From the Classroom to the Clinic, Touro College of Dental Medicine Delivers Seamless Education and Patient Care with ExtraHop

HIGH UPTIME IN THE LAB AND CLINIC FOR STUDENTS AND PATIENTS

IMPROVED PROTECTION OF PATIENT DATA WITH VISIBILITY INTO INSECURE PROTOCOLS

COLLABORATION WITH VENDORS TO ENABLE ENTERPRISE-READY APPLICATIONS

EXECUTIVE SUMMARY Touro College of Dental Medicine is a pioneer in teaching and providing cutting-edge digital dentistry. To support this mission, the college relies on a complex and diverse application stack that spans clinical operations and education facilities, including labs. In order to deliver the best education and the highest-quality patient care, they needed a unified way to monitor performance and security across this environment. For that visibility, they turned to Hudson River CIO Advisors and ExtraHop.

THE BEGINNING

Touro College of Dental Medicine (TCDM), in Hawthorne, New York, offers a four-year predoctoral program and a 117-chair dental clinic that provides affordable dental services to the local community. The school is one of the first in the nation with a curriculum dedicated to digital dentistry, teaching state-of-the-art technologies and using the latest equipment and tools to enable more efficient, patient-friendly dental care.

As a pioneer in digital dentistry education, TCDM needed an IT system that could seamlessly support advanced technology and an innovative curriculum for hundreds of students, faculty, and patients. The system needed fluidity to allow students and staff to move easily from the classroom to the simulation lab to the clinic throughout the day. It also needed to be extremely reliable, with a high-performance infrastructure to support the graphics-intensive workloads required from x-rays, 3D dental imaging and printing, and computer-aided manufacturing (CAD/CAM) milling machines.

THE TRANSFORMATION

To meet their demanding availability and consistency requirements, TCDM looked to IT managed service provider Hudson River CIO Advisors to build out a scalable environment, delivered through NVIDIA GPU enabled Citrix Workspaces, that offered the performance their students and staff required.

Behan Venter, co-founder and managing director, and his team at Hudson CIO, were brought in 90 days before the launch of the school to get the environment up and running. "We managed everything from engineering and design to sourcing and deskside support, saving TCDM from having to hire extra IT staff," says Venter. "Today, we continue to manage ongoing operations from our Enterprise Operations Center, a fully-staffed, 24x7 monitoring hub."

But the IT environment at TCDM extends beyond the datacenter to labs and the clinic. It includes dental manikins equipped with sensors for state-of-the-art training, and clinical applications running graphics-intensive workloads. It also involves the processing of sensitive patient data for hundreds of patients each day. For Hudson CIO, ensuring consistent performance across this complex infrastructure required real-time visibility and alerting, and the investigation capability needed to quickly respond to issues before they impacted operations.

"Any time Hudson CIO works in a complex environment – especially involving Citrix – we bring ExtraHop in for the visibility we need," says Venter. "There is no other solution on the market that can provide correlated visibility across the application payload, filter out the noise, and get you down to the exact issue as quickly as ExtraHop can."

"Digital dentistry requires a sophisticated, and robust technical infrastructure that is not deployed easily," says Edward F. Farkas, D.D.S., Vice Dean of the Touro College of Dental Medicine (TCDM). "At TCDM we are committed to investing in cutting-edge technologies to support our students. ExtraHop has been critical to that effort."

THE BENEFITS

Mitigation in Minutes, Not Weeks

With ExtraHop, the team has a dynamic, real-time view of all interactions across their diverse IT, clinical, and training systems. This unmatched visibility into application and network behavior allows the team to quickly identify and mitigate performance shortfalls before they can impact teaching and clinical operations.

In one instance the team at TCDM and Hudson CIO noticed an issue involving image transfers from an x-ray machine. This type of error could easily impact operations and patient care if it wasn't resolved quickly. With ExtraHop, the team was able to quickly trace the path of the image transfer from the PC, to the x-ray room, through the network switch, all the way to the Oracle server where a database transaction error was occurring. This issue, which would typically have been attributed to the network and require weeks to trace back, was solved in a matter of minutes using ExtraHop.

Becoming Enterprise-Ready

One of the biggest challenges for TCDM is that they are providing dental care on a much larger scale than a typical practitioner. With nearly 400 patients a day, not to mention education and training operations, their operations are more aligned to that of an enterprise than a typical dentist's office. For many applications commonly used by dentists, scaling to meet TCDM's needs presents a new challenge.

"Many of the applications used in dentistry are typically designed for sole proprietors, not enterprise-scale environments," explains Venter. "With ExtraHop, we're able to work with these third-party vendors to provide very specific feedback to help them become enterprise-ready. Every change they make, we can use ExtraHop to determine whether performance has improved."

Securing the Environment

In an environment that handles such large amounts of patient data on a daily basis, security is the highest priority. The team at Hudson CIO leverages the visibility and real-time alerting and threat detection provided by ExtraHop to maintain secure and HIPAA compliant use of patient data. The platform is used to analyze and vet third party software being considering by the school to ensure they are utilizing secure protocols when transferring sensitive data, and alerts to any potential data exfiltration.

One of the most pressing concerns for IT teams in any healthcare organization is Ransomware. To address this looming concern the Hudson CIO team installed the ExtraHop Ransomware detection bundle, alerting them to threats in real-time. The team then wrote a custom script, triggered by the ExtraHop alert, that autonomously isolates the potential infection allowing their analysts to safely investigate.

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BEHAN VENTER,
CO-FOUNDER &
MANAGING DIRECTOR
AT HUDSON CIO

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