IEEE P802.11  
Wireless LANs

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| 802.11  IEEE P802.11aq D4.2 Mandatory Draft Review (MDR) Report | | | | |
| Date: 2016-06-22 | | | | |
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**Abstract**

This document contains the report of the 802.11aq Mandatory Draft Review.

# 3999Introduction

## Purpose of this document

This document is the report from the group of volunteers that participated in the P802.11aq/D4.2 mandatory draft review.

This document contains recommendations for changes to P802.11aq to bring it into improved compliance to IEEE-SA and WG11 style.

Those recommended changes need to be reviewed by TGaq and approved, or ownership of the issues taken by TGaq.

## Process / references

The MDR process is described in:

* 11-11/615r5 – Mandatory Draft Review process
  + https://mentor.ieee.org/802.11/dcn/11/11-11-0615-05-0000-wg802-11-mec-process.doc

And references:

* 11-09/1034r11 – 802.11 Editorial Style Guide
  + https://mentor.ieee.org/802.11/dcn/09/11-09-1034-11-0000-802-11-editorial-style-guide.doc

## Acknowledgements

The 802.11 technical editors (Robert Stacey and Peter Ecclesine) gratefully acknowledge the work and contribution of:

* Lee Armstrong
* Yongho Seok

Review assignments:

1. Style guide clause 2.1 to 2.6 – Peter Ecclesine
2. Style guide clause 2.7 to 2.18 – Robert Stacey
3. Style guide clause 3 - Peter Ecclesine
4. MIB style and compiles with no extra warnings – Yongho Seok
5. ANA check – Robert Stacey

## Actions arising

# Findings

***Findings from Peter Ecclesine (2.1 – 2.6):***

**2.1.1 Frame Format Figures**

The Figures text, Bits and Octets fields are in Times Roman and should be in Arial

**2.2 case of true/false**

P10, line 21 need to add a space before “is true”

***Findings from Robert Stacey (2.7 – 2.18):***

**2.7 Capitalization**

P2L44 Service Information Client 🡪 service information client

Also P2L58, P6L5, P6L35, P7L1 (title), P7L3.

P2L46 Servie Information Registry 🡪 service information registry

Also P2L60, P6L5, P6L53 (title), P6L56

P6L35 Registry (SIR) 🡪 SIR

Note: some of the instances of service information client/registry need to be abbreviations: once an abbreviation has been defined, use it.

P6L28 Figure title: Pre-association Discovery Architecture 🡪 Pre-association discovery architecture

P6L32 (title)

P6L10 (figure) many instances of unnecessary capitalization: Service Information Client, Unsolicited PAD Procedure, Solicited PAD Procedure, ANQP Procedure, Service Information Registry, ANQP Server.

P6L57 service information registry 🡪 SIR

P6L65 Server 🡪 server

P12L44 Solicited PAD procedure 🡪 solicited PAD procedure

Also, P34L31

P12L47, P22L1, P Service Information procedure 🡪 service information procedure

Also, P22L1, P22L3, P22L57, P23L38, P24L16

P28L22 (title) Pre-association Discovery Extensions 🡪 Pre-association discovery extensions

P5L35 (title) Pre-association Discovery (PAD) 🡪 Pre-association discovery (PAD)

P32L5 (figure) and P33L4 (figure)

Service Hint matched corresponding to Service Hash Y 🡪 Service hint matched corresponding service hash Y (Note there is also a grammar issue here)

Service Hash Y 🡪 service hash Y (multiple)

Service Name Y 🡪 service name Y (multiple) [Should Y be used for both name and hash? Presumably they are different things/values?]

Instance Name Z 🡪 instance name Z (multiple)

P33L34 “Service Name, and Instance Name.” 🡪 “service name and instance name.”

Also, P34L40, P33L46

**2.8 Terminology**

**2.9 Use of verbs & problematic words**

P22L64 which may be collocated. Problamatic use of normative verb “may” (= permitted to). “Might” might be a mite better here.

P22L3 use of “may” is problematic. Is support for the service information procedure optional or is setting the Service Information field in the Extended Capabilities element to 1 when the service information procedure is supported optional? I suspect the former applies, not the latter. If so, the statement should be something like “An AP or PCP may support the service information procedure. An AP or PCP that supports the service information procedure shall set the Service Information field in the Extended Capabilities element to 1.”

**2.9.1 Which/that**

P22L9 placed within the ANQP request, which 🡪 placed in the ANQP request that

P23L24 “of each service for which the non-AP is searching” is cumbesome. Ditto for similar statement at the end of the sentence “for the service for which the non-AP STA is searching”. Since the sentence that introduces the list already has “a non-AP STA searching for a service or services”, consider rephrasing as “Contruct a service hash value for each searched service or determine the bit positions in the Bloom Filter Array field that will be set to 1 for the searched services.”

