

# 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=](https://forge.etsi.org/bugzilla/buglist.cgi?component=Nfv-Openapis&list_id=61&product=NFV&resolution=)

### Version information

*Version* : 1.2.0-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 V2.5.1

URL : [https://www.etsi.org/deliver/etsi\\_gs/NFV-SOL/001\\_099/003/02.05.01\\_60/gs\\_nfv-sol003v020501p.pdf](https://www.etsi.org/deliver/etsi_gs/NFV-SOL/001_099/003/02.05.01_60/gs_nfv-sol003v020501p.pdf)

## Paths

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

#### Description

Notify

The POST method delivers a notification from the server to the client.

#### Parameters

Type	Name	Description	Schema
Header	<b>Authorization</b> <i>optional</i>	The authorization token for the request. Reference: IETF RFC 7235	string
Header	<b>Content-Type</b> <i>required</i>	The MIME type of the body of the request. Reference: IETF RFC 7231	string
Header	<b>Version</b> <i>required</i>	Version of the API requested to use when responding to this request.	string
Body	<b>VnfIdentifierCreationNotification</b> <i>required</i>	A notification about the creation of a VNF identifier and the related VNF instance resource.	<a href="#">VnfIdentifierCreationNotification</a>

#### VnfIdentifierCreationNotification

Name	Description	Schema
<b>_links</b> <i>required</i>	This type represents the links to resources that a notification can contain.	<a href="#">_links</a>
<b>id</b> <i>required</i>	An identifier with the intention of being globally unique.	string

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

## links

Name	Description	Schema
<b>subscription</b> <i>required</i>	This type represents a link to a resource in a notification, using an absolute or relative URI. It shall comply with the provisions defined in table 4.4.1.3a-1.	<a href="#">subscription</a>
<b>vnfInstance</b> <i>required</i>	This type represents a link to a resource in a notification, using an absolute or relative URI. It shall comply with the provisions defined in table 4.4.1.3a-1.	<a href="#">vnfInstance</a>
<b>vnfLcmOpOcc</b> <i>optional</i>	This type represents a link to a resource in a notification, using an absolute or relative URI. It shall comply with the provisions defined in table 4.4.1.3a-1.	<a href="#">vnfLcmOpOcc</a>

## subscription

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

## vnfInstance

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

## vnfLcmOpOcc

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

## Responses

HTTP Code	Description	Schema
<b>204</b>	<p>204 NO CONTENT The notification was delivered successfully.</p> <p><b>Headers :</b></p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	No Content

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

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

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

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

## Response 400

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



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

#### Response 401

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

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

#### Response 403

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

#### Response 404

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

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

## Response 405

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

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

#### Response 406

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

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

## Response 500

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

## Response 503

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

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

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

### Description

Notify

The POST method delivers a notification from the server to the client.

### Parameters

Type	Name	Description	Schema
<b>Header</b>	<b>Authorization</b> <i>optional</i>	The authorization token for the request. Reference: IETF RFC 7235	string
<b>Header</b>	<b>Content-Type</b> <i>required</i>	The MIME type of the body of the request. Reference: IETF RFC 7231	string

Type	Name	Description	Schema
Header	<b>Version</b> <i>required</i>	Version of the API requested to use when responding to this request.	string
Body	<b>VnfIdentifierDeletionNotification</b> <i>required</i>	A notification about the deletion of a VNF identifier and the related VNF instance resource.	<a href="#">VnfIdentifierDeletionNotification</a>

### VnfIdentifierDeletionNotification

Name	Description	Schema
<b>_links</b> <i>required</i>	This type represents the links to resources that a notification can contain.	<a href="#">_links</a>
<b>id</b> <i>required</i>	An identifier with the intention of being globally unique.	string
<b>notificationType</b> <i>required</i>	Discriminator for the different notification types. Shall be set to "VnfIdentifierDeletionNotification" for this notification type.	enum (VnfIdentifierDeletionNotification)
<b>subscriptionId</b> <i>required</i>	An identifier with the intention of being globally unique.	string
<b>timeStamp</b> <i>required</i>	Date-time stamp. Representation: String formatted according to IETF RFC 3339.	string (date-time)
<b>vnfInstanceId</b> <i>required</i>	An identifier with the intention of being globally unique.	string

