**3GPP TSG-CT WG3 Meeting #134C3-242331r1**

**Changsha, China, 15th – 19th April 2024**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **29.557** | **CR** | **0022** | **rev** | **-** | **Current version:** | **18.2.0** |  |
|  |
| *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 Naf\_ProSe API |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | 5G\_ProSe\_Ph2 |  | ***Date:*** | 2024-04-02 |
|  |  |  |  |  |
| ***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 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-17 (Release 17)Rel-18 (Release 18) Rel-19 (Release 19)Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | The Naf\_ProSe\_DiscoveryAuthorization service operation was updated in stage 2, include:**Input, Required:** Request type ("open" or " restricted ") and- (for "open" discovery type:) ProSe Application ID~~, Request Type~~.- (for "restricted" discovery type:) RPAUID.**Input, Optional:** Application Level Container, Allowed number of suffixes, ~~RPAUID, ProSe Application ID,~~ Target RPAUID.**Output, Required:** ~~ProSe Application Code Suffix pool,~~ Response Type, PDUID(s)~~, Target PDUID~~.**Output, Optional:** ~~PDUID(s),~~ Target PDUID, ProSe Application Code Suffix pool, ProSe Restricted Code Suffix pool, Mask(s) for the ProSe Application Code Suffix(es) corresponding to ProSe Application ID, Mask(s) for the ProSe Restricted Code Suffix(es) corresponding to RPAUID, N sets of Target PDUID - Target RPAUID - Metadata Indicator, Application Level Container.This CR proposes to update the Naf\_ProSe API to align the changes in stage 2. |
|  |  |
| ***Summary of change:*** | The changes include:* Updated the AuthDisReqData data type in clause 6.1.6.2.2.
* Updated the AuthDisResData data type in clause 6.1.6.2.3.
* Updated the Naf\_ProSe API.
* Updated the other places in clauses 5.2.2.2.2, 6.1.6.1 and 6.1.6.2.4, and correct errors.
* Added new feature "EnhAuthDiscovery" to clasue 6.1.8.
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| ***Consequences if not approved:*** | The Naf\_ProSe API is not align with stage 2. |
|  |  |
| ***Clauses affected:*** | 5.2.2.2.2, 6.1.6.1, 6.1.6.2.2, 6.1.6.2.3, 6.1.6.2.4, 6.1.8 |
|  |  |
|  | **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 introduces backward compatible features to the Naf\_ProSe API. |
|  |  |
| ***This CR's revision history:*** |  |

**Additional discussion(if needed):**

**Proposed changes:**

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

##### 5.2.2.2.2 Auth Request procedures using DiscoveryAuthorization service operation

These procedures are invoked by a NF service consumer (e.g. HPLMN 5G DDNMF) towards an AF to request the authorization for a UE to perform 5G ProSe Direct Discovery.



Figure 5.2.2.2.2-1: Authorization of Discovery Request for a UE

1. In order to request the authorization for a UE of a 5G ProSe Direct Discovery request, the NF service consumer shall send an HTTP POST request with the request URI set to "{apiRoot}/naf-prose/<apiVersion>/authorize-discovery" and the request body containing the AuthDisReqData data structure, as described in figure 5.2.2.2.2-1.

The AuthDisReqData data structure shall contain the authorization request type related to the received 5G ProSe Direct Discovery request within the "authRequestType" attribute. The remaining content of the AuthDisReqData data structure differs according to the following cases, as defined in clauses 5.2.2.2.3, 5.2.2.2.4, 5.2.2.2.5, 5.2.2.2.6 and 5.2.2.2.7.

- Open 5G ProSe Direct Discovery request with application-controlled extension initiated by an announcing UE (see clause 5.3.3 of 3GPP TS 23.303 [15]). This is defined in clause 5.2.2.2.3.

- Open 5G ProSe Direct Discovery request with application-controlled extension initiated by a monitoring UE (see clause 5.3.3 of 3GPP TS 23.303 [15]). This is defined in clause 5.2.2.2.3.

- Restricted 5G ProSe Direct Discovery request initiated by an announcing UE (see clause 5.3.3 of 3GPP TS 23.303 [15]). This is defined in clause 5.2.2.2.4.

- Restricted 5G ProSe Direct Discovery request with application-controlled extension initiated by an announcing UE (see clause 5.3.3 of 3GPP TS 23.303 [15]). This is defined in clause 5.2.2.2.5.

- Restricted 5G ProSe Direct Discovery request initiated by a monitoring UE (see clause 5.3.3 of 3GPP TS 23.303 [15]). This is defined in clause 5.2.2.2.4.

