**3GPP TSG-CT WG3 Meeting #134C3-242207**

**Changsha, China, 15 - 19 April, 2024 (revision of C3-242abc)**

|  |
| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **29.549** | **CR** | **0273** | **rev** | **-** | **Current version:** | **18.5.0** |  |
|  |
| *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)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |
| --- |
|  |
| ***Title:***  | Update the analytics type in the subscription |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | ADAES |  | ***Date:*** | 2024-04-01 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
|  |  |
| ***Reason for change:*** | According to the reply LS S6-240553 and agreed CRs S6-240504, S6-240507, S6-240510, S6-240558 and S6-240559, the Analytics Type only contains the statistics or predictions. The AnalyticsType data type needs to be updated accordingly. |
|  |  |
| ***Summary of change:*** | * Remove the AnalyticsMode data type, change the AnalyticsType data type.
* Update the OpenAPI file accordingly.
 |
|  |  |
| ***Consequences if not approved:*** | Misalignment with stage 2. |
|  |  |
| ***Clauses affected:*** | 7.10.1.4.1, 7.10.1.4.2.3, 7.10.1.4.2.6, 7.10.1.4.3.7, 7.10.2.4.2.3, A.15 |
|  |  |
|  | **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:*** | The CR introduces backward compatible corrections to the OpenAPI file for SS\_ADAE\_VALPerformanceAnalytics API. |
|  |  |
| ***This CR's revision history:*** |  |

**Additional discussion(if needed):**

**Proposed changes:**

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

##### 7.10.1.4.1 General

This clause specifies the application data model supported by the API. Data types listed in clause 6.2 apply to this API.

Table 7.10.1.4.1-1 specifies the data types defined specifically for the SS\_ADAE\_VALPerformanceAnalytics API service.

**Table 7.10.1.4.1-1\_SS\_ADAE\_VALPerformanceAnalytics API specific Data Types**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Section defined** | **Description** | **Applicability** |
| AppPerfSub | 7.10.1.4.2.2 | Subscription to the VAL application performance analytics |  |
| AppPerfNotif | 7.10.1.4.2.3 | Notification information of the application performance analytics. |  |
| ProdProfileInfo | 7.10.1.4.2.4 | Information about the data producer's support data collection and its access to the produced data |  |
| AnalyticsCategory | 7.10.1.4.3.3 | Represents the category of analytics. |  |
|  |  |  |  |
| AnalyticsType | 7.10.1.4.2.6 | Represents the type of analytics. |  |
| ProducerCap | 7.10.1.4.3.5 |  |  |
| ProducerType | 7.10.1.4.3.4 | Type of the data producer. |  |
| ProducerData | 7.10.1.4.3.5 | Type of the data produced by the data producer. |  |
| ProducerRole | 7.10.1.4.3.6 | The role of the data producer. |  |

Table 7.10.1.4.1-2 specifies data types re-used by the SS\_ADAE\_VALPerformanceAnalytics API service:

**Table 7.10.1.4.1-2: Re-used Data Types**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Reference** | **Comments** | **Applicability** |
| BitRate | 3GPP TS 29.571 [21] | Represents a bit rate measurement value. |  |
| DateTime | 3GPP TS 29.571 [21] | Used to represent a date and time. |  |
| DurationSec | 3GPP TS 29.122 [3] | Represents a period of time in units of seconds. |  |
| LocationArea5G | 3GPP TS 29.122 [3] | Represents location information. |  |
| ScheduledCommunicationTime | 3GPP TS 29.122 [3] | Used to define the time frame for message filters.  |  |
| SupportedFeatures | 3GPP TS 29.571 [21] | Represents the supported features. |  |
| TimeWindow | 3GPP TS 29.122 [3] | Represents a time window. |  |
| Uinteger | 3GPP TS 29.571 [21] | Represents an unsigned integer. |  |
| Uri | 3GPP TS 29.122 [3] | Represents a URI. |  |
| ValTargetUe | Clause 7.3.1.4.2.3 | Used to indicate either VAL User ID or VAL UE ID. |  |

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

###### 7.10.1.4.2.3 Type: AppPerfNotif

**Table 7.10.1.4.2.3-1: Definition of type AppPerfNotif**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute name** | **Data type** | **P** | **Cardinality** | **Description** | **Applicability** |
| output | string | M | 1 | Predicted (or computed, for statistics) change or sustainability of the VAL performance for a VAL server or a VAL session. |  |
| valServerId | string | M | 1 | Identity of the VAL server, the data collection is related to, in the case of the notification is on the VAL performance data collection. |  |
| valUeIds | array(ValTargetUe) | O | 1..N | A list of identities of one or more VAL UEs, the data collection is related to, in the case of the notification is on the VAL performance data collection. |  |
| analyticsType | AnalyticsType | O | 0..1 | Identifies the type of analytics that are provided. |  |
| confLevel | Uinteger | C | 0..1 | Indicates the achieved confidence level in the case of prediction.Minimum = 0. Maximum = 100. (NOTE) |  |
| timeHorizon | TimeWindow | C | 0..1 | The time window to which the predictive analytics apply. (NOTE) |  |
| NOTE: This attribute shall be provided if the "analyticsType" attribute in the subscription was set to "PREDICTIVE" and it may not be provided otherwise. |
|  |

Editor's Note: The metrics and details of the "output", as well as the exact contents/requirements of the "analyticsType", are FFS.

