**3GPP TSG- Meeting #**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** | Detailed UE Policy Delivery Outcome in the UDR | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | UEP19 | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | |  |
|  | *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:*** | | The Service Parameter Data the NEF API have been extended to capture requests for detailed UE Policy Delivery Outcome information.  However, the respective changes have not been implemented in the UDR, which will now not store them and/or pass them to the PCF, and the detailed UE Policy Delivery Outcome reporting will not work.  Furthermore, the PCFSerParAuth feature is used but not defined in 29.504. C4-253037 is now defining this feature as a feature that naturally depends on the DeliveryOutcome feature. Therefore, the attribute that depend on the DeliveryOutcome feature do not depend on the new PCFSerParAuth feature. The latter only determines the applicability of some of their internal contents. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Added support for detailed UE Policy Delivery Outcome information in the Service Parameter Data in the UDR.  Corrected the feature handling for the PCFSerParAuth feature.  Added also an additional forgotten feature dependency. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Not workable end-to-end functionality for detailed UE Policy Delivery Outcome reporting. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.4.2.15, 6.4.2.15A | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 introduces backward compatible feature to the following APIs:  TS29519\_Application\_Data.yaml | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\*\*\* First 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) (NOTE 3) |  |
| snssai | Snssai | O | 0..1 | Identifies an S-NSSAI.  (NOTE 2) (NOTE 3) |  |
| appId | string | O | 0..1 | Identifies an application identifier.  (NOTE 2) (NOTE 3) |  |
| supi | Supi | C | 0..1 | Identifies a user. (NOTE 1) |  |
| ueIpv4 | Ipv4Addr | C | 0..1 | The IPv4 address of the served UE. (NOTE 1) |  |
| ueIpv6 | Ipv6Addr | C | 0..1 | The IPv6 address of the served UE. (NOTE 1) |  |
| ueMac | MacAddr48 | C | 0..1 | The MAC address of the served UE. (NOTE 1) |  |
| interGroupId | GroupId | C | 0..1 | Identifies a group of users. (NOTE 1) |  |
| anyUeInd | boolean | C | 0..1 | Identifies whether the service parameters applies to any non-roaming UE.  - "true": the request is applied for any UE;  - "false"(default): the request is not applied for any UE.  (NOTE 1) |  |
| roamUeNetDescs | array(NetworkDescription) | C | 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 V2Xservice 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) (NOTE 5) | 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 supporting 5G ProSe Layer-2 and/or Layer-3 UE-to-Network Relay. | ProSe |
| paramForProSeRemUe | ParamForProSeRemUe | O | 0..1 | Contains the service parameters for 5G ProSe remote UEsupporting 5G ProSe Layer-2 and/or Layer-3 UE-to-Network Relay. | ProSe |
| paramForProSeU2URelUe | ParamForProSeU2URelUe | O | 0..1 | Contains the service parameters for 5G ProSe UE-to-UE Relay UEsupporting 5G ProSe Layer-2 and/or Layer-3 UE-to-UE Relay. | ProSe\_Ph2 |
| paramForProSeEndUe | ParamForProSeEndUe | O | 0..1 | Contains the service parameters for 5G ProSe End UEsupporting 5G ProSe Layer-2 and/or Layer-3 UE-to-UE Relay. | ProSe\_Ph2 |
| multiHopU2URelUe | ParamProSeMultiHopU2URelUe | O | 0..1 | Contains the service parameters for 5G ProSe UE-to-UE Relay UE supporting 5G ProSe Layer-3 multi-hop UE-to-UE Relay. | ProSe\_Ph3 |
| multiHopU2UEndUe | ParamProSeMultiHopEndUe | O | 0..1 | Contains the service parameters for 5G ProSe End UE supporting 5G ProSe Layer-3 multi-hop UE-to-UE Relay. | ProSe\_Ph3 |
