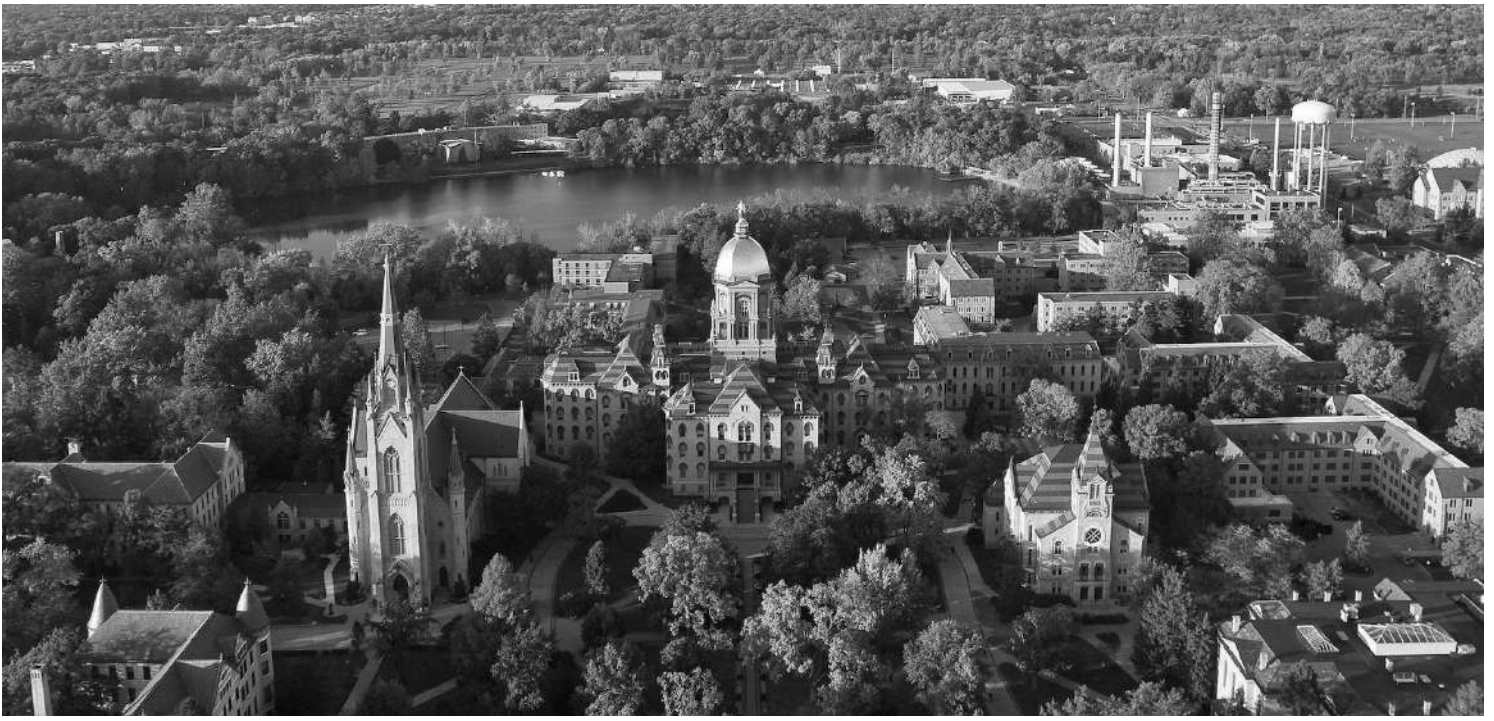




University of **Notre Dame**

Case Study





Overview

Detailed, easy-to-access, fiber infrastructure views transform workflows

The University of Notre Dame (located in South Bend, Indiana) needed a way to visualize and document its large, and disperse, fiber network: the IT team wanted to accurately manage fiber plant capacity, track changes, retain information, and minimize time-consuming trips to the field.

The team knew that outside plant documentation software had the potential to give them the level of information and visualization they needed, however: they needed a solution affordable enough for a university's budget but also detailed and customizable enough to visualize, in detail, an infrastructure that spanned a campus the size of a small city.

They explored three different vendors' OSP software offerings; Graphical Networks' netTerrain was ultimately selected for the ease with which a user can customize the diagrams as needed and for the level of detail it offers.

