# **SOL002 - VNF Indicator interface**

# **Overview**

VNF Indicator interface of ETSI NFV SOL002. This API allows the EM/VNF to provide information on value changes of VNF related indicators. VNF related indicators are declared in the VNFD. 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. Please report bugs to <a href="https://forge.etsi.org/bugzilla/buglist.cgi?component=Nfv-Openapis">https://forge.etsi.org/bugzilla/buglist.cgi?component=Nfv-Openapis</a>

# **Version information**

Version: 1.1.0

# 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:/vnfind/v1 Schemes: HTTP, HTTPS

### **Consumes**

• application/json

# **Produces**

• application/json

# **External Docs**

Description: ETSI GS NFV-SOL 002 V2.4.1

URL: http://www.etsi.org/deliver/etsi\_gs/NFV-SOL/001\_099/002/02.04.01\_60/gs\_NFV-

SOL002v020401p.pdf

# **Paths**

# Query multiple indicators

GET /indicators

# **Description**

The GET method queries multiple VNF indicators.

HTTP Code	Description	Schema
200	OK The list of VNF indicators was queried successfully. The response body shall contain the representations of all VNF indicators that match the attribute-based filtering parameters.	< Response 200 > array
400	Bad Request If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or a syntactically incorrect payload body), 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. —  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.  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.	Response 400

HTTP Code	Description	Schema
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.  Headers:  Content-Type (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 401
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.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 403
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.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 404
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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 405

HTTP Code	Description	Schema
406	Not Acceptable If the "Accept" HTTP 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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 406
409	Conflict Another request is in progress that prohibits the fulfilment of the current request, or the current resource state is inconsistent with the request.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 409
416	Requested Range Not Satisfiable This code is returned if the requested byte range in the Range HTTP header is not present in the requested resource.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 416
422	Unprocessable Entity If the payload body of a request contains syntactically correct data (e.g. well-formed JSON) but the data cannot be processed (e.g. because it fails validation against a schema), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. NOTE 2: This error response code is only applicable for methods that have a request body.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 422
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 withthis response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 500

HTTP Code	Description	Schema
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 [13] 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.	

Name	Description	Schema
_links required	Links to resources related to this resource.	_links
<b>id</b> required	An identifier that is unique within a VNF descriptor.	string
name optional		string
<b>value</b> required		object
vnfInstanceId required	An identifier with the intention of being globally unique.	string

# \_links

Name	Description	Schema
<b>self</b> required	This type represents a link to a resource.	self
vnfInstance optional	This type represents a link to a resource.	vnfInstance

#### self

Name	Description	Schema
<b>href</b> required	URI of the referenced resource.	string (url)

#### vnfInstance

Name	Description	Schema
<b>href</b> required	URI of the referenced resource.	string (url)

# Response 400

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

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

# Query multiple indicators related to a VNF instance.

GET /indicators/{vnfInstanceId}

# **Description**

Get a list of indicators related to a specific VNF instance. Support of attribute based filtering via query parameters.

#### **Parameters**

Туре	Name	Description	Schema
Path	vnfInstanceId required	Service Unavailable Identifier of the VNF instance to which the VNF indicators applies. NOTE: This identifier can be retrieved from the resource referenced by the "Location" HTTP header in the response to a POST request creating a new VNF instance resource. It can also be retrieved from the "id" attribute in the payload body of that response.	string

HTTP Code	Description	Schema
200	OK The list of VNF indicators was queried successfully. The response body shall contain the representations of all VNF indicators that match the attribute-based filtering parameters.	< Response 200 > array
400	Bad Request If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or a syntactically incorrect payload body), 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. —  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.  Headers: Content-Type (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
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.  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.	Response 401

HTTP Code	Description	Schema
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.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 403
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.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 404
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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 405
406	Not Acceptable If the "Accept" HTTP 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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 406
409	Conflict Another request is in progress that prohibits the fulfilment of the current request, or the current resource state is inconsistent with the request.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 409
416	Requested Range Not Satisfiable This code is returned if the requested byte range in the Range HTTP header is not present in the requested resource.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 416

