**3GPP TSG-CT3 Meeting #112e C3-205040\_r1**

**E-Meeting, 04th – 13th November 2020**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.222** | **CR** | **0160** | **rev** | **1** | **Current version:** | **16.4.0** |  |
|  | | | | | | | | |
| *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:*** | Essential corrections and alignments | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SBIProtoc16 | | | | |  | ***Date:*** | | | 2020-10-?? |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The following corrections and alignments are necessary:   * The "Resource URI" column of Tables 8.x.2.1-1 of some APIs defined in this specification should contain a relative URI below root instead of a full resource URI, as per the statements in the clause 7.5.1: "All resource URIs in the subclauses below are defined relative to the above root API URI", i.e. "{apiRoot}/<apiName>/<apiVersion>/". * Some "Notifications overview" tables also need to be updated to replace the title of the column "Resource URI" by "Callback URI", which corresponds to the case of notifications. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * Update the "Resource URI" column of Tables 5.x.3.1-1 by replacing the full resource URI with the associated relative URI below root, i.e. by removing the part "{apiRoot}/<apiName>/<apiVersion>". * Update the "Notifications overview" as described the Reason for change above. * Some additional editorial corrections and improvements. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Necessary corrections are not applied. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.1.2.1, 8.2.2.1, 8.3.2.1, 8.3.3.1, 8.3.3.2.2, 8.4.2.1, 8.4.3.1, 8.4.3.2.2, 8.4.3.3.1, 8.4.3.3.2, 8.5.2.1, 8.5.2.3.4.1, 8.5.3.1, 8.5.3.2.2, 8.6.2.1, 8.7.2.1, 8.8.2.1, 8.9.2.1, 8.10.2.1, 9.1.2a.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 OpenAPI specification files. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev 1: dd | | | | | | | | |

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

8.1.2.1 Overview

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**Figure 8.1.2.1-1: Resource URI structure of the CAPIF\_Discover\_Service\_API**

Table 8.1.2.1-1 provides an overview of the resources and applicable HTTP methods.

**Table 8.1.2.1-1: Resources and methods overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Resource name** | **Resource URI** | **HTTP method or custom operation** | **Description** |
| All published service APIs  (Store) | /allServiceApis | GET | Discover published service APIs and retrieve a collection of APIs according to certain filter criteria. |

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

8.2.2.1 Overview

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**Figure 8.2.2.1-1: Resource URI structure of the CAPIF\_Publish\_Service\_API**

Table 8.2.2.1-1 provides an overview of the resources and applicable HTTP methods.

**Table 8.2.2.1-1: Resources and methods overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Resource name** | **Resource URI** | **HTTP method or custom operation** | **Description** |
| APF published APIs | /{apfId}/service-apis | POST | Publish a new API |
| GET | Retrieve all published service APIs |
| Individual APF published API | /{apfId}/service-apis/{serviceApiId} | GET | Retrieve a published service API |
| PUT | Update a published service API |
| DELETE | Unpublish a published service API |

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

8.3.2.1 Overview

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**Figure 8.3.2.1-1: Resource URI structure of the CAPIF\_Events\_API**

Table 8.3.2.1-1 provides an overview of the resources and applicable HTTP methods.

**Table 8.3.2.1-1: Resources and methods overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Resource name** | **Resource URI** | **HTTP method or custom operation** | **Description** |
| CAPIF Events Subscriptions | /{subscriberId}/subscriptions | POST | Creates a new individual CAPIF Event Subscription |
| Individual CAPIF Events Subscription | /{subscriberId}/subscriptions/ {subscriptionId} | DELETE | Deletes an individual CAPIF Event Subscription identified by the subscriptionId |

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

8.3.3.1 General

The delivery of notifications shall conform to subclause 7.6.

**Table 8.3.3.1-1: Notifications overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Notification** | **Callback URI** | **HTTP method or custom operation** | **Description**  **(service operation)** |
| Event notification | {notificationDestination} | POST | Notifies Subscriber of a CAPIF Event |

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

8.3.3.2.2 Notification definition

The POST method shall be used for Event notification and the URI shall be the one provided by the Subscriber during the subscription to the event.

Callback URI: **{notificationDestination}**

This method shall support the URI query parameters specified in table 8.3.3.2.2.1-1.

**Table 8.3.3.2.2-1: URI query parameters supported by the POST method on this resource**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| n/a |  |  |  |  |

This method shall support the request data structures specified in table 8.3.3.2.2-2 and the response data structures and response codes specified in table 8.3.3.2.2-3.

**Table 8.3.3.2.2-2: Data structures supported by the POST Request Body on this resource**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Description** |
| EventNotification | M | 1 | Notification information of a CAPIF Event |

**Table 8.3.3.2.2-3: Data structures supported by the POST Response Body on this resource**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response codes** | **Description** |
| n/a |  |  | 204 No Content | The receipt of the Notification is acknowledged. |

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

8.4.2.1 Overview

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**Figure 8.4.2.1-1: Resource URI structure of the CAPIF\_API\_Invoker\_Management\_API**

Table 8.4.2.1-1 provides an overview of the resources and applicable HTTP methods.

