**3GPP TSG-CT WG3 Meeting #137 *C3-245131***

**Hefei, CN, 14 – 18 October, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.519** | **CR** | **0553** | **rev** | **1** | **Current version:** | **18.7.0** |  |
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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:*** | Correction on handling of VPLMN specific URSP rules | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson, Nokia | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eUEPO | | | | |  | ***Date:*** | | | 2024-10-16 |
|  |  | | | |  | |  | | |  |
| ***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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19) Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | When the VPLMNSpecificURSP feature is supported and the attribute “vpsUrspGuidance” is included, the URSP guidance may apply DNN and S-NSSAI combination(s) and/or application(s) that do not correspond to the DNN & S-NSSAI combination(s) and application id received as part of the ServiceParameterData data type. So this information shall not be used for the URSP rule derivation when received as part of the URSPRuleRequest data type. Otherwise the URSP rule could wrongly be derived.  Besides, as TS 29.522 indicates the “UrspGuidance” and “roamUeNetDescs” shall never be provided in the same structure. Therefore it will be never received both at the same time at the UDR. This needs to be stated.  The Note included in clause 6.2.15.3.1 does not cover the case when the “any-ue” query parameter is received together with the “roam-ue-net-descs” query-parameter. In that case the search will not match any resource. | | | | | | | | |
| ***d*** | |  | | | | | | | | |
| ***Summary of change:*** | | Clause 6.2.15.3.1 is updated to modify the Note so that it covers the limitation when any-ue & roam-ue-net-descs query parameters are received in the same GET request.  Clause 6.4.2.15 is updated to include a new normative note in the table so that the PCF does not consider the DNN, S-NSSAI and/or application id information when deriving the URSP rules. One more note is added to indicate the mutual exclusivity between “UrspGuidance” and “roamUeNetDescs” attributes. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The PCF could derive incorrect URSP rules. Wrong behaviour in the UE. | | | | | | | | |
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| ***Clauses affected:*** | | 6.2.15.3.1; 6.4.2.15. | | | | | | | | |
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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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR does not have any impact in the OpenAPI specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

##### 6.2.15.3.1 GET

This method shall support the URI query parameters specified in table 6.2.15.3.1-1.

Table 6.2.15.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| service-param-ids | array(string) | O | 1..N | Each element identifies a serviceParamId, i.e., an Individual Service Parameter Data. The UDR shall return an Individual Service Parameter Data resource for each matched serviceParamId. |  |
| dnns | array(Dnn) | O | 1..N | Each element identifies a DNN. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided DNNs. |  |
| snssais | array(Snssai) | O | 1..N | Each element identifies a slice. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided S-NSSAIs. |  |
| internal-group-ids | array(GroupId) | O | 1..N | Each element identifies a group of users. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided internal group IDs. |  |
| supis | array(Supi) | O | 1..N | Each element identifies a user. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided SUPIs. |  |
| ue-ipv4s | array(Ipv4Addr) | O | 1..N | Each element identifies a user. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided IPv4 addresses. |  |
| ue-ipv6s | array(Ipv6Addr) | O | 1..N | Each element identifies a user. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided IPv6 addresses. |  |
| ue-macs | array(MacAddr48) | O | 1..N | Each element identifies a user. The UDR shall return only Individual Service Parameter Data resource(s) that match one of the provided UE MAC addresses. |  |
| any-ue | boolean | O | 0..1 | Indicates whether the request is for any UE:  - "true": the request is for any UE;  - "false"(default): the request is not for any UE.  The UDR shall return only Individual Service Parameter Data resource(s) that match the any UE indication. | FilterAnyUE |
| roam-ue-net-descs | array(NetworkDescription) | O | 1..N | Each element identifies one or more PLMNs for the roaming UE.  The UDR shall return only Service Parameter Data resource(s) that match at least one of the provided PLMN as described in the NetworkDescription data type. | VPLMNSpecificURSP |
| supp-feat | SupportedFeatures | O | 0..1 | Identifies the features supported by the NF service consumer. |  |
| NOTE 1: At least one of the "service-param-ids", "dnns", "snssais", "internal-group-ids", "supis", "ue-ipv4s", "ue-ipv6s" or "ue-macs", and if the feature FilterAnyUE is supported, or "any-ue", and if the feature VPLMNSpecificURSP is supported, or "roam-ue-net-descs" query parameters shall be provided. | | | | | |

NOTE: The "any-ue" query parameter is commonly related to the search of the service parameter data resource(s) that relate to any UE using the service identified by a combination of DNN and S-NSSAI, and thus, it is commonly present together with the "dnns" and "snssais" query parameters. Note that, if the "any-ue" query parameter is present together with the "internal-group-ids", "supis", "ue-ipv4s", "ue-ipv6s","ue-macs" and/or "roam-ue-net-descs" query parameters the search will not match any resource, since according to clause 6.4.2.15 only one of the the "supi", "anyUeInd", "interGroupId", "ueIpv4", "ueIpv6" "ueMac" or "roam-ue-net-descs" properties are simultaneously present in the resource.

