason for Group's Decision/Resolution

Group's Notes

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Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5101**

Comment submitted by: Phillip

Barber

Member

2005/06/08

Comment Type **Technical, Binding**Starting Page # **43**Starting Line # **27**

Fig/Table#

Section **6.3.2.3**

I object to the resolution of comment 4001.

The Group rejected the comment for:

'Vote: 3-5

Reason: This contribution addresses a larger problem than the original scope.'

This reason for rejection is entirely arbitrary and imprecise and demonstrates a lack of proper review and deliberation. The Group was unable to approve a single one of the 19 individually proposed remedies? All 19 were perceived as exceeding the original mandate for the work? Remember that many of these proposed remedies just said change an instance of 'MS' back to 'SS'; hardly outside the scope of the mandate. Regardless of the reason for the work, each of the 19 remedies were reviewed on their merit? Some of the identified problems were of instances of elements of the 16e DRAFT that are out-of-scope of the 16e PAR and must be remedied to bring the DRAFT back into alignment with its PAR. Regardless of mandate, these issues cannot be just shunted aside without due consideration.

Frankly, the unprofessional disposition of this matter should be a source of embarrassment to the membership.

Problem: The PKM sentence added after Table 14 could unintentionally allow a 16e compliant BS to send a PKM-RSP on a Broadcast CID, for which the stateful, 802.16-2004 compliant SS would not be expecting and would ignore. At least, it does not appropriately prohibit the error, though a properly designed BS should be able to make the distinction between target SS and MS and restrict transmission to the appropriate connection ID type. But a minor change in the sentence eliminates any ambiguity in the inadequate specification.

Suggested Remedy

[In 6.3.2.3 MAC Management messages, page 43, line 27, modify as:]

'In general, the PKM-RSP message is carried on the Primary Management connection. However, in order to send the PKM-RSP message in key push mode to MS for ~~the~~ multicast service or ~~the~~ broadcast service, it may be carried on the Broadcast connection.'

Proposed Resolution Recommendation: Accepted

Recommendation by

[In 6.3.2.3 MAC Management messages, page 43, line 27, modify as:]

'In general, the PKM-RSP message is carried on the Primary Management connection. However, in order to send the PKM-RSP message in key push mode to MS for ~~the~~ multicast service or ~~the~~ broadcast service, it may be carried on the Broadcast connection.'

Reason for Recommendation**Resolution of Group**Decision of Group: **Accepted**

[In 6.3.2.3 MAC Management messages, page 43, line 27, modify as:]

'In general, the PKM-RSP message is carried on the Primary Management connection. However, in order to send the PKM-RSP message in key push mode to MS for ~~the~~ multicast service or ~~the~~ broadcast service, it may be carried on the Broadcast connection.'

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Reason for Group's Decision/Resolution

Group's Notes

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Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5104**

Comment submitted by: Phillip

Barber

Member

2005/06/08

Comment	Type	Technical, Binding	Starting Page #	44	Starting Line #	19	Fig/Table#	Section	6.3.2.3.5
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I object to the resolution of comment 4001.

The Group rejected the comment for:

'Vote: 3-5

Reason: This contribution addresses a larger problem than the original scope.'

This reason for rejection is entirely arbitrary and imprecise and demonstrates a lack of proper review and deliberation. The Group was unable to approve a single one of the 19 individually proposed remedies? All 19 were perceived as exceeding the original mandate for the work? Remember that many of these proposed remedies just said change an instance of 'MS' back to 'SS'; hardly outside the scope of the mandate. Regardless of the reason for the work, each of the 19 remedies were reviewed on their merit? Some of the identified problems were of instances of elements of the 16e DRAFT that are out-of-scope of the 16e PAR and must be remedied to bring the DRAFT back into alignment with its PAR. Regardless of mandate, these issues cannot be just shunted aside without due consideration.

Frankly, the unprofessional disposition of this matter should be a source of embarrassment to the membership.

Problem: A problem with incorrect change of SS to MS for existing text on page 44, line 19 in the 16e/D8 document; page 49, sixth paragraph in the section of 802.16-2004. Change to MS from SS would remove necessary specification in the 802.16-2004 document breaking backwards compatibility, thus is out-of-scope of the 16e PAR. This MUST be fixed.

Changing this back to 'SS' from 'MS' does not hurt us in any way since an MS is always an SS unless otherwise specified.

Suggested Remedy

[In 6.3.2.3.5 Ranging Request (RNG_REQ) message, page 44, line 19, modify as; note that this returns the line to the original text:]

'The following parameters shall be included in the RNG-REQ message when the ~~M~~SS is attempting to join the network:'

Proposed Resolution Recommendation: Accepted

Recommendation by

[In 6.3.2.3.5 Ranging Request (RNG_REQ) message, page 44, line 19, modify as; note that this returns the line to the original text:]

'The following parameters shall be included in the RNG-REQ message when the ~~M~~SS is attempting to join the network:'

Reason for Recommendation

Resolution of Group

Decision of Group: Accepted

[In 6.3.2.3.5 Ranging Request (RNG_REQ) message, page 44, line 19, modify as; note that this returns the line to the original text:]

'The following parameters shall be included in the RNG-REQ message when the ~~M~~SS is attempting to join the network:'

Reason for Group's Decision/Resolution

2005/07/22

IEEE 802.16-05/035r3

Group's Notes

Group's Action Items

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Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5117**

Comment submitted by: Phillip

Barber

Member

2005/06/08

Comment	Type	Technical, Binding	Starting Page #	49	Starting Line #	1	Fig/Table#	Section	6.3.2.3.9
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I object to the resolution of comment 4001.

The Group rejected the comment for:

'Vote: 3-5

Reason: This contribution addresses a larger problem than the original scope.'

This reason for rejection is entirely arbitrary and imprecise and demonstrates a lack of proper review and deliberation. The Group was unable to approve a single one of the 19 individually proposed remedies? All 19 were perceived as exceeding the original mandate for the work? Remember that many of these proposed remedies just said change an instance of 'MS' back to 'SS'; hardly outside the scope of the mandate. Regardless of the reason for the work, each of the 19 remedies were reviewed on their merit? Some of the identified problems were of instances of elements of the 16e DRAFT that are out-of-scope of the 16e PAR and must be remedied to bring the DRAFT back into alignment with its PAR. Regardless of mandate, these issues cannot be just shunted aside without due consideration.

Frankly, the unprofessional disposition of this matter should be a source of embarrassment to the membership.

Problem: Also a problem with incorrect change of SS to MS for existing text on page 49, line 1 in the 16e/D8 document; page 54, paragraph immediately preceding Table 25 of 802.16-2004. Change to MS from SS would remove necessary specification in the 802.16-2004 document. This MUST be fixed.

Suggested Remedy*[In 6.3.2.3.9 Privacy key management (PKM) messages (PKM-REQ/PKM-RSP), page 49, line 1, modify as:]*

'PKM protocol messages transmitted from the BS to the ~~MS~~ SS shall use the form shown in Table 25. They are transmitted on the SSs Primary Management Connection. When the BS sends PKM-RSP message in key push mode to MS for ~~the~~ multicast service or ~~the~~ broadcast service, it may be carried on the Broadcast connection.'

Proposed Resolution**Recommendation: Accepted****Recommendation by****Reason for Recommendation****Resolution of Group****Decision of Group: Accepted***[In 6.3.2.3.9 Privacy key management (PKM) messages (PKM-REQ/PKM-RSP), page 49, line 1, modify as:]*

'PKM protocol messages transmitted from the BS to the ~~MS~~ SS shall use the form shown in Table 25. They are transmitted on the SSs Primary Management Connection. When the BS sends PKM-RSP message in key push mode to MS for ~~the~~ multicast service or ~~the~~ broadcast service, it may be carried on the Broadcast connection.'

Reason for Group's Decision/Resolution

2005/07/22

IEEE 802.16-05/035r3

Group's Notes

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Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5119**

Comment submitted by: Phillip

Barber

Member

2005/06/08

Comment	Type	Technical, Binding	Starting Page #	49	Starting Line #	18	Fig/Table#	Section	6.3.2.3.9
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I object to the resolution of comment 4001.

The Group rejected the comment for:

'Vote: 3-5

Reason: This contribution addresses a larger problem than the original scope.'

This reason for rejection is entirely arbitrary and imprecise and demonstrates a lack of proper review and deliberation. The Group was unable to approve a single one of the 19 individually proposed remedies? All 19 were perceived as exceeding the original mandate for the work? Remember that many of these proposed remedies just said change an instance of 'MS' back to 'SS'; hardly outside the scope of the mandate. Regardless of the reason for the work, each of the 19 remedies were reviewed on their merit? Some of the identified problems were of instances of elements of the 16e DRAFT that are out-of-scope of the 16e PAR and must be remedied to bring the DRAFT back into alignment with its PAR. Regardless of mandate, these issues cannot be just shunted aside without due consideration.