### \_links

Name	Description	Schema
<b>subscription</b> <i>required</i>	This type represents a link to a resource in a notification, using an absolute or relative URI. It shall comply with the provisions defined in table 4.4.1.3a-1.	<a href="#">subscription</a>
<b>vnfInstance</b> <i>required</i>	This type represents a link to a resource in a notification, using an absolute or relative URI. It shall comply with the provisions defined in table 4.4.1.3a-1.	<a href="#">vnfInstance</a>

Name	Description	Schema
<b>vnfLcmOpOcc</b> <i>optional</i>	This type represents a link to a resource in a notification, using an absolute or relative URI. It shall comply with the provisions defined in table 4.4.1.3a-1.	<a href="#">vnfLcmOpOcc</a>

## subscription

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

## vnfInstance

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

## vnfLcmOpOcc

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

## Responses

HTTP Code	Description	Schema
<b>204</b>	<p>204 NO CONTENT The notification was delivered successfully.</p> <p><b>Headers :</b></p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	No Content



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

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

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

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

## Response 400

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

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

#### Response 401

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

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

#### Response 403

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

#### Response 404

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

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

## Response 405

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

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

#### Response 406

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



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

## Response 500

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

## Response 503

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

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

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

### Description

Notify

The POST method delivers a notification from the server to the client.

### Parameters

Type	Name	Description	Schema
<b>Header</b>	<b>Authorization</b> <i>optional</i>	The authorization token for the request. Reference: IETF RFC 7235	string
<b>Header</b>	<b>Content-Type</b> <i>required</i>	The MIME type of the body of the request. Reference: IETF RFC 7231	string

Type	Name	Description	Schema
Header	<b>Version</b> <i>required</i>	Version of the API requested to use when responding to this request.	string
Body	<b>VnfLcmOperationOccurrenceNotification</b> <i>required</i>	A notification about on-boarding of a VNF package.	<a href="#">VnfLcmOperationOccurrenceNotification</a>

### VnfLcmOperationOccurrenceNotification

Name	Description	Schema
<b>_links</b> <i>required</i>	This type represents the links to resources that a notification can contain.	<a href="#">_links</a>
<b>affectedVirtualLinks</b> <i>optional</i>	Information about VL instances that were affected during the lifecycle operation. Shall be present if the "notificationStatus" is set to "RESULT" and the operation has performed any resource modification. Shall be absent otherwise. This attribute contains information about the cumulative changes to virtualised resources that were performed so far by the VNF LCM operation occurrence and by any of the error handling procedures for that operation occurrence.	< <a href="#">affectedVirtualLinks</a> > array
<b>affectedVirtualStorages</b> <i>optional</i>	Information about virtualised storage instances that were affected during the lifecycle operation. Shall be present if the "notificationStatus" is set to "RESULT" and the operation has performed any resource modification. Shall be absent otherwise. This attribute contains information about the cumulative changes to virtualised resources that were performed so far by the VNF LCM operation occurrence and by any of the error handling procedures for that operation occurrence.	< <a href="#">affectedVirtualStorages</a> > array
<b>affectedVnfcs</b> <i>optional</i>	Information about VNFC instances that were affected during the lifecycle operation. Shall be present if the "notificationStatus" is set to "RESULT" and the operation has performed any resource modification. Shall be absent otherwise. This attribute contains information about the cumulative changes to virtualised resources that were performed so far by the VNF LCM operation occurrence and by any of the error handling procedures for that operation occurrence.	< <a href="#">affectedVnfcs</a> > array

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

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

Name	Description	Schema
<b>vnfLcmOpOccId</b> <i>required</i>	An identifier with the intention of being globally unique.	string

