

# KHON KAEN UNIVERSITY GAINS MISSION-CRITICAL PERFORMANCE AND MANAGEABILITY ACROSS NEW AND EXISTING WLAN INFRASTRUCTURE



Khon Kaen University (KKU) is one of the leading universities in Asia and is located in the Is-san region of northeast Thailand. KKU's Faculty of Medicine, founded in 1972, has a well-earned record as an outstanding institution for research, solving community health problems, and multidisciplinary teaching. Its 369 academic lecturers and 3,687 doctors, nurses, medical technicians and support staff in the faculty comprise one-third of the university's personnel. The student population numbers 1,200.

## THE NEED FOR MISSION-CRITICAL PERFORMANCE AND MANAGEABILITY

Like many healthcare organizations around the world, KKU depends on its wireless LAN to deliver quality patient care. KKU's network supports an electronic healthcare information system, an x-ray image archive, prescription records, and other mission-critical applications that doctors, nurses, and medical staff use on a 24x7 basis. In addition, KKU is in the process of developing a new custom application that will require wireless access.

Prior to deploying the Aruba solution, the Faculty of Medicine had approximately 100 "fat" access points (APs) from multiple infrastructure vendors. Because each of its APs operated as a standalone system, KKU could not troubleshoot problems or manage the network efficiently.

According to Dr. Potchavit Aphinives, associate professor in the Department of Surgery, "The network frequently exhibited poor performance. We knew that part of the problem was the hardware itself; but without a good way to troubleshoot, we could not always find the true root causes."

## REQUIREMENTS:

- Improve performance and manageability of wireless LAN without significant capital outlay
- Add coverage to new areas while improving performance for the existing network

## SOLUTION:

- Aruba 3400 Mobility Controller
- Aruba AP-61 access points (64)
- Aruba Policy Enforcement Firewall (PEF) for wired and wireless security
- Aruba AirWave 7 multivendor network operations management solution

## BENEFITS:

- Improved performance and manageability across the entire WLAN
- Increased uptime through faster troubleshooting
- Higher return on expenditures

## GETTING MORE VALUE FROM EXISTING INVESTMENTS

KKU decided that it would eventually have to replace its legacy network; but it also needed to expand coverage to additional areas in its facilities. "When we evaluated solutions, we were looking for a way to stretch our budget further by keeping the existing APs in place," Dr. Aphinives said.

## THE ARUBA SOLUTION

Working with its partner, World Information Technology, Aruba designed a three-pronged solution:

- Replace legacy APs in the areas with the worst performance and coverage
- Install a controller-based architecture, using the Aruba 3400 Mobility Controller and AP-61 access points, for the expanded coverage areas as well as the replacement APs
- Deploy a single operations management solution to manage service quality across both the new and legacy portions of the network

The Aruba solution consists of one Aruba 3400 Mobility Controller along with approximately 64 AP-61s. Aruba's AirWave 7 network operations management solution provides visibility and operations management across the Aruba architecture as well as all of the legacy APs. KKU uses AirWave 7 for configuration management and day-to-day troubleshooting. Aruba's Policy Enforcement Firewall (PEF) also plays an important role in the solution, providing security and user policy management.

### IMPROVED PERFORMANCE SUPPORTS MISSION-CRITICAL OPERATIONS

The Aruba solution, which went live in February 2010, has dramatically improved the performance of the wireless LAN (WLAN). The controller-based architecture has made the network much simpler to manage, while AirWave 7 has automated many tasks on the legacy infrastructure. In addition, Aruba's Adaptive Radio Management (ARM) technology has provided much better radio performance.

"ARM's automated interference management really makes our Wi-Fi coverage hassle-free," Dr. Aphinives reported. "And that translates into better service for our students, staff, and patients."

### FASTER TROUBLESHOOTING INCREASES UPTIME AND IMPROVES STAFF PRODUCTIVITY

AirWave 7 gives KKU a single interface to diagnose and solve problems – regardless of whether the problem stems from a legacy AP, an Aruba AP, a user authentication problem, or the RF spectrum. The faculty's IT staff need only type in the username to see a wealth of timely information that they can use to solve the problem. As a result, KKU's staff has been able to increase uptime on its legacy network and work much more productively across both networks.

"AirWave 7 has been easy for our staff to learn," Dr. Aphinives commented. "It has really improved their productivity across the new and old parts of our wireless LAN."

### HIGHER RETURN ON BUDGET DOLLARS

Eventually, KKU plans to replace all of its legacy APs with the Aruba solution. However, AirWave 7's ability to manage the new and old infrastructure side-by-side has been a huge advantage.



"Aruba offered the only solution that would let us expand coverage and improve network performance at the same time," Dr. Aphinives said. "Since we can manage all of our deployed APs more efficiently, we can offer better service quality and more value to our users."

### EXPANDING IN PARTNERSHIP WITH ARUBA

In addition to its plans to upgrade its entire network to the Aruba architecture, KKU is also exploring voice applications that will provide further benefit to its users from the same WLAN investment.

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#### Dr. Potchavit Aphinives

Associate Professor, Department of Surgery,  
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