**3GPP TSG- Meeting #**

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| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** |  | **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** |

|  |
| --- |
|  |
| ***Title:***  | MFAF 3daDataManagement updates to support MFAF transfer |
|  |  |
| ***Source to WG:*** |  |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***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 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 agreed S2-2410866 specified that in the context of DCCF (and MFAF) relocation, a Target MFAF may retrieve MFAF configuration context from a Source MFAF triggered by the Nmfaf\_3daDataManagement service. |
|  |  |
| ***Summary of change:*** | Added the attributes required in the Nmfaf\_3daDataManagement serviceto trigger MFAF transfer. |
|  |  |
| ***Consequences if not approved:*** | Not implemented stage 2 requirements and incomplete DCCF/MFAF relocation functionality. |
|  |  |
| ***Clauses affected:*** | 4.1, 4.2.1.1, 4.2.1.3.1, 4.2.1.3.2, 4.2.2.1, 4.2.2.2.1, 4.2.2.2.2, 4.2.2.2.3, 4.2.2.3.1, 4.2.2.3.2, 5.1.6.1, 5.1.6.2.2, 5.1.6.2.5 (new), 5.1.8, A.2 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS/TR 23.288 CR 1216  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** | This CR does introduces a backwards compatible feature into the OpenAPI file of the Nmfaf\_3daDataManagement API. |
|  |  |
| ***This CR's revision history:*** |  |

\*\*\* First Change \*\*\*

4.1 Introduction

The Messaging Framework Adaptor Services are used for the Messaging Framework Adaptor Function (MFAF) to enable the 5GS to interact with the messaging framework using Nmfaf services. The MFAF offers other NFs the following services:

- Nmfaf\_3daDataManagement; and

- Nmfaf\_3caDataManagement.

**Table 4.1-1: Service provided by MFAF**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Service Name** | **Description** | **Service Operations** | **Operation****Semantics** | **Example Consumer(s)** |
| Nmfaf\_3daDataManagement | The 3GPP DCCF Adaptor (3DA) Data Management Service enables the NF service consumer to convey to the messaging framework information related to the data or analytics that the messaging framework will receive and deliver. | Configure | Request / Response | DCCF, NWDAF |
| Deconfigure | Request / Response | DCCF, NWDAF |
| Nmfaf\_3caDataManagement | The 3GPP Consumer Adaptor (3CA) Data Management Service is used to deliver data or analytics. | Notify | Subscribe / Notify | NWDAF, PCF, NSSF, AMF, SMF, NEF, AF, ADRF |
| Fetch | Request / Response | NWDAF, PCF, NSSF, AMF, SMF, NEF, AF, ADRF |

Table 4.1-2 summarizes the corresponding APIs defined for this specification.

**Table 4.1-2: API Descriptions**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Service Name** | **Clause** | **Description** | **OpenAPI Specification File** | **apiName** | **Annex** |
| Nmfaf\_3daDataManagement | 5.1 | API for Nmfaf\_3daDataManagement | TS29576\_Nmfaf\_3daDataManagement.yaml | nmfaf-3dadatamanagement | A.2 |
| Nmfaf\_3caDataManagement  | 5.2 | API for Nmfaf\_3caDataManagement | TS29576\_Nmfaf\_3caDataManagement.yaml | nmfaf-3cadatamanagement | A.3 |

\*\*\* Next Change \*\*\*

4.2.1.1 Overview

The Nmfaf\_3daDataManagement service as defined in 3GPP TS 23.288 [14], is provided by the Messaging Framework Adaptor Function (MFAF).

This service:

- allows NF consumers to configure or reconfigure the MFAF; and

- allows NF consumers to remove configurations from the MFAF.

\*\*\* Next Change \*\*\*

4.2.1.3.1 Messaging Framework Adaptor Function (MFAF)

The Messaging Framework Adaptor Function (MFAF) provides the functionality to allow NF consumers to configure the behaviour of the MFAF.

\*\*\* Next Change \*\*\*

4.2.1.3.2 NF Service Consumers

The Data Collection Coordination Function (DCCF) and the NWDAF support:

- configuring the MFAF; and

- deconfiguring the MFAF.

