VIYU AND PURE STORAGE HELP SPECTOCOR DELIVER CRITICAL CARDIAC MONITORING SERVICES TO CLINICIANS WORLDWIDE

OVERVIEW

New healthcare technologies are being employed every day to improve the lives of patients worldwide. At the leading edge is Spectocor, a provider of remote cardiacmonitoring services.

Patients are prescribed devices that monitor their heart activity and report back the results over cellular telephone networks. Spectocor technicians analyze the results and send reports to the clinicians whose patients are being monitored. The company's services are superior to traditional methods because its reports provide more detail, are easier to understand and are more quickly available. The comprehensive online reports are available to clinicians 24/7, 365 days a week anywhere in the world.

Technology plays an absolutely essential role in Spectocor's service. "We're not just a heart-monitoring company. We're a technology company that provides heart-monitoring and other telemedicine services," says Joe Khan, chief information officer of Spectocor. It's Khan's job to ensure that the company employs the latest technologies that will improve both the company's non-stop monitoring services and its bottom line.

PURE STORAGE: MORE THAN JUST FLASH

That's why he switched from disk-based storage to FlashArrays from Pure Storage.

"The 'speeds and feeds' advantages of flash versus disk-based storage are pretty much a given today," Khan says, "but that's not the reason I went with Pure." Rather, Khan was impressed by how Pure has taken a leadership position in flash storage with an architecture that is designed for long-term scalability and on-the-fly upgrades that don't interrupt vital patient monitoring services. For Khan, the benefits of Pure's solution are aligned with his goals of ultra-high reliability, maximum data-retrieval performance and optimal cost-efficiency.

Storage is an essential enabler in Spectocor's IT infrastructure. More than 10,000 devices – such as pocket ECGs, looping event monitors and handheld event monitors – are prescribed to patients. Each device sends real-time data to Spectocor that is analyzed by certified cardiac technicians who prepare web-accessible reports for clinicians. In cases where data from a patient indicates a potentially life threatening issue requiring urgent attention, Spectocor will notify the clinician immediately. "We capture every heartbeat from every patient, and analyze the data in real-time," Khan notes.

Consequently, Spectocor's storage system has to deliver optimal response time, not only when capturing raw patient data, but also during data analysis of several thousand patients concurrently.

DOWNTIME IS NOT AN OPTION

Of foremost importance to Khan is reliability and availability. "We have zero tolerance for system downtime," he says, given the company's critical care commitment to physician partners and clinicians. Pure Storage alleviates any of his concerns in this respect. Upgrades, software changes and system expansion can all be done on the fly, in real time without service interruptions. "This is much different from competing storage systems that have to be taken offline for maintenance," Khan says. "That's a big deal for me."

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JOE KHAN
Chief Information Officer, Spectocor

Khan says FlashArrays from Pure are "bullet-proof". "I've gone out of my way to pull cards, pull cables, pull storage controllers and it just keeps working. I've literally tried to destroy the Pure array and it just won't let me."

Next in importance is performance, which Khan translates to efficiency. "The faster we can turn patient data, the more we can increase operational efficiency, which means we can take on more with the same amount of effort," Khan says. Pure Storage meets this requirement as well, consistently delivering sub-millisecond response times and greater IOPS. For Khan, a technical spec like consistent sub-millisecond data retrieval performance equates to profitability. "Getting low latency is easy; that's fundamentally what flash brings to the table compared to disk. Getting that low latency consistently so there are no hiccups in our services is what really matters to us, and this is something Pure does exceptionally well," says Khan.

Fast response times mean Spectocor's cardiac technicians can analyze more patient data at a faster rate – 65 patient records per day versus 35 – and that makes a big difference given the thousands of transactions the company conducts daily. Khan says analysis of patient data is the company's second highest cost center, "so anytime you can move the needle of operational efficiency, that positively impacts the bottom line."

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Other cost factors also contribute to Khan's satisfaction with Pure's approach to flash storage, including reduced rack space, power consumption and ongoing storage management. In addition, he points to Pure's ability to deliver multiple datareduction techniques – compression, deduplication – and data pattern matching. This has resulted in a large-scale reduction in Spectocor's storage needs. While the company's current raw data volume is nearly 1TB, it only takes a little more than 7GB of flash storage to support 80 technicians analyzing patient data. This data reduction is critical to Spectocor, as the company expects its raw data volume to mushroom with the planned introduction of new monitoring services.

COST BENEFITS OF PURE STORAGE ADD UP

Ease of management is another top reason Spectocor is committed to Pure Storage. "We don't have to rely on any dedicated storage managers. Pure is so easy to manage that anyone on the IT team can pick it up."

Another significant cost benefit afforded by Pure was the speed and efficiency of Spectocor's transition to a virtual desktop infrastructure (VDI). Before moving to Pure, the company was spending about $1,800 per workstation in hardware and software so technicians could download patient data, perform their analysis – and upload their reports. With a VDI, all the extra hardware and software goes away, and the data-transfer process, which used to take minutes, now occurs in seconds.

As a forward-thinking CIO constantly anticipating future IT needs, Khan has factored in how his Pure FlashArrays will enable Spectocor's imminent move into big data. "Our company has been growing rapidly, and we expect to continue on that path as we expand existing and new services as well as our customer base," Khan says. "As we become fully engaged in the business of 'big data,' I know that with Pure I have a storage platform with the agility, reliability and scalable performance to accelerate our innovation and support our growing needs."

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