

# SOL005 - NS Fault Management Notification interface

## Overview

SOL005 - NS Fault 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 002 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* : 1.0.0

## 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* : /callback/v1

*Schemes* : HTTP, HTTPS

## Consumes

- `application/json`

## Produces

- `application/json`

# External Docs

Description : ETSI GS NFV-SOL 005 V2.4.1

URL : [http://www.etsi.org/deliver/etsi\\_gs/NFV-SOL/001\\_099/005/02.04.01\\_60/gs\\_NFV-SOL005v020401p.pdf](http://www.etsi.org/deliver/etsi_gs/NFV-SOL/001_099/005/02.04.01_60/gs_NFV-SOL005v020401p.pdf)

## Paths

### Notify about NS alarms

POST /URI\_is\_provided\_by\_the\_client\_when\_creating\_the\_subscription-AlarmClearedNotification

#### Description

The POST method notifies an alarm related to a NS or that the alarm list has been rebuilt.

#### Parameters

Type	Name	Description	Schema
Header	<b>Accept</b> <i>required</i>	Content-Types that are acceptable for the response. Reference: IETF RFC 7231	string
Header	<b>Authorization</b> <i>optional</i>	The authorization token for the request. Reference: IETF RFC 7235	string
Header	<b>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>alarmClearedNotification</b> <i>required</i>	Information of the clearance of a NS alarm.	<a href="#">alarmClearedNotification</a>

#### alarmClearedNotification

Name	Description	Schema
<b>AlarmClearedNotification</b> <i>optional</i>	This type represents an alarm cleared notification about VNF faults. The notification shall be triggered by the VNFM when an alarm has been cleared.	<a href="#">AlarmClearedNotification</a>

## AlarmClearedNotification

Name	Description	Schema
<b>_links</b> <i>required</i>	Links to resources related to this notification.	<a href="#">_links</a>
<b>alarmId</b> <i>required</i>	An identifier with the intention of being globally unique.	string
<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 "AlarmClearedNotification" for this notification type.	enum (AlarmClearedNotification)
<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)

### \_links

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

### alarm

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

### subscription

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

## Responses

HTTP Code	Description	Schema
204	<p>204 No Content The notification was delivered successfully. The response body shall be empty.</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>Bad Request Error: Invalid attribute-based filtering parameters. The response body shall contain a ProblemDetails structure, in which the "detail" attribute should convey more information about the error.</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>	Response 400
401	<p>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>	Response 401

HTTP Code	Description	Schema
403	<p>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>  <b>Content-Type</b> (string) : The MIME type of the body of the response.</p>	Response 403
500	<p>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>  <b>Content-Type</b> (string) : The MIME type of the body of the response.</p>	Response 500
503	<p>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.</p> <p><b>Headers :</b>  <b>Content-Type</b> (string) : The MIME type of the body of 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>optional</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>optional</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>optional</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer
<b>title</b> <i>optional</i>	A short, human-readable summary of the problem type. It should not change from occurrence to occurrence of the problem, except for purposes of localization. If type is given and other than "about:blank", this attribute shall also be provided. A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localization (e.g., using proactive content negotiation; see [RFC7231], Section 3.4).	string
<b>type</b> <i>optional</i>	A URI reference according to IETF RFC 3986 [5] that identifies the problem type. It is encouraged that the URI provides human-readable documentation for the problem (e.g. using HTML) when dereferenced. When this member is not present, its value is assumed to be "about:blank".	string (URI)

### Response 500

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

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

### Response 503

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

## Notify about NS alarms

```
POST /URI_is_provided_by_the_client_when_creating_the_subscription-AlarmListRebuiltNotification
```

### Description

The POST method notifies an alarm related to a NS or that the alarm list has been rebuilt.

### Parameters

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

Type	Name	Description	Schema
Body	<b>AlarmListRebuiltNotification</b> <i>required</i>	Information that the alarm list has been rebuilt by the NFVO.	<a href="#">AlarmListRebuiltNotification</a>

### AlarmListRebuiltNotification

Name	Description	Schema
<b>AlarmListRebuiltNotification</b> <i>optional</i>	This type represents a notification that the alarm list has been rebuilt, e.g. if the VNFM detects its storage holding the alarm list is corrupted. The notification shall be triggered by the VNFM when the alarm list has been rebuilt.	<a href="#">AlarmListRebuiltNotification</a>

### AlarmListRebuiltNotification

Name	Description	Schema
<b>_links</b> <i>required</i>	Links to resources related to this notification.	<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 "AlarmListRebuiltNotification" for this notification type.	enum (AlarmListRebuiltNotification)
<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)

### \_links

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

## alarms

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

## subscription

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

## Responses

HTTP Code	Description	Schema
<b>204</b>	<p>204 No Content The notification was delivered successfully. The response body shall be empty.</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
<b>400</b>	<p>Bad Request Error: Invalid attribute-based filtering parameters. The response body shall contain a ProblemDetails structure, in which the "detail" attribute should convey more information about the error.</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>	Response 400