HTTP Code	Description	Schema
422	Unprocessable Entity If the payload body of a request contains syntactically correct data (e.g. well-formed JSON) but the data cannot be processed (e.g. because it fails validation against a schema), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. NOTE 2: This error response code is only applicable for methods that have a request body.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 422
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 withthis response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 500
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 [13] 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.	Response 503

Name	Description	Schema
_links required	Links to resources related to this resource.	_links
<b>id</b> required	An identifier that is unique within a VNF descriptor.	string
name optional		string

Name	Description	Schema
<b>value</b> required		object
vnfInstanceId required	An identifier with the intention of being globally unique.	string

# \_links

Name	Description	Schema
<b>self</b> required	This type represents a link to a resource.	self
vnfInstance optional	This type represents a link to a resource.	vnfInstance

#### self

Name	Description	Schema
<b>href</b> required	URI of the referenced resource.	string (url)

#### vnfInstance

Name	Description	Schema
<b>href</b> required	URI of the referenced resource.	string (url)

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

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status required	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

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<b>type</b> optional	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)

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<b>type</b> optional	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)

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status required	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
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<b>type</b> optional	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)

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

# Read an inidividual VNF indicator.

GET /indicators/{vnfInstanceId}/{indicatorId}

# **Description**

The GET method reads an individual VNF indicator. NOTE: This identifier can be retrieved from the resource referenced by the "Location" HTTP header in the response to a POST request creating a new VNF instance resource. It can also be retrieved from the "id" attribute in the payload body of that response.

#### **Parameters**

Туре	Name	Description	Schema
Path	indicatorId required	Identifier of the VNF indicator.	string
Path	vnfInstanceId required	Service Unavailable Identifier of the VNF instance to which the VNF indicators applies. NOTE: This identifier can be retrieved from the resource referenced by the "Location" HTTP header in the response to a POST request creating a new VNF instance resource. It can also be retrieved from the "id" attribute in the payload body of that response.	grring

HTTP Code	Description	Schema
200	OK The VNF indicator was read successfully. The response body shall contain the representation of the VNF indicator.	Response 200

HTTP Code	Description	Schema
400	Bad Request If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or a syntactically incorrect payload body), 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. —  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.  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.	Response 400
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.  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.	Response 401

HTTP Code	Description	Schema
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.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 403
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.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 404
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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 405
406	Not Acceptable If the "Accept" HTTP 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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 406
409	Conflict Another request is in progress that prohibits the fulfilment of the current request, or the current resource state is inconsistent with the request.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 409
416	Requested Range Not Satisfiable This code is returned if the requested byte range in the Range HTTP header is not present in the requested resource.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 416

HTTP Code	Description	Schema
422	Unprocessable Entity If the payload body of a request contains syntactically correct data (e.g. well-formed JSON) but the data cannot be processed (e.g. because it fails validation against a schema), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. NOTE 2: This error response code is only applicable for methods that have a request body.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 422
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 withthis response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 500
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 [13] 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.	Response 503

Name	Description	Schema
_links required	Links to resources related to this resource.	_links
<b>id</b> required	An identifier that is unique within a VNF descriptor.	string
name optional		string

Name	Description	Schema
<b>value</b> required		object
vnfInstanceId required	An identifier with the intention of being globally unique.	string

# \_links

Name	Description	Schema
<b>self</b> required	This type represents a link to a resource.	self
vnfInstance optional	This type represents a link to a resource.	vnfInstance

#### self

Name	Description	Schema
<b>href</b> required	URI of the referenced resource.	string (url)

#### vnfInstance

Name	Description	Schema
<b>href</b> required	URI of the referenced resource.	string (url)

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

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# Create a new subscription to VNF indicator change notifications

