**SA WG2 Meeting #S2-140E S2-200xxxx**

**19 August - 2 September, 2020, Electronic (revision of S2-20xxxxx)**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **23.503** | **CR** |  | **rev** | **-** | **Current version:** | **16.5.1** |  |
|  |
| *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:***  | Addressing wording comments from IEEE LS response on TSN support  |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | SA2 |
|  |  |
| ***Work item code:*** | Vertical\_LAN |  | ***Date:*** | 2020-07-27 |
|  |  |  |  |  |
| ***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 canbe 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 LS response from IEEE 802.1 task group includes a number of editorial or wording comments, which are addressed in this CR in order to have a clear specification and prevent inconsistencies and misalignment with IEEE. |
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| ***Summary of change:*** | Wording changes as proposed or pointed out in the IEEE LS response. |
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| ***Consequences if not approved:*** | Comments from IEEE remain unaddressed, leading to unclear specification, misalignment with IEEE specifications or inconsistencies.  |
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| ***Clauses affected:*** | 6.1.3.23 |
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|  | **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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

**\* \* \* \* Start of Change \* \* \* \***

#### 6.1.3.23 Support of integration with Time Sensitive Networking

Time Sensitive Networking (TSN) support is defined in TS 23.501 [2], where the 5GS represents logical bridge(s) based on the defined granularity model. The TSN AF and PCF interact to perform QoS mapping as described in clause 5.28.4 of TS 23.501 [2].

The PCF provides the following parameters to the TSN AF:

- 5GS bridge information:

- 5GS Bridge address (unique MAC address that identifies the bridge used to derive the bridge ID);

- UE-DS-TT Residence time;

- Port Management Information Container and the related port number:

- Ethernet port of DS-TT;

- port number of the Ethernet port;

- MAC address of the Ethernet port (i.e. DS-TT port MAC address).

The TSN AF may use this information to construct IEEE 802.1 managed objects, to interwork with IEEE 802.1 TSN networks.

The TSN AF requests related to TSN configuration are sent on the AF session associated with the DS-TT port MAC address. The TSN AF decides the TSN QoS information (i.e. priority, delay and maximum TSC Burst Size) and TSC Assistance Container based on the received configuration information of 5GS Bridge from the CNC as defined in clause 5.28.2 of TS 23.501 [2], the bridge delay information at the TSN AF and the UE-DS-TT Residence time.

The PCF receives a request from the TSN AF that may include:

- Flow Descriptions including Ethernet Packet Filters (e.g. Ethernet PCP, VLAN ID, destination MAC address of the TSN stream);

 - TSN QoS Parameters for the service data flow:

- TSC Assistance Container: describes the TSC stream traffic characteristics (burst arrival time, periodicity, (both in reference to TSN GM), and Flow direction needed for TSCAI determination (as described in clauses 5.27 and 5.28 of TS 23.501 [2]);

- TSN QoS information, i.e. priority, maximum TSC Burst Size and delay.

- Port Management Information Container and related Port number.

The PCF performs Session binding using the DS-TT port MAC address, and then the PCF derives the TSN QoS information into a 5QI. The PCF generates a PCC Rule with service data flow filter (including Ethernet Packet Filter set as in TS 23.501 [2] clause 5.7.6.3) derived from the Flow Descriptions provided by the TSN AF, the mapped 5QI, ARP, GBR and MBR and the associated TSC Assistance Container as received from the AF. The PCF derives the 5QI value as defined in TS 23.501 [2], clause 5.27.3. The PCF derives the GBR using the Maximum Bit Rate provided by the TSN AF and the ARP is assigned a value preconfigured for TSN services. The SMF binds the PCC Rule to a QoS Flow as defined in clause 6.1.3.2.4.

NOTE: TSC burst size can represent the maximum burst size of the TSN streams that have been aggregated.

**\* \* \* \* End of Change \* \* \* \***