IEEE P802.11  
Wireless LANs

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| SA Ballot 1 -CIDs 4742 4741 4740 - Resultcode Valid Value format | | | | |
| Date: 2020-04-23 | | | | |
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Abstract

This submission addresses **802.11** REVmd d3.0 SA Ballot CIDs 4742, 4741, and 4740 (GEN):

This set of CIDs requests a consistency check on the ResultCode Valid Value values for SAP

802.11 D3.0 SA ballot 1 CIDs 4740, 4741, and 4742:

**CID 4740:**

**Comment:** Some of the ResultCodes in the SAP have underscores (e.g. JOIN\_FAILURE\_TIMEOUT, NOT\_SUPPORTED) some not (e.g. AUTH FAILURE TIMEOUT, ANTI-CLOGGING

TOKEN REQUIRED). There is no justification for this inconsistency. Underscores make it easier to find result codes, so are preferable

**Proposed Change:** Change "AUTH FAILURE TIMEOUT" to "AUTH FAILURE\_TIMEOUT" throughout the document

**CID 4741:**

**Comment**: Some of the ResultCodes in the SAP have underscores (e.g. JOIN\_FAILURE\_TIMEOUT, NOT\_SUPPORTED) some not (e.g. AUTH FAILURE TIMEOUT, ANTI-CLOGGING

TOKEN REQUIRED). There is no justification for this inconsistency. Underscores make it easier to find result codes, so are preferable, but if the group rejects this, then the alternative is to replace underscores with spaces in all ResultCodes

**Proposed Change:** As it says in the comment

**CID 4742:**

**Comment:** Some of the ResultCodes in the SAP have underscores (e.g. JOIN\_FAILURE\_TIMEOUT, NOT\_SUPPORTED) some not (e.g. AUTH FAILURE TIMEOUT, ANTI-CLOGGING TOKEN REQUIRED). There is no justification for this inconsistency. Underscores make it easier to find result codes, so are preferable

**Proposed Change:** As it says in the comment

**Discussion:**

These CIDs were originally introduced in doc 11-20/351 which summarily rejected the comments. During the REVmd Telecon on April 17, these CIDs were discussed, and more work was thought to be needed.

Wikipedia gives us a definition of Enumeration:

An **enumeration** is a complete, ordered listing of all the items in a collection.

From the IBM Knowledge Center:

An enumeration is a data type that consists of a set of named values that represent integral constants, known as enumeration constants. An enumeration is also referred to as an enumerated type because you must list (enumerate) each of the values in creating a name for each of them. In addition to providing a way of defining and grouping sets of integral constants, enumerations are useful for variables that have a small number of possible values.

Having Resultcode be enumeration type would include a name for each possible value.

A Quick search of D3.0, shows that the “Resultcode” in general have Valid Range values with “\_” connecting multi-worded values. The highlighted instances below are the exceptions or where a missing”,” was located.

“SUCCESS, NOT\_SUPPORTED” (p322 Lines18-20)

“SUCCESS, INTERMEDIATE\_SCAN\_RESULT, NOT\_SUPPORTED, PARTIAL\_SCAN” (P327 Lines 31-36)

“SUCCESS, JOIN\_FAILURE\_TIMEOUT” (page 345 Lines 23-25)

“SUCCESS, REFUSED, ANTI-CLOGGING TOKEN REQUIRED, FINITE CYCLIC GROUP NOT SUPPORTED, AUTHENTICATION REJECTED, AUTH

FAILURE TIMEOUT” (page 348 20-27) (Note that the entry just above this result code is also an enumeration and its values had multiple words connected with “\_”.

“SUCCESS, REFUSED, ANTICLOGGING TOKEN REQUIRED, FINITE CYCLIC

GROUP NOT SUPPORTED, AUTHENTICATION REJECTED (page 351 Lines 32-41).

“SUCCESS, REFUSED\_REASON\_UNSPECIFIED, REFUSED\_NOT\_AUTHENTICATED, REFUSED\_CAPABILITIES\_MISMATCH, REFUSED\_EXTERNAL\_REASON, REFUSED\_AP\_OUT\_OF\_MEMORY, REFUSED\_BASIC\_RATES\_MISMATCH, REJECTED\_EMERGENCY\_SERVICE

S\_NOT\_SUPPORTED, REFUSED\_TEMPORARILY” (page 359, Lines 8-20) (Note that the words are connected with “\_” but the wrapping is on last two characters or random location in the presentation in the table”).

