# SOL003 - VNF Lifecycle Management Notification interface

# Overview

SOL003 - VNF Lifecycle Management Notification interface

#### IMPORTANT

Please note that this file might be not aligned to the current version of the ETSI Group Specification it refers to. In case of discrepancies the published ETSI Group Specification takes precedence.

In clause 4.3.2 of ETSI GS NFV-SOL 003 v2.4.1, an attribute-based filtering mechanism is defined. This mechanism is currently not included in the corresponding OpenAPI design for this GS version. Changes to the attribute-based filtering mechanism are being considered in v2.5.1 of this GS for inclusion in the corresponding future ETSI NFV OpenAPI design. Please report bugs to https://forge.etsi.org/bugzilla/buglist.cgi?component=Nfv-Openapis&list\_id=61&product=NFV& resolution=

# Version information

Version : 1.4.0-impl:etsi.org:ETSI\_NFV\_OpenAPI:1

# 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 : /callback/v1 Schemes : HTTPS

# Consumes

application/json

# Produces

application/json

# **External Docs**

Description : ETSI GS NFV-SOL 003 V2.7.1URL:https://www.etsi.org/deliver/etsi\_gs/NFV-SOL/001\_099/003/02.07.01\_60/gs\_NFV-SOL003v020701p.pdf

# Paths

# POST /URI-is-provided-by-the-client-when-creating-thesubscription-VnfIdentifierCreationNotification

### Description

Notify. The POST method delivers a notification from the API producer to an API consumer. The API consumer shall have previously created an "Individual subscription" resource with a matching filter. This method shall follow the provisions specified in the tables 5.4.20.3.1-1 and 5.4.20.3.1-2 for URI query parameters, request and response data structures, and response codes.

#### **Parameters**

| Туре   | Name  | Description   | Schema                                |
|--------|---|---|---------------------------------------|
| Header | Authorization<br>optional                             | The authorization token for the request.<br>Reference: IETF RFC 7235                                      | string                                |
| Header | <b>Content-Type</b><br>required                       | The MIME type of the body of the request.<br>Reference: IETF RFC 7231                                     | string                                |
| Header | <b>Version</b><br>required                            | Version of the API requested to use when responding to this request.                                      | string                                |
| Body   | VnfIdentifierC<br>reationNotific<br>ation<br>required | A notification about the creation of a VNF identifier and the related "Individual VNF instance" resource. | VnfIdentifierCreatio<br>nNotification |

#### VnfIdentifierCreationNotification

| Name                       | Description  | Schema |
|----------------------------|--|--------|
| _ <b>links</b><br>required | This type represents the links to resources that a notification can contain. | _links |

| Name                             | Description   | Schema             |
|----------------------------------|---|--------------------|
| <b>id</b><br>required            | An identifier with the intention of being globally unique.  | string             |
| notificationTy<br>pe<br>required | Discriminator for the different notification types. Shall be<br>set to "VnfIdentifierCreationNotification" for this<br>notification type. |                    |
| subscriptionI<br>d<br>required   | An identifier with the intention of being globally unique.  | string             |
| <b>timeStamp</b><br>required     | Date-time stamp. Representation: String formatted according to IETF RFC 3339.   | string (date-time) |
| <b>vnfInstanceId</b><br>required | An identifier with the intention of being globally unique.  | string             |

#### \_links

| Name                            | Description   | Schema       |
|---------------------------------|---|--------------|
| <b>subscription</b><br>required | This type represents a link to a resource in a notification, using an absolute or relative URI. | subscription |
| <b>vnfInstance</b><br>required  | This type represents a link to a resource in a notification, using an absolute or relative URI. | vnfInstance  |
| <b>vnfLcmOpOcc</b><br>optional  | This type represents a link to a resource in a notification, using an absolute or relative URI. | vnfLcmOpOcc  |

## subscription

| Name                    | Description                                  | Schema |
|-------------------------|--|--------|
| <b>href</b><br>required | String formatted according to IETF RFC 3986. | string |

#### vnfInstance

| Name                    | Description                                  | Schema |
|-------------------------|--|--------|
| <b>href</b><br>required | String formatted according to IETF RFC 3986. | string |

### vnfLcmOpOcc

| Name                    | Description                                  | Schema |
|-------------------------|--|--------|
| <b>href</b><br>required | String formatted according to IETF RFC 3986. | string |

| HTTP<br>Code | Description   | Schema     |
|--------------|---|------------|
| 204          | 204 NO CONTENT Shall be returned when the notification has been<br>delivered successfully.<br>Headers:<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | No Content |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 400          | 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 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 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. Headers : Content-Type (string) : The MIME type of the body of the response. WW-Authenticate (string) : Challenge if the corresp | Response 400 |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 401          | 401 UNAUTHORIZED If the request contains no access token even<br>though one is required, or if the request contains an authorization<br>token that is invalid (e.g. expired or revoked), the API producer<br>should respond with this response. The details of the error shall be<br>returned in the WWW-Authenticate HTTP header, as defined in IETF<br>RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be<br>provided.<br><b>Headers :</b><br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | Response 401 |
| 403          | 403 FORBIDDEN If the API consumer is not allowed to perform a<br>particular request to a particular resource, the API producer shall<br>respond with this response code. The "ProblemDetails" structure<br>shall be provided. It should include in the "detail" attribute<br>information about the source of the problem, and may indicate how<br>to solve it.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.  | Response 403 |
| 405          | 405 METHOD NOT ALLOWED If a particular HTTP method is not<br>supported for a particular resource, the API producer shall respond<br>with this response code. The "ProblemDetails" structure may be<br>omitted.<br>Headers :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.   | Response 405 |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 406          | 406 NOT ACCEPTABLE If the "Accept" HTTP header does not contain<br>at least one name of a content type that is acceptable to the API<br>producer, the API producer shall respond with this response code.<br>The "ProblemDetails" structure may be omitted.<br>Headers :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.  | Response 406 |
| 500          | 500 INTERNAL SERVER ERROR If there is an application error not<br>related to the client's input that cannot be easily mapped to any<br>other HTTP response code ("catch all error"), the API producer shall<br>respond with this response code. The "ProblemDetails" structure<br>shall be provided, and shall include in the "detail" attribute more<br>information about the source of the problem.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | Response 500 |
| 503          | 503 SERVICE UNAVAILABLE If the API producer encounters an<br>internal overload situation of itself or of a system it relies on, it<br>should respond with this response code, following the provisions in<br>IETF RFC 7231 for the use of the "Retry-After" HTTP header and for<br>the alternative to refuse the connection. The "ProblemDetails"<br>structure may be omitted.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.                        | Response 503 |

