

SOL005 - NSD Management Interface

Overview

SOL005 - 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/bugzilla/buglist.cgi?component=Nfv-Openapis>

Version information

Version : 1.1.0-impl:etsi.org:ETSI_NFV_OpenAPI:2

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 005 V2.5.1

URL : https://www.etsi.org/deliver/etsi_gs/NFV-SOL/001_099/005/02.05.01_60/gs_NFV-SOL005v020501p.pdf

Paths

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 |
|--------|-----------------------------------|--|--------|
| Header | Version <i>optional</i> | Version of the API requested to use when responding to this request. | string |

Responses

| HTTP Code | Description | Schema |
|-----------|--|------------------------------|
| 200 | API version information was read successfully. The response body shall contain 4.4 API version information, as defined in clause 4.4.1.13. Headers : Content-Type (string) : The MIME type of the body of the response. Version (string) : The used API version. | Response 200 |

| 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 properly 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 406 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 414 |
| 416 | <p>416 RANGE NOT SATISFIABLE</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 422 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 429 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 504 |

Response 200

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

apiVersions

| Name | Description | Schema |
|--|--|---------|
| isDeprecated <i>optional</i> | The Boolean is a data type having two values (TRUE and FALSE). | boolean |
| version <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 |
|------------------------------------|---|--------------|
| detail <i>required</i> | A human-readable explanation specific to this occurrence of the problem. | string |
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
|--------------------------------|--|--------------|
| type <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 |
|------------------------------------|---|--------------|
| detail <i>required</i> | A human-readable explanation specific to this occurrence of the problem. | string |
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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

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

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

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

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

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

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

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

Create a new NS descriptor resource.

POST /ns_descriptors

Description

The POST method is used to create a new NS descriptor resource or a new version of an on-boarded NS descriptor.

Parameters

| Type | Name | Description | Schema |
|--------|--|---|--------------------------------------|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. Reference: IETF RFC 7231. | string |
| Header | Authorization <i>optional</i> | The authorization token for the request. Reference: IETF RFC 7235. | string |
| Header | Content-Type <i>required</i> | The MIME type of the body of the request. Reference: IETF RFC 7231. | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Body | CreateNsdInfoRequest <i>required</i> | | CreateNsdInfoRequest |

CreateNsdInfoRequest

| Name | Description | Schema |
|---|---|--------|
| userDefinedData <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 |

Responses

| HTTP Code | Description | Schema |
|-----------|--|------------------------------|
| 201 | <p>201 CREATED An NS descriptor resource was created successfully, as a new NS descriptor resource. The response body shall contain a representation of the new NS descriptor resource, as defined in clause 5.5.2.2. The HTTP response shall include a "Location" HTTP header that contains the resource URI of the new NS descriptor resource.</p> <p>Headers :</p> <p>Content-Type (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>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 201 |

| 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 properly 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 201

| Name | Description | Schema |
|--|--|------------------------|
| _links <i>required</i> | Links to resources related to this resource. | _links |
| id <i>required</i> | An identifier with the intention of being globally unique. | string |
| nestedNsdInfoIds <i>optional</i> | Identifies the NsdInfo element for the nested NSD referenced by the on-boarded NS descriptor resource. | < string > array |

| Name | Description | Schema |
|---|--|--|
| nsdDesigner <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 |
| nsdId <i>optional</i> | An identifier with the intention of being globally unique. | string |
| nsdInvariantId <i>optional</i> | An identifier with the intention of being globally unique. | string |
| nsdName <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 |
| nsdOnboardingState <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) |
| nsdOperationalState <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) |
| nsdUsageState <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) |
| nsdVersion <i>optional</i> | A Version. Representation: string of variable length. | string |

| Name | Description | Schema |
|--|--|---|
| onboardingFailureDetails <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]. | onboardingFailedDetails |
| pnfdInfoIds <i>optional</i> | Identifies the PnfdInfo element for the PNFD referenced by the on-boarded NS descriptor resource. | < string > array |
| userDefinedData <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 |
| vnfPkgIds <i>optional</i> | Identifies the VNF package for the VNFD referenced by the on-boarded NS descriptor resource. | < string > array |

_links

| Name | Description | Schema |
|---------------------------------------|--|-----------------------------|
| nsd_content <i>required</i> | This type represents a link to a resource. | nsd_content |
| self <i>required</i> | This type represents a link to a resource. | self |

nsd_content

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| detail <i>required</i> | A human-readable explanation specific to this occurrence of the problem. | string |
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
|--------------------------------|--|--------------|
| type <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. This method shall follow the provisions specified in the Tables 5.4.2.3.2-1 and 5.4.2.3.2-2 for URI query parameters, request and response data structures, and response codes.

Parameters

| Type | Name | Description | Schema |
|---------------|---|--|--------|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. Reference: IETF RFC 7231. | string |
| Header | Authorization <i>optional</i> | The authorization token for the request. Reference: IETF RFC 7235. | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Query | all_fields <i>optional</i> | Include all complex attributes in the response. See clause 4.3.3 for details. The NFVO shall support this parameter. | string |

| Type | Name | Description | Schema |
|-------|--|--|--------|
| Query | exclude_default <i>optional</i> | Indicates to exclude the following complex attributes from the response. See clause 4.3.3 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 | exclude_fields <i>optional</i> | Complex attributes to be excluded from the response. See clause 4.3.3 for details. The NFVO should support this parameter. | string |
| Query | fields <i>optional</i> | Complex attributes to be included into the response. See clause 4.3.3 for details. The NFVO should support this parameter. | string |
| Query | filter <i>optional</i> | Attribute-based filtering expression according to clause 4.3.2. 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 | nextpage_opaque_marker <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 4.7.2.1 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 4.7.2.1 for this resource, inclusion of the Link HTTP header in this response shall follow the provisions in clause 4.7.2.3.</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> <p>Link (string) : Reference to other resources. Used for paging in the present document, see clause 4.7.2.1.</p> | <p>< Response 200 > 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 200

| Name | Description | Schema |
|--|--|------------------------|
| _links <i>required</i> | Links to resources related to this resource. | _links |
| id <i>required</i> | An identifier with the intention of being globally unique. | string |
| nestedNsdInfoIds <i>optional</i> | Identifies the NsdInfo element for the nested NSD referenced by the on-boarded NS descriptor resource. | < string > array |

| Name | Description | Schema |
|---|--|--|
| nsdDesigner <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 |
| nsdId <i>optional</i> | An identifier with the intention of being globally unique. | string |
| nsdInvariantId <i>optional</i> | An identifier with the intention of being globally unique. | string |
| nsdName <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 |
| nsdOnboardingState <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) |
| nsdOperationalState <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) |
| nsdUsageState <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) |
| nsdVersion <i>optional</i> | A Version. Representation: string of variable length. | string |

| Name | Description | Schema |
|--|--|--|
| onboardingFailureDetails <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]. | onboardingFailureDetails |
| pnfdInfoIds <i>optional</i> | Identifies the PnfdInfo element for the PNFD referenced by the on-boarded NS descriptor resource. | < string > array |
| userDefinedData <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 |
| vnfPkgIds <i>optional</i> | Identifies the VNF package for the VNFD referenced by the on-boarded NS descriptor resource. | < string > array |

_links

| Name | Description | Schema |
|---------------------------------------|--|-----------------------------|
| nsd_content <i>required</i> | This type represents a link to a resource. | nsd_content |
| self <i>required</i> | This type represents a link to a resource. | self |

nsd_content

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| detail <i>required</i> | A human-readable explanation specific to this occurrence of the problem. | string |
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
|--------------------------------|--|--------------|
| type <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. This method shall follow the provisions specified in GS NFV-SOL 005 Tables 5.4.3.3.2-1 and 5.4.3.3.2-2 of GS NFV-SOL 005 for URI query parameters, request and response data structures, and response codes.