Implementation was simple and successful. An IT team of five now uses netTerrain to manage the university's fiber optic network: netTerrain helps them save time, increase efficiency, prevent institutional knowledge loss (from employee churn), and audit the network. The project is ongoing, with plans for continual expansion going forward.



Before netTerrain OSP

Team needs a better way to track its infrastructure

The Notre Dame network team had inherited a network made up of an abundance of fiber optic strands and copper. Though printed network documentation existed, keeping it current over the years, without the right tools, was impossible. Though long-time team members had an excellent working knowledge of the network, the information they shared was not exact.

For example, if a patch was required or a link needed repair, the team made their best guess to determine the type of connector required and the approximate location. If a customer made a request for 10 strands, the team member spent time gaining access to the room, checking what was available, and possibly making several trips back-and-forth from the office to that

location to complete the work. The connections that passed from building-to-building required even more legwork. Without proper reference documentation to review, the team members would, wisely, take a backpack full of jumper and connection styles with them to resolve the situation as quickly as possible. The process was costly to the team – in time and efficiency.

When new employees would join the network team, there was no network documentation to reference (and they did not have the working knowledge the more experienced team members had). Management was also concerned about the lack of accurate documentation to help the networking team more efficiently manage, repair, and upgrade the University's network in future years.

Goal

The team needed reliable visual documentation that streamlined management of their entire fiber optic network.

They aimed to:

- Save hours of time-consuming and unnecessary trips to the field,
- Access reliable infrastructure information from anywhere (home, field, office, etc),
- Document and visualize the infrastructure in great detail and with precision

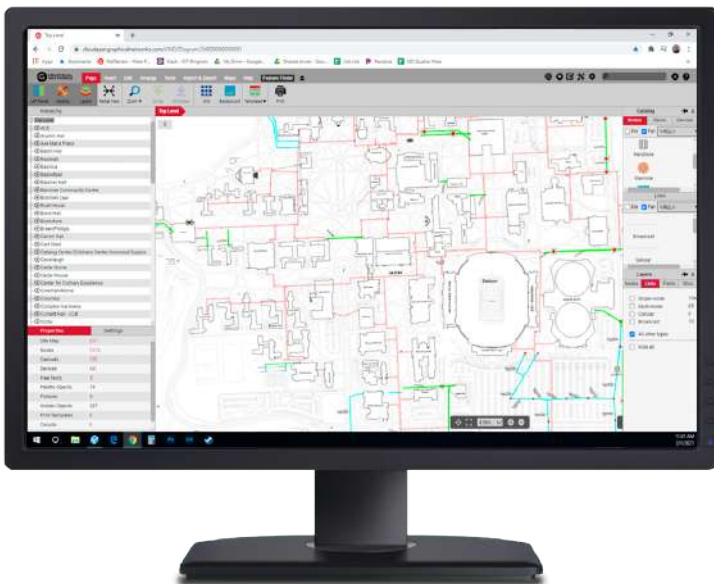


Challenge

The team's challenge in finding a solution was two-fold. The software had to be within the team's budget and it had to be flexible enough to allow for easy customizations so that the team could achieve their goal of detailed documentation.

Given the complexity of Notre Dame's fiber infrastructure, a high degree of detail needed to be visualized and documented. The team needed, for instance, the ability to access fiber optic enclosures, click on the fiber patch panel (LIUs), drill down to each individual port, and to easily grab any needed information, such as:

- The decimal loss of a link
- The type of fiber connector
- Discern which lessee/owner/department/user is using a fiber enclosure
- Manage how much capacity is in the fiber conduit/strand



Solution

Detailed software that's easy to customize and access

Other solutions that the University of Notre Dame team tested were too expensive and/or too rigid. They found that most solutions were geared toward telecom carriers: these solutions were industry-specific and simply did not provide the level of detail, or the do-it-yourself customizations, that the team required.

netTerrain was ultimately selected for its ability to be adapted to the team's specifications and which would allow the University of Notre Dame's and which would allow the team to seamlessly, and easily, implement the software to suit — without the need for time-consuming or expensive adaptations.

Implementation

netTerrain's built-in flexibility makes getting started easy

The team selected netTerrain's Software-as-a-Service (SaaS) offering. An SaaS install was selected so documentation could be accessed from anywhere, without concern for what's hosted where.

