

# UPM deploys its VDI to optimize teaching and workstations



UNIVERSIDAD  
POLITÉCNICA  
DE MADRID

## NetApp and UPM: A strong relationship.

The Universidad Politécnica de Madrid (UPM) is ranked as one of the top 100 universities in the world in engineering and technology. It is made up of 16 schools, 1 faculty, and 1 affiliated center, as well as 14 research centers, with nearly 2,800 researchers, 5 research institutes, and 3 innovation centers.

UPM is the leading Spanish university in attracting external research & development and innovation resources. It is also the leader among Spanish universities in patents granted, with 11% of its budget derived from technology transfer activities.

**The university has gone from 30 to 50 pieces of equipment to thousands of virtual desktops**

“The aim of the escritorioUPM project is to provide support to the teaching practices of the UPM so that they can be carried out at any time, from any place, and with any device connected to the internet.”

**Víctor Robles**

Vice Rector of Strategy and Digital Transformation of the Universidad Politécnica de Madrid

The Universidad Politécnica de Madrid (UPM) developed a service, called “escritorioUPM”, that allows university administrators, teachers, and students to remotely access the Virtual Desktop Infrastructure (VDI) of the UPM. Now they can utilize virtual desktops with different operating systems and sets of applications based on the profile of each person at the University.

This project, which is fully aligned with the digital transformation strategy of the UPM, is required due to the need to amplify the university's resources. This requirement became more critical as a result of the challenges of remote teaching and work due to the pandemic. The solution provides students with a means to perform their practices without relying on physical facilities. UPM has integrated solutions from NetApp, Virtual Cable, Lenovo, and Lanmedia, making it possible to implement the project with thousands of virtual workstations.

#### Optimal results

The university conducted several studies with different technologies and manufacturers to test the feasibility of the results, assembling proofs of concept or prototypes to study their reliability. This preliminary phase made it possible to determine the correct design of the project components and finally to select NetApp® solutions for their high reliability, security, and performance.

UPM already provided IT services to all its members. These services are hosted in data centers, from which the UPM desktop service itself is offered. They have 2 NetApp AFF A800 all-flash storage systems, 96 Lenovo SD530 servers, 4 Mellanox SN3700C switches and 2 Mellanox AS4610 switches, Proxmox hypervisor, and UDS Enterprise as broker and orchestrator of the service.

According to Victor Robles, vice rector of Strategy and Digital Transformation at UPM, “As this was a large project, it needed to work flawlessly, as any small failure could mean the failure of the whole plan. Without all the pieces working in perfect sync, the project would not have been able to get off the ground.”

The main challenges that the escritorioUPM project faced were volume, support, and coordination. In addition, the infrastructure had to support thousands of desktops per hour for thousands of users, requiring maximum coordination of all components.

“The more than 40,000 students now have the ability to access their desktops from their study center, from home, or even from the bus,” says Robles.

Through the escritorioUPM project, it's easy to maintain both images and software. Management has been simplified, and some centers are even considering replacing physical classrooms with escritorioUPM clients. Specific images are also being implemented for other areas such as academic, economic, or personnel management.

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