Salerno University reduces TCO and simplifies governance

Salerno University

Industry: Education
Geo: Salerno, Campania, Italy
Website: http://www.unisa.it/

Applications

- VDI

- Virtualization

- Video surveillance

- University Research

Benefits

- **Simplicity of management**
  The University's infrastructure, however complex, can be managed with a single tool for orchestrating resources. An element that has, on the one hand, resulted in significant time savings for the IT team (which can devote itself to higher value-added tasks), and on the other hand, less stringent skill demands on staff.

- **Costs and reduced space**
  The hyperconverged infrastructure has not only saved 50 percent of the space allocated in data centers but also significantly reduced operating costs and consumption.

- **Increased security and faster recovery**
  The native features of Nutanix software allow the security level of data and applications to be raised and restarted after a crash in less time.

  Products:
  - AHV Virtualization

  - AOS Storage

  - Files Storage

  - Intelligent Operations

  - Nutanix Cloud Infrastructure (NCI)

Ready to get Hands-On?

Take a Test Drive

Salerno University chooses Nutanix hyperconverged solutions to implement an architecture for VDI and a sustainable, easy-

to-manage IT infrastructure.

INTRODUCTION

The University of Salerno (UniSA) dates back to the eighth century and grew out of the Salerno medical school, a reference throughout the Middle Ages. Today it is organized into two campuses: the Fisciano campus, which houses the humanities and technical-scientific area, and the Baronissi campus, dedicated to the medical and health professions area. From the 2023-24 academic year, three new courses of study at the University are housed at the new Avellino campus. With more than 300 study rooms, 22,000 square meters of research laboratories, 800 residential accommodations, two large central cafeterias, a widespread library center, sports facilities, and other facilities, the University of Salerno is a perfect marriage of campus and community of students, faculty, and technical and administrative staff. With an average of about 40,000 students, in recent years the University of Salerno has emerged as the second largest university in southern Italy in terms of enrollment.

> **The decisive turning point of the relationship with Nutanix was having perceived the quality of the services provided. Bits and Bytes sell them all, but understanding that there is someone who cares about your needs means you can trust them and then invest time and resources focusing on their projects and innovation.**
>
> **Salvatore Ferrandino,**
> CIO, University of Salerno

The challenges

Salerno University has always focused on digital technology both to provide better service to the faculty and student community and to create an optimal experience while living on campuses (which are populated 24 hours a day). It is for this reason, for example, that the University's infrastructure includes more than 40 thousand network points to serve the approximately 15 thousand people who experience the campuses daily, and a video surveillance solution with about 1,000 cameras.

The path of innovation

Interested as early as 2014 in virtualization and hyperconvergence issues, the university's IT team met Nutanix in 2015 after collecting a series of not entirely positive experiences. The university's needs were as simple as they were strategic: simplify infrastructure management, reduce costs (especially TCO), space and energy consumption, and increase data and people security.

A revealing error

Just during one of the first Proof of Concepts (POCs) carried out together with Nutanix in 2017, due to a trivial mistake, an engineer from the University's IT team cloned over 1,000 virtual machines in a matter of minutes, revealing the great potential of the Nutanix solution and making it preferred over alternative technologies, convincing even the skeptics on the team.

The solution

"We started by choosing Nutanix software to manage and reconcile different virtualization solutions," says Salvatore Ferrandino, CIO of Salerno University, "because we realized not only that it was right for us, but also that it could easily scale following our needs and our idea of infrastructure development. Also on the partnership front, with the Nutanix people we immediately noticed a definite shift relative to the level of service and meeting commitments."

The first challenging project carried out with Nutanix technology was the implementation of a VDI infrastructure, followed by the virtualization of the entire university server farm and a few years later by the upgrading of the video surveillance system, already equipped with several hundred cameras distributed across the two campuses but the subject of a plan for further development with the introduction of tools based on artificial intelligence. Needing GPU-equipped hardware, the University compares some available options and again prefers to use Nutanix hyperconverged solutions.

"We had already been using machines with GPUs for initial projects in VDI," Ferrandino continues, "benefiting from the great computing power of this type of platform. During lockdowns, for example, the power was used to implement virtual labs for remotely connected students."

The current infrastructure, in which Nutanix machines and software solutions have been integrated with pre-existing architectures, features 25 Nutanix hyperconverged nodes, the AHV virtualization solution, as well as AOS and Prism Pro for resource management.

The advantages

Video surveillance managed with simplicity and effectiveness

The first major achievement of adopting Nutanix has been to drastically simplify the management of the entire infrastructure. "Today we have about 400 servers managed by two people, who can also work remotely," Ferrandino explains, "whereas without Nutanix we would have needed one person for every two physical servers, a requirement impossible to meet." This is where the role of hyperconverged architectures has been key: with the Nutanix solution there is a single point of control and a single dashboard, with an ease of management that is impossible to achieve with three-component infrastructures.

The KPI related to Full Time Equivalent (FTE) has improved significantly, freeing up resources that University of Salerno can now devote to higher value-added tasks related to the innovation journey that obviously never stops.

TCO, space and energy: a whole different story

The introduction of the Nutanix hyperconverged architecture was in many ways a revolution for the University's IT. "Moving on the basis of the VDI project, which had shown a reduction in energy consumption and TCO," says Ferrandino, "we thought it was important to transfer this experience to the server world as well. The result was a 50 percent cut in the space occupied in the data centers, from 10 to 5 racks thanks to the consolidation of servers, storage (there is still a NAS component being decommissioned in this area) and networking. On the consumption front we have done even better, reducing them by 62.5% with an equivalent reduction in CO_2 emissions. In fact, the two 90 KW uninterruptible power supplies operating with the three-tier architectures had to guarantee 40 KW each, while now 15 KW is enough, of which only 10 for Nutanix machines and 5 for all other equipment (networks, WiFi)."

A step forward for safety

A not insignificant side effect of the implementation of the Nutanix architecture has been an increase in the level of security (thanks to the solutions' native tools) but especially in the time and manner of recovery after any attacks.

The future

Scientific research and even more effective storage management

The future of the collaboration with Nutanix includes the implementation, as part of the University research, of a land monitoring system (funded by PNRR and implemented in collaboration with ISPRA and with the help of a team of geologists) to monitor seismicity and hydrogeological situation. The project will be managed first in private cloud and then transferred to public cloud always under the governance of Nutanix software.

"Next year we have also already planned to adopt Files, for which we are studying and planning the implementation with a series of support and training services together with our partners at Nutanix."

Find out more at www.nutanix.com