

# TriCore Gains End-to-End Security, a Performance Boost and Capacity Headroom for Half the Cost



## TRICORE REFERENCE LABORATORIES CASE STUDY



Medical  
[www.tricore.org](http://www.tricore.org)

### Challenge

TriCore sought to add encryption at rest, but doing so with Dell Compellent was cost-prohibitive.

### Results

- Built-in end-to-end encryption with full data reduction
- 15% performance gains
- 3-4x the capacity headroom with advanced data reduction
- Half the solution cost versus traditional arrays
- The ability to retain its existing blade servers

“With Datrium, we got encryption end to end to support our security demands – and gained a performance boost. That was a win-win to me.”

**David Hall**  
IT Infrastructure Manager

### Company Challenge

#### **Wanted: The Added Security of Encryption at Rest**

Based in Albuquerque, TriCore Reference Labs provides more than 2,900 different lab tests across 60 locations in the Southwest. As a lab, TriCore relies on hundreds of systems and instruments to support its testing and business operations, making for a challenging environment.

“A medical lab has a pretty complicated environment. I’ve worked in a lot of industries and this is by far the most complex network I’ve ever seen,” said David Hall, Infrastructure IT Manager. “It’s middleware on top of middleware.”

The company runs its data primarily on Cisco UCS blade servers, with nearly all virtualized. While the company’s Dell Compellent storage has historically met its performance demands, it lacked encryption at rest. Though encryption is not mandated by HIPAA, TriCore wanted that added level of security.

“Encryption at rest is not technically required for HIPAA, but security requirements in the industry are becoming more stringent,” Hall said. “If we have encryption at rest we’re meeting the HHS’s recommendations and able to replace failed drives through normal vendor maintenance plans. Without it we need to revert to more expensive “Keep your Drive” programs and use certified recyclers. We wanted to be ahead of the game, but it would have been very expensive to rip and replace in order to get encryption with Dell Compellent.”

### Results

#### **Built-in Encryption in a Blade-Friendly Solution**

Hall looked at traditional SANs and hyperconverged solutions (HCI). The former would only support encryption with costly Self-Encrypting-Drives and Key-Servers, while the latter wouldn’t fit well with the blade servers. Datrium’s Automatrix platform answered both those concerns; it offered built-in in-flight and at-rest encryption with full data reduction, and would play well with the existing Cisco UCS blade servers.

“Datrium offered encryption out of the box for no additional cost,” Hall said. “Another key part was that it’s encrypted in VMware before it ever hits the hard drive, meaning we don’t have to worry about extra maintenance on our Cisco hard drives. The fact that it’s encrypted all the way across is a huge benefit.”

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IT Infrastructure Manager

The other benefit,” Hall added, “was that Datrium’s deduplication and compression brought the cost of storage down considerably less than with a SAN since we’re leveraging host-based storage for the most part.” With Datrium, TriCore achieved overall compression of about 2.5 to 1 from Datrium autonomous data services.

While performance didn’t drive the move to Datrium, TriCore was pleasantly surprised to see a 15 percent boost in overall disk I/O compared to the SAN. “With Datrium, we got encryption end to end to support our security demands – and gained a performance boost. That was a win-win to me,” Hall said.

### **One-Stop Management in vCenter**

TriCore’s IT team now manages Datrium DVX through vCenter, eliminating multiple logins and dashboards. And for workloads on Datrium, TriCore no longer has to manage LUNs or other storage artifacts. “I really like that it’s totally VM-centric,” Hall said. “Everything is right there when you go into vCenter, so we can do our snapshots right at the VM level.”

Proactive, knowledgeable support from Datrium likewise eases management hassles for TriCore, prompting one senior systems engineer to rate it the best support he’s ever seen.

### **A More Secure, Future-Ready Infrastructure for Less Cost**

TriCore initially migrated to Datrium for built-in end-to-end encryption – but got much more than it anticipated. For half the cost of adding to their existing SANs, the company gained 3-4X the amount of storage capacity, plus encryption and built-in backup. Datrium will eventually reduce the lab’s storage cost of ownership by allowing the company to retire its IBM TSM backup system.

Plus, with Datrium’s performance gains, Hall anticipates being able to virtualize SQL Server workloads and leverage Datrium with Fusion-io cards – additional capabilities that help position TriCore with a more scalable, secure infrastructure.

### **About TriCore Reference Laboratories**

TriCore Reference Laboratories is an independent, not-for-profit, clinical reference laboratory founded and headquartered in Albuquerque, New Mexico, co-sponsored by Presbyterian Healthcare Services and University of New Mexico Health Sciences Center. TriCore provides over 2,900, full-service, state-of-the-art laboratory tests to healthcare professionals and their patients. TriCore also provides analytics and research services, supporting healthcare and scientific organizations worldwide.

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