“SUCCESS, REFUSED\_REASON\_UNSPECIFIED, REFUSED\_CAPABILITIES\_MISMATCH,

REFUSED\_EXTERNAL\_REASON, REFUSED\_AP\_OUT\_OF\_MEMORY,

REFUSED\_BASIC\_RATES\_MISMATCH, REJECTED\_EMERGENCY\_SERVICES\_NOT\_SUPPORTED, REFUSED\_TEMPORARILY, GLK\_NOT\_AUTHORIZED” Page 369 (lines 34-51).

“SUCCESS, REFUSED\_REASON\_UNSPECIFIED, REFUSED\_NOT\_AUTHENTICATED, REFUSED\_CAPABILITIES\_MISMATCH, REFUSED\_EXTERNAL\_REASON, REFUSED\_AP\_OUT\_OF\_MEMORY, REFUSED\_BASIC\_RATES\_MISMATCH, REJECTED\_EMERGENCY\_SERVICES\_NOT\_SUPPORTED, REFUSED\_TEMPORARILY” (Page 378 lines 13-28)

(Note how the breaking of the enumeration values make it a bit hard to read. Just one example:

“SUCCESS,

REFUSED\_REASON\_UNSPE

CIFIED,

REFUSED\_NOT\_AUTHENTI

CATED,

REFUSED\_CAPABILITIES\_M

ISMATCH,

REFUSED\_EXTERNAL\_REA

SON,

REFUSED\_AP\_OUT\_OF\_ME

MORY,

REFUSED\_BASIC\_RATES\_MI

SMATCH,

REJECTED\_EMERGENCY\_S

ERVICES\_NOT\_SUPPORTED,

REFUSED\_TEMPORARILY”)

“SUCCESS, REFUSED\_REASON\_UNSPECIFIED, REFUSED\_CAPABILITIES\_MISMATCH, REFUSED\_EXTERNAL\_REASON, REFUSED\_AP\_OUT\_OF\_MEMORY, REFUSED\_BASIC\_RATES\_MISMATCH REJECTED\_EMERGENCY\_SERVICES\_NOT\_SUPPORTED, REFUSED\_TEMPORARILY” (page 389, Line 28-42) (Missing “,” after REFUSED\_BASIC\_RATES\_MISMATCH).

“SUCCESS, BSS\_ALREADY\_STARTED\_OR\_JOINED, RESET\_REQUIRED\_BEFORE\_START, NOT\_SUPPORTED” (Page 402, Lines 38-41; Page 402, Lines 38-41)).

“SUCCESS, UNSPECIFIED FAILURE” (page 414 Lines 6-7; page 418 Lines 11-12)

“SUCCESS, TRANSMISSION\_FAILURE” (page 422, Line 44-45)

“SUCCESS, REJECTED\_WITH\_SUGGESTED\_CHANGES, REJECTED\_FOR\_DELAY\_PERIOD, REJECTED\_WITH\_SUGGESTED\_BSS\_TRANSITION, REQUESTED\_TCLAS\_NOT\_SUPPORTED, TCLAS\_RESOURCES\_EXHAUSTED, REJECTED\_HOME\_WITH\_SUGGESTED\_CHANGES, REJECTED\_FOR\_SSP\_PERMISSIONS, SUCCESS\_STA\_IN\_PS\_MODE,

REJECT\_U-PID\_SETTING” (page 428 lines 14-26)

“SUCCESS, REJECTED\_WITH\_SUGGESTED\_CHANGES, REJECTED\_FOR\_DELAY\_PERIOD, REJECTED\_WITH\_SUGGESTED\_BSS\_TRANSITION, REQUESTED\_TCLAS\_NOT\_SUPPORTED, TCLAS\_RESOURCES\_EXHAUSTED, REJECTED\_HOME\_WITH\_SUGGESTED\_CHANGES, REJECTED\_FOR\_SSP\_PERMISSIONS, SUCCESS\_STA\_IN\_PS\_MODE,

REJECT\_U-PID\_SETTING” (page 433 Lines 19-33)

“SUCCESS, FAILURE” (page 439 Line 8; page 441 Line 10; page 484 Lines 21-22; page 633 Line 42; page 650 Line 10; page 734 Lines 6; )

“SUCCESS, REFUSED” (page 445, Line 6-7; page 447 Lines 50-51; page 472, Lines 47-48; page 474 Lines 23-24; page 607 Line 35; page 608 Line 56; page 658 Line 12-13; page 660 Line 60; )

“SUCCESS, UNSPECIFIED FAILURE” (page 460, lines 8-9)

“SUCCESS, REFUSED, UNSPECIFIED FAILURE” (Page 465 Line 14-18)