Frankly, the unprofessional disposition of this matter should be a source of embarrassment to the membership.

Problem: And again, the same problem on page 49, line 18 in the 16e/D8 document; page 55, paragraph 4 under PKM Identifier in 802.16-2004. Change to MS from SS would remove necessary specification in the 802.16-2004 document. This MUST be fixed.

Suggested Remedy*[In 6.3.2.3.9 Privacy key management (PKM) messages (PKM-REQ/PKM-RSP), page 49, line 18, modify as:]*

'On reception of a PKM-RSP message, the ~~MS~~ SS associates the message with a particular state machine (the Authorization state machine in the case of Authorization Replies, Authorization Rejects, and Authorization Invalids; a particular TEK state machine in the case of Key Replies, Key Rejects, ~~and TEK Invalids~~ TEK Invalids, Key Update Commands).'

Proposed Resolution**Recommendation: Superseded****Recommendation by**

See comment #5118

Reason for Recommendation**Resolution of Group****Decision of Group: Superseded****Reason for Group's Decision/Resolution**

See comment #5118

Group's Notes**Group's Action Items****Editor's Notes****Editor's Actions**

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IEEE 802.16-05/035r3

EDITOR'S NOTES

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Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5129**

Comment submitted by: Jeff

Mandin

Member

2005/06/08

Comment	Type	Technical, Non-binding	Starting Page #	54	Starting Line #	1	Fig/Table#	Section	6.3.2.3.9.17
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From IETF review:

As described in [RFC3748] Section 7.15 verifying the authenticator identity between the EAP peer, authenticator and server protects against impersonation attacks.

....

In order to bind identities to the keying material, the lower layer authenticator and peer identities need to be explicitly stated within the 3-way handshake, and bound to PMK.

Suggested Remedy

Adopt contribution "Binding of PMK to EAP channel parameters" (C80216e-5_217r2)

Proposed Resolution	Recommendation: Accepted-Modified	Recommendation by
----------------------------	--	--------------------------

[Add the following to table 37g following the AKID attribute:]

AuthenticatorId | the identity of the EAP authenticator associated with the BS

[Add the following to 11.7.23 following the AKID attribute:]

AuthenticatorId | the identity of the EAP authenticator associated with the BS

[Add the following to table 37h following the AKID attribute:]

PeerId | the MAC Address of the MS

[section 7.8.1 Add a new numbered item in between 2 and 3:]

3. If the MS supports EAP methods with the channel binding property, and it received the AuthenticatorId via the EAP method, it shall check whether BS supplied the same AuthenticatorId in the SA-TEK-Challenge. If the AuthenticatorId does not match or was not supplied, the MS SHOULD log the event as a possible security breach and the MS may elect to terminate communication with the BS.

[Add the following to page 528, line 62 following the AKID attribute:]

AuthenticatorId | code | variable | the identity of the EAP authenticator associated with the BS if supplied by the EAP method.

[insert new section 11.9.35:]

AuthenticatorId

AuthenticatorId

Description: The Identity of the EAP Authenticator associated with the BS. This is the value that is sent in the NAS_Identifier AAA attribute

Type	Length	Value
Tbd	variable	Identity of the EAP Authenticator associated with the BS

[insert new section 11.9.36:]

PeerId

Description: The MAC address of the SS. This is the value that is sent in the Calling-Station-Id AAA attribute

Type	Length	Value
Tbd	6	MAC address of the SS

Reason for Recommendation

Resolution of Group Decision of Group: **Rejected**

Reason for Group's Decision/Resolution

There is no exact description to verify authenticator.

Group's Notes

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Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5132**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment Type **Editorial, Binding** Starting Page # **55ff** Starting Line # **1** Fig/Table# Section **6.3.2.3.43.6.1**
 6 deep for subclause numbering was silly, but 7 deep is so ridiculous that it defies description. The editor needs to exercise control and reduce all subclause numbering to less than 5, preferably 4 or less.

Suggested Remedy

Change as indicated here and throughout the draft. The depth of numbering used for subclauses is completely unnecessary. 802.16e can and should work not to replicate the errors in 802.16-2004. If you don't start to fix them now, when will you do it? There is always a way to avoid this numbering for new clauses. You can also suggest fixes for the old draft as well. You don't have to work within the confines of the mistakes of the previous editors.

Proposed ResolutionRecommendation: **Rejected**

Recommendation by

Reason for Recommendation

This is an amendment draft, not a revision draft. To fix the problem we would have to restructure the base document entirely, possibly changing context, relationships, and dependencies, all of which is out-of-scope. Silly or not, we are constrained by the document we are amending. The IEEE staff obviously did not think it was *excessively* silly when they approved the 802.16-2004 document only last year. When we conduct our next revision of the standard, we can correct this problem.

Resolution of GroupDecision of Group: **Rejected****Reason for Group's Decision/Resolution**

This is an amendment draft, not a revision draft. To fix the problem we would have to restructure the base document entirely, possibly changing context, relationships, and dependencies, all of which is out-of-scope. Silly or not, we are constrained by the document we are amending. The IEEE staff obviously did not think it was *excessively* silly when they approved the 802.16-2004 document only last year. When we conduct our next revision of the standard, we can correct this problem.

Group's Notes**Group's Action Items****Editor's Notes****Editor's Actions****Editor's Questions and Concerns****Editor's Action Items**

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5133**

Comment submitted by: Panyuh

Joo

Member

2005/06/08

Comment	Type	Editorial	Starting Page #	55	Starting Line #	9	Fig/Table#	Section	6.3.2.3.9.18
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A 64-bit random number for an attribute of SA-TEK-Request should be MS_random.

Suggested Remedy

1. Change the attribute "NonceMS" to "MS_random".
2. Change the content description of the NonceMS as following:
A 64-bit number chosen by the MS (once per protocol run). ~~This can be a counter or a random number.~~
3. Change the SA-TEK-Response attribute "NonceMS" to "MS_random" accordingly on line 39, page 55.

Proposed Resolution	Recommendation: Accepted-Modified	Recommendation by
----------------------------	--	--------------------------

1. Change the attribute "NonceMS" to "MS_Random".
2. Change the content description of the NonceMS as following:
A 64-bit number chosen by the MS **freshly for every new handshake.** ~~(once per protocol run). This can be a counter or a random number.~~
3. Change the SA-TEK-Response attribute "NonceMS" to "MS_Random" accordingly on line 39, page 55.

Reason for Recommendation

Resolution of Group	Decision of Group: Accepted-Modified
----------------------------	---

1. Change the attribute "NonceMS" to "MS_Random".
2. Change the content description of the NonceMS as following:
A 64-bit number chosen by the MS **freshly for every new handshake.** ~~(once per protocol run). This can be a counter or a random number.~~
3. Change the SA-TEK-Response attribute "NonceMS" to "MS_Random" accordingly on line 39, page 55.

Reason for Group's Decision/Resolution**Group's Notes****Group's Action Items****Editor's Notes****Editor's Actions****Editor's Questions and Concerns****Editor's Action Items**

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5135**

Comment submitted by: Jeff

Mandin

Member

2005/06/08

Comment	Type	Technical, Non-binding	Starting Page #	55	Starting Line #	21	Fig/Table#	Section	6.3.2.3.9.19
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From IETF review:

[AAAKEY] states:

" The selection of the "best" ciphersuite MUST be securely confirmed. The mechanism MUST detect attempted roll back attacks."

IEEE 802.16e securely confirms selection of the "best" ciphersuite within the 3-way handshake, but it does not securely confirm other "security-relevant" capabilities such as the MAC algorithm or replay window size.

Suggested Remedy

Adopt contribution C80216e-05_207.pdf (Tian Feng/Li Rui)

Proposed Resolution**Recommendation: Accepted-Modified****Recommendation by***In 6.3.2.3.9.18 SA-TEK-Request message**[Insert into table 37h the following row before the last CMAC row]*

Table 37h—SA-TEK-Request message attributes

Security Negotiation Parameters | Describes requesting MS's security capabilities (see 11.8.4)*In 6.3.2.3.9.19 SA-TEK-Response message**[Insert into the table 37i the following row]*

Table 37i—SA-TEK-Reponse message attributes

Security Negotiation Parameters | Describes requesting MS's security capabilities (see 11.8.4)*In 6.3.2.3.23 SS basic capability request (SBC-REQ) message**[Insert at the end of 6.3.2.3.23:]*Security Negotiation Parameters (see ~~11.8.7~~ **11.8.4**)*In 6.3.2.3.24 SS basic capability response (SBC-RSP) message*

[Insert at the end of 6.3.2.3.24:]

Security Negotiation Parameters (see ~~44.8.7~~ 11.8.4)

7.8.1 SA-TEK 3-way handshake

[Add at the end of step 3]

The MS must include, through the Security Negotiation Parameters attribute, the security capabilities that it included in the SBC-REQ message during the basic capabilities negotiation phase.

