IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Resolutions for “Obsolete?” comments on 11md/D0.1 | | | | |
| Date: 2017-08 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Graham SMITH | SRT Wireless | Davie, FL, USA. | 916 799 9563 | gsmith@srtrl.com |

Abstract

This submission proposes resolutions for CIDs 57-69

Green indicates material agreed to in the group,

yellow material to be discussed, red material rejected by the group and

cyan material not to be overlooked.

The “Final” view should be selected in Word.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Commenter | Clause | Page | Line | Comment | Proposed |
| 57 | Graham Smith | 9.3.1.8.2 | 712 | 8 | Time to remove BlockAckReq? | Remove |
| 58 | Graham Smith | 9.3.1.9.2 | 716 | 14 | Time to remove basic BlockAck variant? | Remove |
| 59 | Graham Smith | 11.7 | 1806 | 5 | Time to remove DLS? | Remove |
| 60 | Graham Smith | 11.17 | 1881 | 56 | Time to remove PCO? | Remove |
| 61 | Graham Smith | 11.5.2.4 | 1802 | 31 | Time to remove Non-HT blockack ? | Remove, also at 2949L25, 2950L6 |
| 62 | Graham Smith | 12.2.5 | 2060 | 4 | Time to remove STSL support? | Remove |
| 63 | Graham Smith | 12.3.1 | 2062 | 6 | Time to remove all pre-RSNA security mechanisms other than Open System authentication? WEP | Remove |
| 64 | Graham Smith | 20.5.1 | 2627 | 7 | Time to remove DMG OFDM? | Remove |
| 65 | Graham Smith | 9.4.2.5 | 845 | 40 | Time to remove PCF ? | Remove, also at 1008 L45, 1312 L20, P1399L10, P1438 L 24 (10.4) |
| 66 | Graham Smith | 10.8 |  |  | Time to remove StricklyOrdered service class? | Remove |
| 67 | Graham Smith | 10.26.5 | 1553 | 38 | Time to remove L-SIG TXOP protection mechanism? | Remove |
| 68 | Graham Smith | E.2 | 3564 | 1 | Remove obsolete operating classes in Table E-3. | Remove |
| 69 | Graham Smith | 10.3.2.3.2 | 1409 | 38 | Time to remove RIFS? | Remove |

CID 57 BlockAckReq variant

P711.56

*DMG STAs use only the Compressed BlockAckReq variant and the Extended Compressed BlockAckReq variant.*

So no worries there then.

No other reference to this outside of 9.3.1.8.2

**Separate document written. 17/1137**

General consensus to remove but need to check that Basic BlockAckReq to be checked.

Graham – check and propose removals for Basic BlockAckReq, Basic BlockAck and NON-HT Block Ack.

CID 58 Basic BlockAck variant

Only mentioned in this clause and PICS

Delete 9.3.1.9.2

Delete “9.3.1.9.2 (Basic BlockAck variant)” at 2949.31, 2950.12 (PICS)

**Separate document written. 17/1137**

CID 59 and CID 62 DLS and STSL

1806.10

*The STSL mechanism is obsolete. Consequently, the DLS protocol might be removed in a later revision of the standard.*

STSL = station to station link.There are 60 instances of STSL in the text mostly on key management.

2060.4

*The STSL mechanism is obsolete. Consequently, the PeerKey protocol components that do not support the AP PeerKey protocol might be removed in a later revision of the standard.*

Need to check Peer Key components.

Deleting all relating to STSL could be done with a global search.

At 1806.20 *A DMG STA shall not use the DLS protocol.*

I think that DLS could safely be removed. There are 303 instances of DLS so it would not be too major to remove it.

A question is whether TDLS is reliant upon anything in DLS.

Have reached out to Menzo. Menzo thinks no, Mark wants to check that a generic DLS may be used and needs to be checked.

Consensus to remove.