Parameters

| Type | Name | Description | Schema |
|---------------|---|---|--------|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. Reference: IETF RFC 7231. | string |
| Header | Authorization <i>optional</i> | The authorization token for the request. Reference: IETF RFC 7235. | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Path | nsdInfoId <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>Headers :</p> <p>Content-Type (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>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 200 |

| 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 properly 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 200

| Name | Description | Schema |
|--|--|------------------------|
| _links <i>required</i> | Links to resources related to this resource. | _links |
| id <i>required</i> | An identifier with the intention of being globally unique. | string |
| nestedNsdInfoIds <i>optional</i> | Identifies the NsdInfo element for the nested NSD referenced by the on-boarded NS descriptor resource. | < string > array |

| Name | Description | Schema |
|---|--|--|
| nsdDesigner <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 |
| nsdId <i>optional</i> | An identifier with the intention of being globally unique. | string |
| nsdInvariantId <i>optional</i> | An identifier with the intention of being globally unique. | string |
| nsdName <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 |
| nsdOnboardingState <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) |
| nsdOperationalState <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) |
| nsdUsageState <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) |
| nsdVersion <i>optional</i> | A Version. Representation: string of variable length. | string |

| Name | Description | Schema |
|--|--|--|
| onboardingFailureDetails <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]. | onboardingFailureDetails |
| pnfdInfoIds <i>optional</i> | Identifies the PnfdInfo element for the PNFD referenced by the on-boarded NS descriptor resource. | < string > array |
| userDefinedData <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 |
| vnfPkgIds <i>optional</i> | Identifies the VNF package for the VNFD referenced by the on-boarded NS descriptor resource. | < string > array |

_links

| Name | Description | Schema |
|---------------------------------------|--|-----------------------------|
| nsd_content <i>required</i> | This type represents a link to a resource. | nsd_content |
| self <i>required</i> | This type represents a link to a resource. | self |

nsd_content

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| detail <i>required</i> | A human-readable explanation specific to this occurrence of the problem. | string |
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
|--------------------------------|--|--------------|
| type <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 an individual NS descriptor resource.

```
DELETE /ns_descriptors/{nsdInfoId}
```

Description

The DELETE method deletes an individual NS descriptor resource. An individual NS descriptor resource can only be deleted when there is no NS instance using it (i.e. `usageState = NOT_IN_USE`) and has been disabled already (i.e. `operationalState = DISABLED`). Otherwise, the DELETE method shall fail.

Parameters

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

Responses

| HTTP Code | Description | Schema |
|-----------|---|--------------|
| 204 | <p>204 NO CONTENT The operation has completed successfully. The response body shall be empty.</p> <p>Headers :</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | No Content |
| 400 | <p>400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be properly 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 406 |

| HTTP Code | Description | Schema |
|-----------|--|--------------|
| 409 | <p>409 CONFLICT</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 409 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 400

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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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 |
|------------------------------------|---|--------------|
| detail <i>required</i> | A human-readable explanation specific to this occurrence of the problem. | string |
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
|---------------------------------|---|--------------|
| title <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 |
| type <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 409

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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) |

Modify the operational state and/or the user defined data of an individual NS descriptor resource.

```
PATCH /ns_descriptors/{nsdInfoId}
```

Description

The PATCH method modifies the operational state and/or user defined data of an individual NS descriptor resource. This method can be used to: 1) Enable a previously disabled individual NS descriptor resource, allowing again its use for instantiation of new network service with this descriptor. The usage state (i.e. "IN_USE/NOT_IN_USE") shall not change as result. 2) Disable a previously enabled individual NS descriptor resource, preventing any further use for instantiation of new network service(s) with this descriptor. The usage state (i.e. "IN_USE/NOT_IN_USE") shall not changes a result. 3) Modify the user defined data of an individual NS descriptor resource.

Parameters

| Type | Name | Description | Schema |
|--------|--|--|--------------------------------------|
| Header | Authorization <i>optional</i> | The authorization token for the request. Reference: IETF RFC 7235. | string |
| Header | Content-Type <i>required</i> | The MIME type of the body of the request. Reference: IETF RFC 7231. | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Path | nsdInfoId <i>required</i> | Identifier of the individual NS descriptor resource. | string |
| Body | NsdInfoModifications <i>required</i> | | NsdInfoModifications |

NsdInfoModifications

| Name | Description | Schema |
|---|---|--------------------------|
| nsdOperationalState <i>optional</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) |
| userDefinedData <i>optional</i> | Modifications of the userDefinedData attribute in NsdInfo data type. See note. If present, these modifications shall be applied according to the rules of JSON Merge PATCH (see IETF RFC 7396 [25]). NOTE- At least one of the attributes - nsdOperationalState and userDefinedData - shall be present. | < object > array |

Responses

| HTTP Code | Description | Schema |
|-----------|---|--------------|
| 200 | <p>200 OK The operation was completed successfully. The response body shall contain attribute modifications for an 'Individual NS Descriptor' resource (see clause 5.5.2.6).</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 200 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 406 |

| HTTP Code | Description | Schema |
|-----------|--|--------------|
| 409 | <p>409 CONFLICT</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 409 |
| 412 | <p>412 PRECONDITION FAILED Error: A precondition given in an HTTP request header is not fulfilled. Typically, this is due to an ETag mismatch, indicating that the resource was modified by another entity. The response body should contain a ProblemDetails structure, in which the "detail" attribute should convey more information about the error.</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 412 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 500 |

| HTTP Code | Description | Schema |
|-----------|---|--------------|
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 200

| Name | Description | Schema |
|---|---|--------------------------|
| nsdOperationalState <i>optional</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) |
| userDefinedData <i>optional</i> | Modifications of the userDefinedData attribute in NsdInfo data type. See note. If present, these modifications shall be applied according to the rules of JSON Merge PATCH (see IETF RFC 7396 [25]). NOTE- At least one of the attributes - nsdOperationalState and userDefinedData - shall be present. | < object > array |

Response 400

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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 |
|------------------------------------|---|--------------|
| detail <i>required</i> | A human-readable explanation specific to this occurrence of the problem. | string |
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
|---------------------------------|---|--------------|
| title <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 |
| type <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 |
|------------------------------------|---|--------------|
| detail <i>required</i> | A human-readable explanation specific to this occurrence of the problem. | string |
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
|--------------------------------|--|--------------|
| type <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 409

| Name | Description | Schema |
|------------------------------------|---|--------------|
| detail <i>required</i> | A human-readable explanation specific to this occurrence of the problem. | string |
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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 412

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

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

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

Fetch the content of a NSD.

