

The gatekeeper protecting machinery networks



With LANCOM Systems' security solution, the OPTIMA Group increases the security of its VPN remote maintenance, thereby improving the protection of its customers' networks.

According to statistics, 46 percent of companies in Germany were affected by a cyberattack in 2021. In September 2020, the German packaging machine manufacturer OPTIMA packaging group GmbH, based in Schwäbisch Hall, was the victim of a cyberattack. The attack was quickly detected, and all systems were immediately shut down. Almost all of Optima's machines in its customers' manufacturing facilities are maintained and monitored by service technicians using VPN remote maintenance. The fear: Camouflaged by the VPN tunnel, the attack could have spread to customers' networks. This was quickly ruled out. In order to further enhance IT security in this area, a bespoke VPN solution has been developed.

Months of development work

The aim: Further enhance remote maintenance security and increase protection of the machinery networks. The machinery manufacturer developed a suitable solution together with the German network and security manufacturer



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Dr.-Ing. Benjamin Häfner,
Group Leader
Industrial IT at Optima

LANCOM Systems, based in Aachen, a subsidiary of the Munich electronics group Rohde & Schwarz. This was preceded by detailed, in-depth market research. "We scrutinized solutions from various security providers and discussed them in detail," says Dr.-Ing. Benjamin Häfner, Group Leader Industrial IT at Optima. "In the end, we chose LANCOM as the manufacturer." This gave the green light for intense collaboration because the German security specialist had not yet developed an out-of-the-box solution for industrial machinery. "Both we and LANCOM invested months of development work in the final product. This was very challenging for everyone involved, but working together was also a lot of fun," explains Benjamin Häfner. The two companies were supported by Communication Systems GmbH, based in Neu-Isenburg. The results speak for themselves.

The firewall acts like a gatekeeper

The firewalls are installed quickly and securely via the LANCOM Management Cloud. IT staff only need to set basic parameters in advance. Further rollout is handled by the cloud automatically. "The zero-touch deployment is incredibly convenient," says Benjamin Häfner. "That's a bonus which is particularly beneficial to our customers because implementing the solution on their corporate networks is quick and trouble-free." A LANCOM R&S®Unified Firewall is used on site at each customer.

Via the firewalls, remote service technicians access Optima's machines securely and directly using encrypted VPN tunnels. This allows configurations to be changed



Perfect partnership: Dr.-Ing. Benjamin Häfner, Group Leader Industrial IT at Optima, (left) and Markus Irle, Vice President Firewall & Security at LANCOM Systems GmbH, are delighted with the new IT security solution.

or error messages to be checked and analyzed. However, advanced cyberattacks could still be carried out via the encrypted VPN channels, with the attackers using the VPN tunnel as camouflage. The solution: Using SSL Inspection and Deep Packet Inspection Pace, scanning, filtering, and application detection can also be performed on encrypted data packets, thereby successfully implementing security requirements. At the same time, all data traffic from Optima to customer networks via the LANCOM Management Cloud is logged, enabling detailed monitoring. In this way, VPN remote maintenance is monitored reliably and securely.

On site, the firewall becomes the machinery network's "gatekeeper". It controls and reduces communication with the plant. The machinery network, which consists of, for example, filling systems for vaccines, is divided into several network segments. When accessing individual segments, the firewall checks permissions every time. Just like door checks, "access" is either denied or allowed to the corresponding area. In this way, the machinery network at customers' production facilities is perfectly protected against unauthorized access. What's more, the customer can disconnect or connect the VPN tunnel at any time using an external access control, namely a physical key switch.

Unique security solution

In the future, all new Optima machines will be equipped with the new VPN remote maintenance and firewall solution. "We are also including our existing customers, to whom we will offer an upgrade to this even safer solution," explains Benjamin Häfner. Optima uses the security solution of the multi-award-winning manufacturer LANCOM Systems to offer its customers the highest level of security for their corporate networks. At the same time, provisioning and maintenance of the firewall via the cloud is quick and easy. This allows the solution to be deployed with minimal effort with the customer, even in critical areas. "The solution that LANCOM has developed with us is, in its entirety, unique on the market," says Benjamin Häfner. "Currently, you can only enjoy such a high level of machinery and system security with Optima and LANCOM."



The client

Optima supports companies worldwide with flexible and customer-specific filling and packaging machines in markets for pharmaceuticals, consumer goods, paper hygiene, and medical devices. As a provider of solutions and systems, Optima supports these companies from the product idea to its successful production, and also right through the entire machine life cycle. Over 2,650 experts around the globe contribute to Optima's success. 19 locations in Germany and abroad ensure the worldwide availability of services.

At a glance

The client

Optima packaging group GmbH

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Products and services:

Design and development
of packaging machinery,
filling and manufacturing
plants, life cycle
management throughout
the machine's entire
lifespan, digital solutions
for secure, efficient
manufacturing

The partner

COMMUNICATION SYSTEMS GMBH

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Requirements

- Secure access via encrypted VPN tunnels to customers' machinery networks
- Monitoring communication via VPN remote maintenance
- Firewall controls and manages access to individual network segments

Utilized components:

LANCOM R&S®Unified
Firewall UF-T60