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

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

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

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

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

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

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

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

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

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

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

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

# GET /URI-is-provided-by-the-client-when-creating-thesubscription-VnfIdentifierCreationNotification

### Description

The GET method allows the server to test the notification endpoint that is provided by the API consumer, e.g. during subscription. This method shall follow the provisions specified in the tables 5.4.20.3.2-1 and 5.4.20.3.2-2 for URI query parameters, request and response data structures, and response codes.

#### Parameters

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

| HTTP<br>Code | Description   | Schema     |
|--------------|---|------------|
| 204          | 204 NO CONTENT Shall be returned to indicate that the notification<br>endpoint has been tested successfully. The response body shall be<br>empty.<br>Headers :<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | No Content |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 400          | 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 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. <b>Headers : Content-Type</b> (string) : The MIME type of the body of the response. WWI-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. <b>Version</b> (string) : Version of the API used in the r | Response 400 |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 401          | 401 UNAUTHORIZED If the request contains no access token even<br>though one is required, or if the request contains an authorization<br>token that is invalid (e.g. expired or revoked), the API producer<br>should respond with this response. The details of the error shall be<br>returned in the WWW-Authenticate HTTP header, as defined in IETF<br>RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be<br>provided.<br><b>Headers :</b><br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | Response 401 |
| 403          | 403 FORBIDDEN If the API consumer is not allowed to perform a<br>particular request to a particular resource, the API producer shall<br>respond with this response code. The "ProblemDetails" structure<br>shall be provided. It should include in the "detail" attribute<br>information about the source of the problem, and may indicate how<br>to solve it.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.  | Response 403 |
| 405          | 405 METHOD NOT ALLOWED If a particular HTTP method is not<br>supported for a particular resource, the API producer shall respond<br>with this response code. The "ProblemDetails" structure may be<br>omitted.<br>Headers :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.   | Response 405 |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 406          | 406 NOT ACCEPTABLE If the "Accept" HTTP header does not contain<br>at least one name of a content type that is acceptable to the API<br>producer, the API producer shall respond with this response code.<br>The "ProblemDetails" structure may be omitted.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.   | Response 406 |
| 500          | 500 INTERNAL SERVER ERROR If there is an application error not<br>related to the client's input that cannot be easily mapped to any<br>other HTTP response code ("catch all error"), the API producer shall<br>respond with this response code. The "ProblemDetails" structure<br>shall be provided, and shall include in the "detail" attribute more<br>information about the source of the problem.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | Response 500 |
| 503          | 503 SERVICE UNAVAILABLE If the API producer encounters an<br>internal overload situation of itself or of a system it relies on, it<br>should respond with this response code, following the provisions in<br>IETF RFC 7231 for the use of the "Retry-After" HTTP header and for<br>the alternative to refuse the connection. The "ProblemDetails"<br>structure may be omitted.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.                        | Response 503 |

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

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

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

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

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

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

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

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

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

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

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

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

# POST /URI-is-provided-by-the-client-when-creating-thesubscription-VnfIdentifierDeletionNotification

### Description

Notify. The POST method delivers a notification from the API producer to an API consumer. The API consumer shall have previously created an "Individual subscription" resource with a matching filter. This method shall follow the provisions specified in the tables 5.4.20.3.1-1 and 5.4.20.3.1-2 for URI query parameters, request and response data structures, and response codes.

#### Parameters

| Туре   | Name  | Description   | Schema                                |
|--------|---|---|---------------------------------------|
| Header | Authorization<br>optional                             | The authorization token for the request.<br>Reference: IETF RFC 7235                                      | string                                |
| Header | <b>Content-Type</b><br>required                       | The MIME type of the body of the request.<br>Reference: IETF RFC 7231                                     | string                                |
| Header | <b>Version</b><br>required                            | Version of the API requested to use when responding to this request.                                      | string                                |
| Body   | VnfIdentifier<br>DeletionNotifi<br>cation<br>required | A notification about the deletion of a VNF identifier and the related "Individual VNF instance" resource. | VnfIdentifierDeletio<br>nNotification |

#### VnfIdentifierDeletionNotification

| Name                       | Description  | Schema |
|----------------------------|--|--------|
| _ <b>links</b><br>required | This type represents the links to resources that a notification can contain. | _links |
| <b>id</b><br>required      | An identifier with the intention of being globally unique.                   | string |

| Name                             | Description   | Schema             |
|----------------------------------|---|--------------------|
| notificationTy<br>pe<br>required | Discriminator for the different notification types. Shall be<br>set to "VnfIdentifierDeletionNotification" for this<br>notification type. |                    |
| subscriptionI<br>d<br>required   | An identifier with the intention of being globally unique.  | string             |
| <b>timeStamp</b><br>required     | Date-time stamp. Representation: String formatted according to IETF RFC 3339.   | string (date-time) |
| <b>vnfInstanceId</b><br>required | An identifier with the intention of being globally unique.  | string             |

### \_links

| Name                            | Description   | Schema       |
|---------------------------------|---|--------------|
| <b>subscription</b><br>required | This type represents a link to a resource in a notification, using an absolute or relative URI. | subscription |
| <b>vnfInstance</b><br>required  | This type represents a link to a resource in a notification, using an absolute or relative URI. | vnfInstance  |
| <b>vnfLcmOpOcc</b><br>optional  | This type represents a link to a resource in a notification, using an absolute or relative URI. | vnfLcmOpOcc  |