P23L25 “Bloom Filter Bit Array field which will” 🡪 “Bloom Filter Bit Array field that will (assuming previous is not adopted)

P24L1 which 🡪 that

**2.9.2 Missing & use of articles (indexicals)**

P15L47 indicates search for STAs that 🡪 indicates a search for STAs that

P31L25 Furthermore, solicited PAD search 🡪 Furthermore, a solicited PAD search

P31L27 perform unsolicited PAD search 🡪 perform an unsolicited PAD search

P33L32 “the ANQP response”: “the” inappropriate since there is no antecedent. Change “the” to “an”

P33L32 “with Service Information Response ANQP-element containing” missing “a”

**2.9.3 Missing noun in noun phrase**

P23L21 Service Hash or Service Hint or both elements 🡪 Service Hash element, Service Hint element or both

P33L42 “Hash element” There is no “Hash element.” There is a “Service Hash element.”

**2.10 Numbers**

P24L31 ones 🡪 characters

P24L57-63 According to 1.5 (Terminology for mathematical, logical and bit operations), 0x introduces a hexadecimal number. Change “"bfd39037d25c" in hexadecimal” to “0xbfd39037d25c”. The value is represented as an integer (not a string) and this avoids any endian issues.

P25L9 “binary value of 0001” 🡪 binary 0001 (remove quotes). Note there is ambiguity here on how the binary value maps to B4-B7 of the Bloom Filter Information field. If 0001 is an integer value then B4 holds 1 (the LSB). An implementer could also read 0001 as a binary string that maps left to right to B4-B7 (B4 holds the MSB). There is no convention in the 802.11 on how binary strings map to fields, so be explicit.

**2.11 Maths operators and relations**

P14L14-32 <= symbol font size

P14L38

Use of dash instead of minus (in FrameMaker change to Symbol font)

Also, P14L46, P25L6, P25L16

P14L44-45 Use italics for variables: j, m, k

Also, P25L32 (m), P25L9 (j), P25L16-19 (j, k)

**2.12 Hyphenation**

P22L62 service-specific 🡪 service specific (twice)

P24L30 single-octet 🡪 single octet

P24L30 upper-case 🡪 uppercase

P24L31 low-case 🡪 lowercase

**Other**

P2L46 spurious comma

P15L20 spurious ‘-’ before Length

P22L1 spurious \_ at end of title

P2362 “element,and” (need a space)

# Individual clauses

***Findings from Peter Ecclesine:***

**3.1 Definitions**

Each of the definitions is local to IEEE 802.11 and should be in Section 3.2

**Definitions specific to IEEE Std 802.11**

Each of the terms being defined should be bold, the first letter after the colon should be capitalized and the editing instruction should be plural.

**3.6 Annex A**

Annex A does not appear in bookmarks. There is no reference to this Bibliography entry [B56] in other text. There probably should be one.

**3.7 Annex B**

Annex B does not appear in bookmarks

# ANA

***TGaq editor, please perform actions shown below in “actions arising”***

| **Resources by Doc1Subclause for MDR** | | |
| --- | --- | --- |
| **RefDoc1Subclause** | **ResourceName** | **Status** |
| 8.2.4.1.2 | ProtocolVersions | NP |
| 8.2.4.1.3 | FrameTypes | NP |
| 8.2.4.1.3 | DataSubTypes | NP |
| 8.2.4.1.3 | ExtendedSubTypes | NP |
| 8.2.4.1.3 | ExtendedControlSubTypes | NP |
| 8.2.4.1.3 | ControlSubTypes | NP |
| 8.2.4.1.3 | ManagementSubTypes | NP |
| 8.2.6 | TLV encodings | NP |
| 8.4.1.1 | AuthenticationAlgorithmNumbers | NP |
| 8.4.1.11 | Categories | NP |
| 8.4.1.4 | Capabilities | NP |
| 8.4.1.7 | ReasonCodes | NP |
| 8.4.1.9 | StatusCodes | NP |
| 8.4.2.1 | ElementIDs | NP |
| 8.4.2.1 | Element ID Extension 1 | OK |
| 8.4.2.100.2 | Active Path Selection Protocol | NP |
| 8.4.2.27.2 | CipherSuiteSelectors | NP |
| 8.4.2.27.3 | AKMSuiteSelectors | NP |
| 8.4.2.27.4 | RSNCapabilities | NP |
| 8.4.2.29 | ExtendedCapabilities | OK |
| 8.4.2.50 | FastBSSTransitionSubElementIDs | NP |
| 8.4.4 | Info IDs | OK |
| 8.5.14.28 | WNM-Notification types | NP |
| 8.5.2.1 | SpectrumManagementActionFrames | NP |
| 8.5.8.1 | PublicActionFrames | NP |
| 8.8.3 | ShortFrameTypes | NP |
| 8.8.4 | ShortControlFrameSubTypes | NP |
| 8.8.5 | ShortManagementFrameSubTypes | NP |
| annex C | dot11mac | NP |
| C.3 | dot11Groups | See Action 1 |
| C.3 | dot11OperationEntry | NP |
| C.3 | dot11phy | NP |
| C.3 | dot11smt | NP |
| C.3 | dot11StationConfigEntry | See Action 2 |
| C.3 | ieee802dot11 | NP |
| C.3 | dot11Compliances | See Action 3 |
| D.1 | BehaviorLimits | NP |
| E.1 | OperatingClassesInJapan | NP |
| E.1 | OperatingClassesInEurope | NP |
| E.1 | OperatingClassesGlobal | NP |
| E.1 | OperatingClassesInUSA | NP |
| None | MAC addresses | NP |
| Notes:  NP – Not present  OK – Present and values are correct | | |

