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**Source: China Mobile, Huawei**

**Title: Pseudo-CR on Management Service Discovery service API**

**Spec: 3GPP TS 29.435 v0.1.1**

**Agenda item: 18.49**

**Document for: Approval**

**1. Introduction**

This document introduces Management Service Discovery in TS 29.435 Network Slice Capability Exposure (NSCE) Server Services.

**2. Reason for Change**

This document introduces Management Service Discovery in TS 29.435 Network Slice Capability Exposure (NSCE) Server Services. TS 23.435 clause 4.5 and 9.6 specify the Management Service Discovery service.

**3. Conclusions**

This document introduces Management Service Discovery in TS 29.435 Network Slice Capability Exposure (NSCE) Server Services, defines the resources and the data model for the new NSCE\_ManagementServiceDiscovery service.

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.435 Network Slice Capability Exposure (NSCE) Server server Services.

\* \* \* First Change \* \* \* \*

## 6.5 NSCE\_ManagementServiceDiscovery API

### 6.5.1 Introduction

The NSCE\_ManagementServiceDiscovery service shall use the NSCE\_ManagementServiceDiscovery API.

The API URI of the NSCE\_ManagementServiceDiscovery API shall be:

**{apiRoot}/<apiName>/<apiVersion>**

The request URIs used in HTTP requests shall have the Resource URI structure defined in clause 6.5 of 3GPP TS 29.549 [13], i.e.:

**{apiRoot}/<apiName>/<apiVersion>/<apiSpecificSuffixes>**

with the following components:

- The {apiRoot} shall be set as described in clause 6.5 of 3GPP TS 29.549 [13].

- The <apiName>shall be "nsce-msd".

- The <apiVersion> shall be "v1".

- The <apiSpecificSuffixes> shall be set as described in clause 6.5 of 3GPP TS 29.549 [13].

NOTE: When 3GPP TS 29.549 [13] is referenced for the common protocol and interface aspects for API definition in the clauses under clause 6, the service producer NSCE server takes the role of the SCEF and the service consumer (i.e. NSCE server) takes the role of the SCS/AS.

### 6.5.2 Usage of HTTP

The provisions of clause 6.3 of 3GPP TS 29.549 [13] shall apply for the NSCE\_ManagementServiceDiscovery API.

### 6.5.3 Resources

#### 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 | /sbscriptions/{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. |

#### 6.5.3.2 Resource: Management Discovery Subscription

##### 6.5.3.2.1 Description

This resource represents the collection of Management Discovery Subscription managed by the NSCE Server.

##### 6.5.3.2.2 Resource Definition

Resource URI: **{apiRoot}/nsce-msd/<apiVersion>/subscriptions**

This resource shall support the resource URI variables defined in table 6.5.3.2.2-1.

Table 6.5.3.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 6.5.1. |

##### 6.5.3.2.3 Resource Standard Methods

###### 6.5.3.2.3.2 POST

The HTTP POST method allows a service consumer to request the creation of a Management Discovery Subscription at the NSCE Server.

This method shall support the URI query parameters specified in table 6.5.3.2.3.2-1.

Table 6.5.3.2.3.2-1: 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 6.5.3.2.3.2-2 and the response data structures and response codes specified in table 6.5.3.2.3.2-3.

Table 6.5.3.2.3.2-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| MnSDiscSubsc | M | 1 | Represents the parameters to request the creation of a Management Discovery Subscription resource. |

Table 6.5.3.2.3.2-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| MnSDiscSubsc | M | 1 | 201 Created | Successful case. The Management Discovery Subscription is successfully created and a representation of the created "Individual Management Discovery Subscription" resource shall be returned.  An HTTP "Location" header that contains the resource URI of the created resource shall also be included. |
| NOTE: The mandatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.5.3.2.3.2-4: 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}/nsce-msd/<apiVersion>/subscriptions/{subscriptionId} |

##### 6.5.3.2.4 Resource Custom Operations

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

#### 6.5.3.3 Resource: Individual Management Discovery Subscription

##### 6.5.3.3.1 Description

This resource represents a Management Discovery Subscription managed by the NSCE Server.

##### 6.5.3.3.2 Resource Definition

Resource URI: **{apiRoot}/nsce-msd/<apiVersion>/subscriptions/{subscriptionId}**

This resource shall support the resource URI variables defined in table 6.5.3.3.2-1.

Table 6.5.3.3.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 6.5.1. |
| subscriptionId | string | Represents the identifier of the "Individual Management Discovery Subscription" resource. |

##### 6.5.3.3.3 Resource Standard Methods

###### 6.5.3.3.3.1 GET

The HTTP GET method allows a service consumer to retrieve an existing "Individual Management Discovery Subscription" resource at the NSCE Server.

