

On course with your network together with FNT

Cable, routes and more under control - How FNT Command ensures safety and efficiency at Frankfurt Airport



Industry
Airport



Employees
75.000



Terminals
2

“FNT Command is the central memory of our communications infrastructure and is among our 30 most critical airport IT systems.”

Fraport AG

Fraport AG is among the leading groups of companies in the international airport business. With Frankfurt Airport, the company operates one of the world’s most important air transportation hubs. As an experienced airport manager, Fraport is expanding Frankfurt Airport together with partners into Frankfurt Airport City – an outstanding real-estate location and gateway of mobility and excitement. In addition to covering the full range of airport services, Fraport AG is a competent partner in airport retailing and real-estate development. As a full-service provider in the airport management field, Fraport AG is active on four continents through investments and subsidiaries.



Klaus Schultz-Fademrecht
Senior Manager Networks,
Fraport AG

 Further information:
www.fraport.com



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Behind the scenes of one of Europe’s largest airports

Frankfurt Airport is not only the third largest airport in Europe, but with around 75,000 employees it’s Germany’s largest employer at a single location. The IT infrastructure, which ensures smooth flight operations behind the scenes, also boasts some impressive figures: the 21 km² site links structured cabling over 500 buildings with around 36,000 rooms. While data center and network operations have been out-sourced to Operational Services (a joint venture between T-Systems and Fraport), Fraport AG manages the entire remaining infrastructure itself. This means monitoring 47,000 km of fiber optic cables, plus 157,000 junction boxes, 26,000 active LAN ports, 4,000 routers and managed switches, around 8,000 PCs, 16,000 telephones and faxes and 600 WLAN access points, via which Fraport supplies around 2,000 clients on the apron comprehensively with wireless connectivity. *“We manage around 400,000 connections and patches with FNT Command”*, says network manager Klaus Schultz-Fademrecht.

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Beyond the sheer mass of equipment, the complexity of this IT environment requires that Fraport monitors and manages a variety of technologies: LAN, telephony and access control systems join elements as diverse as fire and intrusion detectors, elevator emergency systems, surveillance cameras (including thermal cameras to protect the site), the monitors in the terminals and the systems for baggage transportation and screening. *“Despite the ban on night flights: this must all run smoothly around the clock”, says Schultz- Fademrecht, “seven days a week.”*

Maximum availability is therefore required – and Fraport delivers it: *“Last year for our network of 26,000 LAN connections we achieved availability of 99.999 percent”, reports Klaus*

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Schultz-Fademrecht. *“So in 2011 our entire network only had a few minutes of non-availability.”* This figure, of which most data centers can only dream, was achieved by Fraport despite the fact that large parts of Frankfurt Airport were construction sites due to work on the third runway. It was achieved because not only has Fraport redundantly interfaced all critical systems, but also routed connections via different cable trays. *“If an excavator severs a group of cables in the course of the extensive construction works for the further expansion, the systems will not be affected”,*

