Kelsey-Seybold Clinic
Your Doctors for Life

Overview

The need
Kelsey-Seybold Clinic needed high-performance, cost-effective compute, storage and virtualization capabilities to improve patient care and support growth in medical specialties and patient visits.

The solution
Kelsey-Seybold deployed IBM® Flex System®, IBM FlashSystem™, Citrix XenDesktop, Citrix XenApp and Atlantis ILIO storage optimization software.

The benefit
Using a single IBM FlashSystem, the clinic supports more than 3,700 virtual desktops, 90 percent data reduction, and four times better total cost of ownership compared to competing all-flash storage.

Kelsey-Seybold Clinic

Delivers high-quality patient care with virtualized desktops, IBM Flex System and IBM FlashSystem

Serving the Houston area with a network of 20 ambulatory healthcare facilities, Kelsey-Seybold Clinic is the nation's first accredited Accountable Care Organization designated by the National Committee for Quality Assurance. More than 375 physicians in 50 specialties and a full-time staff of nearly 3,000 serve more than a half million patients and approximately a million visits a year—while clinical services and technology needs grow rapidly. Services and operations at Kelsey-Seybold are supported by an IT team of approximately 140 and a full array of server, storage, networking and clinical technologies.
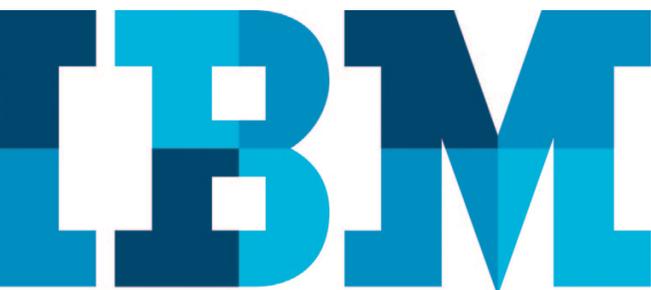
Ensuring that patient care is best-in-class
In the late 2000s, Kelsey-Seybold determined that if the clinic wanted to continue supplying patients with best-in-class services, elements of its technology infrastructure would need to be refreshed. The focus of change was to improve the operation and use of its Epic electronic medical records (EMR) solution by upgrading the server and storage systems—and later by implementing virtualized desktop infrastructure (VDI) capabilities—to enable clinicians to more efficiently and effectively deliver patient care.

Kelsey-Seybold Clinic enhanced servers and storage supporting its Epic solution and provided virtualized desktops to improve and expand services.

Solution components

- IBM® Flex System®
- IBM FlashSystem™ 840
- IBM SAN Volume Controller
- IBM DS8000®, IBM Storwize® V7000, IBM XIV® Storage System
- Atlantis ILIO
- Citrix XenDesktop and Citrix XenApp

From the physician standpoint, explains Martin Littmann, chief technology officer and chief information security officer at Kelsey-Seybold, the goal was to remove interruptions from the practice of medicine. "There's an expectation that they're going to get a very responsive interaction with the EMR. We want to ensure that physicians aren't waiting for system responses in their conversations with patients."

From the patient standpoint, the goal was also to use technology to remove barriers. "Patients have seen the elimination of paper," Littmann explains. "They now have the ability to sign up and gain access to their own private information through a secure patient portal."

Evolving clinic capabilities with virtualization

Kelsey-Seybold had already implemented an Epic EMR system on IBM Power® 770 servers while virtualizing other applications and services on other IBM servers. The task was to extend virtualization to desktops to make the EMR system more accessible. At the same time, to accommodate the massive amounts of data produced by its enterprise applications, the clinic needed to enhance its storage environment that included IBM DS8000® series, IBM Storwize® V7000 and IBM XIV® Storage System storage devices.

To achieve its goals, Kelsey-Seybold engaged IBM Business Partner Mark III to assist with the revamp of its storage and server infrastructure. The solution included the IBM Flex System solution and IBM FlashSystem storage systems for the VDI solutions, IBM SAN Volume Controller (SVC) for storage virtualization, the Citrix XenDesktop solution for delivering virtual desktops and Atlantis ILIO software for accelerating performance, lowering cost and increasing scalability of its virtualized systems. Such a large-scale implementation meant that, to maintain operations while bringing improvements on board, the organization needed to evolve rather than replace its existing infrastructure.

Kelsey-Seybold worked with IBM and its key partners to implement a solution that could achieve patient care results that are far-reaching—the clinic supports 5,000 endpoints across its 20 sites. It also achieved business results—its high-performance, robust desktop virtualization implementation helps avoid wasting storage capacity and helps applications avoid the risk of outages during peak usage. This solution is also scalable, enabling Kelsey-Seybold to expand and continually improve care.

"As we've needed to make additional investments in technology, we've continued to come back to this: The answer is still an IBM solution for us."

—Martin Littmann, Chief Technology Officer and CISO, Kelsey-Seybold

Continuing to grow and improve with IBM

The new IBM Flex System and IBM FlashSystem capabilities are key to the evolution of the infrastructure. "Our virtual desktops are used in our contact center, nurses' stations and reception areas," notes Chris Breaux, manager of enterprise technology systems at Kelsey-Seybold. "We have people in IT and business operations using non-persistent and persistent virtual desktops."

IBM Flex System provides a simplified, flexible and reliable infrastructure to accommodate the clinic's business needs. Compute nodes, storage solutions and network switches can be housed in one chassis, simplifying procurement, deployment and systems management. For compute functions, IBM Flex System x240 provides the performance and reliability that a healthcare facility needs. Deployed as virtualized servers that support the Epic EMR client software and virtualized desktops, IBM Flex System x240 is, as Breaux puts it, "our go-to strategy."

IBM FlashSystem 840 and data virtualization meet the demanding input/output storage requirements of the VDI environment, where the need to access records and information can vary widely depending on clinical use, but where speed is always critical. Levering IBM FlashSystem, SVC and Atlantis software for in-line compression, Kelsey-Seybold was able to support achieve 75 percent data reduction through in-line deduplication and compression and achieved four times lower total cost of ownership when compared to competing all-flash arrays. Optimized by the Atlantis ILIO solution and configured with the Epic EMR system delivered by Citrix XenApp, this integrated solution enables Kelsey-Seybold to enhance delivery by quickly accessing information and eliminating long wait times while supporting 3,700 virtual desktops per IBM FlashSystem. Faster data access and application performance can also speed and streamline back-office functions for more effective business operations.

Taken together, the upgraded Epic EMR solution deployed on IBM and partner solutions provides a high-performance, highly responsive platform to meet the clinic's needs today and tomorrow.

For more information

Contact your IBM representative or IBM Business Partner, or visit:
ibm.com/storage/flash and **ibm.com**/flexsystem

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www.atlantiscomputing.com/

To learn more about IBM Business Partner Mark III Systems, visit:
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