

CASE STUDY

Leading Swiss IT Service Provider, Bedag, Reduces Certificate Fulfillment Time from Days to Minutes

Like many other companies, Bedag would occasionally be hit by surprise outages caused by certificates that were not renewed or not properly deployed. And since the company was a leading Swiss IT service provider, downtime for its customers was not conducive to business continuity and SLAs. The company realized that they could no longer continue to manage certificates manually and began to look for an automated certificate management solution that would solve the outage problem, and ideally streamline business processes as well.

Previously, they had managed certificates using their own solution where certificates and private keys were stored in one place and could be accessed if the team needed to reinstall a certificate. That manual solution initially worked okay for the company because in most cases they only needed to install a certificate once and then set a reminder to renew it in a year.

But there were certain use cases where that simple solution just didn't cut it. Occasionally a customer would need to secure a new URL or other out-of-track activity. This would trigger a manual reinstall that would complicate the original process and require substantial additional work. And the process could prove to be quite lengthy. When users would enter a ticket in the configuration system and order a certificate, it would often take several days to receive the certificate.

Limited by lengthy certificate request timelines

They very quickly learned that a ticketing system that relied solely on email was not a good platform for certificate requests. By the time the requester had sent an email to the appropriate team member, that email may not even be seen for some days. Even then, it took some time for the PKI team to manually request and send out the certificate. In the meantime, business was carrying on at the usual fast pace for Bedag's customers and they had little time to lose waiting for a certificate. The entire process would often take a full work week for the requested certificate to be sent to the requester.

EXECUTIVE SUMMARY

Challenges

- Certificate-related outages interrupted business
- Manual certificate management processes caused significant delays

Solutions

- Implemented Venafi TLS Protect to automate all certificate requests
- Onboarded end users in a focused manner, team by team

Results

- Reduced certificate fulfillment times from one week to one minute
- Eliminated manual approvals for certificate requests

And that is assuming that all the information in the CSR was accurate. If not, the process could be delayed even further. But that was not the only factor that could stall the delivery of the certificate. The team realized that convoluted approval processes could also lengthen the delivery times. To manage costs, approval was needed for every certificate request. But this proved to be yet another bottleneck in the overall process for deploying certificates.

Finding the right machine identity management solution

To locate the best solution for the company, Bedag conducted a thorough investigation of the available software for machine identity management. As a first step, they set out to understand how various solutions could help them. To validate the real-world value, they then conducted a more technical evaluation where three companies showed their solutions and how they would fulfill the requirements of the company's five main technical use cases.

First and foremost among these use cases was deploying a certificate to an Apache reverse proxy server, which represented the largest number of systems in the organization. René Caspar, Senior Project Manager at Bedag noted, "We wanted to validate a use case where a certificate is created in a CA and then deployed fully down to the end system to the Apache." They found that some solutions could solve part of the problems and others couldn't really help at all.

After its initial investigations, Bedag's project team decided to conduct a proof of concept (PoC) with Venafi to demonstrate a solution to manage certificates within their five main use cases. René Caspar noted, "We wanted to see what the solution really could do and how it could help us. Not just on paper, but in practice in our infrastructure."

The PoC was targeted at the organization's five main usage scenarios and in the end the Venafi team proved that TLS Protect could meet those requirements and deliver the value that the company needed. The technology, paired with a qualified and supportive team, made Venafi the obvious choice for Bedag.

Venafi TLS Protect: The right solution for Bedag

At the end of the process, Bedag chose Venafi to automate their machine identity management because, as René Caspar noted, "We were almost 100% sure that the solution is really fulfilling the requests we have." Not only did the solution prove to be beneficial, the Venafi solutions architect was also a factor in the decision. According to René Caspar, "The Venafi technical resource was able to validate our use cases and prove that the solution was able to fulfill the requirements. He was very expert at showing us exactly how certificates were deployed and managed in our main use cases." They felt like they had an extra resource on the team that understood what Bedag needed to do and could deliver the appropriate solutions to do just that.

The project team began to work quickly to implement the Venafi solution and have now been using it for over a year. After configuring and structuring the solution to work optimally within their infrastructure, the team began to onboard certificates and educate those who use and maintain them. During that process, they soon realized that it was more efficient to focus onboarding efforts by team and technology. "When we onboard one small team, there will be learnings that we can adapt for the next team," said René Caspar. "I think this was the point where we began to see things speed up."

Now that they have had some time with the solutions, Bedag has begun to see concrete results. The most significant is that they were able to reduce certificate request times from up to a work week to around one minute. And as René Caspar notes, "That's one minute if you are slow in pushing reload. Basically, I'm saying that the moment you order the certificate in Venafi, you get it immediately back."

Additional value: More functionality than anticipated

The team has also realized that the Venafi solution can help them above and beyond what they had originally anticipated. They learned that their notification process could be optimized to prevent more outages. And using intelligence from the Venafi solution, the Bedag team could quickly troubleshoot a given problem and determine the cause really fast.

After solving the immediate problem, the team was able to quickly prevent a repeat problem. The Venafi solution's dashboard gave them the assurance that the problem would not happen again because it gave them a more complete view of how many certificates need to be replaced or renewed within a given timeframe. "We have more transparency right now with the certificates, even if we don't yet have the devices implemented," summed up René Caspar. The next step is to connect devices to certificates in the proper folders within the policy tree.

Streamlined approval process for certificate requests

The team was also able to leverage the speed and reliability of the Venafi solution to make significant changes to their previously quite lengthy, certificate approval process. Because CA certificates cost money and money doesn't grow on trees, the company wanted to be responsible about its spending for machine identities.

But when the team realized that they would be able to track certificate usage down to the level of user, they decided that a manual approval process shouldn't stand in the way of the value of a drastic reduction in certificate request times. As René Caspar concluded, "We realized that with Venafi it's possible to make these improvements, so we wanted to be faster and faster means no approval."

Looking to the future

The company is very happy with the progress they have been able to make with the Venafi solution. "The solution is extremely powerful. I think there's nothing you can't do. But what makes it great can sometimes overwhelm us. But we know that with our Venafi expert, we always get the answer to a question." They are looking at the possibility of expanding the scope of the product to support developments in Kubernetes and SAP, and additional technologies in their infrastructure.

As René Caspar sums it up, "Venafi is not only the leading system for creating certificates, but it also has amazing value for deploying certificates as well. As we have learned, if a new certificate is not properly deployed, it doesn't bring you anything."

ABOUT BEDAG INFORMATIK AG

With a revenue of CHF 98.3 million, Bedag is a leading Swiss IT service provider. Our 465 staff, including 49 trainees, ensure broad and sound IT expertise. Our core business is the development, maintenance and running of critical business IT solutions, and we thereby guarantee economical and problem-free IT operations for our customers who are mainly public authorities and organisations and companies in the health and insurance sectors. Bedag was founded in 1990 and is owned by the Canton of Berne.

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