IEEE P802.11
Wireless LANs

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| Clause 16 and 17 Deprecation  |
| Date: 2014-03  |
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Abstract

This document contains proposed changes to satisfy CIDs 2423, 2424, 2411, 2412

**CID 166Introduction.**

**CIDs** 2423, 2424, 2411, 2412 are proposals to deprecate in some manner, the use of clause 16 and clause 17 data rates.

These CIDs and the deprecation of Clauses 16 and 17 were discussed at length in 11mc on Thursday PM 1 on November 13, 2013.

**“Deprecated”**

It was established/decided that the term ‘Deprecated’ is used with the meaning of “discouraged”. Hence 11b is discouraged by all three Proposals presented here and which were also presented during the 11mc discussions.

This may have the interpretation that in the future it could be upgraded to “Obsolete and may be removed” in 11md, but in 11mc it is “deprecated”. A ‘three step approach’ was discussed that consisted of the steps:

1. “Deprecated”. Notice that the referenced text is ‘discouraged’ and any new devise is discouraged from using it. It is also a notice that in future it is likely to be made ‘obsolete’
2. “Obsolete” is a notice that the referenced text should not be used in any new product and in addition is likely to be removed in subsequent revisions of the Standard.
3. Remove

Based upon the ‘3 step’ rule, it is reasonable to assume that if Clauses 16 and 17 were ‘deprecated, then they would not be removed until 2022 at the earliest.

Having said that, it appears that the use of the word “Deprecated” raises emotions and hence maybe we need to avoid using it. Maybe that in its place we use “is not recommended”.

A possible problem is that some may object to ‘deprecation’ of 11b in any form.

**Discussion**

The object of this exercise is to try to encourage 2.4 devices to transmit beacons and to send probes at OFDM rates rather than 1Mbps.

There is an argument that 1Mbps has superior range over 6Mbps OFDM so it is considered that deprecating DSSS at this stage may be objected to even though it would be 2022 before it could possibly be removed. There is, however, little to no doubt that 5.5 and 11Mbps CCK has no advantages over 6 and 12Mbps OFDM.

Hence, an option would be to deprecate Clause 17 (CCK).

A Clause 19 device (11g) at the moment must support DSSS and CCK rates. One option would be to simply make their support optional. The problem with this is that there are many APs in the field that are beaconing at 1 or even 11Mbps and if a new Clause 19 device did not at least receive these rates, it would be problematic. Therefore it is proposed that the reception of DSSS and CCK rates remains mandatory for the time being. The transmission of DSSS and CCK rates, however should be made optional so as to at least send the message that we are discouraging their use.

**Proposed Resolution:**

**REVISED**

First, make transmission of DSSS and CCK rates optional.

Replace

**“19.1.2 Introduction**

The ERP builds on the payload data rates of 1 and 2 Mb/s, as described in Clause 16 (DSSS PHY specification for the 2.4 GHz band designated for ISM applications), that use DSSS modulation and builds on the payload data rates of 1, 2, 5.5, and 11 Mb/s, as described in Clause 17 (High rate direct sequence spread spectrum (HR/DSSS) PHY specification), that use DSSS and CCK. The ERP draws from Clause 18 (Orthogonal frequency division multiplexing (OFDM) PHY specification) to provide additional payload data rates of 6, 9, 12, 18, 24, 36, 48, and 54 Mb/s. Of these rates, transmission and reception capability for 1, 2, 5.5, 6, 11, 12, and 24 Mb/s data rates is mandatory.”

With

**“19.1.2 Introduction**

The ERP builds on the payload data rates of 1 and 2 Mb/s, as described in Clause 16 (DSSS PHY specification for the 2.4 GHz band designated for ISM applications), that use DSSS modulation and builds on the payload data rates of 1, 2, 5.5, and 11 Mb/s, as described in Clause 17 (High rate direct sequence spread spectrum (HR/DSSS) PHY specification), that use DSSS and CCK. The ERP draws from Clause 18 (Orthogonal frequency division multiplexing (OFDM) PHY specification) to provide additional payload data rates of 6, 9, 12, 18, 24, 36, 48, and 54 Mb/s. Of these rates, reception capability for 1, 2, 5.5, 6, 11, 12, and 24 Mb/s data rates is mandatory, transmission capability for 1, 2, 5.5, and 11 Mb/s is optional and is not recommended, but transmission capability for 6, 12, and 24 Mb/s data rates is mandatory.”

Motion: Adopt the above text changes. Yes/No

Secondly, we could add text to further explain the desired actions, as follows:

Add the following in 9.7.5.6

“If a Clause 19 STA receives a transmission at a Clause 16 or 17 rate, it shall respond using a Clause 19 OFDM rate. If the response fails, then the Clause 19 STA may re-try using a non OFDM Clause 16 or Clause 17 rate.”

Motion: Adopt the above text. Yes/No

Third, give a message to stop using CCK:

Add following directly after the heading for Clause 17.

“Use of Clause 17 is not recommended.”

Motion: Adopt the above text. Yes/No

Fourth, give a message to stop using DSSS:

Add following directly after the heading for Clause 16.

“Use of Clause 16 is not recommended.”

Motion: Adopt the above text. Yes/No