

Providing Infrastructure-as-a-Service and Platform-as-a-Service to lecturers, students, and staff for educational services that are truly in line with Thailand 4.0 with a plan to deliver Software-as-a-Service in the future



Faculty of Engineering, Kasetsart University (Bangkhen Campus) Chooses Nutanix Enterprise Cloud to Enhance its IT Capabilities

Faculty of Engineering, Kasetsart University (Bangkhen Campus) was initially known as the Irrigation Engineering School. Established on August 1, 1938, the school was then under the supervision of the Royal Irrigation Department, the Ministry of Agriculture. In 1955, the school officially transformed into the Faculty of Engineering, Kasetsart University, with the vision to achieve global recognition as a self-sustaining center of academic, research and innovation excellence. The faculty has since taken up the mission to produce professional engineers who are recognized for their competence and technical knowledge as well as their ethical, moral and social responsibilities; and also to provide extensive and socially recognized academic and research services for Thailand's sustainable development. The Faculty of Engineering is one of the top ranking institutes of engineering in the country. At present, it consists of 10 departments namely: Aerospace Engineering, Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Electrical Mechanical Manufacturing Engineering, Environmental Engineering, Industrial Engineering, Materials Engineering, and Water Resources Engineering

CHALLENGES IN DELIVERING IT-SERVICES

Assistant Professor Dr. Kemathat Vibhatavanij, deputy dean for ICT and Organizational Communications, the Faculty of Engineering, Kasetsart University's Bangkhen Campus, says, "Our faculty places importance on IT 'services' because we have the duty to serve students, lecturers and all support staff. The number now is about 6,000."

Our servers are installed independently at seventeen separate buildings. There is no faculty's central policy on IT management.

"Our faculty members need systems to handle their workload. Among them are the central service system of the faculty, research systems, academic service and modules for Operating Systems classes. In such courses, each student needs a virtual machine to practice writing Kernel, develop Operating Systems as well as Web Hosting, etc. There are not enough IT specialists at our faculty to handle everything. In the face of such IT challenges, we have decided to explore technological solutions to centrally manage servers that are physically scattered and to offer a networking system that can win the trust of all departments or units in the faculty. At the same time, these solutions must provide information security, stability, flexibility and compatibility with various other solutions including future technology. Last but not least, they must be within our budget too" he continues.

"We have the mission to produce quality engineers for the labor market in the Digital Age and respond to the government's Thailand 4.0 policy. It takes proper infrastructure to successfully deliver IT services to our students, lecturers and staff. Nutanix has responded to our needs here. In terms of budget, we pay only for what we need to use now. We can scale up anytime later thanks to the scalable Nutanix platform that is secure and easy-to-use. With Nutanix solutions, we can access our information in real-time. Problems from server instability, which have long hit the faculty, have reduced. We have also enjoyed good service from Nutanix both before and after sales. In addition, Nutanix solutions come equipped with built-in software. So, when we buy Nutanix, we get everything we need."

- Dr. Kemathat Vibhatavanij,
Assistant Professor, Deputy Dean for ICT
and Organizational Communications
Faculty of Engineering, the Kasetsart
University (Bangkhen Campus)

ENTERPRISE CLOUD PLATFORM

After laying down IT-enhancement guidelines, the faculty received advice from its partners in the IT industry that it should consider Nutanix technology. Further discussions and careful reviews showed that Nutanix indeed responds to the faculty's needs. So, the faculty started surveying network systems in its compound and installed the first Nutanix Enterprise Cloud Platforms in March 2015 to centralize the existing systems and virtualize necessary servers. Then in November 2016, the faculty started using Nutanix for their private cloud environments for lecturers and researchers in each department.

EFFICIENCY & BENEFITS

Assistant Professor Dr. Kemathat says, "During the past two years, the faculty has been successful in integrating the faculty's systems and creating an unlimited number of virtual machines. Moreover, we have won the trust of the central units as well as all the faculty's departments. It took just one day to install the Nutanix platform. Since the implementation, physical server space for IT equipment has decreased by 60-70 per cent. If we take into account the fact that we usually need to expand our IT systems every two years, we have already saved both time and hardware budget with Nutanix solutions. In addition to not having to waste time on physical IT expansion and configuration, we have saved on our IT-infrastructure budget by 50-60 per cent. Problems from sudden blackouts, which have often hit the campus for a really long time already, have also reduced because all cloud systems are installed at the university's data center."

