



- Patch and configuration cabling
- End-to-end signal tracing
- Graphical view of switch cabinets
- Integrated inventory management
- Network visualization
- Tray management



## // FNT Command C line

Comprehensive Documentation and Management  
of Physical Infrastructures and Cabling

The exponential growth in data traffic is forcing businesses and network operators to continuously expand their physical infrastructure. This presents problems not only for reliable service delivery in day-to-day operations, but also when it comes to planning and implementing infrastructure changes and increased capacity. What is required is an integrated system that enables full documentation and management of physical and logical network and service resources. This kind of system can play a crucial role in raising operational performance and securing the delivery of cost-efficient, future-proof, high-quality services.

FNT Command C line is a comprehensive solution for management of physical infrastructure, cabling, and physical route searching. The ability to manage internal IT networks and objects together with their physical and logical dependencies as part of a comprehensive system provides IT managers with full transparency across their entire network infrastructure. For network operators, it enables efficient planning and

documentation of large-scale telecommunications and broadband networks for all types of network topology. The end-to-end view allows full signal tracing across the entire cable infrastructure in the actual and planned state for both inside and outside plant management. Seamless integration between the physical infrastructure and the services running on the logical and service layers above it provides a comprehensive platform for more informed decision-making, easier fault analysis, and targeted fault resolution. User-friendly search forms for database objects and support for integrated inventory management make day-to-day tasks easier for users and administrators. Thanks to integrated auto-routing, it is easy to analyze and plan high-performance network infrastructures. In addition, the ability to generate work orders directly from the system enables structured preparation of replacement and modification tasks.

**Site Management**

To simplify documentation and management of objects on the physical layer, all devices are associated with their respective locations or buildings. The integrated CI library provides data and graphical representations for over 50,000 commonly used devices, assembly parts, and cables. All CIs (configuration items) are stored with their respective master and configuration data, enabling easy creation, management, and maintenance of the database.

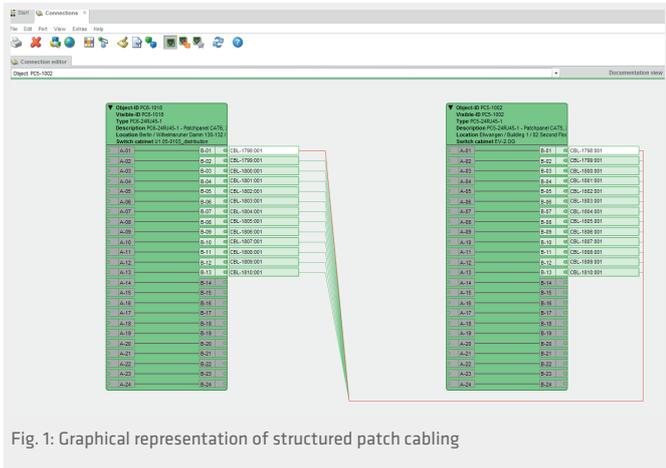


Fig. 1: Graphical representation of structured patch cabling

**Cabling**

The C line module group includes all the functionality required to differentiate physical cable connections in terms of primary, secondary, and tertiary cabling. This enables highly realistic documentation of campuses, buildings, and individual floors. In order to use the full range of functions in the planning and management of cable infrastructures, it is also possible to differentiate between patch and configuration cabling and to document these connections with their corresponding characteristics. Integrated plausibility checks for the respective medium (e.g., copper, glass) and connectors help eliminate input errors. The module group also includes a number of other basic functions that enable efficient and consistent documentation of the network infrastructure, e.g., documentation of bundled cabling for simultaneous insertion of multi-pair cables into multiple cabinets or of the use of junction boxes.

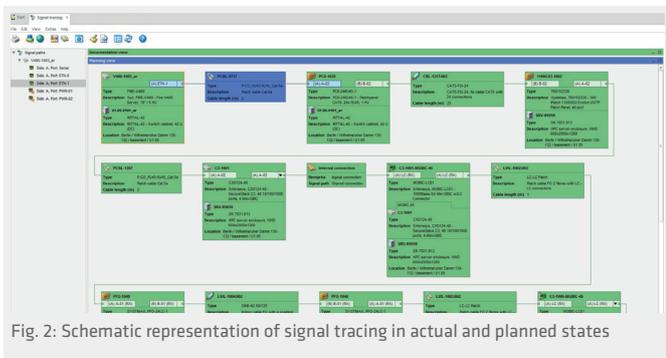


Fig. 2: Schematic representation of signal tracing in actual and planned states

**Signal Tracing**

Signal tracing enables fast analysis and tracing across the entire signal chain from any selected port. All devices and cables on

the physical layer (in actual or planned state) are displayed schematically in the form of a block diagram. Symbols are used to clearly differentiate between patch and configuration cabling.

