**3GPP TSG- Meeting #C3-253640**

**Gothenburg, Sweden, 25 -29 August, 2025**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** | **1664** | **rev** | **1** | **Current version:** |  |  |
|  |
| *For* [***HELP***](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:***  | Definition of Northbound Nnef\_VFLInference |
|  |  |
| ***Source to WG:*** | Ericsson, vivo, Nokia, China Mobile |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | AIML\_CN |  | ***Date:*** | 04 |
|  |  |  |  |  |
| ***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:*** | TS 23.288 shows on clause 6.2H.2.4.2 the usage of Nnef\_VFLInference service by the unstrusted AF when it is acting as VFL server for requesting/subscribing to VFL inference events for each one of the NWDAF(s) acting as VFL client Nnef\_VFLInference service in TS 23.288 is mapped by VFLInference service in TS 29.522.Contents of Nnef\_VFLInference service are specified in TS 23.288 on clauses 6.2H.2.4.3 and 12.3. The contents are the same ones as for Nnwdaf\_VFLInference service except on following issues to be considered:* The VflInference\_Request/Subscribe operations include the external identity of the NWDAF that the AF targets the VFL Inference to and that needs to be translated by the NEF into an internal identity before before contacting the NWDAF VFL client.
* On the northbound Nnef\_VFLInference service the target identities for VFL inference shall be either GPSI(s) or external group identities. These identities need also to be translated by the NEF before sending them to/from the target NWDAF.

Hence, new northbound Nnef\_VFLInference service needs to be defined on TS 29.522 to allow untrusted AFs acting as VFL server to request/subscribe to/unsubscribe from/be notified of VFL Inference events. |
|  |  |
| ***Summary of change:*** | New Nnef\_VFLInference service is defined on TS 29.522 allowing:* Subscribing to/unsubscribing from VFL Inference event subscriptions.
* Update/partial modify existing VFL Inference event subscriptions.
* Be notified about subscribed VFL Inference event(s).
 |
|  |  |
| ***Consequences if not approved:*** | No support of stage 2 requirements on Nnef\_VFLInference service. |
|  |  |
| ***Clauses affected:*** | 3.2, 5.1, 5.50 (new, including subclauses), A.48 (new). |
|  |  |
|  | **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 new OpenAPI file:TS29522\_VFLInference.yaml |
|  |  |
| ***This CR's revision history:*** |  |