POST /subscriptions

## Description

Create a new subscription

## **Parameters**

Туре	Name	Description	Schema
Body	<b>subscription</b> required	Subscription data.	subscription

## subscription

Name	Description	Schema
authenticatio n optional		authentication
<b>callbackUri</b> required	The URI of the endpoint to send the notification to.	string (URI)
<b>filter</b> optional	This type represents a subscription filter related to notifications about VNF indicator value changes. At a particular nesting level in the filter structure, the following applies: All attributes shall match in order for the filter to match (logical "and" between different filter attributes). If an attribute is an array, the attribute shall match if at least one of the values in the array matches (logical "or" between the values of one filter attribute).	filter

#### authentication

Name	Description	Schema
authType required	Defines the types of Authentication / Authorization which the API consumer is willing to accept when receiving a notification. Permitted values: * BASIC: In every HTTP request to the notification endpoint, use HTTP Basic authentication with the client credentials. * OAUTH2_CLIENT_CREDENTIALS: In every HTTP request to the notification endpoint, use an OAuth 2.0 Bearer token, obtained using the client credentials grant type. * TLS_CERT: Every HTTP request to the notification endpoint is sent over a mutually authenticated TLS session, i.e. not only the server is authenticated, but also the client is authenticated during the TLS tunnel setup.	OAUTH2_CLIENT_CR EDENTIALS, TLS_CERT) > array

Name	Description	Schema
paramsBasic optional	Parameters for authentication/authorization using BASIC. Shall be present if authType is "BASIC" and the contained information has not been provisioned out of band. Shall be absent otherwise.	paramsBasic
paramsOauth 2ClientCreden tials optional	Parameters for authentication/authorization using OAUTH2_CLIENT_CREDENTIALS. Shall be present if authType is "OAUTH2_CLIENT_CREDENTIALS" and the contained information has not been provisioned out of band. Shall be absent otherwise.	paramsOauth2Client Credentials

## paramsBasic

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

## params O auth 2 Client Credentials

Name	Description	Schema
clientId optional	Client identifier to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string
clientPasswor d optional	Client password to be used in the access token request of the OAuth 2.0 client credentials grant type. Shall be present if it has not been provisioned out of band. The clientId and clientPassword passed in a subscription shall not be the same as the clientId and clientPassword that are used to obtain authorization for API requests. Client credentials may differ between subscriptions. The value of clientPassword should be generated by a random process.	string

Name	Description	Schema
tokenEndpoin t optional	String formatted according to IETF RFC 3986.	string

#### filter

Name	Description	Schema
indicatorIds optional	Match particular VNF indicator identifiers.	< string > array
	This type represents subscription filter criteria to match VNF instances. * NOTE 1: The attributes "vnfdIds" and "vnfProductsFromProviders" are alternatives to reference to VNF instances that are based on certain VNFDs in a filter. They should not be used both in the same filter instance, but one alternative should be chosen. * NOTE 2: The attributes "vnfInstanceIds" and "vnfInstanceNames" are alternatives to reference to particular VNF instances in a filter. They should not be used both in the same filter instance, but one alternative should be chosen.	vnfInstanceSubscrip tionFilter

## vnfInstance Subscription Filter

Name	Description	Schema
vnfInstanceId s optional	If present, match VNF instances with an instance identifier listed in this attribute. See NOTE 2.	< string > array
vnfInstanceN ames optional	If present, match VNF instances with a VNF Instance Name listed in this attribute. See NOTE 2	< string > array
vnfProductsFr omProviders optional	If present, match VNF instances that belong to VNF products from certain providers. See NOTE 1.	<pre>     vnfProductsFromPr      oviders &gt; array</pre>
vnfdIds optional	If present, match VNF instances that were created based on a VNFD identified by one of the vnfdId values listed in this attribute. See NOTE 1.	< string > array

