IEEE P802.11
Wireless LANs

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Abstract

Sumission on CID 2022

**CID 2022**

The word "only" is extremely prone to causing ambiguity and should not be used

Delete "only" at 904.55

***9.2.4.1.7 Power Management subfield***

*The Power Management subfield is used to indicate the power management mode of a STA. The subfield is either reserved (as defined below) or remains constant in each frame from a particular STA within a frame exchange sequence (see Annex G). The value indicates the mode of the STA after the successful completion of the frame exchange sequence.*

*In an infrastructure BSS or PBSS, the following applies:*

*—* ***The Power Management subfield is valid only in frame exchanges as described in 11.2.3 (Power***

***management in a non-DMG infrastructure network) and 11.2.7*** *(Power management in a PBSS and*

*DMG infrastructure BSS). In such exchanges, the Power Management subfield set to 1 indicates that*

*the STA will be in PS mode. The Power Management subfield set to 0 indicates that the STA will be*

*in active mode.*

*— The Power Management subfield is reserved in all Management frames transmitted by a STA to an*

*AP or PCP with which it is not associated.*

*— The Power Management subfield is reserved in all frames transmitted by the AP.*

**DISCUSSION**

What is the word “only” trying to impart? The clue is in the following bullets. The Power Management subfield is present in the “Frame Control field” which is present in many frames, but is only “valid” in particular frames as specified in the first bullet.

Indeed, one could argue that the second and third bullets are superfluous, but they are worthwhile for absolute clarity.

So, what ambiguity is the word “only” causing? Easier to argue that it is superfluous.

During discussion it was expressed that:

* *“is valid only in”* should be replaced with
	+ “*is valid in*”
	+ “*is used in*”
	+ “*is only used in*”

 Also, it was suggested that the last two sentences be deleted. (I missed the argument on that, but describing the settings is normal so I don’t agree with that.

So, we want to make it clear that only when used in the Power Management related frames in 11.2.3 and 11.2.7 is the Power Management subfield actually looked and used to indicate power condition. A simple requirement, one would think.

**PROPOSAL**

At P904.48 Clause 9.2.4.1.7

Replace

— The Power Management subfield is valid only in frame exchanges as described in 11.2.3 (Power

management in a non-DMG infrastructure network) and 11.2.7 (Power management in a PBSS and

DMG infrastructure BSS). In such exchanges, the Power Management subfield set to 1 indicates that

the STA will be in PS mode. The Power Management subfield set to 0 indicates that the STA will be

in active mode.

With

*—* When used in frame exchanges as described in 11.2.3 (Power management in a non-DMG infrastructure network) and 11.2.7 (Power management in a PBSS and DMG infrastructure BSS), the Power Management subfield is set to 1 to indicate that the STA will be in PS mode and set to 0 to indicate that the STA will be in active mode.

Comment from Mark Rison:

I think I like the direction in 22/0519r0 but I have some comments:

- "When used in frame exchanges as described in 11.2.x" is

a bit vague, because I think that the xreffed locations sometimes

say that the bit is not used/valid

- Should the remaining bullets, viz.

*— The Power Management subfield is reserved in all Management frames transmitted by a STA to an*

*AP or PCP with which it is not associated.*

*— The Power Management subfield is reserved in all frames transmitted by the AP.*

just become:

*— Otherwise, the Power Management subfield is reserved*

?

Or are people going to argue that there are situations where the bit

is undefined (i.e. might be 0 or might be 1)?

My response

Last thing first, the suggested otherwise” statement leaves the reader relying on the clause 11 to provide these essential bits of information and to me reads wrong in that it says “other than what’s in Clause 11” when it is a standalone at the moment? I think the statements are important and need to be made without reference (if we have them at all). Also this goes much further than the comment. So working on principle of changing as little as possible, I would leave them in.

Frame exchanges in 11.2.3. This is a very detailed clause and the settings of the power management bit seemed to be well defined. All Clause 9.2.4.1.7 needs do is refer to the clause 11.2.3 and 11.2.7. The suggested wording maybe be vague but it is not incorrect and I think the suggested wording just says “look at 11.2.3 and note that 1 means power save and 0 means active mode”. I think that is good enough.

HOWEVER:

One possible solution maybe is to punt everything, see Proposal B below:

**PROPOSAL A**

REVISED

At P904.48 Clause 9.2.4.1.7

Replace

— The Power Management subfield is valid only in frame exchanges as described in 11.2.3 (Power

management in a non-DMG infrastructure network) and 11.2.7 (Power management in a PBSS and

DMG infrastructure BSS). In such exchanges, the Power Management subfield set to 1 indicates that

the STA will be in PS mode. The Power Management subfield set to 0 indicates that the STA will be

in active mode.

With

*—* When used in frame exchanges as described in 11.2.3 (Power management in a non-DMG infrastructure network) and 11.2.7 (Power management in a PBSS and DMG infrastructure BSS), the Power Management subfield is set to 1 to indicate that the STA will be in PS mode and set to 0 to indicate that the STA will be in active mode.

**PROPOSAL B**

REVISED

At P904.54 Clause 9.2.4.1.7

Delete

In an infrastructure BSS or PBSS, the following applies:

— The Power Management subfield is valid only in frame exchanges as described in 11.2.3 (Power management in a non-DMG infrastructure network) and 11.2.7 (Power management in a PBSS and DMG infrastructure BSS). In such exchanges, the Power Management subfield set to 1 indicates that the STA will be in PS mode. The Power Management subfield set to 0 indicates that the STA will be in active mode.

— The Power Management subfield is reserved in all Management frames transmitted by a STA to an AP or PCP with which it is not associated.

— The Power Management subfield is reserved in all frames transmitted by the AP.

Insert

“The Power Management subfield usage is described in 11.2.3 (Power management in a non-DMG infrastructure network) and 11.2.7 (Power management in a PBSS and DMG infrastructure BSS). The Power Management subfield is set to 1 to indicate that the STA will be in PS mode. The Power Management subfield is set to 0 to indicate that the STA will be in active mode.”

**OR Proposal C**

Insert

“The Power Management subfield usage is described in 11.2.3 (Power management in a non-DMG infrastructure network) and 11.2.7 (Power management in a PBSS and DMG infrastructure BSS). The Power Management subfield is set to 1 to indicate that the STA will be in PS mode. The Power Management subfield is set to 0 to indicate that the STA will be in active mode. The Power Management subfield is reserved in all Management frames transmitted by a STA to an AP or PCP with which it is not associated and all frames transmitted by the AP”