**3GPP TSG CT WG3 Meeting #142 *C3-253xxx***

**Goteborg, SE, 25th – 29th August, 2025 was C3-253349**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **1685** | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *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 and corrections to the new IMS related NEF APIs | | | | | | | | |
|  |  | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | |
|  |  | | | | | | | | |
| ***Work item code:*** | NG\_RTC\_Ph2 | | | | |  | ***Date:*** | | 2025-08-26 |
|  |  | | | |  | |  | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | |  |
|  | *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:*** | | | This CR proposes various corrections and updates to the new IMS related API introduced in Rel-19, including the definition of the missing PATCH method. | | | | | | |
|  | | |  | | | | | | |
| ***Summary of change:*** | | | This CR proposes to:   * Address the above-detailed issues. | | | | | | |
|  | | |  | | | | | | |
| ***Consequences if not approved:*** | | | * The above-detailed necessary updates/corrections are not addressed and the definition of the IMS related API in Rel-19 is not completed. | | | | | | |
|  | |  | | | | | | | |
| ***Clauses affected:*** | | 4.4.46.3, 4.4.46.5, 5.42.1, 5.42.5.1, 5.42.5.2.2, 5.42.5.2.3, 5.42.5.3 (new clause), 5.42.5.4 (new clause), 5.42.5.5 (new clause), 5.43.1, 5.43.4.1, 5.43.5.1, 5.44.1, 5.44.5.2.2, 5.44.5.2.3 | | | | | | | |
|  | |  | | | | | | | |
|  | | **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 descriptions of the APIs. | | | | | | | |
|  | |  | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | |

\* \* \* \* Start of changes \* \* \* \*

#### 4.4.46.3 Procedure for IMS session Update

In order to update an existing IMS data channel Session, the AF shall trigger the Nnef\_ImsSessionManagement API by sending an HTTP PUT/PATCH request targeting the URI of the corresponding "Individual IMS Session" resource, with the request body including either:

- the ImsSessiondata structure, in case the HTTP PUT method is used; or

- the requested modification to the resource within one or several instances of the PatchItem data structure, in case the HTTP PATCH method is used.

Editor’s Note: Whether HTTP PUT should be supported or not is FFS.

Upon reception of the corresponding HTTP PUT/PATCH request:

- the NEF shall check whether the AF is authorized to perform this operation;

- if the AF is authorized:

- if needed, the NEF may interact with the HSS as specified in 3GPP TS 29.562 [80] to retrieve the IMS AS instance serving the target user;

- otherwise, the NEF shall interact with the serving IMS AS to update the associated IMS Session by invoking the Nimsas\_ImsSessionManagement service API of the IMS AS as specified in 3GPP TS 29.175 [78]; and

- upon reception of a successful response from the IMS AS and successful processing of the request, the NEF shall respond to the AF with either:

- an HTTP "200 OK" status code with the response body including a representation of the updated "Individual IMS Session" resource within the ImsSession data structure; or

- an HTTP "204 No Content" status code.

and

- on failure or if the NEF receives an error response from the HSS or IMS AS, the NEF shall take proper error handling actions, as specified in clause 5.42.7, 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.

\* \* \* \* Next changes \* \* \* \*

#### 4.4.46.5 Procedure for IMS Session Notification

In order to notify a previously subscribed AF on the IMS Session related event(s), the NEF shall send an HTTP POST request message to the AF targeting the "notifUri" that was received from the AF during the creation/update of the corresponding IMS Session as defined in clauses 4.4.46.2 and 4.4.46.3, with the request body including the ImsSessionNotif data structure.

Upon reception of this notification request, the AF shall acknowledge its successful reception by returning an HTTP "204 No Content" status code.

On failure, the AF shall take proper error handling actions, as specified in clause 5.42.7, and respond to the NEF with an appropriate error status code.

\* \* \* \* Next changes \* \* \* \*

### 5.42.1 Introduction

The Nnef\_ImsSessionManagement service shall use the ImsSessionManagement API.