#### subscription

| Name                    | Description                                  | Schema |
|-------------------------|--|--------|
| <b>href</b><br>required | String formatted according to IETF RFC 3986. | string |

#### vnfInstance

| Name                    | Description                                  | Schema |
|-------------------------|--|--------|
| <b>href</b><br>required | String formatted according to IETF RFC 3986. | string |

#### vnfLcmOpOcc

| Name                    | Description                                  | Schema |
|-------------------------|--|--------|
| <b>href</b><br>required | String formatted according to IETF RFC 3986. | string |

| HTTP<br>Code | Description  | Schema     |
|--------------|--|------------|
| 204          | 204 NO CONTENT Shall be returned when the notification has been<br>delivered successfully.<br>Headers :<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | No Content |

| HTTP<br>Code | Description  | Schema |
|--------------|--|--------|
| 400          | 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 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 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 i |        |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 401          | 401 UNAUTHORIZED If the request contains no access token even<br>though one is required, or if the request contains an authorization<br>token that is invalid (e.g. expired or revoked), the API producer<br>should respond with this response. The details of the error shall be<br>returned in the WWW-Authenticate HTTP header, as defined in IETF<br>RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be<br>provided.<br><b>Headers :</b><br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | Response 401 |
| 403          | 403 FORBIDDEN If the API consumer is not allowed to perform a<br>particular request to a particular resource, the API producer shall<br>respond with this response code. The "ProblemDetails" structure<br>shall be provided. It should include in the "detail" attribute<br>information about the source of the problem, and may indicate how<br>to solve it.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.  | Response 403 |
| 405          | 405 METHOD NOT ALLOWED If a particular HTTP method is not<br>supported for a particular resource, the API producer shall respond<br>with this response code. The "ProblemDetails" structure may be<br>omitted.<br>Headers :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.   | Response 405 |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 406          | 406 NOT ACCEPTABLE If the "Accept" HTTP header does not contain<br>at least one name of a content type that is acceptable to the API<br>producer, the API producer shall respond with this response code.<br>The "ProblemDetails" structure may be omitted.<br>Headers :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.  | Response 406 |
| 500          | 500 INTERNAL SERVER ERROR If there is an application error not<br>related to the client's input that cannot be easily mapped to any<br>other HTTP response code ("catch all error"), the API producer shall<br>respond with this response code. The "ProblemDetails" structure<br>shall be provided, and shall include in the "detail" attribute more<br>information about the source of the problem.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | Response 500 |
| 503          | 503 SERVICE UNAVAILABLE If the API producer encounters an<br>internal overload situation of itself or of a system it relies on, it<br>should respond with this response code, following the provisions in<br>IETF RFC 7231 for the use of the "Retry-After" HTTP header and for<br>the alternative to refuse the connection. The "ProblemDetails"<br>structure may be omitted.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.                        | Response 503 |

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

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

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

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

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

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

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

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

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

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

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

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

# GET /URI-is-provided-by-the-client-when-creating-thesubscription-VnfIdentifierDeletionNotification

### Description

The GET method allows the server to test the notification endpoint that is provided by the API consumer, e.g. during subscription. This method shall follow the provisions specified in the tables 5.4.20.3.2-1 and 5.4.20.3.2-2 for URI query parameters, request and response data structures, and response codes.

#### Parameters

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

| HTTP<br>Code | Description   | Schema     |
|--------------|---|------------|
| 204          | 204 NO CONTENT Shall be returned to indicate that the notification<br>endpoint has been tested successfully. The response body shall be<br>empty.<br>Headers :<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | No Content |

| HTTP<br>Code | Description   | Schema       |
|--------------|---|--------------|
| 400          | 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 should 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 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. <b>Headers : Content-Type</b> (string) : The MIME type of the body of the response. WW-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. | Response 400 |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 401          | 401 UNAUTHORIZED If the request contains no access token even<br>though one is required, or if the request contains an authorization<br>token that is invalid (e.g. expired or revoked), the API producer<br>should respond with this response. The details of the error shall be<br>returned in the WWW-Authenticate HTTP header, as defined in IETF<br>RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be<br>provided.<br><b>Headers :</b><br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | Response 401 |
| 403          | 403 FORBIDDEN If the API consumer is not allowed to perform a<br>particular request to a particular resource, the API producer shall<br>respond with this response code. The "ProblemDetails" structure<br>shall be provided. It should include in the "detail" attribute<br>information about the source of the problem, and may indicate how<br>to solve it.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.  | Response 403 |
| 405          | 405 METHOD NOT ALLOWED If a particular HTTP method is not<br>supported for a particular resource, the API producer shall respond<br>with this response code. The "ProblemDetails" structure may be<br>omitted.<br>Headers :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.   | Response 405 |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 406          | 406 NOT ACCEPTABLE If the "Accept" HTTP header does not contain<br>at least one name of a content type that is acceptable to the API<br>producer, the API producer shall respond with this response code.<br>The "ProblemDetails" structure may be omitted.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.   | Response 406 |
| 500          | 500 INTERNAL SERVER ERROR If there is an application error not<br>related to the client's input that cannot be easily mapped to any<br>other HTTP response code ("catch all error"), the API producer shall<br>respond with this response code. The "ProblemDetails" structure<br>shall be provided, and shall include in the "detail" attribute more<br>information about the source of the problem.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | Response 500 |
| 503          | 503 SERVICE UNAVAILABLE If the API producer encounters an<br>internal overload situation of itself or of a system it relies on, it<br>should respond with this response code, following the provisions in<br>IETF RFC 7231 for the use of the "Retry-After" HTTP header and for<br>the alternative to refuse the connection. The "ProblemDetails"<br>structure may be omitted.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.                        | Response 503 |

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

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

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

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

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

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

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

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

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

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

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

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

# POST /URI-is-provided-by-the-client-when-creating-thesubscription-VnfLcmOperationOccurrenceNotification

## Description

Notify. The POST method delivers a notification from the API producer to an API consumer. The API consumer shall have previously created an "Individual subscription" resource with a matching filter. This method shall follow the provisions specified in the tables 5.4.20.3.1-1 and 5.4.20.3.1-2 for URI query parameters, request and response data structures, and response codes.

