**3GPP TSG-SA WG6 Meeting #46-e S6-212621**

**e-meeting, 15th – 23rd November 2021 (revision of S6-21xxxx)**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0086** | **rev** |  | **Current version:** | **17.3.0** |  |
|  | | | | | | | | |
| *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 | **X** | Radio Access Network |  | Core Network |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Removal of PCP from TSC stream discovery | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eSEAL | | | | |  | ***Date:*** | | | 2021-11-09 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***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](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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | PCP is used in the Create procedure as the traffic class, it is not available during the discovery. The second change is editorial, as the last sentence of 14.2.2.2 and the next section header had no line break. Also the references are updated as it has missing items. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Removal of PCP value. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The TSC stream discovery procedure can not be used. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 14.2.2.2, 14.3.2.24, 14.3.2.25 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | Please, replace the corresponding reference number with actual allocated number by MCC in the TS body is required. IEEE8021Qcc->[35] | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

# References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 22.104: "Service requirements for cyber-physical control applications in vertical domains".

[3] 3GPP TS 23.379: "Functional architecture and information flows to support Mission Critical Push To Talk (MCPTT); Stage 2".

[4] 3GPP TS 23.280: "Common functional architecture to support mission critical services; Stage 2".

[5] 3GPP TS 23.281: "Functional architecture and information flows to support Mission Critical Video (MCVideo); Stage 2".

[6] 3GPP TS 23.282: "Functional architecture and information flows to support Mission Critical Data (MCData); Stage 2".

[7] 3GPP TS 23.286: "Application layer support for V2X services; Functional architecture and information flows".

[8] 3GPP TS 23.222: "Functional architecture and information flows to support Common API Framework for 3GPP Northbound APIs; Stage 2".

[9] 3GPP TS 23.401: "General Packet Radio Service (GPRS) enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access".

[10] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

[11] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[12] 3GPP TS 23.303: "Proximity-based services (ProSe); Stage 2".

[13] 3GPP TS 23.682: "Architecture enhancements to facilitate communications with packet data networks and applications".

[14] 3GPP TS 23.002: "Network Architecture".

[15] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS); Stage 2".

[16] 3GPP TS 23.468: "Group Communication System Enablers for LTE (GCSE\_LTE); Stage 2".

[17] 3GPP TS 23.246: "Multimedia Broadcast/Multicast Service (MBMS); Architecture and functional description".

[18] 3GPP TS 23.203: "Policy and charging control architecture".

[19] 3GPP TS 23.503: "Policy and Charging Control Framework for the 5G System; Stage 2".

[20] 3GPP TS 26.348: "Northbound Application Programming Interface (API) for Multimedia Broadcast/Multicast Service (MBMS) at the xMB reference point".

[21] 3GPP TS 29.214: "Policy and charging control over Rx reference point".

[22] 3GPP TS 29.468: "Group Communication System Enablers for LTE (GCSE\_LTE); MB2 Reference Point; Stage 3".

[23] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2".

[24] IETF RFC 6733 (October 2012): "Diameter Base Protocol".

[25] ETSI TS 102 894-2 (V1.2.1): "Intelligent Transport Systems (ITS); Users and applications requirements; Part 2: Applications and facilities layer common data dictionaryMultimedia Broadcast/Multicast Service (MBMS); Protocols and codecs".

[26] ETSI TS 102 965 (V1.4.1): "Intelligent Transport Systems (ITS); Application Object Identifier (ITS-AID); Registration".

[27] ISO TS 17419: "Intelligent Transport Systems - Cooperative systems - Classification and management of ITS applications in a global context".

[28] 3GPP TS 26.346: "Multimedia Broadcast/Multicast Service (MBMS); Protocols and codecs".

[29] 3GPP TS 33.434: "Service Enabler Architecture Layer (SEAL); Security aspects for Verticals".

[30] 3GPP TS 29.549: "Service Enabler Architecture Layer for Verticals (SEAL); Application Programming Interface (API) specification; Stage3".

[31] 3GPP TS 23.285: "Architecture enhancements for V2X services".

[32] IETF RFC 7252: "The Constrained Application Protocol (CoAP)".

[33] IETF RFC 8323: "CoAP (Constrained Application Protocol) over TCP, TLS, and WebSockets".