When the request query contains more than one optional query parameters defined as an array, the UDR shall return the Service Parameter Data resources for each matching combination of the values of the elements of the array of the provided query parameters.

EXAMPLE: If "snssais" query parameter is included with two S-NSSAI entries (S-NSSAI\_1 and S-NSSAI\_2) and "dnns" is included with two DNN entries (e.g. DNN\_A and DNN\_B), and the other optional query parameters are not included, the UDR shall return the Individual Service Parameter Data resources for each matching S-NSSAI and DNN, i.e., the resource(s) matching SNSSAI\_1 and DNN\_A, the resource(s) matching SNSSAI\_1 and DNN\_B, the resource(s) matching SNSSAI\_2 and DNN\_A, and the resources matching SNSSAI\_2 and DNN\_B.

This method shall support the request data structures specified in table 6.2.15.3.1-2 and the response data structures and response codes specified in table 6.2.15.3.1-3.

Table 6.2.15.3.1-2: Data structures supported by the GET Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| n/a |  |  |  |

Table 6.2.15.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| array(ServiceParameterData) | M | 0..N | 200 OK | The Service Parameter Data stored in the UDR are returned. |
| NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply. | | | | |

\*\*\* Second Change \*\*\*

#### 6.4.2.15 Type ServiceParameterData

Table 6.4.2.15-1: Definition of type ServiceParameterData

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| dnn | Dnn | O | 0..1 | Identifies a DNN. (NOTE 2) |  |
| snssai | Snssai | O | 0..1 | Identifies an S-NSSAI. (NOTE 2) |  |
| appId | string | O | 0..1 | Identifies an application identifier. (NOTE 2) |  |
| supi | Supi | O | 0..1 | Identifies a user. (NOTE1) |  |
| ueIpv4 | Ipv4Addr | O | 0..1 | The IPv4 address of the served UE. (NOTE1) |  |
| ueIpv6 | Ipv6Addr | O | 0..1 | The IPv6 address of the served UE. (NOTE1) |  |
| ueMac | MacAddr48 | O | 0..1 | The MAC address of the served UE. (NOTE1) |  |
| interGroupId | GroupId | O | 0..1 | Identifies a group of users. (NOTE1) |  |
| anyUeInd | boolean | O | 0..1 | Identifies whether the service parameters applies to any non-roaming UE. This attribute shall set to "true" if applicable for any UE, otherwise, set to "false". (NOTE1) |  |
| roamUeNetDescs | array(NetworkDescription) | O | 1..N | Each element identifies one (e.g., combination of MCC and MNC) or more (e.g. a MCC only) PLMN ID(s).  It indicates the PLMN(s) of inbound roamers to which the provided AF guidance on VPLMN-specific URSP rules apply. (NOTE 1) | VPLMNSpecificURSP |
| paramOverPc5 | ParameterOverPc5 | O | 0..1 | Contains the V2X service parameters used over PC5. |  |
| paramOverUu | ParameterOverUu | O | 0..1 | Contains the V2X service parameters used over Uu. |  |
| a2xParamsPc5 | A2xParamsPc5 | O | 0..1 | Contains the A2X service parameters used over PC5 reference point. | A2X |
| a2xParamsUu | A2xParamsUu | O | 0..1 | Contains the A2X service parameters used over Uu reference point. | A2X |
| urspGuidance | array(UrspRuleRequest) | O | 1..N | Contains the service parameters used to guide the URSP rule(s).  (NOTE 3) (NOTE 1) | AfGuideURSP |
| vpsUrspGuidance | array(UrspRuleRequest) | O | 1..N | Contains the service parameters provided by an AF to guide the VPLMN-specific URSP rule(s).  (NOTE 4) | VPLMNSpecificURSP |
| paramForProSeDd | ParamForProSeDd | O | 0..1 | Contains the service parameters for 5G ProSe direct discovery. | ProSe |
| paramForProSeDc | ParamForProSeDc | O | 0..1 | Contains the service parameters for 5G ProSe direct communications. | ProSe |
| paramForProSeU2NRelUe | ParamForProSeU2NRelUe | O | 0..1 | Contains the service parameters for 5G ProSe UE-to-network relay UE. | ProSe |
| paramForProSeRemUe | ParamForProSeRemUe | O | 0..1 | Contains the service parameters for 5G ProSe remote UE. | ProSe |