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

Description

The GET method fetches the content of the NSD. The NSD can be implemented as a single file or as a collection of multiple files. If the NSD is implemented in the form of multiple files, a ZIP file embedding these files shall be returned. If the NSD is implemented as a single file, either that file or a ZIP file embedding that file shall be returned. The selection of the format is controlled by the "Accept" HTTP header passed in the GET request:

- If the "Accept" header contains only "text/plain" and the NSD is implemented as a single file, the file shall be returned; otherwise, an error message shall be returned.
- If the "Accept" header contains only "application/zip", the single file or the multiple files that make up the NSD shall be returned embedded in a ZIP file.
- If the "Accept" header contains both "text/plain" and "application/zip", it is up to the NFVO to choose the format to return for a single-file NSD; for a multi-file NSD, a ZIP file shall be returned.

NOTE: The structure of the NSD zip file is outside the scope of the present document.

Parameters

| Type | Name | Description | Schema |
|---------------|---|---|------------------------------------|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. | enum (text/plain, application/zip) |
| Header | Authorization <i>optional</i> | The authorization token for the request. Reference: IETF RFC 7235. | string |
| Header | Range <i>optional</i> | "The request may contain a "Range" HTTP header to obtain single range of bytes from the NSD file. This can be used to continue an aborted transmission.If the NFVO does not support range requests, the NFVO shall ignore the 'Range" header, process the GET request, and return the whole NSD file with a 200 OK response (rather than returning a 4xx error status code)." | string |

| Type | Name | Description | Schema |
|--------|-------------------------------------|--|--------|
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Path | nsdInfoId <i>required</i> | | string |

Responses

| HTTP Code | Description | Schema |
|-----------|---|------------------------------|
| 200 | <p>200 OK On success, the content of the NSD is returned. The payload body shall contain a copy of the file representing the NSD or a ZIP file that contains the file or multiple files representing the NSD, as specified above. The "Content-Type" HTTP header shall be set according to the format of the returned file, i.e. to "text/plain" for a YAML file or to "application/zip" for a ZIP file.</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | No Content |
| 206 | <p>206 PARTIAL CONTENT</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>Content-Range (string) : The Content-Range response HTTP header indicates where in a full body message a partial message belongs.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 206 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 406 |

| HTTP Code | Description | Schema |
|-----------|--|--------------|
| 409 | <p>409 CONFLICT</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 409 |
| 416 | <p>416 RANGE NOT SATISFIABLE</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 416 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 500 |

| HTTP Code | Description | Schema |
|-----------|---|--------------|
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 206

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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 409

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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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) |

Upload the content of a NSD.

```
PUT /ns_descriptors/{nsdInfoId}/nsd_content
```

Description

"The PUT method is used to upload the content of a NSD. The NSD to be uploaded can be implemented as a single file or as a collection of multiple files, as defined in clause 5.4.4.3.2 of GS NFV-SOL 005. If the NSD is implemented in the form of multiple files, a ZIP file embedding these files shall be uploaded. If the NSD is implemented as a single file, either that file or a ZIP file embedding that file shall be uploaded. The "Content-Type" HTTP header in the PUT request shall be set accordingly based on the format selection of the NSD. If the NSD to be uploaded is a text file, the "Content-Type" header is set to "text/plain". If the NSD to be uploaded is a zip file, the "Content-Type" header is set to "application/zip". This method shall follow the provisions specified in the Tables 5.4.4.3.3-1 and 5.4.4.3.3-2 of GS-NFV-SOL 005 for URI query parameters, request and response data structures, and response codes."

Parameters

| Type | Name | Description | Schema |
|--------|---|--|------------------------------------|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. The payload body contains a copy of the file representing the NSD or a ZIP file that contains the file or multiple files representing the NSD. | enum (text/plain, application/zip) |
| Header | Authorization <i>optional</i> | The authorization token for the request. Reference: IETF RFC 7235. | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Path | nsdInfoId <i>required</i> | | string |

Responses

| HTTP Code | Description | Schema |
|-----------|--|------------|
| 202 | <p>202 ACCEPTED The NSD content was accepted for uploading, but the processing has not been completed. It is expected to take some time for processing (asynchronous mode). The response body shall be empty. The client can track the uploading progress by receiving the "NsdOnBoardingNotification" and "NsdOnBoardingFailureNotification" from the NFVO or by reading the status of the individual NS descriptor resource using the GET method.</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | No Content |

| HTTP Code | Description | Schema |
|-----------|---|--------------|
| 204 | <p>204 NO CONTENT The NSD content was successfully uploaded and validated (synchronous mode). The response body shall be empty.</p> <p>Headers :</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | No Content |
| 400 | <p>400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be properly 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 406 |

| HTTP Code | Description | Schema |
|-----------|--|--------------|
| 409 | <p>409 CONFLICT</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 409 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 400

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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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 |
|------------------------------------|---|--------------|
| detail <i>required</i> | A human-readable explanation specific to this occurrence of the problem. | string |
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
|---------------------------------|---|--------------|
| title <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 |
| type <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 409

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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) |

Create a new PNF descriptor resource.

POST /pnf_descriptors

Description

The POST method is used to create a new PNF descriptor resource

Parameters

| Type | Name | Description | Schema |
|---------------|---|---|--------|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. Reference: IETF RFC 7231. | string |
| Header | Authorization <i>optional</i> | The authorization token for the request. Reference: IETF RFC 7235. | string |

| Type | Name | Description | Schema |
|--------|---|--|---------------------------------------|
| Header | Content-Type <i>required</i> | The MIME type of the body of the request. Reference: IETF RFC 7231. | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Body | CreatePnfdInfoRequest <i>required</i> | | CreatePnfdInfoRequest |

CreatePnfdInfoRequest

| Name | Description | Schema |
|---|---|--------|
| userDefinedData <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 |

Responses

| HTTP Code | Description | Schema |
|-----------|---|------------------------------|
| 201 | <p>201 CREATED A PNF descriptor resource was created successfully, as a new PNF descriptor resource. The response body shall contain a representation of the new PNF descriptor resource, as defined in clause 5.5.2.5. The HTTP response shall include a "Location" HTTP header that contains the resource URI of the new PNF descriptor resource.</p> <p>Headers :</p> <p>Content-Type (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>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 201 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | <p>Response 400</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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 201

| Name | Description | Schema |
|----------------------------------|--|------------------------|
| _links <i>required</i> | Links to resources related to this resource. | _links |
| id <i>required</i> | An identifier with the intention of being globally unique. | string |

| Name | Description | Schema |
|--|--|---|
| onboardingFailureDetails <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]. | onboardingFailureDetails |
| pnfdId <i>optional</i> | An identifier with the intention of being globally unique. | string |
| pnfdInvariantId <i>optional</i> | An identifier with the intention of being globally unique. | string |
| pnfdName <i>optional</i> | Name of the on-boarded PNFD. This information is copied from the PNFD content and shall be present after the PNFD content is on-boarded. | string |
| pnfdOnboardingState <i>required</i> | The enumeration PnfdOnboardingStateType shall comply with the provisions defined in Table 5.5.4.6-1 of GS-NFV SOL005. It indicates the on-boarding state of the individual PNF descriptor resource. CREATED = The PNF descriptor resource is created. UPLOADING = The associated PNFD content is being uploaded. PROCESSING = The associated PNFD content is being processed, e.g. validation. ONBOARDED = The associated PNFD content is on-boarded. | enum (CREATED, UPLOADING, PROCESSING, ONBOARDING) |
| pnfdProvider <i>optional</i> | Provider of the on-boarded PNFD. This information is copied from the PNFD content and shall be present after the PNFD content is on-boarded. | string |
| pnfdUsageState <i>required</i> | The enumeration PnfdUsageStateType shall comply with the provisions defined in Table 5.5.4.7-1 of GS NFV-SOL005. 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) |

| Name | Description | Schema |
|---|---|--------|
| pnfdersion <i>optional</i> | A Version. Representation: string of variable length. | string |
| userDefinedData <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 |

_links

| Name | Description | Schema |
|--|--|------------------------------|
| pnfd_content <i>required</i> | This type represents a link to a resource. | pnfd_content |
| self <i>required</i> | This type represents a link to a resource. | self |

pnfd_content

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

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

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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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 PNF descriptor resources.

```
GET /pnf_descriptors
```

Description

"The GET method queries information about multiple PNF descriptor resources."