**Additional discussion(if needed):**

**Proposed changes:**

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

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

5G-RG 5G Residential Gateway

A-KID AKMA Key IDentifier

A-TID AKMA Temporary UE IDentifier

A2X Aircraft-to-Everything

AAnF AKMA Anchor Function

ACS Auto-Configuration Server

ADM AIoT Data Management

AI/ML Artificial Intelligence/Machine Learning

AIoT Ambient IoT

AF Application Function

AKMA Authentication and Key Management for Applications

AM Access and Mobility management

ASTI Access Stratum TIme distribution

BAT Burst Arrival Time

BDT Background Data Transfer

CAPIF Common API Framework

CP Communication Pattern

DN Data Network

DNAI DN Access Identifier

DNN Data Network Name

EAS Edge Application Server

ECS Edge Configuration Server

EHE Edge Hosting Environment

FQDN Fully Qualified Domain Name

GMLC Global Mobile Location Centre

GPSI Generic Public Subscription Identifier

IPTV Internet Protocol Television

KAF AKMA Application Key

MBS Multicast/Broadcast Service

MB-SMF Multicast/Broadcast Session Management Function

MCC Mobile Country Code

MNC Mobile Network Code

MO-LR Mobile Originated Location Request

MoQ Media over QUIC

MPS Multimedia Priority Service

NAT Network Address Translation

NAPT Network Address Port Translation

NEF Network Exposure Function

NSAC Network Slice Admission Control

NSACF Network Slice Admission Control Function

NWDAF Network Data Analytics Function

PCF Policy Control Function

PEGC PIN Element with Gateway Capability

PCRF Policy and Charging Rule Function

PDTQ Planned Data Transfer with QoS requirements

PFD Packet Flow Description

PFDF Packet Flow Description Function

PIN Personal IoT Network

QUIC Quick UDP Internet Connections

RCD Rich Call Data

REST Representational State Transfer

RNAA Resource owner-aware Northbound API Access

RSLPPI Ranging and SideLink Positioning Privacy Indication

SCEF Service Capability Exposure Function

SFC Service Function Chain

S-NSSAI Single Network Slice Selection Assistance Information

SSM Source Specific IP Multicast address

TAI Traffic Area Identity

TMGI Temporary Mobile Group Identity

TNAP Trusted Network Access Point

TSC Time Sensitive Communication

TSCAI Time Sensitive Communication Assistance Information

TSCTSF Time Sensitive Communication and Time Synchronization Function

TTNB Time To Next Burst

UAS Uncrewed Aerial System

UAV Uncrewed Aerial Vehicle

UDP User Datagram Protocol

UDR Unified Data Repository

UP User Plane

UPF User Plane Function

URSP UE Route Selection Policy

USS UAS Service Supplier

VFL Vertical Federated Learning

WB Wide Band

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

## 5.1 Introduction

The NEF Northbound APIs are a set of APIs defining the related procedures and resources for the interaction between the NEF and the AF.

Tables 5.1-1 summarizes the APIs defined in this specification.