"Nutanix design makes it easy to scale out. We can expand our platforms without any limit and without a complicated configuration process. Thanks to software provided by Nutanix, configuration is very simple. They include the server, storage and processing system in one block. Nutanix Cloud is also equipped with Prism, Acropolis and AHV, which serves as a Hypervisor. When we buy Nutanix solutions, it's like we have everything. We may buy additional operating systems or more apps as we need," he adds.

Mr. Thawipong Anotaisinthawee, country manager of Nutanix (Thailand), says, "Nutanix Acropolis is the built-in software in Nutanix devices. It creates and manages IT infrastructure in a comprehensive manner from storage, to processing, and to virtualization with efficiency, solid performance and high security. It allows an organization to provide IT services as if it possesses a cloud of its own. A central management system is also possible and efficient via Nutanix Prism. From just one screen, Nutanix Prism enables its users to manage and access all key data in all aspects. It can handle storage, processing, hypervisor, virtual machines, reports, data backup and remote sites from anywhere. So, there is no need to worry about the system failure that can occur with ordinary centralized systems".

DEVELOPING "EDUCATION AS A SERVICE" VIA INFRASTRUCTURE, PLATFORM AND SOFTWARE

To date, the faculty has developed Infrastructure-as-a-Service and Platform-as-a-Service based on Nutanix platforms to provide virtual machines and facilitate central services, departments' work, research and academic service systems. Students and lecturers can thus receive services without the need for physical servers.

Today, the use of mobile apps continues to soar. To respond to students' needs in this regard as well as to support lecturers' academic services, the faculty has sought to develop Platform-as-a-Service (PaaS) as a "back-office" system to simplify the work process. When developed further, the platform will also be compatible with Internet Stores. However, at this point, PaaS has not yet rolled out in fullscale. So, it is now able to find and implement just ordinary operating systems such as Window Server OS and Linux OS only (by some program providers).

Software-as-a-Service (SaaS), meanwhile, are services provided by the faculty to its departments and relevant parties so that they can access and use central apps such as the supply system. The faculty has planned to develop the apps that are accessible not just from desktops but also mobile devices in the hope of streamlining central-work process. SaaS will be for the faculty's internal use only. It is expected to transform some of physical desktop models to virtual desktop infrastructure over the next two years, which is part of SaaS.

Company

Faculty of Engineering, Kasetsart University (Bangkhen Campus) is a leading engineering institute in Thailand. In pursuit of internationally-recognized academic, research and innovation excellence, it has made it a mission to produce professional engineers who have well-rounded technical knowledge, competence, morality, ethics and social responsibility. It moreover has constantly expanded its research and academic services so as to win greater recognition and contribute to Thailand's sustainability.

Industry

Education

Business Need

- › To enhance the faculty's IT systems for greater agility and efficiency so that faculty members can produce quality graduates in the Digital Age
- › To improve the faculty's IT infrastructure to centralized that is easy-to-install, easy-to-manage, compatible with cloud systems, conveniently scalable, stable, secure and cost-efficient
- › IT-cost control that reduces IT-procurement budget, IT-personnel workforce, related cost and also IT-management time

Solution

- › Nutanix AHV Hypervisor with Self-Service
- › Nutanix Prism
- › Nutanix Acropolis

Benefits

- › Obtained a cost-effective hyperconverged solution, with enterprise-class features
- › Increased application speed by 43%
- › Eliminated day-to-day storage management
- › Accelerated deployments and simplified upgrades

Nutanix makes infrastructure invisible, elevating IT to focus on the applications and services that power their business. The Nutanix enterprise cloud platform leverages web-scale engineering and consumer-grade design to natively converge compute, virtualization and storage into a resilient, software-defined solution with rich machine intelligence. The result is predictable performance, cloud-like infrastructure consumption, robust security, and seamless application mobility for a broad range of enterprise applications. Learn more at www.nutanix.com or follow us on [Twitter@nutanix](https://twitter.com/nutanix).

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