**3GPP TSG-SA WG2 Meeting #165 S2-2410472**

**Hyderabad, IN, 14th – 18th Oct. 2024**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **23.502** | **CR** | **xyz** | **rev** | **0** | **Current version:** | **19.0.0** |  |
|  |
| *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:***  | Adding MSISDN verification operation support to Nnef\_UEId Service  |
|  |  |
| ***Source to WG:*** | AT&T, Ericsson, Nokia, Apple, Qualcomm, Interdigital, Deutsche Telekom |
| ***Source to TSG:*** | SA2 |
|  |  |
| ***Work item code:*** | TEI19\_MVOSNS |  | ***Date:*** | 2024-10-12 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-19 |
|  | *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 canbe 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)* |
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| ***Reason for change:*** | The Nnef\_UEId Service currently supports MSISDN retrieval operation where the MSISDN is retrieved from the UDM and exposed to an authorized AF. There are many use cases in the industry where the operator would need to support MSISDN verification use cases in which the authorized AF is providing the MSISDN in the request and asks the operator to verify whether the UE’s MSISDN matches the AF-provided MSISDN in the request, as an alternative to the MSISDN retrieval exposure.In order to support such a need, the Nnef\_UEId Service is being enhanced to allow the NEF to perform verification between the MSISDN it retrieves from the UDM with the one it receives from the AF (in the request) and respond with the verification result accordingly (e.g. true/false depending on whether the two MSISDNs match or not).To address this new NEF exposed capability, it is proposed for the Nnef\_UEId Service to offer a new operation called Nnef\_UEId\_Verification. |
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| ***Summary of change:*** | Enhancing the Nnef\_UEId Service with a new operation to support MSISDN verification exposure (by the NEF), as an alternative to the MSISDN exposure to the authorized AF. |
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| ***Consequences if not approved:*** | The Nnef\_UEId Service won’t be able to support use cases in the industry, where MSISDN verification is needed, especially for the cases where due to user privacy regulations MSISDN exposure to the AF is not allowed and instead MSISDN verfication by NEF is an acceptable solution for the authorized AF.  |
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| ***Clauses affected:*** | 4.15.10B (NEW), 5.2.6.27.X (New), 5.2.6.1 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  |  |
| ***affected:*** |  | **X** |  Test specifications |  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications |  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

\*\*\* 1st Change \*\*\*

### 4.15.10B MSISDN verification

This clause contains the detailed description and procedures for the NEF verification (matching) of a retrieved MSISDN from the UDM against an AF-provided MSISDN. Depending on the operator policy and local regulation, the NEF verification result of the MSISDN may also be exposed to an authenticated and authorized AF. Depending on operator policy and local regulation, user consent may be required for MSISDN verification as described in 4.15.10A.

The figure and procedures of clause 4.15.10 shall be applicable for MSISDN verification exposure with the following differences:

- description of the AF specific UE ID retrieval is replaced as the MSISDN verification exposure;

- description of the AF specific UE Identifier represented as an External Identifier is replaced as the UE Identifier in the form of MSISDN; and

- in step 1, the AF request message is replaced by Nnef\_UEId\_VerificationGet service operation and it shall also include GPSI in the form of MSISDN; and

- in step 11, the NEF responds with Nnef\_UEId\_VerificationGet response indicating “true” or “false” depending on whether the retrieved MSISDN from the UDM and the AF-provided MSISDN match or not (for additional information see clause 5.2.6.27.X).

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

##### 5.2.6.27.X Nnef\_UEId\_VerificationGet operation

**Service operation name:** Nnef\_UEId\_VerificationGet

**Description:** Verify if the GPSI in the form of MSISDN retrieved from UDM matches the MSISDN the AF provided in the request.

**Inputs, Required:** GPSI (in MSISDN form) and UE address (i.e. IPv4/IPv6 address or MAC address).

**Inputs, Optional:** DNN, S-NSSAI, Port number (e.g. TCP or UDP port), IP domain, Application port ID, MTC Provider Information, AF Identifier.

**Outputs, Required:** Result, MSISDN verification result.

**Outputs, Optional:** None

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

### 5.2.6 NEF Services

#### 5.2.6.1 General

The following table shows the NEF Services and Service Operations:

