**3GPP TSG-CT WG3 Meeting #123e C3-224639**

**E-Meeting, 18th – 26th August 2022 (Revision of C3-224394)**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **29.522** | **CR** | **0694** | **rev** | **1** | **Current version:** | **17.6.0** |  |
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| *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:***  | Define Service and Service Operations in Nnef\_MBSUserDataIngestSession API |
|  |  |
| ***Source to WG:*** | Ericsson, Huawei |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | 5MBS |  | ***Date:*** | 2022-07-26 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** |  Rel-17 |
|  | *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:*** | TS 26.502 table 7.2-1 note describes when the MBS Application Provider (AF/AS) lies outside the trusted DN, these services shall be exposed via the NEF (N33+Nmb5) as Nnef\_MBSUserService and Nnef\_MBSUserDataIngestSession respectively. And SA4 LS reply in S4-220829 also indicates that the "NEF should expose similar (or even identical) APIs".Therefore, the Nnef\_MBSUserDataIngestSession API needs to be defined in order to expose the corresponding Nmbsf\_MBSUserDataIngestSession API in the case of an external untrusted AF, i.e. external untrusted MBS Application Provider.Upon SA4 LS reply C3-224544 (S4-221119) and the attached TS 26.502 CR 0007r1 (S4-221124) supporting modification to status subscription in Nmbsf\_MBSUserDataIngestSession\_StatusSubscribeMod operation, hence need to be updated in resource in Nnef\_MBSUserDataIngestSession API |
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| ***Summary of change:*** | Define service and service operation descriptions in the Nnef\_MBSUserDataIngestSession API. |
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| ***Consequences if not approved:*** | The NEF is not enhanced to support stage 2 requirements on MBS user data ingest session for the case of external/untrusted AF (i.e. MBS Application Provider). |
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| ***Clauses affected:*** | 4.4.29.5(new), 4.4.29.5.1(new), 4.4.29.5.2(new), 4.4.29.5.3(new), 4.4.29.5.4(new), 4.4.29.5.5(new), 4.4.29.5.6(new), 4.4.29.5.7(new), 4.4.29.5.8(new), 4.4.29.5.9(new) |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS 26.502 CR 0007  |
| ***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 \*\*\*

#### 4.4.29.5 Procedures for MBS User Data Ingest Session management

##### 4.4.29.5.1 General

The procedures described in the clauses below are used by an external/untrusted AF (e.g. MBS Application Provider that lies outside the trusted DN) to manage an MBS User Data Ingest Session along with its subordinate MBS Distribution Session(s) via the NEF, i.e. create, retrieve, update/modify and delete an MBS User Data Ingest Session, create, retrieve, update/modify and delete an MBS User Data Ingest Session Status subscription, and manage the related MBS User Data Ingest Session Status notifications, as defined in 3GPP TS 26.502 [62].

##### 4.4.29.5.2 Procedure for MBS User Data Ingest Session creation

This procedure is used by an AF to request the creation of a new MBS User Data Ingest Session at the NEF.

In order to request the creation of an MBS User Data Ingest Session, including a set of subordinate MBS Distribution Session(s), an AF shall send a Nnef\_MBSUserDataIngestSession\_Create request message to the NEF using the HTTP POST method and targeting the "MBS User Data Ingest Sessions" collection resource, with the request message body including the MBSUserDataIngSession data structure, as specified in clause 5.27.2.2.3.2.

The NEF shall then check whether the AF is authorized to perform this operation or not. If the AF is authorized, the NEF shall then trigger the Nmbsf\_MBSUserDataIngestSession API of the MBSF to request the creation of the corresponding MBS User Data Ingest Session at the MBSF, as specified in 3GPP TS 29.580 [61].

Upon reception of a successful response from the MBSF, as defined in 3GPP TS 29.580 [61], the NEF shall return a Nnef\_MBSUserDataIngestSession\_Create response message with an HTTP "201 Created" status code including a "Location" header field that shall contain the URI of the created resource, and the response body containing a representation of the created "Individual MBS User Data Ingest Session" resource within the MBSUserDataIngSession data structure, as specified in clause 5.27.2.2.3.2.