[Add at the end of step 4]

In addition, the BS must verify the MS's security capabilities encoded in the Security Negotiation Parameters attribute against the security capabilities provided by the MS through the SBC-REG message. If security capabilities don't match, the BS should log the problem.

[Add at the end of step 5]

In addition, the BS must include, through the Security Negotiation Parameters attribute, the security capabilities that it wishes to specify for the session with the MS (these will generally be the same as the ones insecurely negotiated in SBC-REQ/RSP).

[Add at the end of step 6]

The MS also must verify the BS's security capabilities encoded in the Security Negotiation Parameters attribute against the security capabilities provided by the BS through the SBC-RSP message. If security capabilities don't match, the MS should log the problem.

In 11.8.4 Security Negotiation Parameters, add the following two messages to the "scope" box:

SA-TEK-Request, SA-TEK-Response

Reason for Recommendation

Resolution of Group

Decision of Group: Accepted-Modified

In 6.3.2.3.9.18 SA-TEK-Request message

[Insert into table 37h the following row before the last CMAC row]

Table 37h—SA-TEK-Request message attributes

Security Negotiation Parameters | Describes requesting MS's security capabilities (see 11.8.4)

In 6.3.2.3.9.19 SA-TEK-Response message

[Insert into the table 37i the following row]

Table 37i—SA-TEK-Reponse message attributes

Security Negotiation Parameters | Describes requesting MS's security capabilities (see 11.8.4)

In 6.3.2.3.23 SS basic capability request (SBC-REQ) message

[Insert at the end of 6.3.2.3.23:]

Security Negotiation Parameters (see ~~4.8.7~~ 11.8.4)

In 6.3.2.3.24 SS basic capability response (SBC-RSP) message

[Insert at the end of 6.3.2.3.24:]

Security Negotiation Parameters (see ~~4.8.7~~ 11.8.4)

7.8.1 SA-TEK 3-way handshake

[Add at the end of step 3]

The MS must include, through the Security Negotiation Parameters attribute, the security capabilities that it included in the SBC-REQ message during the basic capabilities negotiation phase.

[Add at the end of step 4]

In addition, the BS must verify the MS's security capabilities encoded in the Security Negotiation Parameters attribute against the security capabilities provided by the MS through the SBC-REG message. If security capabilities don't match, the BS should log the problem.

[Add at the end of step 5]

In addition, the BS must include, through the Security Negotiation Parameters attribute, the security capabilities that it wishes to specify for the

Reason for Group's Decision/Resolution

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Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5150**

Comment submitted by: Phillip

Barber

Member

2005/06/08

Comment	Type	Technical, Binding	Starting Page #	61	Starting Line #	33	Fig/Table#	Tabl	Section	6.3.2.3.26
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I object to the resolution of comment 4001.

The Group rejected the comment for:

'Vote: 3-5

Reason: This contribution addresses a larger problem than the original scope.'

This reason for rejection is entirely arbitrary and imprecise and demonstrates a lack of proper review and deliberation. The Group was unable to approve a single one of the 19 individually proposed remedies? All 19 were perceived as exceeding the original mandate for the work? Remember that many of these proposed remedies just said change an instance of 'MS' back to 'SS'; hardly outside the scope of the mandate. Regardless of the reason for the work, each of the 19 remedies were reviewed on their merit? Some of the identified problems were of instances of elements of the 16e DRAFT that are out-of-scope of the 16e PAR and must be remedied to bring the DRAFT back into alignment with its PAR. Regardless of mandate, these issues cannot be just shunted aside without due consideration.

Frankly, the unprofessional disposition of this matter should be a source of embarrassment to the membership.

Problem: Again, inappropriate SS to MS changes from the 802.16-2004 documents that would remove necessary specification for 802.16-2004 compliant SS breaking backwards compatibility, thus is out-of-scope of the 16e PAR.

Simple remedy is to change the MS back to SS where appropriate in the Table.

Also, in Action Code 2 actions, correcting improper Action Code response to resume Normal Operation specified. Says '0x00' but should be '02 or 03'.

Suggested Remedy

Accept Contribution C802.16e-05/273r0

Proposed Resolution

Recommendation: **Accepted-Modified**

Recommendation by

Insert the following editorial instruction (before the text and table):

[Change the title of Table 55 as indicated:]

"Table 55 -- Action codes and actions for an SS"

[Insert the following text before Table 55:]

"The BS and SS shall use the action codes defined in Table 55 if the agreed MAC version value supported on the channel is less than 5 in TLV number 148 (see section 11.1.3)."

Adopt the text in Table 55 from Contribution C802.16e-05/273r1 as a new Table 55a: "Action codes and actions for an MS".

[Insert the following text before Table 55a:]

"The BS and SS shall use the action codes defined in Table 55a if the agreed MAC version value supported on the channel is equal to 5 in TLV number 148 (see section 11.1.3)."

Change 'SS' to 'MS' in the first 5 entries of the new Table 55a.

Reason for Recommendation

Codes 0x0 through 0x4 are legacy and cannot be deleted or changed without undermining backwards compatibility, which would be out-of-scope of the 16e PAR. So no changes are being made to Action Codes 00-04. The adopted resolution of this comment resolves the "conflict" between the Action Codes required for fixed subscribers and mobile subscribers.

Resolution of Group**Decision of Group: Accepted-Modified**

Insert the following editorial instruction (before the text and table):

[Change the title of Table 55 as indicated:]

"Table 55 -- Action codes and actions for an SS"

[Insert the following text before Table 55:]

"The BS and SS shall use the action codes defined in Table 55 if the agreed MAC version value supported on the channel is less than 5 in TLV number 148 (see section 11.1.3)."

Adopt the text in Table 55 from Contribution C802.16e-05/273r1 as a new Table 55a: "Action codes and actions for an MS".

[Insert the following text before Table 55a:]

"The BS and SS shall use the action codes defined in Table 55a if the agreed MAC version value supported on the channel is equal to 5 in TLV number 148 (see section 11.1.3)."

Change 'SS' to 'MS' in the first 5 entries of the new Table 55a.

Reason for Group's Decision/Resolution**Group's Notes****Group's Action Items****Editor's Notes****Editor's Actions****Editor's Questions and Concerns****Editor's Action Items**

2005/07/22

IEEE 802.16-05/035r3

Document under Review: **P802.16e/D8**

Ballot Number: **0001045**

Comment Date

Comment # **5153**

Comment submitted by: Vladimir

Yanover

Member

2005/06/08

Comment Type **Technical, Non-binding** Starting Page # **61** Starting Line # **53** Fig/Table# Section

Clarification: not in all cases BS respond this way

Suggested Remedy

MS- shall terminate current Normal Operations with the BS; the BS shall transmit this action code only in response to any a MS DREG-REQ message.

Proposed Resolution

Recommendation:

Recommendation by

Reason for Recommendation

Resolution of Group

Decision of Group: Superceded

Reason for Group's Decision/Resolution

See comment 5150

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5154**

Comment submitted by: Phillip

Barber

Member

2005/06/08

Comment	Type	Technical, Binding	Starting Page #	63	Starting Line #	37	Fig/Table#	Tabl	Section	6.3.2.3.42
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I object to the resolution of comment 4001.

The Group rejected the comment for:

'Vote: 3-5

Reason: This contribution addresses a larger problem than the original scope.'

This reason for rejection is entirely arbitrary and imprecise and demonstrates a lack of proper review and deliberation. The Group was unable to approve a single one of the 19 individually proposed remedies? All 19 were perceived as exceeding the original mandate for the work? Remember that many of these proposed remedies just said change an instance of 'MS' back to 'SS'; hardly outside the scope of the mandate. Regardless of the reason for the work, each of the 19 remedies were reviewed on their merit? Some of the identified problems were of instances of elements of the 16e DRAFT that are out-of-scope of the 16e PAR and must be remedied to bring the DRAFT back into alignment with its PAR. Regardless of mandate, these issues cannot be just shunted aside without due consideration.

Frankly, the unprofessional disposition of this matter should be a source of embarassment to the membership.

Problem: Again, inappropriate SS to MS changes from the 802.16-2004 documents that would remove necessary specification for 802.16-2004 compliant SS breaking backwards compatibility, thus is out-of-scope of the 16e PAR.

Simple remedy is to change the MS back to SS where appropriate in the Table.

Suggested Remedy

Accept Contribution C802.16e-05/274r0

Proposed Resolution Recommendation: **Accepted**

Recommendation by

Accept Contribution C802.16e-05/274r0

Reason for Recommendation

Resolution of Group

Decision of Group: **Accepted**

Accept Contribution C802.16e-05/274r0

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

2005/07/22

IEEE 802.16-05/035r3

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5155**

Comment submitted by: Phillip

Barber

Member

2005/06/08

Comment	Type	Technical, Binding	Starting Page #	66	Starting Line #	30	Fig/Table#	Tabl	Section	6.3.2.3.43.5
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I object to the resolution of comment 4001.