### Parameters

| Туре   | Name  | Description   | Schema                                    |
|--------|---|---|---|
| Header | Authorization<br>optional                                 | The authorization token for the request.<br>Reference: IETF RFC 7235                  | string                                    |
| Header | <b>Content-Type</b><br>required                           | The MIME type of the body of the request.<br>Reference: IETF RFC 7231                 | string                                    |
| Header | <b>Version</b><br>required                                | Version of the API requested to use when responding to this request.                  | string                                    |
| Body   | VnfLcmOpera<br>tionOccurrenc<br>eNotification<br>required | A notification about lifecycle changes triggered<br>by a VNF LCM operation occurrence | VnfLcmOperationOc<br>currenceNotification |

#### VnfLcmOperationOccurrenceNotification

| Name                       | Description  | Schema |
|----------------------------|--|--------|
| _ <b>links</b><br>required | This type represents the links to resources that a notification can contain. | _links |

| Name                                    | Description  | Schema                                   |
|---|--|--|
| affectedVirtu<br>alLinks<br>optional    | Information about VL instances that were affected during<br>the lifecycle operation. Shall be present if the<br>"notificationStatus" is set to "RESULT" and the operation<br>has performed any resource modification. Shall be absent<br>otherwise. This attribute contains information about the<br>cumulative changes to virtualised resources that were<br>performed so far by the VNF LCM operation occurrence<br>and by any of the error handling procedures for that<br>operation occurrence.                  | <<br>affectedVirtualLinks<br>> array     |
| affectedVirtu<br>alStorages<br>optional | Information about virtualised storage instances that were<br>affected during the lifecycle operation. Shall be present if<br>the "notificationStatus" is set to "RESULT" and the operation<br>has performed any resource modification. Shall be absent<br>otherwise. This attribute contains information about the<br>cumulative changes to virtualised resources that were<br>performed so far by the VNF LCM operation occurrence<br>and by any of the error handling procedures for that<br>operation occurrence. | <<br>affectedVirtualStora<br>ges > array |
| <b>affectedVnfcs</b><br>optional        | Information about VNFC instances that were affected<br>during the lifecycle operation. Shall be present if the<br>"notificationStatus" is set to "RESULT" and the operation<br>has performed any resource modification. Shall be absent<br>otherwise. This attribute contains information about the<br>cumulative changes to virtualised resources that were<br>performed so far by the VNF LCM operation occurrence<br>and by any of the error handling procedures for that<br>operation occurrence.                | < affectedVnfcs ><br>array               |
| changedExtCo<br>nnectivity<br>optional  | Information about changed external connectivity, if this<br>notification represents the result of a lifecycle operation<br>occurrence. Shall be present if the "notificationStatus" is set<br>to "RESULT" and the "operation" has made any changes to<br>the external connectivity of the VNF instance. Shall be<br>absent otherwise. Only information about external VL<br>instances that have been added or modified shall be<br>provided.   |  |

| Name   | Description  | Schema  |
|--|--|---|
| <b>changedInfo</b><br>optional                             | This type represents attribute modifications that were<br>performed on an "Individual VNF instance" resource. The<br>attributes that can be included consist of those requested to<br>be modified explicitly in the "VnfInfoModificationRequest"<br>data structure, and additional attributes of the<br>"VnfInstance" data structure that were modified implicitly<br>e.g. when modifying the referenced VNF package.  | changedInfo   |
| <b>error</b><br>optional                                   | The definition of the general "ProblemDetails" data<br>structure from IETF RFC 7807 [19] is reproduced inthis<br>structure. Compared to the general framework defined in<br>IETF RFC 7807 [19], the "status" and "detail" attributes are<br>mandated to be included by the present document, to<br>ensure that the response contains additional textual<br>information about an error. IETF RFC 7807 [19] foresees<br>extensibility of the "ProblemDetails" type. It is possible that<br>particular APIs in the present document, or particular<br>implementations, define extensions to define additional<br>attributes that provide more information about the error.<br>The description column only provides some explanation of<br>the meaning to Facilitate understanding of the design. For a<br>full description, see IETF RFC 7807 [19]. |   |
| <b>id</b><br>required                                      | An identifier with the intention of being globally unique.   | string  |
| <b>isAutomaticIn</b><br><b>vocation</b><br><i>required</i> | Set to true if this VNF LCM operation occurrence has been<br>triggered by an automated procedure inside the VNFM (i.e.<br>ScaleVnf / ScaleVnfToLevel triggered by auto-scale, or<br>HealVnf triggered by auto-heal). Set to false otherwise.   | boolean   |
| notificationSt<br>atus<br>required                         | Indicates whether this notification reports about the start<br>of a lifecycle operation or the result of a lifecycle operation.<br>Permitted values: * START: Informs about the start of the<br>VNF LCM operation occurrence. * RESULT: Informs about<br>the final or intermediate result of the VNF LCM operation<br>occurrence.  |   |
| notificationTy<br>pe<br>required                           | Discriminator for the different notification types. Shall be<br>set to "VnfLcmOperationOccurrenceNotification" for this<br>notification type.  | enum<br>(VnfLcmOperationO<br>ccurrenceNotificatio<br>n) |