RESOLUTION

REVISED

146.11 delete lines 11 and 2 (STSL STK SMK)

161.48 delete lines 48 – 50 (STSL, SMK, STK, SMKSA STKSA)

166.58 delete lines 58 – 64 (two entries) (STSL SMKSA)

167.1 delete lines 1 – 16 (four entries) (STSL SMK STKSA)

183.21 delete SKCK and SKEK entries

183.32 delete SMK and SMKSA entries

184.1 delete STK, STKSA STSL entries

227.50 delete “station-to-station link (STSL) master key security association (SMKSA), STSL transient key security association (STKSA),”

1774.15 delete “STSL, DLS and”

1806 Dlete 11.7 entirely

2060.1 delete 12.2.5 RSNA PeerKey Support entirely

2124.24 delete 12.6.1.1.12 STKSA entirely

2139.32 delete “and invoke an STSL application teardown procedure for any of its STKSAs. An example of an STSL application teardown procedure is described in 11.7.4 (DLS teardown).”

2140 .1 delete “If the SMK handshake fails between a pair of associated STAs and AP, then the STAs and the AP shall invoke an STSL application teardown procedure.”

2140.13 delete “When a STA’s SME receives an MLME-PN-EXHAUSTION.indication primitive and the PN is associated with a STKSA, the STA’s SME shall invoke a STSL application teardown procedure for the STKSA and delete the STKSA.”

2141.58 delete “When a STKSA is deleted, the STA\_I may establish a new STSL with the STA\_P. If the SMK between the STA pair has not expired, the STA\_I may initiate a 4-way handshake and create a new STKSA with STA\_P. If the SMK has expired, the STA\_I shall create both a new SMKSA and a new STKSA with the STA\_P.”

2141.64 delete “or STKSA”

2150.58 delete 12.7.1.6 PeerKey key hierarchy entirely

2159.36 delete “, and is set to 1 by the STSL peer STA to request initiator STA rekeying of the STK”

2163.37 delete “Table 12-7 (SMK error types) shows different values of SMK error types.”

2163.49 delete Table 12-7

2176.21 delete “, and for STK generation the STAs should delete the SMKSA and initiate an STSL application teardown procedure”

2176.25 delete “For STK generation, if the peer STA does not receive message 1 or message 3 within the expected time interval (prior to dot11RSNAConfigSATimeout as specified in 12.7.8 (PeerKey handshake)), it deletes the SMKSA and invokes an STSL application teardown procedure.”

2182.43 delete 12.7.8 in its entirety

Note to editor: After deleting as per above instructions, check that STSL STK SMK SMKSA STKSA SKCK SKEK do not appear.

CID 60 PCO Phased co-existance operation

*11.17.1*

*The PCO mechanism is obsolete. Consequently, this subclause might be removed in a later revision of this standard.*

*PCO is an optional coexistence mechanism in which a PCO active AP divides time into alternating 20 MHz and 40 MHz phases (see Figure 11-31 (Phased coexistence operation (PCO))).*

Not used in mesh

261 instances of PCO but lots are in the terms

9.4.1.24 needs to be deleted,

9.6.12.5 needs to be deleted

Then delete it in the HT Extended Capabilities Field 1008.31, 1008.48, 1009.6

Delete it in the HT Operation Information field 1014.20 etc.

Delete it in HT Action field

It would free up a lot of bits!

Detailed editor instructions required.

Consensus to delete PCO

Globally search for PCO and delete all related sections and references.

RESOLUTION

REVISED

159.42 delete lines 42 to 46

162.16 delete lines 16 to 47

180.53 delete “PCO phased coexistence operation”

777.49 delete name and change Status Code 29 to “reserved”

788.50 delete 9.4.1.24 in its entirety

1008.31 B0 to B7 to be “Reserved” (i.e. delete references to “PCO”)

1008 48 delete Subfield PCO and related Definition and Encoding text.

1009 6 delete Subfield “PCO Transition Time” and related Definition and Encoding text

1009 .43 delete “The following subfield is reserved for a mesh STA: PCO.”

1014.21 B34 and B35 to be “Reserved”

1017.26 dlete lines 26 to 48 (PCO Active and PCO Phase)

1310.43 set HT Action field value 3 to “Reserved” (delete “Set PCO Phase Yes”

1312.20 delete 9.6.12.5 entirely

1453.61 replace “If not operating during the 40 MHz phase of PCO, a” with “A”

1454.1 delete lines 1 to 7.