The Group rejected the comment for:

'Vote: 3-5

Reason: This contribution addresses a larger problem than the original scope.'

This reason for rejection is entirely arbitrary and imprecise and demonstrates a lack of proper review and deliberation. The Group was unable to approve a single one of the 19 individually proposed remedies? All 19 were perceived as exceeding the original mandate for the work? Remember that many of these proposed remedies just said change an instance of 'MS' back to 'SS'; hardly outside the scope of the mandate. Regardless of the reason for the work, each of the 19 remedies were reviewed on their merit? Some of the identified problems were of instances of elements of the 16e DRAFT that are out-of-scope of the 16e PAR and must be remedied to bring the DRAFT back into alignment with its PAR. Regardless of mandate, these issues cannot be just shunted aside without due consideration.

Frankly, the unprofessional disposition of this matter should be a source of embarrassment to the membership.

Problem: Changes to all of 6.6.3.2.3.43.5 as they stand to be implemented through this 16e amendment, would make retroactive changes to 802.16-2004 compliant SS without any appropriate mechanism to distinguish SS supporting only the 802.16-2004 original iteration and SS supporting the 802.16-2004 PLUS the amended, non-MS centric, changes of 16e, breaking backwards compatibility, thus is out-of-scope of the 16e PAR. This is a real problem.

Simple remedy is to make the IE change to the Table specific to MS.

Suggested Remedy

Accept Contribution C802.16e-05/275r0

Proposed Resolution

Recommendation: **Accepted-Modified**

Recommendation by

Accept Contribution C802.16e-05/275r0

The correct table reference should be Table 95, CQICH Control IE. The correct page/line numbers should be page 97, lines 14-16, lines 25-29.

Reason for Recommendation

Resolution of Group

Decision of Group: **Accepted-Modified**

Accept Contribution C802.16e-05/275r0

The correct table reference should be Table 95, CQICH Control IE. The correct page/line numbers should be page 97, lines 14-16, lines 25-29.

Reason for Group's Decision/Resolution

2005/07/22

IEEE 802.16-05/035r3

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5220**

Comment submitted by: Phillip

Barber

Member

2005/06/08

Comment	Type	Technical, Binding	Starting Page #	151	Starting Line #	35	Fig/Table#	Section	6.3.9.10
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I object to the resolution of comment 4001.

The Group rejected the comment for:

'Vote: 3-5

Reason: This contribution addresses a larger problem than the original scope.'

This reason for rejection is entirely arbitrary and imprecise and demonstrates a lack of proper review and deliberation. The Group was unable to approve a single one of the 19 individually proposed remedies? All 19 were perceived as exceeding the original mandate for the work? Remember that many of these proposed remedies just said change an instance of 'MS' back to 'SS'; hardly outside the scope of the mandate. Regardless of the reason for the work, each of the 19 remedies were reviewed on their merit? Some of the identified problems were of instances of elements of the 16e DRAFT that are out-of-scope of the 16e PAR and must be remedied to bring the DRAFT back into alignment with its PAR. Regardless of mandate, these issues cannot be just shunted aside without due consideration.

Frankly, the unprofessional disposition of this matter should be a source of embarrassment to the membership.

Problem: Looks like this instance got changed in the 'global SS-to-MS change' that happened some time ago. Inappropriate SS to MS change breaking backwards compatibility, thus is out-of-scope of the 16e PAR.

Simple remedy is to change the MS back to SS where appropriate in the text. Also, since this is replacing an important specification paragraph in 802.16-2004, adjustment must be made to include SS in the revised language.

Changing this back to 'SS' from 'MS' does not hurt us in any way since an MS is always an SS unless otherwise specified.

Suggested Remedy

[In 6.3.9.10 Establish IP connectivity, page 151, line 43, modify as:]

'Otherwise, for ~~fixed-MS~~ all SS and for ~~MSs~~ using IPv4 and not using mobile IP, they ~~MS~~ shall invoke DHCP mechanisms [IETF RFC 2131] in order to obtain an IP address and any other parameters needed to establish IP connectivity. If the SS-MS has a configuration file, the DHCP response shall contain the name of a file which contains further configuration parameters. For SS-MS using IPv6, they ~~MS~~ shall either invoke DHCPv6 [IETF RFC 3315] or IPv6 Stateless Address Autoconfiguration [IETF RFC 2462] based on the value of a TLV tuple in REG_RSP. Establishment of IP connectivity shall be performed on the SS's-MS's Secondary Management Connection (see Table 110).'

Proposed Resolution

Recommendation: **Accepted**

Recommendation by

[In 6.3.9.10 Establish IP connectivity, page 151, line 43, modify as:]

'Otherwise, for ~~fixed-MS~~ all SS and for ~~MSs~~ using IPv4 and not using mobile IP, they ~~MS~~ shall invoke DHCP mechanisms [IETF RFC 2131] in order to obtain an IP address and any other parameters needed to establish IP connectivity. If the SS-MS has a configuration file, the DHCP response shall contain the name of a file which contains further configuration parameters. For SS-MS using IPv6, they ~~MS~~ shall either invoke DHCPv6 [IETF RFC 3315] or IPv6 Stateless Address Autoconfiguration [IETF RFC 2462] based on the value of a TLV tuple in REG_RSP. Establishment of IP connectivity shall be performed on the SS's-MS's Secondary Management Connection (see Table 110).'

Reason for Recommendation

Resolution of Group**Decision of Group: Accepted**

[In 6.3.9.10 Establish IP connectivity, page 151, line 43, modify as:]

'Otherwise, for ~~fixed-MS~~ all SS and for ~~MSs~~ using IPv4 and not using mobile IP, they ~~MS~~ shall invoke DHCP mechanisms [IETF RFC 2131] in order to obtain an IP address and any other parameters needed to establish IP connectivity. If the SS-MS has a configuration file, the DHCP response shall contain the name of a file which contains further configuration parameters. For SS-MS using IPv6, they ~~MS~~ shall either invoke DHCPv6 [IETF RFC 3315] or IPv6 Stateless Address Autoconfiguration [IETF RFC 2462] based on the value of a TLV tuple in REG_RSP. Establishment of IP connectivity shall be performed on the SS's-MS's Secondary Management Connection (see Table 110).'

Reason for Group's Decision/Resolution**Group's Notes****Group's Action Items****Editor's Notes****Editor's Actions****Editor's Questions and Concerns****Editor's Action Items**

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5226**

Comment submitted by: Phillip

Barber

Member

2005/06/08

Comment	Type	Technical, Binding	Starting Page #	158	Starting Line #	34	Fig/Table#	Section	6.3.17
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I object to the resolution of comment 4424 & 4001.

While the resolution of 4424 repairs some of the problems with changes proposed in 6.3.17, it does not adequately repair the underlying problem that the proposed changes to 6.3.17 in the 16e/D8 DRAFT break backwards compatibility with the 802.16-2004 baseline document and are thus out-of-scope of the 16e PAR. More specifically, 6.3.17 in the 802.16-2004 document specifies the mechanics for a HARQ mechanism that is Incremental Redundancy (IR) and per-terminal. There is certainly nothing wrong with adding a new Chase Combining HARQ method. Even better, making it per-connection instead of per-terminal. However, legacy SS are going to be expecting their enabled HARQ to be IR and per-terminal. The current language revisions in 16e/D8 inappropriately change the base document as to make D8 not backwards compatible; would require legacy SS to retroactively support per-connection and Chase Combining HARQ.

Also, changing out the text here to expand the feature to include MBS has resulted in a couple of troubling consequences: 1) the language is now MS specific in places; 2) reference to support 802.16-2004 SS has been inappropriately obscured, breaking backwards compatibility with the 802.16-2004 baseline document, thus out-of-scope of the 16e PAR.

Fortunately, some editorial revision to the section can remedy this problem and bring the section back into conformance with the 16e PAR, while preserving the new features and mechanics.

When reviewing the proposed remedy it is important to remember that an MS is always also an SS unless specifically excepted otherwise.

Suggested Remedy

[In 6.3.17 MAC support for H-ARQ, page 158, lines 34-42, modify as:]

'Hybrid automatic repeat request (~~H-ARQ~~HARQ) scheme is an optional part of the MAC ~~and can be enabled on a per terminal basis~~. H-ARQ may be supported only for the OFDMA PHY. ~~As a MS capability, The per terminal H-ARQ~~HARQ and associated parameters shall be specified and negotiated using SBC-REQ/RSP messages during initialization procedure. ~~The utilization of HARQ is on a per connection basis, that is, it can be enabled on a per CID basis by using the DSA/DSC messages.~~ Two implementations of HARQ are supported: 1) per-terminal, that is, HARQ is enabled for all active CIDs for a terminal, and 2) per-connection, that is, it can be enabled on a per CID basis by using the DSA/DSC messages. ~~The two implementation methods shall not be employed simultaneously on any terminal. SS may support per-terminal implementation. MS may support per-terminal implementation or per-connection implementation.~~ A burst cannot have a mixture of ~~H-ARQ~~HARQ and non-~~H-ARQ~~HARQ traffic.'

