**3GPP TSG-CT4 Meeting #99-e C4-204xxx**

**E-meeting, 18th Aug 2020 - 28th Aug 2020**  *Revision of 4019*

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.244** | **CR** | **0466** | **rev** | **1** | **Current version:** | **16.4.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **x** |

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| ***Title:*** | Interworking between ETSUN and URLLC/TSC | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | Vertical\_LAN, ETSUN, 5G\_URLLC | | | | |  | ***Date:*** | | | 2020-07-23 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | SA2 specified relationship between URLLC/TSC and ETSUN. TS 23.501 CR2371 (S2-2004442) and TS 23.502 CR2322 (S2-2004441) clarify that in Rel-16 URLLC is not supported for PDU Sessions involving an I-SMF, while the same is not specified for TSC. | | | | | | | | |
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| ***Summary of change:*** | | References are added to the clauses in stage 2, which specify interworking between ETSUN and URLLC/TSC. | | | | | | | | |
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| ***Consequences if not approved:*** | | It is not clear in stage 3 if ETSUN and URLLC/TSC interwork or not. | | | | | | | | |
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| ***Clauses affected:*** | | 5.24.1, 5.26.1. | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev1: references are moved into NOTEs. | | | | | | | | |

\* \* \* First Change \* \* \* \*

## 5.24 Support of Ultra Reliable Low Latency Communication for 5GC

### 5.24.1 General

Stage 2 requirements for the support of Ultra Reliable Low Latency Communication (URLLC) are specified in clause 5.33 of 3GPP TS 23.501 [28].

NOTE x: In this release of scecification URLLC is not supported for PDU Sessions involving an I-SMF. See 3GPP TS 23.501 [28] clause 5.34 and 3GPP TS 23.502 [29] clause 4.24.

Redundant transmission is applied for supporting the highly reliable URLLC services, there are three different methods: dual connectivity based end to end redundant user plane paths, redundant transmission on N3/N9 interfaces or redundant transmission at transport layer.

NOTE x: Dual connectivity based end to end redundant user plane paths has no impact to N4 interface.

QoS Monitoring is applied for packet delay measurement. The packet delay between UE and PSA UPF is a combination of the uplink or downlink packet delay on Uu interface and uplink or downlink packet delay between NG-RAN and PSA UPF. The QoS Monitoring on uplink or downlink packet delay between NG-RAN and PSA UPF can be performed on different levels of granularities, i.e. per QoS Flow per UE level, or per GTP-U path level.

Support of the URLLC feature is an optional for the SMF and UPF, for 5GC.

\* \* \* 2nd Change \* \* \* \*

## 5.26 Support of Time Sensitive Communications (for 5GC)

### 5.26.1 General

The 5GS may support Time Sensitive Communication (TSC) sessions, as specified in clauses 4.4.8, 5.27 and 5.28 of 3GPP TS 23.501 [28]. The related procedures between SMF and UPF are defined in this clause.

NOTE x: How TSC is supported for PDU Sessions involving an I-SMF is not specified in this release of scecification. See 3GPP TS 23.501 [28] clause 5.34 and 3GPP TS 23.502 [29] clause 4.24.

Support of TSC is optional for the SMF and UPF. The procedures specified in this clause may apply if the UPF indicated support of the TSC feature (see clause 8.2.25).

\* \* \* End of Changes \* \* \* \*