3GPP TSG CT WG3 Meeting #135 C3-243386

Hyderabad India, 27th – 31st May 2024

|  |
| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **29.435** | **CR** | **0041** | **rev** | **-** | **Current version:** | **18.0.0** |  |
|  |
| *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 on NSCE\_ManagementServiceDiscovery API |
|  |  |
| ***Source to WG:*** | China Mobile Com. Corporation |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | NSCALE |  | ***Date:*** | 2024-05-20 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***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:*** | The NSCE\_ManagementServiceDiscovery API definition and API File is incomplete.  |
|  |  |
| ***Summary of change:*** | Complete the NSCE\_ManagementServiceDiscovery API definition and API File.  |
|  |  |
| ***Consequences if not approved:*** | The NSCE\_ManagementServiceDiscovery API will be incomplete.  |
|  |  |
| ***Clauses affected:*** | 5.6.2.3.2, 6.5.3.1, 6.5.6.1, 6.5.6.2.2, 6.5.6.2.3, 6.5.6.2.4, 6.5.6.2.5, 6.5.6.2.6, 6.5.6.3.3, 6.5.6.3.4, A.6 |
|  |  |
|  | **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 a new NSCE\_ManagementServiceDiscovery API file. |
|  |  |
| ***This CR's revision history:*** |  |

\*\*\*\*\* FIRST CHANGE \*\*\*\*\*

##### 5.6.2.3.2 Management Discovery Notification

Figure 5.6.2.3.2-1 depicts a scenario where the NSCE Server sends a request to notify a previously subscribed service consumer on Management Discovery event(s) (see also clause 9.6 of 3GPP°TS°23.435°[14]).



Figure 5.6.2.3.2-1: MnS discovery Notification

1. In order to notify a previously subscribed service consumer on Management Discovery event(s), the NSCE Server shall send an HTTP POST request to the service consumer with the request URI set to "{notifUri}", where the "notifUri" variable is set to the value received from the service consumer during the creation/update of the corresponding Management Discovery Subscription using the procedures defined in clause 5.6.2.2, and the request body including the MnSDiscNotif data structure.

2a. Upon success, the service consumer shall respond to the NSCE Server with an HTTP "204 No Content" status code to acknowledge the reception of the notification.

2b. On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the HTTP POST response body, as specified in clause 6.5.7.

\*\*\*\*\* NEXT CHANGE \*\*\*\*\*

#### 6.5.3.1 Overview

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

Figure 6.5.3.1-1 depicts the resource URIs structure for the NSCE\_ManagementServiceDiscovery API.



Figure 6.5.3.1-1: Resource URIs structure of the NSCE\_ManagementServiceDiscovery API

Table 6.5.3.1-1 provides an overview of the resources and applicable HTTP methods for the NSCE\_ManagementServiceDiscovery API.

Table 6.5.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| Management Discovery Subscription | /subscriptions | POST | Request the creation of a Management Discovery Subscription. |
| Individual Management Discovery Subscription | /subscriptions/{subscriptionId} | GET | Retrieve an existing "Individual Management Discovery Subscription" resource. |
| PUT | Request the update of an existing "Individual Management Discovery Subscription" resource. |
| PATCH | Request the modification of an existing "Individual Management Discovery Subscription" resource. |
| DELETE | Request the deletion of an existing "Individual Management Discovery Subscription" resource. |

\*\*\*\*\* NEXT CHANGE \*\*\*\*\*

#### 6.5.6.1 General

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

Table 6.5.6.1-1 specifies the data types defined for the NSCE\_ManagementServiceDiscovery API.

Table 6.5.6.1-1: NSCE\_ManagementServiceDiscovery API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| ExpCapReqs | 6.5.6.2.6 | Represents the exposure capability requirements. |  |
| ExpCapType | 6.5.6.3.4 | Represents the exposure capability type. |  |
| MnSDiscNotif | 6.5.6.2.4 | Represents a Management Discovery Notification. |  |
| MnSDiscSubsc | 6.5.6.2.2 | Represents a Management Discovery Subscription. |  |
| MnSDiscSubscPatch | 6.5.6.2.3 | Represents the requested modifications to a Management Discovery Subscription. |  |
| MnSInfo | 6.5.6.2.5 | Represents the Management Services related information. |  |
| MnSPermission | 6.5.6.3.3 | Represents the permissions for exposing information related to the target slice over the MnS. |  |

Table 6.5.6.1-2 specifies data types re-used by the NSCE\_ManagementServiceDiscovery API from other specifications, including a reference to their respective specifications, and when needed, a short description of their use within the NSCE\_ManagementServiceDiscovery API.

