

# SOL011 - NSD Management Interface

## Overview

SOL011 - NSD Management Interface IMPORTANT: Please note that this file might be not aligned to the current version of the ETSI Group Specification it refers to and has not been approved by the ETSI NFV ISG. In case of discrepancies the published ETSI Group Specification takes precedence. Please report bugs to <https://forge.etsi.org/rep/nfv/SOL011/-/issues>

## Version information

*Version* : 1.1.0-impl:etsi.org:ETSI\_NFV\_OpenAPI:1

## Contact information

*Contact* : NFV-SOL WG

## License information

*License* : ETSI Forge copyright notice

*License URL* : <https://forge.etsi.org/etsi-forge-copyright-notice.txt>

*Terms of service* : null

## URI scheme

*BasePath* : /nsd/v1

*Schemes* : HTTP, HTTPS

## Consumes

- `application/json`

## Produces

- `application/json`

## External Docs

*Description* : ETSI GS NFV-SOL 011 V3.7.1

*URL* : [https://www.etsi.org/deliver/etsi\\_gs/NFV-SOL/001\\_099/011/03.07.01\\_60/gs\\_NFV-SOL011v030701p.pdf](https://www.etsi.org/deliver/etsi_gs/NFV-SOL/001_099/011/03.07.01_60/gs_NFV-SOL011v030701p.pdf)

# Paths

## POST /api\_versions

### Description

This method is not supported. When this method is requested on this resource, the API producer shall return a "405 Method Not Allowed" response

### Parameters

Type	Name	Description	Schema
Header	<b>Version</b> <i>optional</i>	Version of the API requested to use when responding to this request.	string

### Responses

HTTP Code	Description	Schema
405	<p>405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<a href="#">Response 405</a>

### Response 405

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)

Name	Description	Schema
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

## Retrieve API version information

GET /api\_versions

### Description

The GET method reads API version information. This method shall follow the provisions specified in table 4.6.3.3.3.2-1 for request and response data structures, and response codes. URI query parameters are not supported.

### Parameters

Type	Name	Description	Schema
<b>Header</b>	<b>Version</b> <i>optional</i>	Version of the API requested to use when responding to this request.	string

### Responses

HTTP Code	Description	Schema
200	<p>API version information was read successfully. The response body shall contain 4.4 API version information, as defined in clause 4.4.1.13.</p> <p><b>Headers :</b>  <b>Content-Type</b> (string) : The MIME type of the body of the response.  <b>Version</b> (string) : The used API version.</p>	Response 200
400	<p>400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4.</p> <p><b>Headers :</b>  <b>Content-Type</b> (string) : The MIME type of the body of the response.  <b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.  <b>Version</b> (string) : Version of the API used in the response.</p>	Response 400

HTTP Code	Description	Schema
401	<p>401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<p><a href="#">Response 401</a></p>
403	<p>403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<p><a href="#">Response 403</a></p>

HTTP Code	Description	Schema
404	<p>404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<p><a href="#">Response 404</a></p>
406	<p>406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<p><a href="#">Response 406</a></p>

HTTP Code	Description	Schema
413	<p>413 PAYLOAD TOO LARGE If the payload body of a request is larger than the amount of data the API producer is willing or able to process, it shall respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for closing the connection. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 413
414	<p>414 URI TOO LONG If the request URI of a request is longer than the API producer is willing or able to process, it shall respond with this response code. This condition can e.g. be caused by passing long queries in the request URI of a GET request. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 414
416	<p>416 RANGE NOT SATISFIABLE</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 416

HTTP Code	Description	Schema
422	<p>422 UNPROCESSABLE ENTITY If the payload body of a request contains syntactically correct data (e.g. well-formed JSON) but the data cannot be processed (e.g. because it fails validation against a schema), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. This error response code is only applicable for methods that have a request body.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<p><a href="#">Response 422</a></p>
429	<p>429 TOO MANY REQUESTS If the API consumer has sent too many requests in a defined period of time and the API producer is able to detect that condition ("rate limiting"), the API producer shall respond with this response code, following the provisions in IETF RFC 6585 [17] for the use of the "Retry-After" HTTP header. The "ProblemDetails" structure shall be provided and shall include in the "detail" attribute more information about the source of the problem. The period of time and allowed number of requests are configured within the API producer by means outside the scope of the present document.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<p><a href="#">Response 429</a></p>



