IEEE P802.11
Wireless LANs

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| Resolution for CC36 CIDs related to r-TWT low-lat traffic differentiation 35.7.2.1 |
| Date: November, 2021 |
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 Abstract

This submission proposes resolutions for the following CIDs related to section “35.7.2.1 Latency sensitive traffic differentiation” for TGbe (CC36):

4155, 4431, 4785, 4920, 4935, 5519, 5774, 5881, 5953, 6510, 6511, 6543, 7431, 7432, 7469, 7633, 7634, 7857

Revisions:

* Rev 0: Initial version of the document.

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGbe Draft. This introduction is not part of the adopted material.

***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).***

***TGbe Editor: Editing instructions preceded by “TGbe Editor” are instructions to the TGbe editor to modify existing material in the TGbe draft. As a result of adopting the changes, the TGbe editor will execute the instructions rather than copy them to the TGbe Draft.***

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| **CID** | **Commenter** | **Section** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 4155 | Alfred Asterjadhi | 35.6.2.1 | 298.27 | The mechanism that differentiates latency sensitive traffic from other types of traffic is actually missing. Need to expand a little bit more on this particular subclause. | As in comment. | **Revised**Agree in principle with the comment. Proposed resolution is to describe the mechanisms the STA can use to serve QoS to the latency sensitive traffic.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 4431 | Arik Klein | 35.6.2.1 | 298.27 | Please add the missing mechanism that differentiates latency sensitive traffic from other types of traffic | As in comment. | **Revised**Agree in principle with the comment. Proposed resolution is to describe the mechanisms the STA can use to serve QoS to the latency sensitive traffic.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 4785 | Dana Ciochina | 35.6.2.1 | 298.27 | This subclause defines a mechanism that differentiates latency sensitive traffic from other types of traffic. - No mechanism is defined | please define a mechanism to provide the differentiation between low latency and other types of traffic | **Revised**Agree in principle with the comment. Proposed resolution is to describe the mechanisms the STA can use to serve QoS to the latency sensitive traffic.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 4920 | Duncan Ho | 35.6.2 | 0.00 | The relationship between Restricted TWT, SCS and TSPEC is not clear | Mandate SCS support for EHT STAs that support low-lat operation. Allow rTWT Req to include TSPECs or SCSIDs depending on the STA's/AP's SCS support - contribbutiuon to follow | **Revised**Agree in principle with the comment. Proposed resolution is to describe the mechanisms the STA can use to serve QoS to the latency sensitive traffic.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 4935 | Eldad Perahia | 35.6.2.1 | 298.27 | without a definition for latency sensitive traffic, can anything be latency sensitive? | as in comment | **Reject**The comment is actually a question. It’s not clear what is the proposed resolution.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 5519 | Jinsoo Choi | 35.6.2.1 | 298.25 | Need to define a mechanism that differentiates latency sensitive traffic from other types of traffic. TID based differentiation/mapping of the low latency traffic can be one of example for the purpose. | As in comment | **Revised**Agree in principle with the comment. Proposed resolution is to describe the mechanisms the STA can use to serve QoS to the latency sensitive traffic.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 5774 | Laurent Cariou | 35.6.2.1 | 298.25 | SCS should be mandatory for STAs supporting rTWT. | as in comment | **Revised**Agree in principle with the comment. Proposed resolution is to add that requirement.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 5881 | Liangxiao Xin | 35.6.2.1 | 298.27 | SCS setup is a mechanism to differentiate the latency sensitive traffic from other trafic | reference SCS in section 35.6.2.1 | **Revised**Agree in principle with the comment. Proposed resolution is to describe the mechanisms the STA can use to serve QoS to the latency sensitive traffic.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 5953 | Liuming Lu | 35.6.2 | 298.22 | The latency sensitive traffic can be identified by the TIDs with the corresponding traffic categories (TCs) or UPs(user priorities), and it can also be identified by TSID as the traffic stream (TS) with a particular traffic specification (TSPEC) for parameterized quality of service (QoS).Currently specified Restricted TWT setup lacks of the support for TS operation , such as the addition, deletion of TS in Restricted TWT periods. | the restricted TWT setup mechanism to support the TS operation for the latency sensitive traffic needs to be specified. | **Reject**Currently EHT STA can use the Multi-link SCS to include the QoS characteristics element and send it to the AP. This can be performed before or after the rTWT setup for the same traffic flow. |
