**3GPP TSG- Meeting #C3-243xxx**

**Hyderabad, IN, 27 - 31 May, 2024 was C3-243252**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** | **0009** | **rev** | **1** | **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)*.* |
|  |

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

|  |
| --- |
|  |
| ***Title:***  | Essential corrections to the Historical Transmission Quality Measurement Report(s) retrieval procedure |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | SEALDD |  | ***Date:*** | 2024-05-20 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***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 following isses have been identified in the definition of the Essential corrections to the Historical Transmission Quality Measurement Report(s) retrieval procedure:* The possibility to filter based on the VAL user(s) is missing in the GET request query string, whereas the possibility to return Historical Transmission Quality Measurement Report(s) for one or several VAL user(s) is already considered/supported in the response. This is also supported in stage 2, as per Table 9.7.3.4-1 of TS 23.433.
* The NOTE in Table 6.4.6.2.6-1 only considers the case where this data type is conveyed in a Transmission Quality Measurement notification, not in a Historical Transmission Quality Measurement Report(s) retrieval response.
* Further clarifications on the content of the "reports" attribute in Table 6.4.6.2.9-1 are needed when there are no historical reports to return for the received query parameters.
* The application error "NO\_AVAILABLE\_MEAS\_DATA" is not needed as the corresponding scenario is covered by returning an empty array withing the "reports" attribute in Table 6.4.6.2.9-1. Also, this scenario cannot be considered as an error case as it does not correspond to any error/misbehaviour at neither the client nor the server sides.
 |
|  |  |
| ***Summary of change:*** | This CR proposes to:* Correct the above-detailed issues.
 |
|  |  |
| ***Consequences if not approved:*** | * The definition of the Historical Transmission Quality Measurement Report(s) retrieval procedure in stage 3 continues to contain the above-detailed errors and is hence misaligned with stage 2.
 |
|  |  |
| ***Clauses affected:*** | 6.4.3.4.3.1, 6.4.6.2.6, 6.4.6.2.9, 6.4.7.3, A.5 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ... |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ... |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ... |
|  |  |
| ***Other comments:*** | This CR does not impact the OpenAPI descriptions of the APIs defined in this specification. |
|  |  |
| ***This CR's revision history:*** |  |

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

###### 6.4.3.4.3.1 GET

The HTTP GET method allows a service consumer to retrieve Historical Transmission Quality Measurement Report(s) from the SEALDD Server.

This method shall support the URI query parameters specified in table 6.4.3.4.3.1-1.

Table 6.4.3.4.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| app-traffic-ids | array(string) | M | 1 | Contains the identifier(s) of the targeted application traffic. This can be in the form of e.g., VAL Service ID, VAL Server ID. |  |
| val-group-id | string | O | 0..1 | Contains the identity of the VAL group to which the request is related.(NOTE) |  |
| val-ue-ids-list | array(string) | O | 1..N | Contains the list of the identifier(s) of the VAL UE(s) to which the request is related.(NOTE) |  |
| val-user-ids-list | array(string) | O | 1..N | Contains the list of the identifier(s) of the VAL user(s) to which the request is related.(NOTE) |  |
| all-val-ues | boolean | O | 0..1 | Indicates that the request is related to all VAL UE/user(s) of the application traffic identified by the application traffic identifier(s) provided within the "appTrafficIds" attribute.- "true" indicates that the request is related to all VAL UE/user(s).- "false" indicates that the request is not related to all VAL UE/user(s).- The default value when this query parameter is omitted is "false".(NOTE) |  |
| supp-feat | SupportedFeatures | O | 0..1 | Contains the list of supported features among the ones defined in clause 6.4.8.This query parameter shall be present only when feature negotiation needs to take place. |  |
| NOTE: The "val-group-id" query parameter, the "val-ue-ids-list" query parameter and/or the "val-user-ids-list" query parameter, and when set to "true", the "all-val-ues" query parameter, are mutually exclusive. Either one of them may be present. |

This method shall support the request data structures specified in table 6.4.3.4.3.1-2 and the response data structures and response codes specified in table 6.4.3.4.3.1-3.