HTTP Code	Description	Schema
500	<p>500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 500
503	<p>503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 503
504	<p>504 GATEWAY TIMEOUT If the API producer encounters a timeout while waiting for a response from an upstream server (i.e. a server that the API producer communicates with when fulfilling a request), it should respond with this response code.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 504

## Response 200

Name	Description	Schema
<b>apiVersions</b> <i>required</i>	Version(s) supported for the API signalled by the uriPrefix attribute.	< <a href="#">apiVersions</a> > array
<b>uriPrefix</b> <i>required</i>	Specifies the URI prefix for the API, in the following form {apiRoot}/{apiName}/{apiMajorVersion}/.	string

### apiVersions

Name	Description	Schema
<b>isDeprecated</b> <i>optional</i>	The Boolean is a data type having two values (TRUE and FALSE).	boolean
<b>version</b> <i>required</i>	Identifies a supported version. The value of the version attribute shall be a version identifier as specified in clause 4.6.1.	string

### Response 400

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 401

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 403

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

#### Response 404

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

#### Response 406

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 413

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 414

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 416

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

## Response 422

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string



Name	Description	Schema
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 429

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 500

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 503

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

#### Response 504

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

## PUT /api\_versions

### Description

This method is not supported. When this method is requested on this resource, the API producer shall return a "405 Method Not Allowed" response

### Parameters

Type	Name	Description	Schema
<b>Header</b>	<b>Version</b> <i>optional</i>	Version of the API requested to use when responding to this request.	string

### Responses

HTTP Code	Description	Schema
<b>405</b>	<p>405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<a href="#">Response 405</a>

### Response 405

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string

Name	Description	Schema
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

## DELETE /api\_versions

### Description

This method is not supported. When this method is requested on this resource, the API producer shall return a "405 Method Not Allowed" response

### Parameters

Type	Name	Description	Schema
<b>Header</b>	<b>Version</b> <i>optional</i>	Version of the API requested to use when responding to this request.	string

### Responses

HTTP Code	Description	Schema
405	<p>405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<a href="#">Response 405</a>

### Response 405

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

# PATCH /api\_versions

## Description

This method is not supported. When this method is requested on this resource, the API producer shall return a "405 Method Not Allowed" response

## Parameters

Type	Name	Description	Schema
Header	<b>Version</b> <i>optional</i>	Version of the API requested to use when responding to this request.	string

## Responses

HTTP Code	Description	Schema
405	<p>405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<a href="#">Response 405</a>

## Response 405

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

## Query information about multiple NS descriptor resources.

```
GET /ns_descriptors
```

### Description

The GET method queries information about multiple NS descriptor resources.

### Parameters

Type	Name	Description	Schema
<b>Header</b>	<b>Accept</b> <i>required</i>	Content-Types that are acceptable for the response. Reference: IETF RFC 7231.	string
<b>Header</b>	<b>Authorization</b> <i>optional</i>	The authorization token for the request. Reference: IETF RFC 7235.	string
<b>Header</b>	<b>Version</b> <i>required</i>	Version of the API requested to use when responding to this request.	string
<b>Query</b>	<b>all_fields</b> <i>optional</i>	Include all complex attributes in the response. See clause 5.3 of ETSI GS NFV SOL 013 for details. The NFVO shall support this parameter.	string



Type	Name	Description	Schema
Query	<b>exclude_default</b> <i>optional</i>	Indicates to exclude the following complex attributes from the response. See clause 5.3 of ETSI GS NFV SOL 013 for details. The VNFM shall support this parameter. The following attributes shall be excluded from the NsdInfo structure in the response body if this parameter is provided, or none of the parameters "all_fields," "fields", "exclude_fields", "exclude_default" are provided: userDefinedData.	string
Query	<b>exclude_fields</b> <i>optional</i>	Complex attributes to be excluded from the response. See clause 5.3 of ETSI GS NFV SOL 013 for details. The NFVO should support this parameter.	string
Query	<b>fields</b> <i>optional</i>	Complex attributes to be included into the response. See clause 5.3 of ETSI GS NFV SOL 013 for details. The NFVO should support this parameter.	string
Query	<b>filter</b> <i>optional</i>	Attribute-based filtering expression according to clause 5.2 of ETSI GS NFV-SOL 013. The NFVO shall support receiving this filtering parameter as part of the URI query string. The OSS/BSS may supply this parameter. All attribute names that appear in the NsdInfo and in data types referenced from it shall be supported by the NFVO in the filter expression.	string
Query	<b>nextpage_opaque_marker</b> <i>optional</i>	Marker to obtain the next page of a paged response. Shall be supported by the NFVO if the NFVO supports alternative 2 (paging) according to clause 5.4.2.1 of ETSI GS NFV-SOL 013 for this resource.	string