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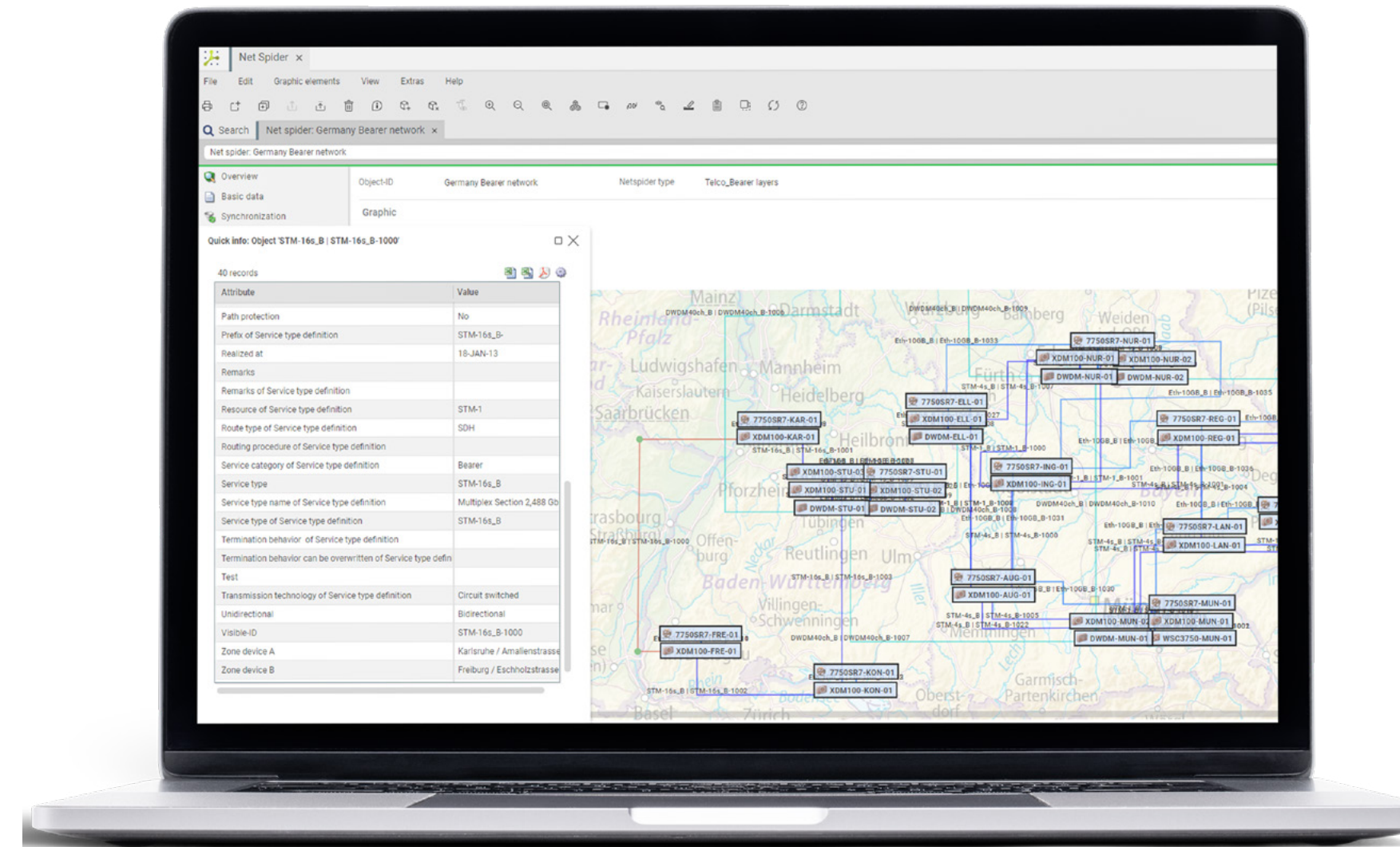
Numerous benefits

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says the network manager. *“However, in such a case we need to quickly determine which cables and systems are affected - and we lay copper cable harnesses with 100 to 1000 pairings and 24 to 144 fibers for fiber optic connections.”* A high-performance solution for infrastructure management is therefore of primary importance to Fraport. This is why the airport operator uses FNT Command.

Origins in cable documentation

Cooperation between Fraport and FNT began in 1998, when Frankfurt Airport was searching for a replacement for its outdated, text-based cable documentation system. Fraport wanted a Windows application with an interface to a CAD solution, telephone system and SAP, because CaMaSy (‘Cable Management System’) was to enable everything from cable tray and network planning to monitoring and management to billing for connections. *“The decision was made for FNT even though back then the provider was not yet the market leader”,* recalls Schultz-Schultz- Fademrecht, *“because it was simply the best system. The very flexible modular structure and the databases gave them the edge.”*



Graphical Netspider

FNT Command has long developed into the leading IT asset and infrastructure documentation system of Frankfurt Airport. Fraport is using a broad range of FNT Command functionalities, including not only Admin Tool, Object Management, Planning and Navigator but also Order Management, including Parts Workflow and Parts Lifecycle Management (history), Junction Box (junction box management), IP and Mobile Card Management and Query Editor as well as Voice components. Fraport operates this extensive system with high availability on redundantly implemented

