

# VULA ISP Line Management API Specification - Draft

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ALL DETAILS SUBJECT TO CHANGE

## 1. Connection

### 1.1. Protocol and authentication

Uses REST over HTTPS (TLS 1.2) with signed certificate authentication.

All requests are synchronous, and some calls require configuration of network elements through a prioritized queue. Although this usually only takes a few seconds, please set the client timeout value to 120 seconds.

All valid requests will return HTTP status 200. If you receive HTTP status 404, the URL was not correct. HTTP status 401 means the certificate was missing or invalid.

### 1.2. Certificate

Every ISP must have an account on the Telenor NMS-IP system to use this service. The account is identified with a username, and must also include a contact email address, and a list of IP addresses/networks that are allowed to connect. The ISP must make sure that this email address and the list of IP networks are kept up to date.

The ISP must generate a PKCS#10 certificate signing request containing their username, and send it to Telenor. The ISP will then receive a signed certificate which must be used for all HTTPS requests to the REST server.

The certificate will be valid for 5 years. Telenor will send a reminder to the registered contact email address when it is time to renew the certificate.

Please contact [system@telenor.net](mailto:system@telenor.net) for more information,

### 1.3. Base URL

```
https://api.ti.telenor.net/vula-line-management/v1
```

## 2. Process

The NMS-IP API requires that the port has been ordered and provisioned through Jara beforehand.

## 3. Line Parameters

### 3.1. Get line parameters

```
GET https://api.ti.telenor.net/vula-line-management/v1/circuit/<circuitid>
```

Returns a JSON structure with all line parameters. Example:

```
200 OK

{
  "line-profile": "25/5 DLM", // Example profile only
  "interleave": "on", // what about g.inp?
  "multicast-tv": "on",
  "admin-state": "on",
  "tagged": "off",
}
```

Or an error code and message on this format:

```
200 OK

{
  "result": "error",
  "error-code": 404,
  "error-message": "Unknown circuit"
}
```

See chapter 5 for possible error codes.

### 3.2. Set line parameters

```
POST https://api.ti.telenor.net/vula-line-management/v1/circuit/<circuitid>
Content-type: application/json
Content-length: <json-length>

{
  "line-profile": "25/5 DLM",
  "interleave": "on",
  "multicast-tv": "on",
  "admin-state": "on"
  "tagged": "off",
}
```

Post a JSON structure with parameters to set on the line. Only the parameters that are sent are changed, all others remain at the previous value. Returns the following structure:

```
200 OK

{
  "result": "done"
}
```

on an error of this format:

```
200 OK

{
  "result": "error",
  "error-code": 404,
  "error-message": "Unknown circuit"
}
```

See chapter 5 for possible error codes.

### 3.2.1. Changing line profile

To change line profile, you must always get the list of available line profiles first (chapter 2.3), and then select one of these. The available list of line profiles can change.

## 3.3. Get available line parameters

```
GET
https://api.ti.telenor.net/vula-line-management/v1/circuit/<circuitid>/available-parameters
```

Return a list similar to 3.1, but with a list of possible values for each parameter. Example:

```
200 OK

{
  "line-profile": [ "10/2 DLM", "25/5 DLM", "ADSL4864/640", "ADSL7232/704",
"VDSL 25/5", "VDSL 40/10" ], // Example profiles only
  "interleave": [ "on", "off" ],
  "multicast-tv": [ "on", "off" ],
  "admin-state": [ "on", "off" ],
  "tagged": [ "off" ],
}
```

Or an error code and message on this format:

```
200 OK

{
  "result": "error",
  "error-code": 404,
  "error-message": "Unknown circuit"
}
```

See chapter 5 for possible error codes.

### 3.4. Description of parameters

Parameter	Description
line-profile	A DSL port must be set to a preconfigured profile. As we use special profiles for DLM, this parameter is also used to indicate whether DLM should be enabled.
interleave	All line profiles have an interleaved and a non-interleaved version. Set this to "on" to use the interleaved line profile.
multicast-tv	Set to "on" to bind the port to the MC TV VLAN
admin-state	Set the admin state on the DSL port
tagged	Set "on" if the data in the customer VLAN is QinQ tagged.

## 4. Line Operations

### 4.1. Get line status

```
GET
https://api.ti.telenor.net/vula-line-management/v1/circuit/<circuitid>/status
```

Queries the network equipment for status information. Returns the following structure:

```
200 OK
```

```
{
  "admin-state": "active",
  "line-state": "active",
  "tunnel-state": "active",
  "dlm": "on",
  "g.inp": "on",
  "current-line-profile": "ADSL4864/640",
  "current-line-speed-down": "4864",
  "current-line-speed-up": "640",
  "counter-ingress": 45345430,
  "counter-egress": 345346,
  "errors-ingress": 243,
  "errors-egress": 34,
  "attenuation": xxx,
  "signal-noise-ratio": xxx,
  "active-mac-adresses": 1,
  "hw-info": {
    "dslam-model": "Alcatel ISAM 7302 FD NANT-D",
    "line-card": "nvl-t-q",
    "sw-version": "5.0.444"
  },
  "modem-id-code": "XXXXXXXXXXXXXXXXXX", // Modem ID from DSLAM
  "provisioning-log": [
    // List of configuration changes, contents TBD
  ]
}
```

Or an error code and message on this format:

```
200 OK

{
  "result": "error",
  "error-code": 404,
  "error-message": "Unknown circuit"
}
```

See chapter 5 for possible error codes.

## 4.2. Reset DSL port

```
POST
https://api.ti.telenor.net/vula-line-management/v1/circuit/<circuitid>/reset-dsl-port
Content-type: application/json
Content-length: 2

{}
```

Resets the DSL port completely, using delete and reconfigure. Returns the following structure:

```
200 OK

{
  "result": "done"
}
```

on an error of this format:

```
200 OK

{
  "result": "error",
  "error-code": 404,
  "error-message": "Unknown circuit"
}
```

See chapter 5 for possible error codes.

## 5. Multicast channel list

TBD

## 6. Errors

List of error codes with description:

Error code	Reason
404	"Circuit not found". Returned if NMS-IP can not find a valid circuit with this number in their database. Please check in Jara Netbusiness if this circuit number is correct.
408	"Timeout". The process was not finished during the timeout period. Please resend the request at a later time. The event is logged with Telenor, who will look into the issue, but will not redo the command.
442	"Error from network node". We received an unexpected error from the network node. Please resend the request at a later time. The event is logged with Telenor, who will look into the issue, but will not redo the command.