



Universidad Complutense de Madrid

A Centuries-Old University Builds a Network for the Future

Created by royal charter in 1293 as the Estudio de Escuelas Generales de Alcalá, and granted a founding accord by Pope Alexander VI in 1499, Universidad Complutense de Madrid was formed in Alcalá de Henares, known in ancient times as “Complutum.” Cardinal Cisneros, the University’s official founder, was committed to preserving Spain’s rich cultural heritage and the University embodied a humanistic spirit, which still exists today.

Industry:

Education

Challenge:

Deploying a state-of-the-art infrastructure—cost effectively

Solution:

X-Pedition™, Matrix™, and NetSight™ for a network that’s future ready

Benefits:

- Wire-speed performance and functionality to meet the demands of students, faculty and staff
- High capacity to handle demanding and diverse network traffic—like videoconferencing and telemedicine
- True investment protection thanks to technology that migrates seamlessly
- Guaranteed security and end-to-end Quality of Service (QoS)
- Network management for control and security

In 1836, during the reign of Isabel II, the University was moved to Madrid, and later, in 1927, a second University campus was constructed in Moncloa, on lands ceded by His Majesty King Alfonso XIII. This period in time has been called the “Silver Age” of Spanish culture, and University faculty of the day included José Ortega y Gasset, Manuel García Morente, Luis Jiménez de Asúa, Santiago Ramón y Cajal and Blas Cabrera.

Today, the Universidad Complutense de Madrid boasts more than 100,000 students, 6,000 faculty, and 3,400 employees, and has two campuses that span 36,000 acres. The University offers 70 degrees in the humanities, mathematics and natural sciences, health sciences and social sciences, as well as 207 doctoral programs.

The Challenge:**Deploying a State-of-the-Art Infrastructure—Cost Effectively**

The Universidad Complutense de Madrid network serves a dual purpose: supporting vital academic and research technology that makes the University a leader in Europe, and providing administrative and management functionality to keep the business of the University running smoothly.

To be competitive with other public and private universities, the Universidad Complutense de Madrid is committed to offering students, faculty and staff a state-of-the-art infrastructure that keeps

up with their changing requirements. At the same time, however, the University needs to balance these demands with its budgetary requirements and ensure a maximum return on investment.

As a result, the University sought to upgrade its existing network infrastructure to one that could ensure high availability, as well as the flexibility, scalability and bandwidth needed to provide features and functionality—from wireless networking and video conferencing to the transmission of high-resolution images and telemedicine—to meet user demands. In addition, the new infrastructure needed to protect investments, particularly those in FDDI technology, as it incorporated Gigabit Ethernet to provide advanced services. Importantly, the network needed to provide complete security.

The Solution:**X-Pedition™ Routing, Matrix™ Switching and NetSight™ Management for a Network that’s Future Ready**

An Enterasys customer for ten years, the Universidad Complutense de Madrid recognized that upgrading its network to meet these new requirements meant turning to Enterasys for a solution that would stand up to their needs today as well as those they anticipated for the future. Enterasys technology provided the flexibility and scalability to migrate seamlessly to future technologies while protecting investments in the current infrastructure. Only Enterasys offered this level of investment protection.

Today, the core of University's academic and research network consists of X-Pedition 8600 switch routers, which offer the capacity the University needs to handle its demanding and diverse network traffic, including video conferencing and telemedicine, as well as pinpoint control, simplified manageability, and full-function, wire-speed IP/IPX routing. With the 16-slot X-Pedition on the backbone, network throughput exceeds 31 million packets per second.

In buildings throughout the University's two campuses, the academic network extends over Gigabit Ethernet to the desktop via the Matrix E7 multilayer switch. When combined with the award-winning X-Pedition, the Matrix E7 delivers scalability, advanced functionality and guaranteed Quality of Service right to the end user—without sacrificing wire-speed performance. This means that all network users can count on consistent application performance. And in a university environment where the network is so critical, the Quality of Service built into both the X-Pedition and Matrix is important.

Universidad Complutense de Madrid's administration network makes use of its investment in FDDI technology and, like the academic network, provides connectivity to administration and management users via the Matrix E7. Designed to protect customer investments as they upgrade to new, higher performing technology, the Matrix E7 enables the University to retain FDDI technology as the network evolves to accommodate Gigabit Ethernet—at their own pace. The Matrix E7 preserves existing connectivity (and respective capital equipment investments), while seamlessly letting the University take advantage of new technologies and capabilities as needed.

The entire infrastructure is managed with Enterasys' NetSight Atlas, which provides the University with a higher level of control and security, as well as the ability to apply policies tailored to the demands of the user. NetSight Atlas also enables disk cloning and multicast, the remote implementation of software throughout the network.

With its upgraded Enterasys network, the Universidad Complutense de Madrid is able to take advantage of exciting new services and applications, including those for multimedia and image exchange between its two campuses, broadcasting and videoconferencing between campus centers, applications for specific research programs requiring high bandwidth (e.g., telemedicine, brain research, image transmission, etc.), wireless connectivity to log onto the network from laptops and other mobile devices, and high-speed Internet.

“Thanks to the new network, we can improve overall productivity, optimizing our investment,” said Mighel Baena, director of Information Technology, Universidad Complutense de Madrid. “Enterasys technology allows us to continue using existing equipment while protecting our previous investments, and offers the required flexibility and scalability to integrate new technologies in the future.”

The Future: Building on a 21st Century Infrastructure

The Universidad Complutense de Madrid network of the future will offer even more applications and services, such as personalized security adapted to user and department profiles at investigation centers, libraries, and department servers.

The University is also equipped to provide specialized services—like videoconferencing—on demand. High-speed connectivity will facilitate services such as remote medical diagnosis via videoconferencing when and where it is needed.

What's more, the infrastructure is fully prepared for growth and changing technology, including 10 Gigabit Ethernet.

Contact Us

For more information, call Enterasys Networks toll free at **1-877-801-7082**,
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