## vnfProductsFromProviders

Name	Description	Schema
vnfProducts optional	If present, match VNF instances that belong to VNF products with certain product names, from one particular provider.	VntProducts > 1
vnfProvider required	Name of the VNF provider to match.	string

#### vnfProducts

Name	Description	Schema
<b>versions</b> optional	If present, match VNF instances that belong to VNF products with certain versions and a certain product name, from one particular provider.	
vnfProductNa me required	Name of the VNF product to match.	string

#### versions

Name	Description	Schema
vnfSoftwareV ersions required	A version.	string
vnfdVersions optional	If present, match VNF instances that belong to VNF products with certain VNFD versions, a certain software version and a certain product name, from one particular provider.	< string > array

HTTP Code	Description	Schema
201	Created The subscription was created successfully. The response body shall contain a representation of the created subscription resource.  Headers: Location (string (URI)): Pointer to the created subscription resource.	Response 201

HTTP Code	Description	Schema
400	Bad Request If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or a syntactically incorrect payload body), 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. —  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.  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.	Response 400
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.  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.	Response 401

HTTP Code	Description	Schema
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.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 403
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.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 404
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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 405
406	Not Acceptable If the "Accept" HTTP 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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 406
409	Conflict Another request is in progress that prohibits the fulfilment of the current request, or the current resource state is inconsistent with the request.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 409
416	Requested Range Not Satisfiable This code is returned if the requested byte range in the Range HTTP header is not present in the requested resource.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 416

HTTP Code	Description	Schema
422	Unprocessable Entity If the payload body of a request contains syntactically correct data (e.g. well-formed JSON) but the data cannot be processed (e.g. because it fails validation against a schema), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. NOTE 2: This error response code is only applicable for methods that have a request body.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 422
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 withthis response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 500
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 [13] 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.	Response 503

Name	Description	Schema
_links required	Links to resources related to this resource.	_links
<b>callbackUri</b> required	The URI of the endpoint to send the notification to.	string (URI)

Name	Description	Schema
<b>filter</b> optional	This type represents a subscription filter related to notifications about VNF indicator value changes. At a particular nesting level in the filter structure, the following applies: All attributes shall match in order for the filter to match (logical "and" between different filter attributes). If an attribute is an array, the attribute shall match if at least one of the values in the array matches (logical "or" between the values of one filter attribute).	filter
<b>id</b> required	An identifier with the intention of being globally unique.	string

#### \_links

Name	Description	Schema
<b>self</b> required	This type represents a link to a resource.	self

#### self

Name	Description	Schema
<b>href</b> required	URI of the referenced resource.	string (url)

#### filter

Name	Description	Schema
indicatorIds optional	Match particular VNF indicator identifiers.	< string > array
	This type represents subscription filter criteria to match VNF instances. * NOTE 1: The attributes "vnfdIds" and "vnfProductsFromProviders" are alternatives to reference to VNF instances that are based on certain VNFDs in a filter. They should not be used both in the same filter instance, but one alternative should be chosen. * NOTE 2: The attributes "vnfInstanceIds" and "vnfInstanceNames" are alternatives to reference to particular VNF instances in a filter. They should not be used both in the same filter instance, but one alternative should be chosen.	vnfInstanceSubscrip tionFilter

## vnfInstance Subscription Filter

Name	Description	Schema
vnfInstanceId s optional	If present, match VNF instances with an instance identifier listed in this attribute. See NOTE 2.	< string > array
vnfInstanceN ames optional	If present, match VNF instances with a VNF Instance Name listed in this attribute. See NOTE 2	< string > array
vnfProductsFr omProviders optional	If present, match VNF instances that belong to VNF products from certain providers. See NOTE 1.	<pre>  vnfProductsFromPr   oviders &gt; array</pre>
vnfdIds optional	If present, match VNF instances that were created based on a VNFD identified by one of the vnfdId values listed in this attribute. See NOTE 1.	< string > array