Table 5.1-1: API Descriptions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Service Name | Clause defined | Description | OpenAPI Specification File | API Name | Annex |
| TrafficInfluence | 5.4 | Traffic Influence API | TS29522\_TrafficInfluence.yaml | 3gpp-traffic-influence | A.2 |
| NiddConfigurationTrigger | 5.5 | NIDD (Non-IP Data Delivery) Configuration Trigger API | TS29522\_NiddConfigurationTrigger.yaml | 3gpp-nidd-configuration-trigger | A.3 |
| AnalyticsExposure | 5.6 | Analytics Exposure API | TS29522\_AnalyticsExposure.yaml | 3gpp-analyticsexposure | A.4 |
| 5GLANParameterProvision | 5.7 | 5G LAN Parameter Provision API | TS29522\_5GLANParameterProvision.yaml | 3gpp-5glan-pp | A.5 |
| ApplyingBdtPolicy | 5.8 | Applying BDT Policy API | TS29522\_ApplyingBdtPolicy.yaml | 3gpp-applying-bdt-policy | A.6 |
| IPTVConfiguration | 5.9 | IPTV Configuration API | TS29522\_IPTVConfiguration.yaml | 3gpp-iptvconfiguration | A.7 |
| LpiParameterProvision | 5.10 | LPI (Location Privacy Indicator) Parameter Provision API | TS29522\_LpiParameterProvision.yaml | 3gpp-lpi-pp | A.8 |
| ServiceParameter | 5.11 | Service Parameter API | TS29522\_ServiceParameter.yaml | 3gpp-service-parameter | A.9 |
| ACSParameterProvision | 5.12 | ACS Parameter Provision API | TS29522\_ACSParameterProvision.yaml | 3gpp-acs-pp | A.10 |
| MoLcsNotify | 5.13 | MO LCS Notify API | TS29522\_MoLcsNotify.yaml | 3gpp-mo-lcs-notify | A.11 |
| AKMA | 5.14 | AKMA API | TS29522\_AKMA.yaml | 3gpp-akma | A.12 |
| TimeSyncExposure | 5.15 | Time Sync Exposure API | TS29522\_TimeSyncExposure.yaml | 3gpp-time-sync | A.13 |
| EcsAddressProvision | 5.16 | ECS Address Provision API | TS29522\_EcsAddressProvision.yaml | 3gpp-ecs-address-provision | A.14 |
| AMPolicyAuthorization | 5.17 | AM Policy Authorization API | TS29522\_AMPolicyAuthorization.yaml | 3gpp-am-policyauthorization | A.15 |
| AMInfluence | 5.18 | AM Influence API | TS29522\_AMInfluence.yaml | 3gpp-am-influence | A.16 |
| MBSTMGI | 5.19 | MBS TMGI API | TS29522\_MBSTMGI.yaml | 3gpp-mbs-tmgi | A.17 |
| MBSSession | 5.20 | MBS Session API | TS29522\_MBSSession.yaml | 3gpp-mbs-session | A.18 |
| EASDeployment | 5.21 | EAS Deployment API | TS29522\_EASDeployment.yaml | 3gpp-eas-deployment | A.19 |
| ASTI | 5.22 | ASTI API | TS29522\_ASTI.yaml | 3gpp-asti | A.20 |
| DataReporting | 5.23 | DataReporting API | TS29522\_DataReporting.yaml | 3gpp-data-reporting | A.21 |
| DataReportingProvisioning | 5.24 | DataReportingProvisioning API | TS29522\_DataReportingProvisioning.yaml | 3gpp-data-reporting-provisioning | A.22 |
| UEId | 5.25 | UE ID API | TS29522\_UEId.yaml | 3gpp-ueid | A.23 |
| MBSUserService | 5.26 | MBSUserService API | TS29522\_MBSUserService.yaml | 3gpp-mb-us | A.24 |
| MBSUserDataIngestSession | 5.27 | MBSUserDataIngestSession API | TS29522\_MBSUserDataIngestSession.yaml | 3gpp-mb-ud-ingest | A.25 |
| MSEventExposure | 5.28 | MSEventExposure API | TS29522\_MSEventExposure.yaml | 3gpp-ms-event-exposure | A.26 |
| MBSGroupMsgDelivery | 5.29 | MBSGroupMsgDelivery API | TS29522\_MBSGroupMsgDelivery.yaml | 3gpp-mbs-group-msg | A.27 |
| DNAIMapping | 5.30 | DNAIMapping API | TS29522\_DNAIMapping.yaml | 3gpp-dnai-mapping | A.28 |
| PDTQPolicyNegotiation | 5.31 | PDTQPolicyNegotiation API | TS29522\_PDTQPolicyNegotiation.yaml | 3gpp-pdtq-policy-negotiation | A.29 |
| MemberUESelectionAssistance | 5.32 | MemberUESelectionAssistance API | TS29522\_MemberUESelectionAssistance.yaml | 3gpp-musa | A.30 |
| GroupParametersProvisioning | 5.33 | Group Parameters Provisioning API | TS29522\_GroupParametersProvisioning.yaml | 3gpp-grp-pp | A.31 |
| SliceParamProvision | 5.34 | Network Slice Parameters Provisioning API | TS29522\_SliceParamProvision.yaml | 3gpp-slice-pp | A.32 |
| UEAddress | 5.35 | UE Address API | TS29522\_UEAddress.yaml | 3gpp-ue-address | A.33 |
| ECSAddress | 5.36 | ECS Address Configuration Information API | TS29522\_ECSAddress.yaml | 3gpp-ecs-address | A.34 |
| RSLPPIParametersProvisioning | 5.37 | RSLPPI Parameters Provisioning API | TS29522\_RSLPPIParametersProvisioning.yaml | 3gpp-rslppi-pp | A.35 |
| AddressingParamProvision | 5.38 | Addressing Parameters Provisioning API | TS29522\_AddressingParamProvision.yaml | 3gpp-addr-pp | A.36 |
| UAVFlightAssistance | 5.39 | UAV Flight Assistance API | TS29522\_UAVFlightAssistance.yaml | 3gpp-uav-fa | A.37 |
| CagInfoParamProvision | 5.40 | CAG Information Parameters Provisioning API | TS29522\_CagInfoParamProvision.yaml | 3gpp-caginfo-pp | A.38 |
| ImsSessionManagement | 5.42 | ImsSessionMangement API | TS29522\_ImsSessionManagement.yaml | 3gpp-ims-sm | A.40 |
| ImsEventExposure | 5.43 | ImsEventExposure API | TS29522\_ImsEventExposure.yaml | 3gpp-ims-ee | A.41 |
| ImsParamProvision | 5.44 | ImsParamProvision API | TS29522\_ImsParamProvision.yaml | 3gpp-ims-pp | A.42 |
| AIoT | 5.45 | AIoT API | TS29522\_AIoT.yaml | 3gpp-aiot | A.43 |
| VFLNFDiscovery | 5.48 | VFLNFDiscovery API | TS29522\_VFLNFDiscovery.yaml | 3gpp-vfl-nf-discovery | A.46 |
| VflInference | 5.50 | VFLInference API | TS29522\_VFLInference.yaml | 3gpp-vfl-inference | A.48 |

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

## 5.50 VFLInference API

### 5.50.1 Introduction

The Nnef\_VFLInference service shall use the VFLInference API.

The API URI of VFLInference 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 described in clause 5.2.4 in 3GPP TS 29.122 [4].

- "apiName" shall be set to "3gpp-vfl-inference".

- "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].

All resource URIs in the clauses below are defined relative to the above API URI.

### 5.50.2 Resources

#### 5.50.2.1 Overview

This clause describes the structure for the Resource URIs as shown in figure 5.50.2.1-1 and the resources and HTTP methods used for the VFLInference API.

This clause describes the structure for the Resource URIs and the resources and methods used for the service.

Figure 5.50.2.1-1 depicts the resource URIs structure for the VFLInference API.



