



SECURING THE MARINE INSTITUTE, FROM HEADQUARTERS TO UNDERSEA OBSERVATORY

Summary

Company:

The Marine Institute

Industry:

Scientific Research

Business Challenges:

- Protect sensitive data
- Allow different types of users greater granularity to access different applications
- Protect a wide-ranging environment: mobile users, offices, ships, and a new undersea observatory

Technology Solution:

- SRX1500 Services Gateway
- Junos Space Security Director
- Juniper Sky Advanced Threat Prevention

Business Results:

- A secure network and assured data while fulfilling users' needs for more flexible access
- An operational system that can be self-administered from day one
- Early warning of rogue traffic so it can be isolated before it causes damage

The Marine Institute is Ireland's national agency responsible for marine research, technology development, and innovation. It develops the economic potential of Ireland's 220 million acre marine resource, promotes the sustainable development of the marine industry through strategic funding programs and essential scientific services, and safeguards its marine environment through research and environmental monitoring. The Marine Institute provides advice, policy, and monitoring of marine waters, dealing with issues as wide-ranging as the health of the food chain and research into levels of marine species stocks.

Business Challenge

The Marine Institute is a very data-intensive operation, collecting and processing environmental data through vessel surveys, remote sensors, and even a new underwater observatory. The SmartBay subsea observatory represents a marine version of the Internet of Things (IoT). Sitting beneath 20 meters of water in Galway Bay, it is connected by power and fiber cables and houses an extensive array of underwater equipment. The observatory collects real-time data from sensors accessible through the Web and is analyzed by researchers and companies trying to commercialize new and innovative marine technologies.

"We collect huge amounts of data from the subsea observatory," explains Keith Manson, IT systems & operations manager at The Marine Institute. "This helps accelerate a range of developments across the marine sector and contributes to environmental monitoring, the development of advanced marine technologies, education and research, as well as maritime security. It is a hugely significant addition to Ireland's IoT infrastructure."

The observatory is available to businesses developing remote sensors and as a research platform for marine biologists, who can access real-time data from the institute's sensors or deploy their own. Like any organization with much valuable data, The Marine Institute takes network security very seriously.

"We had some traditional firewalls that were deployed five or six years earlier," recounts Manson. "They met our requirements when they were installed, but now our users needed greater granularity when accessing different applications."

"Previous solutions left us constrained by the technology, but the Juniper solution has allowed us to achieve our goals successfully."

- Keith Manson, IT Systems & Operations Manager, The Marine Institute.

The Marine Institute wanted to allow different types of users securely onto its local network. These included its own staff, which required full access even when traveling and emulating the experience when they are remote, and project partners, who needed to have restricted access to web-based applications. Additionally, some partner applications reside on a segmented part of the network and it needed to open up ports, allowing partners to control specific devices and sensors but restricting visibility to anything else. The Marine Institute realized it needed a security solution with a strong unified threat management (UTM) capability for complete protection, whether that was at its physical offices, research vessels, subsea observatory, or for mobile staff.

Technology Solution

The Marine Institute engaged with a number of security vendors and integrators, as well as taking advice from industry analysts' leadership reports, before selecting a secure network solution from Juniper Networks. "We needed a flexible and high-performance unified threat management system, and the Juniper solutions gave us a lot more capability in this space than any other vendor," explains Manson.

"We've been able to ensure the security of our network, users, and devices wherever they are—even under the ocean."

- Keith Manson, IT Systems & Operations Manager, The Marine Institute.

The Marine Institute deployed Juniper Networks® SRX1500 Services Gateway managed by Junos Space® Security Director, and it added Juniper Sky™ Advanced Threat Prevention to provide real-time monitoring of Internet traffic to and from its LAN.

The SRX1500 Services Gateway is a security appliance that protects distributed enterprise locations and small to midsize data centers. It performs ultra-fast, high-speed, next-generation firewalling; and with Juniper Sky ATP, it is extended to protect end-user devices, using real-time information from the cloud to provide anti-malware protection and defend against sophisticated cyber threats such as advanced persistent threats and ransomware.

Junos Space Security Director provides automated security policy management, enforcement, and expansive visibility through an intuitive, centralized interface. Using intuitive dashboards and reporting features, it offers insight into threats, compromised devices, and risky applications.

"Juniper Sky ATP gives us a very quick mechanism to identify potentially malicious events as they occur and block or quarantine them," Manson says.

The Marine Institute worked with Agile Networks, a Juniper partner in Ireland, to help design and deploy the solution. "Juniper and Agile's engineering teams were always focused on our requirements," says Manson. "They tailored and customized the solution and put in a lot of work to find the best way to deliver the functionality we needed, architect it well, and leave us with a future-proofed system."

Business Results

"This project was driven by new business requirements," Manson says. "Previous solutions left us constrained by the technology, but the Juniper solution has allowed us to achieve our goals successfully. Now we can enforce network security effectively while fulfilling users' needs for more flexible, legitimate access."

The Marine Institute also valued the highly collaborative approach to the project. "Following the deployment, our internal staff could hit the ground running," says Manson. "We knew how to administer all the systems so we could do all the day-to-day moves, additions, and changes ourselves."

Juniper Sky ATP has given The Marine Institute a mechanism to detect potential security issues. "We used to operate in a more reactive mode, where we saw evidence of something happening and we took action to resolve it," explains Manson. "But now we have an early warning system, so rather than relying solely on endpoint security to limit the impact of an attack after it has happened, we can identify rogue traffic and lock it down before it has the chance to cause any damage."

Next Steps

The Marine Institute is now defining its security strategy for the next few years, which will build on the Juniper solution. "We've been able to ensure the security of our network, users, and devices wherever they are—even under the ocean," concludes Manson. "Juniper has provided us with a platform with which we can look at our security from a total infrastructure perspective—including policies, procedures, and training, to ensure we are adhering to best practices for years to come."

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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