## Responses

HTTP Code	Description	Schema
200	<p>200 OK Information about zero or more NS descriptors. The response body shall contain in an array the representations of zero or more NS descriptors, as defined in clause 5.5.2.2. If the NFVO supports alternative 2 (paging) according to clause 5.4.2.1 of ETSI GS NFV-SOL 013 for this resource, inclusion of the Link HTTP header in this response shall follow the provisions in clause 5.4.2.3 of ETSI GS NFV-SOL 013.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p> <p><b>Link</b> (string) : Reference to other resources. Used for paging in the present document, see clause 4.7.2.1.</p>	<p>&lt; <a href="#">Response 200</a> &gt; array</p>

HTTP Code	Description	Schema
400	<p>400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<p><a href="#">Response 400</a></p>

HTTP Code	Description	Schema
401	<p>401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<p><a href="#">Response 401</a></p>
403	<p>403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<p><a href="#">Response 403</a></p>

HTTP Code	Description	Schema
404	<p>404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 404
405	<p>405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 405
406	<p>406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 406

HTTP Code	Description	Schema
500	<p>500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 500
503	<p>503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 503
504	<p>504 GATEWAY TIMEOUT If the API producer encounters a timeout while waiting for a response from an upstream server (i.e. a server that the API producer communicates with when fulfilling a request), it should respond with this response code.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 504

## Response 200

Name	Description	Schema
<b>_links</b> <i>required</i>	Links to resources related to this resource.	<a href="#">_links</a>
<b>id</b> <i>required</i>	An identifier with the intention of being globally unique.	string
<b>nestedNsdInfoIds</b> <i>optional</i>	Identifies the NsdInfo element for the nested NSD referenced by the on-boarded NS descriptor resource.	< string > array
<b>nsdDesigner</b> <i>optional</i>	Designer of the on-boarded NSD. This information is copied from the NSD content and shall be present after the NSD content is on-boarded.	string
<b>nsdId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>nsdInvariantId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>nsdName</b> <i>optional</i>	Name of the on boarded NSD. This information is copied from the NSD content and shall be present after the NSD content is on-boarded.	string
<b>nsdOnboardingState</b> <i>required</i>	The enumeration NsdOnboardingStateType shall comply with the provisions defined in Table 5.5.4.5-1 of GS NFV-SOL 005. It indicates the on-boarding state of the NSD. CREATED = The NSD information object is created. UPLOADING = The associated NSD content is being uploaded. PROCESSING = The associated NSD content is being processed, e.g. validation. ONBOARDED = The associated NSD content is on-boarded.	enum (CREATED, UPLOADING, PROCESSING, ONBOARDED)
<b>nsdOperationalState</b> <i>required</i>	The enumeration NsdOperationalStateType shall comply with the provisions defined in Table 5.5.4.3-1 of GS NFV-SOL 005. It indicates the operational state of the resource. ENABLED = The operational state of the resource is enabled. DISABLED = The operational state of the resource is disabled.	enum (ENABLED, DISABLED)

Name	Description	Schema
<b>nsdUsageState</b> <i>required</i>	The enumeration NsdUsageStateType shall comply with the provisions defined in Table 5.5.4.4-1 of GS NFV-SOL 005. It indicates the usage state of the resource. IN_USE = The resource is in use. NOT_IN_USE = The resource is not-in-use.	enum (IN_USE, NOT_IN_USE)
<b>nsdVersion</b> <i>optional</i>	A Version. Representation: string of variable length.	string
<b>onboardingFailureDetails</b> <i>optional</i>	The definition of the general "ProblemDetails" data structure from IETF RFC 7807 [19] is reproduced in this structure. Compared to the general framework defined in IETF RFC 7807 [19], the "status" and "detail" attributes are mandated to be included by the present document, to ensure that the response contains additional textual information about an error. IETF RFC 7807 [19] foresees extensibility of the "ProblemDetails" type. It is possible that particular APIs in the present document, or particular implementations, define extensions to define additional attributes that provide more information about the error. The description column only provides some explanation of the meaning to Facilitate understanding of the design. For a full description, see IETF RFC 7807 [19].	<a href="#">onboardingFailureDetails</a>
<b>pnfdInfoIds</b> <i>optional</i>	Identifies the PnfdInfo element for the PNFD referenced by the on-boarded NS descriptor resource.	< string > array
<b>userDefinedData</b> <i>optional</i>	This type represents a list of key-value pairs. The order of the pairs in the list is not significant. In JSON, a set of key-value pairs is represented as an object. It shall comply with the provisions defined in clause 4 of IETF RFC 7159.	object
<b>vnfPkgIds</b> <i>optional</i>	Identifies the VNF package for the VNFD referenced by the on-boarded NS descriptor resource.	< string > array