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

7.10.1.4.2.6 Type: AnalyticsType

**Table 7.10.1.4.2.6-1: Definition of type AnalyticsType**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute name** | **Data type** | **P** | **Cardinality** | **Description** | **Applicability** |
| category | AnalyticsCategory | M | 1 | Represents the analytics category. |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

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

###### 7.10.1.4.3.7 Void

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

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

###### 7.10.2.4.2.3 Type: SliceAppPerfNotif

**Table 7.10.2.4.2.3-1: Definition of type SliceAppPerfNotif**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute name** | **Data type** | **P** | **Cardinality** | **Description** | **Applicability** |
| output | string | M | 1 | Predicted or expected performance change or sustainability of the slice-specific performance for a VAL server or a VAL session. |  |
| analyticsType | AnalyticsType | O | 0..1 | Identifies the type of the slice-specific application performance analytics |  |
| confLevel | Uinteger | O | 0..1 | Indicates the achieved confidence level in the case of prediction.Minimum = 0. Maximum = 100. (NOTE) |  |
| timeHorizon | TimeWindow | O | 0..1 | The time window to which the predictive analytics apply. (NOTE) |  |
| NOTE: This attribute shall be provided if the "analyticsType" attribute in the subscription was set to "PREDICTIVE" and it may not be provided otherwise. |

Editor's Note: The metrics and details of the "output", as well as the exact content/requirements of "analyticsType", are FFS.

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

# A.15 SS\_ADAE\_VALPerformanceAnalytics API

openapi: 3.0.0

info:

 title: SS\_ADAE\_VALPerformanceAnalytics

 description: |

 API for ADAE VAL performance analytics service.

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 version: "1.0.0-alpha.1"

externalDocs:

 description: >

 3GPP TS 29.549 V18.5.0 Service Enabler Architecture Layer for Verticals (SEAL);

 Application Programming Interface (API) specification; Stage 3.

 url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.549/

security:

 - {}

 - oAuth2ClientCredentials: []

servers:

 - url: '{apiRoot}/ss-adae-pa/v1'

 variables:

 apiRoot:

 default: https://example.com

 description: apiRoot as defined in clause 6.5 of 3GPP TS 29.549

paths:

 /application-performance:

 post:

 description: Creates a new individual VAL performance event subscription.

 operationId: CreateIndValPerfEventSubsc

 tags:

 - VAL performance event subscriptions (Collection)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 callbacks:

 paNotification:

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

 post:

 requestBody: # contents of the callback message

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: No Content (successful notification)

 '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'

 '503':

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

 default:

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

 responses:

 '201':

 description: VAL performance event subscription resource created successfully.

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: Contains the URI of the newly created resource.

 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'

 '503':

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

 default:

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

 /application-performance/{appPerfId}:

 get:

 description: Retrieves an individual VAL performance event subscription.

 operationId: ReadIndValPerfEventSubsc

 tags:

 - Individual VAL performance event subscription (Document)

 parameters:

 - name: appPerfId

 in: path

 description: Identifier of an individual VAL performance event subscription.

 required: true

 schema:

 type: string

 responses:

 '200':

 description: >

 The individual VAL performance subscription matching the appPerfId is retrieved.

 content:

 application/json:

 schema:

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

 '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'

 '406':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/406'

 '429':

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

 '500':

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

 '503':

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

 default:

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

 delete:

 description: Deletes an individual VAL performance event subscription.

 operationId: DeleteIndValPerfEventSubsc

 tags:

 - Individual VAL performance event subscription (Document)

 parameters:

 - name: appPerfId

 in: path

 description: Identifier of an individual VAL performance event subscription.

 required: true

 schema:

 type: string

 responses:

 '204':

 description: >

 The individual VAL performance subscription matching the appPerfId is 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'

 '503':

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

 default:

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

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{tokenUrl}'

 scopes: {}

 schemas:

 AppPerfSub:

 description: Represents an individual VAL performance event subscription resource.

 type: object

 properties:

 notifUri:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/Uri'

 analyticsType:

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

 valServiceId:

 type: string

 valUeIds:

 type: array

 items:

 $ref: 'TS29549\_SS\_UserProfileRetrieval.yaml#/components/schemas/ValTargetUe'

 minItems: 1

 description: >

 One or more VAL UE IDs whose analytics or data collection are subject to subcription.