| Name                             | Description  | Schema   |
|----------------------------------|--|--|
| <b>operation</b><br>required     | Value   Description —   — INSTANTIATE  <br>Represents the "Instantiate VNF" LCM operation. SCALE  <br>Represents the "Scale VNF" LCM operation.<br>SCALE_TO_LEVEL   Represents the "Scale VNF to Level"<br>LCM operation. CHANGE_FLAVOUR   Represents the<br>"Change VNF Flavour" LCM operation. TERMINATE  <br>Represents the "Terminate VNF" LCM operation. HEAL  <br>Represents the "Heal VNF" LCM operation. OPERATE  <br>Represents the "Operate VNF" LCM operation.<br>CHANGE_EXT_CONN   Represents the "Change external<br>VNF connectivity" LCM operation. MODIFY_INFO  <br>Represents the "Modify VNF Information" LCM operation.   | enum<br>(INSTANTIATE,<br>SCALE,<br>SCALE_TO_LEVEL,<br>CHANGE_FLAVOUR,<br>TERMINATE, HEAL,<br>OPERATE,<br>CHANGE_EXT_CONN<br>, MODIFY_INFO) |
| operationStat<br>e<br>required   | STARTING: The LCM operation is starting. PROCESSING:<br>The LCM operation is currently in execution. COMPLETED:<br>The LCM operation has been completed successfully.<br>FAILED_TEMP: The LCM operation has failed and execution<br>has stopped, but the execution of the operation is not<br>considered to be closed. FAILED: The LCM operation has<br>failed and it cannot be retried or rolled back, as it is<br>determined that such action won't succeed.<br>ROLLING_BACK: The LCM operation is currently being<br>rolled back. ROLLED_BACK: The LCM operation has been<br>successfully rolled back, i.e. The state of the VNF prior to<br>the original operation invocation has been restored as<br>closely as possible. | enum (STARTING,<br>PROCESSING,<br>COMPLETED,<br>FAILED_TEMP,<br>FAILED,<br>ROLLING_BACK,<br>ROLLED_BACK)                                   |
| subscriptionI<br>d<br>required   | An identifier with the intention of being globally unique.   | string   |
| <b>timeStamp</b><br>required     | Date-time stamp. Representation: String formatted according to IETF RFC 3339.  | string (date-time)   |
| <b>vnfInstanceId</b><br>required | An identifier with the intention of being globally unique.   | string   |
| vnfLcmOpOcc<br>Id<br>required    | An identifier with the intention of being globally unique.   | string   |

\_links

| Name                            | Description   | Schema       |
|---------------------------------|---|--------------|
| <b>subscription</b><br>required | This type represents a link to a resource in a notification, using an absolute or relative URI. | subscription |
| <b>vnfInstance</b><br>required  | This type represents a link to a resource in a notification, using an absolute or relative URI. | vnfInstance  |
| <b>vnfLcmOpOcc</b><br>optional  | This type represents a link to a resource in a notification, using an absolute or relative URI. | vnfLcmOpOcc  |

## subscription

| Name                    | Description                                  | Schema |
|-------------------------|--|--------|
| <b>href</b><br>required | String formatted according to IETF RFC 3986. | string |

#### vnfInstance

| Name                    | Description                                  | Schema |
|-------------------------|--|--------|
| <b>href</b><br>required | String formatted according to IETF RFC 3986. | string |

## vnfLcmOpOcc

| Name                    | Description                                  | Schema |
|-------------------------|--|--------|
| <b>href</b><br>required | String formatted according to IETF RFC 3986. | string |

#### affectedVirtualLinks

| Name                          | Description   | Schema                  |
|-------------------------------|---|-------------------------|
| <b>changeType</b><br>required |   | MODIFIED,<br>TEMPORARY, |
| <b>id</b><br>required         | An identifier that is unique for the respective type within a VNF instance, but may not be globally unique. | string                  |

| Name  | Description  | Schema          |
|---|--|-----------------|
| <b>metadata</b><br>optional                               | This type represents a list of key-value pairs. The order of<br>the pairs in the list is not significant. In JSON, a set of<br>keyvalue pairs is represented as an object. It shall comply<br>with the provisions defined in clause 4 of IETF RFC 8259. In<br>the following example, a list of key-value pairs with four<br>keys ("aString", "aNumber", "anArray" and "anObject") is<br>provided to illustrate that the values associated with<br>different keys can be of different type. |                 |
| <b>networkResou<br/>rce</b><br>required                   | This type represents the information that allows addressing<br>a virtualised resource that is used by a VNF instance.<br>Information about the resource is available from the VIM.   | networkResource |
| resourceDefin<br>itionId<br>optional                      | An identifier that is unique within a limited local scope<br>other than above listed identifiers, such as within a<br>complex data structure or within a request-response pair.<br>Representation: string of variable length.  | string          |
| <b>vnfVirtualLin</b><br><b>kDescId</b><br><i>required</i> | An identifier that is unique within a VNF descriptor.  | string          |
| <b>zoneId</b><br>optional                                 | An identifier with the intention of being globally unique.   | string          |

#### networkResource

| Name                                       | Description  | Schema |
|--|--|--------|
| <b>resourceId</b><br>required              | An identifier maintained by the VIM or other resource<br>provider. It is expected to be unique within the VIM<br>instance. | string |
| <b>resourceProvi<br/>derId</b><br>optional | An identifier with the intention of being globally unique.   | string |
| vimConnectio<br>nId<br>optional            | An identifier with the intention of being globally unique.   | string |

| Name                                 | Description  | Schema |
|--------------------------------------|--|--------|
| vimLevelReso<br>urceType<br>optional | The value set of the "vimLevelResourceType" attribute is<br>within the scope of the VIM or the resource provider and<br>can be used as information that complements the<br>ResourceHandle. This value set is different from the value<br>set of the "type" attribute in the ResourceDefinition (refer<br>to clause 9.5.3.2 in SOL003). | string |