On failure or if the NEF receives an error response from the MBSF, the NEF shall take proper error handling actions, as specified in clause 5.27.7, and respond to the AF with an appropriate error status code. If the NEF received within an error response a ProblemDetails data structure with a "cause" attribute indicating an application error, the NEF shall relay this error response to the AF with a corresponding application error, when applicable.

##### 4.4.29.5.3 Procedure for MBS User Data Ingest Session retrieval

This procedure is used by an AF to request the retrieval of an existing MBS User Data Ingest Session at the NEF.

In order to request the retrieval of an existing MBS User Data Ingest Session, an AF shall send a Nnef\_MBSUserDataIngestSession\_Retrieve request message using the HTTP GET method and targeting the URI of the concerned "Individual MBS User Data Ingest Session" resource, as specified in clause 5.27.2.3.3.1.

The NEF shall then check whether the AF is authorized to perform this operation or not. If the AF is authorized, the NEF shall then trigger the Nmbsf\_MBSUserDataIngestSession service API of the MBSF to request the retrieval of the corresponding MBS User Data Ingest Session at the MBSF, as specified in 3GPP TS 29.580 [61].

Upon reception of a successful response from the MBSF, as defined in 3GPP TS 29.580 [61], the NEF shall return a Nnef\_MBSUserDataIngestSession\_Retrieve response message with an HTTP "200 OK" status code and the response body containing a representation of the requested Individual MBS User Data Ingest Session resource within the MBSUserDataIngSession data structure, as specified in clauses 5.27.2.3.3.1.

On failure or if the NEF receives an error code from the MBSF, the NEF shall take proper error handling actions, as specified in clause 5.27.7, and respond to the AF with an appropriate error status code. If the NEF received within an error response a ProblemDetails data structure with a "cause" attribute indicating an application error, the NEF shall relay this error response to the AF with a corresponding application error, when applicable.

##### 4.4.29.5.4 Procedure for MBS User Data Ingest Session update/modification

This procedure is used by an AF to request the update/modification of an existing MBS User Data Ingest Session at the NEF.

In order to request the update of an existing MBS User Data Ingest Session, an AF shall send a Nnef\_MBSUserDataIngestSession\_Update request message using the HTTP PUT method and targeting the URI of the corresponding "Individual MBS User Data Ingest Session" resource, with the request body including the MBSUserDataIngSession data structure, as specified in clause 5.27.2.3.3.2.

In order to request the modification of an existing MBS User Data Ingest Session, an AF shall send a Nnef\_MBSUserDataIngestSession\_Update request message using the HTTP PATCH method and targeting the URI of the corresponding "Individual MBS User Data Ingest Session" resource, with the request body including the MBSUserDataIngSessionPatch data structure, as specified in clause 5.27.2.3.3.3.

The NEF shall then check whether the AF is authorized to perform this operation or not. If the AF is authorized, the NEF shall then trigger the Nmbsf\_MBSUserDataIngestSession service API of the MBSF to request the update/modification of the corresponding MBS User Data Ingest Session at the MBSF, as specified in 3GPP TS 29.580 [61].

Upon reception of a successful response from the MBSF, as defined in 3GPP TS 29.580 [61], the NEF shall return a Nnef\_MBSUserDataIngestSession\_Update response message with an HTTP "200 OK" status code with the response body containing a representation of the updated Individual MBS User Data Ingest Session resource within the MBSUserDataIngSession data structure, or an HTTP "204 No Content" status code, as specified in clause 5.27.2.3.3.2 or clause 5.27.2.3.3.3.

On failure or if the NEF receives an error code from the MBSF, the NEF shall take proper error handling actions, as specified in clause 5.27.7, and respond to the AF with an appropriate error status code. If the NEF received within an error response a ProblemDetails data structure with a "cause" attribute indicating an application error, the NEF shall relay this error response to the AF with a corresponding application error, when applicable.