[In 6.3.17 MAC support for H-ARQ, page 159, lines 13-25, modify as:]

'Two main variants of HARQ are supported, Chase Combining or Incremental Redundancy (IR). ~~SS may support IR. MS may support Chase Combining or IR.~~ For IR, the PHY layer will encode the HARQ packet generating several versions of encoded subpackets. Each subpacket shall be uniquely identified using a subpacket identifier (SPID). For Chase Combining, the PHY layer shall encode the HARQ packet generating only one version of the encoded packet. As a result, no SPID is required for Chase Combining.

For downlink HARQ operation, the BS will send a version of the encoded HARQ packet. ~~The MS SS~~ will attempt to decode the encoded packet on this first HARQ attempt. If the decoding succeeds, ~~the MS SS~~ will send an ACK to the BS. If the decoding fails, ~~the MS SS~~ will send a NAK to the BS. In response, the BS will send another HARQ attempt. The BS may continue to send HARQ attempts until ~~the MS SS~~ successfully decodes the packet and sends an acknowledgement.'

[In 6.3.17 MAC support for H-ARQ, page 159, lines 45-53, modify as:]

'The ~~H-ARQ~~HARQ scheme is basically a stop-and-wait protocol where the retransmissions are only sent after receiving a NACK signal for the previous transmission or the ACK has not been received within the duration defined by "HARQ ACK Delay for UL burst" for UL HARQ or in "HARQ ACK delay for DL burst" for DL HARQ. The ACK is sent by the ~~MS~~SS after a fixed delay (synchronous ACK) defined by ~~H-ARQ~~HARQ DL ACK delay offset which is specified in DCD message. Timing of retransmission is, however, flexible and corresponds to the asynchronous part of the ~~H-ARQ~~HARQ. The ACK/NAK is sent by the BS using the ~~H-ARQ~~HARQ Bitmap IE, and sent by a ~~MS~~SS using the fast feedback UL subchannel.'

Proposed Resolution**Recommendation: Accepted-Modified****Recommendation by**

[In 6.3.17 MAC support for H-ARQ, page 158, lines 34-42, modify as:]

'Hybrid automatic repeat request (~~H-ARQ~~HARQ) scheme is an optional part of the MAC ~~and can be enabled on a per-terminal basis.~~ H-ARQ may be supported only for the OFDMA PHY. ~~As a MS capability, The per-terminal H-ARQ~~HARQ and associated parameters shall be specified and negotiated using SBC-REQ/RSP messages during initialization procedure. The utilization of HARQ is on a per-connection basis, that is, it can be enabled on a per CID basis by using the DSA messages. A burst cannot have a mixture of ~~H-ARQ~~HARQ and non-~~H-ARQ~~HARQ traffic.'

[In 6.3.17 MAC support for H-ARQ, page 159, lines 13-25, modify as:]

'Two main variants of HARQ are supported, Chase Combining or Incremental Redundancy (IR). ~~SS may support IR. MS may support either Chase Combining or IR.~~ For IR, the PHY layer will encode the HARQ packet generating several versions of encoded subpackets. Each subpacket shall be uniquely identified using a subpacket identifier (SPID). For Chase Combining, the PHY layer shall encode the HARQ packet generating only one version of the encoded packet. As a result, no SPID is required for Chase Combining.

For downlink HARQ operation, the BS will send a version of the encoded HARQ packet. The ~~MS~~SS will attempt to decode the encoded packet on this first HARQ attempt. If the decoding succeeds, the ~~MS~~SS will send an ACK to the BS. If the decoding fails, the ~~MS~~SS will send a NAK to the BS. In response, the BS will send another HARQ attempt. The BS may continue to send HARQ attempts until the ~~MS~~SS successfully decodes the packet and sends an acknowledgement.

[In 6.3.17 MAC support for H-ARQ, page 159, lines 45-53, modify as:]

'The ~~H-ARQ~~HARQ scheme is basically a stop-and-wait protocol where the retransmissions are only sent after receiving a NACK signal for the previous transmission or the ACK has not been received within the duration defined by "HARQ ACK Delay for UL burst" for UL HARQ or in "HARQ ACK delay for DL burst" for DL HARQ. The ACK is sent by the ~~MS~~SS after a fixed delay (synchronous ACK) defined by ~~H-ARQ~~HARQ DL ACK delay offset which is specified in DCD message. Timing of retransmission is, however, flexible and corresponds to the asynchronous part of the ~~H-ARQ~~HARQ. The ACK/NAK is sent by the BS using the ~~H-ARQ~~HARQ Bitmap IE, and sent by a ~~MS~~SS using the fast feedback UL subchannel.'

Reason for Recommendation**Resolution of Group****Decision of Group: Accepted-Modified**

[In 6.3.17 MAC support for H-ARQ, page 158, lines 34-42, modify as:]

'Hybrid automatic repeat request (~~H-ARQ~~HARQ) scheme is an optional part of the MAC ~~and can be enabled on a per-terminal basis.~~ H-ARQ may be supported only for the OFDMA PHY. ~~As a MS capability, The per-terminal H-ARQ~~HARQ and associated parameters shall be specified and negotiated using SBC-REQ/RSP messages during initialization procedure. The utilization of HARQ is on a per-connection basis, that is, it can be enabled on a per CID basis by using the DSA messages. A burst cannot have a mixture of ~~H-ARQ~~HARQ and non-~~H-ARQ~~HARQ traffic.'

[In 6.3.17 MAC support for H-ARQ, page 159, lines 13-25, modify as:]

'Two main variants of HARQ are supported, Chase Combining or Incremental Redundancy (IR). ~~SS may support IR. MS may support either Chase Combining or IR.~~ For IR, the PHY layer will encode the HARQ packet generating several versions of encoded subpackets. Each subpacket

shall be uniquely identified using a subpacket identifier (SPID). For Chase Combining, the PHY layer shall encode the HARQ packet generating only one version of the encoded packet. As a result, no SPID is required for Chase Combining.

For downlink HARQ operation, the BS will send a version of the encoded HARQ packet. The ~~MS_SS~~ will attempt to decode the encoded packet on this first HARQ attempt. If the decoding succeeds, the ~~MS_SS~~ will send an ACK to the BS. If the decoding fails, the ~~MS_SS~~ will send a NAK to the BS. In response, the BS will send another HARQ attempt. The BS may continue to send HARQ attempts until the ~~MS_SS~~ successfully decodes the packet and sends an acknowledgement.'

[In 6.3.17 MAC support for H-ARQ, page 159, lines 45-53, modify as:]

'The ~~H-ARQ~~HARQ scheme is basically a stop-and-wait protocol where the retransmissions are only sent after receiving a NACK signal for the previous transmission or the ACK has not been received within the duration defined by "HARQ ACK Delay for UL burst" for UL HARQ or in "HARQ ACK delay for DL burst" for DL HARQ. The ACK is sent by the ~~MSS~~ after a fixed delay (synchronous ACK) defined by ~~H-ARQ~~HARQ DL ACK delay offset which is specified in DCD message. Timing of retransmission is, however, flexible and corresponds to the asynchronous part of the ~~H-ARQ~~HARQ. The ACK/NAK is sent by the BS using the ~~H-ARQ~~HARQ Bitmap IE, and sent by a ~~MSS~~ using the fast feedback UL subchannel.'

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5269**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment	Type	Starting Page #	Starting Line #	Fig/Table#	Section
Another missing command, HO-RSP. This also occurs in Annex C and possibly other places	Technical, Binding	181	vario		6.3.21.2.8

Suggested Remedy

Change "MSS HO-RSP pending" to "MOB_BSHO-RSP" in this figure as well as in Figures 130d line 50 and in Figure 130e lines 3, 22, and 39.

Proposed ResolutionRecommendation: **Accepted-Modified**

Recommendation by

Change instance of 'HO-RSP' to 'MOB_BSHO-RSP' in figures in this section

Reason for Recommendation**Resolution of Group**Decision of Group: **Accepted-Modified**

Change "MSS HO-RSP pending" to "MOB_BSHO-RSP" in this figure as well as in Figures 130d line 50 and in Figure 130e lines 3, 22, and 39.

Reason for Group's Decision/Resolution**Group's Notes****Group's Action Items****Editor's Notes****Editor's Actions****Editor's Questions and Concerns****Editor's Action Items**

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5320**

Comment submitted by: Jeff

Mandin

Member

2005/06/08

Comment Type **Technical, Non-binding** Starting Page # **205** Starting Line # **5** Fig/Table# Section **7.1.2**
 Some corrections to 7.1.2/7.1.3 from IETF review

Suggested Remedy

1. Modify pg. 205 line 5:

Each MS presents its credentials, which will be a unique X.509 digital certificate issued by the MS's manufacturer (in the case of RSA authentication) or a ~~vendor-specific~~ **operator-specified** credential (in the case of EAP-based authentication).

