**3GPP TSG-CT3 Meeting #130C3-234441**

**Xiamen, China, 9 - 13 October, 2023 (Revision of C3-234186)**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.522** | **CR** | **1058** | **rev** | **1** | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | UEAddress service and procedures | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson, Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNetAE | | | | |  | ***Date:*** | | | 2023-09-22 |
|  |  | | | |  | |  | | |  |
| ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Nnef\_UEAddress API is included in clause 6.2.8.2.4.3 of TS 23.288 and clause 5.2.6.36 of 3GPP TS 23.502 to support Input data collection from AF on UE address correlation in user plane, which is not implemented yet. While this is a new API not always needed, hence consider to add UEAddress API in this specification from Rel-18. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Adding UEAddress service and procedures. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Not supporting service and procedures for stage 2 required Nnef\_UEAddress API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.1, 4.4.39(new), 4.4.39.1(new), 4.4.39.2(new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 impact the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

## 4.1 Overview

The NEF Northbound interface is between the NEF and the AF. It specifies RESTful/RPC APIs that allow the AF to access the services and capabilities provided by 3GPP network entities and securely exposed by the NEF.

This document also specifies the procedures triggered at the NEF by API requests from the AF and by event notifications received from 3GPP network entities.

The stage 2 level requirements and signalling flows for the NEF Northbound interface are defined in 3GPP TS 23.502 [2], 3GPP TS 23.247 [53] for MBS specific aspects and 3GPP TS 26.531 [59] for data reporting provisioning and Media Streaming Event Exposure specific aspects.

The NEF Northbound interface supports the following procedures:

1) Procedures for Monitoring.

2) Procedures for Device Triggering.

3) Procedures for resource management of Background Data Transfer.

4) Procedures for CP Parameters, Network Configuration Parameters Provisioning, 5G LAN Parameters Provisioning, ACS Configuration Parameter Provisioning, Location Privacy Indication Parameters Provisioning, ECS address provisioning and DNN and S-NSSAI specific Group Parameters provisioning.

5) Procedures for PFD Management.

6) Procedures for Traffic Influence.

7) Procedures for changing the chargeable party at session set up or during the session.

8) Procedures for AF required QoS.

9) Procedures for MSISDN-less Mobile Originated SMS.

10) Procedures for non-IP data delivery.

11) Procedures for analytics information exposure.

12) Procedure for applying BDT policy.

13) Procedures for Enhanced Coverage Restriction Control.

14) Procedures for IPTV Configuration.

15) Procedures for Service Parameter Provisioning.

16) Procedures for RACS Parameter Provisioning.

17) Procedures for Mobile Originated Location Request.

18) Procedures for AKMA.

19) Procedures for AF triggered Access and Mobility Influence.

20) Procedures for AF triggered Access and Mobility Policy Authorization.

21) Procedures for Time Synchronization Exposure.

22) Procedures for EAS Deployment information provisioning.

23) Procedures for TMGI allocation, deallocation, expiry timer refresh and timer expiry notification.

24) Procedures for MBS session management and parameters provisioning.

25) Procedures for Data Reporting.

26) Procedures for Data Reporting Provisioning.

27) Procedures for AF specific UE ID retrieval.

28) Procedures for Media Streaming Event Exposure.

29) Procedures for MBS User Service management.

30) Procedures for MBS User Data Ingest Session management.

31) Procedures for MBS Group Message Delivery management.

32) Procedures for DNAI mapping.

33) Procedures for negotiation of Planned Data Transfer with QoS requirements.

34) Procedures for Member UE Slection Assistance.

35) Procedures for UE Address retrieval.

Which correspond to the following services respectively, supported by the NEF as defined in 3GPP TS 23.502 [2] or 3GPP TS 26.531 [59]:

1) Nnef\_EventExposure service and Nnef\_APISupportCapability service.

2) Nnef\_Trigger service.

3) Nnef\_BDTPNegotiation service.

4) Nnef\_ParameterProvision service.

5) Nnef\_PFDManagement service.

6) Nnef\_TrafficInfluence service.

7) Nnef\_ChargeableParty service.

8) Nnef\_AFsessionWithQoS service and Nnef\_AF\_Request\_for\_QoS service.

9) Nnef\_MSISDN-less\_MO\_SMS service.

10) Nnef\_NIDDConfiguration and Nnef\_NIDD services.

11) Nnef\_AnalyticsExposure service.

12) Nnef\_ApplyPolicy service.

13) Nnef\_ECRestriction service.

14) Nnef\_IPTVConfiguration service.

15) Nnef\_ServiceParameter service.

16) Nnef\_UCMFProvisioning service.

