IEEE P802.11
Wireless LANs

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| Proposed Response to WBA on Implementation Guidelines for L4S |
| Date: 2024-11-15 |
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Abstract

This contribution proposes a response to WBA E2E QoS and L4S group, responding to their liaison to IEEE 802.11 on L4S implementation guidelines.

**Instructions for the preparation of a Liaison Communication from 802.11**

1. Prepare a submission for consideration by a subgroup of 802.11 using this template.
2. Insert the proposed text of the liaison replacing ‘[Content]’ below.
3. The secretary of the IEEE-SA standards board is copied on communications to government bodies (including the ITU) as described in the LMSC OM “Communications with government bodies”, and for statements to external bodies, per 5.1.3 of the IEEE-SA Standards Board Operations Manual, <http://standards.ieee.org/develop/policies/opman/sb_om.pdf> .”Statements to external bodies”.
4. Insert any discussion or rationale replacing ‘[Discussion and/or rationale can go here]’ below.
5. Prior to approval by the working group, post a clean version with all changes accepted
6. After approval by the working group, the WG chair will post a revision with the ‘[Discussion and/or rationale can go here]’ section deleted and the details related to approval filled in. This enables the WG chair to provide a link to the content of the liaison absent any content not intended for the recipients.

Reviewed by the 802.11 working group during the WG closing plenary of the 2024 November IEEE 802 plenary session. The WG approved with the following result:

Yes: 91, No: 1, Abstain: 9 (Motion passes)

IEEE 802.11 WLAN Working Group
DRAFT Liaison Communication

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| Source: | IEEE 802.11 Working Group[[1]](#footnote-1) |
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| To: | Wireless Broadband Alliance, E2E Wi-Fi QoS & L4S |  |
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| CC: | [Alpesh Shah | Secretary, IEEE-SA Standards BoardSecretary, IEEE-SA Board of Governorssasecretary@ieee.org ] |
| James Gilb | Chair, IEEE 802 LMSCgilb\_ieee@TUTA.COM  |
| Jon Rosdahl | Vice-chair, IEEE 802.11 WLAN Working Groupjrosdahl@ieee.org |
| Stephen McCann | Vice-chair, IEEE 802.11 WLAN Working Groupmccann.stephen@gmail.com  |
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| From: | Robert Stacey | Chair, IEEE 802.11 WLAN Working Grouprobert.stacey@intel.com  |
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| Subject: | Response to WBA liaison on implementation guidelines for L4S |
| Approval: | Approved by the IEEE 802.11 Working Group at the 2024 November IEEE 802 Plenary Session, Vancouver, BC, Canada  |

Dear WBA E2E Wi-Fi QoS & L4S project group,

Thank you for your Liasion Statement on Implementation Guidelines for Low Latency, Low Loss, and Scalable Throughput (L4S) in Wi-Fi Equipment, and providing opportunity to IEEE 802 LMSC to review and provide feedback on the document.

IEEE 802.11 Working Group is currently reviewing the document, and will provide feedback as soon as possible.

We note, as also noted in your document, that L4S raises some interesting discussion about the architectural aspects as well as implementation techniques for supporting and integrating it into an 802.11 environment. As such, our discussions are crossing task group/standing committee activites, with potential interest and technical work within the scope of ARChitecture, REVision mf, and P802.11bn activities. Each of these subgroups considered your liaison and document during the week of November 11-15, 2024. Also, an overview of the implementation guidelines was presented to the 802.11 ARC Standing Committee [1] in September 2024 Interim.

In addition, the IEEE 802.11bn Task Group (TG) is actively focusing on reducing latency in 802.11 networks. The scope of the Task Group includes at least one operational mode targeting a 25% reduction in latency at the 95th percentile compared to Extremely High Throughput (EHT) MAC/PHY operation [2]. To achieve this objective, the Task Group is considering multiple features to reduce media access delays, including but not limited to enhancements to EDCA, coordinated TDMA, Coordinated Restricted Target Wake Time, and preemption. L4S is also an active area of interest in this task group. Several submissions have been presented, each proposing various approaches to enable support for L4S in IEEE 802.11bn [3-9].

We also note your suggestion for a presentation of an overview of the WBA efforts in this area, to an upcoming IEEE 802.11 session. Unfortunately, it was not possible to schedule that for this November session, as you suggested. However, we would welcome consideration of such a presentation at an upcoming session. Future meeting dates and locations can be found at the link below, for your consideration.

Future meeting dates:

See: <http://www.ieee802.org/11/Meetings/Meeting_Plan.html> for Future meeting dates of the IEEE 802.11 Working Group

References

[1] <https://mentor.ieee.org/802.11/dcn/24/11-24-1617-00-0arc-overview-of-wba-l4s-implementation-guidelines.pptx>

[2] <https://development.standards.ieee.org/myproject-web/app#viewpar/14476/10639>

[3] 11-23-0679-00-0uhr-low-latency-qos-based-on-l4s

[4] 11-24-0384-01-00bn-low-latency-based-on-l4s

[5] 11-24-0399-01-00bn-thoughts-on-l4s-in-wi-fi

[6] 11-23-0650-01-0uhr-qos-re-visited

[7] 11-24-0818-04-00bn-low-latency-flow-treatment-triggered-by-upper-layer-including-ecn-indicators

[8] 11-24-1566-01-00bn-l4s-support-in-802-11bn

[9]11-24-1350-02-00bn-l4s-support-implementation-options

Sincerely,

Robert Stacey

Chair, IEEE 802.11 WLAN Working Group

1. This document represents the views of the IEEE 802.11 Working Group,and does not necessarily represent a position of the IEEE, the IEEE Standards Association, or IEEE 802. [↑](#footnote-ref-1)