**Table 8.4.2.1-1: Resources and methods overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Resource name** | **Resource URI** | **HTTP method or custom operation** | **Description** |
| On-boarded API Invokers | /onboardedInvokers | POST | On-boards a new API invoker by creating an API invoker profile |
| Individual On-boarded API Invoker | /onboardedInvokers/{onboardingId} | DELETE | Off-boards an individual API invoker by deleting the associated API invoker profile identified by {onboardingId} |
| PUT | Updates the API invoker details of an individual API invoker identified by the {onboardingId} |

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

8.4.3.1 General

The delivery of notifications shall conform to subclause 7.6.

**Table 8.4.3.1-1: Notifications overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Notification** | **Callback URI** | **HTTP method or custom operation** | **Description**  **(service operation)** |
| Notify\_Onboarding\_Completion | {notificationDestination} | POST | Notify API invoker of on-boarding result |
| Notify\_Update\_Completion | {notificationDestination} | POST | Notify API invoker of update result details. |

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

8.4.3.2.2 Notification definition

The POST method shall be used for Notify\_Onboarding\_Completion and the URI shall be the one provided by the API invoker during the on-boarding request.

Callback URI: **{notificationDestination}**

This method shall support the URI query parameters specified in table 8.4.3.2.2-1.

**Table 8.4.3.2.2-1: URI query parameters supported by the POST method on this resource**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| n/a |  |  |  |  |

This method shall support the request data structures specified in table 8.4.3.2.2-2 and the response data structures and response codes specified in table 8.4.3.2.2-3.

**Table 8.4.3.2.2-2: Data structures supported by the POST Request Body on this resource**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Description** |
| OnboardingNotification | M | 1 | Notification with on-boarding result |

**Table 8.4.3.2.2-3: Data structures supported by the POST Response Body on this resource**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response codes** | **Description** |
| n/a |  |  | 204 No Content | The receipt of the Notification is acknowledged. |

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

8.4.3.3.1 Description

Notify\_Update\_Completion is used by the CAPIF core function to notify of the update of API Invoker’s details result.

8.4.3.3.2 Notification definition

The POST method shall be used for Notify\_Update\_Completion and the URI shall be the one provided by the API invoker during the API invoker details update request.

Callback URI: **{notificationDestination}**

This method shall support the URI query parameters specified in table 8.4.3.3.2-1.

**Table 8.4.3.3.2-1: URI query parameters supported by the POST method on this resource**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| n/a |  |  |  |  |

This method shall support the request data structures specified in table 8.4.3.3.2-2 and the response data structures and response codes specified in table 8.4.3.3.2-3.

**Table 8.4.3.3.2-2: Data structures supported by the POST Request Body on this resource**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Description** |
| OnboardingNotification | M | 1 | Notification with API Invoker’s details update result. |

**Table 8.4.3.3.2-3: Data structures supported by the POST Response Body on this resource**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response codes** | **Description** |
| n/a |  |  | 204 No Content | The receipt of the Notification is acknowledged. |

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

8.5.2.1 Overview

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**Figure 8.5.2.1-1: Resource URI structure of the CAPIF\_Security\_API**

Table 8.5.2.1-1 provides an overview of the resources and applicable HTTP methods.

**Table 8.5.2.1-1: Resources and methods overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Resource name** | **Resource URI** | **HTTP method or custom operation** | **Description** |
| Trusted API invokers | /trustedInvokers | n/a |  |
| Individual trusted API invoker | /trustedInvokers/{apiInvokerId} | GET | Retrieve authentication information of an API invoker |
| PUT | Create a security context for individual API invoker |
| DELETE | Revoke the authorization of the API invoker |
| /trustedInvokers/{apiInvokerId}/update | update (POST) | Update the security context (e.g. re-negotiate the security methods). |
| /trustedInvokers/{apiInvokerId}/delete | delete (POST) | Revoke the authorization of the API invoker for some APIs |
| /securities/{securityId}/token | token (POST) | Obtain the OAuth 2.0 authorization information |

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

###### 8.5.2.3.4.1 Overview

Table 8.5.2.3.4.1-1: Custom operations

|  |  |  |  |
| --- | --- | --- | --- |
| Operation name | Custom operation URI | Mapped HTTP method | Description |
| update | /trustedInvokers/{apiInvokerId}/update | POST | Update the security instance (e.g. re-negotiate the security methods). |
| delete | /trustedInvokers/{apiInvokerId}/delete | POST | Revoke the authorization of the API invoker for some APIs |
| token | /securities/{securityId}/token | POST | Obtain the OAuth 2.0 authorization information |

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

8.5.3.1 General

The delivery of notifications shall conform to subclause 7.6.

