**SA WG2 Meeting #S2-143E S2-210xxxx**

**24 February - 9 March 2021, Electronic, Elbonia (revision of S2-210xxxx)**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.501** | **CR** | **<CR#>** | **rev** | **<->** | **Current version:** | **16.7.0** |  |
|  | | | | | | | | |
| *For* ***HE******LP*** *on using this form: comprehensive instructions can be found at  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:*** | KI#2, TSCAI for IP IP PDU session impact | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE | | | | | | | | | |
| ***Source to TSG:*** | SA WG2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | IIoT | | | | |  | ***Date:*** | | | 2021-01-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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. | | | | | | | | *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)* | |
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| ***Reason for change:*** | | The IP PDU session type is supported for the TSC. The TSC Assistance container for IP PDU session is needed. | | | | | | | | |
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| ***Summary of change:*** | | Adding a new clause to clarify how the NEF careate the TSC Assistance container and find the N5 session. | | | | | | | | |
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| ***Consequences if not approved:*** | | How to support IP PDU session for TSCAI is missing | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.27.0, 5.27.2.X (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

*FIRST CHANGE*

5.27 Time Sensitive Communications

5.27.0 General

This clause describes 5G System features that support TSC and allow the 5G System to be integrated transparently as a bridge in an IEEE 802.1 TSN network.

During the PDU Session establishment, the UE shall request to establish a PDU Session as an always-on PDU Session, and the PDU Sessions used for TSC are established as Always-on PDU session as described in clause 5.6.13. In this release of the specification:

- Home Routed PDU Sessions are not supported for TSC services;

- TSC PDU Sessions are supported only with IP and Ethernet PDU Session type and SSC mode 1;

- Service continuity for TSC PDU Sessions is not supported when the UE moves from 5GS to EPS.

*Next CHANGE*

5.27.2.X TSC Assistance Container determination by TSC exposure

The IP or Ethernet PDU sessions are supported when the TSC Assistance Container is determined by NEF or AF.

TSC Assistance Container describing TSC traffic characteristics may be created by NEF when there is no IEEE TSN netork for TSC. The NEF receives an AF requesting Deterministic QoS as described in clause 5.27.1a.2 and creates a TSC Assistance Container which is sent to the PCF. The AF may provide Flow Direction, Burst Arrival Time at the UE/DS-TT (uplink) or UPF/NW-TT (downlink), Burst Size, Burst Periodicity, Survival Time, and a Time Domain to the NEF. IF the AF is in the trust domain, the AF may create the TSC Assistance Container and send to PCF.

The AF/NEF calculates the TSC Assistance Container and send to PCF as follows:

- The NEF or AF uses the UE IP address/MAC address to identify the N5 association related to the PDU session of UE/DS-TT.

- The NEF or AF uses the flow description to determine the Flow Direction.

- The NEF uses the Periodicity and Burst Arrival time provided by AF directly.

For UE-UE communication, the AF divides the stream into one uplink stream and one or more downlink according to the flow description.

- For downlink stream, the Flow Direction is set to downlink, the burst arrival time is set to sum of burst arrival time of the UL stream and 5GS delay of PDU session carrying the UL stream.

*END OF CHANGES*