17) Nnef\_Location service.

18) Nnef\_AKMA service.

19) Nnef\_AMInfluence service.

20) Nnef\_AMPolicyAuthorization service.

21) Nnef\_TimeSynchronization and Nnef\_ASTI services.

22) Nnef\_EASDeployment service.

23) Nnef\_MBSTMGI service.

24) Nnef\_MBSSession service.

25) Nnef\_DataReporting service.

26) Nnef\_DataReportingProvisioning service.

27) Nnef\_UEId service.

28) Nnef\_MSEventExposure service.

29) Nnef\_MBSUserService service.

30) Nnef\_MBSUserDataIngestSession service.

31) Nnef\_MBSGroupMsgDelivery service.

32) Nnef\_DNAIMapping service.

33) Nnef\_PDTQPolicyNegotiation service.

34) Nnef\_MemberUESelectionAssistance service.

35) Nnef\_UEAddress service.

NOTE 1: For Nnef\_PFDManagement service, only the Nnef\_PFDManagement\_Create/Update/Delete service operations are applicable for the NEF Northbound interface.

NOTE 2: For Nnef\_NIDD service, NF consumer other than the AF does not use the NEF Northbound interface.

NOTE 3: For Nnef\_NIDDConfiguration service, the Nnef\_NIDDConfiguration\_Trigger service operation is only applicable for the NEF Northbound interface.

NOTE 4: The Nnef\_APISupportCapability service is only applicable in the MonitoringEvent API when the monitoring type sets to "API\_SUPPORT\_CAPABILITY".

NOTE 5: The Nnef\_MSEventExposure service maps to the Nnef\_EventExposure service and is applicable for the case where the event consumer AF in the Application Service Provider is deployed outside the trusted domain, as described in 3GPP TS 26.531 [59], and the subscribed event is set to "MS\_QOE\_METRICS", "MS\_CONSUMPTION", "MS\_NET\_ASSIST\_INVOCATION", "MS\_DYN\_POLICY\_INVOCATION", or "MS\_ACCESS\_ACTIVITY".

NOTE 6: The stage 2 Nnef\_AF\_request\_for\_QoS API is defined by reusing the Nnef\_AFsessionWithQoS API with the "GMEC\_5G" feature.

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

### 4.4.39 Procedures for UE Address Retrieval

#### 4.4.39.1 General

The procedures described in the clauses below are used by an AF to request the NEF to provide UE Address(es).

#### 4.4.39.2 Procedures for UE Address Retrieval

This procedure is used by an AF to retrieve UE Address(es).

In order to retrieve the UE Address(es):

- an AF shall invoke the UEAddress API by sending an HTTP POST request to the NEF targeting the custom operation URI "{apiRoot}/3gpp-ue-address/v1/retrieve", with the request body including the UeAddressReq data structure that shall contain:

a) within the "afId" attribute, the identifier of the AF that is sending the request;

b) within the "gpsi" attribute, the GPSI of the UE; and

c) within the "suppFeat" attribute, the features supported by the AF, if applicable (i.e., feature negotiation needs to take place); and

Upon reception of the HTTP POST request message from the AF, the NEF shall check whether the AF is authorized to perform this operation or not:

- if the AF's request for UE Address retrieval is not authorized, the NEF shall respond to the AF with a "403 Forbidden" status code with the response body including the ProblemDetails data structure containing the "cause" attribute set to the "REQUEST\_NOT\_AUTHORIZED" application error indicating the AF authorisation failure; or

- if the AF's request for UE Address retrieval is authorized, the NEF shall:

a) determine the corresponding DNN(s) and/or S-NSSAI(s) information based on the local configuration for the requesting AF Identifier;

b) invoke the Nudm\_UECM\_Get service operation to find the SMF serving the PDU session(s) for the GPSI, DNN, S-NSSAI including type of requested information set to SMF Registration Info and the S-NSSAI and DNN, as defined in clause 5.3.2.5.7 of TS 29.503 [17];

c) invoke the Nsmf\_EventExposure\_Subscribe service operation to the identified SMF(s), including the identified PDU Session ID to find the SMF(s) allocated IPv4 address and/or IPv6 prefix, as defined in clause 4.2.2 and clause 4.2.3 of TS 29.508 [26];

- upon reception of a successful response from the SMF as defined in 3GPP TS 29.508 [26] and successful processing of the request, the NEF shall respond to the AF with an HTTP "200 OK" status code and the response body including the SMF allocated UE Address information within the UeAddressInfo data structure.

On failure or if the NEF receives an error code from the SMF, the NEF shall take proper error handling actions, as specified in clause 5.35.7, and respond to the AF with an appropriate error status code.

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