1460 delete “except during the 40 MHz phase of PCO operation. During the 40 MHz phase of PCO operation, the rules in 11.17 (Phased coexistence operation (PCO)) apply.”

1549.24 delete “During the 40 MHz phase of PCO operation, a PCO active STA may act as though the HT Protection fieldwere equal to no protection mode, regardless of the actual value of the HT Protection field transmitted by theAP.”

1550.45 delete “The PCO Active field equal to 0 g)”

1637.28 delete “or PCO”

1881.57 delete 11.17 in its entirety

2288.25 delete “or PCO”

2883.20 delete “11.17.2 (Operation at a PCO active AP)”

2974.17 delete entries for HTM21, HTM21.1, HTM21.1.1, HTM21.2, HTM21.2.1

3138.23 delete entry for “dot11PCOOptionImplemented”

3255.48 delete entry for “dot11RMNeighborReportHTPCO”

3255.61 delete entry for “dot11RMNeighborReportHTPCOTransitionTime”

3265.9 delete entry for “dot11RMNeighborReportHTInfoPCOActive”

3265.23 delete entry for “dot11RMNeighborReportHTInfoPCOPhase”

3376.31 delete entry for “dot11PCOActivated”

3376.44 delete entry for “dot11PCOFortyMaxDuration”

3377.59 delete entry for”dot11PCOTwentyMaxDuration”

3377.9 delete entry for “dot11PCOFortyMinDuration”

3377.23 delete entry for “dot11PCOTwentyMinDuration”

CID 61 NON\_HT Block Ack

This only appears in 3 places, all cited. Is this the Block Ack introduced in 11e?

The intention is that block ack is only used with HT and beyond, this seems OK so let’s delete these 3 cites.

Adrian: do we need “HT Block Ack”

**Separate document written. 17/1137**

CID 63 Pre-RSNA security methods

*2062.6 Except for Open System authentication, all pre-RSNA security mechanisms are obsolete. Support for them might be removed in a later revision of the standard.*

Hence delete WEP and keep only the section on Open Authentication.

RESOLUTION

Rename 12.3 “Open System authentication”

Delete 12.3.1 to 12.3.2.4, and heading 12.3.3.

Renumber 12.3.3.1 as 12.3.1 “Overview”

After “A DMG STA shall not perform an IEEE 802.11 authentication exchange using the Open System

authentication algorithm.” Add “A mesh STA shall not perform an IEEE 802.11 authentication exchange using the Open System.”

Delete “Shared Key authentication is deprecated and should not be implemented except for backward compatibility

with pre-RSNA STAs.”

Delete heading 12.3.3.2

Renumber 12.3.3.2 as 12.3.2 “General”

Renumber 12.3.3.2.2 as 12.3.3

Renumber 12.3.3.2.3 as 12.3.4

Delete 12.3.3.3

Discussion:

* In practice WEP is deployed in many devices. TKIP relies on WEP things. (do not remove)
* WEP is broken and message needs to be sent to market (remove) Exists in the older versions if reference needed.
* Edits in obsolete clauses are not being corrected.
* Need to take legal advice. If WEP implemented and WEP removed, now “Non-compliant”. (IPR issue)
* 2001 first problems with WEP reported. Enough is enough after 16 years.
* Other Stds. announce a time period.
* Deprecate (11mb) – Obsolete (11mc) –
* TKIP is marked “Deprecated”.
* Could make announcement or liaison that 11md will remove WEP.

Straw Poll:

1. Remove WEP as an independent cipher in TGmd 16/8
2. Remove WEP andTKIP in TGmd 15/6
3. Mark WEP and TKIP as Obsolete and will be removed 19/7
4. No change 0/25

CID 64 DMG OFDM

*Transmission and reception of DMG OFDM mode PPDUs is optional. The use of the DMG OFDM mode is obsolete. Consequently, this option may be removed in a later revision of the standard.*

Seems clear to me. Delete 20.5.

Need more time but seems concensus to remove. May be moved to 11ay.

139 instances but about 30+ are in the Index.

Globally search for DMG OFDM and delete the text.