The API URI of the ImsSessionManagement API shall be:

**{apiRoot}/<apiName>/<apiVersion>**

The request URIs used in HTTP requests shall have the Resource URI structure defined in clause 5.2.4 of 3GPP TS 29.122 [4], i.e.:

**{apiRoot}/<apiName>/<apiVersion>/<apiSpecificResourceUriPart>**

with the following components:

- The {apiRoot} shall be set as described in clause 5.2.4 of 3GPP TS 29.122 [4].

- The <apiName> shall be "3gpp-ims-sm".

- The <apiVersion> shall be "v1".

- The <apiSpecificResourceUriPart> shall be set as described in clause 5.2.4 of 3GPP TS 29.122 [4].

\* \* \* \* Next changes \* \* \* \*

#### 5.42.5.1 General

This clause specifies the application data model supported by the API.

Table 5.42.5.1-1 specifies the data types defined for the ImsSessionManagement service-based interface protocol.

Table 5.42.5.1-1: ImsSessionManagement specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| ImsSession | 5.42.5.2.2 | Represent an IMS Session. |  |
| ImsSessionPatch | 5.42.5.2.3 | Represents the requested modifications to an IMS Session. |  |

Table 5.42.5.1-2 specifies data types re-used by the ImsSessionManagement service based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the ImsSessionManagement service based interface.

Table 5.42.5.1-2: ImsSessionManagement re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| ImsSessionInfo | 3GPP TS 29.175 [78] | Represents IMS Session related information. |  |
| ImsSessionNotif | 3GPP TS 29.175 [78] | Represents the IMS Session Notification. |  |

Editor’s Note: The data mdodel of ImsSessionManagement is FFS.

\* \* \* \* Next changes \* \* \* \*

##### 5.42.5.2.2 Type: ImsSession

Table 5.42.5.2.2-1: Definition of type ImsSession

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| afId | string | M | 1 | Contains the identifier of the AF that is sending the request. |  |
| imsSessionInfo | ImsSessionInfo | M | 1 | Contains the IMS session information. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported features among the ones defined in clause 5.42.6.  This attribute shall be present only when feature negotiation is required. |  |

\* \* \* \* Next changes \* \* \* \*

#### 5.42.5.3 Simple data types and enumerations

##### 5.42.5.3.1 Introduction

This clause defines simple data types and enumerations that can be referenced from data structures defined in the previous clauses.

##### 5.42.5.3.2 Simple data types

The simple data types defined in table 5.42.5.3.2-1 shall be supported.

Table 5.42.5.3.2-1: Simple data types

|  |  |  |  |
| --- | --- | --- | --- |
| Type Name | Type Definition | Description | Applicability |
|  |  |  |  |

\* \* \* \* Next changes \* \* \* \*

#### 5.42.5.4 Data types describing alternative data types or combinations of data types

There are no custom operations without associated resources defined for this API in this release of the specification.

\* \* \* \* Next changes \* \* \* \*

#### 5.42.5.5 Binary data

##### 5.42.5.5.1 Binary Data Types

Table 5.42.5.5.1-1: Binary Data Types

|  |  |  |
| --- | --- | --- |
| Name | Clause defined | Content type |
|  |  |  |

\* \* \* \* Next changes \* \* \* \*

### 5.43.1 Introduction

The Nnef\_ImsEventExposure service shall use the ImsEventExposure API.

The API URI of ImsEventExposure API shall be:

**{apiRoot}/<apiName>/<apiVersion>**

The request URIs used in HTTP requests shall have the Resource URI structure defined in clause 5.2.4 of 3GPP TS 29.122 [4], i.e.:

**{apiRoot}/<apiName>/<apiVersion>/<apiSpecificSuffixes>**

with the following components:

- "apiRoot" is set as defined in clause 5.2.4 of 3GPP TS 29.122 [4].

- "apiName" shall be set to "3gpp-ims-ee".

- "apiVersion" shall be set to "v1" for the current version defined in the present document.

- The <apiSpecificSuffixes> shall be set as described in clause 5.2.4 of 3GPP TS 29.122 [4].

\* \* \* \* Next changes \* \* \* \*

5.43.4.1 General

Notifications shall comply to clause 5.2.5 of 3GPP TS 29.122 [4].

