**3GPP TSG RAN Meeting #102 RP-23xxxx**

**Edinburgh, Scotland, December 11-15, 2023**

**Source: ZTE Corporation (rapporteur)**

**Title: WI summary: Mobile Terminated-Small Data Transmission (MT-SDT) for NR**

**Agenda item:** **9.3.2.2**

**Document for:** **Information**

# Introduction and justification for the work item

In Rel-17, the work item for small data enhancements (NR\_SmallData\_INACTIVE) enabled transmission of small signalling and/or data packets whilst the UE remains in RRC\_INACTIVE state. These Rel-17 enhancements supported only the Mobile Originated Small Data Transmissions (MO-SDT). In Rel-18 the Mobile Terminated Small Data Transmissions are supported with the completion of the MT-SDT WI. For DL, MT-SDT (i.e. DL-triggered small data) allows similar benefits as MO-SDT i.e. 1) reducing signalling overhead and UE power consumption by avoiding unnecessary transitions to RRC\_CONNECTED and reducing latency by allowing fast transmission of (small and infrequent) packets, e.g. for positioning.

# Summary of the SDT feature

For a UE in RRC\_INACTIVE state, MT-SDT is initiated by the network with an indication to the UE in the paging message when DL data awaits transmission for radio bearers configured for SDT; based on the indication, the UE initiates the MT-SDT only if the DL RSRP is above a configured threshold. When MT-SDT is initiated by the UE, a resume cause indicating MT-SDT is included in the RRCResumeRequest/RRCResumeRequest1 message. It is possible for the network to enable MO-SDT or MT-SDT or both MO-SDT and MT-SDT in a cell. MT-SDT procedure can be initiated with either a transmission over RACH or over Type 1 Configured Grant (CG) resources (configured via dedicated signalling in *RRCRelease*). If MT-SDT procedure is initiated over RACH, only the RACH resources not configured for SDT can be used by the UE.

# References

|  |  |  |  |
| --- | --- | --- | --- |
| **Tdoc** | **Spec** | **CR#** | **Title** |
| [R3-237876](http://portal.3gpp.org/ngppapp/DownloadTDoc.aspx?contributionUid=R3-237876) | [37.483](javascript:OpenSpecDetailsPage('https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3957%27,%27Specification-3957%27)) | 0054 | Introduction of MT-SDT |
| [R2-2313426](http://portal.3gpp.org/ngppapp/DownloadTDoc.aspx?contributionUid=R2-2313426) | [38.300](javascript:OpenSpecDetailsPage('https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3191%27,%27Specification-3191%27)) | 0711 | Introduction of MT-SDT in Stage-2 |
| [R2-2312091](http://portal.3gpp.org/ngppapp/DownloadTDoc.aspx?contributionUid=R2-2312091) | [38.331](javascript:OpenSpecDetailsPage('https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3197%27,%27Specification-3197%27)) | 4194 | Introduction of MT-SDT |
| [R3-237878](http://portal.3gpp.org/ngppapp/DownloadTDoc.aspx?contributionUid=R3-237878) | [38.401](javascript:OpenSpecDetailsPage('https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3219%27,%27Specification-3219%27)) | 0284 | Introduction on MT-SDT |
| [R3-237875](http://portal.3gpp.org/ngppapp/DownloadTDoc.aspx?contributionUid=R3-237875) | [38.420](javascript:OpenSpecDetailsPage('https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3225%27,%27Specification-3225%27)) | 0034 | Introduction on MT-SDT |
| [R3-237880](http://portal.3gpp.org/ngppapp/DownloadTDoc.aspx?contributionUid=R3-237880) | [38.423](javascript:OpenSpecDetailsPage('https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3228%27,%27Specification-3228%27)) | 1010 | (CR to TS 38.423) Introduction of MT-SDT |
| [R3-237874](http://portal.3gpp.org/ngppapp/DownloadTDoc.aspx?contributionUid=R3-237874) | [38.473](javascript:OpenSpecDetailsPage('https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3260%27,%27Specification-3260%27)) | 1140 | Introduction on MT-SDT |
| R2-231xxxx | 38.321 | 1699 | Introduction of MT-SDT to MAC spec |