Table 6.4.3.4.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 6.4.3.4.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| HistTransQualMeasReports | M | 1 | 200 OK | Successful case. The requested Historical Transmission Quality Measurement Report(s), if any, shall be returned. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative URI of the resource located in an alternative SEALDD Server.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative URI of the resource located in an alternative SEALDD Server.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
|  |  |  |  |  |
| NOTE: The mandatory HTTP error status codes for the HTTP GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. |

Table 6.4.3.4.3.1-4: Headers supported by the 307 Response Code on this resource

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

Table 6.4.3.4.3.1-5: Headers supported by the 308 Response Code on this resource

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

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

##### 6.4.6.2.6 Type: TransQualMeasReport

Table 6.4.6.2.6-1: Definition of type TransQualMeasReport

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| measId | array(MeasurementId) | M | 1..N | Contains the reported transmission quality measurement(s). |  |
| valUeIds | array(string) | C | 1..N | Contains the list of the identifier(s) of the VAL UE(s) to which the transmission quality measurement report is related.(NOTE) |  |
| valUserIds | array(string) | C | 1..N | Contains the list of the identifier(s) of the VAL user(s) to which the transmission quality measurement report is related.(NOTE) |  |
| measData | TransQualMeasData | O | 0..1 | Contains the reported transmission quality measurement data. |  |
| NOTE: These attributes are mutually exclusive. Either one of them shall be present, unless the corresponding request targets a single VAL UE/user, in which case these attributes may not be present. |

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

##### 6.4.6.2.9 Type: HistTransQualMeasReports

Table 6.4.6.2.9-1: Definition of type HistTransQualMeasReports

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| reports | array(TransQualMeasReport) | M | 0..N | Contains the Historical Transmission Quality Measurement Report(s).If there are no Historical Transmission Quality Measurement Report(s) fulfilling the request, this attribute shall contain an empty array. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported features among the ones defined in clause 6.4.8.This attribute shall be present only when feature negotiation needs to take place. |  |

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

#### 6.4.7.3 Application Errors

The application errors defined for the SDD\_TransmissionQualityMeasurement API are listed in Table 6.4.7.3-1.

Table 6.4.7.3-1: Application errors

|  |  |  |  |
| --- | --- | --- | --- |
| Application Error | HTTP status code | Description | Applicability |
| NO\_TRANS\_CONN | 403 Forbidden | Indicates that the Transmission Quality Measurement Subscription creation/update request is rejected because there are no existing Regular/URLLC transmission connections corresponding to the parameters provided in the request. |  |
|  |  |  |  |

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

# A.5 SDD\_TransmissionQualityMeasurement API

openapi: 3.0.0

info:

 title: SEALDD Server Data Transmission Quality Measurement Service

 version: 1.0.0-alpha.8

 description: |

 SEALDD Server Data Transmission Quality Measurement Service.

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externalDocs:

 description: >

 3GPP TS 29.548 V18.0.0; Service Enabler Architecture Layer for Verticals (SEAL);

 SEAL Data Delivery (SEALDD) Server Services; Stage 3.

 url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.548/

servers:

 - url: '{apiRoot}/sdd-tqm/v1'

 variables:

 apiRoot:

 default: https://example.com

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

security:

 - {}

 - oAuth2ClientCredentials: []

paths:

 /subscriptions:

 post:

 summary: Request the creation of a Transmission Quality Measurement Subscription.

 operationId: CreateTransQualMeasSubsc

 tags:

 - Transmission Quality Measurement Subscriptions (Collection)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: >

 Created. The Transmission Quality Measurement Subscription is successfully created

 and a representation of the created Individual Transmission Quality Measurement

 Subscription resource shall be returned.