## **\_links**

Name	Description	Schema
<b>subscription</b> <i>required</i>	This type represents a link to a resource in a notification, using an absolute or relative URI. It shall comply with the provisions defined in table 4.4.1.3a-1.	<a href="#">subscription</a>
<b>vnfInstance</b> <i>required</i>	This type represents a link to a resource in a notification, using an absolute or relative URI. It shall comply with the provisions defined in table 4.4.1.3a-1.	<a href="#">vnfInstance</a>
<b>vnfLcmOpOcc</b> <i>optional</i>	This type represents a link to a resource in a notification, using an absolute or relative URI. It shall comply with the provisions defined in table 4.4.1.3a-1.	<a href="#">vnfLcmOpOcc</a>

## **subscription**

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

## **vnfInstance**

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

## **vnfLcmOpOcc**

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

## **affectedVirtualLinks**

Name	Description	Schema
<b>changeType</b> <i>required</i>	Signals the type of change. Permitted values: * ADDED * REMOVED * MODIFIED * TEMPORARY * LINK_PORT_ADDED * LINK_PORT_REMOVED For a temporary resource, an AffectedVirtualLink structure exists as long as the temporary resource exists.	enum (ADDED, REMOVED, MODIFIED, TEMPORARY, LINK_PORT_ADDED, LINK_PORT_REMOVED)
<b>id</b> <i>required</i>	An identifier that is unique for the respective type within a VNF instance, but may not be globally unique.	string
<b>metadata</b> <i>optional</i>	This type represents a list of key-value pairs. The order of the pairs in the list is not significant. In JSON, a set of key-value pairs is represented as an object. It shall comply with the provisions defined in clause 4 of IETF RFC 7159.	object
<b>networkResource</b> <i>required</i>	This type represents the information that allows addressing a virtualised resource that is used by a VNF instance. Information about the resource is available from the VIM.	<a href="#">networkResource</a>
<b>vnfVirtualLinkDescId</b> <i>required</i>	An identifier that is unique within a VNF descriptor.	string

## networkResource

Name	Description	Schema
<b>resourceId</b> <i>required</i>	An identifier maintained by the VIM or other resource provider. It is expected to be unique within the VIM instance.	string
<b>resourceProviderId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>vimConnectionId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>vimLevelResourceType</b> <i>optional</i>	Type of the resource in the scope of the VIM or the resource provider.	string

## affectedVirtualStorages

Name	Description	Schema
<b>changeType</b> <i>required</i>	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.	enum (ADDED, REMOVED, MODIFIED, TEMPORARY)
<b>id</b> <i>required</i>	An identifier that is unique for the respective type within a VNF instance, but may not be globally unique.	string
<b>metadata</b> <i>optional</i>	This type represents a list of key-value pairs. The order of the pairs in the list is not significant. In JSON, a set of key-value pairs is represented as an object. It shall comply with the provisions defined in clause 4 of IETF RFC 7159.	object
<b>storageResource</b> <i>required</i>	This type represents the information that allows addressing a virtualised resource that is used by a VNF instance. Information about the resource is available from the VIM.	<a href="#">storageResource</a>
<b>virtualStorageDescId</b> <i>required</i>	An identifier that is unique within a VNF descriptor.	string

## storageResource

Name	Description	Schema
<b>resourceId</b> <i>required</i>	An identifier maintained by the VIM or other resource provider. It is expected to be unique within the VIM instance.	string
<b>resourceProviderId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>vimConnectionId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>vimLevelResourceType</b> <i>optional</i>	Type of the resource in the scope of the VIM or the resource provider.	string