- Restricted 5G ProSe Direct Discovery request with application-controlled extension initiated by a monitoring UE (see clause 5.3.3 of 3GPP TS 23.303 [15]). This is defined in clause 5.2.2.2.5.

- Restricted 5G ProSe Direct Discovery request initiated by a discoveree UE (see clause 5.3.3A of 3GPP TS 23.303 [15]). This is defined in clause 5.2.2.2.6.

- Restricted 5G ProSe Direct Discovery request initiated by a discoverer UE (see clause 5.3.3A of 3GPP TS 23.303 [15]). This is defined in clause 5.2.2.2.7.

- Restricted 5G ProSe Direct Discovery match report (see clauses 5.3.4 and 5.3.4A of 3GPP TS 23.303 [15]). This is defined in clause 5.2.2.2.3.

2a On success, a response with HTTP "200 OK" status code shall be returned. The response body shall contain the parameters related to the 5G ProSe Direct Discovery authorization response data within the AuthDisResData data structure. The content of the AuthDisResData data structure also differs according to the above listed cases in step 1, as defined in clauses 5.2.2.2.3, 5.2.2.2.4, 5.2.2.2.5, 5.2.2.2.6 and 5.2.2.2.7.

2b On failure, one of the HTTP status codes listed in table 6.1.4.2.2-2 may be returned. For a 4xx/5xx response, the message body may contain a ProblemDetails structure with the "cause" attribute set to one of the application errors listed in table 6.1.7.3-1.

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

#### 6.1.6.1 General

This clause specifies the application data model supported by the Naf\_ProSe API.

Table 6.1.6.1-1 specifies the data types defined for the Naf\_ProSe service based interface.

Table 6.1.6.1-1: Naf\_ProSe specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Clause defined** | **Description** | **Applicability** |
| AuthDisReqData | 6.1.6.2.2 | Represents Data used to request the authorization for a UE of 5G ProSe Direct Discovery Request. |  |
| AuthDisResData | 6.1.6.2.3 | Represents the obtained authorization Data for a UE of 5G ProSe Direct Discovery Request. |  |
| TargetData | 6.1.6.2.4  | Represents a combination of Target PDUID - Target RPAUID - Metadata Indicator.  |  |
| AllowedSuffixNum | 6.1.6.3.2 | Represents the allowed number of suffixes. |  |
| AppLevelContainer | 6.1.6.3.2 | Represents an Application Layer Container. |  |
| MetadataIndic | 6.1.6.3.5 | Contains Metadata Indicator. |  |
| AuthRequestType | 6.1.6.3.3 | Represents the authorization request type. |  |
| AuthResponseType | 6.1.6.3.4 | Represents the authorization response type. |  |
| ProSeRestrictedMask | 6.1.6.3.2 | Represents a Prose Restricted Mask. |  |
| AuthUpdateData | 6.1.6.2.5 | Represents the updated authorization information for Restricted ProSe Direct Discovery. |  |
| BannedAuthData | 6.1.6.2.6 | Represents a set of Banned RPAUID - Banned PDUID that are no longer allowed to discover the ProSe Restricted Code corresponding to the user's RPAUID for the Application ID associated with that AF. |  |
| RevocationResult | 6.1.6.3.6 | Represents the revocation result of a set of Banned RPAUID - Banned PDUID for Restricted ProSe Direct Discovery. |  |

Table 6.1.6.1-2 specifies data types re-used by the Naf\_ProSe service based interface from other specifications, including a reference to their respective specifications, and when needed, a short description of their use within the Naf\_ProSe Service based interface.

Table 6.1.6.1-2: Naf\_ProSe re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Reference** | **Comments** | **Applicability** |
| ProseApplicationId | 3GPP TS 29.555 [16] | A string representing the ProSe Application ID. |  |
| ProseApplicationCodeSuffixPool | 3GPP TS 29.555 [16] | Contains a ProSe Application Code Suffix Pool. |  |
| Rpauid | 3GPP TS 29.555 [16] | Represents a Restricted ProSe Application User ID. |  |
| Pduid | 3GPP TS 29.555 [16] | Represents a ProSe Discovery UE ID. |  |
| ProseApplicationMask | 3GPP TS 29.555 [16] | Represents a Mask for a ProSe Application Code Suffix corresponding to a ProSe Applicantation ID. |  |
| MetaData | 3GPP TS 29.555 [16] | Contains Metadata. |  |
| RestrictedCodeSuffixPool | 3GPP TS 29.555 [16] | Contains a ProSe Restricted Code Suffix pool. |  |
| Uri | 3GPP TS 29.571 [18] | Contains a URI. |  |

