IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [Beacon Report fragmentation] | | | | |
| Date: 2017-07-01 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Gabor Bajko | Mediatek | 2840 Junction Rd |  | Gabor.bajko@mediatek.com |
|  |  |  |  |  |

Abstract

[During 11n amendment development, it was noticed that if the Beacon Report has to include the entire beacon content, then it may happen that the length of the Beacon Report would be larger than the (255-3) octet maximum length of the Measurement Report field of a Beacon Report (in case when the Reported Frame Body subelement is larger than 227 octets), thus some HT, VHT, or IEs defined in subsequent amendments, perhaps critical, could be missed. To solve the problem, 11n amendment adopted at that time a rule to truncate some of the larger and not critical IEs (3 of them, TIM, IBSS DFS and RSNE) to 4 octets, to make sure that all other (defined by that time) IEs would fit into one Measurement Report (see section 9.4.2.22.7 of 802.11-2016).

The argument that by truncating the above mentioned IEs solves the problem is by now outdated, as many more IEs have been defined by a multitude of amendments since then.

To overcome the size limitation of a Beacon Report, this proposal proposes to remove the truncation of the IEs and to define how the reporting STAs can fragment the Reported Frame Body subelement of a Beacon Report, and send the fragments in multiple Beacon Report frames.]

Editor: add the following line to Table 9-112—Optional subelement IDs for Beacon report, with appropriate adjustments to the Reserved Subelement ID:

|  |  |  |
| --- | --- | --- |
| Subelement ID | Name | Extensible |
| 2 | Reported Frame Body Fragment ID |  |

Editor: make the following changes in (9.4.2.22.7 Beacon report)

The Reported Frame Body subelement contains the requested fields and elements of the frame body of the

reported Beacon, Measurement Pilot, or Probe Response frame. If the Reporting Detail subelement of the

corresponding Beacon request equals 0, the Reported Frame Body subelement is not included in the Beacon

report. If the Reporting Detail subelement equals 1, all fixed fields and any elements identified in a Request

element or Extended Request element in the corresponding Beacon request are included in the Reported

Frame Body subelement, in the order that they appeared in the reported frame. If the Reporting Detail field

equals 2, all fixed fields and elements are included in the order they appeared in the reported frame.

~~Reported TIM elements are truncated such that only the first 4 octets of the element are reported and the~~

~~element Length field is modified to indicate the truncated length of 4. Reported IBSS dynamic frequency~~

~~selection (DFS) elements are truncated so that only the lowest and highest channel number map are reported~~

~~and the element Length field is modified to indicate the truncated length of 13. Reported RSNEs are~~

~~truncated so that only the first 4 octets of the element are reported and the element Length field is modified~~

~~to indicate the truncated length of 4.~~ If the length of the Reported Frame Body subelement would cause the

Measurement Report element to exceed the maximum element size, then the Reported Frame Body

subelement is truncated. When the Reported Frame Body subelement is truncated, then the Reported Frame Body Fragment ID subelement must also be present. ~~so that the last element in the Reported Frame Body subelement is a complete element.~~

The Data field of the Reported Frame Body Fragment ID subelement has the following format:

B0 B6 B7

|  |  |
| --- | --- |
| Fragment ID number | More Frame Body Fragments |

Bits 7 1

The responding STA sets the Fragment ID number field to 0 for the initial fragment and increments it by 1 for each subsequent fragment in a multi-fragment Reported Frame Body subelement.

The More Frame Body Fragments field is set to 0 whenever the final fragment of a Reported Frame Body subelement is being transmitted, otherwise it is set to 1.

The Reported Frame Body subelement is truncated so that the last element in every Reported Frame Body subelement fragment is a complete element.