Figure 5.50.2.1-1: Resource URI structure of the VFLInference API

Table 5.50.2.1-1 provides an overview of the resources and HTTP methods applicable for the VFLInference API.

Table 5.50.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Description |
| VFL Inference subscriptions | /{afId}/subscriptions | POST | Create a new Individual VFL Inference subscription resource. |
| Individual VFL Inference subscription | /{afId}/subscriptions/{subscriptionId} | PUT | Update an existing subscription identified by {subscriptionId}.. |
| PATCH | Modify an existing subscription identified by {subscriptionId}. |
| DELETE | Delete an existing subscription identified by {subscriptionId}. |

#### 5.50.2.2 Resource: VFL Inference subscriptions

##### 5.50.2.2.1 Description

This resource allows an VFL server to request the creation of a new Individual VFL Inference subscription resource.

##### 5.50.2.2.2 Resource Definition

Resource URI: **{apiRoot}/3gpp-vfl-inference/v1/{afId}/subscriptions**

This resource shall support the resource URI variables defined in table 5.50.2.2.2-1.

Table 5.50.2.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | Clause 5.2.4 of 3GPP TS 29.122 [4]. |
| afId | string | Identifier of the AF. |

##### 5.50.2.2.3 Resource Standard Methods

The following clauses specify the resource methods supported by the resource as described in clause 5.50.2.1.

###### 5.50.2.2.3.1 POST

The POST method creates a new resource to Individual VFL Inference subscription for a given untrusted AF acting as VFL server. The AF shall initiate the HTTP POST request message and the NEF shall respond to the message. The NEF shall construct the URI of the created resource.

This method shall support the URI query parameters specified in table 5.50.2.2.3.1-1.

Table 5.50.2.2.3.1-1: URI query parameters supported by the POST method on this resource

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

This method shall support the request data structures specified in table 5.50.2.2.3.1-2 and shall support the response data structures and response codes specified in table 5.50.2.2.3.1-3 and the Location Headers specified in table 5.50.2.2.3.1-4.

Table 5.50.2.2.3.1-2: Data structures supported by the POSTRequest Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| VflInferSub | M | 1 | Creates a new Individual VFL Inference Subscription resource. |

Table 5.50.2.2.3.1-3: Data structures supported by thePOST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| VflInferSub | M | 1 | 201 Created | Successful case.The Individual VFL Inference subscription resource was created successfully.The URI of the created resource shall be returned in the "Location" HTTP header. |
| ProblemDetails | O | 0..1 | 403 Forbidden | (NOTE 2) |
| ProblemDetails | O | 0..1 | 500 Internal Server Error | (NOTE 2) |
| NOTE 1: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] also apply.NOTE 2: Failure causes are described in clause 5.50.7. |

Table 5.50.2.2.3.1-4: Headers supported by the 201 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains the URI of the newly created resource, according to the structure: {apiRoot}/3gpp-vfl-inference/v1/{afId}/subscriptions/{subscriptionId} |

##### 5.42.2.2.4 Resource Custom Operations

There are no resource custom operations defined for this resource in this release of the specification.

#### 5.50.2.3 Resource: Individual VFL Inference subscription

##### 5.50.2.3.1 Description

This resource allows an VFL server to update, partial modify or delete an existing Individual VFL Inference subscription.

##### 5.50.2.3.2 Resource Definition

Resource URI: **{apiRoot}/3gpp-vfl-inference/v1/{afId}/subscriptions/{subscriptionId}**

This resource shall support the resource URI variables defined in table 5.50.2.3.2-1.

Table 5.50.2.3.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Definition** |
| apiRoot | string | Clause 5.2.4 of 3GPP TS 29.122 [4]. |
| afId | string | Identifier of the AF. |
| subscriptionId | string | Identifier of the VFL Inference subscription formatted according to IETF RFC 3986 [44]. |

##### 5.50.2.3.3 Resource Standard Methods

The following clauses specify the resource methods supported by the resource as described in clause 5.50.2.1.

###### 5.50.2.3.3.1 PUT

The PUT method allows to create a new VFL Inference Events subscription. The VFL server shall initiate the HTTP PUT request message and the NEF shall respond to the message.

This method shall support the URI query parameters specified in table 5.50.2.3.3.1-1.

Table 5.50.2.3.3.1-1: URI query parameters supported by thePUTmethod on this resource

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

This method shall support the request data structures specified in table 5.50.2.3.3.1-2, the response data structures and response codes specified in table 5.50.2.3.3.1-3 and the Location Headers specified in table 5.50.2.3.3.1-4, table 5.50.2.3.3.1-5 and table 5.50.2.3.3.1-6.