\*\*\* Next Change \*\*\*

4.2.2.1 Introduction

**Table 4.2.2.1-1: Operations of the Nmfaf\_3daDataManagement Service**

| **Service operation name** | **Description** | **Initiated by** |
| --- | --- | --- |
| Nmfaf\_3daDataManagement\_Configure | This service operation is used by an NF to configure or reconfigure the MFAF. | NF service consumer (DCCF, NWDAF) |
| Nmfaf\_3daDataManagement\_Deconfigure | This service operation is used by an NF to remove configuration(s) from the MFAF. | NF service consumer (DCCF, NWDAF) |

\*\*\* Next Change \*\*\*

4.2.2.2.1 General

The Nmfaf\_3daDataManagement\_Configure service operation is used by an NF service consumer to configure or update the configuration of the MFAF.

\*\*\* Next Change \*\*\*

4.2.2.2.2 Initial configuration of the MFAF

Figure 4.2.2.2.2-1 shows a scenario where the NF service consumer (e.g. DCCF) sends a request to the MFAF to request an MFAF configuration.

****

**Figure 4.2.2.2.2-1: NF service consumer create the configuration**

The NF service consumer shall invoke the Nmfaf\_3daDataManagement\_Configure service operation to create the configuration(s). The NF service consumer shall send an HTTP POST request with "{apiRoot}/nmfaf-3dadatamanagement/<apiVersion>/configurations" as Resource URI representing the "MFAF Configurations", as shown in figure 4.2.2.2.2-1, step 1, to create a configuration for an "Individual MFAF Configuration" according to the information in message body. The MfafConfiguration data structure provided in the request body

shall include one of the following:

- MFAF transfer information within the "mfafTransferInfo" attribute, if the MfafTransfer feature is supported.

- a description of the configurations as "messageConfigurations" attribute that, for each configuration, the MessageConfiguration data type shall include

1) a notification URI of Data Consumer or Analytics Consumer or other endpoint where to receive the requested mapping data or analytics as "notificationURI" attribute; and

2)- if the configuration is used for mapping analytics or data collection, a Notification Correlation ID for the Data or Analytics Consumer (or other endpoint) as "correId" attribute;

and may include:

1) the formatting instructions as "formatInstruct" attribute;

2) the processing instructions as "procInstruct" attribute or "multiProcInstructs" attribute if the "MultiProcessingInstruction" feature is supported;

3) the MFAF notification information to identify the Event Notifications received from the NWDAF or Data Source NF (e.g. AMF, SMF), which can be sent to the consumer or other notification endpoints, as "mfafNotiInfo" attribute;

4) NF instance identifier of the ADRF as "adrfId" attribute; and

5) the notification endpoints within the "notifEndpoints" attribute, if the "DataAnaCollect" feature is supported.

Upon the reception of an HTTP POST request with: "{apiRoot}/nmfaf-3dadatamanagement/<apiVersion>/configurations" as Resource URI and MfafConfiguration data structure as request body, the MFAF shall:

- create a new configuration;

- assign a transaction reference id;

- if the request was for providing message configurations and no MFAF notification information has been provided in the request, determine the MFAF notification information and add it to the configuration that is created and will be returned to the NF service consumer;

- if the request was for triggering MFAF configuration transfer, the MFAF shall execute the transfer invoking the Nmfaf\_ContextManagement\_Transfer service operation as defined in clause 4.4.2.2;

- store the configuration.

If the MFAF created an "Individual MFAF Configuration" resource, the MFAF shall respond with "201 Created" with the message body containing a representation of the created configuration, as shown in figure 4.2.2.2.2-1, step 2.

If an error occurs when processing the HTTP POST request, the MFAF shall send an HTTP error response as specified in clause 5.1.7.

\*\*\* Next Change \*\*\*

4.2.2.2.3 Update the configuration of the MFAF

Figure 4.2.2.2.3-1 shows a scenario where the NF service consumer sends a request to the MFAF to update a configuration (as shown in 3GPP TS 23.288 [14])

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**Figure 4.2.2.2.3-1: NF service consumer updates configuration**

The NF service consumer shall invoke the Nmfaf\_3daDataManagement\_Configure service operation to update the configuration(s). The NF service consumer shall send an HTTP PUT request with "{apiRoot}/nmfaf-3dadatamanagement/<apiVersion>/configurations/{transRefId}" as Resource URI representing the "Individual MFAF Configuration", as shown in figure 4.2.2.2.3-1, step 1, to update an "Individual MFAF Configuration" resource identified by the {transRefId}. This service operation shall not be performed on an "Individual MFAF Configuration" that contains the "mfafTransferInfo" attribute. The MfafConfiguration data structure provided in the request body shall include the same contents as described in 4.2.2.2.2 with the restrictionthat the "mfafTransferInfo" attribute is not applicable here.

