IEEE P802.11
Wireless LANs

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |
| --- |
| Diagnostic subelement augmentation |
| Date: 2024-05-02 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Jerome Henry | Cisco Systems |  |  | jerhenry@cisco.com  |
| Binita Gupta | Cisco Systems |  |  | binitag@cisco.com  |
| Brian Hart | Cisco Systems |  |  |  brianh@cisco.com  |
|  |  |  |  |  |
|  |  |  |  |  |

 |

Abstract

This submission proposes an augmentation to the Diagnostic elements.

**Revision History:**

R0: Initial version.

## Discussion:

Table 9-243 includes a list of diagnostic subelement ID values, that can be requested through a Diagnostic Request and Diagnostic Report exchange as defined in 11.21.3. However the table, defined circa 2010, misses key elements that are commonly expected today. Similarly, Table 9-246 includes device types, but does not includes some devices that are common today.

## Proposed Resolution:

**REVISED**

**Instruction to TGmf Editor:**

Implement the proposed text updates.

**TGmf Editor: *Instruction: Modify 9.4.2.67.5 as shown below***

The Diagnostic Subelement ID field indicates the Diagnostic subelement ID and is any allocated value in Table ~~Figure~~ 9-243 (Diagnostic subelement ID values).

|  |  |
| --- | --- |
| **Diagnostic subelement ID values** |  |
| **Subelement ID** | **Subelement name** |
| 0 | Credential Type |
| 1 | AKM Suite |
| 2 | AP Descriptor |
| 3 | Antenna Type |
| 4 | Cipher Suite |
| 5 | (#2210)Colocated Radio Type |
| 6 | Device Type |
| 7 | EAP Method |
| 8 | Firmware Version |
| 9 | MAC Address |
| 10 | Manufacturer ID String |
| 11 | Manufacturer Model String |
| 12 | Manufacturer OI |
| 13 | Manufacturer Serial Number String |
| 14 | Power Save Mode |
| 15 | Profile ID |
| 16 | Supported Operating Classes |
| 17 | Status Code |
| 18 | SSID |
| 19 | Tx Power Capability |
| 20 | Certificate ID |
| 21 | Device Model |
| 22 | Operating System Version |
| 23 | Vendor OS version |
| 24 | Service Provider Version |
| 25 | Power Source |
| 26 | Previous Session Issues |
| 2~~1~~7–220 | Reserved |
| 221 | Vendor Specific |
| 221–255 | Reserved |

**TGmf Editor: *Instruction: Please modify Table 9-246 as shown below:***

Table 9-246 (Device Type definitions).

|  |  |
| --- | --- |
| **Device Type definitions** |  |
| **Device Type** | **Value** |
| Reserved | 0 |
| Reference Design | 1 |
| Access Point or Wireless Router for Home or Small Office | 2 |
| Enterprise Access Point | 3 |
| Cable, DSL, or Other Broadband Gateway | 4 |
| Digital Still Camera | 5 |
| Portable Video Camera | 6 |
| Networked Web Camera | 7 |
| Digital Audio—Stationary | 8 |
| Digital Audio—Portable | 9 |
| Set-Top Box, Media Extender, Media Server (includes players & recorders) | 10 |
| Display Device (television, monitor, picture frame) | 11 |
| Game Console or Game Console Adapter | 12 |
| Gaming Device—Portable | 13 |
| Media Server or Media Adapter | 14 |
| Network Storage Device | 15 |
| External Card | 16 |
| Internal Card | 17 |
| Ultra-Mobile PC | 18 |
| Notebook Computer | 19 |
| PDA (Personal Digital Assistant) | 20 |
| Printer or Print Server (includes scanner and/or fax capability) | 21 |
| Phone—Dual-Mode | 22 |
| Phone—Single-Mode | 23 |
| Smartphone—Dual-Mode | 24 |
| Smartphone—Single-Mode | 25 |
| Tablet | 26 |
| Static sensor | 27 |
| Mobile sensor | 28 |
| Static emergency device | 29 |
| Mobile emergency device | 30 |
| AR/VR headset | 31 |
| Smart watch | 32 |
| Smart wearable | 33 |
| Reserved | ~~26~~34-220 |
| Other devices | 221 |
| Reserved | 222–255 |

**TGmf Editor: *Instruction: Please insert at the end of 9.4.2.67.5***

The format for the Device Model subelement is shown in Figure 9-517 (Device Model subelement format).

|  |  |  |  |
| --- | --- | --- | --- |
|  |  Subelement ID | Length | Device Model  |
| Octets: | 1 | 1 | variable |
| **Device Model subelement format** |  |  |  |

The Device Model field contains ASCII string indicating the model of the reporting device.

The format for the Operating System subelement is shown in Figure 9-518 (Operating System subelement format).

|  |  |  |  |
| --- | --- | --- | --- |
|  |  Subelement ID | Length | Operating System  |
| Octets: | 1 | 1 | variable |
| **Operating System subelement format** |  |  |  |

The Operating System field contains ASCII string indicating the operating system of the reporting device.

The format for the Vendor OS version subelement is shown in Figure 9-519 (Vendor OS Version subelement format).

|  |  |  |  |
| --- | --- | --- | --- |
|  |  Subelement ID | Length | Vendor OS Version  |
| Octets: | 1 | 1 | variable |
| **Vendor OS Version subelement format** |  |  |  |

The Vendor OS Version field contains ASCII string indicating the vendor operating system of the reporting device.

The format for the Power Source subelement is shown in Figure 9-520 (Power Source subelement format).

|  |  |  |  |
| --- | --- | --- | --- |
|  |  Subelement ID | Length | Power Source  |
| Octets: | 1 | 1 | 1 |
| **Power Source subelement format** |  |  |  |

The Power Source field identifies the source of power of the reporting device and is one of the values in Table 9-249 (Power Sources).

|  |  |
| --- | --- |
| **Power Sources** |  |
| **Power Source** | **Value** |
| Mains | 0 |
| Battery | 1 |
| Reserved | 2–255 |

The format for the Previous Session Issue subelement is shown in Figure 9-521 (Previous Session Issue subelement format).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  Subelement ID | Length | Failure Epoch Timestamp  | BSSID | RSSI of Peer | Issue Reason |
| Octets: | 1 | 1 | 4 | 6 | 1 | Variable |
| **Previous Session Issue subelement format** |  |  |  |  |  |  |

The Failure Epoch Timestamp field identifies the epoch when the reported issue occurred.

The BSSID field identifies the BSS to which the reporting STA was associated at the time of the reported issue.

The RSSI of Peer field identifies the RSSI of the peer measured by the reporting STA.

The Issue Reason field indicates the reason for the issue.