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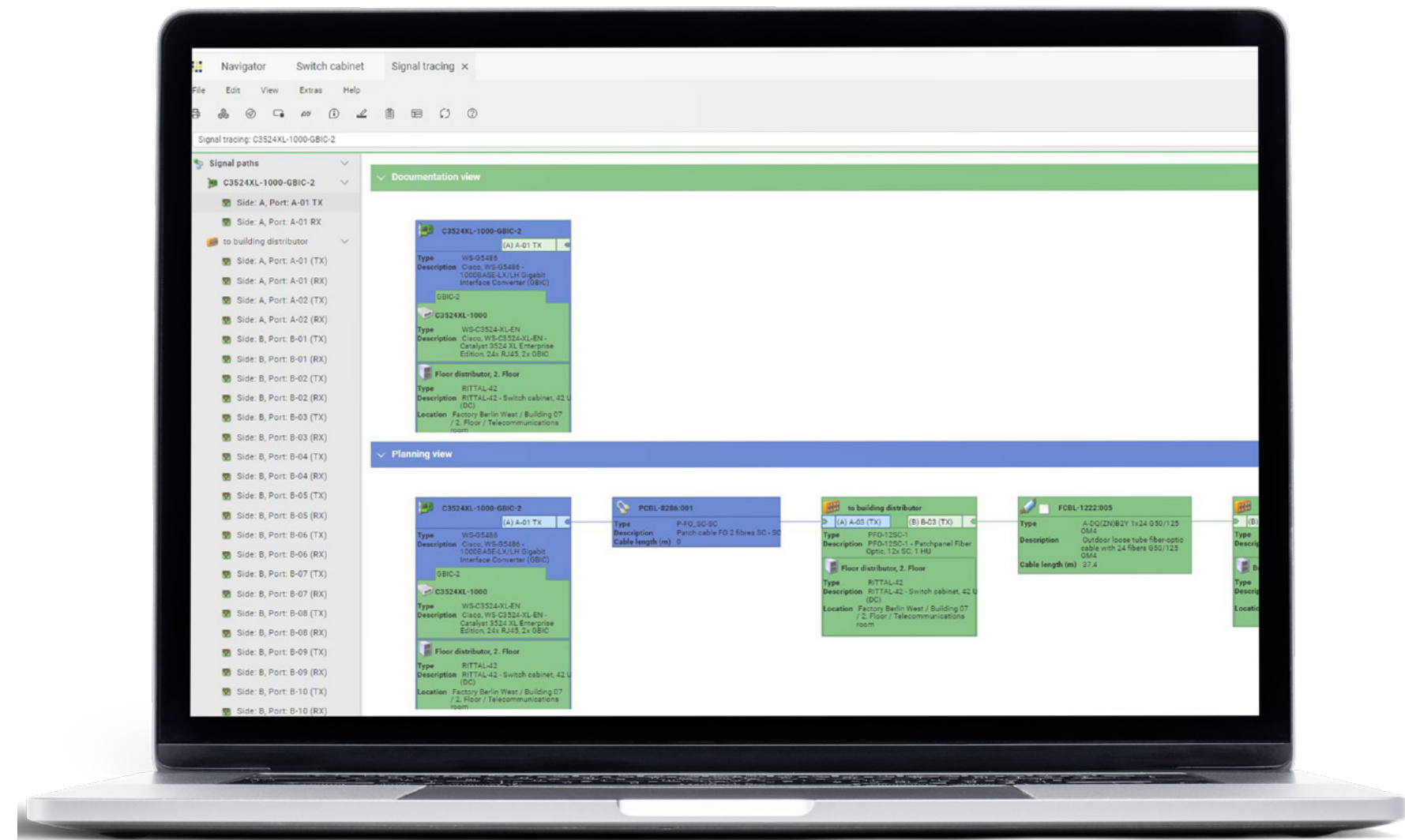
Origins in cable documentation

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machines, additionally in client-capable form because the approximately 200 users also include external users. Every user has access rights set according to their role.



Signal Tracing

In this way, when switching new lines in planning mode, the planner can automatically determine whether the planned procedure is possible and which passive and active components it requires. In addition, Field Service integrates the components, patches everything and measures it. After successful measuring, the network manager switches from planning mode to productive operation. Active components are retrieved via an interface to Cisco Works and in the case of telephone connections, a data synchronization takes place with the Siemens telephone system. A team of four employees and one part-time employee is responsible for maintaining the FNT Command system. This team also undertakes first and second level support; FNT always has personnel on call for third level support.



