Hewlett Packard Enterprise

Objective
Modernize network to deliver campus-wide wireless access and establish foundation for next-generation services

Approach
Engage HPE partner Treo to implement HPE Networking solutions for software-defined networking

IT Matters
- Established software-defined networking (SDN) capabilities
- Achieved high quality of service to drive solutions such as Microsoft Lync
- Easily monitored and managed unified wireless and wired network
- Dynamically adjusted quality of service for maximum performance

Business Matters
- Enhanced technology services through campus-wide wireless access
- Established cutting-edge SDN capabilities for advanced solutions such as Microsoft Lync
- Adopted new technologies to increase differentiation in competitive higher education market

Istanbul Kültür University: ready for the future

Leading university delivers robust wireless access with HPE Networking solutions

Istanbul Kültür University needed to replace an aging network infrastructure to accommodate high-performance wireless solutions, including Microsoft® Lync®. The university selected HPE Networking solutions due to cutting-edge wireless and software-defined networking (SDN) capabilities.

In higher education, information technology (IT) has become essential to attracting and retaining students and improving staff productivity and effectiveness. The expectations for the latest technologies such as ubiquitous wireless access continue to rise, making it necessary for universities to continuously advance their IT services.

Istanbul Kültür University (İKÜ) is no exception. Founded in 1997, the university has seven faculties and three vocational schools distributed among three campuses. One of the top foundation universities in Turkey with 11,000 students and 800 staff, IKU must provide exceptional technologies to remain competitive.

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> "Once we learned about HPE SDN, we decided to start with an entirely new and more innovative network concept. We now see our network not as a burden that we have to maintain, but as a new realm of possibility."
>
> – Ender Ekici, Head of IT, Istanbul Kültür University

"Technology is a vital differentiator in higher education, so we need to stay a step ahead," says Ender Ekici, head of IT for Istanbul Kültür University. "Robust wireless networking and services such as unified communications have become competitive prerequisites for any higher education institution."

Reinventing the network

To better serve the needs of students and staff, İKÜ needed to upgrade an aging network that did not provide campus-wide wireless coverage or sufficient performance to implement new services such as voice over IP (VoIP). The university's IT staff began evaluating options for a replacement to its incumbent network. A key consideration was network simplification and streamlined management. Just two IT staff members at the university are available to manage the network. Previously, staff members were administering the network manually using command-line controls, a time-consuming and labor-intensive process.

Even more important, İKÜ needed exceptionally fast performance to support Microsoft Lync, a solution currently being implemented for 800 users on staff at the university. As Ekici and Network Manager Onur Candas planned to implement Microsoft Lync, they had serious concerns about Lync performance.

SDN: paving the way for the future

When Hewlett Packard Enterprise (HPE) partner Treo Bilgi Teknolojileri introduced İKÜ to HPE's software-defined networking (SDN) strategy and capabilities, technology leaders at the university became keenly interested. Resource-intensive applications such as Microsoft Lync, SAP, Microsoft Exchange, and Sakai for learning management are causing network traffic to grow exponentially at İKÜ. The university also has a large number of virtual machines (VMs) running VMware. All of these applications and VMs place high demands on the network.

To stay ahead and create a foundation for new service introduction, İKÜ needed a simpler, smarter, and more agile infrastructure. The IT leaders at İKÜ saw SDN as the key. Aware of the possibilities, Istanbul Kultur University decided to start with an entirely new networking concept—SDN—that would increase flexibility, enhance efficiency, and support new services options such as Microsoft Lync.

Their enthusiasm grew when Microsoft released an open SDN API to improve Lync performance. SDN puts a software abstraction layer between logical and physical resources that opens opportunities for automation and efficiency. SDN sets İKÜ up for the future

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with a programmable network that can dynamically change in response to business needs and enables rapid deployment of applications. For instance, with the Lync SDN API, engineers can create an environment where users connect to a front-end server in the Lync environment that initiates each media stream and provides ongoing information about each stream, user, and device. That API allows visibility into the characteristics, health, and metrics of each voice, video, and data media stream in the Lync environment, as well as information about user, location, and device.

"When we started the project to upgrade our wireless network infrastructure, SDN was not on our radar," says Candas. "But once we saw the power of SDN and HPE's in-depth support of it, we realized it could open a multitude of possibilities to enhance security, harness network programming and automation technologies, and test out efficient ways to introduce new services such as Lync. We realized SDN is the future, and it quickly became a top priority for our new network."

Unified network, simplified management

After evaluating several options, İKÜ engaged HPE partner Treo to implement a SDN solution from HPE. İKÜ chose HPE due to its cost-effectiveness, simplicity, ease of management, robust support of SDN, and HPE Lifetime Warranty covering all HPE Networking gear. In addition, HPE and

Treo are trusted partners with a long and successful track record at the university. Treo helped virtualize the university's server and PC infrastructures and has completed additional effective projects for İKÜ.

The new network comprises highperformance switches and the HPE Network Optimizer SDN Application for Microsoft Lync. The Network Optimizer Application dynamically provisions the end-to-end network path and Quality of Service (QoS) policy via the HPE Virtual Application Networks (VAN) SDN Controller, reducing the need for manual, device-by-device configuration to simplify policy deployment and reduce the likelihood of human error.

The unified wireless and wired network, which covers three campuses, interoperates seamlessly with a few remaining Cisco networking devices at the university. IKU can manage the network centrally through HPE Intelligent Management Center (IMC) and IMC Wireless Service Manager (WSM) to automate routine processes and gain a cohesive view into management of all networking components.

"From one central console—IMC—we can now easily manage our network with just two staff members. With WSM, we can see connected users and statistics to gauge performance and keep service levels high," says Candas. "We have dramatically simplified daily network operations and administration. IMC has made our lives much easier."

Customer at a glance

Application

• Microsoft Exchange

• Microsoft Lync

• Multiple open source applications

• Sakai

• SAP

Hardware
• HPE 2920 Switch Series

Software
• HPE Network Optimizer SDN Application for Microsoft Lync

• HPE Intelligent Management Center

Set for the future

For İKÜ, the new network means more than just connectivity. It not only delivers robust wireless access for faculty, staff, and students, but also sets the stage for the future. Through SDN support, the HPE network opens the way for innovation at the university, including higher quality of services, improved security, support of bring-you-own-device policies, introduction of new solutions such as Microsoft Lync, and more.

Although Microsoft Lync is still in the testing phases, it will soon be rolled out to the full staff and student body for use on their mobile devices so they can connect to the wireless network from anywhere across the university. Lync promises to reduce the costs of traditional phone services and provide unified communication capabilities such as mobile video conferencing and instant messaging.

"Once we learned about HPE SDN, we decided to start with an entirely new and more innovative network concept," says Ekici. "We now see our network not as a burden that we have to maintain, but as a new realm of possibility."

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