Parameters

| Type | Name | Description | Schema |
|---------------|---|--|--------|
| Header | Authorization <i>optional</i> | The authorization token for the request. Reference: IETF RFC 7235. | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |

| Type | Name | Description | Schema |
|-------|--|---|--------|
| Query | all_fields <i>optional</i> | Include all complex attributes in the response. See clause 4.3.3 for details. The NFVO shall support this parameter. | string |
| Query | exclude_defaults <i>optional</i> | Indicates to exclude the following complex attributes from the response. See clause 4.3.3 for details. The NFVO shall support this parameter. The following attributes shall be excluded from the PnfdInfo 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 | exclude_fields <i>optional</i> | Complex attributes to be excluded from the response. See clause 4.3.3 for details. The NFVO should support this parameter. | string |
| Query | fields <i>optional</i> | Complex attributes to be included into the response. See clause 4.3.3 for details. The NFVO should support this parameter. | string |
| Query | filter <i>optional</i> | Attribute-based filtering expression according to clause 4.3.2. 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 PnfdInfo and in data types referenced from it shall be supported by the NFVO in the filter expression. | string |
| Query | nextpage_opaque_marker <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 4.7.2.1 for this resource. | string |

Responses

| HTTP Code | Description | Schema |
|-----------|--|--|
| 200 | <p>200 OK Information about zero or more PNF descriptors. The response body shall contain a representation of zero or more PNF descriptors, as defined in clause 5.5.2.2</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> <p>Link (string) : Reference to other resources. Used for paging in the present document, see clause 4.7.2.1.</p> | < Response 200 > array |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 200

| Name | Description | Schema |
|----------------------------------|--|------------------------|
| _links <i>required</i> | Links to resources related to this resource. | _links |
| id <i>required</i> | An identifier with the intention of being globally unique. | string |

| Name | Description | Schema |
|--|--|---|
| onboardingFailureDetails <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]. | onboardingFailedDetails |
| pnfdId <i>optional</i> | An identifier with the intention of being globally unique. | string |
| pnfdInvariantId <i>optional</i> | An identifier with the intention of being globally unique. | string |
| pnfdName <i>optional</i> | Name of the on-boarded PNFD. This information is copied from the PNFD content and shall be present after the PNFD content is on-boarded. | string |
| pnfdOnboardingState <i>required</i> | The enumeration PnfdOnboardingStateType shall comply with the provisions defined in Table 5.5.4.6-1 of GS-NFV SOL005. It indicates the on-boarding state of the individual PNF descriptor resource. CREATED = The PNF descriptor resource is created. UPLOADING = The associated PNFD content is being uploaded. PROCESSING = The associated PNFD content is being processed, e.g. validation. ONBOARDED = The associated PNFD content is on-boarded. | enum (CREATED, UPLOADING, PROCESSING, ONBOARDING) |
| pnfdProvider <i>optional</i> | Provider of the on-boarded PNFD. This information is copied from the PNFD content and shall be present after the PNFD content is on-boarded. | string |
| pnfdUsageState <i>required</i> | The enumeration PnfdUsageStateType shall comply with the provisions defined in Table 5.5.4.7-1 of GS NFV-SOL005. 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) |

| Name | Description | Schema |
|---|---|--------|
| pnfdersion <i>optional</i> | A Version. Representation: string of variable length. | string |
| userDefinedData <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 |

_links

| Name | Description | Schema |
|--|--|------------------------------|
| pnfd_content <i>required</i> | This type represents a link to a resource. | pnfd_content |
| self <i>required</i> | This type represents a link to a resource. | self |

pnfd_content

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

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

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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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 an individual PNFD resource.

```
GET /pnf_descriptors/{pnfdInfoId}
```

Description

The GET method reads information about an individual PNF descriptor. This method shall follow the provisions specified in the Tables 5.4.6.3.2-1 and 5.4.6.3.2-2 of GS NFV-SOL 005 for URI query parameters, request and response data structures, and response codes.

Parameters

| Type | Name | Description | Schema |
|---------------|----------------------------------|--|--------|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. This header field shall be present if the response is expected to have a non-empty message body. | string |

| Type | Name | Description | Schema |
|--------|---|---|--------|
| Header | Authorization <i>optional</i> | The authorization token for the request. Details are specified in clause 4.5.3 of GS NFV-SOL 005. | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Path | pnfdInfoId <i>required</i> | Identifier of the individual PNF descriptor resource. | string |

Responses

| HTTP Code | Description | Schema |
|-----------|---|--------------|
| 200 | <p>200 OK Information about the individual PNFD descriptor. The response body shall contain a representation of the individual PNF descriptor.</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 200 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 200

| Name | Description | Schema |
|----------------------------------|--|------------------------|
| _links <i>required</i> | Links to resources related to this resource. | _links |
| id <i>required</i> | An identifier with the intention of being globally unique. | string |

| Name | Description | Schema |
|--|--|---|
| onboardingFailureDetails <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]. | onboardingFailedDetails |
| pnfdId <i>optional</i> | An identifier with the intention of being globally unique. | string |
| pnfdInvariantId <i>optional</i> | An identifier with the intention of being globally unique. | string |
| pnfdName <i>optional</i> | Name of the on-boarded PNFD. This information is copied from the PNFD content and shall be present after the PNFD content is on-boarded. | string |
| pnfdOnboardingState <i>required</i> | The enumeration PnfdOnboardingStateType shall comply with the provisions defined in Table 5.5.4.6-1 of GS-NFV SOL005. It indicates the on-boarding state of the individual PNF descriptor resource. CREATED = The PNF descriptor resource is created. UPLOADING = The associated PNFD content is being uploaded. PROCESSING = The associated PNFD content is being processed, e.g. validation. ONBOARDED = The associated PNFD content is on-boarded. | enum (CREATED, UPLOADING, PROCESSING, ONBOARDING) |
| pnfdProvider <i>optional</i> | Provider of the on-boarded PNFD. This information is copied from the PNFD content and shall be present after the PNFD content is on-boarded. | string |
| pnfdUsageState <i>required</i> | The enumeration PnfdUsageStateType shall comply with the provisions defined in Table 5.5.4.7-1 of GS NFV-SOL005. 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) |

| Name | Description | Schema |
|---|---|--------|
| pnfdersion <i>optional</i> | A Version. Representation: string of variable length. | string |
| userDefinedData <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 |

_links

| Name | Description | Schema |
|--|--|------------------------------|
| pnfd_content <i>required</i> | This type represents a link to a resource. | pnfd_content |
| self <i>required</i> | This type represents a link to a resource. | self |

pnfd_content

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

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

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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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 an individual PNF descriptor resource.

```
DELETE /pnf_descriptors/{pnfdInfoId}
```

Description

The DELETE method deletes an individual PNF descriptor resource. An individual PNF descriptor resource can only be deleted when there is no NS instance using it or there is NSD referencing it. To delete all PNFD versions identified by a particular value of the "pnfdInvariantId" attribute, the procedure is to first use the GET method with filter "pnfdInvariantId" towards the PNF descriptors resource to find all versions of the PNFD. Then, the client uses the DELETE method described in this clause to delete each PNFD version individually.