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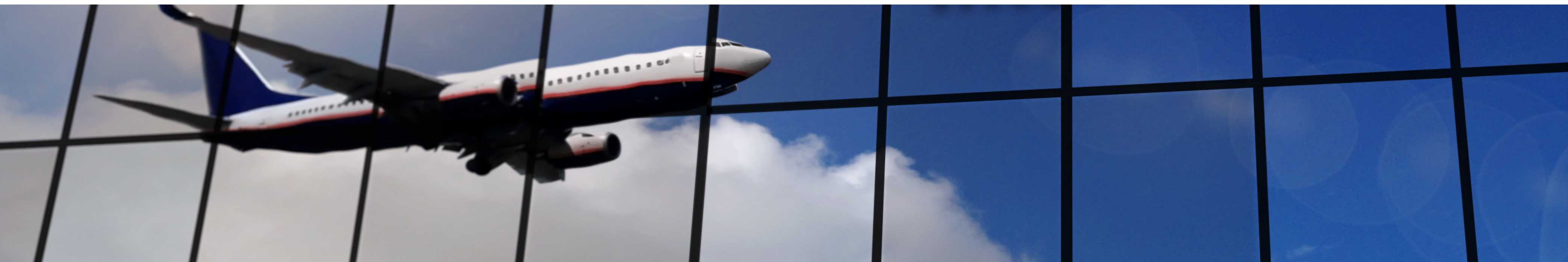
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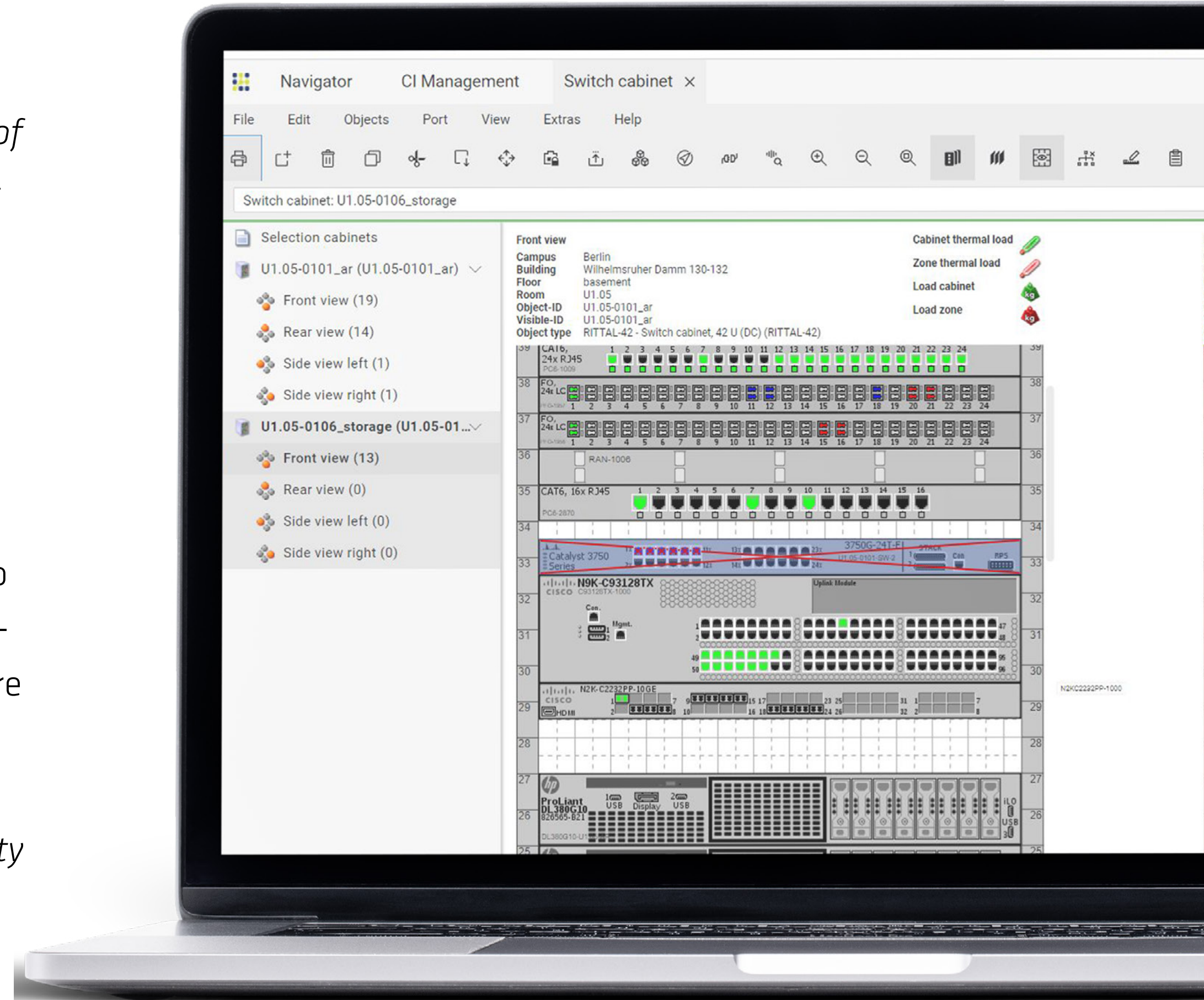
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Milestones

