

# University of Macau Leverages IT Security and Connectivity Needs of over 8000 Students with Palo Alto Networks™

## BACKGROUND

The University of Macau (UM) was founded in 1981 as a private higher education institution. Formerly known as the University of East Asia and renamed as the University of Macau in 1991, the university is now one of leading universities in the region, offering over 130 Bachelor, Masters and PhD programmes.

The UM currently has over 8,100 students and 430 teaching staff. The university is committed to nurturing outstanding graduates, providing elite undergraduate education, delivering high-calibre academic programmes and developing an efficient and environmentally-friendly campus.

As the university is currently building a new campus in nearby Hengqin, which will be 20 times larger than its current one, establishing a campus network that offers both exceptional level bandwidth and security is one of the main targets that the university has set out to achieve.

## BANDWIDTH AND SECURITY ISSUES

Across its students and other stakeholder groups, UM is equipped with a wide variety of IT hardware and software from different vendors. In today's increasingly connected world, pressure on UM's network bandwidth was gradually increasing.

The UM IT team searched for a new internet gateway that could cope with significantly greater bandwidth. And, in order to meet current and future security needs, the team wanted to integrate a powerful firewall. The migration procedure had to be smooth, with little or no downtime so as to ensure the continuity of the university's academic programs. The UM also wanted to make sure that the new technology being introduced should be compatible with the infrastructure that was already in place.

The university's Information and Communication Technology Office (ICTO) is the department responsible for the administration and operation of IT and the campus network. They were tasked to explore the various solutions on offer from a number of leading vendors, including Check Point Software, Juniper Networks and Palo Alto Networks.

UM considered several factors, including experience on vendor performance on previous similar Macau projects, solution performance and cost, local integration and support services. Ease-of-management was also an important consideration during the selection process. After an evaluation phase, the team chose Palo Alto Networks.



澳門大學

UNIVERSIDADE DE MACAU  
UNIVERSITY OF MACAU

## ORGANIZATION:

University of Macau

## INDUSTRY:

Higher Education

## CHALLENGE:

Needed a new internet gateway that could cope with significantly increased bandwidth, and a powerful firewall that could meet its current and future security requirements. A smooth migration was needed with little or no downtime.

## SOLUTION:

Two PA-5020 next-generation firewalls were installed at the new campus. The integrated Threat Prevention leverages multiple threat prevention disciplines including IPS, IDS and anti-malware.

## RESULTS:

Achieved bandwidth targets; greater confidence in the security of the network; simplified maintenance and management; PA-5020 can scale to meet future needs.

*“The whole network is now far easier to manage and maintain. Better yet, it is also highly scalable, so we do not need a major network infrastructure upgrades for the foreseeable future. Overall, the Palo Alto Networks solution has proven to be the best fit for our purpose.”*

**Jason Ho**  
Director of ICTO

### COMBATING CYBER THREATS WITHOUT HINDERING CYBER LEARNING

Prior to making its selection, all vendors were asked to demonstrate their respective solutions. Each vendor was asked to migrate the policy of the existing firewall solution to its proposed new solution. The Palo Alto Networks next-generation firewall achieved the best performance during the demonstration and testing. It also offered the best price-performance among the competing solutions.

The process of evaluating vendors, finalising the contract for the project, and deployment took nine months. Palo Alto Networks— supported by Mega, a local systems integrator — recommended deploying two PA-5020 next-generation firewalls. The devices are rated to 5Gbps and provide 20 virtual routers with 80 separate security zones. This set up comes with the integrated Palo Alto Networks Threat Prevention, a real-time and fully integrated analysis tool for granular network traffic.

“Palo Alto Networks and its channel partner took the time to familiarise themselves with what we were trying to achieve, and then proposed a solution that they thought would meet our needs,” said Stanley Seak, the ICTO’s Functional Head of Technical and User Support Section.

“We had the opportunity to try it out first, in order to learn about its performance for ourselves and we found it worked as expected. The best part was that the solution was intuitive enough to enable many IT stakeholders to handle the migration process themselves.”

### BENEFITS THAT GO BEYOND PERFORMANCE AND SCALABILITY

The solution has helped to achieve the university’s goal of increasing its bandwidth significantly and boosting its network security. By deploying the PA-5020 solution, it has enabled unprecedented visibility and granular policy control of applications and content—by user, not just IP address—at up to 5Gbps with no performance degradation.

However, there have also been other benefits: The process of executing critical updates, such as virus definitions, is now easier and less time-consuming, representing an efficiency boost for the ICTO. There have been few compatibility headaches with the UM’s pre-existing data and applications and the UM has access to good local support, resulting in minimal downtime, even if hardware upgrades are needed.

“The whole network is now far easier to manage and maintain. Better yet, it is also highly scalable, so we do not need a major network infrastructure upgrades for the foreseeable future. Overall, the Palo Alto Networks solution has proven to be the best fit for our purpose,” said Jason Ho, Director of ICTO.