University quickly configures remote work and adopts Zero Trust security best practices globally

2
Weeks to enable work-from-home environment

VPN-free solution requires no additional device software

Secure application access finely tuned for each individual user

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"Access control linked to individuals is now possible, which is something that was not possible with remote access via VPNs. It also took only a short amount of time to quickly create the network environment, which is also easy to use."

— Eiji Yamakita, Manager, Section for Information Network, Department of Information Planning, General Affairs Division, Doshisha University

A Security Policy Aligned to Academic Principles

Doshisha is a prestigious private university based in Kyoto, Japan, with more than 28,000 students and nearly 800 full-time faculty members. In addition to its two Kyoto campuses (Imadegawa and Kyotanabe), the university has satellite campuses located in Osaka and Tokyo, as well as an EU Campus in Germany at Tübingen University.

Doshisha's Department of Information Planning is responsible for developing, implementing, managing, and securing administrative systems and information networks. The team's approach to information security aligns with the university's core principles. Eiji Yamakita from the Section for Information Network elaborates:

"Doshisha University holds liberalism as one of its educational philosophies. The same is true for our information systems. We aim to create an environment where faculty members and students can freely access the resources they need for their research, while also ensuring tight security."

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Industry
Academic Institution

Key Impacts
- Enabled a work-from-home environment in just two weeks with cloud-based remote access
- Reduced load when connecting to the overseas campus with software-free web browser access
- Implemented flexible and simple restrictions for controlling access to applications on a per-user basis
- Reduced the effort required to operate and manage the remote access infrastructure thanks to an easy-to-use interface

Solution
- Enterprise Application Access

Akamai

Implementing "VPN-Free" Remote Access

Although they seek to make university resources widely available, Doshisha must also ensure that internal information and systems are kept private and secure. For example, the staff's and students' personal details must remain confidential. And the administrative network needs to be separate from those networks used by students. Ultimately, access privileges must be able to be granted according to an individual's identity, role, and needs, regardless of where the user is located.

But the existing remote access environment — which used a VPN — did not enable such calibration. It did not satisfy security or operational requirements and was not user-friendly.

Establishing the EU Campus in 2018 put an additional spotlight on this issue. The staff in Germany needed access to applications located on the servers in Japan. And, globally, all administrators needed to be able to update content on these servers from their homes. Of specific interest were remote website updates via a content management system (CMS) in case of an emergency, such as the sudden shift to home work in 2020.

These particular use cases were especially challenging because of the existing VPN. Yamakita notes, "We needed to restrict remote access to the on-campus CMS to users with website update privileges. However, remote access via a VPN would result in giving users access to all internal university resources, including sensitive information. While fine-tuning access control settings for each user profile or individual ID via the VPN device was possible, the process was extremely cumbersome to operate and manage, and impacted user experience. Additionally, this one-off method required excessive time and effort to distribute and manage digital certificates for additional security."

The VPN-enabled remote access also required that VPN client software be installed and properly configured on end-user devices, adding process and complexity. Yamakita continues, "Remote access via VPN is not a very user-friendly approach; our users often had trouble connecting without the help of IT staff. And I believed it would be a bad idea to roll out this environment at an overseas location, such as the EU Campus, where IT personnel are not present."

Doshisha University adopted Akamai Enterprise Application Access to resolve all these VPN connection concerns with one tool.

A Flexible, Easy-to-Use Solution

Enterprise Application Access is a cloud-based identity-aware proxy that provides proper authentication and control of access privileges for all users, devices, or locations. The technology allows system access to be centrally managed, enabling remote access to authorized applications and resources only.

"We saw huge potential in Enterprise Application Access as an innovative, one-of-a-kind solution, and came to the quick decision that it could resolve all of our remote access problems at once," recalls Yamakita. Doshisha University moved swiftly from proof of concept to securing the necessary budget to deployment upon contract.

"The benefits of Enterprise Application Access were as expected. It became easier for us to provide a remote access environment for the EU Campus staff and allowed us flexibility in setting remotely accessible applications on a per-user basis. The intuitive user interface for operating and managing users is also very helpful," says Yamakita.

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Eiji Yamakita
Manager, Section for Information Network, Doshisha University

The university has had zero inquiries from faculty or students about using Enterprise Application Access; remote access via a web browser makes it very easy to use. "Akamai Enterprise Application Access provides us with enhanced security while also being more convenient for users," confirms Yamakita

From On-Campus to Remote Learning in Two Weeks

Implementing Enterprise Application Access had an even greater impact than Doshisha originally anticipated. It enabled the university to rapidly set up a work- and learn-from-home environment in response to the COVID-19 pandemic.

The Department of Information Planning approached Akamai to discuss their plans to use Enterprise Application Access to set up a remote desktop (RDP) environment for their 250-person administrative staff. The university tested and built the RDP, and staff began working from home via RDP, before the Japanese government even declared a state of emergency. This process only took about two weeks.

"The fact that we were able to create a secure home-working environment so quickly – in an emergency – was all thanks to Enterprise Application Access. And it really helped that there were no additional costs, no matter how many new Enterprise Application Access Connectors (software) we created and added," recalls Yamakita.

As remote work becomes an increasingly common – if not the standard – working style, Yamakita notes that quickly rolling out secure remote access is incredibly significant.

"Perimeter-based security will become more and more meaningless, making Zero Trust security increasingly important. In such a future, it will be essential for access control to be linked to individuals, as it is with Enterprise Application Access. Moving forward, I expect that we will use Enterprise Application Access more widely, for an increasing range of applications in order to enable, for example, faculty to conduct research at home. I believe that this will allow even more open research and learning with a higher level of security."