**3GPP TSG-SA5 Meeting #156 *S5-244873***

**Maastricht, The Netherlands, 19 - 23 August 2024**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **104** | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network | **X** |

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| ***Title:*** | Rel-18 CR TS 28.104 Fix stage 3 MDAFunction properties | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI18 | | | | |  | ***Date:*** | | | 2024-07-30 |
|  |  | | | |  | |  | | |  |
| ***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 can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In stage 2 both MDARequest and MDAReport are contained by an MDAFunction. The properties of an MDAFunction includes a list of Dn’s that reference the MLModels (defined in TS 28.105) and a list of Dn’s that reference aIMLInferenceFunctions (defined in TS 28.105).  Furthermore the MDAFunction inherits properties from the ManagedFunction (defined in TS 28.622) while MDAReport and MDARequest inherit from Top (defined in TS 28.622). The mapping to stage 3 does not reflect this correctly | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Define an array to hold a list of Dn’s for mLModelReferenceList attribute  Define an array to hold a list of Dn’s for aIMLInferenceFunctionList attribute  Fix inheritance of MDAFunction from ManagedFunction  Add MDAReport reference as property of MDAFunction | | | | | | | | |
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| ***Consequences if not approved:*** | | Misalignment between stage 2 and 3 may cause confusion and result in interoperability issues. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | FORGE | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | Forge MR link: <https://forge.3gpp.org/rep/sa5/MnS/-/merge_requests/1319> at commit 475430fe75b999e38d521121e8ec531063b8738a | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **Start of Change** |

Forge MR link: <https://forge.3gpp.org/rep/sa5/MnS/-/merge_requests/1319> at commit 475430fe75b999e38d521121e8ec531063b8738a

\*\*\* START OF CHANGE 1 \*\*\*

\*\*\* OpenAPI/TS28104\_MdaNrm.yaml \*\*\*

<CODE BEGINS>

openapi: 3.0.1

info:

title: MDA NRM

version: 18.4.0

description: >-

OAS 3.0.1 specification of the MDA NRM

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externalDocs:

description: 3GPP TS 28.104; MDA

url: http://www.3gpp.org/ftp/Specs/archive/28\_series/28.104/

paths: {}

components:

schemas:

#-------- Definition of types-----------------------------------------------------

MDATypes:

type: array

items:

type: string

MDAOutputs:

type: array

items:

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

AnalyticsScopeType:

oneOf:

- type: object

properties:

managedEntitiesScope:

$ref: 'TS28623\_ComDefs.yaml#/components/schemas/DnList'

- type: object

properties:

areaScope:

$ref: 'TS28623\_ComDefs.yaml#/components/schemas/GeoArea'

MDAOutputPerMDAType:

type: object

properties:

mDAType:

type: string

mDAOutputIEFilters:

type: array

items:

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

MDAOutputIEFilter:

type: object

properties:

mDAOutputIEName:

type: string

filterValue:

type: string

threshold:

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

analyticsPeriod:

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

timeOut:

$ref: 'TS28623\_ComDefs.yaml#/components/schemas/DateTime'

ReportingMethod:

type: string

enum:

- FILE

- STREAMING

- NOTIFICATION

ReportingTarget:

$ref: 'TS28623\_ComDefs.yaml#/components/schemas/Uri'

AnalyticsSchedule:

oneOf:

- type: object

properties:

timeDurations:

type: array

items:

$ref: 'TS28104\_MdaReport.yaml#/components/schemas/TimeWindow'

- type: object

properties:

granularityPeriod:

type: integer

ThresholdInfo:

type: object

properties:

monitoredMDAOutputIE:

type: string

thresholdDirection:

type: string

enum:

- UP

- DOWN

- UP\_AND\_DOWN

thresholdValue:

oneOf:

- type: integer

- $ref: 'TS28623\_ComDefs.yaml#/components/schemas/Float'

hysteresis:

oneOf:

- type: integer

minimum: 0

- type: number

format: float

minimum: 0

#-------- Definition of types for name-containments ------

SubNetwork-ncO-MdaNrm:

type: object

properties:

MDAFunction:

$ref: '#/components/schemas/MDAFunction-Multiple'

MDAReport:

$ref: '#/components/schemas/MDAReport-Multiple'

ManagedElement-ncO-MdaNrm:

type: object

properties:

MDAFunction:

$ref: '#/components/schemas/MDAFunction-Multiple'

#-------- Definition of abstract IOCs --------------------------------------------

#-------- Definition of concrete IOCs --------------------------------------------

MDAFunction-Single:

allOf:

- $ref: 'TS28623\_GenericNrm.yaml#/components/schemas/ManagedFunction-ncO'

- type: object

properties:

attributes:

allOf:

- $ref: 'TS28623\_GenericNrm.yaml#/components/schemas/ManagedFunction-Attr'

- type: object

properties:

supportedMDACapabilities:

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

mLModelRefList:

$ref: 'TS28623\_ComDefs.yaml#/components/schemas/DnList'

aIMLInferenceFunctionRefList:

$ref: 'TS28623\_ComDefs.yaml#/components/schemas/DnList'

- $ref: 'TS28623\_GenericNrm.yaml#/components/schemas/Top'

- type: object

properties:

MDARequest:

$ref: '#/components/schemas/MDARequest-Multiple'

MDAReport:

$ref: '#/components/schemas/MDAReport-Multiple'

MDARequest-Single:

allOf:

- $ref: 'TS28623\_GenericNrm.yaml#/components/schemas/Top'

- type: object

properties:

attributes:

allOf:

- type: object

properties:

requestedMDAOutputs:

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

reportingMethod:

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

reportingTarget:

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

analyticsScope:

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

startTime:

$ref: 'TS28623\_ComDefs.yaml#/components/schemas/DateTime'

stopTime:

$ref: 'TS28623\_ComDefs.yaml#/components/schemas/DateTime'

recommendationFilter:

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

MDAReport-Single:

$ref: 'TS28104\_MdaReport.yaml#/components/schemas/MDAReport'

#-------- Definition of JSON arrays for name-contained IOCs ----------------------

MDAFunction-Multiple:

type: array

items:

$ref: '#/components/schemas/MDAFunction-Single'

MDARequest-Multiple:

type: array

items:

$ref: '#/components/schemas/MDARequest-Single'

MDAReport-Multiple:

type: array

items:

$ref: '#/components/schemas/MDAReport-Single'

#-------- Definitions in TS 28.104 for TS 28.532 ---------------------------------

resources-mdaNrm:

oneOf:

- $ref: '#/components/schemas/MDAFunction-Single'

- $ref: '#/components/schemas/MDARequest-Single'

- $ref: '#/components/schemas/MDAReport-Single'

<CODE ENDS>

\*\*\* END OF CHANGE 1 \*\*\*

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| **End of Change** |