~~Service Provider~~

Assurance Tools Process Document

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Table of Contents

Document Overview

Amendment Record

Revision No.	Changes	Author	Date
0.1	Final version	Product Management	November 2020

14   ~~Service Provider~~ Assurance Tools

NBI provides several tools and services as part of the assurance process to assist Service Providers with fault handling and triage. The following tools and services are categorised into 3 separate groups:

- Diagnostics
- Quality
- Serf-Service

Each of these functions are described in detail below.

14.1 ~~Run/View~~ Diagnostics

Diagnostics supports investigation on a line to assist in identifying potential network issues for an End User's active service.

There are 4 main tools and services available under diagnostics:
1. Get ONT Status – returns the status of the ONT for a specific line
2. Test Line - performs a network diagnostics test on a specific line
3. Test Line Metrics - performs a network metrics test on a specific line
4. Line Test History - returns the details of the last 20 tests performed by the Service Provider on the specific line

~~The Service Provider may run/view diagnostics via the UWG / Web Portal.~~
~~Full process TBC with Industry~~

14.1.1 ONT Status

The ONT Status tool returns the status of the ONT for a specific line. The check is used as a quick way of determining whether the ONT is up and running correctly or not, without requesting detailed stats and information on the device.

The Line ID is required when running the ONT Status service.
The Line ID must be active, and the Service Provider can only run an ONT Status check when they own the End User's line.

The status of the ONT is categorised as one of the following:
- UP – the ONT is UP and running
- DOWN – the ONT is DOWN indicating an error
- LOCKED – the ONT is LOCKED
- UNKNOWN – the status of the ONT is UNKNOWN and needs further investigation

If the result returns UP, then typically the ONT is up and running with no reported issues.
The status of DOWN or UNKNOWN indicates that there may be an issue and further investigation may be required. Typically, a Line Test (process detailed below) can, which returns full network and ONT statistics for the specified line.

The table below shows the full results returned on an ONT status check:

Table X – Get ONT Status Description and Results		
Tag	**Description**	**Results/Example**
ONTStatus	The status of the ONT as reported by the network.	UP DOWN LOCKED UNKNOWN

14.1.2 Test Line

The Test Line functionality performs a network diagnostics test on a specific line.
The Line ID is required when running the Test Line service.
The Line ID must be active, and the Service Provider can only run a Test Line when they own the End User's line.

The table below shows the full results returned on a Test Line check:

Table X – Line Test Description and Results		
Tag	**Description**	**Results/Example**
ONTStatus	The status of the ONT as reported by the network.	UP DOWN LOCKED UNKNOWN
linkStatus	The status of the link as reported by the network.	ADMIN_DOWN OPER_DOWN WAITING WAITING_LONG NEVER_CONNECTED_ONT NOT_PROVISIONED NEW CONNECTED DISCONNECTED DISCOVERED DISABLED SWITCHED_OFF
linkQuality	The quality classification of the line.	DEGRADED GOOD INTERUPTED ONT_OFF REDUCED_ROBUSTNESS UNKNOWN
linkStability	The stability of the link as reported by the network.	STABLE UNSTABLE NOT_ENOUGH_DATA UNKNOWN
opticalQuality	The classification of the optical quality as reported by the network.	GOOD DEGRADED INTERRUPTED UNKNOWN
bandwidthLossIndicator	The classification of bandwidth loss as reported by the network.	PASS FAIL UNKNOWN

Note: ONT Status is also returned within the Line Test results.

14.1.3 Test Line Metrics

The Test Line Metrics tool performs a network metrics test on a specific line.
The Line ID is required when running the Test Line Metrics function.
The Line ID must be active, and the Service Provider can only run a Test Line when they own the End User's line.

The table below shows the full results returned on a Test Line Metrics result:

Table X –Test Line Description and Results			
Tag		**Description**	**Results/Example**
currentDay	unicastVolumeDS	The level of packets of downstream data volumes	648524.8
	unicastVolumeUS	The level of packets of upstream data volumes.	1257806.4
bandwidth	unicastVolumeDS	The level of packets of downstream data volumes	648524.8
	unicastVolumeDiscardedDS	The number of discarded packets of downstream data volumes	0
	unicastVolumeUS	The level of packets of upstream data volumes	1257806.4
	unicastVolumeDiscardedUS	The number of discarded packets of upstream data volumes	0

14.1.4 Line Test History

The Line Test History tool returns the details of the last 20 tests performed by the Service Provider on a specific line.

There are two Test Types of Line Test History that can be run: Test Line and Test Line Metrics.
The Test Type is essentially the type of line test performed on the line.

Either of the following must be input on the request, depending on the type of Line Test History to be performed:
1. Line
2. Metrics

The Line ID is also required when running the Line Test History function.
The Line ID must be active, and the Service Provider can only run a Line Test History check when they own the End User's line.

The most recent, and up to the last 20 results are shown in the results. The results are the same as outlined in the two sections above (Test Line and Test Line Metrics).

14.2 Quality

The Quality check returns the statistics on a specific line for a given window.

The Line ID is required when running the Quality function.
The Line ID must be active, and the Service Provider can only run a Quality check when they own the End User's line.

In addition, the duration is also required. There are 3 values that can be specified:
- Day
- Week
- Month

The table below shows the full possible results returned on a Quality check:

Table X –Quality Description and Results			
Tag		**Description**	**Results/Example**
lineQuality	optical	The list of the optical quality details for the duration requested	start time (date, time) end time (date, time) classification, e.g.: DEGRADED GOOD INTERUPTED ONT_OFF REDUCED_ROBUSTNESS UNKNOWN
	link	The list of the link quality details for the duration requested	start time (date, time) end time (date, time) classification, e.g.: DEGRADED GOOD INTERUPTED ONT_OFF REDUCED_ROBUSTNESS UNKNOWN

14.3 Self-Service

The Self-Service function allows Service Providers to run assurance actions on a line. The two options available on the Self-Service function are:
1. Reboot ONT – reboots the ONT for a specific line
2. Synch Product – performs a product line synchronisation with the NBI network

14.3.1 Reboot ONT

The Line ID is required when running the Reboot ONT function.
The Line ID must be active, and the Service Provider can only request to reboot the ONT when they own the End User's line.

The Service Provider must also supply one of the following Reboot Types when running a Reboot ONT request:
- Power (this is a power reboot)
- Full (this is a software reboot)

The results for both of these options will include:

- Order ID
- Response Date and Time

14.3.2 Synch Product

The Line ID is required when running the Synch Product function.
The Line ID must be active, and the Service Provider can only request to synch the product when they own the End User's line.

The results returned in the response will include:
- Order ID
- Response Date and Time

Restart ONT

The Service Provider may reset/restart the ONT via the UWG / Web Portal.
Full process TBC with Industry