Upon the reception of an HTTP PUT request with: "{apiRoot}/nmfaf-3dadatamanagement/<apiVersion>/configurations/{transRefId}" as Resource URI and MfafConfiguration data structure as request body, the MFAF shall:

- update the configuration of corresponding transaction reference Id; and

- store the configuration.

If the MFAF successfully processed and accepted the received HTTP PUT request, the MFAF shall update an "Individual MFAF Configuration" resource, and shall respond with:

a) HTTP "200 OK" status code with the message body containing a representation of the updated configuration, as shown in figure 4.2.2.2.3-1, step 2a. or

b) HTTP "204 No Content" status code, as shown in figure 4.2.2.2.3-1, step 2b.

If an error occurs when processing the HTTP PUT request, the MFAF shall send an HTTP error response as specified in clause 5.1.7.

If the MFAF determines the received HTTP PUT request needs to be redirected, the MFAF shall send an HTTP redirect response as specified in clause 6.10.9 of 3GPP TS 29.500 [4].

\*\*\* Next Change \*\*\*

4.2.2.3.1 General

The Nmfaf\_3daDataManagement\_Deconfigure service operation is used by an NF service consumer to remove an MFAF configuration.

\*\*\* Next Change \*\*\*

4.2.2.3.2 Remove MFAF configuration

Figure 4.2.2.3.2-1 shows a scenario where the NF service consumer sends a request to the MFAF to remove an MFAF configuration.

****

**Figure 4.2.2.3.2-1: NF service consumer stops mapping data or analytics**

The NF service consumer shall invoke the Nmfaf\_3daDataManagement\_Deconfigure service operation to remove an MFAF configuration. The NF service consumer shall send an HTTP DELETE request with "{apiRoot}/nmfaf-3dadatamanagement/<apiVersion>/configurations/{transRefId}" as Resource URI, where {transRefId} represents the "Individual MFAF Configuration" to be deleted, as shown in figure 4.2.2.3.2-1, step 1.

Upon the reception of an HTTP DELETE request and if the MFAF successfully processed and accepted the received HTTP DELETE request from the NF service consumer, the MFAF shall acknowledge the request by sending a "204 No Content" response to the NF service consumer, as shown in figure 4.2.2.3.2-1, step 2. Further, the MFAF shall remove the individual resource linked to the delete request.

If errors occur when processing the HTTP DELETE request, the MFAF shall send an HTTP error response as specified in clause 5.1.7.

If the MFAF determines the received HTTP DELETE request needs to be redirected, the MFAF shall send an HTTP redirect response as specified in clause 6.10.9 of 3GPP TS 29.500 [4].

\*\*\* Next Change \*\*\*

5.1.6.1 General

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

Table 5.1.6.1-1 specifies the data types defined for the Nmfaf\_3daDataManagement service based interface protocol.

**Table 5.1.6.1-1: Nmfaf\_3daDataManagement specific Data Types**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Clause defined** | **Description** | **Applicability** |
| MfafConfiguration | 5.1.6.2.2 | The description of MFAF configuration |  |
| MessageConfiguration | 5.1.6.2.3 | The description of the configurations. |  |
| MfafNotiInfo | 5.1.6.2.4 | The MFAF notification information. |  |
| MfafTransferInfo | 5.1.6.2.5 | The MFAF transfer information. | MfafTransfer |

Table 5.1.6.1-2 specifies data types re-used by the Nmfaf\_3daDataManagement 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 Nmfaf\_3daDataManagement service based interface.