Parameters

| Type | Name | Description | Schema |
|-------------|--------------------------------------|---|--------|
| Path | pnfdInfoId <i>required</i> | Identifier of the individual PNF descriptor resource. | string |

Responses

| HTTP Code | Description | Schema |
|-----------|---|------------|
| 204 | <p>204 NO CONTENT The operation has completed successfully. The response body shall be empty.</p> <p>Headers :</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | No Content |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 400

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

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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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) |

Modify the user defined data of an individual PNF descriptor resource.

```
PATCH /pnf_descriptors/{pnfdInfoId}
```

Description

The PATCH method modifies the user defined data of an individual PNF descriptor resource.

Parameters

| Type | Name | Description | Schema |
|---------------|----------------------------------|--|--------|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. This header field shall be present if the response is expected to have a non-empty message body. | string |

| Type | Name | Description | Schema |
|--------|---|---|---------------------------------------|
| Header | Content-Type <i>required</i> | The MIME type of the body of the request. This header field shall be present if the request has a non-empty message body. | string |
| Path | pnfdInfoId <i>required</i> | Identifier of the individual PNF descriptor resource. | string |
| Body | PnfdInfoModifications <i>required</i> | | PnfdInfoModifications |

PnfdInfoModifications

| Name | Description | Schema |
|---|---|--------|
| userDefinedData <i>required</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 |

Responses

| HTTP Code | Description | Schema |
|-----------|---|------------------------------|
| 200 | <p>200 OK The operation was completed successfully. The response body shall contain attribute modifications for an 'Individual PNF Descriptor' resource (see clause 5.5.2.4).</p> <p>Headers :</p> <p>Content-Type (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>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 200 |

| 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 properly 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 406 |

| HTTP Code | Description | Schema |
|-----------|--|------------------------------|
| 412 | <p>412 PRECONDITION FAILED Error: A precondition given in an HTTP request header is not fulfilled. Typically, this is due to an ETag mismatch, indicating that the resource was modified by another entity. The response body should contain a ProblemDetails structure, in which the "detail" attribute should convey more information about the error.</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 412 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 200

| Name | Description | Schema |
|---|---|--------|
| userDefinedData <i>required</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 |

Response 400

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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 412

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

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

Fetch the content of a PNFD.

```
GET /pnf_descriptors/{pnfdInfoId}/pnfd_content
```


Description

The GET method fetches the content of the PNFD. This method shall follow the provisions specified in the Table 5.4.7.3.2-2 for URI query parameters, request and response data structures, and response codes.

Parameters

| Type | Name | Description | Schema |
|--------|---|--|-------------------|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. | enum (text/plain) |
| Header | Authorization <i>optional</i> | The authorization token for the request. Reference: IETF RFC 7235 | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Path | pnfdInfoId <i>required</i> | Identifier of the individual PNF descriptor. | string |

Responses

| HTTP Code | Description | Schema |
|-----------|--|------------|
| 200 | <p>200 OK On success, the content of the PNFD is returned. The payload body shall contain a copy of the file representing the PNFD. The Content-Type" HTTP header shall be set to "text/plain".</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | No Content |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 406 |

| HTTP Code | Description | Schema |
|-----------|--|--------------|
| 409 | <p>409 CONFLICT</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 409 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 400

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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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 |
|------------------------------------|---|--------------|
| detail <i>required</i> | A human-readable explanation specific to this occurrence of the problem. | string |
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
|---------------------------------|---|--------------|
| title <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 |
| type <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 409

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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) |

Upload the content of a PNFD.

```
PUT /pnf_descriptors/{pnfdInfoId}/pnfd_content
```

Description

The PUT method is used to upload the content of a PNFD. This resource represents the content of the individual PNF descriptor, i.e. PNFD content. The client can use this resource to upload and download the content of the PNFD.

Parameters

| Type | Name | Description | Schema |
|---------------|---|---|-------------------|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. | enum (text/plain) |
| Header | Authorization <i>optional</i> | The authorization token for the request. Reference: IETF RFC 7235 | string |

| Type | Name | Description | Schema |
|--------|--------------------------------------|--|--------|
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Path | pnfdInfoId <i>required</i> | Identifier of the individual PNF descriptor. | string |

Responses

| HTTP Code | Description | Schema |
|-----------|---|------------|
| 204 | <p>204 NO CONTENT The PNFD content was successfully uploaded and validated. The response body shall be empty.</p> <p>Headers :</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | No Content |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | <p>Response 400</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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 406 |

| HTTP Code | Description | Schema |
|-----------|--|--------------|
| 409 | <p>409 CONFLICT</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 409 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 400

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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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 |
|------------------------------------|---|--------------|
| detail <i>required</i> | A human-readable explanation specific to this occurrence of the problem. | string |
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
|---------------------------------|---|--------------|
| title <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 |
| type <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 409

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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) |

Subscribe to NSD and PNFD change notifications.

POST /subscriptions

Description

The POST method creates a new subscription. This method shall support the URI query parameters, request and response data structures, and response codes, as specified in the Tables 5.4.8.3.1-1 and 5.4.8.3.1-2 of GS-NFV SOL 005. Creation of two subscription resources with the same callbackURI and the same filter can result in performance degradation and will provide duplicates of notifications to the OSS, and might make sense only in very rare use cases. Consequently, the NFVO may either allow creating a subscription resource if another subscription resource with the same filter and callbackUri already exists (in which case it shall return the "201 Created" response code), or may decide to not create a duplicate subscription resource (in which case it shall return a "303 See Other" response code referencing the existing subscription resource with the same filter and callbackUri). This resource represents subscriptions. The client can use this resource to subscribe to notifications related to NSD management and to query its subscriptions.

Parameters

| Type | Name | Description | Schema |
|--------|---|---|---|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. Reference: IETF RFC 7231. | string |
| Header | Authorization <i>optional</i> | The authorization token for the request. Reference: IETF RFC 7235. | string |
| Header | Content-Type <i>required</i> | The MIME type of the body of the request. Reference: IETF RFC 7231. | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Body | NsdmSubscriptionRequest <i>required</i> | | NsdmSubscriptionRequest |

