Education Solutions - University of Sao Paulo - Case Study

The University of São Paulo Builds Latin America's Largest University Cloud

The University of São Paulo (USP) is the largest Brazilian university and the country's most prestigious educational institution. USP is also the largest institution of higher education in Latin America, with 100,000 students, 6,000 professors and 17,000 employees.

The Challenge: Supporting widely dispersed, remote locations

In spite of its status as a leading global university, USP suffered from a dispersed and substandard IT infrastructure. One hundred and fifty mini-datacenters were located in 11 campuses across nine cities, with limited local technical and managerial support; substandard energy and heat dissipation resources; and insufficient policies for data security and backup. Data stored on internal hard drives posed problems for data management and integrity. More than once, years of research was lost due to poor infrastructure, costing USP large amounts of money and undermining projects that could have saved or improved many lives or brought new innovations to market.

The Solution: Building a university-wide cloud with Citrix solutions

The "Nuvem USP" (Cloud USP), as it is called, was conceived and designed to provide on-demand, centrally managed virtual datacenters, with flexibility and security, backup, data replication and high availability. The USP cloud is built on servers virtualized with Citrix XenServer and orchestrated by Citrix CloudPlatform, with services managed and presented to all teaching and research units and areas as well as business users through a unified self-service portal built with Citrix CloudPortal Business Manager. Citrix powered desktops and streamed applications via Citrix XenDesktop are available to users anywhere on PCs, mobile devices and thin clients, using Citrix Receiver as a universal client. Citrix NetScaler provides cloud networking services including application delivery optimization and load balancing.

Key Benefits

Cloud USP greatly streamlines the provisioning of any type of infrastructure in a secure, flexible, and highly scalable environment. Teachers and researchers can start work in minutes by selecting the hardware and software they need through a self-service portal interface, eliminating bureaucratic delays, while managing their budgets in real time. USP's departments and laboratories can quickly and easily manage servers, storage and networks. Staff and students can use cloud-based apps to arrange meetings, access social networks and view files in a number of formats. Administrators use Cloud USP for email, payment, human resources, grade management and issuing diplomas and certificates. Graduate, postgraduate, research and university extension students can access educational content as well as scanned library and museum collections. For scientists, services focus on research with an emphasis on massive data storage as well as intensive compensation or processing.
With all data centralized and backed up in cloud datacenters rather than distributed across hundreds of hard drives, researchers no longer worry about losing valuable research data. Cloud USP also helps insulate users from disruptions such as strikes by student protesters, which can render key university buildings inaccessible, making it impossible for administrators and other users to reach their desks. With virtualized desktops available on-demand via Cloud USP, these individuals can now continue to work without interruption regardless of conditions on campus.

"Using electronic media as part of on-site teaching activities, while also providing educational content on digital media, is something we have to immediately integrate now that we are dealing with a generation of students who are digital natives," says USP Rector João Grandino Rodas. "The decision to pioneer and implement an innovative project of this scale is one of several strategic decisions to ensure that USP retains its position as one of the world's foremost universities."

Looking ahead

In the next phase of the Cloud USP project, the university will provide teachers, researchers, students and university staff with data sync, storage and sharing through Citrix ShareFile, making it simple to access and collaborate around information on any device. Designed to serve users of all backgrounds and needs, with the flexibility to adapt to new requirements, Cloud USP provides a foundation for highly productive learning experiences and scientific research throughout the university.