**3GPP TSG-CT WG4 Meeting #99eC4-204xyz**

**E-Meeting, 18th – 28th August 2020 (was C4-204086)**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.510** | **CR** | **0371** | **rev** | **1** | **Current version:** | **16.4.0** |  |
|  | | | | | | | | |
| *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:*** | NF Group ID | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson, Nokia, Nokia Shanghai Bell, Verizon | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16, 5GS\_Ph1-CT | | | | |  | ***Date:*** | | | 2020-07-27 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | According to 3GPP TS 23.501, the concept of Group ID of an NF represents one or more NF instances capable of managing a set of subscribers (SUPIs).  However, in the definition of the different "xxxInfo" data structures in 3GPP TS 29.510, the set of subscribers (SUPIs) managed by a given NF instance is associated exclusively to the different "supi/gpsi/...Ranges" attributes.  This implies that an NF instance, whose definition does not include any "ranges" in its NFProfile data, but includes a "groupId", is incorrectly said to be able to manage ALL users in the network.  This is so due to, e.g. the following NOTE in UdrInfo (and similar notes in other "xxxInfo" data types):  NOTE 1: If none of these parameters (\*) is provided, the UDM can serve any external group and any SUPI or GPSI.  (\*) The note applies to parameters: supiRanges, gpsiRanges, externalGroupIdentifiersRanges.  In practice, when groupId is defined for those NFs, but the "...Ranges" attributes are absent, the determination of the set of subscribers managed by the NF Instance is done by the NRF (internally), instead of being provided by the NF Instance in its NFProfile. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Extend the applicability of the text in the mentioned "NOTE 1" also to attribute groupID, and clarify that the absence of any "ranges" attributes implies that the set of subscribers is done by the NRF, when "groupId" is defined. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The association of subscribers to specific NF Instances does not work, when the user segmentation is defined in the NRF. | | | | | | | | |
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| ***Clauses affected:*** | | 6.1.6.2.6, 6.1.6.2.7, 6.1.6.2.8, 6.1.6.2.20, 6.1.6.2.32 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 on the OpenAPI specifications. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

##### 6.1.6.2.6 Type: UdrInfo

Table 6.1.6.2.6-1: Definition of type UdrInfo

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| groupId | NfGroupId | O | 0..1 | Identity of the UDR group that is served by the UDR instance.  If not provided, the UDR instance does not pertain to any UDR group.  (NOTE 1) |
| supiRanges | array(SupiRange) | O | 1..N | List of ranges of SUPI's whose profile data is available in the UDR instance (NOTE 1) |
| gpsiRanges | array(IdentityRange) | O | 1..N | List of ranges of GPSIs whose profile data is available in the UDR instance (NOTE 1) |
| externalGroupIdentifiersRanges | array(IdentityRange) | O | 1..N | List of ranges of external groups whose profile data is available in the UDR instance (NOTE 1) |
| supportedDataSets | array(DataSetId) | O | 1..N | List of supported data sets in the UDR instance.  If not provided, the UDR supports all data sets. |
| NOTE 1: If none of these parameters are provided, the UDR can serve any external group and any SUPI or GPSI managed by the PLMN of the UDR instance. If "supiRanges", "gpsiRanges" and "externalGroupIdentifiersRanges" attributes are absent, and "groupId" is present, the SUPIs / GPSIs / ExternalGroups served by this UDR instance is determined by the NRF (see 3GPP TS 23.501 [2], clause 6.2.6.2). | | | | |

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

##### 6.1.6.2.7 Type: UdmInfo

Table 6.1.6.2.7-1: Definition of type UdmInfo

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| groupId | NfGroupId | O | 0..1 | Identity of the UDM group that is served by the UDM instance.  If not provided, the UDM instance does not pertain to any UDM group.  (NOTE 1) |
| supiRanges | array(SupiRange) | O | 1..N | List of ranges of SUPIs whose profile data is available in the UDM instance (NOTE 1) |
| gpsiRanges | array(IdentityRange) | O | 1..N | List of ranges of GPSIs whose profile data is available in the UDM instance (NOTE 1) |
| externalGroupIdentifiersRanges | array(IdentityRange) | O | 1..N | List of ranges of external groups whose profile data is available in the UDM instance (NOTE 1) |
| routingIndicators | array(string) | O | 1..N | List of Routing Indicator information that allows to route network signalling with SUCI (see 3GPP 23.003 [12]) to the UDM instance.  If not provided, the UDM can serve any Routing Indicator.  Pattern: '^[0-9]{1,4}$' |
| internalGroupIdentifiersRanges | array(InternalGroupIdRange) | O | 1..N | List of ranges of Internal Group Identifiers whose profile data is available in the UDM instance.  If not provided, it does not imply that the UDM supports all internal groups. |
| NOTE 1: If none of these parameters are provided, the UDM can serve any external group and any SUPI or GPSI managed by the PLMN of the UDM instance. If "supiRanges", "gpsiRanges" and "externalGroupIdentifiersRanges" attributes are absent, and "groupId" is present, the SUPIs / GPSIs / ExternalGroups served by this UDM instance is determined by the NRF (see 3GPP TS 23.501 [2], clause 6.2.6.2). | | | | |