NsdmSubscriptionRequest

| Name | Description | Schema |
|--|---|--------------------------------|
| authentication <i>optional</i> | | authentication |
| callbackUri <i>required</i> | The URI of the endpoint to send the notification to. | string |
| filter <i>optional</i> | This type represents a subscription filter related to notifications about NSD management. It shall comply with the provisions defined in Table 5.5.3.2-1 of GS NFV-SOL 005. At a particular nesting level in the filter structure, the following applies: All attributes shall match in order for the filter to match (logical "and" between different filter attributes). If an attribute is an array, the attribute shall match if at least one of the values in the array matches (logical "or" between the values of one filter attribute). | filter |

authentication

| Name | Description | Schema |
|---|--|---|
| authType <i>required</i> | Defines the types of Authentication / Authorization which the API consumer is willing to accept when receiving a notification. Permitted values: - BASIC: In every HTTP request to the notification endpoint, use HTTP Basic authentication with the client credentials. - OAUTH2_CLIENT_CREDENTIALS: In every HTTP request to the notification endpoint, use an OAuth 2.0 Bearer token, obtained using the client credentials grant type. - TLS_CERT: Every HTTP request to the notification endpoint is sent over a mutually authenticated TLS session, i.e. not only the server is authenticated, but also the client is authenticated during the TLS tunnel setup. | < enum (BASIC, OAUTH2_CLIENT_CREDENTIALS, TLS_CERT) > array |
| paramsBasic <i>optional</i> | Parameters for authentication/authorization using BASIC. Shall be present if authType is "BASIC" and the contained information has not been provisioned out of band. Shall be absent otherwise. | paramsBasic |
| paramsOAuth2ClientCredentials <i>optional</i> | Parameters for authentication/authorization using OAUTH2_CLIENT_CREDENTIALS. Shall be present if authType is "OAUTH2_CLIENT_CREDENTIALS" and the contained information has not been provisioned out of band. Shall be absent otherwise. | paramsOAuth2ClientCredentials |

paramsBasic

| Name | Description | Schema |
|------------------------------------|--|--------|
| password <i>optional</i> | Password to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band. | string |
| userName <i>optional</i> | Username to be used in HTTP Basic authentication. Shall be present if it has not been provisioned out of band. | string |

paramsOAuth2ClientCredentials

| Name | Description | Schema |
|--|---|--------------|
| clientId <i>optional</i> | Client identifier to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process. | string |
| clientPassword <i>optional</i> | Client password to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process. | string |
| tokenEndpoint <i>optional</i> | String formatted according to IETF RFC 3986. | string (uri) |

filter

| Name | Description | Schema |
|---|--|---|
| nestedNsdInfoIds <i>optional</i> | Match the NsdInfo identifier for the nested NSD referenced by the on-boarded NSD. | < string > array |
| notificationTypes <i>optional</i> | Match particular notification types. Permitted values: NsdOnBoardingNotification, NsdOnboardingFailureNotification, NsdChangeNotification, NsdDeletionNotification, PnfdOnBoardingNotification, PnfdOnBoardingFailureNotification, PnfdDeletionNotification. The permitted values of the "notificationTypes"] attribute are spelled exactly as the names of the notification types to facilitate automated code generation systems. | < enum (NsdOnBoardingNotification, NsdOnboardingFailureNotification, NsdChangeNotification, NsdDeletionNotification, PnfdOnBoardingNotification, PnfdOnBoardingFailureNotification, PnfdDeletionNotification) > array |

| Name | Description | Schema |
|---|--|--|
| nsdDesigner <i>optional</i> | Match the NSD designer of the on-boarded NSD. | < string > array |
| nsdId <i>optional</i> | Match the NSD identifier, which is allocated by the NSD designer. | < string > array |
| nsdInfoId <i>optional</i> | Match the NsdInfo identifier which is allocated by the NFVO. | < string > array |
| nsdInvariantId <i>optional</i> | Match the NSD invariant identifier which is allocated by the NSD designer and identifies an NSD in a version independent manner. | < string > array |
| nsdName <i>optional</i> | Match the name of the on boarded NSD. | < string > array |
| nsdOnboardingState <i>optional</i> | Match particular on-boarding state of the NSD. | < enum (CREATED, UPLOADING, PROCESSING, ONBOARDED) > array |
| nsdOperationalState <i>optional</i> | Match particular operational state of the on-boarded NSD. | < enum (ENABLED, DISABLED) > array |
| nsdUsageState <i>optional</i> | Match particular usage state of the on-boarded NSD. | < enum (IN_USE, NOT_IN_USE) > array |
| nsdVersion <i>optional</i> | Match the NSD version listed as part of this attribute. | < string > array |
| pnfdId <i>optional</i> | Match the PNFD identifier which is copied from the PNFD content. | < string > array |
| pnfdInfoIds <i>optional</i> | Match the PnfdInfo identifier for the PNFD referenced by the on-boarded NSD. | < string > array |
| pnfdInvariantId <i>optional</i> | Match the PNFD in a version independent manner. | < string > array |

| Name | Description | Schema |
|---|---|---|
| pnfdName <i>optional</i> | Match the name of the on-boarded PNFD. | < string > array |
| pnfdOnboardingState <i>optional</i> | Match particular on-boarding state of the PNFD. | < enum (CREATED, UPLOADING, PROCESSING, ONBOARDING) > array |
| pnfdProvider <i>optional</i> | Match the provider of the on-boarded PNFD. | < string > array |
| pnfdUsageState <i>optional</i> | Match the usage state of the individual PNF descriptor resource. | < enum (IN_USE, NOT_IN_USE) > array |
| pnfdVersion <i>optional</i> | Match the PNFD designer of the on-boarded PNFD. | < string > array |
| vnfPkgIds <i>optional</i> | Match VNF packages with a package identifier listed in the attribute. | < string > array |

Responses

| HTTP Code | Description | Schema |
|------------|--|------------------------------|
| 201 | <p>201 CREATED The subscription was created successfully. The response body shall contain a representation of the created subscription resource. The HTTP response shall include a "Location:" HTTP header that points to the created subscription resource.</p> <p>Headers :</p> <p>Content-Type (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>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 201 |

| HTTP Code | Description | Schema |
|-----------|---|--------------|
| 303 | <p>303 SEE OTHER</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | No Content |
| 400 | <p>400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be properly 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 201

| Name | Description | Schema |
|---------------------------------------|--|------------------------|
| _links <i>required</i> | Links to resources related to this resource. | _links |
| callbackUri <i>required</i> | String formatted according to IETF RFC 3986. | string (uri) |

| Name | Description | Schema |
|----------------------------------|---|------------------------|
| filter <i>optional</i> | This type represents a subscription filter related to notifications about NSD management. It shall comply with the provisions defined in Table 5.5.3.2-1 of GS NFV-SOL 005. At a particular nesting level in the filter structure, the following applies: All attributes shall match in order for the filter to match (logical "and" between different filter attributes). If an attribute is an array, the attribute shall match if at least one of the values in the array matches (logical "or" between the values of one filter attribute). | filter |
| id <i>required</i> | An identifier with the intention of being globally unique. | string |

links

| Name | Description | Schema |
|--------------------------------|--|----------------------|
| self <i>optional</i> | This type represents a link to a resource. | self |

self

| Name | Description | Schema |
|--------------------------------|--|--------------|
| href <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) |

filter

| Name | Description | Schema |
|--|---|------------------|
| nestedNsdInfoIds <i>optional</i> | Match the NsdInfo identifier for the nested NSD referenced by the on-boarded NSD. | < string > array |

