**3GPP TSG CT WG3 134 *C3-242326***

**Changsha, China, 15 - 19 April, 2024 (revision of C3-242xyz)**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  | **29.512** | **CR** | **1226** | **rev** | **-** | **Current version:** | **18.5.0** |  |
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| *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:***  |  URSP provisioning over EPS support |
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| ***Source to WG:*** | Ericsson, Huawei |
| ***Source to TSG:*** | C3 |
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| ***Work item Code:*** | eUEPO |  | ***Date:*** | 2024-04-19 |
|  |  |  |  |  |
| ***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 canbe 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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)Rel-20 (Release 20)* |
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| ***Reason for change:*** | 1. During the establishment of a PDU session in 5GS the SMF+PGW-C provides to the UE the Indication of URSP Provisioning Support in EPS in PDU Session Establishment Accept message if the UE includes the URSP provisioning support in EPS in the request. The UE checks later such indications after 5GS to EPS mobility when triggering a new PDN Connectivity request in EPS to determine whether to include or not the indication of URSP Provisioning Support in EPS in PCO/ePCO.
2. When PCF for the PDU session is handling the delivery of URSP over EPS because the UE moved from 5GS to EPS, if the PCF receives the termination of SM Policy Association used for the delivery of URSP and/or UE Policy Association related PCRTs, if there are other existing SM Policy Associations that support URSP provisioning in EPS in the PCF, and there are policy control triggers to provision, the PCF for the PDU session needs to immediatelly select an existing SM Policy Association to provide the policy control request triggers and RAT Type change PCRT if not previously provided.
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| ***Summary of change:*** | * Definition of the delivery of URSP support over EPS indication in the PDU session creation accept procedure. Selection of one of the PDU sessions to set the RAT Type Change PCRT to identify UE mobility from 5GS to EPS.
* Specification of PDN Connection selection for the delivery of URSP rule when the previously selected PDN connection is terminated and there are other PDN connections that support the delivery of URSP rule handled by the PCF.
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| ***Consequences if not approved:*** | Missing and incorrect information. |
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| ***Clauses affected:*** | B.3.2.0, B.3.3.5, B.3.4.12 |
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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 does not impact the OpenAPI specification of the Npcf\_SMPolicyControl service. |
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| ***This CR's revision history:*** |  |

\* \* \* \* Start of Changes \* \* \* \*

### B.3.2.0 General

When the UE establishes the PDN connection through the EPC network and the SMF+PGW-C receives the Create Session Request message as defined in 3GPP TS 29.274 [37], the SMF+PGW-C shall behave as defined in clause 4.2.2.2 with the differences that the SMF+PGW-C shall include (if available) in SmPolicyContextData data structure:

- the IMSI of the user within the "supi" attribute;

- the MSISDN of the user within the "gpsi" attribute;

- APN within the "dnn" attribute;

- PDU Session Id determined by the SMF+PGW-C within "pduSessionId" attribute for a UE that has an EPS subscription that allows 5GC interworking but does not support 5GC NAS.

NOTE 1: For a PDN connection established via the MME or ePDG, the PDU Session ID value is assigned from a reserved range as specified in Table 5.4.2-1 of 3GPP TS 29.571 [11]. The PDU session ID value assigned at PDN connection establishment remains unchanged along the PDN connection, i.e., it does not change when the UE handovers between EPS and EPC/ePDG. In the scenarios where UE handover between EPS and EPC/ePDG is enabled, to ensure uniqueness of the assigned PDU Session ID value, the SMF+PGW-C can retrieve from UDM the already assigned PDU Session ID values, allocate a non-colliding PDU Session ID value, and register in UDM the allocated PDU session ID;

- PDN Type within the "pduSessionType" attribute;

- IMEI-SV within the "pei" attribute;

- IP-CAN type within the "accessType" attribute;

- RAT type within the "ratType" attribute;

NOTE 2: See Annex B.3.2.2 for further information.

- subscribed APN-AMBR within "subsSessAmbr" attribute;

- subscribed Default EPS bearer QoS within "subsDefQos" attribute;

NOTE 3: Subscribed APN-AMBR and the QCI within the subscribed default EPS bearer QoS are mapped to subscribed Session-AMBR and 5QI as defined in Annex B.3.6.1 respectively.