#### vnfProductsFromProviders

Name	Description	Schema
vnfProducts optional	If present, match VNF instances that belong to VNF products with certain product names, from one particular provider.	< vntrodiicts >
vnfProvider required	Name of the VNF provider to match.	string

#### vnfProducts

Name	Description	Schema
versions optional	If present, match VNF instances that belong to VNF products with certain versions and a certain product name, from one particular provider.	< versions > array
vnfProductNa me required	Name of the VNF product to match.	string

#### versions

Name	Description	Schema
vnfSoftwareV ersions required	A version.	string
vnfdVersions optional	If present, match VNF instances that belong to VNF products with certain VNFD versions, a certain software version and a certain product name, from one particular provider.	< string > array

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

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

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

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

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

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

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
<b>status</b> required	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> optional	A 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> optional	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".	

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

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

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

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

Name	Description	Schema
instance optional	A URI reference that identifies the specific occurrence of the problem. It may yield further information if dereferenced.	
<b>status</b> required	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> optional	A 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> optional	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".	

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

# Query multiple subscriptions.

GET /subscriptions

## **Description**

Service Unavailable The GET method queries the list of active subscriptions of the functional block that invokes the method. It can be used e.g. for resynchronization after error situations.

HTTP Code	Description	Schema
200	OK The list of subscriptions was queried successfully. The response body shall contain the representations of all active subscriptions of the functional block that invokes the method which match the attribute filter.	< Response 200 >

HTTP Code	Description	Schema
400	Bad Request If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or a syntactically incorrect payload body), 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. —  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.  Headers:  Content-Type (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
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.  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.	Response 401

HTTP Code	Description	Schema
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.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 403
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.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 404
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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 405
406	Not Acceptable If the "Accept" HTTP 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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 406
409	Conflict Another request is in progress that prohibits the fulfilment of the current request, or the current resource state is inconsistent with the request.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 409
416	Requested Range Not Satisfiable This code is returned if the requested byte range in the Range HTTP header is not present in the requested resource.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 416

HTTP Code	Description	Schema
422	Unprocessable Entity If the payload body of a request contains syntactically correct data (e.g. well-formed JSON) but the data cannot be processed (e.g. because it fails validation against a schema), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. NOTE 2: This error response code is only applicable for methods that have a request body.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 422
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 withthis response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 500
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 [13] 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.	Response 503

Name	Description	Schema
_links required	Links to resources related to this resource.	_links
<b>callbackUri</b> required	The URI of the endpoint to send the notification to.	string (URI)

Name	Description	Schema
<b>filter</b> optional	This type represents a subscription filter related to notifications about VNF indicator value changes. At a particular nesting level in the filter structure, the following applies: All attributes shall match in order for the filter to match (logical "and" between different filter attributes). If an attribute is an array, the attribute shall match if at least one of the values in the array matches (logical "or" between the values of one filter attribute).	filter
<b>id</b> required	An identifier with the intention of being globally unique.	string

#### \_links

Name	Description	Schema
self required	This type represents a link to a resource.	self

#### self

Name	Description	Schema
<b>href</b> required	URI of the referenced resource.	string (url)

#### filter

Name	Description	Schema
indicatorIds optional	Match particular VNF indicator identifiers.	< string > array
	This type represents subscription filter criteria to match VNF instances. * NOTE 1: The attributes "vnfdIds" and "vnfProductsFromProviders" are alternatives to reference to VNF instances that are based on certain VNFDs in a filter. They should not be used both in the same filter instance, but one alternative should be chosen. * NOTE 2: The attributes "vnfInstanceIds" and "vnfInstanceNames" are alternatives to reference to particular VNF instances in a filter. They should not be used both in the same filter instance, but one alternative should be chosen.	•

