

Network Map Manual

A practical guide to documenting the fibre plant as it exists: placing nodes, NAPs and closures, drawing cables and reserves, logging splices, splitters, OLTs and ODFs, and reading the calculated optical power.

VERSION	SCOPE	AUDIENCE
1.0 · August 2026	Network Map module	Network operations

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1 What Network Map represents

Network Map documents the **physical topology** of the optical network. The geographic map answers where each element is; the [Editor](#) answers which fibres and ports are connected inside that place.

INTERFACE OBJECT	WHAT IT REPRESENTS IN THE PLANT	WHAT IT STORES
Node	Location grouping infrastructure: pole, cabinet, building, POP or datacenter.	Coordinates, type, description and internal equipment.
NAP	Network access point or optical terminal box where ports are assigned to subscribers.	Port count, linked subscriptions and internal connections.
Closure	Splice closure.	Entering cables, splices and housed splitters.
Cable	Physical span with fibre tubes and strands.	Route, type, strand count, ends, reserves and length.
OLT	PON source located inside a node.	PON ports, power class, Tx and wavelength pair.
ODF	Optical distribution frame inside a node.	Trays, front ports, entered cables and tubes per tray.

TWO LEVELS

Connecting a cable to a node on the map only says the cable reaches that location. Splices, patch cords, splitters and ports are documented afterwards in [Open Editor](#).

2 How the screen is organised

The header shows three real tabs: `Map`, `Inventory` and `Settings`.

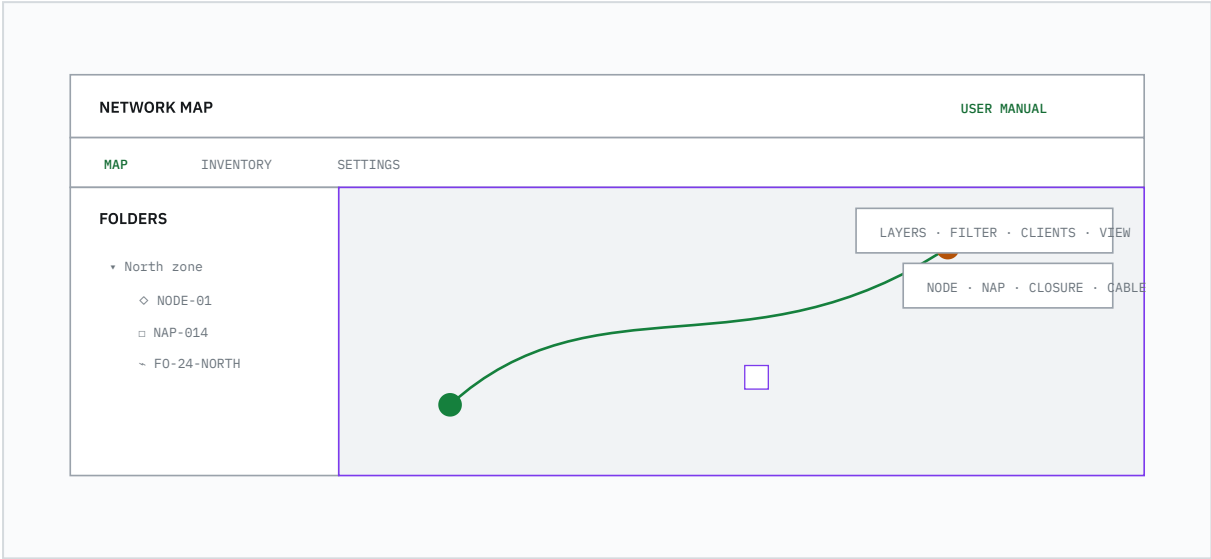


FIGURE 1 The folders column becomes a slide-over panel on small screens.

CONTROL	REAL BEHAVIOUR
Satellite / Map	Switches the base map without changing your elements.
Show all / implemented / plan	Cycles the three state filters.
Clients	Shows Billing subscriptions as a read-only layer.
Full view	Hides header, tabs and navigation to widen the canvas. <code>Esc</code> exits this view.
Node / NAP / Closure / Cable	Enables the matching placement or drawing mode.

3 Preparing folders and states

Folders organise the plant and control which elements appear. On first entry, the system creates a root folder if none exists yet.

- 1 In the `Folders` panel, select the `New folder` icon.
- 2 Type the working name, for example "North zone" or "Manta Trunk", and select `Create`.
- 3 Select the folder before creating elements. The panel footer confirms the `Active folder`.

From a folder context menu you can create subfolders, add elements, hide or show their contents, switch everything between `• Implemented` and `• Plan`, or delete.