This method shall support the URI query parameters specified in table 6.5.3.3.3.1-1.

Table 6.5.3.3.3.1-1: URI query parameters supported by the GET method on this resource

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

This method shall support the request data structures specified in table 6.5.3.3.3.1-2 and the response data structures and response codes specified in table 6.5.3.3.3.1-3.

Table 6.5.3.3.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 6.5.3.3.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| MnSDiscSubsc | M | 1 | 200 OK | Successful case. The requested "Individual Management Discovery Subscription" resource 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 NSCE 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 NSCE 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 6.5.3.3.3.1-4: 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 NSCE Server. |

Table 6.5.3.3.3.1-5: 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 NSCE Server. |

###### 6.5.3.3.3.2 PUT

The HTTP PUT method allows a service consumer to request the update of an existing "Individual Management Discovery Subscription" resource at the NSCE Server.

This method shall support the URI query parameters specified in table 6.5.3.3.3.2-1.

Table 6.5.3.3.3.2-1: URI query parameters supported by the PUT method on this resource

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

This method shall support the request data structures specified in table 6.5.3.3.3.2-2 and the response data structures and response codes specified in table 6.5.3.3.3.2-3.

Table 6.5.3.3.3.2-2: Data structures supported by the PUT Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| MnSDiscSubsc | M | 1 | Represents the updated representation of the "Individual Management Discovery Subscription" resource. |

Table 6.5.3.3.3.2-3: Data structures supported by the PUT Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| MnSDiscSubsc | M | 1 | 200 OK | Successful case. The "Individual Management Discovery Subscription" resource is successfully updated and a representation of the updated resource shall be returned in the response body. |
| n/a |  |  | 204 No Content | Successful case. The "Individual Management Discovery Subscription" resource is successfully updated and no content is returned in the response body. |
| 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 NSCE 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 NSCE 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 PUT method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.5.3.3.3.2-4: 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 NSCE Server. |

Table 6.5.3.3.3.2-5: 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 NSCE Server. |

###### 6.5.3.3.3.3 PATCH

The HTTP PATCH method allows a service consumer to request the modification of an existing "Individual Management Discovery Subscription" resource at the NSCE Server.

This method shall support the URI query parameters specified in table 6.5.3.3.3.3-1.

Table 6.5.3.3.3.3-1: 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 6.5.3.3.3.3-2 and the response data structures and response codes specified in table 6.5.3.3.3.3-3.

Table 6.5.3.3.3.3-2: Data structures supported by the PATCH Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| MnSDiscSubscPatch | M | 1 | Represents the parameters to request the modification of the "Individual Management Discovery Subscription" resource. |

Table 6.5.3.3.3.3-3: Data structures supported by the PATCH Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| MnSDiscSubsc | M | 1 | 200 OK | Successful case. The "Individual Management Discovery Subscription" resource is successfully modified and a representation of the updated resource shall be returned in the response body. |
| n/a |  |  | 204 No Content | Successful case. The "Individual Management Discovery Subscription" resource is successfully modified and no content is returned in the response body. |
| 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 NSCE 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 NSCE 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 PATCH method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.5.3.3.3.3-4: 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 NSCE Server. |

Table 6.5.3.3.3.3-5: 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 NSCE Server. |

###### 6.5.3.3.3.4 DELETE

The HTTP DELETE method allows a service consumer to request the deletion of an existing "Individual Management Discovery Subscription" resource at the NSCE Server.

This method shall support the URI query parameters specified in table 6.5.3.3.3.4-1.

Table 6.5.3.3.3.4-1: URI query parameters supported by the DELETE method on this resource

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

This method shall support the request data structures specified in table 6.5.3.3.3.4-2 and the response data structures and response codes specified in table 6.5.3.3.3.4-3.

Table 6.5.3.3.3.4-2: Data structures supported by the DELETE Request Body on this resource

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

Table 6.5.3.3.3.4-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | Successful case. The "Individual Management Discovery Subscription" resource is successfully deleted. |
| 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 NSCE 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 NSCE 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 DELETE method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

Table 6.5.3.3.3.4-4: 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 NSCE Server. |

Table 6.5.3.3.3.4-5: 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 NSCE Server. |

##### 6.5.3.3.4 Resource Custom Operations

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

### 6.5.4 Custom Operations without associated resources

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

### 6.5.5 Notifications

#### 6.5.5.1 General

Notifications shall comply to clause 6.6 of 3GPP TS 29.549 [15].