## affectedVirtualStorages

| Name                                 | Description  | Schema |
|--------------------------------------|--|--------|
| <b>changeType</b><br>required        | Signals the type of change. Permitted values: * ADDED * REMOVED * MODIFIED * TEMPORARY For a temporary resource, an AffectedVirtualStorage structure exists as long as the temporary resource exists.  |        |
| <b>id</b><br>required                | An identifier that is unique for the respective type within a VNF instance, but may not be globally unique.  | string |
| <b>metadata</b><br>optional          | This type represents a list of key-value pairs. The order of<br>the pairs in the list is not significant. In JSON, a set of<br>keyvalue pairs is represented as an object. It shall comply<br>with the provisions defined in clause 4 of IETF RFC 8259. In<br>the following example, a list of key-value pairs with four<br>keys ("aString", "aNumber", "anArray" and "anObject") is<br>provided to illustrate that the values associated with<br>different keys can be of different type. |        |
| resourceDefin<br>itionId<br>optional | An identifier that is unique within a limited local scope<br>other than above listed identifiers, such as within a<br>complex data structure or within a request-response pair.<br>Representation: string of variable length.  | string |
| storageResour<br>ce<br>required      | This type represents the information that allows addressing<br>a virtualised resource that is used by a VNF instance.<br>Information about the resource is available from the VIM.   |        |
| virtualStorag<br>eDescId<br>required | An identifier that is unique within a VNF descriptor.  | string |

#### storageResource

| Name                                       | Description  | Schema |
|--|--|--------|
| <b>resourceId</b><br>required              | An identifier maintained by the VIM or other resource<br>provider. It is expected to be unique within the VIM<br>instance.   |        |
| <b>resourceProvi<br/>derId</b><br>optional | An identifier with the intention of being globally unique.   | string |
| vimConnectio<br>nId<br>optional            | An identifier with the intention of being globally unique.   | string |
| vimLevelReso<br>urceType<br>optional       | The value set of the "vimLevelResourceType" attribute is<br>within the scope of the VIM or the resource provider and<br>can be used as information that complements the<br>ResourceHandle. This value set is different from the value<br>set of the "type" attribute in the ResourceDefinition (refer<br>to clause 9.5.3.2 in SOL003). | string |

#### affectedVnfcs

| Name   | Description   | Schema           |
|--|---|------------------|
| addedStorage<br>ResourceIds<br>optional              | References to VirtualStorage resources that have been<br>added. Each value refers to a VirtualStorageResourceInfo<br>item in the VnfInstance that was added to the VNFC. It shall<br>be provided if at least one storage resource was added to<br>the VNFC.                   | < string > array |
| affectedVnfcC<br>pIds<br>optional                    | Identifiers of CP(s) of the VNFC instance that were affected<br>by the change. Shall be present for those affected CPs of the<br>VNFC instance that are associated to an external CP of the<br>VNF instance. May be present for further affected CPs of<br>the VNFC instance. | < string > array |
| <b>changeType</b><br>required                        | Signals the type of change. Permitted values: * ADDED * REMOVED * MODIFIED * TEMPORARY For a temporary resource, an AffectedVnfc structure exists as long as the temporary resource exists.   | REMOVED,         |
| <b>computeReso</b><br><b>urce</b><br><i>required</i> | This type represents the information that allows addressing<br>a virtualised resource that is used by a VNF instance.<br>Information about the resource is available from the VIM.  |                  |

| Name   | Description  | Schema           |
|--|--|------------------|
| <b>id</b><br>required  | An identifier that is unique for the respective type within a VNF instance, but may not be globally unique.  | string           |
| <b>metadata</b><br>optional                                    | This type represents a list of key-value pairs. The order of<br>the pairs in the list is not significant. In JSON, a set of<br>keyvalue pairs is represented as an object. It shall comply<br>with the provisions defined in clause 4 of IETF RFC 8259. In<br>the following example, a list of key-value pairs with four<br>keys ("aString", "aNumber", "anArray" and "anObject") is<br>provided to illustrate that the values associated with<br>different keys can be of different type. | object           |
| <b>removedStora</b><br><b>geResourceIds</b><br><i>optional</i> | References to VirtualStorage resources that have been<br>removed. The value contains the identifier of a<br>VirtualStorageResourceInfo item that has been removed<br>from the VNFC, and might no longer exist in the<br>VnfInstance. It shall be provided if at least one storage<br>resource was removed from the VNFC.   | < string > array |
| resourceDefin<br>itionId<br>optional                           | An identifier that is unique within a limited local scope<br>other than above listed identifiers, such as within a<br>complex data structure or within a request-response pair.<br>Representation: string of variable length.  | string           |
| <b>vduId</b><br>required                                       | An identifier that is unique within a VNF descriptor.  | string           |
| <b>zoneId</b><br>optional                                      | An identifier with the intention of being globally unique.   | string           |

#### computeResource

| Name                                       | Description  | Schema |
|--|--|--------|
| <b>resourceId</b><br>required              | An identifier maintained by the VIM or other resource<br>provider. It is expected to be unique within the VIM<br>instance. | string |
| <b>resourceProvi<br/>derId</b><br>optional | An identifier with the intention of being globally unique.   | string |

| Name  | Description  | Schema |
|---|--|--------|
| <b>vimConnectio</b><br><b>nId</b><br>optional | An identifier with the intention of being globally unique.   | string |
| vimLevelReso<br>urceType<br>optional          | The value set of the "vimLevelResourceType" attribute is<br>within the scope of the VIM or the resource provider and<br>can be used as information that complements the<br>ResourceHandle. This value set is different from the value<br>set of the "type" attribute in the ResourceDefinition (refer<br>to clause 9.5.3.2 in SOL003). | string |

## changedExtConnectivity

| Name                                   | Description  | Schema                    |
|--|--|---------------------------|
| <b>extLinkPorts</b><br>optional        | Link ports of this VL.   | < extLinkPorts ><br>array |
| <b>id</b><br>required                  | An identifier with the intention of being globally unique.   | string                    |
| <b>resourceHand<br/>le</b><br>required | This type represents the information that allows addressing<br>a virtualised resource that is used by a VNF instance.<br>Information about the resource is available from the VIM. | resourceHandle            |