It was a long road for FNT and Fraport to travel together from a mere cable management tool to the “central memory” of the airport network. *“An important milestone was the graphical display of cable loads”,* recalls Schultz-Fademrecht. *“In the case of a bottleneck, an email is automatically generated, which graphically displays the affected distribution areas.”*

Also important for Fraport was the implementation of an option for mass data import, in order to also be able to import even extensive changes or innovations automatically into the FNT Command database. A further central step was the interface to the SAP system, in order to be able to pass on economically relevant data. The reporting possibilities today are also much more extensive than in the beginning: *“In this way it can for example be ascertained to which lines cameras are connected,”* explains Schultz- Fademrecht. *“Technical departments can call up a variety of reports themselves, and an employee thus receives the reports at the press of a button.”*



Switch Cabinet – Planning View

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„[...]The direct retrieval of information via FNT Command saves us an enormous amount of expensive traveling time . [...] In the event of a cable malfunction, thanks to FNT Command we immediately know which cable tray the cable is located on, which building is affected, [...]“

Numerous benefits

Multi-layered benefits have resulted for Fraport through the use of FNT Command. *“The greatest benefits from our perspective come from the clearly more transparent documentation and therefore a reliable basis for planning across all systems,”* concludes Schultz- Fademrecht. *“I used to often have to send personnel to the field to check whether we still had space in the cabinet, or where the patch panel was located, or what the internal structure of the cabinet was, or how the power supply and UPS were implemented. The direct retrieval of information via FNT Command saves us an enormous amount of expensive traveling time – especially as our personnel frequently had to pass security controls.”*

In addition to simpler planning, Fraport profits from more efficient debugging: *“The airport houses numerous walkable cable ducts, which we administrate as buildings,”* says Schultz-Fademrecht. *“In the event of a cable malfunction, thanks to FNT Command we immediately know which cable tray the cable is located on, which building is affected, where the cable goes into the duct and where it comes out again. In this way, we are much faster at eliminating faults and thanks to the Web interface, external on-call personnel receive the required information.”*

Fraport will continue to use FNT Command: currently, Version 8 is in use, Version 9 will be skipped by the company in order to change straight to Version 10, which among other innovations offers new power management functions.

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FNT GmbH, headquartered in Ellwangen (Jagst), Germany, simplifies the management of highly complex digital infrastructures in companies and public authorities with its FNT Command Platform. With the cloud-enabled “software made in Germany”, IT, telecommunications and data center infrastructures can be efficiently recorded as digital twins and documented across all levels from buildings to digital services. The software also offers open interfaces and numerous functions for planning, implementing and automating transformations and changes in an integrated manner. FNT’s customers include more than 500 companies and government agencies worldwide, including more than half of the DAX-40 listed corporations. FNT operates offices in several locations in Germany as well as in New York, London, Singapore and Timisoara and has an international partner system with market-leading IT service providers and system integrators.

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