



University of Miami Gains Flexibility and DR Resiliency with Azure VMware Solution

Founded in 1925 in South Florida, the University of Miami is a private research university with more than 17,000 students.

Industry

Education

Headquarters

Coral Gables, Florida

About Microsoft

Microsoft enables digital transformation for the era of an intelligent cloud and an intelligent edge. Its mission is to empower every person and every organization on the planet to achieve more.

VMware footprint

Azure VMware® Solution, including VMware vSphere®, VMware NSX-T™, VMware vSAN™, and VMware HCX®

Key benefits

- Realized six figures in hardware savings with more economical cloud solution
- Averted more than five months of PO processing and supply chain delays
- Gained agility to support spike in virtual desktop needs during the COVID-19 pandemic

Home to one of the leading oceanographic institutions in the nation, including two U.S. Department of Commerce National Oceanic and Atmospheric Administration (NOAA) research laboratories, the University of Miami is well aware of the risks inherent to operating in a region known for hurricanes. To fortify its disaster recovery (DR) strategies, approximately seven years ago, the university's IT team turned to Microsoft Azure for a cloud-based approach to DR for key systems. By 2019, the university was well-positioned to run email, key human resources applications including payroll, and other business-critical systems without issue in the event of a natural disaster or other disruption.

Optimizing CapEx and OpEx

Opportunities for improvement remained, however. In early 2020, the university faced a hardware renewal milestone in one of its remaining colocation centers. Further, the IT team was supporting Windows Server 2008 and Windows Server 2012 in its environment, both of which were approaching end of life. However, the university did not have much appetite for capital expenditures for new hardware, let alone the necessary operational expenses for ongoing maintenance, such as firmware updates requiring manual intervention.

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Mari Lovo, Director of Cloud Infrastructure Services, University of Miami



Upon reviewing its options, the university decided to deploy Azure VMware Solution in lieu of pursuing colocation or a hardware-based approach. Deployed in Azure with an integrated set of Azure services, the solution includes VMware vSphere, VMware vSAN, VMware NSX®, and VMware HCX. While the University of Miami's IT team had been using vSphere and vSAN for more than a decade with its private cloud, Azure VMware Solution enabled support for VMware native-only products and systems that could not previously be migrated to the cloud, such as the university's firewall appliances.

"Azure VMware Solution gave us the opportunity to branch out beyond web-facing workloads in the cloud, to more of our critical infrastructure components, in a way that bolsters our environment's resiliency," says Mari Lovo, director of cloud infrastructure services, University of Miami.

Compounding cloud benefits

With Microsoft already contracted as the university's preferred cloud provider, the decision to go with Azure VMware Solution was easy. Not having to negotiate or renegotiate contracts saved the IT team the more than five months it would have needed to allow for negotiations and purchase order approval, not to mention pandemic-exacerbated supply chain delays for any solution requiring hardware.

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The Azure Hybrid Benefit offered by Microsoft also reduced the university's Microsoft Windows Server licensing costs. The benefit allows the University of Miami to use its existing on-premises Windows Server licenses for VMs in its Azure VMware Solution environment at no additional cost. Additionally, Microsoft's no-cost Extended Security Updates for Windows Server 2008 and Windows Server 2012 protect the university's workloads involving those, while freeing the university's IT team from manually handling Critical and Important-grade patches.

"Once the Azure VMware Solution environment was configured, moving systems with VMware HCX was quick and easy," says Lovo. "With Azure VMware Solution, there was no need to retrain our admins. For the most part, they could use their existing VMware knowledge."

While disaster recovery was the initial focus, the university is enjoying multiple benefits of greater resiliency and scalability. For example, when COVID-19 led the university to issue work-from-home orders, the IT team was able to use its Azure VMware Solution environment to quickly spin up virtual desktops. This allowed staff to get to applications they normally could only access on premises, even when the university's VPN strained under the sudden surge in demand.

"When we faced a need in getting additional equipment to triple our VPN capacity, Azure VMware Solution worked wonderfully to help us scale our VDI environment fast, with just a few button clicks. It serves as a great, on-demand safety net for bottleneck scenarios, like when we suddenly need to deploy several hundred virtual desktops for labs," says Michael Lecuona, systems architect, University of Miami.



With Azure VMware Solution, the university's IT team can rightsize project environments in terms of CPUs and RAM, plus automatically turn off machines when they're not in use. As a result, the university can be more efficient with its IT budget.

Looking ahead

The University of Miami is currently in an eastern U.S. data center for Azure VMware Solution, with a goal to expand to a western region for redundancy between the two. In addition, the IT team may look at moving its data warehouse, currently in a native Azure cloud, to its Azure VMware Solution environment.

"With our native Azure platform and Azure VMware Solution, particularly during the pandemic, we've been able to demonstrate to leadership and people outside of IT the value of the resiliency we've invested in over the years. We can be much nimbler as we support the university's evolving infrastructure needs moving forward," says Lovo.

More secure and responsive

The IT team sees security improvements as one of the most important benefits of Azure VMware Solution. "For our on-premises environment, we couldn't get the same denial-of-service protections that we now have for our cloud environment without investing a lot in infrastructure," says Lovo. "In the case of a recent, extremely critical vulnerability, Microsoft patched it for us automatically before it was even made public. That's priceless peace of mind for us."

When new projects come up, many times those can be supported with the university's cloud environment using a simpler funding governance process, avoiding the lengthier purchase order process through the accounting and vendor management teams on top of legal contract review and security reviews. "It shaves months off our turnaround times from discovery call to deployment. Once we have leadership approval, we can often get internal customers set up with the resources they need in a day," Lovo says.