Key data for each connection can be viewed directly from the diagram or opened in other modules for further processing. If an object is documented with more than one potential output, the user can choose how to proceed along the signal chain. The Route Editor function allows the user to select a start and end point, from which the length and attenuation of all route sections is calculated.

**Switch Cabinet**

It is possible to view switch cabinets graphically and to scale with all four installation sides. This enables the user to quickly examine the cabinet configuration from any location. It is also possible to open and compare multiple cabinet views side by side.

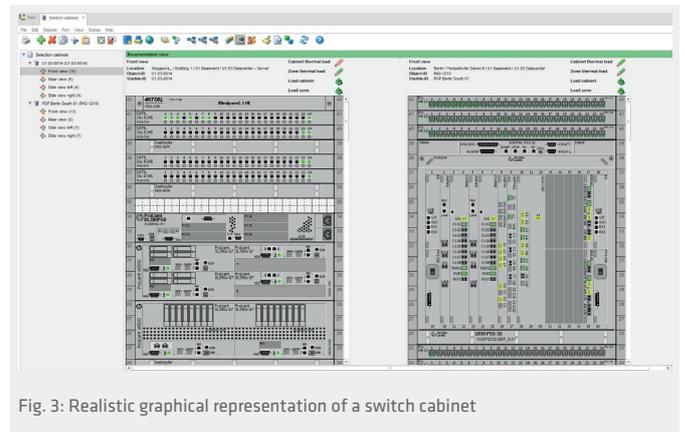


Fig. 3: Realistic graphical representation of a switch cabinet

The graphical elements used are obtained from the CI library and are interactive, i.e., the user can access information from the database on each of the CIs displayed. In addition to color coding of the wiring state on each port (planned, actual, or locked), the graphical view supports direct patching with automatic documentation. It also features plausibility checks and collision considerations to prevent errors in the placement of objects or connections, while also incorporating planning data.

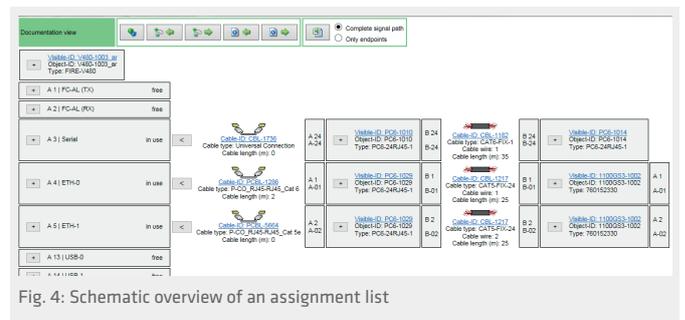


Fig. 4: Schematic overview of an assignment list

The visual representation uses bays and rows to distinguish more easily between data distribution cabinets and

telecommunication switch cabinets. The size can be adapted as required at any time, and it is possible to add bays later. In the true-to-scale view, the user can display all information about the incoming and outgoing cables as well as other information on all installed strips. This provides an easy and convenient method of accessing specific information.

### Inventory Management

The Inventory Management module provides all the functions required to create and manage inventories in FNT Command. Features include a standard workflow to assist users when creating an inventory of objects. It is possible to define access permissions and standard processes separately for each storage location in order to limit data access to specific user groups.

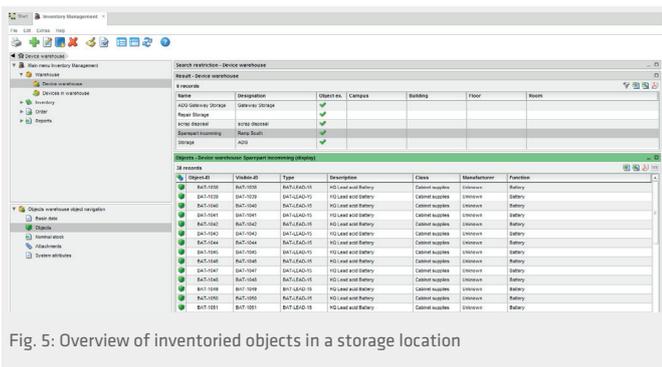


Fig. 5: Overview of inventoried objects in a storage location

The integrated reports provide information on object stock levels and can be configured such that the relevant staff are notified when an item drops below a certain level and has to be reordered.

