

Company:

JYVSECTEC

Industry: Network Research

Key Issues:

JYVSECTEC needed a flexible platform that could provide realistic network simulation.

- In-house tools could not fully test performance of diverse environments and applications.
- Generating multiple sessions and users required test setups that were difficult to manage.
- The center needed better visibility into the latest security threats.

Solution: BreakingPoint

- Simulates real-world traffic and protocols for the exercise environment.
- Lets the center test for distributed denial of service (DDoS), exploits, malware, and other security threats.

Results:

- Can simulate a wide range of applications and security threats to support a broad variety of clients, which strengthens the center's reputation and revenue.
- Able to replicate global networks, services, and environments, to test dispersed groups of multiple users under real-world conditions.
- Easier to configure and run multiple product evaluations, with tests that more closely align to clients' business challenges.

IXIA BREAKINGPOINT POWERS REALISTIC CYBER RANGE TESTING

FINLAND'S RESEARCH AND TRAINING CENTER TESTS REAL-WORLD TRAFFIC AND APPLICATIONS

Based at the JAMK University of Applied Sciences in Finland, JYVSECTEC is a leading cybersecurity research, training, and development center. Providing cybersecurity exercises and training to its clients' IT organizations, this independent center also conducts research and development with national and international professionals.

At the heart of the center's operations is the Realistic Global Cyber Environment (RGCE), a cyber range for research, development, training, and practice. The RGCE is modeled after the real structures and capabilities of the Internet, including public IP addresses and geographic locations, as well as core services. In addition, it is designed to simulate real network traffic and different types of protocols and applications.

"We have basically created our own world, and we can control and manage all its technical aspects," says Marko Vatanen, Specialist at JYVSECTEC. "We can create realistic company environments, data centers, services, and business models that our clients can use for exercises and training."

This environment also provides a risk-free space for testing attacks, known vulnerabilities, and real malware.

Although JYVSECTEC had developed its own in-house software tools to generate some of these types of traffic, the organization needed a way to simulate traffic from specific applications. The tool would have to be flexible, scalable, and easy to use.

SIMULATING THE GLOBAL INTERNET

To support its cyber range platform, JYVSECTEC needed to accurately test and verify the stability, accuracy, and quality of networks, applications, and devices. The organization chose Ixia BreakingPoint, an advanced solution that simulates 300 real-world application protocols, realistic application traffic, automated end-user traffic, and other traffic for the RGCE cyber range environment.

“Ixia BreakingPoint enables us to create use cases that were not easy to build without the solution,” says Vatanen. “It gives us a faster way to generate Internet applications like Netflix, Facebook, Google, and other types of application traffic with distinct characteristics.”

“We can handle basic protocols by ourselves, but we use Ixia solutions to create more difficult traffic patterns, to create versatility for our testing,” says Vatanen. “Ixia is a key part of our overall solution.”

SIMULATED SECURITY LEADS TO BETTER SECURITY

By simulating real-world legitimate traffic, DDoS, exploits, malware, and fuzzing, BreakingPoint lets JYVSECTEC perform and validate a variety of security tests for its clients.

“We can simulate DDoS attacks, and also utilize the injected malware attacks that are part of BreakingPoint,” says Vatanen.

Using Ixia’s ready-made attack profiles, JYVSECTEC can create alerts for security systems like IDS and firewalls, providing a more realistic experience for test participants. The solution supports more than 36,000 attacks and malware, and is regularly updated to stay current with the latest threats.

DELIVERING SUPERIOR RESULTS FOR CLIENTS

JYVSECTEC offers its simulation environment to a variety of companies and government organizations that are looking for



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training to handle cyber threats and attacks. The Ixia solution delivers the versatility and in-depth test data that JYVSECTEC needs to provide its clients better technical and business insights.

“We don’t just focus on a limited aspect of the cyber domain, but gather a wide perspective of the cyber domain itself, from the technical controls, to processes, and procedures,” says Vatanen. “We can provide useful information not only to technical staff, but to upper management and business decision makers.”

LOOKING AHEAD

With its Ixia solution in place and working smoothly, JYVSECTEC is exploring ways to expand its RGCE environment to support a variety of new clients.

“We are developing industrial automation environments as part of the RGCE, as well as for ecommerce and other types of industries,” says Vatanen. “We are planning to continue to use our BreakingPoint to test these types of specialized protocols.”

JYVSECTEC is currently testing its new environments, and hopes to deploy them later in 2016. Vatanen and his team are confident that the Ixia solution will continue to support their initiatives in the months ahead, and beyond.

ABOUT IXIA

Ixia provides testing, visibility, and security solutions, strengthening physical and virtual network elements for enterprises, governments, service providers, and network equipment manufacturers.

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