## vnfInstance Subscription Filter

Name	Description	Schema
vnfInstanceId s optional	If present, match VNF instances with an instance identifier listed in this attribute. See NOTE 2.	< string > array
vnfInstanceN ames optional	If present, match VNF instances with a VNF Instance Name listed in this attribute. See NOTE 2	< string > array
vnfProductsFr omProviders optional	If present, match VNF instances that belong to VNF products from certain providers. See NOTE 1.	<pre>     vnfProductsFromPr      oviders &gt; array</pre>
vnfdIds optional	If present, match VNF instances that were created based on a VNFD identified by one of the vnfdId values listed in this attribute. See NOTE 1.	< string > array

#### vnfProductsFromProviders

Name	Description	Schema
vnfProducts optional	If present, match VNF instances that belong to VNF products with certain product names, from one particular provider.	< vntrrodiicts >
vnfProvider required	Name of the VNF provider to match.	string

#### vnfProducts

Name	Description	Schema
versions optional	If present, match VNF instances that belong to VNF products with certain versions and a certain product name, from one particular provider.	< versions > array
vnfProductNa me required	Name of the VNF product to match.	string

#### versions

Name	Description	Schema
vnfSoftwareV ersions required	A version.	string
vnfdVersions optional	If present, match VNF instances that belong to VNF products with certain VNFD versions, a certain software version and a certain product name, from one particular provider.	< string > array

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

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<b>detail</b> required	A human-readable explanation specific to this occurrence of the problem.	string
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<b>type</b> optional	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)

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<b>type</b> optional	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".	

# Read an individual subscription.

GET /subscriptions/{subscriptionId}

## **Description**

Service Unavailable This resource represents an individual subscription. The client can use this resource to read and to terminate a subscription to notifications related to VNF indicator value changes.

#### **Parameters**

Type	Name	Description	Schema
Path	subscriptionI d required	Identifier of this subscription. NOTE: This identifier can be retrieved from the resource referenced by the "Location" HTTP header in the response to a POST request creating a new subscription resource. It can also be retrieved from the "id" attribute in the payload body of that response.	string

HTTP Code	Description	Schema
200	OK The subscriptions was queried successfully. The response body shall contain the representation of the requested subscription.	Response 200
400	Bad Request If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or a syntactically incorrect payload body), 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. —  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.  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.	
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.  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.	Response 401

HTTP Code	Description	Schema
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.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 403
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.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 404
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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 405
406	Not Acceptable If the "Accept" HTTP 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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 406
409	Conflict Another request is in progress that prohibits the fulfilment of the current request, or the current resource state is inconsistent with the request.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 409
416	Requested Range Not Satisfiable This code is returned if the requested byte range in the Range HTTP header is not present in the requested resource.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 416

HTTP Code	Description	Schema
422	Unprocessable Entity If the payload body of a request contains syntactically correct data (e.g. well-formed JSON) but the data cannot be processed (e.g. because it fails validation against a schema), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. NOTE 2: This error response code is only applicable for methods that have a request body.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 422
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 withthis response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 500
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 [13] 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.	Response 503

Name	Description	Schema
_links required	Links to resources related to this resource.	_links
<b>callbackUri</b> required	The URI of the endpoint to send the notification to.	string (URI)

Name	Description	Schema
<b>filter</b> optional	This type represents a subscription filter related to notifications about VNF indicator value changes. At a particular nesting level in the filter structure, the following applies: All attributes shall match in order for the filter to match (logical "and" between different filter attributes). If an attribute is an array, the attribute shall match if at least one of the values in the array matches (logical "or" between the values of one filter attribute).	filter
<b>id</b> required	An identifier with the intention of being globally unique.	string

#### \_links

Name	Description	Schema
<b>self</b> required	This type represents a link to a resource.	self

#### self

Name	Description	Schema
<b>href</b> required	URI of the referenced resource.	string (url)