**Table 8.5.3.1-1: Notifications overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Notification** | **Callback URI** | **HTTP method or custom operation** | **Description**  **(service operation)** |
| Authorization revoked notification | {notificationDestination} | POST | Notify API invoker that the authorization rights are revoked by the API exposing function. |

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

##### 8.5.3.2.2 Notification definition

The POST method shall be used for Authorization revoked notification and the URI shall be the one provided by the API invoker during the Obtain\_Security\_Method service operation.

Callback URI: **{notificationDestination}**

This method shall support the URI query parameters specified in table 8.5.3.2.2-1.

Table 8.5.3.2.2-1: URI query parameters supported by the POST method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| n/a |  |  |  |  |

This method shall support the request data structures specified in table 8.5.3.2.2-2 and the response data structures and response codes specified in table 8.5.3.2.2-3.

Table 8.5.3.2.2-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| SecurityNotification | M | 1 | Notification with information related to revoked authorization. |

Table 8.5.3.2.2-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | The receipt of the Notification is acknowledged. |

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

8.6.2.1 Overview

This resource is created by the CAPIF administrator on the CAPIF core function.

NOTE: The details of the mechanisms used to create the Access Control Policy List resource on the CAPIF core function is out of the scope of the present document.

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**Figure 8.6.2.1-1: Resource URI structure of the CAPIF\_Access\_Control\_Policy\_API**

Table 8.6.2.1-1 provides an overview of the resources and applicable HTTP methods.

**Table 8.6.2.1-1: Resources and methods overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Resource name** | **Resource URI** | **HTTP method or custom operation** | **Description** |
| Access Control Policy List | /accessControlPolicyList/{serviceApiId} | GET | Retrieves the access control policy list for a published service API. |

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

8.7.2.1 Overview

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**Figure 8.7.2.1-1: Resource URI structure of the CAPIF\_Logging\_API\_Invocation\_API**

Table 8.7.2.1-1 provides an overview of the resources and applicable HTTP methods.

**Table 8.7.2.1-1: Resources and methods overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Resource name** | **Resource URI** | **HTTP method or custom operation** | **Description** |
| Logs | /{aefId}/logs | POST | Creates a new log entry for service API invocations |
| Individual log | /{aefId}/logs/{logId} | n/a | Individual log entry |

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

8.8.2.1 Overview

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**Figure 8.8.2.1-1: Resource URI structure of the CAPIF\_Auditing\_API**

Table 8.8.2.1-1 provides an overview of the resources and applicable HTTP methods.

**Table 8.8.2.1-1: Resources and methods overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Resource name** | **Resource URI** | **HTTP method or custom operation** | **Description** |
| All service API invocation logs (Store) | /apiInvocationLogs | GET | Query and retrieve service API invocation logs stored in the CAPIF core function |

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

8.9.2.1 Overview

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**Figure 8.9.2.1-1: Resource URI structure of the CAPIF\_API\_Provider\_Management\_API**

Table 8.9.2.1-1 provides an overview of the resources and applicable HTTP methods.

**Table 8.9.2.1-1: Resources and methods overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Resource name** | **Resource URI** | **HTTP method or custom operation** | **Description** |
| All API Provider Domains Registrations | /registrations | POST | Registers a new API provider domain by creating an API provider domain with API provider domain functions profiles. |
| Individual API Provider Domain Registration | /registrations/{registrationId} | PUT | Updates an individual API provider domain identified by {registrationId} |
| DELETE | Deregisters an API provider domain by deleting the API provider domain and functions, identified by {registrationId}. |

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

8.10.2.1 Overview

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**Figure 8.10.2.1-1: Resource URI structure of the CAPIF\_Routing\_Info\_API**

Table 8.10.2.1-1 provides an overview of the resources and applicable HTTP methods.

**Table 8.10.2.1-1: Resources and methods overview**

|  |  |  |  |
| --- | --- | --- | --- |
| **Resource name** | **Resource URI** | **HTTP method or custom operation** | **Description** |
| Individual Service API routing info | /service-apis/{serviceApiId} | GET | Retrieves the API routing information for a published service API and API exposing function which applies the topology hiding. |

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

9.1.2a.1 Overview

Custom operations used for this API are summarized in table 9.1.2a.1-1. "{apiRoot}" and “<apiVersion>” are set as described in clause 7.5 and clause 9.1.1 respectively.

**Table 9.1.2a.1-1: Custom operations without associated resources**

|  |  |  |  |
| --- | --- | --- | --- |
| **Operation name** | **Custom operation URI** | **Mapped HTTP method** | **Description** |
| check-authentication | /check-authentication | POST | Check authentication request. |
| revoke-authentication | /revoke-authorization | POST | Revoke authorization for service APIs. |

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