 valServerId:

 type: string

 description: Identity of the VAL server

 dataProdProfile:

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

 confLevel:

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

 area:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

 timeValidity:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/TimeWindow'

 suppFeat:

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

 required:

 - notifUri

 - analyticsType

 - valServiceId

 AppPerfNotif:

 description: Represents notification of the VAL performance event.

 type: object

 properties:

 output:

 type: string

 description: Provided output for analytics.

 valServerId:

 type: string

 description: VAL Server identifier.

 valUeIds:

 type: array

 items:

 $ref: 'TS29549\_SS\_UserProfileRetrieval.yaml#/components/schemas/ValTargetUe'

 minItems: 1

 description: List of VAL UE identifiers.

 analyticsType:

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

 confLevel:

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

 timeHorizon:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/TimeWindow'

 required:

 - output

 - valServerId

 ProdProfileInfo:

 description: Represents capability of the data producer.

 type: object

 properties:

 prodId:

 type: string

 description: Identity of the data producer.

 prodType:

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

 dataType:

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

 prodRole:

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

 origProdIds:

 type: array

 items:

 type: string

 minItems: 1

 description: >

 Identifies the identity of the original data producers.

 dataFresh:

 type: integer

 description: Duration of elapsed time in seconds.

 producerCap:

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

 required:

 - prodId

 - prodType

 - dataType

 ProducerCap:

 description: Represents capability of the data producer.

 type: object

 properties:

 durationTime:

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

 anonymization:

 type: boolean

 description: >

 Set to true if anonymization is supported.

 Set to false or omitted otherwise.

 dataRate:

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

 schedule:

 $ref: 'TS29122\_CpProvisioning.yaml#/components/schemas/ScheduledCommunicationTime'

 AnalyticsType:

 description: Represents type of requested analytics.

 type: object

 properties:

 category:

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

 required:

 - category

# Simple data types and Enumerations

 AnalyticsCategory:

 anyOf:

 - type: string

 enum:

 - PREDICTIVE

 - STATISTICS

 - type: string

 description: >

 This string provides forward-compatibility with future

 extensions to the enumeration but is not used to encode

 content defined in the present version of this API.

 description: |

 Represents the type of the analytics with the values:

 - PREDICTIVE: The event for the analytics is for predictive analytics.

 - STATISTICS: The event for analytics is for statistics analytics.

 ProducerType:

 anyOf:

 - type: string

 enum:

 - ADAE\_CLIENT

 - A\_DCCF

 - VAL\_SERVER

 - SEAL\_SERVER

 - SEAL\_CLIENT

 - EES

 - EAS

 - type: string

 description: >

 This string provides forward-compatibility with future

 extensions to the enumeration but is not used to encode

 content defined in the present version of this API.

 description: |

 Represents the type of the data producer with the values:

 - ADAE\_CLIENT: The data producer is ADAE client.

 - A\_DCCF: The data producer is A-DCCF.

 - VAL\_SERVER: The data producer is VAL server.

 - SEAL\_SERVER: The data producer is SEAL server.

 - SEAL\_CLIENT: The data producer is SEAL client.

 - EES: The data producer is EES.

 - EAS: The data producer is EAS.

 ProducerData:

 anyOf:

 - type: string

 enum:

 - PERFORMANCE\_INDICATOR

 - REPRODUCER\_USAGE\_DATA

 - SERVER\_LOAD\_DATA

 - APPLICATION\_PERFORMANCE

 - EDGE\_LOAD

 - type: string

 description: >

 This string provides forward-compatibility with future

 extensions to the enumeration but is not used to encode

 content defined in the present version of this API.

 description: |

 Represents the data type of the data producer with the values:

 - PERFORMANCE\_INDICATOR: The data type of the data producer is

 performance indictor.

 - REPRODUCER\_USAGE\_DATA: The data type of the data producer is

 reproducer usage data.

 - REPRODUCER\_USAGE\_DATA: The data type of the data producer is

 reproducer usage data.

 - SERVER\_LOAD\_DATA: The data type of the data producer is

 server load data.

 - APPLICATION\_PERFORMANCE: The data type of the data producer is

 application performance.

 - EDGE\_LOAD: The data type of the data producer is

 edge load.

 ProducerRole:

 anyOf:

 - type: string

 enum:

 - GENERATING\_ENTITY

 - ORIGINAL\_PRODUCER

 - RESPOSITORY

 - type: string

 description: >

 This string provides forward-compatibility with future

 extensions to the enumeration but is not used to encode

 content defined in the present version of this API.

 description: |

 Represents the role of the data producer with the values:

 - GENERATING\_ENTITY: The role of the data producer is generating entity.

 - ORIGINAL\_PRODUCER: The role of the data producer is origina producer.

 - RESPOSITORY: The role of the data producer is repository.

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