| multiHopU2NRelUe | ParamProSeMultiHopU2NRelUe | O | 0..1 | Contains the service parameters for 5G ProSe UE-to-Network Relay UE supporting 5G ProSe Layer-2 and/or Layer-3 multi-hop UE-to-Network Relay. | ProSe\_Ph3 |
| multiHopU2NRemUe | ParamProSeMultiHopRemUe | O | 0..1 | Contains the service parameters for 5G ProSe Remote UE supporting 5G ProSe Layer-2 and/or Layer-3 multi-hop UE-to-Network Relay. | ProSe\_Ph3 |
| multiHopU2NIntermUe | ParamProSeMultiHopIntermUe | O | 0..1 | Contains the service parameters for 5G ProSe Intermediate UE-to-Network Relay supporting 5G ProSe Layer-2 and/or Layer-3 multi-hop UE-to-Network Relay. | ProSe\_Ph3 |
| 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 and/or related to service parameters not authorized by the PCF.  (NOTE 6) | DeliveryOutcome |
| policDelivNotifCorreId | string | C | 0..1 | Contains the Notification Correlation Id allocated by the NEF for the notification of UE Policy delivery outcome and/or the notification of service parameters not authorized by the PCF. It shall be included when the NEF requests the notification of UE Policy delivery outcome and/or the notification of service parameters not authorized by the PCF.. | 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. For VPLMN-specific URSP service parameter provisioning (i.e. via the "vpsUrspGuidance" attribute, see also clause 4.4.20), 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.  NOTE 5: The attribute "afReqUrspId" within the entries of the "vpsUrspGuidance" and "urspGuidance" attributes is applicable only when the "ExtDeliveryOutcome" feature is supported. The attribute "visitedNetDescs" within the entries of the "vpsUrspGuidance" attribute is applicable only when the "VPLMNSpecificURSP" feature is supported.  NOTE 6: The value "UNSUCCESS\_PCF\_SERVICE\_AUTHORIZATION" within the entries of the "deliveryEvents" attribute is applicable only when the "PCFSerParAuth" feature is supported. The value "PARTLY\_UNSUCC\_UE\_POL\_DEL\_SP" within the entries of the "deliveryEvents" attribute is applicable only when the "ExtDeliveryOutcome" feature is supported. | | | | | |

\*\*\* Next Change \*\*\*

6.4.2.15A Type ServiceParameterDataPatch

**Table 6.4.2.15A-1: Definition of type ServiceParameterDataPatch**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute name** | **Data type** | **P** | **Cardinality** | **Description** | **Applicability** |
| paramOverPc5 | ParameterOverPc5Rm | O | 0..1 | Contains the V2X service parameters used over PC5. When the"NullableSupport" feature is supported, this attribute is nullable. When the"NullableSupport" feature is not supported, this attribute is not nullable. |  |
| paramOverUu | ParameterOverUuRm | O | 0..1 | Contains the V2Xservice parameters used over Uu.When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable. |  |
| a2xParamsPc5 | A2xParamsPc5Rm | O | 0..1 | Contains the A2X service parameters used over PC5 reference point. | A2X |
| a2xParamsUu | A2xParamsUuRm | O | 0..1 | Contains the A2X service parameters used over Uu reference point. | A2X |
| urspInfluence | array(UrspRuleRequest) | O | 1..N | Contains the service parameter used to influence the URSP.  This attribute is deprecated by the "urspGuidance" attribute that should be used instead. | AfGuideURSP |
| urspGuidance | array(UrspRuleRequest) | O | 1..N | Contains the service parameters used to guide the URSPrule(s). | AfGuideURSP  PatchCorrection |
| vpsUrspGuidance | array(UrspRuleRequest) | O | 1..N | Contains the service parameters provided by an AF to guide the VPLMN-specific URSP rule(s). (NOTE 1) | VPLMNSpecificURSP |
| paramForProSeDd | ParamForProSeDdRm | O | 0..1 | Contains the service parameters for 5G ProSe direct discovery.  When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable. | ProSe |
