**3GPP TSG-SA2 Meeting #161 *S2-2403420***

**26th February – 1st March, 2024 Athens, Greece *S2-2402199***

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.503** | **CR** | **1271** | **rev** | **1** | **Current version:** | **18.4.0** |  |
|  | | | | | | | | |
| *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:*** | Forwarding of URSP Rule Enforcement Information for LBO roaming | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung, Intel | | | | | | | | | |
| ***Source to TSG:*** | SA2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eUEPO | | | | |  | ***Date:*** | | | 2024-02-16 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In SA2#156e, the forwarding of UE reporting of URSP rule enforcement has been agreed where the PCF for the UE and the PCF for the Session are different, but there was no procedure are illustrated.  Once the companion CR4752 for the new procedure is agreed, its reference should be added in 23.503 as well. | | | | | | | | |
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| ***Summary of change:*** | | It is proposed to align the terminologies and add the reference for the procedure of LBO roaming scenario (i.e. where the PCF for the UE is in HPLMN and the PCF for the Session is in VPLMN). | | | | | | | | |
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| ***Consequences if not approved:*** | | It is missing reference to the procedure. | | | | | | | | |
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| ***Clauses affected:*** | | 6.6.2.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR 23.502 CR 4752 | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

#### 6.6.2.4 Support of URSP rule enforcement reporting

This clause defines how and under what conditions the UE reports URSP rule enforcement to PCF so that PCF can be made aware when a given UE enforces specific URSP rule(s) and what actions the PCF may trigger upon the reception of such reporting.

In order to determine the URSP rule enforcement, for a UE indicating the capability of reporting URSP rule enforcement to network (see clause 4.2.2.2.2 of TS 23.502 [3]), the PCF may indicate in a URSP rule sent to the UE to send reporting of URSP rule enforcement (see clause 6.6.2.1).

A UE supporting URSP rule enforcement reporting shall report URSP rule enforcement to the SMF if a URSP rule includes an indication for reporting URSP rule enforcement and if Connection Capabilities is in the TD (see clause 6.6.2.1), when:

- the UE associates a newly detected application to a new PDU Session based on URSP evaluation result (see clause 6.6.2.3) for such a URSP rule, the UE shall include in the PDU Session Establishment Request (see clause 4.3.2.2.1 of TS 23.502 [3]) the Connection Capabilities contained in the Traffic descriptor of the associated URSP rule, or

- the UE associates a newly detected application to an existing PDU Session based on URSP evaluation result (see clause 6.6.2.3) for such a URSP rule, the UE shall send a PDU Session Modification Request (see clause 4.3.3.2 of TS 23.502 [3]) including the Connection Capabilities contained in the Traffic descriptor of the associated URSP rule.

NOTE 1: UE reporting of URSP rule enforcement can increase the amount of signalling in the network. Use of this feature is recommended to be restricted to URSP rules for specific application traffic on specific UEs based on the deployment choices of the operator.

If the UE enforces several URSP rules for multiple applications, and these multiple applications' traffic are all associated to the same PDU session, in order to reduce the number of uplink NAS messages, the UE may include more than one URSP rule enforcement report in one PDU Session Modification Request to 5GC (see clause 4.3.3.2 of TS 23.502 [3]).

NOTE 2: A rule with the "match-all" traffic descriptor cannot contain Connection Capabilities in the Traffic descriptor. The format and values of the Traffic descriptor component type identifier are defined in clause 5.2 of TS 24.526 [19].

The PCF receives reporting from URSP rule enforcement for a given UE via Policy Control Request Triggers (see clause 6.1.3.5).

When the PCF serving the PDU session is not the same as the (H-)PCF serving the UE, the (H-)PCF serving the UE subscribes to the PCF serving the PDU session to receive the reporting of URSP rule enforcement for a given UE via PCF event reporting (see clause 6.1.3.18 and the related procedure in clause 4.16.16.2 of TS 23.502 [3]).

For LBO roaming session case, the H-PCF for the UE requests to forward UE reporting Connection Capabilities from an associated URSP rule to the V-PCF for the UE during the UE Policy Association Establishment or Modification (see clause 4.16.16.X of TS 23.502 [3]).The PCF for the UE may check whether the value of URSP rule enforcement and its PDU Session parameters (e.g. DNN/S-NSSAI) are compliant to the URSP rule of the UE. If the PCF for the UE found an inconsistency, the PCF for the UE may perform appropriate actions (e.g. initiating slice replacement procedure).

Policy control decisions based on awareness of URSP rule enforcement are described in clause 6.1.6.