

CASE STUDY

International School Deploys Fortinet Secure SD-WAN for Improved Security and Stability across Multiple Campus Networks

With a history of 90 years, Hong Kong's Yew Chung International School is now at the heart of an international network of kindergartens, schools, and colleges. Together, these institutions deliver a bilingual and holistic east-meets-west educational experience to over 3,000 users across 10 global locations in Hong Kong, China, and in California.

The foundation operates one of the largest campus networks in Hong Kong. It has 10 campuses in the city, offering programs from early childhood through secondary school and teacher training at the only private institution to offer degree courses in early childhood education in Hong Kong.

"Yew Chung has long been at the forefront of educational technology innovation. We were a pioneer of 1:1 digital learning in Hong Kong, using iPads to promote individualized learning and help students get future-ready. This approach enabled us to continue to nurture our students effectively through e-learning during the pandemic, with teachers working from home," says Wayne Leung, head of IT at Yew Chung Education Foundation. "With the safety of the school community as a key concern, we are serious about protecting all our users and their information."

Making Security a Priority

The education sector is increasingly threatened by cybercriminals. E-learning and Internet of Things (IoT)-based digital access control solutions and classroom tools like digital whiteboards expand the attack surface for schools worldwide. Yew Chung needed a comprehensive security solution to safeguard its data and keep its network running smoothly, even with distributed users working from anywhere and using various devices to access on-premises applications.

Yew Chung had traditionally relied on a router-centric hub-and-spoke WAN architecture, with centralized services to reduce costs and enhance efficiency for network administrators. However, this created a distributed network with many edges, all of which had to be secured. It also made it difficult to deliver a reliable user experience. With a print server at one location managing print requests from campuses throughout the network, for example, any downtime associated with security updates on the server could cause significant disruption.



**Yew Chung International
School of Hong Kong**
香港耀中國際學校

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Wayne Leung

Head of IT
Yew Chung International School
of Hong Kong

Details

Customer: Yew Chung Education Foundation

Industry: Education

Location: Hong Kong, China

Business Impact

- Enhanced security across multiple campuses
- Easier network management and upgrades
- Greater stability and resilience
- Easy login and use

Yew Chung's IT team leveraged software-defined wide area network (SD-WAN) to enhance connectivity for students and staff working remotely or from its various campuses to deliver stability and security across the network. Yew Chung turned to Fortinet to help build and deploy a consolidated SD-WAN and virtual private network (VPN) architecture with a secure networking approach.

Deploying Secure SD-WAN

Deploying Fortinet Secure SD-WAN, Yew Chung has connected all 10 campuses with load balancing across multiple links for lower latency and efficiency. It has deployed dual-WAN routers at key sites to improve reliability, with centralized management via the FortiManager tool. This enables automation-driven network configuration and security policy management from a single console.

"The Fortinet Secure SD-WAN effectively makes every endpoint an edge, from student devices at home to on-campus guests and networked classroom equipment and IoT devices. This extends visibility and security beyond the traditional WAN with advanced routing and firewall security. It also lets us control the entire network from a centralized location, with the flexible FortiOS platform delivering real-time application optimization and making it easy to scale to new locations and upgrade our security as required," Wayne says.

Enabling Hub-and-Spoke Auto Discovery

To better use its network resources and provide full meshing capabilities, Yew Chung uses auto-discovery VPN (ADVPN) technology to allow direct spoke-to-spoke traffic. It builds on standard hub-and-spoke topology, dynamically establishing VPN tunnels between spokes on demand and bypassing the VPN hub for enhanced stability and efficiency.

"ADVPN makes provisioning much easier and enables trouble-free scalability, allowing the IT team to load-balance traffic via multiple dynamic tunnels. It lets us control specific traffic using specific connections. We can also dynamically choose connections, routing traffic over the most efficient WAN connection available to keep applications and in-classroom technologies available for digital learning," Wayne says.

Benefits of a Secure Networking Approach

The advantages of the Fortinet network, WAN, and campus firewall solution include:

- **Enhanced security:** All WAN and VPN edges are secure, with a consistent security policy and trouble-free updates, delivering a better experience for remote and on-campus users.
- **Stable operation and integrated functionality:** The FortiGate NGFW combines advanced security and network capabilities, including SD-WAN functionality, into a compact desktop footprint powered by the unified FortiOS operating system
- **Simple and straightforward administration:** The IT team enjoys granular visibility across the network from the centralized FortiManager console, with streamlined provisioning and innovative automation tools for smoother change management. It also uses FortiAnalyzer for central log management, in-depth analysis, and reporting that help track application usage and identify and remediate security risks.

Solutions

- FortiGate Next-Generation Firewall
- Fortinet Secure SD-WAN
- FortiManager
- FortiAnalyzer

Services

- FortiGuard AI-Powered Web Filtering

"With Fortinet FortiGuard, we have a very stable all-in-one solution that combines a next-generation firewall with advanced SD-WAN networking and a VPN overlay. Previously, our network would 'hang' more than 10 times a year, causing organizationwide disruption. We have never yet had to reboot our Fortinet system, either due to an update or to fix an unexpected issue. Our IT team also appreciates not having to stand by after hours during system upgrades."

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- **User-friendly operation:** Students and staff have no problem accessing their school network via VPN with two-factor authentication. Yew Chung also adds FortiGuard Web Filtering to create a safer learning environment for students and to protect the network from web-borne ransomware and phishing attacks.

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