## links

Name	Description	Schema
<b>nsd_content</b> <i>required</i>	This type represents a link to a resource.	<a href="#">nsd_content</a>
<b>self</b> <i>required</i>	This type represents a link to a resource.	<a href="#">self</a>



## nsd\_content

Name	Description	Schema
<b>href</b> <i>required</i>	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

## self

Name	Description	Schema
<b>href</b> <i>required</i>	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

## onboardingFailureDetails

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 400

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 401

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 403

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

#### Response 404

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

#### Response 405

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

#### Response 406

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

## Response 500

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 503

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

#### Response 504

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

## Read information about an individual NS descriptor resource.

```
GET /ns_descriptors/{nsdInfoId}
```



## Description

The GET method reads information about an individual NS descriptor.

## Parameters

Type	Name	Description	Schema
Header	<b>Accept</b> <i>required</i>	Content-Types that are acceptable for the response. Reference: IETF RFC 7231.	string
Header	<b>Authorization</b> <i>optional</i>	The authorization token for the request. Reference: IETF RFC 7235.	string
Header	<b>Version</b> <i>required</i>	Version of the API requested to use when responding to this request.	string
Path	<b>nsdInfoId</b> <i>required</i>	Identifier of the individual NS descriptor resource.	string

## Responses

HTTP Code	Description	Schema
200	<p>200 OK Information about the individual NS descriptor. The response body shall contain a representation of the individual NS descriptor, as defined in clause 5.5.2.2.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response. This header field shall be present if the response has a non-empty message body.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<a href="#">Response 200</a>

HTTP Code	Description	Schema
400	<p>400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<p><a href="#">Response 400</a></p>

HTTP Code	Description	Schema
401	<p>401 UNAUTHORIZED If the request contains no access token even though one is required, or if the request contains an authorization token that is invalid (e.g. expired or revoked), the API producer should respond with this response. The details of the error shall be returned in the WWW-Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<p><a href="#">Response 401</a></p>
403	<p>403 FORBIDDEN If the API consumer is not allowed to perform a particular request to a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided. It should include in the "detail" attribute information about the source of the problem, and may indicate how to solve it.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	<p><a href="#">Response 403</a></p>

HTTP Code	Description	Schema
404	<p>404 NOT FOUND If the API producer did not find a current representation for the resource addressed by the URI passed in the request or is not willing to disclose that one exists, it shall respond with this response code. The "ProblemDetails" structure may be provided, including in the "detail" attribute information about the source of the problem, e.g. a wrong resource URI variable. This response code is not appropriate in case the resource addressed by the URI is a container resource which is designed to contain child resources, but does not contain any child resource at the time the request is received. For a GET request to an existing empty container resource, a typical response contains a 200 OK response code and a payload body with an empty array.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 404
405	<p>405 METHOD NOT ALLOWED If a particular HTTP method is not supported for a particular resource, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 405
406	<p>406 NOT ACCEPTABLE If the "Accept" header does not contain at least one name of a content type that is acceptable to the API producer, the API producer shall respond with this response code. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 406

HTTP Code	Description	Schema
500	<p>500 INTERNAL SERVER ERROR If there is an application error not related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 500
503	<p>503 SERVICE UNAVAILABLE If the API producer encounters an internal overload situation of itself or of a system it relies on, it should respond with this response code, following the provisions in IETF RFC 7231 for the use of the "Retry-After" HTTP header and for the alternative to refuse the connection. The "ProblemDetails" structure may be omitted.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 503
504	<p>504 GATEWAY TIMEOUT If the API producer encounters a timeout while waiting for a response from an upstream server (i.e. a server that the API producer communicates with when fulfilling a request), it should respond with this response code.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 504

