

Hewlett Packard Enterprise



Objective

Design a campus-wide wired and wireless network to attract and retain doctoral and graduate students

Approach

Engaged with HPE to connect and integrate multiple campus locations while unifying and simplifying network management

IT Matters

- Simplifies management with single-pane-of-glass view of network health
- Accommodates 70,000 Internet connections daily to students, faculty and staff
- Integrates with existing IPv4 networks while paving the way for IPv6

Business Matters

- Meets technical requirements of national Project 211 status for doctoral student training
- Extends connectivity beyond the classroom to outdoor and common areas
- Boosts network availability and reliability by eliminating single points of failure

Zhengzhou University boosts security and speed

HPE Networking extends reach and reliability of campus communications



Offering 11 major areas of study to a large graduate and doctoral student population, Zhengzhou University represents an integration of science, engineering, medicine, history, philosophy, literature, economics and law. It upgraded its wired and wireless networking with Hewlett Packard Enterprise to simplify network management while boosting performance and security profiles.

Challenge

Triple the expertise

Formed from the merger of three higher learning institutions in the summer of 2000, Zhengzhou University represents an integration of science, engineering, medicine, history, philosophy, literature, economics, and law. With 11 disciplines in total, the university's offerings have made it a premier destination of advanced learning in China's Henan Province.

Not content to offer its educational expertise on just a regional level, Zhengzhou University has also forged international alliances to benefit its students. At present, the university has exchange relationships with 84 institutions in more than 30 countries, including the U.S., Great Britain, France, Japan, Russia, and Canada.

“HPE Networking equipment offers us the ability to simplify our network structure while improving our authentication management, our security profile and our performance levels.”

– Gao Jinfeng, IT director, Zhengzhou University

In addition, the university is the only institution in the Henan Province to achieve Project 211 status—an honor that only six percent of China’s universities receive. Project 211 schools train most of the country’s graduate and doctoral students and they receive special government funding for improvements.

To retain and benefit these high-achieving students, IT leaders at the university knew they needed to upgrade their legacy networking environment. With a wide range of gear from varying vendors, mismatched management tools and software platforms, the network was difficult to manage. The result was a network plagued by performance bottlenecks with poor IPv6 support and no wireless coverage.

As wireless technology improved and Internet access speeds accelerated, IT leaders at the university realized a network upgrade could benefit students and teachers while supporting the mission of building an increasingly prominent regional university. The university wanted to design a wireless network that was accessible to students, faculty, staff and campus guests and that would deliver ubiquitous coverage in outdoor areas in addition to classrooms and administration buildings.

“We knew we had to strengthen the reach and reliability of our network,” recalls Gao Jinfeng, IT director at Zhengzhou University. “We wanted to move to a redundant core architecture that would help us simplify management and improve performance of aggregation layer devices.”

IT staff at the university auditioned technology from industry-leading vendors to assess the capabilities available to them, and decided that offerings from Hewlett Packard Enterprise would best meet their current and future needs.

Solution

Power at the core and beyond

To deliver a flexible network core that would meet Project 211 guidelines and boost performance, Zhengzhou University deployed a combination of HPE 9500 and HPE 7500 Switch Series in the core that offer high availability and eliminate single points of failure. With hardware-based IPv4 and IPv6 support built in, the university was able to achieve the dual- stack network it needed to make the transition to IPv6.

Case study

Zhengzhou
University

Industry

Higher Education

Customer at a glance

Hardware

- HPE 9500 Switch Series
- HPE 7500 Switch Series
- HPE F5000 Firewall Standalone Chassis

Software

- HPE Intelligent Management Center (IMC) Enterprise Software Platform
- HPE Wireless Services Manager Software module for IMC

Benefit

Unified management

“HPE Networking equipment offers us the ability to simplify our network structure while improving our authentication management, our security profile and our performance levels,” Jinfeng explains.

With the HPE F5000 Firewall Standalone Chassis delivering high-bandwidth performance from the campus core to the remote locations, long-time performance bottlenecks have been eliminated. With built-in protection against denial-of-service attacks and hacking attempts, the university has found speed without sacrificing security. The HPE F5000 Firewall Standalone Chassis appliances also bring email attachment filtering, application bandwidth management and audio/video IP multicast capabilities to university administrators.

The team at Zhengzhou University has gained another feature with its HPE Networking deployment: simplicity. The Intelligent Management Center (IMC) consolidates management of all of its various network elements in a single-pane-of-glass view, allowing network administrators greater visibility of the health of the entire network.

“Unified management of network resources through the IMC platform is an effective solution to reduce the complexities of managing alarms, performance, topology, assets, quality of service, traffic analysis, and security,” says Jinfeng.

Today, students and teachers are benefitting from the university’s network upgrade in tangible ways. Even before they attend their first class, students can securely enroll for courses online. Once enrolled, they are able to use the network to collaborate with classmates, whether through instant messaging or through Web-based applications that include the ability to use audio and video.

The network also gives Internet access to approximately 70,000 students, teachers and staff daily, regardless of whether these are wired or wireless connections. Using the Wireless Services Manager Software module for HPE IMC, the university IT team can manage wireless device configuration, topology and performance as easily as it manages its wired network environment.

The total HPE Networking solution has delivered on its promise of boosting services, speeds and security while simplifying network management.

“Tens of thousands of students, teachers, and faculty rely on our HPE network every day of the week,” concludes Jinfeng. “Because the IMC management platform is so simple and user-friendly, we are able to realize the total integration of our wired and wireless networks.”

Learn more at
hpe.com/networking



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