HIDING IS NOT DELETING

The eye icon only changes map visibility. Inventory and the database keep the elements.

4 Creating nodes, NAPs and closures

4.1 Placing an element

- 1 Select an active folder.
- 2 In the floating bar, select `Node`, `NAP` or `Closure`.
- 3 Select the exact map point. The element form opens.
- 4 Complete `Name` and `Identifier`. As you type the name, the identifier mirrors it until you edit it by hand.
- 5 Check folder, state, coordinates and colour; then select `Create`.

4.2 Own fields

- In a **Node**, pick the type: node, cabinet, pole, building, POP or datacenter.
- In a **NAP**, define 1 to 256 ports; the interface offers 8, 16, 24 and 32 quick picks.
- In a **Closure**, you can describe the physical type, for example "M8 dome".
- A NAP or closure can name a `Container node`; this does not replace its geographic position.

4.3 Selecting, moving and editing

One click selects the marker and opens actions around it. While selected, you can drag it. Two quick clicks open the edit form. In the tree, one click centres the map and a double click opens editing.

5 Drawing cables and reserves

5.1 Drawing a cable

- 1 Select `Cable` in the floating bar or `Draw cable from here` on an element.
- 2 Select each route point. Selecting a node, NAP or closure snaps the vertex exactly to that element.
- 3 Finish with two clicks on the map or with `Finish cable`. While drawing, the secondary menu deletes the last vertex.
- 4 In `New Cable`, complete name, identifier, folder, state and `From` / `To` ends.
- 5 Pick the type: drop, ASU, ADSS, figure-8, underground, armoured, microduct or custom. Define the strands and select `Create`.

STRANDS ARE CREATED ONCE

Cable type and strand count are only set at creation. In editing they show as a summary and are not regenerated, because doing so would invalidate existing splices.

5.2 Editing route and midpoints

Select the cable to show its vertices. You can drag them and snap a vertex to a nearby element. The cable context menu allows `Add vertex here`; an intermediate vertex menu allows deleting it or placing a node, NAP, closure or reserve there.

If you insert an element over a cable, the system splits its spans at that point. The interface warns that the cable existing splices are discarded: confirm only after verifying the work.

5.3 Logging a reserve

- 1 Open the cable context menu at the reserve spot and select `Add reserve here`.

- 2 Type name, length in metres, colour and notes; then select [Create](#).
- 3 Drag the circular marker to reposition it. Select it to edit length or notes.

Reserve length adds to the geographic length for the cable total length and counts towards the optical budget.

6 Using the internal Editor

Select a node, NAP or closure and use `Open Editor`. The map is replaced by a technical canvas showing the cables present, their tubes and strands, and the internal connections.

- Drag the background to pan and use the wheel or pinch gesture to zoom.
- On desktop, use `+`, `-` and the fit-content button.
- On wide screens, `Split with map` shows editor and map together; the divider is resizable.
- Select a cable name with a known destination to jump to the element at the other end.
- Select a strand to edit its state: free, used, reserved or broken, and add a comment.

COLOUR CODE

Tubes and fibres use the 12-colour IEC/TIA order: blue, orange, green, brown, grey, white, red, black, yellow, violet, pink and aqua; then the cycle repeats.

7 Logging splitters and splices

7.1 Creating a splitter

In the Editor, select **Add splitter**. Pick a name and a balanced 1:2 to 1:128 configuration, or unbalanced (tap) from 50/50 to 5/95. Each output loss is calculated with fixed model values.

7.2 Creating a splice

- 1 Select one end circle: fibre, PON port, splitter input or output, NAP port or ODF front port.
- 2 When **Click another fibre or a splitter port to connect** appears, select the second end.
- 3 The splice appears as a two-colour curve. Select it to edit **Loss (dB)** and comment.

Each end takes a single connection. If the interface says it is busy, open the existing connection and delete it before creating another.

7.3 NAPs and subscribers

A NAP shows its front ports and, when Billing assigns a subscription to a port, the customer name appears next to the port. **Auto-wire** connects free splitter outputs to free NAP ports in order; it does not replace busy connections.

8 Modelling OLTs and ODFs

8.1 OLT and PON ports

OLTs are only created inside a **node** Editor. Define name, identifier and PON port count. You can create them all with the same power class and frequency, or create the OLT with no ports and add them one by one.

FIELD	MEANING
Class	B+, C+, C++, C+++ or C++++ profile proposing the Tx power.
Tx (dBm)	Transmit power used as the calculation origin.
Frequency	1490/1310 for GPON/EPON or 1577/1270 for XGS-PON.