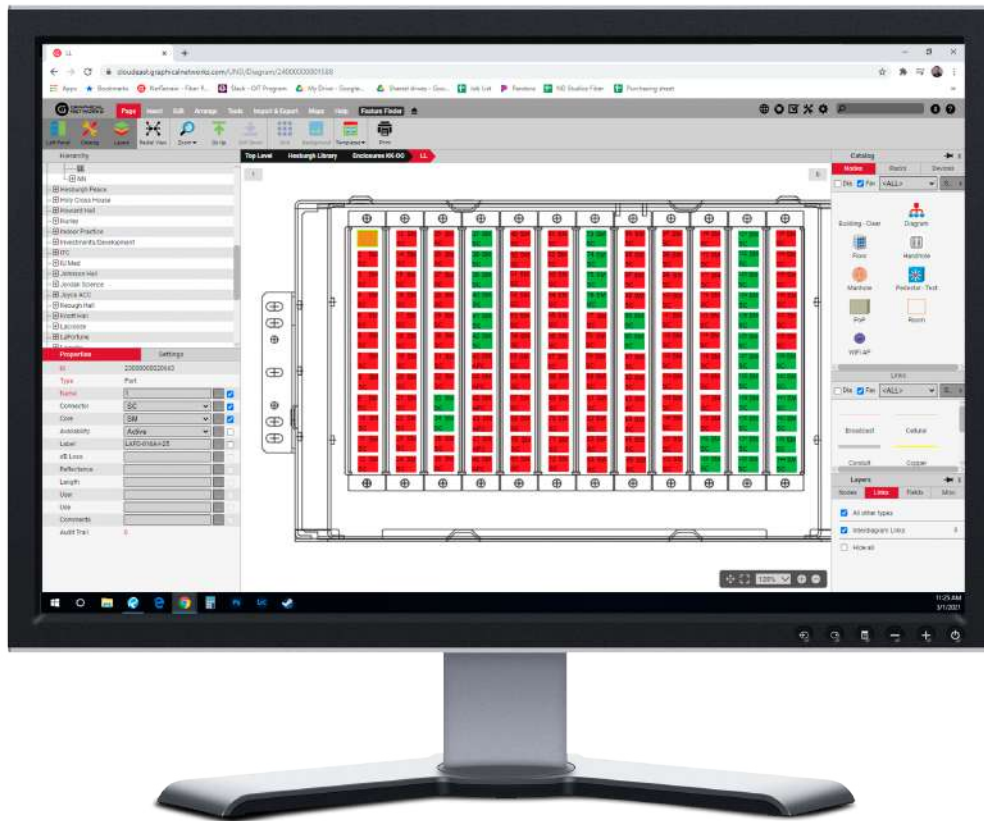
netTerrain's built-in flexibility accommodated the team's specific documentation needs and bypassing

unnecessary functions was simple. As an example, netTerrain includes an overlay to OpenStreetMaps (OSM), however, the IT team preferred to use their own pre-existing AutoCAD maps (the team's homegrown maps provided detailed views of the underground tunnel system and campus). Because netTerrain allows its users to upload background images in a variety of formats (in addition to its dynamic maps offering), the team was able to use their own maps.

Importing existing data took minutes. Part of the task of implementation, for example, was importing information on 144 port enclosures: using netTerrain's spreadsheet import feature, they were able to do so in just five minutes which saved many hours of manual data entry.

The team was able to customize as needed: for instance, they needed to quickly identify ports by: what was available, used/live, dead/damaged strand, and free ports. To achieve this, they used netTerrain's visual overrides feature and were able to customize fields as needed.

Notre Dame team found Graphical Networks' support to be thorough and fast. When the team had a question, they could easily access one of netTerrain's multiple support channels, including: website chat, a comprehensive online support portal, tickets, and phone support (all staffed by well-trained and knowledgeable netTerrain professionals).



Results

Detailed information tracked and retained; questions answered in minutes

Today, a core team of five users relies on netTerrain to quickly get their questions answered in minutes, not hours. They are able to access fiber optic enclosures, click on a fiber patch panel, drill down to the individual port level, and grab needed information such as connector type or track fiber capacity down to each individual fiber strand.

Institutional knowledge is now retained and easily shared: new hires can be brought up to speed quickly, and now real-time and accurate documentation, information which was once held only in the 'mental files' of the IT team, can be accessed from any standard web-based browser.

The project is ongoing, with further expansion underway.

"I don't have to leave my office. In just five minutes, I have everything I need whereas before it could have been hours of running around."

Jason Hilty, RCDD. Network Design Professional. University of Notre Dame



Learn More

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