IEEE P802.11
Wireless LANs

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| [Enhancement to Beacon Report] |
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Abstract

[The IEEE 802.11-2016 specification defines the Beacon Request and Beacon Report feature, by allowing the reporting STA to send its report in one or more Radio Measurement Report frames. Interop events at external organizations have shown that STA implementations are very diverse wrt beacon reporting, some implementations put one Beacon Report in one Radio Measurement frame and send multiple frames, while others put multiple Beacon Reports in one frame, and may or may not need to send multiple frames as a response to a Beacon Report Request.

In many cases, the AP STAs may need to process and take action on the content of the Beacon Reports in a time sensitive manner, but they do not have a way to know which Beacon Report is the last frame. As such, the AP implementations either wait for an unnecessarily long time to receive all Beacon Report frames, or they take decisions based on the content of a subset of the Beacon Report frames received from non-AP STAs.

This document proposes a backward compatible way for 802.11-2016 spec Beacon Reporting feature, which would allow for an AP STA to request, and for a non-AP STA to add into the Beacon Report an indication to indicate whether the Beacon Report is the last frame or there are more expected.]

Editor: add the following line to (9.4.2.21.7 Beacon request) Table 9-88—Optional subelement IDs for Beacon request, with appropriate adjustments to the Reserved Subelement ID:

|  |  |  |
| --- | --- | --- |
| Subelement ID | Name | Extensible |
| 164 | Last Beacon Report Indication Request |  |

Editor: add the following description in (9.4.2.21.7 Beacon request) after Table 9-88:

The Last Beacon Report Indication Request subelement has the format defined in Figure 9-618, with a Length field set to 1.

When included into a Beacon request with the Data field set to a value of 1, it indicates that the requesting STA asks the responding STA to include an indication into the Beacon report to indicate the last frame of the sequence of frames generated as a response to a Beacon request.

Editor: add the following line to (9.4.2.22.7 Beacon report) Table 9-112—Optional subelement IDs for Beacon report, with appropriate adjustments to the Reserved Subelement ID:

|  |  |  |
| --- | --- | --- |
| Subelement ID | Name | Extensible |
| 164 | Last Beacon Report Indication |  |

Editor: add the following description in (9.4.2.22.7 Beacon report) after Table 9-112:

The Last Beacon Report Indication subelement has the format defined in Figure 9-618, with a Length field set to 1. When the Data field is set to 1, it indicates that this Beacon report is the last frame sent as a response to a Beacon request. A value of 0 indicates that there are more frames expected.

Editor: add the following paragraph to the end of section 11.11.9.1 Beacon report

When a Beacon request includes a Last Beacon Report Indication Request subelement with the Data field equal to 1, then the reporting STA shall include a Last Beacon Report Indication subelement into the Beacon report, and set the value of the Data field of the subelement to 1 when that is the last frame of the sequence of frames generated as a response to a Beacon request. Otherwise the value of the Data field is set to 0.

**References:**