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: >

 Contains the URI of the created Individual Transmission Quality Measurement

 Subscription 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'

 callbacks:

 TransQualMeasNotif:

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

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: >

 No Content. The Transmission Quality Measurement notification is successfully

 received and acknowledged.

 '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'

 /subscriptions/{subscriptionId}:

 parameters:

 - name: subscriptionId

 in: path

 description: >

 Represents the identifier of the Individual Transmission Quality Measurement Subscription

 resource.

 required: true

 schema:

 type: string

 get:

 summary: Retrieve an existing Individual Transmission Quality Measurement Subscription resource.

 operationId: GetIndTransQualMeasSubsc

 tags:

 - Individual Transmission Quality Measurement Subscription (Document)

 responses:

 '200':

 description: >

 OK. The requested Individual Transmission Quality Measurement Subscription resource

 shall be returned.

 content:

 application/json:

 schema:

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

 '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'

 put:

 summary: Request the update of an existing Individual Transmission Quality Measurement Subscription resource.

 operationId: UpdateIndTransQualMeasSubsc

 tags:

 - Individual Transmission Quality Measurement Subscription (Document)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: >

 OK. The Individual Transmission Quality Measurement Subscription resource is

 successfully updated and a representation of the updated resource shall be returned in

 the response body.

 content:

 application/json:

 schema:

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

 '204':

 description: >

 No Content. The Individual Transmission Quality Measurement Subscription resource is

 successfully updated and no content is returned in the response body.

 '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'

 patch:

 summary: Request the modification of an existing Individual Transmission Quality Measurement Subscription resource.

 operationId: ModifyIndTransQualMeasSubsc

 tags:

 - Individual Transmission Quality Measurement Subscription (Document)

 requestBody:

 required: true

 content:

 application/merge-patch+json:

 schema:

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

 responses:

 '200':

 description: >

 OK. The Individual Transmission Quality Measurement Subscription resource is

 successfully modified and a representation of the updated resource shall be returned in

 the response body.

 content:

 application/json:

 schema:

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

 '204':

 description: >

 No Content. The Individual Transmission Quality Measurement Subscription resource is

 successfully modified and no content is returned in the response body.

 '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:

 summary: Request the deletion of an existing Individual Transmission Quality Measurement Subscription resource.

 operationId: DeleteIndTransQualMeasSubsc

 tags:

 - Individual Transmission Quality Measurement Subscription (Document)

 responses:

 '204':

 description: >

 No Content. The Individual Transmission Quality Measurement Subscription resource is

 successfully 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'

 '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'

 /reports:

 get:

 summary: Retrieve Historical Transmission Quality Measurement Report(s).

 operationId: GetHistTransQualMeasReports

 tags:

 - Historical Transmission Quality Measurement Reports (Collection)

 parameters:

 - name: app-traffic-ids

 in: query

 required: true

 schema:

 type: array

 items:

 type: string

 minItems: 1

 - name: val-group-id

 in: query

 required: false

 schema:

 type: string

 - name: val-ue-ids-list

 in: query

 required: false

 schema:

 type: array

 items:

 type: string

 minItems: 1

 - name: val-user-ids-list

 in: query

 required: false

 schema:

 type: array

 items:

 type: string

 minItems: 1

 - name: all-val-ues

 in: query

 required: false

 schema:

 type: boolean

 default: false

 description: >

 Indicates that the request is related to all VAL UE(s) of the application traffic

 identified by the application traffic identifier(s) provided within the

 appTrafficIds attribute.

 true indicates that the request is related to all VAL UE(s).

 false" indicates that the request is not related to all VAL UE(s).

 The default value when this query parameter is omitted is false.