#### extLinkPorts

| Name                                   | Description  | Schema |
|--|--|--------|
| <b>cpInstanceId</b><br>optional        | An identifier that is unique for the respective type within a VNF instance, but may not be globally unique.  | string |
| <b>id</b><br>required                  | An identifier with the intention of being globally unique.   | string |
| <b>resourceHand<br/>le</b><br>required | This type represents the information that allows addressing<br>a virtualised resource that is used by a VNF instance.<br>Information about the resource is available from the VIM. |        |

### resourceHandle

| Name                                       | Description  | Schema |
|--|--|--------|
| <b>resourceId</b><br>required              | An identifier maintained by the VIM or other resource<br>provider. It is expected to be unique within the VIM<br>instance.   | string |
| <b>resourceProvi<br/>derId</b><br>optional | An identifier with the intention of being globally unique.   | string |
| vimConnectio<br>nId<br>optional            | An identifier with the intention of being globally unique.   | string |
| vimLevelReso<br>urceType<br>optional       | The value set of the "vimLevelResourceType" attribute is<br>within the scope of the VIM or the resource provider and<br>can be used as information that complements the<br>ResourceHandle. This value set is different from the value<br>set of the "type" attribute in the ResourceDefinition (refer<br>to clause 9.5.3.2 in SOL003). | string |

#### resourceHandle

| Name                                       | Description  | Schema |
|--|--|--------|
| <b>resourceId</b><br>required              | An identifier maintained by the VIM or other resource<br>provider. It is expected to be unique within the VIM<br>instance.   | string |
| <b>resourceProvi<br/>derId</b><br>optional | An identifier with the intention of being globally unique.   | string |
| vimConnectio<br>nId<br>optional            | An identifier with the intention of being globally unique.   | string |
| vimLevelReso<br>urceType<br>optional       | The value set of the "vimLevelResourceType" attribute is<br>within the scope of the VIM or the resource provider and<br>can be used as information that complements the<br>ResourceHandle. This value set is different from the value<br>set of the "type" attribute in the ResourceDefinition (refer<br>to clause 9.5.3.2 in SOL003). | string |

## changedInfo

| Name   | Description  | Schema |
|--|--|--------|
| <b>extensions</b><br>optional                                  | This type represents a list of key-value pairs. The order of<br>the pairs in the list is not significant. In JSON, a set of<br>keyvalue pairs is represented as an object. It shall comply<br>with the provisions defined in clause 4 of IETF RFC 8259. In<br>the following example, a list of key-value pairs with four<br>keys ("aString", "aNumber", "anArray" and "anObject") is<br>provided to illustrate that the values associated with<br>different keys can be of different type. | object |
| <b>metadata</b><br>optional                                    | This type represents a list of key-value pairs. The order of<br>the pairs in the list is not significant. In JSON, a set of<br>keyvalue pairs is represented as an object. It shall comply<br>with the provisions defined in clause 4 of IETF RFC 8259. In<br>the following example, a list of key-value pairs with four<br>keys ("aString", "aNumber", "anArray" and "anObject") is<br>provided to illustrate that the values associated with<br>different keys can be of different type. | object |
| <b>vnfConfigura</b><br><b>bleProperties</b><br><i>optional</i> | This type represents a list of key-value pairs. The order of<br>the pairs in the list is not significant. In JSON, a set of<br>keyvalue pairs is represented as an object. It shall comply<br>with the provisions defined in clause 4 of IETF RFC 8259. In<br>the following example, a list of key-value pairs with four<br>keys ("aString", "aNumber", "anArray" and "anObject") is<br>provided to illustrate that the values associated with<br>different keys can be of different type. | object |
| <b>vnfInstanceDe</b><br><b>scription</b><br><i>optional</i>    | If present, this attribute signals modifications of the "vnfInstanceDescription" attribute in "VnfInstance".   | string |
| vnfInstanceN<br>ame<br>optional                                | If present, this attribute signals modifications of the "vnfInstanceName" attribute in "VnfInstance".  | string |
| vnfProductNa<br>me<br>optional                                 | If present, this attribute signals modifications of the<br>"vnfProductName" attribute in "VnfInstance". If present,<br>this attribute (which depends on the value of the<br>"vnfPkgId" attribute) was modified implicitly following a<br>request to modify the "vnfPkgId" attribute, by copying the<br>value of this attribute from the VNFD in the VNF Package<br>identified by the "vnfPkgId" attribute.   | string |

| Name                                  | Description   | Schema                                 |
|---------------------------------------|---|--|
| <b>vnfProvider</b><br>optional        | If present, this attribute signals modifications of the<br>"vnfProvider" attribute in "VnfInstance". If present, this<br>attribute (which depends on the value of the "vnfPkgId"<br>attribute) was modified implicitly following a request to<br>modify the "vnfPkgId" attribute, by copying the value of<br>this attribute from the VNFD in the VNF Package identified<br>by the "vnfPkgId" attribute. | string                                 |
| vnfSoftwareV<br>ersion<br>optional    | A version.  | string                                 |
| vnfcInfoModif<br>ications<br>optional | If present, this attribute signals modifications of certain<br>entries in the "vnfcInfo" attribute array in the<br>"instantiatedVnfInfo" attribute of "VnfInstance", as defined<br>in clause 5.5.2.12   | <<br>vnfcInfoModificatio<br>ns > array |
|                                       | If present, this attribute signals the deletion of certain<br>entries in the "vnfcInfo" attribute array in the<br>"instantiatedVnfInfo" attribute of "VnfInstance", as defined<br>in clause 5.5.2.12  | < string > array                       |
| <b>vnfdId</b><br>optional             | An identifier with the intention of being globally unique.  | string                                 |
| <b>vnfdVersion</b><br>optional        | A version.  | string                                 |