| 6510 | Pascal VIGER | 35.6.2.1 | 298.25 | "Latency sensitive traffic differentiation" is not clear enough, as it could rely to a type of traffic (from application) or a transportation (network point of view) of such traffic. Iy is not clear where the differenciation occurs. | as in comment.Please precise the 'traffic' | **Revised**Agree in principle with the comment. Proposed resolution is to describe the mechanisms the STA can use to serve QoS to the latency sensitive traffic.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 6511 | Pascal VIGER | 35.6.2.1 | 298.25 | "Latency sensitive traffic differentiation" is not clear enough.As nowadays a end-device is multiple content producer, there shall exist a diferenciation of latency sensitive and not-latency-sensitive traffics (e.g. from local application) belonging to a same TID.Otherwise, considering all traffics belonging TID as identical transportation is unfair ! | as in comment.Please consider fairness by differenciating transportation of LS and non-LS traffic of a same TID | **Revised**Agree in principle with the comment. Proposed resolution is to describe the mechanisms the STA can use to serve QoS to the latency sensitive traffic.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 6543 | Patrice Nezou | 35.6.2.1 | 297.62 | This subclause defines a mechanism that differentiates latency sensitive traffic from other types of traffic.Comment: there is neither definition of the latency sensitive traffic nor mapping with TID and/or access queues to enable efficient management of latency sensitive data frames. | As in comment | **Revised**Agree in principle with the comment. Proposed resolution is to describe the mechanisms the STA can use to serve QoS to the latency sensitive traffic.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 7431 | SunHee Baek | 35.6.2.1 | 298.27 | During restricted TWT, latency sensitive traffic is shared between AP and STA. There is needed to define a term to call latency sensitive traffic such as low latency data (LLD). | As in comment. | **Rejected**Not clear why the term is needed and how to use the term. |
| 7432 | SunHee Baek | 35.6.2.1 | 298.27 | AP cannot recognize the total transmitting amount of latency sensitive traffic although TSPEC can deliver the type of the traffic. For AP to assign the restricted TWT SP to Low Latency STA, we need a way to indicate the total amount from the STA to AP. By defining it (e.g., like BSR) for LLD, it would be helpuful to AP in allocating restricted TWT SP. | As in comment. | **Rejected**BSR can be reported per TID, which identifies the latency sensitive traffic flow. |
| 7469 | Thomas Handte | 35.6.2.1 | 298.27 | 35.6.2.1 seems to be a place holder subclause | Please add content | **Revised**Agree in principle with the comment. Proposed resolution is to describe the mechanisms the STA can use to serve QoS to the latency sensitive traffic.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 7633 | Tomoko Adachi | 35.6.2.1 | 0.00 | The mechanism that differentiates latency sensitive traffic from other types of traffic needs to be defined. | As in comment. | **Revised**Agree in principle with the comment. Proposed resolution is to describe the mechanisms the STA can use to serve QoS to the latency sensitive traffic.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |
| 7634 | Tomoko Adachi | 35.6.2.1 | 0.00 | The EHT AP should be able to check whether the EHT non-AP STAs that said to support the restricted TWT operation are really following the rule during the restricted TWT service period. | As in comment. | **Rejected**It is not clear what standard based solution is proposed here. The AP can monitor the EHT non-AP STA behavior by implementation means and can disconnect the STA if the STA is not complying with the rTWT rules and/or is abusing the rTWT SPs. |
| 7857 | Yonggang Fang | 35.6.2.1 | 298.27 | This clause is not completed. | Please specify a mechanism to differentiate latency sensitive traffic from others. | **Revised**Agree in principle with the comment. Proposed resolution is to describe the mechanisms the STA can use to serve QoS to the latency sensitive traffic.**TGbe editor, please make changes as shown in doc 11-21/0xxxxr0** |

# Discussion

When an 11be STA intends to support latency sensitive traffic, the STA may request a restricted TWT session with the AP for the latency sensitive traffic flow and specify the TID of the flow.

# Proposed text change

**35.7.2.1 Latency sensitive traffic differentiation**

***TGbe editor: modify this subclause as follows:***The latency sensitive traffic is differentiated from other types of traffic during the r-TWT service periods using the UL and/or DL TIDs indicated as part of the r-TWT setup procedure.

An r-TWT scheduled STA or an r-TWT scheduling AP shall identify the latency sensitive traffic for an r-TWT service period as traffic corresponding to TIDs indicated in the Restricted TWT Traffic Info subfield in the TWT element with the TWT Setup Command field set to Accept TWT, delivered during the r-TWT setup for that service period.

Do you agree to the resolution provided in doc 11-21/1902r0 for following CIDs?

4155, 4431, 4785, 4920, 4935, 5519, 5774, 5881, 5953, 6510, 6511, 6543, 7431, 7432, 7469, 7633, 7634, 7857