 - name: supp-feat

 in: query

 required: false

 schema:

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

 responses:

 '200':

 description: >

 OK. The requested Historical Transmission Quality Measurement Report(s), if any, shall

 be returned.

 content:

 application/json:

 schema:

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

 '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'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{tokenUrl}'

 scopes: {}

 schemas:

#

# STRUCTURED DATA TYPES

#

 TransQualMeasSubsc:

 description: >

 Represents a Transmission Quality Measurement Subscription.

 type: object

 properties:

 appTrafficIds:

 type: array

 items:

 type: string

 minItems: 1

 valGroupId:

 type: string

 valUeIdsList:

 type: array

 items:

 type: string

 minItems: 1

 valUserIdsList:

 type: array

 items:

 type: string

 minItems: 1

 allValUesInd:

 type: boolean

 default: false

 measConds:

 type: array

 items:

 $ref: 'TS29549\_SS\_Events.yaml#/components/schemas/ValidityConditions'

 minItems: 1

 reqs:

 type: object

 additionalProperties:

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

 minProperties: 1

 nullable: true

 description: >

 Represents the transmission quality measurement reporting requirements of the

 subscription.

 The key of the map shall be any unique string encoded value.

 subsExpTime:

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

 notifUri:

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

 suppFeat:

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

 required:

 - appTrafficIds

 - reqs

 - notifUri

 oneOf:

 - required: [valGroupId]

 - required: [valUeIdsList]

 - required: [valUserIdsList]

 - required: [allValUesInd]

 TransQualMeasReq:

 description: >

 Represents Transmission Quality Measurement requirements.

 type: object

 properties:

 measId:

 type: array

 items:

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

 minItems: 1

 repType:

 $ref: 'TS29508\_Nsmf\_EventExposure.yaml#/components/schemas/NotificationMethod'

 repPeriodicity:

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

 repGranularity:

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

 measWindow:

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

 measExpTime:

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

 repCriteriaSets:

 type: object

 additionalProperties:

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

 minProperties: 1

 description: >

 Contains one or several set(s) of transmission quality measurement reporting

 criteria.

 The key of the map shall be any unique string encoded value.

 Only the criteria related to the subscribed measurement(s) within the measId attribute

 shall be present within this attribute.

 required:

 - measId

 TransQualMeasSubscPatch:

 description: >

 Represents the requested modifications to a Transmission Quality Measurement Subscription.

 type: object

 properties:

 measConds:

 type: array

 items:

 $ref: 'TS29549\_SS\_Events.yaml#/components/schemas/ValidityConditions'

 minItems: 1

 reqs:

 type: object

 additionalProperties:

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

 minProperties: 1

 nullable: true

 description: >

 Represents the transmission quality measurement reporting requirements of the

 subscription.

 The key of the map shall be any unique string encoded value and shall be set to the same

 value as the one provided during the creation of the transmission quality measurement

 subscription.

 notifUri:

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

 TransQualMeasNotif:

 description: >

 Represents a Transmission Quality Measurement Notification.

 type: object

 properties:

 subscriptionId:

 type: string

 reports:

 type: array

 items:

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

 minItems: 1

 required:

 - subscriptionId

 - reports

 TransQualMeasReport:

 description: >

 Represents a Transmission Quality Measurement report.

 type: object

 properties:

 measId:

 type: array

 items:

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

 minItems: 1

 valUeIds:

 type: array

 items:

 type: string

 minItems: 1

 valUserIds:

 type: array

 items:

 type: string

 minItems: 1

 measData:

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

 required:

 - measId

 not:

 required: [valUeIds, valUserIds]

 TransQualMeasCriteria:

 description: >

 Represents the Transmission Quality Measurement reporting criteria.

 type: object

 properties:

 minLatency:

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

 avgLatency:

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

 maxLatency:

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

 minBitRate:

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

 avgBitRate:

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

 maxBitRate:

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

 minPackLossRate:

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

 avgPackLossRate:

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

 maxPackLossRate:

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

 minJitter:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 avgJitter:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 maxJitter:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 oneOf:

 - required: [minLatency]

