**3GPP TSG-CT WG4 Meeting #123C4-242284**

**Hyderabad, India; 27th – 31st May 2024**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.502** | **CR** | **0785** | **rev** | **-** | **Current version:** | **18.6.0** |  |
|  | | | | | | | | |
| *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:*** | URSP rule enforcement reports in roaming | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Intel | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eUEPO | | | | |  | ***Date:*** | | | 2024-05-28 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | To support URSP rule enforcement in home-routed roaming scenarios, SA2 has agreed in CR 4337 to TS 23.502 (see S2-2401566) clause 4.3.2.2.2 step 6 that the V-SMF provides to the H-SMF the URSP rule enforcement reports received from the AMF using the Nsmf\_PDUSession\_Create or Nsmf\_PDUSession\_Update Request. Furthermore, SA2 has agreed to include URSP rule enforcement reports as an additional input parameter to the Nsmf\_PDUSession\_Create and Nsmf\_PDUSession\_Update and service operations:    *“5.2.8.2.2 Nsmf\_PDUSession\_Create service operation*  *[..]*  *Input, Optional: [..],* *[URSP rule enforcement reports].”*  *“5.2.8.2.3 Nsmf\_PDUSession\_Update service operation*  *[..]*  *Input, Optional: [..],* *[URSP rule enforcement reports].”*  Accordingly, this CR proposes to add URSP enforcement reports IE to the n1SmInfoFromUE content. | | | | | | | | |
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| ***Summary of change:*** | | Add URSP enforcement reports IE to the n1SmInfoFromUE content. | | | | | | | | |
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| ***Consequences if not approved:*** | | Stage 3 not aligned with stage 2. | | | | | | | | |
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| ***Clauses affected:*** | | 6.1.6.4.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | This CR does not introduce any changes to the OpenAPI. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev1   * Move "URSP enforcement reports" to n1SmInfoFromUE as the V-SMF forwards the "URSP enforcement reports" transparently to the H-SMF as received from the UE via N1. | | | | | | | | |

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

##### 6.1.6.4.4 n1SmInfoFromUe, n1SmInfoToUe, unknownN1SmInfo

n1SmInfoFromUe, n1SmInfoToUe and unknownN1SmInfo shall encode one or more NAS SM IEs, including the Type and Length fields, as specified in 3GPP TS 24.501 [7], using the vnd.3gpp.5gnas content-type.

Clause 5.2.3.1 specifies the information that shall be included in these payloads.

n1SmInfoFromUe and n1SmInfoToUe may encode the 5GS NAS IEs listed in tables 6.1.6.4.4-1 and 6.1.6.4.4-2.