Table 5.50.2.3.3.1-2: Data structures supported by the PUTRequest Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| VflInferSub | M | 1 | Contains the information for the modification of the VFL Inference Events Subscription. |

Table 5.50.2.3.3.1-3: Data structures supported by thePUT Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| VflInferSub | M | 1 | 200 OK | Successful case.The VFL Inference Events Subscription was modified and a representation of it is returned. The representation of the VFL Inference Events Subscription is included within the properties of the VflInferSub data type. |
| N/A |  |  | 204 No Content | Successful case.The VFL Inference Events Subscription was modified successfully, with no content to be sent in the response message body. |
| N/A |  |  | 307 Temporary Redirect | Temporary redirection, during the VFL Inference Events subscription modification. The response shall include a Location header field containing an alternative URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| N/A |  |  | 308 Permanent Redirect | Permanent redirection, during the VFL Inference Events subscription modification. The response shall include a Location header field containing an alternative URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| ProblemDetails | O | 0..1 | 403 Forbidden | (NOTE 2) |
| ProblemDetails | O | 0..1 | 404 Not Found | (NOTE 2) |
| ProblemDetails | O | 0..1 | 500 Internal Server Error | (NOTE 2) |
| NOTE 1: The mandatory HTTP error status codes for the HTTP PUT method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply.NOTE 2: Failure causes are described in clause 5.50.7. |

Table 5.50.2.3.3.1-4: Headers supported by the 201 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains the URI of the resource in which an VFL Inference Events subscription has been created, according to the structure:{apiRoot}/3gpp-vfl-inference/v1/{afId}/subscriptions |

Table 5.50.2.3.3.1-5: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative NEF. |

Table 5.50.2.3.3.1-6: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative NEF. |

###### 5.50.2.3.3.2 PATCH

The PATCH method is used to modify an existing Individual VFL Inference subscription. The VFL server shall initiate the HTTP PATCH request message and the NEF shall respond to the message.

This method shall support the URI query parameters specified in table 5.50.2.3.3.2-1.

Table 5.50.2.3.3.2-1: URI query parameters supported by the PATCH method on this resource

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

This method shall support the request data structures specified in table 5.50.2.3.3.2-2, the response data structures and response codes specified in table 5.50.2.3.3.2-3 and the Location Headers specified in table 5.50.2.3.3.2-4 and table 5.50.2.3.3.2-5.

Table 5.50.2.3.3.2-2: Data structures supported by the PATCHRequest Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Description** |
| VflInferSubPatch | M | 1 | Contains the modification(s) to be applied to the Individual VFL Inference subscription. |

Table 5.50.2.3.3.2-3: Data structures supported by thePATCH Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response codes** | **Description** |
| VflInferSub | M | 1 | 200 OK | Successful case.The updated information of the VFL Inference subscription. |
| N/A |  |  | 204 No Content | The VFL Inference subscription was updated successfully. |
| N/A |  |  | 307 Temporary Redirect | Temporary redirection, during the VFL Inference subscription modification. The response shall include a Location header field containing an alternative URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| N/A |  |  | 308 Permanent Redirect | Permanent redirection, during the VFL Inference subscription modification. The response shall include a Location header field containing an alternative URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| ProblemDetails | O | 0..1 | 403 Forbidden | (NOTE 2) |
| ProblemDetails | O | 0..1 | 404 Not Found | (NOTE 2) |
| ProblemDetails | O | 0..1 | 500 Internal Server Error | (NOTE 2) |
| NOTE 1: The mandatory HTTP error status codes for the HTTP PATCH method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply.NOTE 2: Failure causes are described in clause 5.50.7. |

Table 5.50.2.3.3.2-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative NEF. |

Table 5.50.2.3.3.2-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative NEF. |

###### 5.50.2.3.3.3 DELETE

The DELETE method deletes an existing Individual VFL Inference subscription. The AF acting as VFL server shall initiate the HTTP DELETE request message and the NEF shall respond to the message.

This method shall support the URI query parameters specified in table 5.50.2.3.3.3-1.

Table 5.50.2.3.3.3-1: URI query parameters supported by theDELETE method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| N/A |  |  |  |  |

This method shall support the request data structures specified in table 5.50.2.3.3.4-2 and the response data structures and response codes specified in table 5.50.2.3.3.3-3, and the Location Headers specified in table 5.50.2.3.3.3-4 and table 5.50.2.3.3.3-5.