HTTP Code	Description	Schema
401	<p>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>  <b>Content-Type</b> (string) : The MIME type of the body of the response.  <b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p>	Response 401
403	<p>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>  <b>Content-Type</b> (string) : The MIME type of the body of the response.</p>	Response 403
500	<p>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>  <b>Content-Type</b> (string) : The MIME type of the body of the response.</p>	Response 500
503	<p>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.</p> <p><b>Headers :</b>  <b>Content-Type</b> (string) : The MIME type of the body of the response.</p>	Response 503

## Response 400

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

### Response 401

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

## Test the notification endpoint

```
GET /URI_is_provided_by_the_client_when_creating_the_subscription-AlarmListRebuiltNotification
```

### Description

The GET method allows the server to test the notification endpoint that is provided by the client, e.g. during subscription.

### Parameters

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



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

## Responses

HTTP Code	Description	Schema
204	<p>204 No Content The notification endpoint was tested successfully. The response body shall be empty.</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>	No Content
400	<p>Bad Request Error: Invalid attribute-based filtering parameters. The response body shall contain a ProblemDetails structure, in which the "detail" attribute should convey more information about the error.</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>	<a href="#">Response 400</a>
401	<p>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>	<a href="#">Response 401</a>

HTTP Code	Description	Schema
403	<p>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>  <b>Content-Type</b> (string) : The MIME type of the body of the response.</p>	Response 403
500	<p>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>  <b>Content-Type</b> (string) : The MIME type of the body of the response.</p>	Response 500
503	<p>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.</p> <p><b>Headers :</b>  <b>Content-Type</b> (string) : The MIME type of the body of 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>optional</i>	The HTTP status code for this occurrence of the problem. The HTTP status code ([RFC7231], Section 6) generated by the origin server for this occurrence of the problem.	integer

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

### Response 401

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

### Response 500

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

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

### Response 503

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

## Notify about NS alarms

POST /URI\_is\_provided\_by\_the\_client\_when\_creating\_the\_subscription-AlarmNotification

### Description

The POST method notifies an alarm related to a NS or that the alarm list has been rebuilt.

### Parameters

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

Type	Name	Description	Schema
Body	<b>alarmNotification</b> <i>required</i>	Information of a NS alarm.	<a href="#">alarmNotification</a>

### alarmNotification

Name	Description	Schema
<b>AlarmNotification</b> <i>optional</i>	This type represents an alarm notification about NS faults.	<a href="#">AlarmNotification</a>

### AlarmNotification

Name	Description	Schema
<b>_links</b> <i>required</i>	Links to resources related to this notification.	<a href="#">_links</a>
<b>alarm</b> <i>required</i>	The alarm data type encapsulates information about an alarm. It shall comply with the provisions defined in Table 8.5.2.4-1	<a href="#">alarm</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 "AlarmNotification" for this notification type.	enum (AlarmClearedNotification)
<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)

### \_links

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

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

### alarm

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

### subscription

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

### alarm

Name	Description	Schema
<b>_links</b> <i>required</i>	Links for this resource.	<a href="#">_links</a>
<b>ackState</b> <i>required</i>	Acknowledgment state of the alarm. Permitted values: UNACKNOWLEDGED ACKNOWLEDGED	enum (UNACKNOWLEDGED, ACKNOWLEDGED)
<b>alarmChangeTime</b> <i>optional</i>	Date-time stamp. Representation: String formatted according to IETF RFC 3339.	string (date-time)
<b>alarmClearedTime</b> <i>optional</i>	Date-time stamp. Representation: String formatted according to IETF RFC 3339.	string (date-time)
<b>alarmRaisedTime</b> <i>required</i>	Date-time stamp. Representation: String formatted according to IETF RFC 3339.	string (date-time)
<b>correlatedAlarmIds</b> <i>optional</i>	List of identifiers of other alarms correlated to this fault.	< string > array



<b>Name</b>	<b>Description</b>	<b>Schema</b>
<b>eventTime</b> <i>required</i>	Date-time stamp. Representation: String formatted according to IETF RFC 3339.	string (date-time)
<b>eventType</b> <i>required</i>	The enumeration EventType represents those types of events that trigger an alarm. - COMMUNICATIONS_ALARM: An alarm of this type is associated with the procedure and/or process required conveying information from one point to another (ITU-T Recommendation X.733). - PROCESSING_ERROR_ALARM: An alarm of this type is associated with a software or processing fault (ITU-T Recommendation X.733). - ENVIRONMENTAL_ALARM: An alarm of this type is associated with a condition related to an enclosure in which the equipment resides (ITU-T Recommendation X.733). - QOS_ALARM: An alarm of this type is associated with degradation in the quality of a service (ITU-T Recommendation X.733). - EQUIPMENT_ALARM: An alarm of this type is associated with an equipment fault (ITU-T Recommendation X.733).	enum (COMMUNICATIONS_ALARM, PROCESSING_ERROR_ALARM, ENVIRONMENTAL_ALARM, QOS_ALARM, EQUIPMENT_ALARM)
<b>faultDetails</b> <i>optional</i>	Provides additional information about the fault..	string
<b>faultType</b> <i>optional</i>	Additional information to clarify the type of the fault.	string
<b>id</b> <i>required</i>	An identifier with the intention of being globally unique.	string
<b>isRootCause</b> <i>required</i>	Attribute indicating if this fault is the root for other correlated alarms. If TRUE, then the alarms listed in the attribute CorrelatedAlarmId are caused by this fault.	boolean
<b>managedObjectId</b> <i>required</i>	An identifier with the intention of being globally unique.	string