| Name | Description | Schema |
|---|--|---|
| notificationTypes <i>optional</i> | Match particular notification types. Permitted values: NsdOnBoardingNotification, NsdOnboardingFailureNotification, NsdChangeNotification, NsdDeletionNotification, PnfdOnBoardingNotification, PnfdOnBoardingFailureNotification, PnfdDeletionNotification. The permitted values of the "notificationTypes"] attribute are spelled exactly as the names of the notification types to facilitate automated code generation systems. | < enum (NsdOnBoardingNotification, NsdOnboardingFailureNotification, NsdChangeNotification, NsdDeletionNotification, PnfdOnBoardingNotification, PnfdOnBoardingFailureNotification, PnfdDeletionNotification) > array |
| nsdDesigner <i>optional</i> | Match the NSD designer of the on-boarded NSD. | < string > array |
| nsdId <i>optional</i> | Match the NSD identifier, which is allocated by the NSD designer. | < string > array |
| nsdInfoId <i>optional</i> | Match the NsdInfo identifier which is allocated by the NFVO. | < string > array |
| nsdInvariantId <i>optional</i> | Match the NSD invariant identifier which is allocated by the NSD designer and identifies an NSD in a version independent manner. | < string > array |
| nsdName <i>optional</i> | Match the name of the on boarded NSD. | < string > array |
| nsdOnboardingState <i>optional</i> | Match particular on-boarding state of the NSD. | < enum (CREATED, UPLOADING, PROCESSING, ONBOARDED) > array |
| nsdOperationalState <i>optional</i> | Match particular operational state of the on-boarded NSD. | < enum (ENABLED, DISABLED) > array |

| Name | Description | Schema |
|---|--|--|
| nsdUsageState <i>optional</i> | Match particular usage state of the on-boarded NSD. | < enum (IN_USE, NOT_IN_USE) > array |
| nsdVersion <i>optional</i> | Match the NSD version listed as part of this attribute. | < string > array |
| pnfdId <i>optional</i> | Match the PNFD identifier which is copied from the PNFD content. | < string > array |
| pnfdInfoIds <i>optional</i> | Match the PnfdInfo identifier for the PNFD referenced by the on-boarded NSD. | < string > array |
| pnfdInvariantId <i>optional</i> | Match the PNFD in a version independent manner. | < string > array |
| pnfdName <i>optional</i> | Match the name of the on-boarded PNFD. | < string > array |
| pnfdOnboardingState <i>optional</i> | Match particular on-boarding state of the PNFD. | < enum (CREATED, UPLOADING, PROCESSING, ONBOARDING) > array |
| pnfdProvider <i>optional</i> | Match the provider of the on-boarded PNFD. | < string > array |
| pnfdUsageState <i>optional</i> | Match the usage state of the individual PNF descriptor resource. | < enum (IN_USE, NOT_IN_USE) > array |
| pnfdVersion <i>optional</i> | Match the PNFD designer of the on-boarded PNFD. | < string > array |
| vnfPkgIds <i>optional</i> | Match VNF packages with a package identifier listed in the attribute. | < string > array |

Response 400

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

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

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

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

```
GET /subscriptions
```

Description

The GET method queries the list of active subscriptions of the functional block that invokes the method. It can be used e.g. for resynchronization after error situations. This method shall support the URI query parameters, request and response data structures, and response codes. This resource represents subscriptions. The client can use this resource to subscribe to notifications related to NSD management and to query its subscriptions.

Parameters

| Type | Name | Description | Schema |
|--------|--|---|--------|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. Reference: IETF RFC 7231. | string |
| Header | Authorization <i>optional</i> | The authorization token for the request. Reference: IETF RFC 7235. | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Query | filter <i>optional</i> | Attribute filtering expression according to clause 4.3.2. The NFVO shall support receiving this parameter as part of the URI query string. The OSS/BSS may supply this parameter. All attribute names that appear in the NsdmSubscription and in data types referenced from it shall be supported by the NFVO in the filter expression. | string |
| Query | nextpage_opaque_marker <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 4.7.2.1 for this resource. | string |

Responses

| HTTP Code | Description | Schema |
|-----------|--|--|
| 200 | <p>200 OK The list of subscriptions was queried successfully. The response body shall contain the representations of all active subscriptions of the functional block that invokes the method.</p> <p>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> <p>Link (string) : Reference to other resources. Used for paging in the present document, see clause 4.7.2.1.</p> | < Response 200 > array |

| 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 properly 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 200

| Name | Description | Schema |
|---------------------------------------|--|------------------------|
| _links <i>required</i> | Links to resources related to this resource. | _links |
| callbackUri <i>required</i> | String formatted according to IETF RFC 3986. | string (uri) |

| Name | Description | Schema |
|----------------------------------|---|------------------------|
| filter <i>optional</i> | This type represents a subscription filter related to notifications about NSD management. It shall comply with the provisions defined in Table 5.5.3.2-1 of GS NFV-SOL 005. At a particular nesting level in the filter structure, the following applies: All attributes shall match in order for the filter to match (logical "and" between different filter attributes). If an attribute is an array, the attribute shall match if at least one of the values in the array matches (logical "or" between the values of one filter attribute). | filter |
| id <i>required</i> | An identifier with the intention of being globally unique. | string |

links

| Name | Description | Schema |
|--------------------------------|--|----------------------|
| self <i>optional</i> | This type represents a link to a resource. | self |

self

| Name | Description | Schema |
|--------------------------------|--|--------------|
| href <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) |

filter

| Name | Description | Schema |
|--|---|------------------|
| nestedNsdInfoIds <i>optional</i> | Match the NsdInfo identifier for the nested NSD referenced by the on-boarded NSD. | < string > array |

| Name | Description | Schema |
|---|--|---|
| notificationTypes <i>optional</i> | Match particular notification types. Permitted values: NsdOnBoardingNotification, NsdOnboardingFailureNotification, NsdChangeNotification, NsdDeletionNotification, PnfdOnBoardingNotification, PnfdOnBoardingFailureNotification, PnfdDeletionNotification. The permitted values of the "notificationTypes"] attribute are spelled exactly as the names of the notification types to facilitate automated code generation systems. | < enum (NsdOnBoardingNotification, NsdOnboardingFailureNotification, NsdChangeNotification, NsdDeletionNotification, PnfdOnBoardingNotification, PnfdOnBoardingFailureNotification, PnfdDeletionNotification) > array |
| nsdDesigner <i>optional</i> | Match the NSD designer of the on-boarded NSD. | < string > array |
| nsdId <i>optional</i> | Match the NSD identifier, which is allocated by the NSD designer. | < string > array |
| nsdInfoId <i>optional</i> | Match the NsdInfo identifier which is allocated by the NFVO. | < string > array |
| nsdInvariantId <i>optional</i> | Match the NSD invariant identifier which is allocated by the NSD designer and identifies an NSD in a version independent manner. | < string > array |
| nsdName <i>optional</i> | Match the name of the on boarded NSD. | < string > array |
| nsdOnboardingState <i>optional</i> | Match particular on-boarding state of the NSD. | < enum (CREATED, UPLOADING, PROCESSING, ONBOARDED) > array |
| nsdOperationalState <i>optional</i> | Match particular operational state of the on-boarded NSD. | < enum (ENABLED, DISABLED) > array |

| Name | Description | Schema |
|---|--|--|
| nsdUsageState <i>optional</i> | Match particular usage state of the on-boarded NSD. | < enum (IN_USE, NOT_IN_USE) > array |
| nsdVersion <i>optional</i> | Match the NSD version listed as part of this attribute. | < string > array |
| pnfdId <i>optional</i> | Match the PNFD identifier which is copied from the PNFD content. | < string > array |
| pnfdInfoIds <i>optional</i> | Match the PnfdInfo identifier for the PNFD referenced by the on-boarded NSD. | < string > array |
| pnfdInvariantId <i>optional</i> | Match the PNFD in a version independent manner. | < string > array |
| pnfdName <i>optional</i> | Match the name of the on-boarded PNFD. | < string > array |
| pnfdOnboardingState <i>optional</i> | Match particular on-boarding state of the PNFD. | < enum (CREATED, UPLOADING, PROCESSING, ONBOARDING) > array |
| pnfdProvider <i>optional</i> | Match the provider of the on-boarded PNFD. | < string > array |
| pnfdUsageState <i>optional</i> | Match the usage state of the individual PNF descriptor resource. | < enum (IN_USE, NOT_IN_USE) > array |
| pnfdVersion <i>optional</i> | Match the PNFD designer of the on-boarded PNFD. | < string > array |
| vnfPkgIds <i>optional</i> | Match VNF packages with a package identifier listed in the attribute. | < string > array |

Response 400

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

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

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

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

```
GET /subscriptions/{subscriptionId}
```

Description

This resource represents an individual subscription. It can be used by the client to read and to terminate a subscription to notifications related to NSD management. The GET method retrieves information about a subscription by reading an individual subscription resource. This resource represents an individual subscription. It can be used by the client to read and to terminate a subscription to notifications related to NSD management.