Table 5.50.2.3.3.3-2: Data structures supported by the DELETERequest Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Description** |
| N/A |  |  |  |

Table 5.50.2.3.3.3-3: Data structures supported by theDELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response codes** | **Description** |
| N/A |  |  | 204 No Content | Successful case.The VFL Inference subscription was terminated successfully. |
| N/A |  |  | 307 Temporary Redirect | Temporary redirection, during the VFL Inference subscription termination. The response shall include a Location header field containing an alternative URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| N/A |  |  | 308 Permanent Redirect | Permanent redirection, during the VFL Inference subscription termination. The response shall include a Location header field containing an alternative URI of the resource located in an alternative NEF.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| ProblemDetails | O | 0..1 | 404 Not Found | (NOTE 2) |
| NOTE 1: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] also apply.NOTE 2: Failure causes are described in clause 5.50.7. |

Table 5.50.2.3.3.3-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative NEF. |

Table 5.50.2.3.3.3-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative NEF. |

#### 6.1.3.2.4 Resource Custom Operations

There are no resource operations defined for this API in this release of the specification.

### 5.50.3 Custom Operations without associated resources

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

### 5.50.4 Notifications

#### 5.50.4.1 General

Upon receipt of VFL Inference Notification from the VFL client indicating the subscribed VFL inference event is detected, the NEF shall send an HTTP POST message including the notified VFL inference event to the VFL server.

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

Table 5.50.4.1-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| VFL Inference Event Notification  | {notifUri} | POST | The VFL inference changes event notification is provided by the NEF to the AF acting as VFL server. |

#### 5.50.4.2 VFL Inference Event Notification

##### 5.50.4.2.1 Description

The VFL Inference Notification is used by the NEF to report one or several observed VFL Inference events to VFL server that has subscribed to such Notifications.

##### 5.50.4.2.2 Target URI

The Callback URI **"{notifUri}"** shall be used with the callback URI variables defined in table 5.50.2.2.2-1.

Table 5.50.4.2.2-1: Callback URI variables

|  |  |
| --- | --- |
| Name | Definition |
| notifUri | Callback reference provided by the VFL server during creation/modification of the subscription within the VFL Inference Events subscription as defined in VflInferSub data type in Table 5.50.5.2.2-1 or in VflInferSubPatch data type in Table 5.10.6.2.3-1 of 3GPP TS 29.520 [27]. |

##### 5.50.4.2.3 Operation Definition

This method shall support the request data structures specified in table 5.50.4.2.3.1-1 and the response data structures and response codes specified in table 5.50.4.2.3.1-2 and the Location Headers specified in table 5.50.4.2.3.1-3 and table 5.50.4.2.3.1-4.

Table 5.50.4.2.3.1-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| VflInferNotif | M | 1 | Provides information about the VFL inference events by the NEF to the VFL server. |

Table 5.50.4.2.3.1-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| N/A |  |  | 204 No Content | The event notification is received successfully. |
| N/A |  |  | 307 Temporary Redirect | Temporary redirection, during event notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative VFL server where the notification should be sent.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| N/A |  |  | 308 Permanent Redirect | Permanent redirection, during event notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative VFL server where the notification should be sent.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] also apply. |

Table 5.50.4.2.3.1-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI representing the end point of an alternative AF towards which the notification should be redirected. |

Table 5.50.4.2.3.1-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI representing the end point of an alternative VFL server towards which the notification should be redirected. |

### 5.50.5 Data Model

#### 5.50.5.1 General

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

Table 5.50.5.1-1 specifies the data types defined for the VFLInference API.

Table 5.50.5.1-1: VFLInference API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| VflInferSub | 5.8.6.2.2 | Represents an Individual VLF Inference Subscription resource. |  |
| VflInferSubPatch | 5.8.6.2.3 | Represents parameters to request the modification of a VFL inference subscription. |  |

Table 5.50.5.1-2 specifies data types re-used by the VFLInference API from other specifications, including a reference to their respective specifications, and when needed, a short description of their use within the VFLInference API.