Delete 20.5 in its entirety

Delete I.7 in its entirety

Discussed 8/9 by 11ay

11ay meeting on August 9, 2017

Carlos: Provided the obsolete text. Mode not used and could be removed. Concern with resolution global text. No general issue to remove but needs careful work

May: Agree with Carlos. Spatial features related to OFDM need to be removed correctly. Timing features need to be arr

Assaf: Highly supportive to remove. Need to have a contribution willing to support removal.

Dorothy: Specific detailed actions required. Helpful to look at original contribution that introduced DMG OFDM. D1.0 slated for January. Like to resolve as many comments as possible.

Consensus to remove

A separate document will be written, then uploaded to 11md and indicate to reflectors for 11ay, and 11 in general.

CID 65 PCF

9.4.2.5 CF Parameter Set element

*The PCF mechanism is obsolete. Consequently, this subclause might be removed in a later revision of the standard.*

10.4 PCF

*The PCF mechanism is obsolete. Consequently, this subclause might be removed in a later revision of the standard*

***point coordination function (PCF):*** *A class of possible coordination functions in which the coordination function logic is active in only one station (STA) in a basic service set (BSS) at any given time that the network is in operation.*

***contention free period (CFP):*** *The time period during the operation of a point coordination function (PCF) when the right to transmit is assigned to stations (STAs) solely by a point coordinator (PC), allowing frame exchanges to occur between members of the basic service set (BSS) without contention for the wireless medium (WM).*

Is this still true? Does the CF parameter set require a PC? CF parameter set is the one tagged.

HCCA uses “Hybrid coordination function (HCF)

RESOLUTION

REVISED

Remove all references to PCF and PC and related text. 107 instances of PCF, 142 instances of PC.

Remove 10.2.3

Remove 10.4 in its entirety.

Need to create editor instructions.

CF-END frames were PCF. Does HCCA use PCF, PIFS not to be deleted. Also need to look at contention –free (CF)

CID 66 StrictlyOrdered service class

255.21

*Note that the use of the StrictlyOrdered service class is obsolete and the StrictlyOrdered service class might be removed in a future revision of the standard.*

There are 18 instances of StrictlyOrdered, relatively easy to delete this.

RESOLUTION

REVISED

Delete entire paragraph at 255.15

At 266.23 Delete “or StrictlyOrdered”

At 266.30 delete all within parentheses.

At 267.4 delete “or StrictlyOrdered”

At 680.40 Delete “It is used for two purposes:” Delete first bullet, then run second bullet as normal sentence, not bulleted.

At 1468.53 delete entire paragraph

At 1726.41 delete “, except those that have the StrictlyOrdered service class”

At 1729.23 delete “except those with a service class of StrictlyOrdered”

At 1760.45 delete “(excluding those with a service class of StrictlyOrdered)”

At 2871.6 delete row PC8.2

Consensus to remove

Non-QoS use of Service Class can also go away.

CID 67 L-SIG TXOP protection mechanism

10.26.5

1553.42

*The L-SIG TXOP protection mechanism is obsolete. Consequently, this subclause might be removed in a later revision of this standard.*

Clear enough

70 instances of L-SIG TXOP protection.

Removal in the HT Operation element

Requires detailed editor instructions

Consensus to remove

RESOLUTION

REVISED

Globally search for “L-SIG TXOP protection” and delete all related sections and references.

Remove claise 10.26.5

CID 68 obsolete operating classes in Table E-3.

3564.1

*Operating classes for operation in Japan are enumerated in Table E-3 (Operating classes in Japan). Note that some of the operating classes in this table were never used and are obsolete. The obsolete operating classes indicated by an asterisk (\*) might be removed in a future revision of the standard.*

There are 30 such classes in the Table

As the Operating Classes are in numberical order, suggest that they are just made Reserved

Discussed on Telecon. “Ready for Motion”

Peter may be willing to go thru list for others.

Typical a “reserved” like this is marked not for re-allocaton.

RESOLUTION

REVISED

Table E-3, 3564.8, for each Operating class indicated by an asterisk, replace text in each column with “Reserved”

CID 69 RIFS

There are 84 instances of RIFS

1409.41

*The use of RIFS for a non-DMG STA is obsolete, and support for such use might be subject to removal in a future revision of the standard. A VHT STA shall not transmit frames separated by a RIFS.*

*1409.47 RIFS may be used in place of SIFS to separate multiple transmissions from a single transmitter, when no SIFS separated response transmission is expected and either of the following is true:*

*— The transmitter is not a DMG STA.*

*— The transmitter is a DMG STA, and each transmission occurs with the same transmit antenna*

*configuration.*

So a DMG STA may use RIFS, but obsolete for non-DMG.