Table 6.5.6.1-2: NSCE\_ManagementServiceDiscovery API re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| DateTime | 3GPP TS 29.122 [2] | Represents a date and a time. |  |
| Dnn | 3GPP TS 29.571 [18] | Represents a DNN. |  |
| DurationSec | 3GPP TS 29.122 [2] | Represents a time duration in seconds. |  |
| NetSliceId | 6.3.6.2.15 | Represents the identification information of a network slice. |  |
| ProblemDetails | 3GPP TS 29.122 [2] | Represents error related information. |  |
| Snssai | 3GPP TS 29.571 [18] | Represents an S-NSSAI. |  |
| SupportedFeatures | 3GPP TS 29.571 [18] | Represents the list of supported feature(s) and used to negotiate the applicability of the optional features. |  |
| Uinteger | 3GPP TS 29.571 [18] | Represents an unsigned integer. |  |
| Uri | 3GPP TS 29.122 [2] | Represents a URI. |  |

\*\*\*\*\* NEXT CHANGE \*\*\*\*\*

##### 6.5.6.2.2 Type: MnSDiscSubsc

Table 6.5.6.2.2-1: Definition of type MnSDiscSubsc

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| notifUri | Uri | M | 1 | Contains the URI via which the Management Discovery Notifications shall be delivered. |  |
| netSliceIds | array(NetSliceId) | O | 1..N | Contains the identifier for the requested network slice(s). |  |
| expCapReqs | ExpCapReqs | O | 0..1 | Contains the exposure capability requirements, i.e., the indication of the requested permissions for exposing information related to the target slice and/or the supported exposure capability type (e.g., via EGMF or directly to MnS producer). |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported features among the ones defined in clause 6.5.8.This attribute shall be present only if feature negotiation needs to take place. |  |

\*\*\*\*\* NEXT CHANGE \*\*\*\*\*

##### 6.5.6.2.3 Type: MnSDiscSubscPatch

Table 6.5.6.2.3-1: Definition of type MnSDiscSubscPatch

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| notifUri | Uri | O | 0..1 | Contains the updated URI via which the Management Discovery Notifications shall be delivered. |  |
| expCapReqs | ExpCapReqs | O | 0..1 | Contains the updated exposure capability requirements, i.e., the updated indication of the requested permissions for exposing information related to the target slice and/or the updated supported exposure capability type (e.g., via EGMF or directly to MnS producer). |  |

\*\*\*\*\* NEXT CHANGE \*\*\*\*\*

##### 6.5.6.2.4 Type: MnSDiscNotif

Table 6.5.6.2.4-1: Definition of type MnSDiscNotif

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| mnSDomainId | string | M | 1 | Contains the identifier of the management system/domain of interest. |  |
| mnSs | array(MnSInfo) | M | 1..N | Contains the list of Management Services. |  |

\*\*\*\*\* NEXT CHANGE \*\*\*\*\*

##### 6.5.6.2.5 Type: MnSInfo

Table 6.5.6.2.5-1: Definition of type MnSInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| mnSIds | array(string) | M | 1..N | Contains the list of the identifiers of the needed MnSs / MnS producers |  |
| mnSCap | string | M | 1 | Contains the capability per needed MnS. Such capability may be related to the managed elements such as considerations for radio, technology, coverage or NFs. |  |
| mnSPerms | array(MnSPermission) | O | 1..N | Contains the allowed permissions of the VAL server over the MnS, e.g., whether it is allowed to read, write, delete, and/or update. |  |
| netSliceId | NetSliceId | O | 0..1 | Contains the identifier of the concerned network slice. |  |

\*\*\*\*\* NEXT CHANGE \*\*\*\*\*

##### 6.5.6.2.6 Type: ExpCapReqs

Table 6.5.6.2.6-1: Definition of type ExpCapReqs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| reqPerm | array(MnSPermission) | C | 1..N | Contains the list of the requested permissions for exposing information related to the target slice.(NOTE) |  |
| expCapType | array(ExpCapType) | C | 1..N | Contains the supported exposure capability type (e.g., via EGMF or directly to MnS producer).(NOTE) |  |
| NOTE: At least one of these attributes shall be present. |

\*\*\*\*\* NEXT CHANGE \*\*\*\*\*

##### 6.5.6.3.3 Enumeration: MnSPermission

The enumeration MnSPermission represents the permissions for exposing information related to the target slice over the MnS. It shall comply with the provisions defined in table 6.5.6.3.3-1.

Table 6.5.6.3.3-1: Enumeration MnSPermission

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| READ | Indicates the allowed permission is to read over the MnS. |  |
| WRITE | Indicates the allowed permission is to write over the MnS. |  |
| DELETE | Indicates the allowed permission is to delete over the MnS. |  |
| UPDATE | Indicates the allowed permission is to update over the MnS. |  |

##### 6.5.6.3.4 Enumeration: ExpCapType

The enumeration ExpCapType represents the exposure capability type. It shall comply with the provisions defined in table 6.5.6.3.4-1.

Table 6.5.6.3.4-1: Enumeration ExpCapType

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| VIA\_EGMF | Indicates the supported exposure capability is via EGMF. |  |
| DIRECT | Indicates the supported exposure capability is directly to MnS producer. |  |

\*\*\*\*\* NEXT CHANGE \*\*\*\*\*

# A.6 NSCE\_ManagementServiceDiscovery API

openapi: 3.0.0

info:

 title: NSCE\_ManagementServiceDiscovery

 version: 1.0.0-alpha.1

 description: |

 NSCE\_ManagementServiceDiscovery Service.