8.2 ODF, trays and front ports

An ODF also lives inside a node. Creating it defines connector, tray count and ports per tray.

- 1 In the ODF, select **+ Cable** and then the cable reaching the node to bring it into the frame.
- 2 Distribute the tubes across the available trays.
- 3 Make the internal splices towards splitters or front ports.
- 4 From the ODF outside, connect the front port to the PON port through the connection shown in the node editor.

FRAME WALL

A splice cannot cross the ODF wall. To leave the frame use a front port. Moving a cable or splitter between inside and outside can cut splices; the interface shows the count before confirming.

9 Reading the optical signal

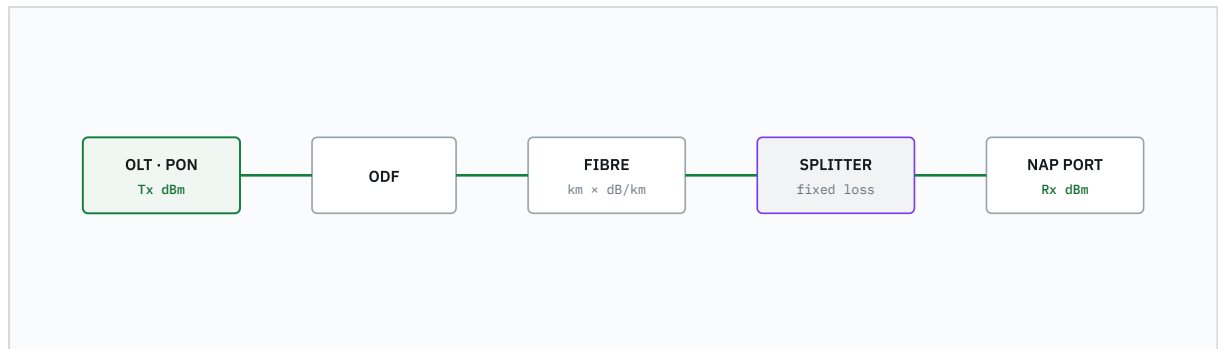


FIGURE 2 Rx = OLT Tx minus fibre attenuation, splice/connector losses and splitter losses.

The Editor shows Rx next to fibres and endpoints when a continuous path to a PON source exists. Green means above -25 dBm; amber, between -29 and -25 dBm; red, -29 dBm or less. These colours are a visual product guide, not a replacement for the ONU manufacturer limits.

No path to OLT means a connection, a PON source or valid continuity in the model is missing.

9.1 Advanced optical configuration

The **Settings** tab allows adjusting attenuation in dB/km for 1270, 1310, 1490, 1550 and 1577 nm, and the default splice or connector loss. Initial values match G.652.D singlemode fibre.

ONLY WITH MEASUREMENT

These values affect every company optical budget. Change them only if you know the installed cable actual specification or measurement.

10 Inventory and customers

The `Inventory` tab lists nodes, NAPs, closures and cables. Select a row to edit; deletions keep an explicit button. Cables also show strands, length and colour.

The map `Clients` button loads Billing subscriptions. Each marker shows customer, plan and state; a dashed line marks the visual link to its NAP. Selecting it can open `View in Billing`.

SOURCE OF TRUTH

Network Map only displays the subscription. Customer, plan, state and NAP/port assignment are managed in Billing.

11 Undo, delete and diagnostics

11.1 What can be undone

The **Undo** and **Redo** buttons appear only when history exists. They cover element moves, vertices and reserves, and vertex creation or deletion.

PERMANENT DELETION

Deleting folders, elements, cables, reserves, splices, splitters, OLTs or ODFs is not part of Undo. Deleting an element also deletes its splices and may drop customer links. Always read the confirmation box.

11.2 Quick diagnostics

I cannot create an element

Select or create a folder first. Check the **Active folder** indicator.

An element does not appear on the map

Switch the filter to **Show all** and verify the folder has the open eye icon.

I cannot reduce a NAP ports

One of the ports that would disappear still has a customer or a connection. Free those ports first.

The Editor says "No connected cables"

The cable must have that node, NAP or closure as an end or as a real midpoint of its route.

A fibre shows "No path to OLT"

Walk the path from the PON port: ODF if any, splices, splitter input and output, fibre and NAP port. A busy end takes no second connection.

The length looks bigger than the drawing

Open the cable and check **Reserves**. Total length is geographic route plus reserves.

The signal value does not match a measurement

Check PON port Tx, splice losses, splitter configuration, reserves and attenuation by wavelength in **Settings**.