##### 4.4.29.5.5 Procedure for MBS User Data Ingest Session deletion

This procedure is used by an AF to request the deletion of an existing MBS User Data Ingest Session at the NEF.

In order to request the deletion of an existing MBS User Data Ingest Session, an AF shall send a Nnef\_MBSUserDataIngestSession\_Delete request message using the HTTP DELETE method and targeting the URI of the concerned "Individual MBS User Data Ingest Session" resource, as specified in clause 5.27.2.3.3.4.

NOTE: The Nnef\_MBSUserDataIngestSession\_Delete service operation corresponds to the stage 2 Nnef\_MBSUserDataIngestSession\_Destroy service operation defined in 3GPP TS 26.502 [62].

The NEF shall then check whether the AF is authorized to perform this operation or not. If the AF is authorized, the NEF shall then trigger the Nmbsf\_MBSUserDataIngestSession service API of the MBSF to request the deletion of the corresponding MBS User Data Ingest Session at the MBSF, as specified in 3GPP TS 29.580 [61].

Upon reception of a successful response from the MBSF, as defined in 3GPP TS 29.580 [61], the NEF shall return a Nnef\_MBSUserDataIngestSession\_Delete response message with an HTTP "204 No Content" status code, as specified in clause 5.27.2.3.3.4.

On failure or if the NEF receives an error code from the MBSF, the NEF shall take proper error handling actions, as specified in clause 5.27.7, and respond to the AF with an appropriate error status code. If the NEF received within an error response a ProblemDetails data structure with a "cause" attribute indicating an application error, the NEF shall relay this error response to the AF with a corresponding application error, when applicable.

##### 4.4.29.5.6 Procedure for MBS User Data Ingest Session Status Subscription

This procedure is used by an AF to subscribe to MBS User Data Ingest Session status event(s) reporting at the NEF.

In order to request the creation of an MBS User Data Ingest Session Status Subscription, an AF shall send a Nnef\_MBSUserDataIngestSession\_StatusSubscribe request message to the NEF using the HTTP POST method and targeting the "MBS User Data Ingest Session Status Subscriptions" collection resource, with the request message body including the MBSUserDataIngStatSubsc data structure, as specified in clause 5.27.2.4.3.2.

The NEF shall then check whether the AF is authorized to perform this operation or not. If the AF is authorized, the NEF shall then trigger the Nmbsf\_MBSUserDataIngestSession API of the MBSF to request the creation of the corresponding MBS User Data Ingest Session Status Subscription at the MBSF, as specified in 3GPP TS 29.580 [61].

Upon reception of a successful response from the MBSF, as defined in 3GPP TS 29.580 [61], the NEF shall return a Nnef\_MBSUserDataIngestSession\_StatusSubscribe response message with an HTTP "201 Created" status code including a "Location" header field that shall contain the URI of the created resource, and the response body containing a representation of the created "Individual MBS User Data Ingest Session Status Subscription" resource within the MBSUserDataIngStatSubsc data structure, as specified in clause 5.27.2.4.3.2.

On failure or if the NEF receives an error response from the MBSF, the NEF shall take proper error handling actions, as specified in clause 5.27.7, and respond to the AF with an appropriate error status code. If the NEF received within an error response a ProblemDetails data structure with a "cause" attribute indicating an application error, the NEF shall relay this error response to the AF with a corresponding application error, when applicable.

##### 4.4.29.5.7 Procedure for MBS User Data Ingest Session Status update/modification

This procedure is used by an AF to request the update/modification of an existing MBS User Data Ingest Session Status Subscription at the NEF.

In order to request the update of an existing MBS User Data Ingest Session Status Subscription, an AF shall send a Nnef\_MBSUserDataIngestSession\_StatusSubscribeMod request message using the HTTP PUT method and targeting the URI of the corresponding "Individual MBS User Data Ingest Session Status Subscription" resource, with the request body including the MBSUserDataIngStatSubsc data structure, as specified in clause 5.27.2.5.3.2.