| paramForProSeU2URelUe | ParamForProSeU2URelUe | O | 0..1 | Contains the service parameters for 5G ProSe UE-to-UE Relay UE. | ProSe\_Ph2 |
| paramForProSeEndUe | ParamForProSeEndUe | O | 0..1 | Contains the service parameters for 5G ProSe End UE. | ProSe\_Ph2 |
| tnaps | array(TnapId) | O | 1..N | Contains the TNAP ID(s) collocated with the 5G-RG(s) of a specific user. | AfGuideTNAPs |
| deliveryEvents | array(Event) | O | 1..N | Contains the events related to the outcome of UE policy delivery. | DeliveryOutcome |
| policDelivNotifCorreId | string | C | 0..1 | Contains the Notification Correlation Id allocated by the NEF for the notification of UE Policy delivery outcome. It shall be included when the NEF requests the notification of UE Policy delivery outcome. | DeliveryOutcome |
| policDelivNotifUri | Uri | C | 0..1 | Contains the URI where the NEF receives the notification of UE Policy delivery outcome. It shall be included when the NEF requests the notification of UE policy delivery outcome. | DeliveryOutcome |
| headers | array(string) | O | 1..N | Headers provisioned by the NEF.  E.g. 3gpp-Sbi-Binding header (as specified in 3GPP TS 29.500 [4]) with the binding indication for the URI included in the policDelivNotifUri attribute.  The encoding of the header shall comply with clause 6.3 of IETF RFC 9110 [21]. | DeliveryOutcome |
| suppFeat | SupportedFeatures | C | 0..1 | Indicates the list of Supported features used as described in clause 5.8.  This parameter shall be supplied in the PUT request that requested the creation of an individual Service parameter resource, and in the PUT response. |  |
| resUri | Uri | C | 0..1 | Represents the URI of Individual Service Parameter Data. It shall only be included in the HTTP GET response. |  |
| resetIds | array(string) | O | 1..N | This IE uniquely identifies a part of temporary data in UDR that contains the created resource.  This attribute may be provided in the response of successful resource creation. |  |
| paramForRangingSlPos | ParamForRangingSlPos | O | 0..1 | Contains the service parameters for ranging and sidelink positioning. | Ranging\_SL |
| NOTE 1: Only one of the "supi", "anyUeInd", "interGroupId", "ueIpv4", "ueIpv6" or "ueMac" attribute, and when the feature "VPLMNSpecificURSP" is supported, or "roamUeNetDescs” attribute, shall be provided. When the "AfGuideTNAPs" feature is supported, and the attribute "tnaps" is included, only the "supi" attribute shall be provided. For V2X, Prose (when the "ProSe" and/or "ProSe\_Ph2" feature is supported), A2X (when the "A2X" feature is supported) and URSP service parameter provisioning for the HPLMN (i.e. via the "urspGuidance" attribute), only "anyUeInd", "gpsi" and "externalGroupId" attributes are applicable. When the "VPLMNSpecificURSP" feature is supported, only "supi" and "roamUeNetDescs" attributes are applicable. The "roamUeNetDescs" attribute only applies to URSP service parameter provisioning and may be included only when the "vpsUrspGuidance" attribute is provided.  NOTE 2: Only the combination of "dnn" and "snssai" or "appId" attribute shall be provided. When the "AfGuideTNAPs" feature is supported and the attribute "tnaps" is included, only the combination of "dnn" and "snssai" attributes shall be provided.  NOTE 3: When the "AfGuideURSP" feature is supported and the attribute "urspGuidance" is included, the provided URSP guidance may apply to DNN and S-NSSAI combination(s) and/or application(s) different to the ones provided within the "dnn" and "snssai" or "appId" attributes.  NOTE 4: When the " VPLMNSpecificURSP" feature is supported and the attribute "vpsUrspGuidance" is included, the provided URSP guidance may apply to DNN and S-NSSAI combination(s) and/or application(s) different to the ones provided within the "dnn" and "snssai" or "appId" attributes. | | | | | |

\*\*\* End of Changes \*\*\*