Table 5.2.6.1-1: NF Services provided by the NEF

|  |  |  |  |
| --- | --- | --- | --- |
| Service Name | Service Operations | OperationSemantics | Example Consumer(s) |
| **Nnef\_EventExposure** | Subscribe | Subscribe/Notify | AF, NWDAF |
|  | Unsubscribe |  | AF, NWDAF |
|  | Notify |  | AF, NWDAF |
| **Nnef\_PFDManagement** | Fetch | Request/Response | SMF |
|  | Subscribe | Subscribe/Notify | SMF |
|  | Notify |  | SMF |
|  | Unsubscribe |  | SMF |
|  | Create | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Delete | Request/Response | AF |
| **Nnef\_EASDeployment** | Create | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Delete | Request/Response | AF |
|  | Subscribe | Subscribe/Notify | SMF |
|  | Unsubscribe |  | SMF |
|  | Notify |  | SMF |
| **Nnef\_ECSAddress** | Create | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Delete | Request/Response | AF |
|  | Subscribe | Subscribe/Notify | SMF |
|  | Unsubscribe |  | SMF |
|  | Notify |  | SMF |
| **Nnef\_TrafficInfluenceData** | Subscribe | Subscribe/Notify | SMF |
|  | Unsubscribe |  | SMF |
|  | Notify |  | SMF |
| **Nnef\_ParameterProvision** | Update | Request/Response | AF |
|  | Create | Request/Response | AF |
|  | Delete | Request/Response | AF |
|  | Get | Request/Response | AF |
| **Nnef\_Trigger** | Delivery | Request/Response | AF |
|  | DeliveryNotify | Subscribe/Notify | AF |
| **Nnef\_BDTPNegotiation** | Create | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Notify |  | AF |
| **Nnef\_TrafficInfluence** | Create | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Delete | Request/Response | AF |
|  | Get | Request/Response | AF |
|  | Notify | Subscribe/Notify | AF |
|  | AppRelocationInfo | Subscribe/Notify | AF |
| **Nnef\_ChargeableParty** | Create | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Notify | Request/Response | AF |
| **Nnef\_AFsessionWithQoS** | Create | Request/Response | AF |
|  | Notify | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Revoke | Request/Response | AF |
| **Nnef\_MSISDN-less\_MO\_SMS** | Notify | Notify | AF |
| **Nnef\_ServiceParameter** | Create | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Delete | Request/Response | AF |
|  | Get | Request/Response | AF |
| **Nnef\_APISupportCapability** | Subscribe | Subscribe/Notify | AF |
|  | Unsubscribe | Subscribe/Notify | AF |
|  | Notify | Subscribe/Notify | AF |
| **Nnef\_NIDDConfiguration** | Create | Request/Response | AF |
|  | TriggerNotify | Subscribe/Notify | AF |
|  | UpdateNotify | Subscribe/Notify | AF |
|  | Delete | Request/Response | AF |
| **Nnef\_NIDD** | Delivery | Request/Response | AF |
|  | DeliveryNotify | Subscribe/Notify | AF |
|  | GroupDeliveryNotify | Notify | AF |
| **Nnef\_SMContext** | Create | Request/Response | SMF |
|  | Delete | Request/Response | SMF |
|  | DeleteNotify | Subscribe/Notify | SMF |
|  | Delivery | Request/Response | SMF |
| **Nnef\_AnalyticsExposure** | Subscribe | Subscribe/Notify | AF |
|  | Unsubscribe |  | AF |
|  | Notify |  | AF |
|  | Fetch | Request/Response | AF |
| **Nnef\_UCMFProvisioning** | Create | Request/Response | AF |
|  | Delete | Request/Response | AF |
|  | Update | Request/Response | AF |
| **Nnef\_ECRestriction** | Get | Request/Response | AF |
|  | Update | Request/Response | AF |
| **Nnef\_ApplyPolicy** | Create | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Delete | Request/Response | AF |
| **Nnef\_Location** | LocationUpdateNotify | Notify | AF |
| **Nnef\_TimeSynchronization** | ConfigUpdate | Request/Response | AF |
|  | ConfigCreate | Request/Response | AF |
|  | ConfigDelete | Request/Response | AF |
|  | ConfigUpdateNotify | Subscribe/Notify | AF |
|  | CapsSubscribe | Subscribe/Notify | AF |
|  | CapsUnsubscribe | Subscribe/Notify | AF |
|  | CapsNotify | Subscribe/Notify | AF |
| **Nnef\_ASTI** | Create | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Delete | Request/Response | AF |
|  | Get | Request/Response | AF |
|  | UpdateNotify | Subscribe/Notify | AF |
| **Nnef\_AMPolicyAuthorization** | Create | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Delete | Request/Response | AF |
|  | Notify | Subscribe/Notify | AF |
|  | Subscribe |  | AF |
|  | Unsubscribe |  | AF |
| **Nnef\_AMInfluence** | Create | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Delete | Request/Response | AF |
|  | Notify | Subscribe/Notify | AF |
| **Nnef\_UEId** | Get | Request/Response | AF, V-NEF |
| VerificationGet | Request/Response | AF |
| UeIdMappingGet | Request/Response | GMLC |
| UeIdMappingCreate | Request/Response | AF |
|  | UeIdMappingUpdate | Request/Response | AF |
|  | UeIdMappingDelete | Request/Response | AF |
| **Nnef\_SMService** | MoForwardSm | Request/Response | SMS-SC |
| **Nnef\_PDTQPolicyNegotiation** | Create | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Notify |  | AF |
| **Nnef\_MemberUESelectionAssistance** | Subscribe | Subscribe/Notify | AF |
|  | Unsubscribe |  | AF |
|  | Notify |  | AF |
| **Nnef\_AF\_request\_for\_QoS** | Create | Request/Response | AF |
|  | Notify | Request/Response | AF |
|  | Update | Request/Response | AF |
|  | Revoke | Request/Response | AF |
| **Nnef\_DNAIMapping** | Subscribe | Subscribe/Notify | AF, NWDAF |
|  | Unsubscribe |  | AF, NWDAF |
|  | UpdateNotify |  | AF, NWDAF |
| **Nnef\_UEAddress** | Get | Request/Response | AF |

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