



TEXAS TECH UNIVERSITY SYSTEM

INDUSTRY

Higher Education

LOCATION

Lubbock, Texas

KEY CHALLENGERS

- Application performance issues and inefficiencies
- Complex and time-consuming IT processes
- Costly legacy infrastructure

SOLUTION

Texas Tech runs IBM Cognos on VMware vSAN to address application performance issues and gain process efficiencies.

BUSINESS RESULTS

The VMware vSAN solution improves performance by 20% for Cognos reporting and gives teams access to new features and capabilities that drive operational excellence across the board.

VMware vSAN Drives Improved Performance and Efficiency

Texas Tech achieves a 20% performance boost running IBM Cognos on VMware vSAN

To help manage IBM Cognos, the system's resource-intensive reporting engine, Texas Tech turns to VMware® vSAN™ to provide peak performance and tap into the advantages of virtualized storage.

Texas Tech University System (TTUS) consists of four component institutions and operates at multiple campuses and academic sites across Texas and internationally. Focused on advancing higher education, health care, research and outreach, TTUS is taking a leading role in meeting the global challenges of today and the future. Behind the scenes, its IT department is working toward this same mission, moving the component institutions closer to achieving their goals through innovative technology solutions.

Many departments within the system rely on sophisticated reporting to make decisions every single day. IBM Cognos—a reporting engine for the entire system—is at the heart of this process. Cognos connects to many data sources for reporting, but primarily draws from the Ellucian Banner database and ODS, the operational data store. For reporting processes to work smoothly, these resources must be available, and system stability and speed are critical. With thousands of users trying to run reports, personnel at each of the institutions don't have time for slow or failed reports.

Application Challenges

While Cognos is a powerful application for Texas Tech, it's also considered a resource hog. "All of the data used for reporting is being moved from the original data sources down into the Cognos dispatchers where it is assembled and rendered for reporting," says Dustin Jordan, Associate Managing Director of Technology Operations & Systems Management. To run reports, the system must be able to handle a lot of data moving in and out. "It's the most resource-intensive system that we have," he adds.

Cognos is designed for ease of use, but its simple-to-use interface often creates queries that are extremely inefficient, with thousands of lines of embedded SQL statements. "The software does a great job of providing the end users with the information and format they desire," says Jordan, "but it creates a tremendous amount of pressure on system resources to provide those reports."

“When comparing latency numbers on vSAN versus our previous storage array, we’re actually seeing a 20% performance improvement overall for Cognos reporting.”

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VMWARE FOOTPRINT

- vSAN 6.7u1

APPLICATIONS VIRTUALIZED

- IBM Cognos

LEARN MORE

Discover the VMware vSAN advantage in terms of system performance and operational efficiencies. Visit us at vmware.com/vsan.

While a storage platform isn’t going to fix inefficiencies in the application, IT leaders recognized that a highly performing storage infrastructure could help mask it. And that’s one of the reasons why they turned to VMware vSAN.

VMware vSAN Delivers Performance Gains

In July 2018, TTUS’s IT migrated from its existing storage array to vSAN. On one hand, they were hoping to achieve equal or better performance compared with their existing storage array. On the other, they wanted to reap the many process and cost efficiencies that come with virtualization.

“With our move to vSAN, we wanted to make sure that it could handle the type of I/O necessary with this application,” says Jordan. It turns out vSAN is exceeding expectations, delivering performance improvements in terms of reduced latency and better stability. “When comparing latency numbers on vSAN to our previous storage array,” says Stoney Streety, Enterprise Systems Analyst, Cloud Infrastructure Team, “we’re actually seeing a 20% performance improvement overall for Cognos reporting.”

System stability is also part of that performance gain, which, of course, bodes well for end users. “Cognos has been more stable since it’s been running on this all flash cluster,” says Jordan. While he attributes some of this stability to a major Cognos upgrade, he agrees that vSAN is partly responsible. “Since December, we’ve experienced a drastic reduction of emergency system restarts for Cognos.” This means fewer obstacles for personnel when running the reports they need.

Key Benefits

While vSAN has proven itself on the performance front, IT teams are also experiencing a broad range of other benefits.

Operational Efficiencies

Texas Tech turned to vSAN specifically for key features they could not get with their existing storage platform. Capabilities such as erasure coding, alerts, triggered actions, and automation combine to simplify tasks and create storage efficiencies that save time and money.

All-in-One Convenience

VMware vSAN integration was another key selling point for Texas Tech. With fewer layers to address from an administrative perspective, IT can more quickly and easily troubleshoot issues. Previously, there were different teams in place to manage the storage and compute; now they have the same people managing both pieces, which streamlines processes significantly.

Upgrades are easier with vSAN. “Storage is included with [VMware ESXi™ and VMware vCenter®] upgrades, so everything is upgraded at once,” says Streety. And, he adds, the footprint is much smaller, “We don’t have these huge storage arrays taking up entire server racks anymore.”

Visibility and Metrics

A key benefit of vSAN, especially with regard to Cognos reporting, is the visibility achieved through vSAN metrics. “I can see when something is going on—like a spike in latency with a particular VM,” says Streety, “and we’re able to mitigate the issue before it becomes a bigger problem.”

Fewer Help Desk Calls—A Win for All

Because IT can be more proactive and nip problems in the bud, it's not spending the same amount of time troubleshooting issues. As a result, it's spending less time on the phone helping end users with system crashes and failed reports. "This frees up everybody's time," says Ryan Curry, Assistant Managing Director of Infrastructure and Operations, "including the staff that has to stop and report the issue."

Cost Savings

All these features combine to create additional cost savings for the university. High maintenance costs with the previous array were problematic, and something that prompted TTUS's transition to vSAN. "We have a lot of infrastructure that we have to keep up. The maintenance contracts alone for our previous Fibre Channel SAN infrastructure really drove us to vSAN," admits Jordan.

Looking Ahead

While Texas Tech's vSAN solution is still relatively new, IT leaders are committed to the technology. "As far as we are concerned," says Curry, "vSAN is our strategy" moving forward. The university is looking to utilize its new storage infrastructure to the fullest, running Cognos and other applications on the same vSAN cluster. "We've now moved all production VMs to vSAN to take advantage of the extra performance it's able to provide," says Streety.

Running multiple applications on the same vSAN cluster not only increases utilization but also moves Texas Tech closer to operational excellence—via centralized management, one pane of glass, one set of tools, and one learning process across applications.

While university personnel may be none the wiser about what happens behind the scenes, they're content that they're getting the reports they need in a timely manner. IT, in turn, is living and breathing the advantages of vSAN on a daily basis—through innovations that simplify and streamline operations—making it that much easier to support the university, its personnel, and students.