**Table 5.1.6.1-2: Nmfaf\_3daDataManagement re-used Data Types**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Reference** | **Comments** | **Applicability** |
| FormattingInstruction | 3GPP TS 29.574 [15] | Contains data or analytics formatting Instructions. |  |
| NfInstanceId | 3GPP TS 29.571 [22] | Contains an NF instance identifier. | MfafTransfer |
| NfSetId | 3GPP TS 29.571 [22] | Contains an NF set identifier. | MfafTransfer |
| NotifyEndpoint | 3GPP TS 29.574 [15] | The information of notification endpoint. | DataAnaCollect |
| ProcessingInstruction | 3GPP TS 29.574 [15] | Contains instructions related to the processing |  |
| SupportedFeatures | 3GPP TS 29.571 [22] | Used to negotiate the applicability of the optional features defined in table 5.1.8-1. |  |
| Uri | 3GPP TS 29.571 [22] | URI. |  |

\*\*\* Next Change \*\*\*

5.1.6.2.2 Type: MfafConfiguration

**Table 5.1.6.2.2-1: Definition of type MfafConfiguration**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute name** | **Data type** | **P** | **Cardinality** | **Description** | **Applicability** |
| messageConfigurations | array(MessageConfiguration) | C | 1..N | The configuration of the MFAF for mapping data or analytics. (NOTE) |  |
| mfafTransferInfo | MfafTransferInfo | C | 0..1 | Contains MFAF transfer information. (NOTE) | MfafTransfer |
| NOTE: One of these attributes shall be provided. |

\*\*\* Next Change \*\*\*

5.1.6.2.5 Type: MfafTransferInfo

**Table 5.1.6.2.5-1: Definition of type MfafTransferInfo**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute name** | **Data type** | **P** | **Cardinality** | **Description** | **Applicability** |
| mfafId | NfInstanceId | C | 0..1 | Identifier of the MFAF currently holding the configuration(s). (NOTE) |  |
| mfafSetId | NfSetId | C | 0..1 | Identifier of the MFAF Set currently holding the configuration(s). (NOTE) |  |
| refIds | array(Uri) | M | 1..N | List of resource URIs of the configurations that are requested to be transferred (i.e. the URIs including the transaction reference identifiers, which had been returned during the creation of the configuration as described in clause 4.2.2.2.2). |  |
| newRefIds | map(Uri) | C | 1..N | A map of the pre-transfer resource URIs to the post-transfer resource URIs of the configurations that were requested to be transferred. The key used in this map for each entry is one of the values of the "refIds" attribute provided in the request and the value is the resource URI of the configuration after the transfer. It may not be present in the request and it shall be included in the response provided by the NF service producer. |  |
| NOTE: One of these attributes shall be provided. |

Editor’s Note: It is FFS if newRefIds will be defined as an array or a map.

\*\*\* Next Change \*\*\*

5.1.8 Feature negotiation

The optional features in table 5.1.8-1 are defined for the Nmfaf\_3daDataManagement API. They shall be negotiated using the extensibility mechanism defined in clause 6.6 of 3GPP TS 29.500 [4].

**Table 5.1.8-1: Supported Features**

|  |  |  |
| --- | --- | --- |
| **Feature number** | **Feature Name** | **Description** |
| 1 | MultiProcessingInstruction | Indicates the support of multiple processing instructions. |
| 2 | DataAnaCollect | This feature indicates support for the enhancement of data and analytics process. |
| 3 | MfafTransfer | This feature indicates support of transferring MFAF configurations. |

\*\*\* Next Change \*\*\*

A.2 Nmfaf\_3daDataManagement API

openapi: 3.0.0

info:

 version: 1.1.0

 title: Nmfaf\_3daDataManagement

 description: |

 MFAF 3GPP DCCF Adaptor (3DA) Data Management Service.

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externalDocs:

 description: 3GPP TS 29.576 V18.4.0; 5G System; Messaging Framework Adaptor Services; Stage 3.

 url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.576/'

servers:

 - url: '{apiRoot}/nmfaf-3dadatamanagement/v1'

 variables:

 apiRoot:

 default: https://example.com

 description: apiRoot as defined in clause 4.4 of 3GPP TS 29.501.

security:

 - oAuth2ClientCredentials:

 - nmfaf-3dadatamanagement

 - {}

paths:

 /configurations:

 post:

 summary: Creates a new Individual MFAF Configuration resource.

 operationId: CreateMFAFConfiguration

 tags:

 - MFAF Configuration(Collection)

 requestBody:

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/MfafConfiguration'

 required: true

 description: >

 Contains the information for the creation of a new Individual MFAF

 Configuration resource.

 responses:

 '201':

 description: Successful creation of new Individual MFAF Configuration resource.