## Response 200

Name	Description	Schema
<b>_links</b> <i>required</i>	Links to resources related to this resource.	<a href="#">_links</a>
<b>id</b> <i>required</i>	An identifier with the intention of being globally unique.	string
<b>nestedNsdInfoIds</b> <i>optional</i>	Identifies the NsdInfo element for the nested NSD referenced by the on-boarded NS descriptor resource.	< string > array
<b>nsdDesigner</b> <i>optional</i>	Designer of the on-boarded NSD. This information is copied from the NSD content and shall be present after the NSD content is on-boarded.	string
<b>nsdId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>nsdInvariantId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>nsdName</b> <i>optional</i>	Name of the on boarded NSD. This information is copied from the NSD content and shall be present after the NSD content is on-boarded.	string
<b>nsdOnboardingState</b> <i>required</i>	The enumeration NsdOnboardingStateType shall comply with the provisions defined in Table 5.5.4.5-1 of GS NFV-SOL 005. It indicates the on-boarding state of the NSD. CREATED = The NSD information object is created. UPLOADING = The associated NSD content is being uploaded. PROCESSING = The associated NSD content is being processed, e.g. validation. ONBOARDED = The associated NSD content is on-boarded.	enum (CREATED, UPLOADING, PROCESSING, ONBOARDED)
<b>nsdOperationalState</b> <i>required</i>	The enumeration NsdOperationalStateType shall comply with the provisions defined in Table 5.5.4.3-1 of GS NFV_SOL 005. It indicates the operational state of the resource. ENABLED = The operational state of the resource is enabled. DISABLED = The operational state of the resource is disabled.	enum (ENABLED, DISABLED)

Name	Description	Schema
<b>nsdUsageState</b> <i>required</i>	The enumeration NsdUsageStateType shall comply with the provisions defined in Table 5.5.4.4-1 of GS NFV-SOL 005. It indicates the usage state of the resource. IN_USE = The resource is in use. NOT_IN_USE = The resource is not-in-use.	enum (IN_USE, NOT_IN_USE)
<b>nsdVersion</b> <i>optional</i>	A Version. Representation: string of variable length.	string
<b>onboardingFailureDetails</b> <i>optional</i>	The definition of the general "ProblemDetails" data structure from IETF RFC 7807 [19] is reproduced in this structure. Compared to the general framework defined in IETF RFC 7807 [19], the "status" and "detail" attributes are mandated to be included by the present document, to ensure that the response contains additional textual information about an error. IETF RFC 7807 [19] foresees extensibility of the "ProblemDetails" type. It is possible that particular APIs in the present document, or particular implementations, define extensions to define additional attributes that provide more information about the error. The description column only provides some explanation of the meaning to Facilitate understanding of the design. For a full description, see IETF RFC 7807 [19].	<a href="#">onboardingFailureDetails</a>
<b>pnfdInfoIds</b> <i>optional</i>	Identifies the PnfdInfo element for the PNFD referenced by the on-boarded NS descriptor resource.	< string > array
<b>userDefinedData</b> <i>optional</i>	This type represents a list of key-value pairs. The order of the pairs in the list is not significant. In JSON, a set of key-value pairs is represented as an object. It shall comply with the provisions defined in clause 4 of IETF RFC 7159.	object
<b>vnfPkgIds</b> <i>optional</i>	Identifies the VNF package for the VNFD referenced by the on-boarded NS descriptor resource.	< string > array

## links

Name	Description	Schema
<b>nsd_content</b> <i>required</i>	This type represents a link to a resource.	<a href="#">nsd_content</a>
<b>self</b> <i>required</i>	This type represents a link to a resource.	<a href="#">self</a>

## nsd\_content

Name	Description	Schema
<b>href</b> <i>required</i>	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

## self

Name	Description	Schema
<b>href</b> <i>required</i>	URI of a resource referenced from a notification. Should be an absolute URI (i.e. a URI that contains {apiRoot}), however, may be a relative URI (i.e. a URI where the {apiRoot} part is omitted) if the {apiRoot} information is not available.	string (url)

## onboardingFailureDetails

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string



Name	Description	Schema
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 400

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 401

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 403

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

Name	Description	Schema
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

#### Response 404

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

Name	Description	Schema
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 405

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 406

Name	Description	Schema
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 500

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 503

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

#### Response 504

<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>detail</b> <i>required</i>	A human-readable explanation specific to this occurrence of the problem.	string
<b>instance</b> <i>optional</i>	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	string (URI)
<b>status</b> <i>required</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)