#### vnfcInfoModifications

| Name  | Description  | Schema |
|---|--|--------|
| <b>id</b><br>required   | An identifier that is unique for the respective type within a VNF instance, but may not be globally unique.  | string |
| <b>vnfcConfigura</b><br><b>bleProperties</b><br><i>required</i> | This type represents a list of key-value pairs. The order of<br>the pairs in the list is not significant. In JSON, a set of<br>keyvalue pairs is represented as an object. It shall comply<br>with the provisions defined in clause 4 of IETF RFC 8259. In<br>the following example, a list of key-value pairs with four<br>keys ("aString", "aNumber", "anArray" and "anObject") is<br>provided to illustrate that the values associated with<br>different keys can be of different type. |        |

error

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

| HTTP<br>Code | Description  | Schema     |
|--------------|--|------------|
| 204          | 204 NO CONTENT Shall be returned when the notification has been<br>delivered successfully.<br>Headers :<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | No Content |

| HTTP<br>Code | Description   | Schema       |
|--------------|---|--------------|
| 400          | 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 should 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 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. <b>Headers : Content-Type</b> (string) : The MIME type of the body of the response. WW-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. | Response 400 |

| HTTP<br>Code | Description   | Schema       |
|--------------|---|--------------|
| 401          | 401 UNAUTHORIZED If the request contains no access token even<br>though one is required, or if the request contains an authorization<br>token that is invalid (e.g. expired or revoked), the API producer<br>should respond with this response. The details of the error shall be<br>returned in the WWW-Authenticate HTTP header, as defined in IETF<br>RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be<br>provided.<br><b>Headers :</b><br><b>Content-Type</b> (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | Response 401 |
| 403          | 403 FORBIDDEN If the API consumer is not allowed to perform a<br>particular request to a particular resource, the API producer shall<br>respond with this response code. The "ProblemDetails" structure<br>shall be provided. It should include in the "detail" attribute<br>information about the source of the problem, and may indicate how<br>to solve it.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.   | Response 403 |
| 405          | 405 METHOD NOT ALLOWED If a particular HTTP method is not<br>supported for a particular resource, the API producer shall respond<br>with this response code. The "ProblemDetails" structure may be<br>omitted.<br>Headers :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.  | Response 405 |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 406          | 406 NOT ACCEPTABLE If the "Accept" HTTP header does not contain<br>at least one name of a content type that is acceptable to the API<br>producer, the API producer shall respond with this response code.<br>The "ProblemDetails" structure may be omitted.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.   | Response 406 |
| 500          | 500 INTERNAL SERVER ERROR If there is an application error not<br>related to the client's input that cannot be easily mapped to any<br>other HTTP response code ("catch all error"), the API producer shall<br>respond with this response code. The "ProblemDetails" structure<br>shall be provided, and shall include in the "detail" attribute more<br>information about the source of the problem.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | Response 500 |
| 503          | 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. Headers : Content-Type (string) : The MIME type of the body of the response. 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. Version (string) : Version of the API used in the response.   | Response 503 |

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

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

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

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

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

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

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

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

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

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

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

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

# GET /URI-is-provided-by-the-client-when-creating-thesubscription-VnfLcmOperationOccurrenceNotification

## Description

The GET method allows the server to test the notification endpoint that is provided by the API consumer, e.g. during subscription. This method shall follow the provisions specified in the tables 5.4.20.3.2-1 and 5.4.20.3.2-2 for URI query parameters, request and response data structures, and response codes.

### Parameters

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

| HTTP<br>Code | Description   | Schema     |
|--------------|---|------------|
| 204          | 204 NO CONTENT Shall be returned to indicate that the notification<br>endpoint has been tested successfully. The response body shall be<br>empty.<br>Headers :<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | No Content |

| HTTP<br>Code | Description  | Schema |
|--------------|--|--------|
| 400          | 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 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 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 i |        |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 401          | 401 UNAUTHORIZED If the request contains no access token even<br>though one is required, or if the request contains an authorization<br>token that is invalid (e.g. expired or revoked), the API producer<br>should respond with this response. The details of the error shall be<br>returned in the WWW-Authenticate HTTP header, as defined in IETF<br>RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be<br>provided.<br><b>Headers :</b><br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | Response 401 |
| 403          | 403 FORBIDDEN If the API consumer is not allowed to perform a<br>particular request to a particular resource, the API producer shall<br>respond with this response code. The "ProblemDetails" structure<br>shall be provided. It should include in the "detail" attribute<br>information about the source of the problem, and may indicate how<br>to solve it.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.  | Response 403 |
| 405          | 405 METHOD NOT ALLOWED If a particular HTTP method is not<br>supported for a particular resource, the API producer shall respond<br>with this response code. The "ProblemDetails" structure may be<br>omitted.<br>Headers :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.   | Response 405 |

| HTTP<br>Code | Description  | Schema       |
|--------------|--|--------------|
| 406          | 406 NOT ACCEPTABLE If the "Accept" HTTP header does not contain<br>at least one name of a content type that is acceptable to the API<br>producer, the API producer shall respond with this response code.<br>The "ProblemDetails" structure may be omitted.<br>Headers :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.  | Response 406 |
| 500          | 500 INTERNAL SERVER ERROR If there is an application error not<br>related to the client's input that cannot be easily mapped to any<br>other HTTP response code ("catch all error"), the API producer shall<br>respond with this response code. The "ProblemDetails" structure<br>shall be provided, and shall include in the "detail" attribute more<br>information about the source of the problem.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response. | Response 500 |
| 503          | 503 SERVICE UNAVAILABLE If the API producer encounters an<br>internal overload situation of itself or of a system it relies on, it<br>should respond with this response code, following the provisions in<br>IETF RFC 7231 for the use of the "Retry-After" HTTP header and for<br>the alternative to refuse the connection. The "ProblemDetails"<br>structure may be omitted.<br><b>Headers</b> :<br>Content-Type (string) : The MIME type of the body of the response.<br>WWW-Authenticate (string) : Challenge if the corresponding HTTP<br>request has not provided authorization, or error details if the<br>corresponding HTTP request has provided an invalid authorization<br>token.<br>Version (string) : Version of the API used in the response.                        | Response 503 |

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

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

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

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

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

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

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

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

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

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

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

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