



# All-in-one DDI Solution for King Saud bin Abdulaziz University for Health Sciences

## Challenge

- Complicated network setup with separate solutions for DNS, DHCP and IPAM services – error prone and expensive to run
- Strict security rules will soon prohibit foreign companies from providing remote technical support
- No central management system made DDI difficult to configure and maintain

## Solution

- Two **DNSBOX400s** in the university's headquarters in Riyadh and two **DNSBOX200** devices in each of the two satellite campuses

## Benefit

- Simplified and automated workflows make the updated network easy to maintain, troubleshoot and set up – saving network managers' time and effort
- The central management system allows the entire network to be fully reviewed and configured from any desktop computer

## About King Saud bin Abdulaziz University for Health Sciences

King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) is Saudi Arabia's first healthcare-specialist university. Established in 2005, it has three university campuses: one in Jeddah, another in Al-Ahsa and its headquarters in Riyadh. The university consists of 14 individual colleges and offers a wide range of undergraduate and postgraduate degrees with specialisms in the healthcare sector including medicine, dentistry and pharmacology.

## Individual DDI solutions for DNS, DHCP and IPAM

With approximately 8,000 users, KSAU-HS wanted to consolidate the separate DNS, DHCP and IPAM services in use across its campuses. Previously, each of the university's DDI solutions were administered separately, which caused a series of complex configuration issues. Recursive and authoritative DNS were controlled by Microsoft DNS, six separate Infoblox devices were operating the DHCP system and IPAM was managed via a Microsoft Excel spreadsheet.

Without a central management system, configuring and monitoring the DDI setup was time consuming and error prone for the network administrators as well as increasing the chance of network faults and failures. It also meant that the price of maintaining the various systems and their various licences was becoming more and more expensive.

As the university is overseen by Saudi Arabia's Ministry of National Guard Health Affairs, its network needed to adhere to military-grade security standards. For example, legislation coming into effect next year means that KSAU-HS will be unable to authorise foreign-based companies to access the system for routine or reactive maintenance. This will make service maintenance a real issue for the university; it needs on-site staff who can provide rigorous technical support whilst also meeting the country's strict security standards.

## An all-in-one solution

After an initial consultation, KSAU-HS chose a six-device solution including two **DNSBOX400s** at its headquarters in Riyadh alongside two **DNSBOX200** devices in each of its two satellite campuses. This solution offers both a centralised management system and simplified, automated workflows to make troubleshooting and resolving technical issues as easy as possible. It also provides the client with a robust failover system, which is a necessity due the critical nature of its computer network.

## Easy to deploy and even easier to manage

With **DNSBOX** deployed on the network, KSAU-HS has combined all three aspects of DDI into one dedicated device; this has drastically simplified the configuration processes and has allowed the university to monitor the entire DDI solution from one centralised, online location. **DNSBOX** offers clients a full holistic view of their network and is packed full of automation features to take the pressure off the network administrators.

For example, its integrated IPAM service means that DNS and DHCP systems are automatically updated with the latest IPAM information, thus preventing IP address assignment issues. It also automates configuration data to make sure that different features work together seamlessly and prevent data-configuration errors, such as DNS-zone serial-number updates, DNS/DHCP configuration data, zone signing and DNSSEC-key roll over, which work together to slash network administration time in half.

**DNSBOX's** zone signing and DNSSEC-key rollover capabilities incorporate an additional authentication layer, which provides extra security. The DNSSEC protocol adds cryptographic signatures to existing DNS records which the device can check to ensure that they have come from the correct authoritative name server. It also checks that the request was not altered or edited during the service-request process. This feature allows KSAU-HS to keep its network as secure as possible, guarantee service uptime and reduce the need for remote, technical intervention.

#### Tailor-made technical support

Usually, ApplianSys support engineers would resolve any technical issues over the phone quickly and efficiently. However, KSAU-HS will soon be unable to use this service due to imminent state-law requirements. Therefore, the university highly values having a reliable networking system that is easy to deploy and fix when needed. **DNSBOX** is purposely designed to be as reliable as possible and troubleshooted remotely, meaning it rarely experiences faults and when it does, they're easy to resolve from any location.

Thanks to ApplianSys's strong professional relationships with in-country support technicians, the university has access to a technical support team who meet the strictly set legal standards. Furthermore, **DNSBOX** can be configured to communicate only with authorised secondary devices meaning it cannot be located and exploited by hackers and its fully granular user groups give network administrators tight control over delegated users.

#### Putting network managers back in control

**DNSBOX** has made setting up, monitoring and troubleshooting KSAU-HS's network a straightforward task. Without having to log in to and configure each individual DDI platform, administrators can check on the entire network from one place and make sure all the different DDI aspects are operating properly. The system has not only been streamlined from a technical viewpoint but also from a financial one with only one licence to maintain.

When asked what **DNSBOX** features he valued the most, IT Director Anwar M. Bakhshwain, explained... "I would say it's the simplicity and flexibility of the solution and how easy it was to set up on the network. It was very straightforward. There were no hiccoughs or hidden technical requirements. I would also have to say the stability of the box, technically speaking, has been very positive and integration was very straightforward".

**DNSBOX's** automation and automatic-validation features make the easy-to-deploy system extremely robust as well. The vast majority of technical errors are avoided altogether and if a technical issue appears in the future, KSAU-HS has full peace of mind knowing it has a local support team ready to assist, ensuring service uptime for the university network's 8,000 users. This is not just something that KSAU-HS would like – but a fundamental legal requirement that the university has now met.



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**Anwar M. Bakhshwain**  
IT Director