Table 6.1.6.4.4-1: n1SmInfoFromUE content

|  |  |  |
| --- | --- | --- |
| 5GS NAS IE | Reference  (3GPP TS 24.501 [7]) | Related NAS SM message |
| Message type | 9.7 | All NAS SM messages |
| PDU session type | 9.11.4.11 | PDU Session Establishment Request |
| SSC mode | 9.11.4.16 | PDU Session Establishment Request |
| Maximum number of supported packet filters | 9.11.4.9 | PDU Session Establishment Request  PDU Session Modification Request |
| Integrity protection maximum data rate | 9.11.4.7 | PDU Session Modification Request  (NOTE 3) |
| SM PDU DN request container | 9.11.4.15 | PDU Session Establishment Request |
| Extended protocol configuration options | 9.11.4.6 | PDU Session Establishment Request  PDU Session Authentication Complete  PDU Session Modification Request  PDU Session Modification Complete  PDU Session Modification Command Reject  PDU Session Release Request  PDU Session Release Complete |
| EAP message | 9.11.2.2 | PDU Session Authentication Complete |
| Requested QoS rules | 9.11.4.13 | PDU Session Modification Request |
| Requested QoS flow descriptions | 9.11.4.12 | PDU Session Modification Request |
| 5GSM cause | 9.11.4.2 | PDU Session Modification Request  PDU Session Release Request  PDU Session Release Complete  (NOTE 2) |
| 5GSM capability | 9.11.4.1 | PDU Session Establishment Request  PDU Session Modification Request  (NOTE 1) |
| Mapped EPS bearer contexts | 9.11.4.8 | PDU Session Modification Request |
| Remote UE context connected | 9.11.4.29 | Remote UE Report |
| Remote UE context disconnected | 9.11.4.29 | Remote UE Report |
| Non-3GPP delay budget | 9.11.4.37 | PDU Session Modification Request |
| URSP rule enforcement reports | 9.11.4.38 | PDU Session Establishment Request  PDU Session Modification Request |
| NOTE 1: The 5GSM capability IE shall be encoded as received from the UE. It may contain UE capabilities that the V-SMF (or I-SMF) only needs to transfer to the H-SMF (or SMF), e.g. support of reflective QoS, or support of multi-homed IPv6 PDU session, and/or capabilities to be interpreted and used by the V-SMF (or I-SMF).  NOTE 2: The 5GSM cause IE shall be encoded as received from the UE. This information is defined as a "V" IE (i.e. without a Type field) in other NAS messages, e.g. PDU Session Modification Command Reject message, in which case it shall be sent as a separate n1SmCause IE over N16/N16a and not within the n1SmInfoToUE binary data.  NOTE 3: This information is defined as a "V" IE (i.e. without a Type field) in other NAS messages, e.g. PDU Session Establishment Request, in which case it shall be sent as separate maximum integrity protected data rate IEs over N16/N16a and not within the n1SmInfoFromUE binary data. | | |

Table 6.1.6.4.4-2: n1SmInfoToUE parameters

|  |  |  |
| --- | --- | --- |
| 5GS NAS IE | Reference  (3GPP TS 24.501 [7]) | Related NAS SM message |
| Message type | 9.7 | All NAS SM messages |
| RQ timer value | 9.11.2.3 | PDU Session Establishment Accept  PDU Session Modification Command |
| EAP message | 9.11.2.2 | PDU Session Establishment Accept  PDU Session Establishment Reject  PDU Session Authentication Command  PDU Session Authentication Result  PDU Session Release Command |
| Allowed SSC mode | 9.11.4.5 | PDU Session Establishment Reject |
| Extended protocol configuration options | 9.11.4.6 | PDU Session Establishment Accept  PDU Session Establishment Reject  PDU Session Authentication Command  PDU Session Authentication Result  PDU Session Modification Reject  PDU Session Modification Command  PDU Session Release Reject  PDU Session Release Command |
| 5GSM cause | 9.11.4.2 | PDU Session Establishment Accept  PDU Session Modification Command  (NOTE 1) |
| Mapped EPS bearer contexts | 9.11.4.8 | PDU Session Establishment Accept  PDU Session Modification Command |
| ATSSS container | 9.11.4.22 | PDU Session Establishment Accept  PDU Session Modification Command |
| N3QAI | 9.11.4.36 | PDU Session Establishment Accept  PDU Session Modification Command  (NOTE 2) |
| NOTE: This IE indicates the 5GSM cause the H-SMF (or SMF) requires the V-SMF (or I-SMF) to send to the UE. The V-SMF (or I-SMF) shall transfer the received value to the UE without interpretation. This information is defined as a "V" IE (i.e. without a Type field) in other NAS messages, e.g. PDU Session Establishment Reject message, in which case it shall be sent as a separate n1SmCause IE over N16/N16a and not within the n1SmInfoToUE binary data.  NOTE 2: N3QAI is configured in SMF based on the S-NSSAI and DNN for PIN service (see clause 5.44.3.3 of 3GPP TS 23.501 [2]). | | |

The Message Type shall be present and encoded as the first 5GS NAS IE in any n1SmInfoFromUe, n1SmInfoToUe and unknownN1SmInfo binary data, to enable the receiver to decode the 5GS NAS IEs.

NOTE: The Information Element Identifier (see clause 11.2.1.1.3 of 3GPP TS 24.007 [8]) of a 5GS NAS IE uniquely identifies an IE in a given message.

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