## affectedVnfcs



Name	Description	Schema
<b>addedStorageResourceIds</b> <i>optional</i>	References to VirtualStorage resources that have been added. Each value refers to a VirtualStorageResourceInfo item in the VnfInstance that was added to the VNFC. It shall be provided if at least one storage resource was added to the VNFC.	< string > array
<b>affectedVnfcCpIds</b> <i>optional</i>	Identifiers of CP(s) of the VNFC instance that were affected by the change. Shall be present for those affected CPs of the VNFC instance that are associated to an external CP of the VNF instance. May be present for further affected CPs of the VNFC instance.	< string > array
<b>changeType</b> <i>required</i>	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.	enum (ADDED, REMOVED, MODIFIED, TEMPORARY)
<b>computeResource</b> <i>required</i>	This type represents the information that allows addressing a virtualised resource that is used by a VNF instance. Information about the resource is available from the VIM.	<a href="#">computeResource</a>
<b>id</b> <i>required</i>	An identifier that is unique for the respective type within a VNF instance, but may not be globally unique.	string
<b>metadata</b> <i>optional</i>	This type represents a list of key-value pairs. The order of the pairs in the list is not significant. In JSON, a set of key-value pairs is represented as an object. It shall comply with the provisions defined in clause 4 of IETF RFC 7159.	object
<b>removedStorageResourceIds</b> <i>optional</i>	References to VirtualStorage resources that have been removed. The value contains the identifier of a VirtualStorageResourceInfo item that has been removed from the VNFC, and might no longer exist in the VnfInstance. It shall be provided if at least one storage resource was removed from the VNFC.	< string > array
<b>vduId</b> <i>required</i>	An identifier that is unique within a VNF descriptor.	string

## computeResource

Name	Description	Schema
<b>resourceId</b> <i>required</i>	An identifier maintained by the VIM or other resource provider. It is expected to be unique within the VIM instance.	string
<b>resourceProviderId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>vimConnectionId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>vimLevelResourceType</b> <i>optional</i>	Type of the resource in the scope of the VIM or the resource provider.	string

#### changedExtConnectivity

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

#### extLinkPorts

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

## resourceHandle

Name	Description	Schema
<b>resourceId</b> <i>required</i>	An identifier maintained by the VIM or other resource provider. It is expected to be unique within the VIM instance.	string
<b>resourceProviderId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>vimConnectionId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>vimLevelResourceType</b> <i>optional</i>	Type of the resource in the scope of the VIM or the resource provider.	string

## resourceHandle

Name	Description	Schema
<b>resourceId</b> <i>required</i>	An identifier maintained by the VIM or other resource provider. It is expected to be unique within the VIM instance.	string
<b>resourceProviderId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>vimConnectionId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>vimLevelResourceType</b> <i>optional</i>	Type of the resource in the scope of the VIM or the resource provider.	string

## changedInfo

Name	Description	Schema
<b>extensions</b> <i>optional</i>	This type represents a list of key-value pairs. The order of the pairs in the list is not significant. In JSON, a set of key-value pairs is represented as an object. It shall comply with the provisions defined in clause 4 of IETF RFC 7159.	object
<b>metadata</b> <i>optional</i>	This type represents a list of key-value pairs. The order of the pairs in the list is not significant. In JSON, a set of key-value pairs is represented as an object. It shall comply with the provisions defined in clause 4 of IETF RFC 7159.	object
<b>vimConnectionInfo</b> <i>optional</i>	If present, this attribute signals modifications of certain entries in the "vimConnectionInfo" attribute array in "VnfInstance".	< <a href="#">vimConnectionInfo</a> > array
<b>vimConnectionInfoDeleteIds</b> <i>optional</i>	If present, this attribute signals the deletion of certain entries in the "vimConnectionInfo" attribute array in "VnfInstance".	< string > array
<b>vnfConfigurableProperties</b> <i>optional</i>	This type represents a list of key-value pairs. The order of the pairs in the list is not significant. In JSON, a set of key-value pairs is represented as an object. It shall comply with the provisions defined in clause 4 of IETF RFC 7159.	object
<b>vnfInstanceDescription</b> <i>optional</i>	If present, this attribute signals modifications of the "vnfInstanceDescription" attribute in "VnfInstance".	string
<b>vnfInstanceName</b> <i>optional</i>	If present, this attribute signals modifications of the "vnfInstanceName" attribute in "VnfInstance".	string
<b>vnfPkgId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>vnfProductName</b> <i>optional</i>	If present, this attribute signals modifications of the "vnfProductName" attribute in "VnfInstance". If present, this attribute (which depends on the value of the "vnfPkgId" attribute) was modified implicitly following a request to modify the "vnfPkgId" attribute, by copying the value of this attribute from the VNFD in the VNF Package identified by the "vnfPkgId" attribute.	string

