**3GPP TSG-SA WG2 Meeting #155 *S2-2303640***

**February 20 – 24, 2023, Athens, Greece (revision of S2-2302517)**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **23.503** | **CR** | **0835** | **rev** | **3** | **Current version:** | **18.0.0** |  |
|  | | | | | | | | |
| *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:*** | Policy update to support policy control enhancements for multi-modal services | | | | | | | | | |
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| ***Source to WG:*** | China Telecom, [Ericsson], [Huawei], Nokia, Nokia Shanghai Bell?, | | | | | | | | | |
| ***Source to TSG:*** | SA2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | XRM | | | | |  | ***Date:*** | | | 2023-02-10 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
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| ***Reason for change:*** | | According to the KI#1&KI#2 conclusions in TR 23.700-60, multi-modal flows related to single UE/multiple UEs require policy control enhancements. This paper proposes policy related support for delivery of multi-modal services. | | | | | | | | |
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| ***Summary of change:*** | | Add policy related support for delivery of multi-modal services. | | | | | | | | |
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| ***Consequences if not approved:*** | | Unable to support policy control enhancements for XR traffic. | | | | | | | | |
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| ***Clauses affected:*** | | Clause 6.1.3.X.a (new), clause 4.3.3.2.X (new), clause 5.3.1, clause 6.1.3.21 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 23.501 CR ...  TS 23.502 CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
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| ***This CR's revision history:*** | | This is a revision of CR 0835 rev1.  Changes in SA2#155 are as the following:  (1) updates the CR coversheet  (2) Include the definition of Multi-modal Service ID, together with clarifications in PCF/NEF interactions  (3) adds clarifications to specify QoS monitoring requirements for multi-modal services and the PCF behavior.  (4) Some editorial changes. | | | | | | | | |

\* \* \* \* 1st change \* \* \* \*

#### 6.1.3.X Support of eXtended Reality and Interactive Media Services

##### 6.1.3.X.a Support for delivery of multi-modal services

Enablers to support interactive media services that require high data rate and low latency communication, e.g. cloud gaming, AR/VR/XR services and tactile/multi-modal communication services are defined in TS 23.501 [2] clause 5.37.x.

For the delivery of multi-modal services, the AF may request to the NEF multiple media flows at the same time, related to single UE or multiple UEs, to be setup with specific QoS requirements, as described in clause 6.1.3.22. Such request can be implemented in one or multiple AF requests, including the following additional attributes where the AF provides specific information for multi-modal applications:

* Multi-modal Service Requirements: Service requirements for multi-modal services (e.g. the QoS monitoring requirements for multiple IP data flows associated to a multi-modal service).
* Multi-modal Service ID: an identifier that refers to the multi-modal communication service. Multi-modal flows belonging to the same multi-modal service share the same Multi-modal Service ID.

The request to the PCF includes Multi-modal Service ID as well as service requirements for each media flow that comprises the multi-modal service. The PCF determines whether the request from the NEF or AF is authorized, derives the required QoS parameters based on the information provided and considering the multi-modal specific information, and provisions in the SMF the PCC rules with updated policy control information for the affected PDU session.

Multi-modal Service Requirements may contain QoS monitoring requirements for a group of flows associated with the same Multi-modal Service ID. If received the QoS monitoring requirements from the AF, the PCF generates the QoS monitoring policy for the group of flows.

When receives further AF request with the same Multi-modal Service ID and PCF authorization fails, the PCF indicates to the AF. Application may decide how to deal with the media flows with already authorized AF request with the same Multi-modal Service ID (e.g., stop them, adjust the AF request).

\* \* \* \* End of changes \* \* \* \*