IEEE P802.11
Wireless LANs

|  |
| --- |
| Detailed Text Proposal for Low Latency Indication |
| Date: 2025-01-16 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Mohamed Abouelseoud | Apple |  |  |  |
| Reza Hedayat  | Apple |  |  |  |
| Laurent Cariou | Intel |  |  |  |
| Dmitry Akhmetov | Intel |  |  |  |
| Dibakar Das | intel |  |  |  |
| Giovanni Chisci | Qualcomm |  |  |  |
| Yue Qi | Samsung |  |  |  |
| Kiseon Ryu | NXP |  |  |  |
| Yonggang Fang | Mediatek |  |  |  |
| Insun Jang | LG |  |  |  |
| Shawn Kim | Wilus |  |  |  |
| Akira Kishida | NTT |  |  |  |
| Yan Li | ZTE |  |  |  |
| Behnam dezfouli | Nokia |  |  |  |

Abstract

This document contains Proposed Draft Text (PDT) for the LL Indication topic of the proposed TGbn (UHR, Ultra High Reliability) amendment to the 802.11 standard

# Revision information

The following is a summary of the important changes that occurred within each revision of this document:

|  |  |
| --- | --- |
| **Revision** | **Major changes** |
| 0 | Initial revision |
| 1 | Updated using comments from Dmitry, Yue, Yonggang, Kiseon and Giovanni  |
| 2 | Added cosigning names, updated abstract and Introduction, updated the SP text and relevant IEEE documents |
| 3 | Updated the word pending to buffered as per Liuming Lu request to match the SP text |
|  |  |

# Introduction

The proposed changes to the 802.11 TGbn draft within this document are based on the following

SP by the TGbn task group:

* [SP ]
* **Define or improve an existing mechanism so that a non-AP STA that is a TXOP responder can indicate its buffered low latency traffic needs (for** **traffic from the TxOP responder to the TxOP Holder) in a control response frame. The TXOP holder should consider the indication in determining subsequent actions. Subsequent actions related to this indication are out of the scope of the standard.**
	+ **Note: whether an AP can Indicate its low latency needs is TBD**

The SP results was (192Y, 10N, 29A)

Example relevant IEEE documents:

[*https://mentor.ieee.org/802.11/dcn/24/11-24-0389-00-00bn-preemption-for-low-latency.pptx*](https://mentor.ieee.org/802.11/dcn/24/11-24-0389-00-00bn-preemption-for-low-latency.pptx)

[*https://mentor.ieee.org/802.11/dcn/24/11-24-0168-00-00bn-txop-preemption-in-11bn.pptx*](https://mentor.ieee.org/802.11/dcn/24/11-24-0168-00-00bn-txop-preemption-in-11bn.pptx)

[*https://mentor.ieee.org/802.11/dcn/24/11-24-0416-01-00bn-target-sta-prioritization-in-edca-based-preemption-mechanisms-during-a-dl-txop.pptx*](https://mentor.ieee.org/802.11/dcn/24/11-24-0416-01-00bn-target-sta-prioritization-in-edca-based-preemption-mechanisms-during-a-dl-txop.pptx)

[*https://mentor.ieee.org/802.11/dcn/24/11-24-0442-03-00bn-latency-reduction-for-immediate-real-time-application-traffic-transmission.pptx*](https://mentor.ieee.org/802.11/dcn/24/11-24-0442-03-00bn-latency-reduction-for-immediate-real-time-application-traffic-transmission.pptx)

[*https://mentor.ieee.org/802.11/dcn/24/11-24-1195-01-00bn-indication-techniques-for-urgent-traffic.pptx*](https://mentor.ieee.org/802.11/dcn/24/11-24-1195-01-00bn-indication-techniques-for-urgent-traffic.pptx)

[*https://mentor.ieee.org/802.11/dcn/24/11-24-0264-01-00bn-timing-information-sharing-for-next-generation-wlans.pptx*](https://mentor.ieee.org/802.11/dcn/24/11-24-0264-01-00bn-timing-information-sharing-for-next-generation-wlans.pptx)

[*https://mentor.ieee.org/802.11/dcn/23/11-23-1886-03-00bn-preemption-techniques-to-meet-low-latency-ll-targets.pptx*](https://mentor.ieee.org/802.11/dcn/23/11-23-1886-03-00bn-preemption-techniques-to-meet-low-latency-ll-targets.pptx)

 <https://mentor.ieee.org/802.11/dcn/24/11-24-1156-00-00bn-initial-control-frame-exchange-for-low-latency.pptx>

<https://mentor.ieee.org/802.11/dcn/24/11-24-1871-03-00bn-erd-enhanced-reverse-direction-protocol-to-support-txop-sharing-and-low-latency-traffic-exchange.pptx>

<https://mentor.ieee.org/802.11/dcn/24/11-24-1074-00-00bn-preemption-txop.pptx>

<https://mentor.ieee.org/802.11/dcn/23/11-23-1909-01-00bn-transmission-method-of-low-latency-traffic.pptx>

<https://mentor.ieee.org/802.11/dcn/24/11-24-0131-00-00bn-signaling-of-preemption.pptx>

<https://mentor.ieee.org/802.11/dcn/23/11-23-0045-01-0uhr-urgency-based-delivery-of-latency-sensitive-traffic.pptx>

***Editing instructions formatted like this are intended to be copied into the TGbe Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

# Text to be adopted begins here:

***TGbn editor: Please add the following new subclause 37.x Low Latency Indication to the 802.11bn draft D0.1:***

37.x Low Latency Indication (LLI)

37.x.1 General

Low latency indication (LLI) enables a TXOP responder to inform the TXOP holder regarding its low latency needs. The low latency needs are related to buffered low latency traffic between the TXOP responder and the TXOP holder. The detailed definition of low latency needs is TBD.

A STA that supports low latency indication shall have dot11LowLatencyIndicationActivated equal to true and shall set the Low Latency Indication Support field of the UHR MAC Capability Information field of the UHR Capability element to 1.

A TXOP responder non-AP STA may indicate its low latency needs to the TXOP holder in a TBD control response frame sent to the TXOP holder if the TXOP holder has set the Low Latency Indication Support field of transmitted UHR Capabilities elements to 1. Upon receiving the low latency indication in the control response frame, the TXOP holder should consider the low latency indication in determining subsequent actions within the current TXOP or subsequent TXOPs. The subsequent actions taken by the TXOP holder after receiving the low latency indication are out of scope of the standard.

Whether a TXOP responder AP may indicate its low latency needs to a TXOP holder non-AP STA is TBD.

# Text to be adopted ends here.