Table 5.50.5.1-2: Re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| RedirectResponse | 3GPP TS 29.571 [16] | Contains redirection related information. |  |
| ReportingInformation | 3GPP TS 29.523 [20] | Represents the type of reporting the subscription requires. |  |
| SupportedFeatures | 3GPP TS 29.571 [8] | Used to negotiate the applicability of the optional features. |  |
| Uri | 3GPP TS 29.571 [8] | Represents a URI. |  |
| VflInferAnaSub | 3GPP TS 29.520 [17] | Represents an Individual NEF VLF Inference Subscription resource per analytics id. |  |
| VflInferNotif | 3GPP TS 29.520 [17] | Represents notification of a VFL inference subscription. |  |
| VflInferReq | 3GPP TS 29.520 [17] | Represents requirements for VFL inference |  |
| VflInferResult | 3GPP TS 29.520 [17] | Represents intermediate VFL inference result per target. |  |

#### 5.50.5.2 Structured data types

##### 5.50.5.2.1 Introduction

This clause defines the structured data types to be used in resource representations.

##### 5.50.5.2.2 Type VflInferSub

Table 5.50.5.2.2-1: Definition of type VflInferSub

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| notifCorreId | string | M | 1 | The value of Notification Correlation ID in the corresponding notification. |  |
| notifUri | Uri | M | 1 | URI at which the NF service consumer requests to receive notifications. |  |
| suppFeats | SupportedFeatures | C | 0..1 | List of Supported features used as described in clause 5.10.8.It shall be supplied by NF service consumer in the POST requests that request the creation of an NEF VFL Subscriptions resource and shall be supplied by the NEF in the reply of corresponding request. |  |
| vflClientId | string | O | 0..1 | Target VFL Client identity. |  |
| vflInferAnaSubs | array(VflInferAnaSub) | M | 1..N | Identifies the VFL inference subscription information for the subscribed analytics ID(s). |  |
| vflInferResults | array(VflInferResult) | O | 1..N | Represents intermediate VFL inference results. |  |
| vlfReportInfo | ReportingInformation | O | 0..1 | Reporting requirement information of the VFL inference subscription.If omitted, the default values within the ReportingInformation data type apply. |  |

##### 5.50.5.2.3 Type VflInferSubPatch

Table 5.50.5.2.3-1: Definition of type VflInferSubPatch

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| notifUri | Uri | O | 0..1 | URI at which the NF service consumer requests to receive notifications. |  |
| vflInferReq | VflInferReq | O | 0..1 | Represents required conditions to apply VFL inference. |  |
| vflReportInfo | ReportingInformation | O | 0..1 | Reporting requirement information of the VFL inference subscription. |  |

#### 5.50.5.3 Simple data types and enumerations

##### 5.50.5.3.1 Introduction

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

##### 5.50.5.3.2 Simple data types

The simple data types defined in table 5.50.5.3.2-1 shall be supported.

Table 5.50.5.3.2-1: Simple data types

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

### 5.50.6 Used Features

The optional features in table 5.50.6-1 are defined for the VFLInference API. They shall be negotiated using the extensibility mechanism defined in clause 5.2.7 of 3GPP TS 29.122 [4].

Table 5.50.6-1: Supported Features

|  |  |  |
| --- | --- | --- |
| **Feature number** | **Feature Name** | **Description** |
|  |  |  |

### 5.50.7 Error handling

#### 5.50.7.1 General

For the VFLInference API, HTTP error responses shall be supported as specified in clause 5.2.6 of 3GPP TS 29.122 [4]. Protocol errors and application errors specified in clause 5.2.6 of 3GPP TS 29.122 [4] shall be supported for the HTTP status codes specified in table 5.2.6-1 of 3GPP TS 29.122 [4].

In addition, the requirements in the following clauses are applicable for the VFLInference API.

#### 5.50.7.2 Protocol Errors

No specific procedures for the VFLInference API are specified.

#### 5.50.7.3 Application Errors

The application errors defined for the VFLInference API are listed in table 5.50.7.3-1.

Table 5.50.7.3-1: Application errors

|  |  |  |
| --- | --- | --- |
| Application Error | HTTP status code | Description |
| OVERLOAD | 403 Forbidden | Indicates the NF is overloaded. |
| NOTE: Including a "ProblemDetails" data structure with the "cause" attribute in the HTTP response is optional unless explicitly mandated in the service operation clauses. |

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

# A.48 VFLInference API

openapi: 3.0.0

info:

 title: 3gpp-vfl-inference

 version: 1.0.0-alpha.1

 description: |

 API for VFL Inference.