“SUCCESS, REFUSED, TOO\_MANY\_SIMULTANEOUS\_REQUESTS” page 476 Lines 23-28; Page 478 Lines 13-18)

“SUCCESS, NO\_OUTSTANDING\_GAS\_REQUEST, GAS\_ADVERTISEMENT\_PROTOCOL\_NOT\_SUPPORTED, GAS\_QUERY\_RESPONSE\_OUTSTANDING, GAS\_QUERY\_RESPONSE\_TOO\_LARGE, SERVER\_UNREACHABLE, GAS\_QUERY\_TIMEOUT, GAS\_RESPONSE\_NOT\_RECEIVED\_FROM\_SERVER, SUCCESS\_CAG\_VERSIONS\_MATCH” (Page 584 Lines 46-58; page 587 Lines 44-56; )

“SUCCESS, INVALID\_PARAMETERS” (page 593 Lines 39-40)

“SUCCESS, REFUSED\_REASON\_UNSPECIFIED, CANNOT\_FIND\_ALTERNATIVE\_TBTT” (page 600, Line 10-14)

“SUCCESS, INVALID\_PARAMETERS, MCCAOP\_RESERVATION\_CONFLICT, MAF\_LIMIT\_EXCEEDED, MCCA\_TRACK\_LIMIT\_EXCEEDED” (page 604 Lines 33-39; page 606 Lines 10-17)

“SUCCESS, TS\_SCHEDULE\_CONFLICT” (page 639 line 14-16)

“SUCCESS” (page 665 line 37) – (I thought it interesting only one value allowed).

“SUCCESS, BFTIMEOUT” (page 668 line 35-36; Page 669 Line 12-13) Note that the line break added a “-“ (line break dash) but when you look it is not really there. I believe it should be BF\_TIMEOUT”

“SUCCESS, SUCCESS\_MULTIPLE, REFUSED, DEVICE\_VERIFICATION\_FAILURE” (page 673 Lines 6-10; 674 Lines 54-58)

ReasonResultCode: “As defined in 9.6.7.26 (Channel Schedule Management frame format) for the Reason Result Code field” (Page 676 Lines 6-11; Page 677 Lines 8-13; Page 678 lines 16-20; Page 679 Lines 23-28; )

“SUCCESS, REFUSED, ENABLEMENT DENIED, ENABLEMENT Denied due

to restriction from GDB” (Page 683 Lines 22-25; Page 685 Line 19-22; ) This is the most egregious difference found. Change to “SUCCESS, REFUSED, ENABLEMENT\_DENIED” and Add to description: “ENABLEMENT\_DENIED due to restrictions from GDD” (note typo change from GDB to GDD”

“SUCCESS, BSS\_NOT\_STARTED, NOT\_SUPPORTED, UPDATE\_FAILED” (Page 729, Lines 9-12)

Proposed Resolution for CIDs 4740, 4741, and 4742:

Make the following changes to ResultCode - Valid Range cell at the following locations:

(page 348 20-27) “SUCCESS, REFUSED, ANTI\_CLOGGING\_TOKEN\_REQUIRED, FINITE\_CYCLIC\_GROUP\_ NOT\_SUPPORTED, AUTHENTICATION\_REJECTED, AUTH\_FAILURE\_TIMEOUT”

(page 351 Lines 32-41). “SUCCESS, REFUSED, ANTI\_CLOGGING\_TOKEN\_REQUIRED, FINITE\_CYCLIC\_GROUP\_NOT\_SUPPORTED, AUTHENTICATION\_REJECTED

(Page 389, Line 38) Add Missing “,” after REFUSED\_BASIC\_RATES\_MISMATCH.

(Page 414 Lines 6-7; Page 418 Lines 11-12; Page 465 Line 14-18; Page 460 Lines 8-9) Change “UNSPECIFIED FAILURE” to “UNSPECIFIED\_FAILURE”.

(Page 668 line 35-36 and Page 669 Line 12-13) Change BFTIMEOUT to “BF\_TIMEOUT”

(Page 683 Lines 22-25 and Page 685 Line 19-22) Change to Valid Range cell to “SUCCESS, REFUSED, ENABLEMENT\_DENIED” and Add to Description cell: “ENABLEMENT\_DENIED is used to indicate denial due to restrictions from GDD.”

**References:**

<https://en.wikipedia.org/wiki/Enumeration>

<https://www.ibm.com/support/knowledgecenter/SSLTBW_2.4.0/com.ibm.zos.v2r4.cbclx01/enumdec.htm>