**IEEE P802.19**

**Wireless Coexistence**

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| Project | IEEE P802.19 Wireless Coexistence WG | |
| Title | **Contribution for Comment Resolution, Clause 9.6 and 9.7** | |
| Date Submitted | March 25, 2020 | |
| Source | Benjamin A. Rolfe Blind Creek Associates P.O. Box 798  Los Gatos, CA, USA 95031 | Voice: (408) 395 7207  E-mail: ben.rolfe @ ieee.org |
| Re: | Initial Working Group Ballot Comment resolution | |
| Abstract | Text and tables to support proposed resolutions to ballot comments. | |
| Purpose | [Resolve comments in WG recirculation ballot] | |
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# Introduction

This document contains new sub-clauses for comments on 9.6 and 9.7 to summarize the recommendations presented in these clauses, as requested by ballot comments. This introduction is not part of the proposed draft content.

# New sub-clause 9.6.5

9.6.5 Summary of frame size recommendations

Improved coexistence can be achieved when adjusting the frame size of each system according to the network conditions. Factors that affect the selection of frame size include network size, offered load for each network and performance priorities. The performance priorities include the packet delivery rate and packet latency requirements for each of the coexisting networks. In three of the four scenarios, an optimization for both packet deliver and latency performance can be achieved by selecting a medium packet size for the 802.11ah and a larger packet size for the 802.15.4g. In the fourth scenario, adjusting the optimal 802.15.4 packet size selection depends on the desired optimization, 802.15.4 packet delivery rate or 802.11ah latency. This is illustrated in {Table a}.

Table a – Summary of frame size recommendations

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Scenario | | | | Performance Priority | Frame Size Recommendation | |
|  | Network Size | Offered load | |
|  |  | 802.11 | 802.15.4 | 802.11 | 802.15.4 |
| 9.6.1 | Small | High | Low | 802.15.4 packet delivery rate | Medium | Large |
| 802.11 packet latency |
| 9.6.2 | Small | Low | High | 802.15.4 packet delivery rate | Medium | Large |
| 802.11 packet latency |
| 9.6.3 | Large | High | Low | 802.15.4 packet delivery rate | Medium | Large |
| 802.11 packet latency |
| 9.6.4 | Large | Low | High | 802.15.4 packet delivery rate | Medium | Large |
| 802.11 packet latency | Medium | Medium |

# New sub-clause 9.7.5

{Table b} summarizes backoff parameter recommendations. Selection of the 802.11 contention window size is dominated by the network scenario. For each scenario, all four performance priorities are optimized by selecting the contention window as shown. Selection of the 802.15.4 backoff parameter values depend on both network scenario and desired performance priority, as indicated in the table with “larger” or “smaller” corresponding to the definitions in <9.7>. Where neither is specified, the selection of either yields similar performance.

Table b – Summary of backoff parameter recommendations

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Scenario | | | | Performance Priority |  | |
|  | Network Size | Offered load | |
|  |  | 802.11 | 802.15.4 | 802.11 CW | 802.15.4 backoff |
| 9.7.1 | Small | High | Low | 802.11 Packet Delivery | Standard | -- |
| 802.11 Latency | -- |
| 802.15.4 Packet Delivery | Larger |
| 802.15.4 Latency | Smaller |
| 9.7.2 | Small | Low | High | 802.11 Packet Delivery | Standard | -- |
| 802.11 Latency | -- |
| 802.15.4 Packet Delivery | Larger |
| 802.15.4 Latency | Smaller |
| 9.7.3 | Large | High | Low | 802.11 Packet Delivery | Smaller | -- |
| 802.11 Latency | Larger |
| 802.15.4 Packet Delivery | Larger |
| 802.15.4 Latency | Larger |
| 9.7.4 | Large | Low | High | 802.11 Packet Delivery | Smaller | -- |
| 802.11 Latency | Larger |
| 802.15.4 Packet Delivery | Larger |
| 802.15.4 Latency | Smaller |