



ATMA JAYA CATHOLIC UNIVERSITY OF INDONESIA ACCELERATES LEARNING THROUGH VMWARE VSPHERE VIRTUALIZATION



INDUSTRY

EDUCATION AND HEALTHCARE

LOCATION

INDONESIA

KEY CHALLENGES

- Existing physical IT system was costly, inefficient and could not support the university's expansion
- Servers were overloaded on capacity, resulting in frequent downtime
- New servers and services took too long to be deployed

SOLUTIONS

- VMware vSphere
- VMware vCenter
- VMware vSAN

Leveraging VMware's software-defined data center solutions, Atma Jaya Catholic University of Indonesia has transformed into a future-ready educational institution that caters to Indonesia's growing demand for higher learning. The school's virtualized infrastructure is now scalable, flexible and cost-efficient, with a faster time to market for new servers and applications. This enables university lecturers to adopt new educational technologies that accelerate student learning – raising the bar for higher education in the country.

Atma Jaya Catholic University of Indonesia (Atma Jaya) is one of Indonesia's premier private universities. Founded in 1960, the institution has two campuses located in the heart of Jakarta, Indonesia's bustling capital. The university's main campus is based in Semanggi, South Jakarta, while the other campus is established beside the Atma Jaya Hospital in Pluit, North Jakarta. Consistently ranked as one of the country's top five private universities by multiple education publications, Atma Jaya was also one of the first local educational institutions to implement an online academic system in the early 1990s. Presently, Atma Jaya has eight faculties offering both undergraduate and graduate degrees. Reflecting the country's growing demand for higher learning, the university has steadily increased the number of programs, and has launched a new campus in Bumi Serpong Damai, Tangerang, Indonesia.

The Challenge

As the fourth-largest education system in the world, Indonesia has made impressive progress in raising its overall education standards in recent years. The country has widened access to education for its youths and significantly increased tertiary education graduation rates. Demand for higher education is at an all-time high, and this has driven the continued growth and expansion of Atma Jaya.

The university has launched its third campus at Bumi Serpong Damai, which is about 40km from its central campus in Jakarta, where its physical data center resides. Due to the distance, the IT infrastructure at the central campus is unable to reliably support the needs of the new campus.

As education standards continued to rise, lecturers at the university needed to adopt new teaching curriculums, and conduct more research and practical lab work – all of which would require various advanced IT applications. This pushed Atma Jaya to procure as many as 12 physical servers each year, amounting to billions of rupiah and adding on to the already significant operational and maintenance costs.

“With VMware’s software-defined data center solutions, we are able to migrate our physical IT infrastructure onto a unified virtualized platform, reaping the full benefits of enhanced scalability, flexibility and agility. We managed to significantly reduce overall costs and server provisioning time, enabling our lecturers to adopt new innovations in educational technology. As Indonesia continues to boost the standards of education, our partnership with VMware empowers us to raise the bar for higher learning in the country.”

DANNY NATALIES,
IT HEAD, CHIEF INFORMATION OFFICER,
ATMA JAYA CATHOLIC UNIVERSITY OF
INDONESIA

BUSINESS BENEFITS

- Reduced operational costs and physical footprint, spending on servers reduced by 60 to 70 percent
- Faster provisioning of servers from weeks to hours
- Centralized IT management and streamlined processes, minimizing manual operations

The university’s existing physical IT system was also highly cluttered, requiring large amounts of space and electricity for maintenance. Additionally, the hardware required manual monitoring, resulting in frequent human errors and a need for extensive manpower to cover all systems. The infrastructure was not efficient or scalable, and could not accommodate rising IT demand. Due to overcapacity, system downtime was a frequent occurrence every semester. Recovery could take between three days to a week, during which students could not sign up for classes. As the university expanded its student intake and operations, there was an increasing need to maintain its critical and core applications, as well as to ensure sufficient storage capacity. To uphold its reputation and commitment to providing top quality education, Atma Jaya needed to quickly overhaul its IT system and boost data management capabilities.