| paramForProSeDc | ParamForProSeDcRm | O | 0..1 | Contains the service parameters for 5G ProSe direct communications.  When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable. | ProSe |
| paramForProSeU2NRelUe | ParamForProSeU2NRelUeRm | O | 0..1 | Contains the service parameters for 5G ProSe UE-to-network relay UE supporting 5G ProSe Layer-2 and/or Layer-3 UE-to-Network Relay.  When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable. | ProSe |
| paramForProSeRemUe | ParamForProSeRemUeRm | O | 0..1 | Contains the service parameters for 5G ProSe remote UEsupporting 5G ProSe Layer-2 and/or Layer-3 UE-to-Network Relay.  When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable. | ProSe |
| paramForProSeU2URelUE | ParamForProSeU2URelUeRm | O | 0..1 | Contains the service parameters for 5G ProSe UE-to-UE Relay UEsupporting 5G ProSe Layer-2 and/or Layer-3 UE-to-UE Relay. | ProSe\_Ph2 |
| paramForProSeEndUe | ParamForProSeEndUeRm | O | 0..1 | Contains the service parameters for 5G ProSe End UEsupporting 5G ProSe Layer-2 and/or Layer-3 UE-to-UE Relay. | ProSe\_Ph2 |
| multiHopU2URelUe | ParamProSeMultiHopU2URelUeRm | O | 0..1 | Contains the service parameters for 5G ProSe UE-to-UE Relay UE supporting 5G ProSe Layer-3 multi-hop UE-to-UE Relay. | ProSe\_Ph3 |
| multiHopU2UEndUe | ParamProSeMultiHopEndUeRm | O | 0..1 | Contains the service parameters for 5G ProSe End UE supporting 5G ProSe Layer-3 multi-hop UE-to-UE Relay. | ProSe\_Ph3 |
| multiHopU2NRelUe | ParamProSeMultiHopU2NRelUeRm | O | 0..1 | Contains the service parameters for 5G ProSe UE-to-Network Relay UE supporting 5G ProSe Layer-2 and/or Layer-3 multi-hop UE-to-Network Relay. | ProSe\_Ph3 |
| multiHopU2NRemUe | ParamProSeMultiHopRemUeRm | O | 0..1 | Contains the service parameters for 5G ProSe Remote UE supporting 5G ProSe Layer-2 and/or Layer-3 multi-hop UE-to-Network Relay. | ProSe\_Ph3 |
| multiHopU2NIntermUe | ParamProSeMultiHopIntermUeRm | O | 0..1 | Contains the service parameters for 5G ProSe Intermediate UE-to-Network Relay supporting 5G ProSe Layer-2 and/or Layer-3 multi-hop UE-to-Network Relay. | ProSe\_Ph3 |
| 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 and/or related to service parameters not authorized by the PCF.  When the "NullableSupport" feature is supported, this attribute is nullable. When the "NullableSupport" feature is not supported, this attribute is not nullable.  (NOTE 2) | DeliveryOutcome |
| policDelivNotifUri | Uri | C | 0..1 | Contains the URI where the NEF receives the notification of UE Policy delivery outcome and/or the notification of service parameters not authorized by the PCF. It shall be included when the NEF requests the notification of UE policy delivery outcome and/or notification of service parameters not authorized by the PCF. | 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 IE.  The encoding of the header shall comply with clause 6.3 of IETF RFC 9110 [21]. | DeliveryOutcome |
| paramForRangingSlPos | ParamForRangingSlPosRm | O | 0..1 | Contains the service parameters for ranging and sidelink positioning. | Ranging\_SL |
| NOTE 1: The attribute "afReqUrspId" within the entries of the "vpsUrspGuidance" and "urspGuidance" attributes is applicable only when the "ExtDeliveryOutcome" feature is supported. The attribute "visitedNetDescs" within the entries of the "vpsUrspGuidance" attribute is applicable only when the "VPLMNSpecificURSP" feature is supported.  NOTE 2: The value "UNSUCCESS\_PCF\_SERVICE\_AUTHORIZATION" within the entries of the "deliveryEvents" attribute is applicable only when the "PCFSerParAuth" feature is supported. The value "PARTLY\_UNSUCC\_UE\_POL\_DEL\_SP" within the entries of the "deliveryEvents" attribute is applicable only when the "ExtDeliveryOutcome" feature is supported. | | | | | |

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