1010.1 *An HT STA shall not transmit PPDUs separated by a RIFS unless the beacon or probe response most recently received from the BSS’s AP contains an HT Operation element with RIFS Mode field equal to 1.*

To remove from Standard will take some effort; however, let’s have a go. I have tried to remove from anything that is non-DMG and left it where possible DMG use.

Discussion

* There are implementations, “RIFS” testing results are published.
* Already marked Obsolete. Do not change.
* Maybe implementations but no-one uses it. Similar to WEP possibly.

Straw Polls

Remove RIFS 11/0

No Change 5/7

RESOLUTION

At 201.27 delete “The use of certain HT features, such as reduced interframe space (RIFS), is not permitted for VHT STAs.

Delete 10.26.3.3

Figure 9-339 B3 to B7 to be Reserved

Table 9-168 1015.20 delete RIFS Mode

1409.41 Delete “The use of RIFS for a non-DMG STA is obsolete, and support for such use might be subject to removal in a future revision of the standard. A VHT STA shall not transmit frames separated by a RIFS.”

At 1409.47 replace

“RIFS may be used in place of SIFS to separate multiple transmissions from a single transmitter, when no SIFS separated response transmission is expected and either of the following is true:

— The transmitter is not a DMG STA.

— The transmitter is a DMG STA, and each transmission occurs with the same transmit antenna configuration.”

With

“RIFS may be used in place of SIFS to separate multiple transmissions from a single transmitter, when no SIFS separated

response transmission is expected and the transmitter is a DMG STA, and each transmission occurs with the same transmit antenna configuration.”

At 1409.56 delete “(see Table 19-25 (HT PHY characteristics) and”

At 1409 61 delete “shall both be HT PPDUs or”

At 1410.1 delete “An HT STA shall not transmit PPDUs separated by a RIFS unless the beacon or probe response most recently received from the BSS’s AP contains an HT Operation element with RIFS Mode field equal to 1.”

At 1437.64 delete “, except for RIFS transmissions”

At 1410.5 delete entire paragraph.

At 1491.30 delete “(or RIFS, if the conditions defined in 10.3.2.3.2 (RIFS) are met)”

At 1548.51 delete “and RIFS sequences”

At 1548.61 delete “In an IBSS and an MBSS, the RIFS Mode field of the HT Operation element is reserved, but an HT STA shall operate as though this field were equal to 1.”

At 1549.10 delete “The protection requirements for HT transmissions using RIFS within the HT transmission burst are specified in 10.26.3.3 (RIFS protection).”

1549.60 delete “and/or be separated by RIFS”

1550.37 delete “a) The RIFS Mode field of the HT Operation element equal to 1”

Delete clause 10.26.3.3 “RIFS protection”. (Note this is for HT)

1551.12 delete “and RIFS”

1551.28 delete “and RIFS”

1551.31 delete “or RIFS”

1551.33 delete “and RIFS”

1562.50 delete “and 10.26.3.3 (RIFS protection)”

1565.11 delete “and 10.26.3.3 (RIFS protection)”

1565.34 delete “unless the use of RIFS is permitted, as defined in 10.26.3.3 (RIFS protection)”

1565.37 delete “using RIFS” and “The use of RIFS is limited as defined in 10.3.2.3.2 (RIFS) and 10.26.3.3 (RIFS protection).”

Figure 10-44 1567.143 delete “RIFS or”

2026.41 delete “A VHT AP shall set the RIFS Mode field in the HT Operation element to 0.”

2581.8 delete 19.3.19.7

At 2588.25 DON’T KNOW maybe delete from line 22 or just this line “This sequence occurs when signal-extended PPDUs are transmitted while separated by a RIFS.

2970.28 delete HTM6.1 and HTM6.2

2987.19 delete HTP2.13

3263.15 Delete dot11RMNeighborReportHTInfoRIFSMode