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

##### 6.1.6.2.2 Type: AuthDisReqData

Table 6.1.6.2.2-1: Definition of type AuthDisReqData

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| authRequestType | AuthRequestType | M | 1 | This attribute contains the authorization request type for 5G ProSe Direct Discovery. |  |
| proseAppId | array(ProseApplicationId) | O | 0..N | This attribute contains the ProSe Application ID(s).When the "ProSe2" feature is supported, this attribute shall be present only when the "authRequestType" attribute contains an open discovery request type.(NOTE) |  |
| allowedSuffixNum | AllowedSuffixNum | O | 0..1 | This attribute contains the allowed number of suffixes. |  |
| appLevelContainer | AppLevelContainer | O | 0..1 | This attribute contains an application level container. |  |
| rpauid | Rpauid | O | 0..1 | This attribute contains the RPAUID.When the "ProSe2" feature is supported, this attribute shall be present only when the "authRequestType" attribute contains a restricted discovery request type. |  |
| targetRpauid | Rpauid | O | 0..1 | This attribute contains the Target RPAUID. |  |
| authUpdateCallbackUri | Uri | O | 0..1 | The call-back URI of the NF service consumer (i.e. 5G DDNMF) for implicit subscription to notification of DiscoveryAuthorizationUpdateNotify. |  |
| NOTE: If provided, at least one element shall be present in the attribute “proseAppId”. |

\*\*\* 4th Change \*\*\*

##### 6.1.6.2.3 Type: AuthDisResData

Table 6.1.6.2.3-1: Definition of type AuthDisResData

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| authResponseType | AuthResponseType | M | 1 | This attribute contains the authorization response type for 5G ProSe Direct Discovery. |  |
| proseAppCodeSuffixPool | ProseApplicationCodeSuffixPool | O | 0..1 | This attribute contains the ProSe Application Code Suffix Pool. |  |
| pduids | array(Pduid) | O | 0..N | This attribute contains the PDUID(s) corresponding to the provided RPAUID.When the "ProSe2" feature is supported, the "pduids" attribute shall be present. |  |
| restrictedCodeSuffixPool | array(RestrictedCodeSuffixPool) | O | 0..N | This attribute contains a ProSe Restricted Code Suffix pool.(NOTE) |  |
| proseAppMasks | array(ProseApplicationMask) | O | 0..N | This attribute contains the mask(s) for the ProSe Application Code Suffix(es) corresponding to the ProSe Application ID. |  |
| proSeRestrictedMasks | array(ProSeRestrictedMask) | O | 0..N | This attribute contains the mask(s) for the ProSe Restricted Code Suffix(es) corresponding to each of the Target RPAUID(s). |  |
| resAppLevelContainer | AppLevelContainer | O | 0..1 | This attribute contains the Application Level Container. |  |
| targetDataSet | array(TargetData) | O | 0..N | This attribute contains N sets of Target PDUID - Target RPAUID - Metadata Indicator. |  |
| targetPduid | Pduid | O | 0..1 | This attribute contains the Target PDUID. |  |
| metaData | MetaData | O | 0..1 | This attribute contains metadata corresponding to the Target PDUID. |  |
| NOTE: If provided, exactly one element shall be present in the attribute. |

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

##### 6.1.6.2.4 Type: TargetData

Table 6.1.6.2.4-1: Definition of type TargetData

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute name** | **Data type** | **P** | **Cardinality** | **Description** | **Applicability** |
| targetRpauid | Rpauid | M | 1 | This attribute contains the Target RPAUID. |  |
| pduid | Pduid | M | 1 | This attribute contains the Target PDUID. |  |
| metadataIndic | MetadataIndic | O | 0..1 | This attribute is optional and contains the Metadata Indicator to indicate whether there is metadata associated with the RPAUID, and if so, whether updates of metadata is allowed.(NOTE) |  |
| NOTE: The default value of metadataIndic is "NO\_METADATA" if this attribute is not supplied. |

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

### 6.1.8 Feature negotiation

The optional features in table 6.1.8-1 are defined for the Naf\_ProSe API. They shall be negotiated using the extensibility mechanism defined in clause 6.6 of 3GPP TS 29.500 [4].

Table 6.1.8-1: Supported Features

|  |  |  |
| --- | --- | --- |
| **Feature number** | **Feature Name** | **Description** |
| 1 | ProSe2 | This feature indicates the support for the enhancements to the 5G Proximity-based Services functionality.The following functionalities are supported:- Support the updates to the request/response body of the Discovery Authorization request. |

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