2. Modify pg. 206 line 6

PKM EAP Authentication uses Extensible Authentication Protocol [IETF RFC 3748] in conjunction with a ~~vendor-operator-selected~~ **standardized** EAP Method

Proposed ResolutionRecommendation: **Accepted-Modified**

Recommendation by

1. Modify pg. 205 line 5:

Each MS presents its credentials, which will be a unique X.509 digital certificate issued by the MS's manufacturer (in the case of RSA authentication) or a ~~vendor-specific~~ **operator-specified** credential (in the case of EAP-based authentication).

2. Modify pg. 206 line 6

PKM EAP Authentication uses Extensible Authentication Protocol [IETF RFC 3748] in conjunction with a ~~vendor-operator-selected~~ **standardized** EAP Method

3. In Table 343, change all instances of 'vendor specific' to 'operator specified'.

Reason for Recommendation**Resolution of Group**Decision of Group: **Accepted-Modified**

1. Modify pg. 205 line 5:

Each MS presents its credentials, which will be a unique X.509 digital certificate issued by the MS's manufacturer (in the case of RSA authentication) or a ~~vendor-specific~~ **operator-specified** credential (in the case of EAP-based authentication).

2. Modify pg. 206 line 6

PKM EAP Authentication uses Extensible Authentication Protocol [IETF RFC 3748] in conjunction with a ~~vendor-operator~~-selected ~~standardized~~ EAP Method

3. In Table 343, change all instances of 'vendor specific' to 'operator specified'.

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5321**

Comment submitted by: Jeff

Mandin

Member

2005/06/08

Comment Type **Technical, Non-binding** Starting Page # **206** Starting Line # **12** Fig/Table# Section **7.1.3.2**
 (From IETF review:)

IEEE 802.16e D8 does not specify a mandatory-to-implement EAP method. Nor does it specify the required security properties of EAP methods to be used with it. The specification as it stands permits implementations to use EAP MD5-Challenge, which does not generate keys and is vulnerable to dictionary attacks.

We strongly recommend that at a minimum IEEE 802.16e should specify security requirements for the EAP methods to be used with it. RFC 4017 (developed by IEEE 802.11i) serves as an example of what this would entail.

Suggested Remedy

Replace:

"The particular credentials and EAP methods that are to be used are outside of the scope of this specification, but they should be selected with awareness of the security issues described in [IETF RFC 3748] section 7."

with:

The particular credentials and EAP methods that are to be used are outside of the scope of this specification. However, the method selected **MUST** fulfill the "mandatory criteria" listed in section 2.2 of RFC 4017.

Proposed Resolution**Recommendation: Accepted-Modified****Recommendation by**

Replace:

"The particular credentials and EAP methods that are to be used are outside of the scope of this specification, but they should be selected with awareness of the security issues described in [IETF RFC 3748] section 7."

with:

"The particular credentials and EAP methods that are to be used are outside of the scope of this specification. However, the **EAP** method selected **SHOULD** fulfill the "mandatory criteria" listed in section 2.2 of RFC 4017. Use of an EAP method not meeting these criteria may lead to security vulnerabilities."

Also make an editorial change in figure 130j.
 Replace "EAP method protocol" with "EAP method"

Reason for Recommendation

Resolution of Group

Decision of Group: Accepted-Modified

Replace:

"The particular credentials and EAP methods that are to be used are outside of the scope of this specification, but they should be selected with awareness of the security issues described in [IETF RFC 3748] section 7."

with:

"The particular credentials and EAP methods that are to be used are outside of the scope of this specification. However, the EAP method selected **should** fulfill the "mandatory criteria" listed in section 2.2 of RFC 4017. Use of an EAP method not meeting these criteria may lead to security vulnerabilities."

Also make an editorial change in figure 130j.
Replace "EAP method protocol" with "EAP method"

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5329**

Comment submitted by: Jeff

Mandin

Member

2005/06/08

Comment	Type	Technical, Non-binding	Starting Page #	210	Starting Line #	47	Fig/Table#	Section	7.2.2.2.2
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From IETF review:

IEEE 802.16e D8 Section 7.2.2.2.2 states:

"Note that this EAP authentication method shall not derive key material and PMK"

.....

not requiring the BS to demonstrate possession of PMKs from all EAP authentications enables the man-in-the-middle attack, described in [BINDING]. We strongly suggest that IEEE 802.16e address this vulnerability prior to publication.

Suggested Remedy

Remedy the man-in-the-middle attack on "EAP after EAP mode" that is described in this comment.

Proposed Resolution**Recommendation: Accepted-Modified****Recommendation by***In section 7.2.2.2.2**Change*

"The PMK and EIK derivation from the AAA-key is as follows:

EIK | PMK = truncate (AAA-key, 288)

If more keying material is needed for future link ciphers, the key length of the PMK may be increased.

After successful EAP based authorization, if the MS or BS wants to run additional EAP authentication (Note that this EAP authentication method shall not derive key materials and PMK), the authenticated EAP messages shall carry EAP message. It shall cryptographically bind previous RSA EAP authentication and following EAP authentication session, while protecting second EAP messages."

to

"The PMK derivation from the MSK is as follows:

PMK = truncate (MSK, 160)

If more keying material is needed for future link ciphers, the key length of the PMK may be increased."

Also in 11.8.4.2 Authorization policy support

Also in 11.0.4.2 Authorization policy support

Change the following row

0 | 1 | 1 | EAP-based authorization and Authenticated EAP-based authorization

to

0 | 1 | 1 | N/A

Reason for Recommendation

Resolution of Group

Decision of Group: **Accepted-Modified**

In section 7.2.2.2.2

Change:

"The PMK and EIK derivation from the AAA-key is as follows:

EIK | PMK = truncate (AAA-key, 288)

If more keying material is needed for future link ciphers, the key length of the PMK may be increased.

After successful EAP based authorization, if the MS or BS wants to run additional EAP authentication (Note that this EAP authentication method shall not derive key materials and PMK), the authenticated EAP messages shall carry EAP message. It shall cryptographically bind previous RSA EAP authentication and following EAP authentication session, while protecting second EAP messages."

to:

"The PMK derivation from the MSK is as follows:

PMK = truncate (MSK, 160)

If more keying material is needed for future link ciphers, the key length of the PMK may be increased."

Reason for Group's Decision/Resolution

This removes the Man-in-the middle vulnerability associated with the EAP after EAP mode raised by IETF.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

2005/07/22

IEEE 802.16-05/035r3

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5341**

Comment submitted by: Jeff

Mandin

Member

2005/06/08

Comment	Type	Technical, Non-binding	Starting Page #	215	Starting Line #	51	Fig/Table#	Section	7.2.2.4
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From IETF review:

It appears that there are circumstances where a BS could hold two PMKs for a given MS (such as during EAP re-authentication). As part of the PMK cache definition, 802.16e should explicitly describe when PMKs are installed and deleted. For example, does installation of a new PMK automatically destroy the old PMK? It appears that this is implied by IEEE 802.16e D8, but it is not explicitly stated.

.....

Does failure of EAP authentication result in automatic deletion of the PMK? 802.16e is not explicit about this; we would suggest that it is best not to delete the PMK in this case to prevent DoS attacks.

Suggested Remedy

Adopt contribution "Clarifications on key caching, activation, deletion" (C80216e-05_292)

Proposed Resolution**Recommendation: Accepted-Modified****Recommendation by***[Add the following new section 7.2.2.2.11 :]*

7.2.2.2.11 Maintenance of PMK and AK

The BS and MS maintain cached PMK and AK as follows:

a) PMK caching

An MS caches a PMK upon successful EAP authentication. An Authenticator caches a PMK upon its receipt via the AAA protocol. Upon caching a new PMK for a particular MS, an Authenticator shall delete any PMK for that MS (as well as all associated AKs).

For the case of reauthentication, deletion of old PMKs at Authenticator and MS is accomplished via the switchover mechanism defined in section xxx (*Editor Note: see section from contribution 300*).

The Authenticator and MS will additionally delete PMKs and/or associated AKs in various situations - including lifetime expiration, reauthentication, and reclamation of memory resources, or as the result of other mechanisms beyond the scope of this specification..

In the case of re-authentication, the older PMK and its AKs shall be deleted by the MS after verifying the HMAC or CMAC of the PKMv2 SA-TEK challenge message and the BS after verifying the HMAC/CMAC of the PKMv2 SA-TEK request message.

b) AK activation and deactivation

Successful completion of the 3 way SA TEK handshake causes the activation of all the AKs associated with the new PMK (i.e. all AKs on BSec

Successful completion of the 3-way SA-TEK handshake causes the activation of all the AKs associated with the new PMK (ie. all AKs on BSSs associated with the current authenticator will be active).

If the packet counter belonging to a short HMAC or a CMAC key reaches its maximum value, the associated AK becomes permanently deactivated.

The BS and MS must maintain the AK context (ie. replay counters etc.) as long as they retain the AK.