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externalDocs:

 description: >

 3GPP TS 29.435 V18.1.0; Service Enabler Architecture Layer for Verticals (SEAL);

 Network Slice Capability Exposure (NSCE) Server Service(s); Stage 3.

 url: http://www.3gpp.org/ftp/Specs/archive/29\_series/29.435/

servers:

 - url: '{apiRoot}/nsce-msd/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 Management Discovery Subscription.

 operationId: CreateMngtDiscSubsc

 tags:

 - Management Discovery Subscriptions (Collection)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: >

 Created. The Management Discovery Subscription is successfully created and a

 representation of the created Individual Management Discovery Subscription resource

 shall be returned.

 content:

 application/json:

 schema:

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

 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'

 callbacks:

 ManagementDiscoveryNotif:

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

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: >

 No Content. The Management Discovery Notification is successfully received and

 processed.

 '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 Management Discovery Subscription resource.

 required: true

 schema:

 type: string

 get:

 summary: Retrieve an existing Individual Management Discovery Subscription resource.

 operationId: GetIndMngtDiscSubsc

 tags:

 - Individual Management Discovery Subscription (Document)

 responses:

 '200':

 description: >

 OK. The requested Individual Management Discovery Subscription resource shall be

 returned.

 content:

 application/json:

 schema:

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

 '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 Management Discovery Subscription resource.

 operationId: UpdateIndMngtDiscSubsc

 tags:

 - Individual Management Discovery Subscription (Document)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: >

 OK. The Individual Management Discovery 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/MnSDiscSubsc'

 '204':

 description: >

 No Content. The Individual Management Discovery 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'

 '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'

 patch:

 summary: Request the modification of an existing Individual Management Discovery Subscription resource.

 operationId: ModifyIndMngtDiscSubsc

 tags:

 - Individual Management Discovery Subscription (Document)

 requestBody:

 required: true

 content:

 application/merge-patch+json:

 schema:

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

 responses:

 '200':

 description: >

 OK. The Individual Management Discovery 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/MnSDiscSubsc'

 '204':

 description: >

 No Content. The Individual Management Discovery 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'

 '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'

 delete:

 summary: Request the deletion of an existing Individual Management Discovery Subscription resource.

 operationId: DeleteIndMngtDiscSubsc

 tags:

 - Individual Management Discovery Subscription (Document)

 responses:

 '204':

 description: >

 No Content. The Individual Management Discovery 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'

 '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:

 MnSDiscSubsc:

 description: Represents a Management Discovery Subscription.

 type: object

 properties:

 notifUri:

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

 netSliceIds:

 type: array

 items:

 $ref: 'TS29435\_NSCE\_PolicyManagement.yaml#/components/schemas/NetSliceId'

 minItems: 1

 expCapReqs:

 $ref: '/components/schemas/ExpCapReqs'

 suppFeat:

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

 required:

 - notifUri

 MnSDiscSubscPatch:

 description: Represents the requested modifications to a Management Discovery Subscription.

 type: object

 properties:

 notifUri:

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

 expCapReqs:

 $ref: '/components/schemas/ExpCapReqs'

 MnSDiscNotif:

 description: Represents a Management Discovery Notification.

 type: object

 properties:

 mnSDomainId:

 type: string

 mnSs:

 type: array

 items:

 $ref: '/components/schemas/MnSInfo'

 minItems: 1

 required:

 - mnSDomainId

 - mnSs

 MnSInfo:

 description: Represents the Management Services related information.

 type: object

 properties:

 mnSIds:

 type: array

 items:

 type: string

 minItems: 1

 mnSCap:

 type: string

 mnSPerms:

 type: array

 items:

 $ref: '/components/schemas/MnSPermission'

 minItems: 1

 netSliceId:

 $ref: 'TS29435\_NSCE\_PolicyManagement.yaml#/components/schemas/NetSliceId'

 required:

 - mnSIds

 - mnSCap

 ExpCapReqs:

 description: Represents the exposure capability requirements.

 type: object

 properties:

 reqPerm:

 type: array

 items:

 $ref: '/components/schemas/MnSPermission'

 minItems: 1

 expCapType:

 type: array

 items:

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

 minItems: 1

 anyOf:

 - required: [reqPerm]

 - required: [expCapType]

#

# ENUMERATIONS DATA TYPES

#

 MnSPermission:

 anyOf:

 - type: string

 enum:

 - READ

 - WRITE

 - DELETE

 - UPDATE

 - 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 permissions for exposing information related to the target slice over the MnS.

 Possible values are:

 - READ: Indicates the allowed permission of the VAL server to read over the MnS.

 - WRITE: Indicates the allowed permission of the VAL server to write over the MnS.

 - DELETE: Indicates the allowed permission of the VAL server to delete over the MnS.

 - UPDATE: Indicates the allowed permission of the VAL server to update over the MnS.

 ExpCapType:

 anyOf:

 - type: string

 enum:

 - VIA\_EGMF

 - DIRECT

 - 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 exposure capability type.

 Possible values are:

 - VIA\_EGMF: Indicates the supported exposure capability is via EGMF.

 - DIRECT: Indicates the supported exposure capability is directly to MnS producer.

 \*\*\*\*\* END OF CHANGES \*\*\*