**Table 5.43.4.1-1: Notifications overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Notification** | **Callback URI** | **HTTP method or custom operation** | **Description**  **(service operation)** |
| IMS EE Notification | {notifUri} | POST | Enables to notify a previously subscribed AF on IMS Event Exposure related event(s). |

\* \* \* \* Next changes \* \* \* \*

#### 5.43.5.1 General

This clause specifies the application data model supported by the ImsEventExposure API. Table 5.43.5.1-1 specifies the data types defined for the ImsEventExposure API.

Table 5.43.5.1-1: ImsEventExposuree API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| ImsEENotif | 5.43.5.2.3 | Represents the IMS Event Exposure Notification. |  |
| ImsEventReport | 5.43.5.2.6 | Represents the IMS Event Report. |  |
| ImsEventRequirement | 5.43.5.2.5 | Represnets the IMS Event related requirements. |  |
| ImsEventType | 5.43.5.3.3 | Represents the IMS Event Type. |  |
| ImsEESubsc | 5.43.5.2.2 | Represents the IMS Event Exposure Subscription. |  |
| ImsEESubscPatch | 5.43.5.2.4 | Represents the requested modifications to an IMS EE Subscription. |  |

Table 5.43.5.1-2 specifies data types re-used by the ImsEventExposure API from other specifications, including a reference to their respective specifications, and when needed, a short description of their use within the ImsEventExposure API.

Table 5.43.5.1-2: ImsEventExposure API re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| DateTime | 3GPP TS 29.122 [4] | Represents a date and a time. |  |
| ImsEvent | 3GPP TS 29.571 [8] | Represents the IMS Event. |  |
| ImsEventConfiguration | 3GPP TS 29.571 [8] | Represents the IMS event configuration requirements. |  |
| ImsEventReportInfo | 3GPP TS 29.571 [8] | Represents the IMS event report information. |  |
| ImsReportingOptions | 3GPP TS 29.571 [8] | Represents the IMS reporting requirement options. |  |
| PublicIdentity | 3GPP TS 29.562 [80] | Represents the Public Identity of an IMS subscriber. |  |
| SessionId | 3GPP TS 29.571 [8] | The IMS session ID. |  |

\* \* \* \* Next changes \* \* \* \*

### 5.44.1 Introduction

The Nnef\_ImsParameterProvision service shall use the ImsParamProvision API for:

- IMS Parameters provisioning.

The API URI of the ImsParamProvision API shall be:

**{apiRoot}/<apiName>/<apiVersion>**

The request URIs used in HTTP requests shall have the Resource URI structure defined in clause 5.2.4 of 3GPP TS 29.122 [4], i.e.:

**{apiRoot}/<apiName>/<apiVersion>/<apiSpecificSuffixes>**

with the following components:

- "apiRoot" is set as defined in clause 5.2.4 of 3GPP TS 29.122 [4].

- "apiName" shall be set to "3gpp-ims-pp".

- "apiVersion" shall be set to "v1" for the current version defined in the present document.

- The <apiSpecificSuffixes> shall be set as described in clause 5.2.4 of 3GPP TS 29.122 [4].

\* \* \* \* Next changes \* \* \* \*

##### 5.44.5.2.2 Type: ImsData

Table 5.44.5.2.2-1: Definition of type ImsData

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| tgtUeId | PublicIdentity | M | 1 | Contains the identifier of the IMS public subscriber of the target UE. |  |
| rcdPropData | RcdProperties | O | 0..1 | Contains the RCD properties related data. |  |

\* \* \* \* Next changes \* \* \* \*

##### 5.44.5.2.3 Type: ImsPpData

Table 5.44.5.2.3-1: Definition of type ImsPpData

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| afId | string | M | 1 | Contains the identifier of the AF that is sending the request. |  |
| imsData | ImsData | C | 0..1 | Contains the IMS data that the AF requests to provision.  This attribute shall be present only when the AF requests to provision IMS parameters. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported features among the ones defined in clause 5.44.6.  This attribute shall be present when only feature negotiation is required. |  |

\* \* \* \* End of changes \* \* \* \*