[Change text beginning at page 230, line 58 as follows:]

The SA-TEK 3-way handshake sequence proceeds as follows:

1. During initial network entry or reauthorization, the BS shall send SA-TEK-Challenge (including a random number RandomBS) to the MS after protecting it with the CMAC/HMAC tuple (using the AK derived from the new PMK). If the BS does not receive SA-TEK-Request from the MS within SACHallengeTimer, it shall resend the previous PKMv2 SA-TEK-Challenge.

The BS may send SA-TEK-Challenge up to SACHallengeMaxResends times. If the BS reaches its maximum number of resends, it shall discard the AK and may initiate full re-authentication or drop the MS.

2. If HO Process Optimization bit #1 is set indicating that PKM Authentication phase is omitted during network re-entry or handover, the BS begins the 3-way-handshake by appending the SA Challenge Tuple TLV to the RNG-RSP. If the BS does not receive PKMv2 SA-TEK-Request from the MS within SaChallenge-Timer (suggested to be several times greater than the length of SaChallengeTimer), it shall discard the AK and may initiate full re-authentication or drop the MS. If the BS receives an initial RNG-REQ during the period that PKMv2 SA-TEK-Request is expected, it shall send a new RNG-RSP with another SaChallenge TLV.

3. The MS shall send PKMv2 SA-TEK-Request to the BS after protecting it with the CMAC/HMAC. If the MS does not receive PKMv2 SA-TEK-Response from the BS within SATEKTimer, it shall resend the request. The MS may resend the PKMv2 SA-TEK-Request up to SATEKRequestMaxResends times. If the MS reaches its maximum number of resends, it shall discard the AK and may initiate full re-authentication or decide to connect to another BS or take some other action.

Reason for Recommendation

Resolution of Group

Decision of Group: **Accepted-Modified**

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**

Ballot Number: **0001045**

Comment Date

Comment # **5344**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment Type **Technical, Binding**

Starting Page # **216**

Starting Line # **3**

Fig/Table#

Section **7.2.2.4.1**

Table 133 is missing the headers from the part that continues onto the next page.

Suggested Remedy

Make the headers appear on the second part of the table and add "(continued)" to the title on the second page (there is an auto-magic field in Framemaker for this.) Fix this here and all other locations in the draft. Almost all of the tables now have a consistent format, nevertheless, check all of the tables to make sure that the formatting is consistent throughout the draft.

Proposed Resolution

Recommendation: **Accepted**

Recommendation by

Format Table 133 appropriately

Reason for Recommendation

Resolution of Group

Decision of Group: **Accepted**

Format Table 133 appropriately

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5472**

Comment submitted by: Peiying

Zhu

Member

2005/06/08

Comment	Type	Editorial	Starting Page #	321	Starting Line #	64	Fig/Table#	Section	8.4.5.4.10.2
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The paragraph uses mixed MS and SS, should use the consistent term.

Suggested Remedy

When CQI Feedback Type field in CQICH_Enhanced_Alloc_IE() (see 8.4.5.4.15) is 0b011 and CQICH type is 0b101, the MS shall report the MIMO coefficient the BS should use for best DL reception. The mapping for the complex weights is shown in Figure 231. For this type of feedback, if N is the number of BS transmit antennas, then (N-1) CQICH shall be allocated to the ~~SS~~ MS and ~~SS~~ MS shall report the desired antenna weights of antenna 1 through N-1 based on antenna 0.

Proposed Resolution**Recommendation:****Recommendation by****Reason for Recommendation****Resolution of Group****Decision of Group: Accepted**

When CQI Feedback Type field in CQICH_Enhanced_Alloc_IE() (see 8.4.5.4.15) is 0b011 and CQICH type is 0b101, the MS shall report the MIMO coefficient the BS should use for best DL reception. The mapping for the complex weights is shown in Figure 231. For this type of feedback, if N is the number of BS transmit antennas, then (N-1) CQICH shall be allocated to the ~~SS~~ MS and ~~SS~~ MS shall report the desired antenna weights of antenna 1 through N-1 based on antenna 0.

Reason for Group's Decision/Resolution**Group's Notes****Group's Action Items****Editor's Notes****Editor's Actions****Editor's Questions and Concerns****Editor's Action Items**

Document under Review: **P802.16e/D8**

Ballot Number: **0001045**

Comment Date

Comment # **5480**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment Type **Technical, Binding** Starting Page # **327** Starting Line # **1** Fig/Table# Section **8.4.5.4.10.4**

Table 298d is missing "(continued)" in the title on the second page and the table format (double-ruled lines) doesn't match the other tables.

Suggested Remedy

Add "(continued)" and fix the table format.

Proposed Resolution

Recommendation:

Recommendation by

Reason for Recommendation

Resolution of Group

Decision of Group: **Accepted**

Add "(continued)" and fix the table format.

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**

Ballot Number: **0001045**

Comment Date

Comment # **5606**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment Type **Technical, Binding** Starting Page # **475** Starting Line # **14**

Fig/Table# Section **8.4.9.2.5.2**

It is not proper to mark a subclause as informative (see 2005 IEEE Style Guide).

Suggested Remedy

[Move this text to an informative Annex.](#)

Proposed Resolution Recommendation: Accepted

Recommendation by

[Move this text to an Informative Annex "LDPC Direct Encoding".](#)

Reason for Recommendation

Resolution of Group Decision of Group: Accepted

[Move this text to an Informative Annex "LDPC Direct Encoding".](#)

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**

Ballot Number: **0001045**

Comment Date

Comment # **5614**

Comment submitted by: Jeff

Mandin

Member

2005/06/08

Comment Type Starting Page # 497 Starting Line # 10 Fig/Table# Section 11.1.2

From IETF review:

The IEEE 802.16e 3-way handshake is not replay protected in one of the HMAC variants.

Suggested Remedy

Insert a new field above the last line in the table 348d as follows:

HMAC Packet Number Counter | 32 | replay counter
HMAC_PN_*

Proposed Resolution

Recommendation: Accepted-Modified

Recommendation by

Insert a new field above the last line in the table 348d as follows:

HMAC Packet Number Counter | 32 | replay counter
HMAC_PN_*

In section 7.5.3 Calculation of HMAC-Digests add the following marked text

The digest shall be calculated over the entire MAC Management message with the exception of the HMAC-Digest and HMAC Tuple attributes. In the case of PKMv2 HMAC-Digest Calculations shall include the HMAC_PN_* that should be concatenated after the MAC Management message.

Reason for Recommendation

Resolution of Group

Decision of Group: Accepted-Modified

*In Tables 348a and 348c, add to the Scope column:
"PKM-REQ, PKM-RSP"*

Insert a new field above the last line (above Short-HMAC-Digest entry) in the table 348d as follows:

HMAC Packet Number Counter | 32 | replay counter
HMAC_PN_*

In section 7.5.3 Calculation of HMAC-Digests add the following marked text

In section 7.3.3 Calculation of HMAC Digests add the following marked text.

The digest shall be calculated over the entire MAC Management message with the exception of the HMAC-Digest and HMAC Tuple attributes. In the case of PKMv2 HMAC-Digest Calculations shall include the HMAC_PN * that should be concatenated after the MAC Management message.

Reason for Group's Decision/Resolution

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5616**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment Type **Technical, Binding** Starting Page # **497** Starting Line # **56** Fig/Table# Section **11.1.2.2**

All notes are informative, but the proper way to use them is with "NOTE:" and the correct style in Framemaker.

Suggested Remedy

Check the 2005 IEEE Style Guide for instructions or call me and I will walk you through it.

Proposed ResolutionRecommendation: **Accepted-Modified**

Recommendation by

Change:

"Informative note: It would..."

To:

"NOTE: It would..."

Reason for Recommendation**Resolution of Group**Decision of Group: **Accepted-Modified**

Change:

"Informative note: It would..."

To:

"NOTE: It would..."

Reason for Group's Decision/Resolution**Group's Notes****Group's Action Items****Editor's Notes****Editor's Actions****Editor's Questions and Concerns****Editor's Action Items**

Document under Review: **P802.16e/D8**

Ballot Number: **0001045**

Comment Date

Comment # **5669**

Comment submitted by: Jeff

Mandin

Member

2005/06/08

Comment Type **Technical, Non-binding** Starting Page # **550** Starting Line # **20** Fig/Table# Section **11.9.35**

From IETF review:

IEEE 802.16e D8 does not ensure that the PMK is bound to context such as the key lifetime and scope.

....

Since EAP authenticators may have multiple ports, the EAP peer needs to be aware of the authenticator identity; this is not defined in IEEE 802.16e D8.