### Net Spider

The Net Spider module enables users to visualize objects in large-scale networks and identify basic relationships. For easier comprehension, it is possible to assign background images to individual views, on which the objects can be manually arranged and synchronized. For example, the user can place objects on a building plan or map. The connected cables and subsequent objects as well as other information, such as type, ID, location, etc., can be shown or hidden depending on the level of detail required.

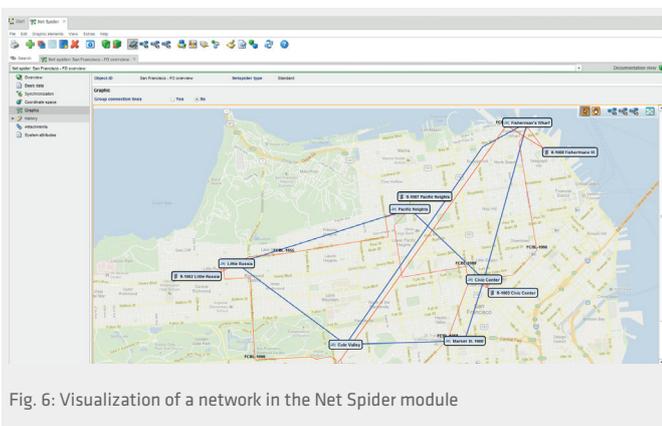


Fig. 6: Visualization of a network in the Net Spider module

If required, zone and cabinet spiders can be arranged automatically. For added convenience, it is possible to open all object data in other FNT modules (Signal Tracing, Switch Cabinet, etc.) directly from the objects in Net Spider.

### Connection Matrix

The Connection Matrix module enables detailed documentation of internal connections in active components and directors. To enable this, logical connections are established between the A-side and B-side ports of an object, with any combination being possible. In addition to connection of at least two devices, the module supports internal connections within modular devices – e.g., directors – while accommodating their special naming rules for ports and slots.

### Junction Box

The Junction Box module covers all aspects of the management and schematic representation of distributors and connection boxes, such as junction boxes and splice trays. Cables can be inserted into junction boxes, with the fibers being placed in splice trays and then spliced. This functionality can be used for individual fibers or for multiple fibers as a bundle. It is possible to install splitters and the corresponding cabling directly in the splice trays. Based on these actions, it is possible to generate an easy-to-read splice plan, which can be exported and used as an installation plan during expansion tasks.

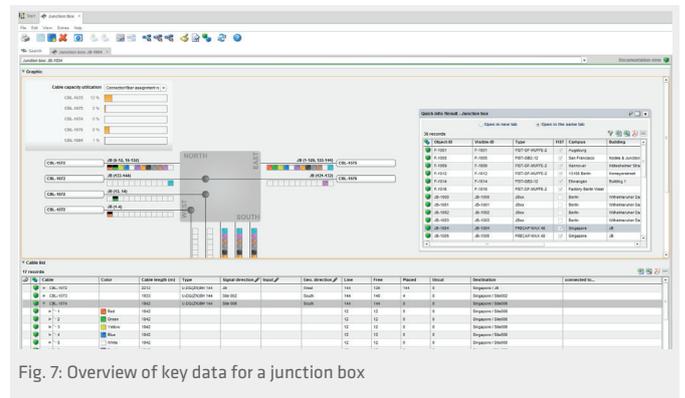


Fig. 7: Overview of key data for a junction box

### Tray Management

The Tray Management module provides all the functions required for management and documentation of inter-regional tray infrastructure (trenches, micro-ducts, standard ducts, etc.) and the relevant building infrastructure (sill channels, raised floors, riser trays, cable racks, etc.). Cables can be assigned to specific tray sections and ducts and documented along with their geographical routes. It is also possible to automatically calculate usage levels based on the number of cables in a particular duct. Details of the individual ducts and cables in a segment are clearly displayed in table form along with their associated attributes. Easy-to-use routing mechanisms assist users when creating tray and cable routes. The ability to differentiate between main and secondary trays provides greater transparency in large networks. In addition, the schematic representation of shafts with views of all sides

makes it easier to visualize and manage tray infrastructures. Individual nodes can be connected with other nodes using a tray section route. Nodes come in a variety of forms, e.g., shaft, mast, opening, building service entrance, continuity junction box, branch junction box, etc., and can be stored along with geographical information.

#### **Work Instructions**

FNT Command C line includes standardized forms for auto-generation of work instructions during planning or documentation of patches, new installations, and object relocations. Work orders can be executed using workflows provided by the Workflow module.

#### **System Requirements**

Deployment of FNT Command C line requires the FNT Command C base module.