[34] 3GPP TS 23.288: "Architecture enhancements for 5G System (5GS) to support network data analytics services".

[35] IEEE Std 802.1Qcc-2018: "Standard for Local and metropolitan area networks - Bridges and Bridged Networks - Amendment: Stream Reservation Protocol (SRP) Enhancements and Performance Improvements".

[36] IEEE 802.1Q-2018: "IEEE Standard for Local and Metropolitan Area Networks—Bridges and Bridged Networks".

[IEEE8021CB] IEEE Std 802.1CB-2017: "Frame Replication and Elimination for Reliability".

\* \* \* Next Change \* \* \* \*

#### 14.3.2.24 TSC stream availability discovery response

Table 14.3.2.24-1 describes the information flow TSC stream availability discovery response from the NRM server to the VAL server.

Table 14.3.2.24-1: TSC stream availability discovery response

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| Result | M | Result includes success or failure of the TSC stream availability discovery with the underlying network. |
| Stream specification | M | Stream specification includes MAC addresses of the source and destination DS-TT ports (e.g. as defined in IEEE 802.1CB [IEEE8021CB]). |
| List of traffic specifications | M | The traffic classes supported by the DS-TTs and available end-to-end MaxLatency value per traffic class. The VAL server should not request lower latency than the available end-to-end latency. |

\* \* \* Next Change \* \* \* \*

#### 14.3.2.25 TSC stream creation request

Table 14.3.2.25-1 describes the information flow TSC stream creation request from the VAL server to the NRM server.

Table 14.3.2.25-1: TSC stream creation request

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| Requester Identity | M | The identity of the VAL server performing the request. |
| VAL Stream ID | M | It identifies the VAL stream. |
| Stream specification | M | Stream specification includes MAC addresses of the source and destination DS-TT ports (e.g. as defined in IEEE 802.1CB [IEEE8021CB]). |
| Traffic specification | M | It includes MaxLatency, MaxFrameInterval, MaxFrameSize, MaxIntervalFrames, etc. (e.g. as described in IEEE 802.1Qcc [IEEE8021Qcc] in clause 46.2). |

\* \* \* Next Change \* \* \* \*

#### 14.2.2.2 On-network functional model for network resource management for TSN

The architecture for integration of the 5G with TSN [36] is depicted in Figure 14.2.2.2-1. The SEAL Network Resource Management (NRM) server acts as a TSN AF (defined in [10] in clause 5.28.1). TSN CNC (defined in [35]) via the NRM-S reference point configures the TSN flows in the 5GS. In this case the NRM-S supports the IEEE 802.1Qcc management protocol. As a TSN AF the SEAL NRM server interacts with the 5GS PCF over the N5 reference point to configure the 5G QoS and TSCAI parameters in the 5GS.



Figure 14.2.2.2-1: On-network functional model for network resource management for TSN

NOTE: Whether DS-TT and UE are combined or are separate is up to implementation.

Acting as the TSN AF the NRM server collects 5GS TSN Bridge information by interaction with the 5GS via the N5 reference point, as described in in TS 23.502 [11] Annex F.1.

#### NRM server triggers via N5 the AF request procedure as described in 3GPP TS 23.502 [11] Annex F.2.

#### 14.2.2.3 On-network functional model for network resource management for 5G TSC

5G TSC refers to time sensitive communication service offered within the 5G system (i.e. without integration with a TSN system) by the 5GS for the UEs connected to the 5GS. The architecture for the 5G TSC is depicted in Figure 14.2.2.3-1. The SEAL NRM server acts as an AF towards the 5G Core Network and performs coordination of QoS flows to fulfill the end-to-end QoS requirements for the UEs involved in the TSC communication. It combines the roles of TSCTSF and TSC CNC (similar to the TSN CNC in the TSN integration case), which means that it controls the allocation of resources of TSC communication within the boundaries of the 5G domain.

Upon request from a VAL server via the NRM-S reference point it configures the TSC end-to-end QoS flows in the 5GS. In line with other SEAL service enablers the SEAL NRM server provides a RESTful interface on the NRM-S reference point. As a TSCTSF the SEAL NRM server interacts with the 5GS PCF over the Nxx reference point to configure the 5G QoS and TSCAI parameters in the 5GS.



Figure 14.2.2.3-1: On-network functional model for network resource management for 5G TSC