Suggested Remedy

Adopt contribution "Definition of PMK scope via AuthenticatorId" (C80216e-5_280)

Proposed Resolution

Recommendation: Accepted-Modified

Recommendation by

[Insert the following paragraph to page 230 line 56:]

The 3-way handshake demonstrates liveness of the BS and MS, proves mutual possession of the AK, and activates all of the AKs associated with the authenticator together with their AK context. When performing HO to a target BS associated with the same authenticator (as indicated in NBR_ADV) as the serving BS, no 3-way handshake is required - as all AKs on the authenticator are already active.

[Add the following to table 358 (DCD Channel Encoding):]

AuthenticatorId | <code> | variable | the identity of an EAP authenticator associated with the BS

[Insert new section 11.9.35:]

AuthenticatorId

Description: The Identity of the EAP Authenticator associated with the BS. This is the value that is used as the NAS_Identifier AAA attribute

Type | Length | Value

Tbd | variable | Identity of the EAP Authenticator associated with the BS

[Delete the following text from table 108f and renumber the text entries lying below it:]

~~Bit #1: Omit PKM Authentication phase except TEK phase during current re-entry processing~~

[Delete the following text from page 115 line 53 and renumber the text entries lying below it:]

2005/07/22

IEEE 802.16-05/035r3

[Delete the following text from page 115 line 52 and renumber the text entries lying below it.]

~~Bit #1: Omit PKM Authentication phase except TEK phase during current re-entry processing~~

Reason for Recommendation

Resolution of Group

Decision of Group: Rejected

Reason for Group's Decision/Resolution

To adopt the concept of authenticator ID shall provide and specify new network architecture.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5689**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment Type **Technical, Binding** Starting Page # **577** Starting Line # **23** Fig/Table# Section **C.1.1**

The command HO-IND appears in the figure but not in the draft. Is this supposed to be MOB-HO-IND?

Suggested Remedy

Change the command name here and in all other locations to match a command in the standard or delete all of the figures that refer to it. I found occurrences in Figure C.6, C.7, D.1, D.2, D.3, etc.

Proposed Resolution**Recommendation:****Recommendation by****Reason for Recommendation****Resolution of Group****Decision of Group: Accepted**

Change the command name here and in all other locations to match a command in the standard or delete all of the figures that refer to it. I found occurrences in Figure C.6, C.7, D.1, D.2, D.3, etc.

Reason for Group's Decision/Resolution**Group's Notes****Group's Action Items****Editor's Notes****Editor's Actions****Editor's Questions and Concerns****Editor's Action Items**

Document under Review: **P802.16e/D8**

Ballot Number: **0001045**

Comment Date

Comment # **5695**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment	Type Technical, Binding	Starting Page # vario	Starting Line # vario	Fig/Table#	Section various
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I am continuing to find commands in MSCs that don't exist elsewhere.

Suggested Remedy

Review each MSC and figure to verify that every command referenced in figure is the correct name for it. If the names don't match, the standard is broken.

Proposed Resolution

Recommendation:

Recommendation by

Reason for Recommendation

Resolution of Group

Decision of Group: Rejected

Reason for Group's Decision/Resolution

Lack of specific text.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5696**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment	Type	Technical, Binding	Starting Page #	vario	Starting Line #	vario	Fig/Table#	Section	various
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The table heading needs to repeat across pages at the top of each continuation of the table and the table title should include one of "continuation", "cont." or a suitable notation. Tables 298r and 298t are examples of this.

Suggested Remedy

Change as indicated here and throughout the draft. This is a repeat of my earlier comment, which apparently did not get applied to the entire draft as I have found at least two table that violate this requirement. This time, check the entire draft for this mistake and correct it.

Proposed Resolution**Recommendation:****Recommendation by****Reason for Recommendation****Resolution of Group****Decision of Group: Accepted**

Change as indicated here and throughout the draft. This is a repeat of my earlier comment, which apparently did not get applied to the entire draft as I have found at least two table that violate this requirement. This time, check the entire draft for this mistake and correct it.

Reason for Group's Decision/Resolution**Group's Notes****Group's Action Items****Editor's Notes****Editor's Actions****Editor's Questions and Concerns****Editor's Action Items**

Document under Review: **P802.16e/D8**

Ballot Number: **0001045**

Comment Date

Comment # **5697**

Comment submitted by: James

Gilb

Member

2005/06/08

Comment Type **Editorial, Binding** Starting Page # **all** Starting Line # **vario** Fig/Table# Section **various**

The tables lack a uniform application of borders. It is both distracting and unprofessional. The first draft to ballot might have some of these, but a recirculation should not have the level of editorial mistakes that is present in this draft.

Suggested Remedy

Fix all of the table to use the correct borders as per the 2005 IEEE Style Guide.

Proposed Resolution

Recommendation: **Rejected**

Recommendation by

Reason for Recommendation

The task group's primary concern is technical content. Cosmetic editorial changes can and will be dealt with during the final IEEE editing and publication process.

Resolution of Group

Decision of Group: **Rejected**

Reason for Group's Decision/Resolution

The task group's primary concern is technical content. Cosmetic editorial changes can and will be dealt with during the final IEEE editing and publication process.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5700**

Comment submitted by: Greg

Phillips

Member

2005/06/08

Comment	Type	Technical, Binding	Starting Page #	Gen	Starting Line #	Fig/Table#	Section
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In light of the report from the IETF on the security review of IEEE 802.16e D8. I cast a disapprove ballot.

If we knowingly allow the adoption of this standard after a report showing that the security of data transferred under the 802.16 standard can be compromised we can expect significant resistance from the market in adopting this technology.

One section of the specific text from the report that highlights these concerns is:

"Overall, significant issues were found in the usage of EAP by 802.16e. Issues were found with IEEE 802.16e compatibility with RFC 3748, the EAP Key Management Framework as well as AAA Key Management Requirements. Several of the issues discovered are considered "critical" in that if they are not repaired, IEEE 802.16e will provide little in the way of guaranteed security."

There are many other items presented in addition to those relating to interoperability of AAA servers and failings of the current document.

I strongly make note that the work undertaken in this review process should not be ignored. These are very serious considerations that have been raised in the past and now we have highly qualified team describe them in sufficient detail for us not to ignore.

Suggested Remedy

Due to the late nature of this report sufficient time to draft a total remedy is not available. I suggest that the remedy process be undertaken as outlined in the report.

The review is available at <http://www.drizzle.com/~aboba/EAP/review.txt>.

Proposed Resolution Recommendation: **Superceded** Recommendation by

Reason for Recommendation

No text proposed. See comments 5129, 5135, 5320, 5321, 5329, 5341, 5614, 5669.

Resolution of Group Decision of Group: **Superceded**

Reason for Group's Decision/Resolution

No text proposed. See comments 5129, 5135, 5320, 5321, 5329, 5341, 5614, 5669.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

No action required for this comment.

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **P802.16e/D8**Ballot Number: **0001045**

Comment Date

Comment # **5726**

Comment submitted by: Dorothy

Stanley

Member

2005/06/08

Comment Type **Technical, Binding** Starting Page # **999** Starting Line #Fig/Table# Section **6.3**

Errors in EAP usage identified in IETF review

Suggested Remedy

Address the issues identified in <http://www.drizzle.com/~aboba/EAP/review.txt>

Proposed Resolution

Recommendation: **Superceded**

Recommendation by

Reason for Recommendation

No text proposed. See comments 5129, 5135, 5320, 5321, 5329, 5341, 5614, 5669.

Resolution of Group

Decision of Group: **Superceded**

Reason for Group's Decision/Resolution

No text proposed. See comments 5129, 5135, 5320, 5321, 5329, 5341, 5614, 5669.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items

Document under Review: **802.16e/D9**

Ballot Number: **0001056**

Comment Date

Comment # **6014**

Comment submitted by: Phillip

Barber

Member

2005/07/14

Comment	Type	Technical, Binding	Starting Page #	32	Starting Line #	Fig/Table#	Section	6.3.2.2.7
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According to the current IEEE802.16e/D9, the method for defining and activating/deactivating Power Saving Class ID has been redefined and refined. However, the method for adding and removing CIDs from defined Power Saving Class IDs has not been similarly updated.

Suggested Remedy

Adopt the remedy in the contribution "C80216e-05_319"(John Lee).

Proposed Resolution

Recommendation: Accepted-Modified

Recommendation by

Adopt C802.16e-05/319r1 with the following change:
Correct numbering for second instance of 6.3.2.2.7.9 and in the table.

Complete edits on Comment 6022 before adopting Contribution 319r1

Reason for Recommendation

Resolution of Group

Decision of Group: Rejected

Reason for Group's Decision/Resolution

Vote: 15-11
Current sleep mode becomes more complex and harder to implement and to use in real environment.
And the proposed scheme make more complex and harder to control the state of MS and BS since this thing propose that BS ans MS shall control sleep mode per connection not per sleep class.
And if MS and BS want to control sleep mode per connection, by assigning sleep class per connection, it can be handled.
sleep mode becomes
It does give more burden to system with less efficiency.

Group's Notes

Group's Action Items

Editor's Notes

Editor's Actions

Editor's Questions and Concerns

Editor's Action Items