

Academic Health Center drives business continuity and operational efficiency with Virtana



ABOUT

Industry
Healthcare

Headquarters
USA



OBJECTIVE

Overcome lack of infrastructure visibility and reduce or eliminate outages.



RESULTS

Comprehensive insight into metro cluster performance discrepancies before they become outages

ABOUT Academic Health Center

This Academic Health Center, primarily a graduate education university, educates a large number of healthcare professionals. Academic Health Center includes the schools of dentistry, biomedical informatics, medicine, nursing, public health, and the graduate school of biomedical sciences. The academic health center is accredited to award certificate, bachelor's, master's, doctoral and professional degrees. Three Academic Health Center faculty practices treat patients in a variety of clinics: Physicians, Dentists, and Health Services.

The school offers graduate education leading to proficiency in the skills needed for public health careers. The main campus offers four degree programs. The regional campuses provide master's and doctoral-level education to individuals in areas geographically distanced from it.. This allows faculty and students to target public health issues relevant to the communities in which they are located.

“
With the Virtana Platform, we can help guide other groups and teams on what to do regarding problem resolution.
”

Vice President
Enterprise Storage and SAN Team Manager



THE CHALLENGE:

A highly-distributed environment containing sensitive information that requires ready availability at all times

The principal challenge in the environment was the lack of infrastructure visibility. Every status element in the highly-dense converged IT environment was manually collected. Collecting disparate spreadsheets and logs from hosts and then manually correlating them with storage systems proved a lengthy and staff-intensive operation. This process would take days and weeks to implement, eliminating any possibility of real-time visibility into their systems. The Health System achieves business advantage through uninterrupted business applications and medical health records efficiency. The core strategy is to provide a highly available data center environment to all business and healthcare applications to ensure company, customer, and medical access to key information systems during regular and critical environmental occurrences.

The converged FCoE to native fibre channel data paths must work seamlessly and efficiently across data centers under heavy virtualized stress and with thousands of multi-tenant users. As the organization grows, The Academic Health System aims to optimize and consolidate data center resources and apply automated IT performance and health monitoring to address the dynamic and challenging medical personnel and student-body application use cases, and protect it from failures or outages that could cause serious damage to the organization. This means achieving a careful balance of business continuity and operational efficiency.

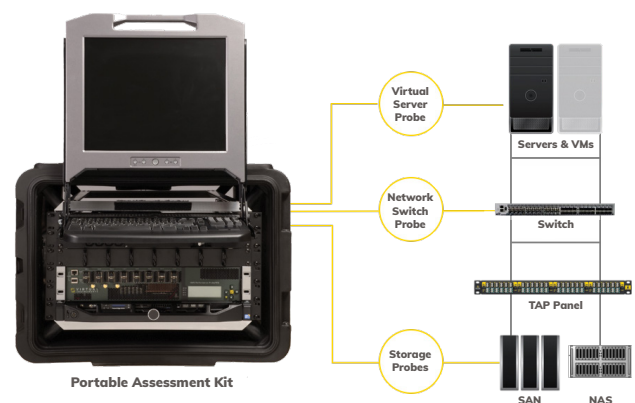
GETTING STARTED:

Infrastructure Performance Assessment

They asked questions that many organizations are looking for answers to: “We have too much to try and manage to do without automation. What is our baseline? Where are we?”

They started by assessing their existing IT environment with an Infrastructure Performance Assessment service from Virtana to:

1. Select the right storage technologies and products.
2. Optimize configurations; Reduce overprovisioning.
3. Mitigate deployment risks.
4. Safeguard consolidation or migration projects.
5. Implement a change validation process for production SLAs.



Challenges impacting performance:

Complex, increasingly hybrid application infrastructure
 Virtualized environments **lack visibility** into storage performance
Difficult to predict availability and performance issues
 Understanding the **risks** of **migrations, upgrades and new deployment**
Predicting how the application will perform **in the cloud**

Figure 1: An IPA provides all the instrumentation and visibility for an initial health check

THE SOLUTION:

The right set of tools to give the Academic Health Center comprehensive visibility

The Academic Health Center struggled for months to understand inconsistent performance levels at each data center. Specific applications and processes would run normally in their Citrix ADC environment in one data center and then would experience massive delays of up to 10x in the other data center with the same underlying infrastructure. The IPA determined that a Converged Network Adapter (CNA) mismatch was the fault. I/O delays inside the cards produced a load-balancing mismatch across the data centers affecting application performance.

The IPA analysis also found significant inconsistencies between data centers. The Academic Health Center checks on multi-pathing, VM health, and storage fabrics helped IT to have visibility and optimize their infrastructure to meet the demands of their users.

Storage resources and network gear are the easiest to blame for performance issues. By deploying the Virtana Platform, they received fact-based answers and eliminated red herrings during IT problem root-cause assessments.

THE RESULTS:

Immediate visibility into performance changes and data driven insights that reduce MTTR

The biggest value this Academic Health Center gained from the Virtana Platform was the ability to see what was happening in realtime throughout its entire infrastructure. Virtana Platform's applied analytics helps them focus on issues that matter most and on critical metrics, proactively alerting IT to a SAN link anomaly before it goes down.

The Academic Health Center also achieved comprehensive insight and identified major ongoing performance issues during normal operations. They reduced risks of major infrastructure changes through rapid visibility into performance implications of changes, identified serious data center sync discrepancies and remediated issues, and optimized storage network through end-to-end insight into performance and utilization.

The Academic Health Center is now armed to demonstrate to stakeholders (primarily DBAs) what was happening at each layer of I/O traffic and show the entire round trip. Insights into what each layer is doing while providing visualizations and correlations of what else is happening either at the application, DB, or at the converged side of the infrastructure, greatly accelerated their consultative IT troubleshooting processes.

They are now leveraging Virtana's Trend Matcher Analytics to make data-driven decisions that reduce MTTR. Future deployments include using Virtana to gain greater visibility into the converged infrastructure architecture natively.