In order to request the modification of an existing MBS User Data Ingest Session Status Subscription, an AF shall send a Nnef\_MBSUserDataIngestSession\_StatusSubscribeMod request message using the HTTP PATCH method and targeting the URI of the corresponding "Individual MBS User Data Ingest Session Status Subscription" resource, with the request body including the MBSUserDataIngStatSubscPatch data structure, as specified in clause 5.27.2.5.3.3.

The NEF shall then check whether the AF is authorized to perform this operation or not. If the AF is authorized, the NEF shall then trigger the Nmbsf\_MBSUserDataIngestSession service API of the MBSF to request the update/modification of the corresponding MBS User Data IngestSession Status Subscription at the MBSF, as specified in 3GPP TS 29.580 [61].

Upon reception of a successful response from the MBSF, as defined in 3GPP TS 29.580 [61], the NEF shall return a Nnef\_MBSUserDataIngestSession\_StatusSubscribeMod response message with an HTTP "200 OK" status code with the response body containing a representation of the updated Individual MBS User Data Ingest Session resource within the MBSUserDataIngStatSubsc data structure, or an HTTP "204 No Content" status code, as specified in clause 5.27.2.5.3.2 or clause 5.27.2.5.3.3.

On failure or if the NEF receives an error code from the MBSF, the NEF shall take proper error handling actions, as specified in clause 5.27.7, and respond to the AF with an appropriate error status code. If the NEF received within an error response a ProblemDetails data structure with a "cause" attribute indicating an application error, the NEF shall relay this error response to the AF with a corresponding application error, when applicable.

##### 4.4.29.5.8 Procedure for MBS User Data Ingest Session Status Unsubscription

This procedure is used by an AF to request the deletion of an existing MBS User Data Ingest Session Status Subscription at the NEF.

In order to request the deletion of an existing MBS User Data Ingest Session Status Subscription, an AF shall send a Nnef\_MBSUserDataIngestSession\_StatusUnsubscribe request message using the HTTP DELETE method and targeting the URI of the concerned Individual MBS User Data Ingest Session Stats Subscription resource, as specified in clause 5.27.2.5.3.4.

The NEF shall then check whether the AF is authorized to perform this operation or not. If the AF is authorized, the NEF shall then trigger the Nmbsf\_MBSUserDataIngestSession service API of the MBSF to request the deletion of the corresponding MBS User Data Ingest Session Status Subscription at the MBSF, as specified in 3GPP TS 29.580 [61].

Upon reception of a successful response from the MBSF, as defined in 3GPP TS 29.580 [61], the NEF shall return a Nnef\_MBSUserDataIngestSession\_StatusUnsubscribe response message with an HTTP "204 No Content" status code, as specified in clause 5.27.2.5.3.4.

On failure or if the NEF receives an error code from the MBSF, the NEF shall take proper error handling actions, as specified in clause 5.27.7, and respond to the AF with an appropriate error status code. If the NEF received within an error response a ProblemDetails data structure with a "cause" attribute indicating an application error, the NEF shall relay this error response to the AF with a corresponding application error, when applicable.

##### 4.4.29.5.9 Procedure for MBS User Data Ingest Session Status Notification

This procedure is used by the NEF to send MBS User Data Ingest Session status change notifications to a previously subscribed AF.

Upon reception of an MBS User Data Ingest Session Status Notification from the MBSF, as specified in 3GPP TS 29.580 [61], the NEF shall relay this notification to the AF by sending a Nnef\_MBSUserDataIngestSession\_StatusNotify request message to the AF using the HTTP POST method and targeting the notification URI provided by the AF during the creation of the corresponding MBS User Data Ingest Session Status Subscription, with the request body including the MBSUserDataIngStatNotif data structure, as specified in clause 5.27.4.2.3.1.

Upon successful reception of this notification request, the AF shall acknowledge its successful reception by sending a Nnef\_MBSUserDataIngestSession\_StatusNotify response message with an HTTP "204 No Content" status code, as specified in clause 5.27.4.2.3.1.

On failure, the AF shall take proper error handling actions, as specified in subclause 5.27.7, and respond to the NEF with an appropriate error status code.

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