



DELTARES EMBRACES A FLEXIBLE WORKPLACE AS IT HELPS URBAN AREAS RESPOND TO CLIMATE CHANGE

Summary

Company:

Deltares

Industry:

Scientific Research

Business Challenges:

Improve the performance, resiliency, and security of the campus network to support an open workplace design

Technology Solution:

- EX2300 Ethernet Switch
- Junos Space Network Director

Business Results:

- Built a highly available, secure campus network with tight control over wired switch ports
- Used segmentation to mitigate the effects of a security breach on the campus network
- Easily integrated access switching into a multivendor infrastructure
- Simplified network operations

Since the dawn of civilization, people have been drawn to the water. Deltas. Rivers. Coastlines. Yet, these areas are inherently unpredictable. Water levels rise and fall. Soil erodes. More than 500 million people currently live in rapidly urbanizing deltas, and developing and maintaining these areas means addressing extremely complex environmental and economic challenges. Deltares, an independent institute for applied research dedicated to enabling delta life based in the Netherlands, helps governments, developers, and businesses around the world become more resilient to physical, social, and economic changes.

Business Challenge

Deltares wanted to modernize its network to enhance network reliability, performance, and security. The research institute had recently embraced an open workplace design, enabling people to work anywhere and collaborate more easily. With a flexible workspace, employees, customers, and research partners can visit any Deltares office, find an open space, sit down, plug in, and get to work. Wi-Fi is also available everywhere.

"The main reason for installing a completely new routed network was security," says Paul Vlenterie, who has been advising Deltares on IT for more than 30 years. "We wanted to be able to protect our high-performance compute servers and data storage from our client PCs. The user sitting behind the PC is the most vulnerable part of the network."

Without strong security on the wired network, malware on a compromised client could spread swiftly across the campus network—and even into the heart of the organization's data center and research lab facilities, which are used to analyze massive amounts of data using highly complex models to help clients understand and mitigate the impact of an environmental disaster.

"Deltares is a research institute with an excellent reputation. We want everything in the institute to be top-notch, including our network."

- Paul Vlenterie, IT Advisor, Deltares

Technology Solution

Deltares carefully considered the leading vendors of campus access switching. “Deltares is a research institute with an excellent reputation,” says Vlenterie. “We want everything in the institute to be top-notch, including our network.”

Juniper Networks fit that bill. “Juniper is a big brand,” says Vlenterie. Deltares uses the Juniper Networks® EX2300 Ethernet Switch for its access layer. “Juniper was the right fit for the functionality and price we needed,” he says.

Juniper networking is engineered for simplicity, and the EX2300 is a compact, high-density, cost-effective switch that’s ideal for small network environments. Support for Power over Ethernet (PoE) makes it easy to connect wireless access points and eliminate unsightly—and costly—wires in an office designed to be both beautiful and functional.

The EX2300 switches support Juniper’s Virtual Chassis technology, which enables up to four interconnected switches to be managed as a single, logical device. Vlenterie likes the flexibility of Virtual Chassis technology. “If there aren’t enough ports in a network room, we can easily add another switch,” he says.

With Juniper, Deltares built a fully redundant, routed campus network. Strong edge security was essential. “With the flex workplaces, we must have port security,” he says. “A person can connect their computer into any port and it will just work.”

Vlenterie had tried to implement 802.1X port-based authentication with the previous switches, but had run into insurmountable challenges. There were no such troubles with the EX2300 switches, and the organization can be confident that only authorized users and devices can connect to the wired network.

Network segmentation further enhances security. Employee laptops and other devices are on one VLAN, while building maintenance and physical security systems are on another VLAN. The entire campus network is isolated from the data center, minimizing the chances that malware can spread from an infected client device to wreak havoc in the data center.

In its own business, Deltares is a big proponent of openness and transparency, and the institute’s own simulation software that models coastal waters and retaining walls is freely available. The same philosophy applies to its use of technology. The EX2300 switches integrated flawlessly into Deltares’ multivendor network, allowing IT to choose the switches that best fit its requirements.

Business Results

“Juniper switching was exactly what I expected and what I wanted,” says Vlenterie.

With Juniper, Deltares has a campus network that’s fast and reliable—and more secure than ever. More than 1000 employees rely on the network to be productive every day. The campus includes eight buildings, some of which are typical offices, while others are highly specialized hydro and geo facilities. For instance, the organization’s Delta Flume, the world’s largest wave generator, makes it possible to perform full-scale tests and determine the effect of extreme waves on dikes, dunes, breakwaters, and offshore structures.

Have the users noticed the difference? “People don’t give you a pat on the shoulder for a great network,” says Vlenterie. “I lost that illusion years ago.”

The most important thing? “For the users, the network is available,” he says. “They don’t have the faintest idea what’s happening behind the wall.”

And that’s just the way it should be.



Next Steps

The network team plans to use Juniper Networks Junos Space® Network Director to manage the network. With Network Director, the IT staff can manage the network easily, with tools to visualize, analyze, and control the network through a single management screen.

With Juniper, Deltares employees can work freely in a digital workplace, while IT can assure the highest levels of connectivity and security. And that keeps employees focused on the business at hand—using Deltares’ expertise in the complex issues of soil and water to facilitate innovative and sustainable solutions for millions of people around the world.

For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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