Actions arising:

Action 1: The variable name registered in the ANA database for the dot11Groups 94 allocation is dot11Compliances. The variable name used in the draft is dot11PADCompliance. Change the name in both the database and the draft to dot11PADComplianceGroup.

Action 2: To accommodate REVmc, the TGaq allocations for the two dot11StationConfidEntry entries have changed. Change as shown in Clause 5.

Action 3: ANA allocation for dot11PAD Compliance is required

# MIB



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| ***Editing Instruction: TGaq Editor revises Annex C as follows (changes are marked in this color):***  dot11FutureChannelGuidanceActivated TruthValue,  dot11SolicitedPADActivated~~,~~ TruthValue,  dot11UnsolicitedPADActivated~~,~~ TruthValue  }  ***The ANA allocations for the following have changed to avoid changes to TGmc’s draft. TGaq Editor to make changes as shown:***  dot11SolicitedPADActivated OBJECT-TYPE  SYNTAX TruthValue  MAX-ACCESS read-write  STATUS current  DESCRIPTION  "This is a control variable.  It is written by an external management entity or the SME. Changes take effect as soon as practical in the implementation.  This attribute when true, indicates that the capability of the STA to operate Solicited PAD with external networks is enabled. The capability is disabled otherwise."  DEFVAL {false}  ::= { dot11StationConfigEntry 16~~6~~7 }  dot11UnsolicitedPADActivated OBJECT-TYPE  SYNTAX TruthValue  MAX-ACCESS read-write  STATUS current  DESCRIPTION  "This is a control variable.  It is written by an external management entity or the SME. Changes take effect as soon as practical in the implementation.  This attribute when true, indicates that the capability of the STA to operate Unsolicited PAD with external networks is enabled. The capability is disabled otherwise."  DEFVAL {false}  ::= { dot11StationConfigEntry 16~~7~~8 }  *NOTE: TGaq Editor should request the below ANA for dot11Groups - dot11PADComplianceGroup (TGaq)*  ***-- Editor Note: Insert the following dot11PADComplianceGroup after the "dot11FineTimingMeasurement OBJECT-GROUP ":***  dot11PADComplianceGroup OBJECT-GROUP  OBJECTS {  dot11SolicitedPADActivated,  dot11UnsolicitedPADActivated  }  STATUS current  DESCRIPTION  "This object group provides the objects from the IEEE 802.11 MIB required to manage pre-association discovery functionality."  ::= { dot11Groups 94 }  ***-- Editor Note: Insert the following compliance statement after the "Compliance Statements - S1G" section:***  -- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  -- \* Compliance Statements - PAD  -- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  ~~dot11PADComplianceGroup OBJECT-GROUP~~  ~~OBJECTS {~~  ~~dot11SolicitedPADActivated,~~  ~~dot11UnsolicitedPADActivated }~~  ~~STATUS current~~  ~~DESCRIPTION~~  ~~"This object group provides the objects from the IEEE 802.11 MIB required to manage pre-association discovery functionality."~~  ~~::= { dot11Groups 94 }~~  *NOTE: TGaq Editor should request the below ANA for dot11* *Compliances - dot11PADCompliance (TGaq)*  dot11PADCompliance MODULE-COMPLIANCE  STATUS current  DESCRIPTION  "This object class provides the objects from the IEEE 802.11  MIB required to manage Pre-association discovery functionality."  MODULE -- this module  MANDATORY-GROUPS { dot11PADComplianceGroup }  ::= { dot11Compliances ~~,94.~~<ANA> } |

# IEEE-SA MEC

## The MEC comments

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## The response to the MEC comments