Name	Description	Schema
<b>perceivedSeverity</b> <i>required</i>	Indicates the relative level of urgency for operator attention. * CRITICAL: The Critical severity level indicates that a service affecting condition has occurred and an immediate corrective action is required. Such a severity can be reported, for example, when a managed object becomes totally out of service and its capability needs to be restored (ITU-T Recommendation X.733). * MAJOR: The Major severity level indicates that a service affecting condition has developed and an urgent corrective action is required. Such a severity can be reported, for example, when there is a severe degradation in the capability of the managed object and its full capability needs to be restored (ITU-T Recommendation X.733). * MINOR: The Minor severity level indicates the existence of a non-service affecting fault condition and that corrective action should be taken in order to prevent a more serious (for example, service affecting) fault. Such a severity can be reported, for example, when the detected alarm condition is not currently degrading the capacity of the managed object (ITU-T Recommendation X.733). * WARNING: The Warning severity level indicates the detection of a potential or impending service affecting fault, before any significant effects have been felt. Action should be taken to further diagnose (if necessary) and correct the problem in order to prevent it from becoming a more serious service affecting fault (ITU-T Recommendation X.733). * INDETERMINATE: The Indeterminate severity level indicates that the severity level cannot be determined (ITU-T Recommendation X.733). * CLEARED: The Cleared severity level indicates the clearing of one or more previously reported alarms. This alarm clears all alarms for this managed object that have the same Alarm type, Probable cause and Specific problems (if given) (ITU-T Recommendation X.733).	enum (CRITICAL, MAJOR, MINOR, WARNING, INDETERMINATE, CLEARED)
<b>probableCause</b> <i>required</i>	Information about the probable cause of the fault.	string
<b>rootCauseFaultyComponent</b> <i>required</i>	This type represents the faulty component that has a negative impact on an NS. It shall comply with the provisions defined in Table 8.5.3.4-1.	<a href="#">rootCauseFaultyComponent</a>
<b>rootCauseFaultyResource</b> <i>optional</i>	This type represents the faulty virtual resources that have a negative impact on a NS.	<a href="#">rootCauseFaultyResource</a>

## \_links

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

## **self**

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

## **rootCauseFaultyComponent**

Name	Description	Schema
<b>faultyNestedNsInstanceId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>faultyNsVirtualLinkInstanceId</b> <i>optional</i>	An identifier with the intention of being globally unique.	string
<b>faultyResourceType</b> <i>optional</i>	An identifier with the intention of being globally unique.	string

## **rootCauseFaultyResource**

Name	Description	Schema
<b>faultyResource</b> <i>required</i>	This type represents the information that allows addressing a virtualised resource that is used by a VNF instance or by an NS instance. Information about the resource is available from the VIM. The ResourceHandle type shall comply with the provisions defined in Table 6.5.3.54-1..	<a href="#">faultyResource</a>
<b>faultyResourceType</b> <i>required</i>	The enumeration FaultyResourceType represents those types of faulty resource. Acceptable values are: - COMPUTE - Virtual compute resource. - STORAGE - Virtual storage resource. - NETWORK - Virtual network resource.	enum (COMPUTE, STORAGE, NETWORK)

## **faultyResource**

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>vimId</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

## Responses

HTTP Code	Description	Schema
204	<p>204 No Content The notification was delivered successfully. The response body shall be empty.</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>Bad Request Error: Invalid attribute-based filtering parameters. The response body shall contain a ProblemDetails structure, in which the "detail" attribute should convey more information about the error.</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>	Response 400

HTTP Code	Description	Schema
401	<p>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>  <b>Content-Type</b> (string) : The MIME type of the body of the response.  <b>WWW-Authenticate</b> (string) : Challenge if the corresponding HTTP request has not provided authorization, or error details if the corresponding HTTP request has provided an invalid authorization token.</p>	<a href="#">Response 401</a>
403	<p>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>  <b>Content-Type</b> (string) : The MIME type of the body of the response.</p>	<a href="#">Response 403</a>
500	<p>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>  <b>Content-Type</b> (string) : The MIME type of the body of the response.</p>	<a href="#">Response 500</a>
503	<p>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.</p> <p><b>Headers :</b>  <b>Content-Type</b> (string) : The MIME type of the body of the response.</p>	<a href="#">Response 503</a>

## Response 400

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

### Response 401

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

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

### Response 403

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