Germany's Top Technical University Relies on Forcepoint to Keep Pace with Its Innovative Culture

Cutting-edge science and technological innovation requires lots of collaboration — and Forcepoint Next Generation Firewall helps RWTH Aachen University keep the ideas flowing efficiently and securely.

Germany is becoming an innovation leader, and its universities provide a laboratory for new ideas and visionaries. Since 2013, RWTH Aachen University, the top technical university in Germany, has relied on Forcepoint to provide powerful network security with easy, centralized administration, direct API access for its talented programming students to tune the firewalls to the university's requirements, and a partnership to influence the next generation of network security.

CUSTOMER PROFILE:
German technical university serving more than 42,000 students enrolled in 144 programs.

INDUSTRY:
Education

HQ COUNTRY:
Germanu

PRODUCT:
Forcepoint Next Generation Firewall

The phrase "German engineering" may soon become "German innovation" according to a recent Word Economic Forum Competitiveness Report. The country was listed as the world's most innovative economy, with a score of 87.5 out of 100 in the Innovation Capability category. Driving that score was the large number of technologically innovative ideas the country produces, especially in the automotive industry. And German universities are contributing to this push—not only as incubators for ideas, but also by producing the next generation of visionaries.

As Germany's top technical university, RWTH Aachen University plays a big role in this thriving idea culture. It's one of only eleven elite German "Universities of Excellence," a program that works to promote cuttingedge research, create exceptional conditions for students at universities,

deepen collaboration between disciplines and institutions, strengthen international research, and enhance the global attractiveness of German universities. RWTH Aachen helps achieve these goals by participating in research collaborations across Germany and globally, such as the Compact Muon Solenoid (CMS) experiment at CERN, the European Organization for Nuclear Research. The CMS experiment studies everything from the fundamental structure of matter to searching for extra dimensions and particles that make up dark matter. As one of 179 global institutes participating, the university's physics group contributed to the construction of the tracker and analyzes experimental data on an ongoing basis.

All of this global collaboration requires network security that can help keep the data flowing smoothly and securely.

Forcepoint delivers optimal protection and high availability to handle 200 Gbps

The IT Center of RWTH Aachen University had several important criteria for its network security:

→   High network performance and uptime availability

→   The ability to secure heterogeneous infrastructure and system environments

→   The ability to maintain seamless connections to several research networks

→   The ability to support variable user roles, permissions, and access rights

The university also needed a security solution that could manage the network's data load of more than 200 Gigabits while offering protection from an increasing number of attacks targeted at end-user devices and servers.

The university happily discovered that Forcepoint Next Generation Firewall (NGFW) could fulfill its demanding requirements. Forcepoint NGFW load balances by automatically distributing RWTH's incoming and outgoing network traffic among eleven interlinked firewall clusters to ensure top network performance and availability. The clustering strategy has many other advantages, including the ability to keep firewall protection up and running even while IT personnel perform maintenance.

For software updates and other maintenance, individual firewalls can be temporarily disconnected from the cluster while remaining systems take over control of data traffic. Thus, the university no longer needs to impose maintenance windows that limit access to services and data, allowing the university's research and scientific collaborations to operate 24/7 and accommodate scientists in any global time zone.

Challenge

Deliver high network performance and uptime availability, seamless connections to several research networks, and variable user permissions.

Approach

Implement Forcepoint Next Generation Firewall via interlinked firewall clusters.

"In our demanding environment, there are few systems on the market that are capable of meeting our criteria. After a lengthy evaluation of available solutions, we were convinced that the Forcepoint NGFW provides both optimal protection and high availability—and with a price performance ratio suitable for a public institution," explained Andreas Schreiber, Chief Business Development Officer, RWTH Aachen University.

Direct API access lets advanced student programmers fine-tune firewall efficiency

The university's network team finds Forcepoint Security Management Center (SMC) very easy to use: it gives quick access to the main features, provides dashboards with valuable overviews, and delivers powerful central administration capabilities. That doesn't stop the university's talented student programmers from getting under the hood. They have time to experiment and appreciate the ability to use APIs/scripts to bypass the UI with custom-written programs that auto-tune policies and push configurations directly to the firewall. For example, if there is a misbehaving student in the dorms who triggers the IPS system many times, the configuration can automatically put the student on a blacklist for a limited time without requiring firewall admins to open the console.

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JENS HEKTOR, SECURITY OPERATION CENTER, RWTH AACHEN UNIVERSITY

Partnering to create the next generation of network security

The university's security team also gets great support from firewall product developers in the nearby Forcepoint Helsinki office. "Over the years RWTH Aachen has experienced that the support from Forcepoint was very concise and always led to solutions in time," said Jens Hektor, Security Operation Center. On a regular basis, Forcepoint invites its German university customers to exchange experiences and discuss feature requests with product development. RWTH Aachen provided input on what it would like to see in Forcepoint's implementation of IPV6, the most recent version of the Internet Protocol (IP) that provides an identification and location system for networked computers and routes traffic across the Internet.

"The global security situation and our requirements will undoubtedly become even more complex in the future," explained Schreiber. "Thus, a network security infrastructure that is capable of keeping up with these growing requirements is absolutely crucial for us."

Results

› Easy management with Forcepoint NGFW's Security Management Center (SMC).

› Direct API access for student programmers.

› Long-term partnership on product development and features.

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