

- Services and service types (FO, LAN, TC)
- Telephone number management
- Single and redundant signal paths
- Multiple transmission technologies
- Physical and logical terminal devices
- Integrated auto-routing



## // FNT Command Signal Management

Intelligent Analysis and Display of Network Structures and Transmission Technologies along with their Services and Signal Paths

As data traffic continues to increase, network operators are responding by continuously expanding their network structures. In the process, they are introducing diverse technologies and creating heterogeneous environments that are increasingly difficult to manage. This opacity and complexity is further exacerbated by the multitude of connections between network devices. To ensure cost-efficient operation and rapid service delivery, IT managers require transparency and insight into their physical and logical network resources when performing a wide range of planning and management tasks.

FNT Command Signal Management enables accurate documentation of all dependencies within network structures along with the various transmission technologies and associated services and signal paths. The ability to document signal paths in context with device and personnel data provides users with an end-to-end view of those routes. Detailed reports enable efficient deployment of resources and boost long-term system reliability. Other features include cross-media auto-routing, which supports the user with frequently recurring tasks.

With regard to telecommunications technology, the Signal Management module includes integrated telephone number management. To support management of telecommunications services, the module also allows full documentation of all other aspects of transmission technologies, e.g., LAN and FO, including connections.

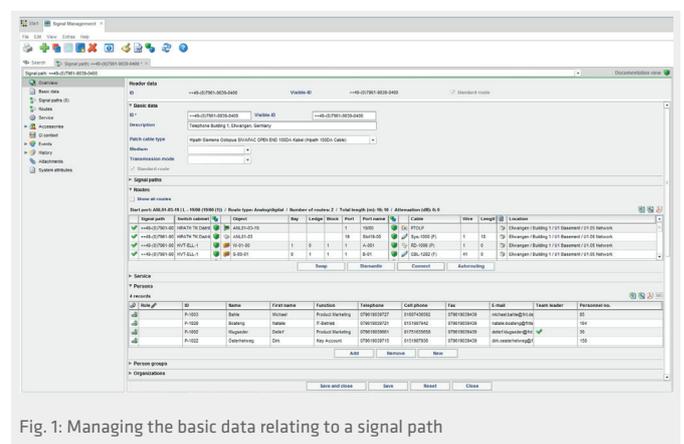


Fig. 1: Managing the basic data relating to a signal path

**Services**

To enable flexible documentation of network structures, it is possible to create a wide range of service types with different service variants, e.g., analog, digital, or VoIP in the area of telephony. This division into a range of service classes allows a clear separation of categories as well as allocation of relevant information to a specific attribute family, as required for the management of LAN and FO connections, signal lines, or fire detection equipment. The services are not dependent on the physical infrastructure and can also be created as virtual connections.

**Telephone Numbers**

In the area of telephony, the Signal Management module can be used to create and manage telephone numbers. Telephone number blocks contain a specific range of telephone numbers that can be rolled out as necessary or kept as a resource in a telephone system or a combined system. The allocation of numbers is controlled by varying the status between “Assigned,” “Free,” and “Locked.” As in the management of telephone systems, the telephone numbers can be documented with the associated E164 definition.

**Signal Paths**

Signal paths are created solely on the basis of physical infrastructure by documenting the patches between different objects. These paths can be telephony signal paths that connect telephone systems to telephones, for example, to which telephone numbers are in turn connected. They can also be long-range FO connections that connect various objects (e.g., junction boxes and patch panels) via two fibers. A signal path may thus consist of a route section or an entire route. Within the route, a distinction is made between fixed cable connections (part of infrastructure), patch cable connections, and splices (in junction boxes). Depending on the technology used (analog, digital, VoIP, LAN, or FO), the route is represented in different ways to help visualize the dependencies and enable easy tracking in the event of a fault.

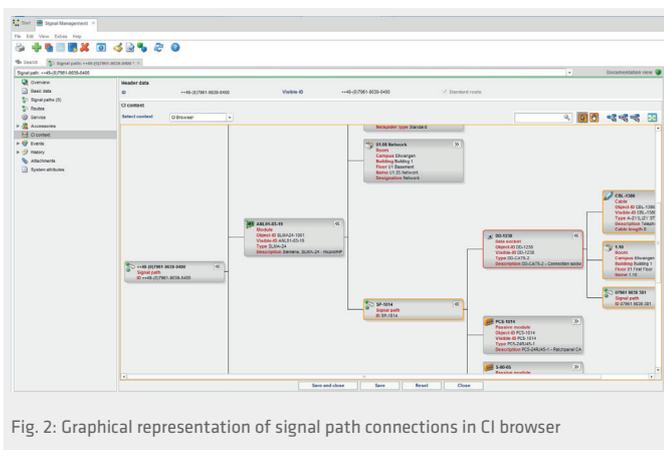


Fig. 2: Graphical representation of signal path connections in CI browser

The signal paths can also be grouped and linked to one or more services. As a result, it is possible to document signal

connections and redundant routes that have more than one physical connection path, e.g., long-range FO connections.

**Auto-Routing**

The integrated auto-routing function enables users to localize connections in a network quickly and efficiently, and add patches or splices as required. With the various configuration options, it is possible to identify connections via junction boxes that have not yet been spliced, in order to create the ideal route through a complex network. It is also possible to identify documented redundant paths, even where no resources have yet been used.

**Terminal Devices**

Terminal devices are objects that are located at the end of a signal path and that process the delivered services. For each service type, it is possible to define a range of different terminal types, which can then be connected as physical or logical terminals for a service or signal path. A physical terminal device (e.g., telephone, PC, or signal line termination) is connected directly to the signal path, while logical devices are connected to a service. As a rule, these are usually additional devices, such as digital/analog converters or auxiliary devices.

**Search and Query Function**

Users also have extensive search and query options available for fast location, editing, and evaluation of data records in individual administrative areas. Search results can be exported in standard formats (e.g., Excel).

**Attachments and history**

It is possible to attach an unlimited number of files to any object. The history of all objects can be tracked in order to provide maximum audit security.

**System Requirements**

The C base and C line module groups are prerequisites for using FNT Command Signal Management.