Table 6.5.5.1-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description  (service operation) |
| Management discovery Notification | {notifUri} | POST | This service operation enables a NSCE Server to notify a previously subscribed service consumer on Management Discovery event(s). |

#### 6.5.5.2 Management discovery Notification

##### 6.5.5.2.1 Description

The Management discovery Notification is used by the NSCE Server to notify a previously subscribed service consumer on Management discovery subscriptions.

##### 6.5.5.2.2 Target URI

The Callback URI **"{notifUri}"** shall be used with the callback URI variables defined in table 6.5.5.2.2-1.

Table 6.5.5.2.2-1: Callback URI variables

|  |  |
| --- | --- |
| Name | Definition |
| notifUri | Represents the callback URI encoded as a string formatted as a URI. |

##### 6.5.5.2.3 Standard Methods

6.5.5.2.3.1 POST

This method shall support the request data structures specified in table 6.5.5.2.3.1-1 and the response data structures and response codes specified in table 6.5.5.2.3.1-2.

Table 6.5.5.2.3.1-1: Data structures supported by the POST Request Body

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| MnSDiscNotif | M | 1 | Represents the Management Discovery Notification. |

Table 6.5.5.2.3.1-2: Data structures supported by the POST Response Body

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | Successful case. The Management Discovery Notification is successfully received. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative URI representing the end point of an alternative service consumer where the notification should be sent.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative URI representing the end point of an alternative service consumer where the notification should be sent.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] also apply. | | | | |

Table 6.5.5.2.3.1-3: Headers supported by the 307 Response Code on this resource

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

Table 6.5.5.2.3.1-4: Headers supported by the 308 Response Code on this resource

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

### 6.5.6 Data Model

#### 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 |
| 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. |  |

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. |  |

#### 6.5.6.2 Structured data types

##### 6.5.6.2.1 Introduction

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

##### 6.5.6.2.2 Type: MnSDiscSubsc

Table 6.5.6.2.5-1: 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). |  |
| expCapReq | string | O | 0..1 | Contains the indication of the requested permissions for exposing information related to the target slice, and/or, exposure capability type which is supported (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. |  |

Editor's Note: The definition of expCapReq is FFS.

Editor's Note: Whether to have a single NetSliceId or multi NetSliceId in the subscription is FFS.

##### 6.5.6.2.3 Type: MnSDiscSubscPatch

Table 6.5.6.2.6-1: 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. |  |
| expCapReq | string | O | 0..1 | Contains the indication of the requested permissions for exposing information related to the target slice, and/or, exposure capability type which is supported (e.g. via EGMF or directly to MnS producer). |  |

##### 6.5.6.2.4 Type: MnSDiscNotif

Table 6.5.6.2.8-1: 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(string) | M | 1..N | List of Management Services. |  |

Editor's Note: The definition of mnSs is FFS. The notification to the Management capability and Management permissions related to the Management will be updated accordingly.

#### 6.5.6.3 Simple data types and enumerations

##### 6.5.6.3.1 Introduction

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

##### 6.5.6.3.2 Simple data types

The simple data types defined in table 6.5.6.3.2-1 shall be supported.

Table 6.5.6.3.2-1: Simple data types

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

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

There are no data types describing alternative data types or combinations of data types defined for this API in this release of the specification.

#### 6.5.6.5 Binary data

##### 6.5.6.5.1 Binary Data Types

Table 6.5.6.5.1-1: Binary Data Types

|  |  |  |
| --- | --- | --- |
| Name | Clause defined | Content type |
|  |  |  |

### 6.5.7 Error Handling

#### 6.5.7.1 General

For the NSCE\_ManagementServiceDiscovery API, error handling shall be supported as specified in clause 6.7 of 3GPP TS 29.549 [15].

In addition, the requirements in the following clauses are applicable for the NSCE\_ManagementServiceDiscovery API.

#### 6.5.7.2 Protocol Errors

No specific protocol errors for the NSCE\_ManagementServiceDiscovery API are specified.

#### 6.5.7.3 Application Errors

The application errors defined for the NSCE\_ManagementServiceDiscovery API are listed in Table 6.5.7.3-1.

Table 6.5.7.3-1: Application errors

|  |  |  |  |
| --- | --- | --- | --- |
| Application Error | HTTP status code | Description | Applicability |
|  |  |  |  |

### 6.5.8 Feature negotiation

The optional features listed in table 6.5.8-1 are defined for the NSCE\_ManagementServiceDiscovery API. They shall be negotiated using the extensibility mechanism defined in clause 6.8 of 3GPP TS 29.549 [15].

Table 6.5.8-1: Supported Features

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

### 6.5.9 Security

The provisions of clause 9 of 3GPP TS 29.549 [15] shall apply for the NSCE\_ManagementServiceDiscovery API.