#### filter

Name	Description	Schema
indicatorIds optional	Match particular VNF indicator identifiers.	< string > array
	This type represents subscription filter criteria to match VNF instances. * NOTE 1: The attributes "vnfdIds" and "vnfProductsFromProviders" are alternatives to reference to VNF instances that are based on certain VNFDs in a filter. They should not be used both in the same filter instance, but one alternative should be chosen. * NOTE 2: The attributes "vnfInstanceIds" and "vnfInstanceNames" are alternatives to reference to particular VNF instances in a filter. They should not be used both in the same filter instance, but one alternative should be chosen.	•

# vnfInstance Subscription Filter

Name	Description	Schema
vnfInstanceId s optional	If present, match VNF instances with an instance identifier listed in this attribute. See NOTE 2.	< string > array
vnfInstanceN ames optional	If present, match VNF instances with a VNF Instance Name listed in this attribute. See NOTE 2	< string > array
vnfProductsFr omProviders optional	If present, match VNF instances that belong to VNF products from certain providers. See NOTE 1.	<pre>     vnfProductsFromPr      oviders &gt; array</pre>
vnfdIds optional	If present, match VNF instances that were created based on a VNFD identified by one of the vnfdId values listed in this attribute. See NOTE 1.	< string > array

#### vnfProductsFromProviders

Name	Description	Schema
vnfProducts optional	If present, match VNF instances that belong to VNF products with certain product names, from one particular provider.	< vntrodiicts >
vnfProvider required	Name of the VNF provider to match.	string

#### vnfProducts

Name	Description	Schema
versions optional	If present, match VNF instances that belong to VNF products with certain versions and a certain product name, from one particular provider.	< versions > array
vnfProductNa me required	Name of the VNF product to match.	string

#### versions

Name	Description	Schema
vnfSoftwareV ersions required	A version.	string
vnfdVersions optional	If present, match VNF instances that belong to VNF products with certain VNFD versions, a certain software version and a certain product name, from one particular provider.	< string > array

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

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<b>detail</b> required	A human-readable explanation specific to this occurrence of the problem.	string
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<b>title</b> optional	A 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).	
<b>type</b> optional	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".	

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

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<b>type</b> optional	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".	

# Delete a subscription

DELETE /subscriptions/{subscriptionId}

# **Description**

Terminate an individual subscription.

#### **Parameters**

Type	Name	Description	Schema
Path	subscriptionI d required	Service Unavailable Identifier of this subscription. NOTE: This identifier can be retrieved from the resource referenced by the "Location" HTTP header in the response to a POST request creating a new subscription resource. It can also be retrieved from the "id" attribute in the payload body of that response.	string

HTTP Code	Description	Schema
204	No Content The subscription was deleted successfully. The response body shall be empty.	No Content

HTTP Code	Description	Schema
400	Bad Request If the request is malformed or syntactically incorrect (e.g. if the request URI contains incorrect query parameters or a syntactically incorrect payload body), 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. —  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.  Headers:  Content-Type (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
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.  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.	Response 401

HTTP Code	Description	Schema
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.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 403
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.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 404
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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 405
406	Not Acceptable If the "Accept" HTTP 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 in that case.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 406
409	Conflict Another request is in progress that prohibits the fulfilment of the current request, or the current resource state is inconsistent with the request.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 409
416	Requested Range Not Satisfiable This code is returned if the requested byte range in the Range HTTP header is not present in the requested resource.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 416

HTTP Code	Description	Schema
422	Unprocessable Entity If the payload body of a request contains syntactically correct data (e.g. well-formed JSON) but the data cannot be processed (e.g. because it fails validation against a schema), the API producer shall respond with this response code. The "ProblemDetails" structure shall be provided, and should include in the "detail" attribute more information about the source of the problem. NOTE 2: This error response code is only applicable for methods that have a request body.  Headers:  Content-Type (string): The MIME type of the body of the response.	Response 422
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 withthis response code. The "ProblemDetails" structure shall be provided, and shall include in the "detail" attribute more information about the source of the problem.  Headers: Content-Type (string): The MIME type of the body of the response.	Response 500
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 [13] 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.	Response 503

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

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<b>title</b> optional	A 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> optional	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)

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