**3GPP TSG-CT WG4 Meeting #97eC4-202137**

**E-Meeting, 15th – 24th April 2020**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.503** | **CR** | **0392** | **rev** | **-** | **Current version:** | **16.3.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Feature negotiation for NW slice specific authentication and authorization | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | NEC | | | | | | | | | |
| ***Source to TSG:*** | CT4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNS | | | | |  | ***Date:*** | | | 2020-4-6 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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:*** | | **[Concern]**  What will happen when the AMF which does not support Network Slice-Specific Authentication and Authorization feature receives a S-NSSAI subject to Network Slice-Specific Authentication and Authorization in registration request?  **[Situation]**  If the S-NSSAI is supported per configuration, subscription information, and/or local policy, then the AMF will respond the registration accept message with allowed NSSAI including the S-NSSAI.  **[Observation]**  This does not follow the SA2 requirement i.e., NW performs Network Slice-Specific Authentication and Authorization if the S-NSSAI subject to Network Slice-Specific Authentication and Authorization i.e., NW includes only S-NSSAI NOT subject to Network Slice-Specific Authentication and Authorization in allowed NSSAI in registration accept message as follows.  ------------------------------------  *TS23.501*  *5.15.5.2.1 Registration to a set of Network Slices*  *[…]*  *If the Requested NSSAI includes S-NSSAIs which map to S-NSSAIs of the HPLMN subject to Network Slice-Specific Authentication and Authorization, the AMF shall include in the Registration Accept message an Allowed NSSAI containing only those S-NSSAIs that are* ***not*** *to be subject to Network Slice-Specific Authentication and Authorization or, based on the UE Context in AMF, those S-NSSAIs for which Network Slice-Specific Authentication and Authorization succeeded previously regardless the Access Type, if any.*  ------------------------------------  Currently, there is no mechanism to ensure that **[Situation]** does not occur.  **[Proposal]**  We believe that feature negotiation is the way forward. Hence, this CR proposes to add a feature "Nssaa(Network Slice-Specific Authentication and Authorization)" in TS29.503 Table 6.1.8-1: Supported Features.  By having this feature negotiation, Nudm\_SubscriberDataManagement Service will not provide the S-NSSAI subject to Network Slice-Specific Authentication and Authorization to the AMF NOT supporting Network Slice-Specific Authentication and Authorization. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add Network Slice-Specific Authentication and Authorization feature for feature negotiation | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Network Slice-Specific Authentication and Authorization feature cannot be provided correctly. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.1.6.2.2, 6.1.8 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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's revision history:*** | |  | | | | | | | | |

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

##### 6.1.6.2.2 Type: Nssai

Table 6.1.6.2.2-1: Definition of type Nssai

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| supportedFeatures | SupportedFeatures | O | 0..1 | See clause 6.1.8 |  |
| defaultSingleNssais | array(Snssai) | M | 1..N | A list of Single Nssais used as default | Nssaa |
| singleNssais | array(Snssai) | O | 1..N | List of non default Single Nssais. | Nssaa |
| provisioningTime | DateTime | C | 0..1 | This attribute shall be present if the Nssai is sent to the AMF while reception has not yet been acknowledged from the UE; otherwise shall be absent. This attribute serves as Network Slicing Subscription Change Indication. |  |
| additionalSnssaiData | map(AdditionalSnssaiData) | O | 1..N | A map (list of key-value pairs where singleNssai converted to string serves as key) of additional information related to this single Nssai. |  |

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

### 6.1.8 Feature Negotiation

The optional features in table 6.1.8-1 are defined for the Nudm\_SDM API. They shall be negotiated using the extensibility mechanism defined in clause 6.6 of 3GPP TS 29.500 [4].

Table 6.1.8-1: Supported Features

|  |  |  |
| --- | --- | --- |
| Feature number | Feature Name | Description |
| 1 | SharedData | When receiving a Nudm\_SDM\_Get service operation request to retrieve a UE's individual subscription data, and the request does not contain a supported-features query parameter indicating support of this feature, the UDM shall not include Shared Data Ids in the response. Instead the UDM may – based on operator policy – take no further action (i.e. allow the UE to get services based on only the UE's individual subscription data), or send the shared data as individual data (this may result in notifications of individual subscription data change – if so subscribed – when shared data, which are sent as individual data, are modified, and/or when the UE's Shared Data IDs are modified). |
| 2 | ImmediateReport | When a NF consumer detects the UDM support ImmediateReport feature, it can indicate an immediateReport flag when invoking Nudm\_SDM\_Subscribe service operation. If UDM supports ImmediateReport received Nudm\_SDM\_Subscribe service operation request, it shall return the resource representation(s) of the monitored resource(s) in the service operation response body. |
| 3 | PatchReport | If some of the modifications included in the PATCH request are not successfully implemented, the UDM reports the result of PATCH request execution to the consumer. See clause 5.2.7.2 of 3GPP TS 29.500 [4]. |
| 4 | Nssaa | If the NF consumer does not support this feature, the UDM shall not include S-NSSAI(s) subject to Network Slice-Specific Authentication and Authorization in the message body with "200 OK" response (See subclause 5.2.2.2.2). |