**3GPP TSG CT WG3 Meeting #135 *C3-243302r1***

**Hyderabad, IN, 27 - 31 May, 2024 (Revision of C3-242427)**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.591** | **CR** | **0182** | **rev** | **2** | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *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:*** | Updates to Service Descriptions in Nnef\_UEId API | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | Ranging\_SL, EDGE\_Ph2 | | | | |  | ***Date:*** | | | 2024-05-16 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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:*** | | TS 23.586 clause 4.3.7 defined NEF provide the GMLC with the GPSI of the UE based on Application Layer ID mapping information stored in UDR application data. Also provide the GMLC with the Application Layer ID based on GPSI of the UE mapping information stored in UDR application data. Hence needs to be implented in this TS.  TS 23.502 clause 5.2.6.27.2 Nnef\_UEId\_Get service operation has been defined for HR-SBO to retrieve not only internal UE Identifier, but also extended with UE private IP address and other information, hence the related service descriptions need to be updated to be generic cover these, not limited only to UE identifier.  SA2 has the related LS reply for LS out S2-2405863 (C3-242616) and TS 23.502 CR 4812 adding GMLC as service consumer to retrieve Ranging\_SL UE Id mapping information in Nnef\_UEId API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Adding GMLC as NF service consumer of Nnef\_UEId API, update the related abbreviations, overview and service descriptions.  Update the HR-SBO related Nnef\_UEId service descriptions with generic UE information description not limited to UE identifier retrieval, also updates the service operation naming. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Not implemented stage 2 requirement and not aligned service descriptions. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 3.3, 4.7.1.1, 4.7.1.2, 4.7.1.3.1, 4.7.1.3.2, 4.7.2.1, 4.7.2.2.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 23.502 CR 4812 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR does not impact the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | **Rev 1 provides additional update:**  Adding the related TS 23.502 CR 4812 in cover page and removed trusted AF as service consumer related changes, updated the WI TEI18, EDGEAPP as EDGE\_Ph2. Also updated custom operation descriptions.  **Rev 3 provides additional update:**  Updated upon the service operation naming changed in the agreed TS 23.502 CR 4812. | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

5GMS 5G Media Streaming

AF Application Function

API Application Programming Interface

ASP Application Service Provider

DCCF Data Collection Coordination Function

EAS Edge Application Server

EHE Edge Hosting Environment

GMLC Gateway Mobile Location Centre

GPSI Generic Public Subscription Identifier

LCS LoCation Services

LMF Location Management FunctionMFAF Messaging Framework Adaptor Function

NEF Network Exposure Function

NF Network Function

NWDAF Network Data Analytics Function

SMF Session Management Function

SUPI Subscription Permanent Identifier

URI Uniform Resource Identifier

\*\*\* 2nd Change \*\*\*

#### 4.7.1.1 Overview

The Nnef\_UEId service is provided by the Network Exposure Function (NEF). This service allows:

- the NF service consumer (e.g., V-NEF) providing the external UE identifier to fetch the internal UE identifier used for e.g., the V-NEF to fetch the SUPI from the H-NEF for the roaming UE under the roaming agreement with the roaming partner(s); and

- the NF service consumer (e.g., GMLC) to retrieve the UE ID mapping information.

\*\*\* 3rd Change \*\*\*

#### 4.7.1.2 Service Architecture

The 5G System Architecture is defined in 3GPP TS 23.501 [2].

The Nnef\_UEId service is part of the Nnef service-based interface exhibited by the Network Exposure Function (NEF).

Known consumer of the Nnef\_UEId service is:

- Visited Network Exposure Function (V-NEF)

- Gateway Mobile Location Centre (GMLC)



Figure 4.7.1.2-1: Reference Architecture for the Nnef\_UEId Service; SBI representation



Figure 4.7.1.2-2: Reference Architecture for the Nnef\_UEId Service: reference point representation

\*\*\* 5th Change \*\*\*

##### 4.7.1.3.1 Network Exposure Function (NEF)

The Network Exposure Function (NEF) allows:

- the NF service consumer (e.g., V-NEF) providing the external UE identifier to fetch the internal UE identifier from theH-NEF for the roaming UE under the roaming agreement with the roaming partner(s); and

- the NF service consumer (e.g., GMLC) to retrieve the UE ID mapping information.

\*\*\* 6th Change \*\*\*

##### 4.7.1.3.2 NF Service Consumers

The known NF service consumers are as follows:

The Visited Network Exposure Function (V-NEF):

- providing the external UE identifier to fetch the internal UE identifier from the H-NEF for the roaming UE under the roaming agreement with the roaming partner(s).

The Gateway Mobile Location Centre (GMLC):

- Retrieving the UE ID mapping information.

\*\*\* 7th Change \*\*\*

#### 4.7.2.1 Introduction

The service operations defined for the Nnef\_UEId Service are shown in table 4.7.2.1-1.

Table 4.7.2.1-1: Nnef\_UEId Service Operations

|  |  |  |
| --- | --- | --- |
| Service Operation Name | Description | Initiated by |
| Nnef\_UEId\_Get | This service operation is either:  - used by the NF service consumer (e.g., V-NEF) providing the external UE identifier to fetch the internal UE identifier from the NEF (e.g., H-NEF) for the roaming UE under the roaming agreement with the roaming partner(s).  - used by the NF service consumer (e.g., GMLC) to retrieve the UE ID mapping information. | V-NEF |

\*\*\* 8th Change \*\*\*

##### 4.7.2.2.1 General

The Nnef\_UEId\_Get service operation enables:

* the NF service consumer (e.g., V-NEF) provisioning the external UE identifier to fetch the internal UE identifier from the H-NEF for roaming UE under the roaming agreement with the roaming partner(s); and
* the NF service consumer (e.g., GMLC) to retrieve the UE ID mapping information.

The following procedure using the Nnef\_UEId\_Get service operation is supported:

- To fetch the internal UE identifier for the roaming UE.

- UE ID mapping information retrieval.

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