The Solution

To provide students, faculty and staff with a new IT system that was agile, scalable and efficient, Atma Jaya decided to embark on a virtualization strategy and build a new centralized infrastructure. The university worked with VMware to virtualize 72 physical servers and business critical applications, deploying compute and storage virtualization as well as operation management solutions. With the adoption of VMware vSphere® virtualization, Atma Jaya was able to rapidly consolidate its servers and realize greater efficiency from its physical systems, gaining the ability to quickly provision additional IT servers at any given moment. The migration during planned hardware maintenances was seamless, with no downtime or disruptions. This was enabled by VMware vMotion™, which allowed for continuous service availability.

VMware vCenter™ provides a centralized and extensible platform for managing the virtual infrastructure, while enhancing overall security and availability. The platform’s simple and automated controls enabled the university’s IT team to oversee the entire system effortlessly, freeing up resources for staff to work on other critical issues. Atma Jaya also deployed VMware vSAN™ to optimize its infrastructure and seamlessly extend virtualization to storage, and create a hyper-converged solution that worked across existing tools, software, hardware platforms and skillsets to boost operational efficiency and agility.

Business Results and Benefits

Empowered by vSphere virtualization solutions, Atma Jaya gained cost efficiency almost immediately. “With vSphere, the university went from purchasing around 12 physical servers every year to completely halting the procurement of unnecessary infrastructure,” said Danny Natalies, IT Head. “As a result, we’ve reduced spending on servers by 60 to 70 percent.” Atma Jaya was able to fully optimize its physical IT infrastructure, scaling up to run about 180 virtualized servers currently. This helped to minimize the physical footprint of its servers, leading to additional cost savings in utility and maintenance.

With vSphere virtualization and vSAN, IT has improved scalability, flexibility, and overall agility. The team can now rapidly provision new servers when and storage as needed. With VMware, a new request for a system development or resource provision can be done within one hour – a significant reduction from

APPLICATIONS VIRTUALIZED

- Academic administration system
- E-learning
- Quality assurance system
- Resources management system
- Smart identity management system
- ERP
- Document management system
- Workflow automation system
- Augmented reality application
- Human Resources and payroll system
- Payroll system
- Digital Library system
- Attendance management system
- Business Intelligence system
- Data warehouse system
- Email, communication and collaboration system (Digital working space system)
- Website and alumni system
- Career center application

PLATFORMS

- Microsoft
- Oracle
- Open-source either for on-premise and cloud

PARTNERS

- Mitra Integrasi Informatika - Metrodata
- HP, Microsoft, Oracle

the previous lead time of one week. This has enabled university lecturers to adopt new innovations in educational technology quickly, helping them to create richer curriculums to cater to the growing needs of students.

The centralized management of its virtualized data center has also enabled Atma Jaya to streamline its operational processes, ensuring that IT services for all stakeholders are delivered efficiently and accurately. With VMware, students can organize their classes and timetable registration processes with greater ease, while lecturers can submit semester credit and study plans effortlessly. The university has also been able to build automated management systems and better analyze operational data to improve system responsiveness, enhancing the performance, availability and efficiency of its IT infrastructure. This reduced the need for manual operations and staff maintenance, minimizing the risk of human errors and freeing up resources for the school. VMware vMotion™ allows for live migration of virtual machines from one server to another as needed. As a result, there have been zero instances of system downtime.

Through the enhanced flexibility and agility of its system, Atma Jaya is now well prepared to respond to the new IT requirements of its new campus in Bumi Serpong Damai. Powered by VMware, the university's virtualized IT infrastructure is also scalable, reliable and future-ready, with the agility to respond rapidly to the growing demands in higher education.

Looking Ahead

As Atma Jaya continues to raise the bar for higher education in Indonesia, the university will look to further virtualize its IT infrastructure to accommodate increasing teaching activity at its new campus. Additional virtual desktop infrastructure will be deployed to provision campus networks in a timely manner, automate operations and eliminate bottlenecks. Atma Jaya will also plan to implement network virtualization with VMware® NSX.