- user location information within the "userLocationInfo" attribute;

NOTE 4: See Annex B.3.2.1 for further information.

- the S-NSSAI determined by the SMF+PGW-C within the "sliceInfo" attribute;

- the bearer usage required of the default bearer within the "qosFlowUsage" attribute;

- the UE time zone information within "ueTimeZone" attribute, if available.

NOTE 5: The UE time zone is not available in EPC untrusted WLAN.

When the UE establishes the PDN connection in an 5GS-EPC interworking deployment, the SMF+PGW-C shall behave as defined in clause 4.2.2.2 (access through 5GS network) or this clause (access through the EPC network) and additionally, if the feature "PackFiltAllocPrecedence" is supported and there is a possibility to run into a restriction regarding the number of TFT packet filters that can be allocated when interworking with EPS with N26 is supported (see clause 4.11.1 of TS 23.502 [3]), the PCF may provide, as part of the PccRule data type(s) for the PCC Rules to be installed, the "packFiltAllPrec" attribute to indicate the order of the PCC Rules in the allocation of TFT packet filter(s) by the SMF+PGW-C.

NOTE 6: PCF can know that interworking with EPS with N26 is supported based on the received DNN and S-NSSAI of the PDU Session.

When the UE establishes a PDU session in a 5GS-EPC interworking deployment, and the feature "EpsUrsp" defined in clause 5.8 is supported by both, the PCF and the SMF+PGW-C:

1. to identify the 5GS to EPS mobility scenario, the PCF shall subscribe to RAT Type changes with the SMF+PGW-C in the SM Policy Association establishment response, if not previously subscribed, using an existing PDU session with "EpsUrsp" feature support; and

2. to enable the UE to determine (when attached in EPC) whether UE STATE INDICATION message may need to be sent to the network using the UE requested bearer resource modification procedure, the SMF+PGW-C, if the UE included the URSP provisioning in EPS support indication in the PDU Session Establishment Request, shall provide to the UE the indication of URSP Provisioning Support in EPS in the PDU Session Establishment Accept message as defined in 3GPP TS 24.501 [20].

\* \* \* \* Next change \* \* \* \*

### B.3.3.5 Forwarding of UE policy container and/or PCRT(s) for URSP provisioning in EPS

The PCF may receive a UE policy container and/or policy control request trigger(s) from the PCF for the UE during the lifetime of the PDU session and forward it to the SMF+PGW-C by invoking the procedure defined in clause 4.2.3.2.

If the feature "EpsUrsp" is supported, the PCF selects the SM Policy association of the PDN connection used for the delivery of UE policy container(s) and policy control request trigger(s) as described in 3GPP TS 29.525 [57] and invokes the Npcf\_SMPolicyControl\_UpdateNotify request to provide to the SMF+PGW-C via the SmPolicyDecision structure:

- the updated policy control request trigger(s), if available. and, if not previously provided, the RAT Type change policy control request trigger (to identify EPS to 5GS mobility); and

- transparently, the received UE policy container within the "uePolCont" attribute.

\* \* \* \* Next change \* \* \* \*

### B.3.4.12 Reporting of UE Policy container for URSP provisioning in EPS

When the feature "EpsUrsp" is supported and a UE policy container is received from the UE in EPC over a PDN connection, the SMF+PGW-C requests to update the SM Policy Association and provides to the PCF the received UE policy container.

The Policy Control Request Trigger condition "UE\_POL\_CONT\_IND" is met when the SMF+PGW-C receives a UE policy container from the UE. The SMF+PGW-C shall include the "UE\_POL\_CONT\_IND" within the "repPolicyCtrlReqTriggers" attribute and shall transparently forward to the PCF the UE policy container encoded within the "uePolCont" attribute. The PCF shall transparently forward the UE policy container to the PCF for the UE in Npcf\_UEPolicyControl\_Update/Create Request as described in 3GPP TS 29.525 [57].

\* \* \* \* End of change \* \* \* \*