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externalDocs:

 description: >

 3GPP TS 29.522 V19.4.0; 5G System; Network Exposure Function Northbound APIs.

 url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.522/

servers:

 - url: '{apiRoot}/3gpp-vfl-inference/v1'

 variables:

 apiRoot:

 default: https://example.com

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

security:

 - {}

 - oAuth2ClientCredentials:

 - 3gpp-vfl-inference

paths:

 /{afId}/subscriptions:

 parameters:

 - name: afId

 in: path

 description: Represents the identifier of the AF.

 required: true

 schema:

 type: string

 post:

 summary: Create a new Individual VFL Inference Subscription resource.

 operationId: CreateVFLInferenceSubcription

 tags:

 - Subscriptions (Collection)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: Create a new Individual VFL Inference Subscription resource.

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: >

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

 structure

 {apiRoot}/3gpp-vfl-inference/v1/{afId}/subscriptions/{subscriptionId}.

 required: true

 schema:

 type: string

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '502':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/502'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 callbacks:

 myNotification:

 '{$request.body#/notifUri}':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: 'TS29520\_Nnwdaf\_VFLInference.yaml#/components/schemas/VflInferNotif'

 responses:

 '204':

 description: No Content, Notification was successful

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '502':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/502'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 /{afId}/subscriptions/{subscriptionId}:

 parameters:

 - name: afId

 in: path

 description: Represents the identifier of the AF.

 required: true

 schema:

 type: string

 - name: subscriptionId

 in: path

 description: String identifying a VFL Inference Subscription.

 required: true

 schema:

 type: string

 put:

 summary: Update an existing Individual VFL Inference Subscription

 operationId: UpdateVFLInferenceSubcription

 tags:

 - Individual VFL Inference Subscription (Document)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: >

 The Individual VFL Inference Subscription resource was modified

 successfully and a representation of that resource is returned.

 content:

 application/json:

 schema:

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

 '204':

 description: >

 The Individual VFL Inference Subscription resource was modified

 successfully.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '502':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/502'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 patch:

 summary: Partial update an existing Individual VFL Inference Subscription

 operationId: PartialUpdateVFLInferenceSubcription

 tags:

 - Individual VFL Inference Subscription (Document)

 requestBody:

 required: true

 content:

 application/merge-patch+json:

 schema:

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

 responses:

 '200':

 description: >

 The Individual VFL Inference Subscription resource was partial

 modified successfully and a representation of that resource is returned.

 content:

 application/json:

 schema:

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

 '204':

 description: >

 The Individual VFL Inference Subscription resource was partial

 modified successfully.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '502':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/502'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 delete:

 summary: Delete an existing Individual VFL Inference Subscription.

 operationId: DeleteVFLInferenceSubcription

 tags:

 - Individual VFL Inference Subscription (Document)

 responses:

 '204':

 description: >

 No Content. The Individual VFL Inference Subscription matching the

 subscriptionId was deleted.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '502':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/502'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{nrfApiRoot}/oauth2/token'

 scopes:

 3gpp-vfl-inference: Access to the VFLInference API

 schemas:

 VflInferSub:

 description: Represents a VFL Inference subscription.

 type: object

 properties:

 notifCorreId:

 type: string

 description: >

 String identifying the Notification Correlation ID in the corresponding

 notification.

 notifUri:

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

 suppFeats:

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

 vflClientId:

 type: string

 description: String identifying the target VFL client.

 vflInferAnaSubs:

 type: array

 items:

 $ref: 'TS29520\_Nnwdaf\_VFLInference.yaml#/components/schemas/VflInferAnaSub'

 minItems: 1

 description: Represents inference subscription per analytics Id.

 vflInferReq:

 $ref: 'TS29520\_Nnwdaf\_VFLInference.yaml#/components/schemas/VflInferReq'

 vflInferResults:

 type: array

 items:

 $ref: 'TS29520\_Nnwdaf\_VFLInference.yaml#/components/schemas/VflInferResult'

 minItems: 1

 description: Represents intermediate VFL Inference result.

 vflReportInfo:

 $ref: 'TS29523\_Npcf\_EventExposure.yaml#/components/schemas/ReportingInformation'

 required:

 - notifUri

 - notifCorreId

 - vflInferAnaSubs

 VflInferSubPatch:

 description: >

 Represents parameters to request the modification of a VFL Inference

 subscription.

 type: object

 properties:

 notifUri:

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

 vflInferReq:

 $ref: 'TS29520\_Nnwdaf\_VFLInference.yaml#/components/schemas/VflInferReq'

 vflReportInfo:

 $ref: 'TS29523\_Npcf\_EventExposure.yaml#/components/schemas/ReportingInformation'

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