Parameters

| Type | Name | Description | Schema |
|--------|--|--|--------|
| Header | Accept <i>required</i> | Content-Types that are acceptable for the response. This header field shall be present if the response is expected to have a non-empty message body. | string |
| Header | Authorization <i>optional</i> | The authorization token for the request. Details are specified in clause 4.5.3 of GS NFV-SOL 005. | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Path | subscriptionId <i>required</i> | Identifier of this subscription. | string |

Responses

| HTTP Code | Description | Schema |
|-----------|--|------------------------------|
| 200 | <p>200 OK The operation has completed successfully. The response body shall contain a representation of the subscription resource.</p> <p>Headers :</p> <p>Content-Type (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>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 200 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 200

| Name | Description | Schema |
|---------------------------------------|--|------------------------|
| _links <i>required</i> | Links to resources related to this resource. | _links |
| callbackUri <i>required</i> | String formatted according to IETF RFC 3986. | string (uri) |

| Name | Description | Schema |
|----------------------------------|---|------------------------|
| filter <i>optional</i> | This type represents a subscription filter related to notifications about NSD management. It shall comply with the provisions defined in Table 5.5.3.2-1 of GS NFV-SOL 005. At a particular nesting level in the filter structure, the following applies: All attributes shall match in order for the filter to match (logical "and" between different filter attributes). If an attribute is an array, the attribute shall match if at least one of the values in the array matches (logical "or" between the values of one filter attribute). | filter |
| id <i>required</i> | An identifier with the intention of being globally unique. | string |

links

| Name | Description | Schema |
|--------------------------------|--|----------------------|
| self <i>optional</i> | This type represents a link to a resource. | self |

self

| Name | Description | Schema |
|--------------------------------|--|--------------|
| href <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) |

filter

| Name | Description | Schema |
|--|---|------------------|
| nestedNsdInfoIds <i>optional</i> | Match the NsdInfo identifier for the nested NSD referenced by the on-boarded NSD. | < string > array |

| Name | Description | Schema |
|---|--|---|
| notificationTypes <i>optional</i> | Match particular notification types. Permitted values: NsdOnBoardingNotification, NsdOnboardingFailureNotification, NsdChangeNotification, NsdDeletionNotification, PnfdOnBoardingNotification, PnfdOnBoardingFailureNotification, PnfdDeletionNotification. The permitted values of the "notificationTypes"] attribute are spelled exactly as the names of the notification types to facilitate automated code generation systems. | < enum (NsdOnBoardingNotification, NsdOnboardingFailureNotification, NsdChangeNotification, NsdDeletionNotification, PnfdOnBoardingNotification, PnfdOnBoardingFailureNotification, PnfdDeletionNotification) > array |
| nsdDesigner <i>optional</i> | Match the NSD designer of the on-boarded NSD. | < string > array |
| nsdId <i>optional</i> | Match the NSD identifier, which is allocated by the NSD designer. | < string > array |
| nsdInfoId <i>optional</i> | Match the NsdInfo identifier which is allocated by the NFVO. | < string > array |
| nsdInvariantId <i>optional</i> | Match the NSD invariant identifier which is allocated by the NSD designer and identifies an NSD in a version independent manner. | < string > array |
| nsdName <i>optional</i> | Match the name of the on boarded NSD. | < string > array |
| nsdOnboardingState <i>optional</i> | Match particular on-boarding state of the NSD. | < enum (CREATED, UPLOADING, PROCESSING, ONBOARDED) > array |
| nsdOperationalState <i>optional</i> | Match particular operational state of the on-boarded NSD. | < enum (ENABLED, DISABLED) > array |

| Name | Description | Schema |
|---|--|--|
| nsdUsageState <i>optional</i> | Match particular usage state of the on-boarded NSD. | < enum (IN_USE, NOT_IN_USE) > array |
| nsdVersion <i>optional</i> | Match the NSD version listed as part of this attribute. | < string > array |
| pnfdId <i>optional</i> | Match the PNFD identifier which is copied from the PNFD content. | < string > array |
| pnfdInfoIds <i>optional</i> | Match the PnfdInfo identifier for the PNFD referenced by the on-boarded NSD. | < string > array |
| pnfdInvariantId <i>optional</i> | Match the PNFD in a version independent manner. | < string > array |
| pnfdName <i>optional</i> | Match the name of the on-boarded PNFD. | < string > array |
| pnfdOnboardingState <i>optional</i> | Match particular on-boarding state of the PNFD. | < enum (CREATED, UPLOADING, PROCESSING, ONBOARDING) > array |
| pnfdProvider <i>optional</i> | Match the provider of the on-boarded PNFD. | < string > array |
| pnfdUsageState <i>optional</i> | Match the usage state of the individual PNF descriptor resource. | < enum (IN_USE, NOT_IN_USE) > array |
| pnfdVersion <i>optional</i> | Match the PNFD designer of the on-boarded PNFD. | < string > array |
| vnfPkgIds <i>optional</i> | Match VNF packages with a package identifier listed in the attribute. | < string > array |

Response 400

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

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

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

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

Terminate Subscription

```
DELETE /subscriptions/{subscriptionId}
```

Description

This resource represents an individual subscription. It can be used by the client to read and to terminate a subscription to notifications related to NSD management. The DELETE method terminates an individual subscription. This method shall support the URI query parameters, request and response data structures, and response codes, as specified in the Table 5.4.9.3.3-2.

Parameters

| Type | Name | Description | Schema |
|--------|--|---|--------|
| Header | Authorization <i>optional</i> | The authorization token for the request. Details are specified in clause 4.5.3 of GS NFV-SOL 005. | string |
| Header | Version <i>required</i> | Version of the API requested to use when responding to this request. | string |
| Path | subscriptionId <i>required</i> | Identifier of this subscription. | string |

Responses

| HTTP Code | Description | Schema |
|-----------|---|------------|
| 204 | <p>204 NO CONTENT The subscription resource was deleted successfully. The response body shall be empty.</p> <p>Headers :</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | No Content |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 401 |
| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 403 |

| 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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (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>Headers :</p> <p>Content-Type (string) : The MIME type of the body of the response.</p> <p>WWW-Authenticate (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>Version (string) : Version of the API used in the response.</p> | Response 503 |

Response 400

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

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

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

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

| Name | Description | Schema |
|------------------------------------|---|--------------|
| instance <i>optional</i> | A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced. | string (URI) |
| status <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 |
| title <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 |
| type <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) |