 - required: [avgLatency]

 - required: [maxLatency]

 - required: [minBitRate]

 - required: [avgBitRate]

 - required: [maxBitRate]

 - required: [minPackLossRate]

 - required: [avgPackLossRate]

 - required: [maxPackLossRate]

 - required: [minJitter]

 - required: [avgJitter]

 - required: [maxJitter]

 TransQualMeasData:

 description: >

 Represents the Transmission Quality Measurement data.

 type: object

 properties:

 minLatency:

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

 maxLatency:

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

 avgLatency:

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

 stdDevLatency:

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

 kPercLatency:

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

 kValLatency:

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

 minBitRate:

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

 maxBitRate:

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

 avgBitRate:

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

 stdDevBitRate:

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

 kPercBitRate:

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

 kValBitRate:

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

 minPackLossRate:

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

 maxPackLossRate:

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

 avgPackLossRate:

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

 stdDevPackLossRate:

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

 kPercPackLossRate:

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

 kValPackLossRate:

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

 minJitter:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 maxJitter:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 avgJitter:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 stdDevJitter:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 kPercJitter:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 kValJitter:

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

 measPeriod:

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

 timestamp:

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

 anyOf:

 - required: [minLatency]

 - required: [maxLatency]

 - required: [avgLatency]

 - required: [minBitRate]

 - required: [maxBitRate]

 - required: [avgBitRate]

 - required: [minPackLossRate]

 - required: [maxPackLossRate]

 - required: [avgPackLossRate]

 - required: [minJitter]

 - required: [maxJitter]

 - required: [avgJitter]

 HistTransQualMeasReports:

 description: >

 Represents Historical Transmission Quality Measurement Report(s).

 type: object

 properties:

 reports:

 type: array

 items:

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

 minItems: 0

 description: >

 Contains the Historical Transmission Quality Measurement Report(s).

 If there are no Historical Transmission Quality Measurement Report(s) fulfilling the

 request, this attribute shall contain an empty array.

 suppFeat:

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

 required:

 - reports

 TransQualMeasCriteriaSet:

 description: >

 Represents a set of transmission quality measurement reporting criteria.

 type: object

 properties:

 criteria:

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

 direction:

 $ref: 'TS29520\_Nnwdaf\_EventsSubscription.yaml#/components/schemas/MatchingDirection'

 required:

 - criteria

 - direction

# SIMPLE DATA TYPES

#

#

# ENUMERATIONS

#

 MeasurementId:

 anyOf:

 - type: string

 enum:

 - LATENCY

 - BITRATE

 - PACKET\_LOSS\_RATE

 - JITTER

 - type: string

 description: >

 This string provides forward-compatibility with future extensions to the enumeration

 and is not used to encode content defined in the present version of this API.

 description: |

 Represents the transmission quality measurement type.

 Possible values are:

 - LATENCY: Indicates that the requested/reported measurement is the latency.

 - BITRATE: Indicates that the requested/reported measurement is the bit rate.

 - PACKET\_LOSS\_RATE: Indicates that the requested/reported measurement is the packet loss

 rate.

 - JITTER: Indicates that the requested/reported measurement is the jitter.

 RepGranularity:

 anyOf:

 - type: string

 enum:

 - INDIVIDUAL\_VAL\_UE

 - VAL\_GROUP

 - ALL\_VAL\_UES

 - type: string

 description: >

 This string provides forward-compatibility with future extensions to the enumeration

 and is not used to encode content defined in the present version of this API.

 description: |

 Represents the reporting granularity.

 Possible values are:

 - INDIVIDUAL\_VAL\_UE: Indicates that the granularity is individual VAL UE/user.

 - VAL\_GROUP: Indicates that the granularity is VAL Group.

 - ALL\_VAL\_UES: Indicates that the granularity is all VAL UE/user(s).

# Data types describing alternative data types or combinations of data types:

#

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