IEEE P802.11
Wireless LANs

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| Resolution for CID 65 “Remove PCF”  |
| Date: 2017-09 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Graham SMITH | SR Technology | Davie, FL, USA. | 916 799 9563 | gsmith@srtrl.com |

Abstract

This submission proposes resolutions for CID 65

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.

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| --- | --- | --- | --- | --- | --- | --- |
| CID | Commenter | Clause  | Page  | Line | Comment | Proposed |
| 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) |

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*The PCF mechanism is obsolete.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*The PCF mechanism is obsolete.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).*

HCCA uses “Hybrid coordination function (HCF) AND at 681.25 we read “frames transmitted during the CFP using the HCF”. Also 770.34 “QoS AP (HC) uses CFP for delivery, but does not send CF-Polls to non-QoS STAs”

HOWEVER, at 1483.6 we read “Under HCF, the basic unit of allocation of the right to transmit onto the WM is the TXOP”. So although we have the concept of CFP, we do not use the CF Parameter Set.

So CFP can exist outside of PCF and is defined at 10.22.3.2.2. CFP generation. Hence we should only remove all references to PCF and PC and related text and check if CFP refers to HCCA – if so leave it.

107 instances of PCF, 142 instances of PC, 181 instances of CFP

Need to create editor instructions.

PIFS not to be deleted. Also need to look at contention –free (CF)

**We need to keep PIFS** Can we re-define PIFS not using PCF? It is in between SIFS and DIFS. SIFS is ‘short’, and DIFS is “DCF”. Originally PIFS was the priority access for a PCF but now the PC is replaced by the HC. Hence it should be termed “HIFS”. Can’t see that flying, but how about “**PIFS = Priority interframe space**?” I like it!

Redefine PIFS as “Priority Interframe Space”.

Remove 10.2.3

Remove 10.4 in its entirety.

RESOLUTION

REVISED

149.1 “**contention free period (CFP):** The time period when the right to transmit is assigned to stations (STAs) allowing frame exchanges to occur between members of the basic service set (BSS) without contention for the wireless medium (WM).”

149.7 “**contention period (CP):** The time period outside of the contention free period (CFP) in a basic service set (BSS)..”

149.12 change controlled access phase (CAP) as follows:

“**controlled access phase (CAP):** A time period during which the hybrid coordinator (HC) maintains control of the medium, after gaining medium access by sensing the channel to be idle for a priority) interframe space (PIFS) duration. It might span multiple consecutive transmission opportunities (TXOPs) and can contain polled TXOPs.”

181.2 change “point (coordination function) interframe space” to “priority interframe space”

162.49 delete “point coordination function (PCF)” lines 49 to 52.

180.49 delete “PCF point coordination function”

681.26 Table 9-5 delete entire row “0 0 1 Fixed value under point coordination function (PCF) within frames transmitted during the CFP.”

728.48 edit “Within all Data frames sent by STAs during the CFP, the Duration field is set to 32 768.”

732.30 edit “Within all Management frames sent by STAs during the CFP, the Duration field is set to the value 32 768.”

733.48 Table 9-27 delete entire row “7 CF Parameter Set” and renumber “Order” column appropriately

748.63 Table 9-34 delete entire row “7 CF Parameter Set” and renumber “Order” column appropriately

845.40 delete 9.4.2.5 entirely

847.11 delete “A PC might decline to set bits in the TIM for CF-Pollable STAs it does not intend to poll (see 11.2.3.7 (AP operation during the CFP)).”

961.56 delete “10.4.4 (PCF transfer procedure),”

1397.8 delete “the point coordination function (PCF),”

1397.11 delete “10.4 (PCF),”

1397.22 delete “The PCF mechanism is obsolete. Consequently, the PCF mechanism might be removed in a later revision of the standard.”

1397.59 delete “PCF,”

1397.61 delete “— The PCF is optionally present in nonmesh STAs and absent otherwise.”

1398.12 Figure 10-1 Delete dotted box and text “Point Coordination Function (PCF). Also delete the text and line to this box “Required for Contention- Free Services for non-QoS STA, optional otherwise”. Re dimension the figure as appropriate.

1398.12 Delete “PCF,” from the text at the right.

1399.9 Delete Clause “10.2.3 PCF” in its entirety

1399.42 delete “and PCF

1402.56 delete “, and operates under rules that are different from the PC of the PCF

1403.14 delete as shown “than those specified for HCF.”

1403.41 delete “PCF,” from title

1403.43 delete as shown:

“The DCF and the hybrid coordination function are defined so they may operate within the same BSS. The HCF access methods (controlled and contention based) operate sequentially when the channel is in CP. Sequential operation allows the polled and contention based access methods to alternate, within intervals as short as the time to transmit a frame exchange sequence, under rules defined in 10.22 (HCF).

1404.46 delete “— Sent during a CFP as individual frames obeying the rules of the PC medium access procedure, or”

1408.8 delete “use of the NAV in PCF is described in 10.4.3.3 (NAV operation during the CFP),”

1408.64 Replace “PCF” with “priority”

1410.18 Change as follows:

“The SIFS shall be used prior to transmission of an Ack frame, a CTS frame, a PPDU containing a BlockAck frame that is an immediate response to either a BlockAckReq frame or an A-MPDU, a DMG CTS frame, a DMG DTS frame, a Grant Ack frame, a response frame transmitted in the ATI, and the second or subsequent MPDU of a fragment burst.. The SIFS may also be within a TXOP for any types of frames during the CFP.”

1410.61 delete “— A STA operating under the PCF, as described in 10.4 (PCF)”

1427.58 delete “DCF. The operational rules vary slightly between the DCF and the PCF.”

1428.1 delete “either in the absence of a PC, or in the CP of the PCF access method,”

1433.64 delete “using PCF or”

1438.24 delete clause “10.4 PCF” in its entirety.

1498.41 delete “, but differs from the PC used in PCF in several significant ways, although it may implement the functionality of a PC.”

1498.59 delete “sequences, and other applicable rules for PCF specified in 10.4 (PCF).”

1498.64 Delete footnote 31

1700.35 delete “A STA shall use information from the CF Parameter Set element of all received Beacon frames, without

regard for the BSSID, to update their NAV as specified in 10.4.3.3 (NAV operation during the CFP).”

1700.38 edit “STAs in an infrastructure network or PBSS shall use information

in received Beacon frames, DMG Beacon frames, or Announce frames only if the BSSID field is equal to

the MAC address currently in use by the STA contained in the AP of the BSS or to the MAC address

currently in use by the PCP of the PBSS.”

1719.61 delete “or during the CP of a BSS using the PCF,”

1721.51 delete “(no PCF operating)”

1721.55 delete “(no PCF operating)”

1721.22 delete “(no PCF operating)”

1721.23 delete “that no PCF is operating and”

1721.24 delete “(no PCF operating)”

2869.60 to 2870.26 delete PC4, PC4.1, PC4.2, PC4.3 PC4.4 and PC4.5

2870.28 delete PC5 and PC5.1 to PC5.3

2870.12 delete PC4.2, PC4.3 and row

2891.21 delete “10.4.3 (PCF access procedure)”

2891.24 delete FS2

2952.43delete “10.4.3 (PCF access procedure),”

3063.61 delete “dot11CFPMaxDuration OBJECT-TYPE” entirely

3472.3 delete “or PCF”

3472.20 delete “or PCF”

3472.38 delete “or PCF”

3472.56 delete “or PCF”

3582.6 delete “*CF,* Beacon contains a CFP element.”