 headers:

 Location:

 description: >

 Contains the URI of the newly created resource, according to the structure

 {apiRoot}/nmfaf-3dadatamanagement/<apiVersion>/configurations/{transRefId}

 required: true

 schema:

 type: string

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/MfafConfiguration'

 '400':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '502':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/502'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

 /configurations/{transRefId}:

 put:

 summary: Updates an existing Individual MFAF Configuration resource.

 operationId: UpdateMFAFConfiguration

 tags:

 - Individual MFAF Configuration (Document)

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/MfafConfiguration'

 parameters:

 - name: transRefId

 in: path

 description: Unique identifier of the Individual MFAF Configuration resource.

 required: true

 schema:

 type: string

 responses:

 '200':

 description: The updated Individual MFAF Configuration resource is returned.

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/MfafConfiguration'

 '204':

 description: The Individual MFAF Configuration resource was modified successfully.

 '307':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '501':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/501'

 '502':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/502'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

 delete:

 summary: Deletes an existing Individual MFAF Configuration resource.

 operationId: DeleteMFAFConfiguration

 tags:

 - Individual MFAF Configuration (Document)

 parameters:

 - name: transRefId

 in: path

 description: Unique identifier of the Individual MFAF Configuration resource.

 required: true

 schema:

 type: string

 responses:

 '204':

 description: >

 No Content. The Individual MFAF Configuration resource matching

 the transRefId was deleted.

 '307':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '502':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/502'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{nrfApiRoot}/oauth2/token'

 scopes:

 nmfaf-3dadatamanagement: Access to the nmfaf-3dadatamanagement API

 schemas:

 MfafConfiguration:

 description: Represents an Individual MFAF Configuration.

 type: object

 oneOf:

 - required: [messageConfigurations]

 - required: [mfafTransferInfo]

 properties:

 messageConfigurations:

 type: array

 items:

 $ref: '#/components/schemas/MessageConfiguration'

 minItems: 1

 description: The configuration of the MFAF for mapping data or analytics.

 mfafTransferInfo:

 $ref: '#/components/schemas/MfafTransferInfo'

 MessageConfiguration:

 description: Represents the message configuration.

 type: object

 required:

 - notificationURI

 - correId

 properties:

 correId:

 type: string

 description: >

 If the configuration is used for mapping analytics or data collection,

 representing the Analytics Consumer Notification Correlation ID or

 Data Consumer Notification Correlation ID.

 formatInstruct:

 $ref: 'TS29574\_Ndccf\_DataManagement.yaml#/components/schemas/FormattingInstruction'

 mfafNotiInfo:

 $ref: '#/components/schemas/MfafNotiInfo'

 notificationURI:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

 notifEndpoints:

 type: array

 items:

 $ref: 'TS29574\_Ndccf\_DataManagement.yaml#/components/schemas/NotifyEndpoint'

 minItems: 1

 description: The information of notification endpoints.

 procInstruct:

 $ref: 'TS29574\_Ndccf\_DataManagement.yaml#/components/schemas/ProcessingInstruction'

 multiProcInstructs:

 type: array

 items:

 $ref: 'TS29574\_Ndccf\_DataManagement.yaml#/components/schemas/ProcessingInstruction'

 minItems: 1

 description: Processing instructions to be used for sending event notifications.

 adrfId:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

 suppFeat:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

 MfafNotiInfo:

 description: >

 The MFAF notification information. It shall be provided in a response message

 if it had not been provided in the respective request message.

 type: object

 required:

 - mfafNotifUri

 - mfafCorreId

 properties:

 mfafNotifUri:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

 mfafCorreId:

 type: string

 MfafTransferInfo:

 description: MFAF transfer information.

 type: object

 properties:

 mfafId:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/NfInstanceId'

 mfafSetId:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/NfSetId'

 refIds:

 type: array

 items:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

 minItems: 1

 description: The resource URIs of the MFAF configurations to be transfered.

 newRefIds:

 type: object

 additionalProperties:

 $ref: '#/components/schemas/Uri'

 minProperties: 1

 description: >

 A map of the pre-transfer resource URis to the post-transfer resource

 URIs of the configurations that were requested to be transferred.

 required:

 - refIds

 oneOf:

 - required: [mfafId]

 - required: [mfafSetId]

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