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

##### 6.1.6.2.8 Type: AusfInfo

Table 6.1.6.2.8-1: Definition of type AusfInfo

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| groupId | NfGroupId | O | 0..1 | Identity of the AUSF group.  If not provided, the AUSF instance does not pertain to any AUSF group.  (NOTE) |
| supiRanges | array(SupiRange) | O | 1..N | List of ranges of SUPIs that can be served by the AUSF instance. If not provided, the AUSF can serve any SUPI.  (NOTE) |
| routingIndicators | array(string) | O | 1..N | List of Routing Indicator information that allows to route network signalling with SUCI (see 3GPP 23.003 [12]) to the AUSF instance.  If not provided, the AUSF can serve any Routing Indicator.  Pattern: '^[0-9]{1,4}$' |
| NOTE: If none of these parameters are provided, the AUSF can serve any SUPI managed by the PLMN of the AUSF instance. If "supiRanges" attribute is absent, and "groupId" is present, the SUPIs served by this AUSF instance is determined by the NRF (see 3GPP TS 23.501 [2], clause 6.2.6.2). | | | | |

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

##### 6.1.6.2.20 Type: PcfInfo

Table 6.1.6.2.20-1: Definition of type PcfInfo

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| groupId | NfGroupId | O | 0..1 | Identity of the PCF group that is served by the PCF instance.  If not provided, the PCF instance does not pertain to any PCF group.  (NOTE) |
| dnnList | array(Dnn) | O | 1..N | DNNs supported by the PCF. The DNN shall contain the Network Identifier and it may additionally contain an Operator Identifier. If the Operator Identifier is not included, the DNN is supported for all the PLMNs in the plmnList of the NF Profile.  If not provided, the PCF can serve any DNN. |
| supiRanges | array(SupiRange) | O | 1..N | List of ranges of SUPIs that can be served by the PCF instance.  (NOTE) |
| gpsiRanges | array(IdentityRange) | O | 1..N | List of ranges of GPSIs that can be served by the PCF instance.  (NOTE) |
| rxDiamHost | DiameterIdentity | C | 0..1 | This IE shall be present if the PCF supports Rx interface.  When present, this IE shall indicate the Diameter host of the Rx interface for the PCF. |
| rxDiamRealm | DiameterIdentity | C | 0..1 | This IE shall be present if the PCF supports Rx interface.  When present, this IE shall indicate the Diameter realm of the Rx interface for the PCF. |
| v2xSupportInd | boolean | O | 0..1 | Indicates whether V2X Policy/Parameter provisioning is supported by the PCF.  true: Supported false (default): Not Supported |
| NOTE: If none of these parameters are provided, the PCF can serve any SUPI or GPSI managed by the PLMN of the PCF instance. If "supiRanges" and "gpsiRanges" attributes are absent, and "groupId" is present, the SUPIs / GPSIs served by this PCF instance is determined by the NRF (see 3GPP TS 23.501 [2], clause 6.2.6.2) | | | | |

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

##### 6.1.6.2.32 Type: ChfInfo

Table 6.1.6.2.32-1: Definition of type ChfInfo

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description |
| supiRangeList | array(SupiRange) | O | 1..N | List of ranges of SUPIs that can be served by the CHF instance.  (NOTE) |
| gpsiRangeList | array(IdentityRange) | O | 1..N | List of ranges of GPSI that can be served by the CHF instance.  (NOTE) |
| plmnRangeList | array(PlmnRange) | O | 1..N | List of ranges of PLMNs (including the PLMN IDs of the CHF instance) that can be served by the CHF instance. If not provided, the CHF can serve any PLMN. |
| groupId | NfGroupId | O | 0..1 | Identity of the CHF group that is served by the CHF instance.  If not provided, the CHF instance does not pertain to any CHF group.  (NOTE) |
| NOTE: If none of these parameters are provided, the CHF can serve any SUPI or GPSI managed by the PLMN of the CHF instance. If "supiRangeList" and "gpsiRangeList" attributes are absent, and "groupId" is present, the SUPIs / GPSIs served by this CHF instance is determined by the NRF (see 3GPP TS 23.501 [2], clause 6.2.6.2) | | | | |

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