Name	Description	Schema
<b>vnfProvider</b> <i>optional</i>	If present, this attribute signals modifications of the "vnfProvider" attribute in "VnfInstance". If present, this attribute (which depends on the value of the "vnfPkgId" attribute) was modified implicitly following a request to modify the "vnfPkgId" attribute, by copying the value of this attribute from the VNFD in the VNF Package identified by the "vnfPkgId" attribute.	string
<b>vnfSoftwareVersion</b> <i>optional</i>	A Version.	string
<b>vnfdId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>vnfdVersion</b> <i>optional</i>	A Version.	string

#### **vimConnectionInfo**

Name	Description	Schema
<b>accessInfo</b> <i>optional</i>	This type represents a list of key-value pairs. The order of the pairs in the list is not significant. In JSON, a set of key-value pairs is represented as an object. It shall comply with the provisions defined in clause 4 of IETF RFC 7159.	object
<b>extra</b> <i>optional</i>	This type represents a list of key-value pairs. The order of the pairs in the list is not significant. In JSON, a set of key-value pairs is represented as an object. It shall comply with the provisions defined in clause 4 of IETF RFC 7159.	object
<b>id</b> <i>required</i>	An identifier with the intention of being globally unique.	string
<b>interfaceInfo</b> <i>optional</i>	This type represents a list of key-value pairs. The order of the pairs in the list is not significant. In JSON, a set of key-value pairs is represented as an object. It shall comply with the provisions defined in clause 4 of IETF RFC 7159.	object
<b>vimId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string

Name	Description	Schema
<b>vimType</b> <i>required</i>	Discriminator for the different types of the VIM information. The value of this attribute determines the structure of the "interfaceInfo" and "accessInfo" attributes, based on the type of the VIM. The set of permitted values is expected to change over time as new types or versions of VIMs become available. The ETSI NFV registry of VIM-related information provides access to information about VimConnectionInfo definitions for various VIM types. The structure of the registry is defined in Annex C of SOL003.	string

## error

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

## Responses

HTTP Code	Description	Schema
204	<p>204 NO CONTENT The notification was delivered successfully.</p> <p><b>Headers :</b></p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	No Content
400	<p>400 BAD REQUEST 400 code can be returned in the following specified cases, the specific cause has to be proper specified in the "ProblemDetails" structure to be returned. If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or the payload body contains a syntactically incorrect data structure), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If the response to a GET request which queries a container resource would be so big that the performance of the API producer is adversely affected, and the API producer does not support paging for the affected resource, it shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. If there is an application error related to the client's input that cannot be easily mapped to any other HTTP response code ("catch all error"), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem. If the request contains a malformed access token, the API producer should respond with this response. The details of the error shall be returned in the WWW Authenticate HTTP header, as defined in IETF RFC 6750 and IETF RFC 7235. The ProblemDetails structure may be provided. The use of this HTTP error response code described above is applicable to the use of the OAuth 2.0 for the authorization of API requests and notifications, as defined in clauses 4.5.3.3 and 4.5.3.4.</p> <p><b>Headers :</b></p> <p><b>Content-Type</b> (string) : The MIME type of the body of the response.</p> <p><b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p> <p><b>Version</b> (string) : Version of the API used in the response.</p>	Response 400

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



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

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

## Response 400

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

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

#### Response 401

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

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

#### Response 403

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

#### Response 404

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

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

## Response 405

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

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

#### Response 406

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

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

## Response 500

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

## Response 503

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

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