

Advancing healthcare analytics and saving lives

Medacis empowers healthcare providers in acute, specialty and long-term care facilities across the U.S. to gain operational insight and keep patients and hospitals safe with data analytics and AI enabled by Dell Technologies PowerEdge servers and PowerScale storage.



Business needs

Medacis sought to replace its fragmented infrastructure to build out its private cloud offering of SaaS solutions, requiring cloud-enabled infrastructure that could support latency-sensitive analytical and AI workloads at the fastest possible speeds and with extreme reliability. Doing so was key in shortening data processing times and increasing the accuracy of outcomes delivered through the company's drug diversion solutions.

Business results

- Delivers analytics in within 5 minutes of receiving data instead of 24 hours.
- Saves millions of dollars by upholding 99.99% uptime SLA agreements.
- Scales rapidly to enable client and data growth with 13% cost savings.
- Simplifies data sharing on multiprotocol architecture.
- Supports workloads in the cloud or on-premises.

Customer profile



Healthcare | United States



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Chief Technology Officer,
Medacis

Solutions at a glance

- [Servers](#)
 - Dell EMC PowerEdge R540, R740, R740xd with NVIDIA® GPUs
- [Dell EMC PowerScale](#)
 - Dell EMC PowerScale (Isilon) H500
- [Dell EMC OpenManage Enterprise](#)
- [Dell EMC iDRAC](#)
- [VMware vCenter Server](#)
- [VMware vSphere Enterprise Plus](#)

Medacis, a leading innovator in drug-diversion analytics and the only U.S. patent holder in this discipline, applies artificial intelligence (AI), machine learning and data analytics to clients' data in order to pinpoint unusual patterns throughout the lifecycle of drugs—from procurement to storage and management in a clinical pharmacy to prescription and dispensation by doctors and nurses. By using Medacis's solutions, which are built on its Genesis healthcare data platform, healthcare providers can identify possible abuse patterns for further investigation and action.

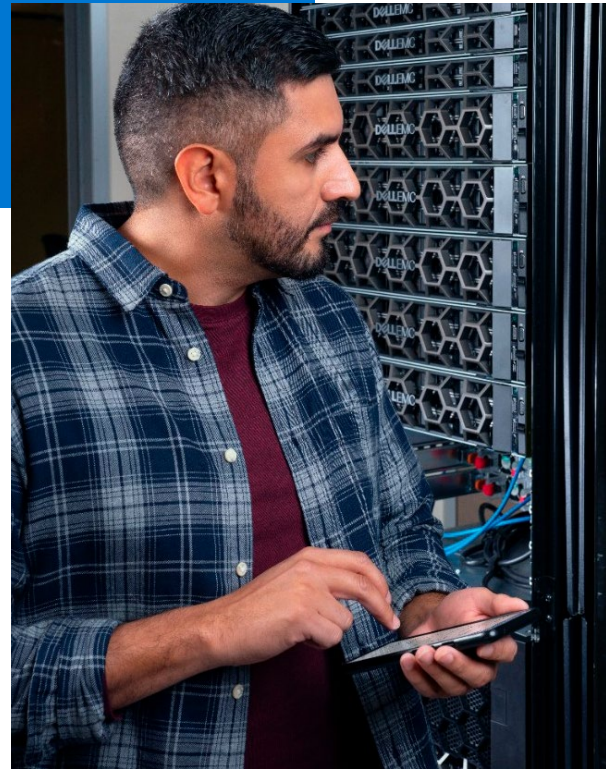
The right partner for infrastructure modernization

For Medacis, reliable, scalable and high-performing data storage and compute solutions are business-critical. They make it possible to analyze data received from clients, deliver actionable insights quickly, win more accounts and develop new services.

Years ago, Medacis used multiple, disparate data storage and analytical systems. Data and analytics functioned in silos, so its product offering became specialized due to the lack of data interoperability across data sources. Without the presence of a shared data plane, delivering new insights to clients became unfeasible. Such conditions have since been addressed through the introduction of Genesis. By partnering with Dell Technologies for the infrastructure modernization supporting Genesis, Medacis is now able to unlock the power across all its data, ultimately resulting in new insights delivered to clients. David J. Brzozowski Jr., chief technology officer at Medacis, explains, "Our partnership with Dell Technologies allows us to take advantage of the full breadth and depth of their compute, storage, networking and security solutions. Dell Technologies offers best-of-breed solutions in all these categories."

Driving business growth with performance, scalability and reliability

Today, Medacis operates on a cloud-enabled technology foundation that integrates Dell EMC PowerEdge servers and Isilon storage from the Dell EMC PowerScale product family. Brzozowski says, "Together, Dell EMC PowerEdge Servers and PowerScale storage help us ensure that the data our clients review and analyze remains available and secure. Our clients can improve patient safety or even save lives because the Dell Technologies solutions support analytics based on massive amounts of data." On this infrastructure, Medacis supports more clients and serves them faster. "As we grew



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Maintains the **security and integrity** of client data

from 600 to over 2,000 clients, we were able to minimize growth in management overhead while delivering the scalability and performance our increased workloads required thanks to our Dell Technologies infrastructure,” he adds.

At the same time, Medacis’s infrastructure has the reliability to meet client service standards that demand 99.99 percent uptime. That also helps Medacis control expenses. Brzozowski says, “The availability of PowerScale and PowerEdge saved us millions of dollars by upholding contractual SLA commitments made to clients.”

Delivering rapid insight and enabling prompt action

With an infrastructure that combines PowerEdge servers as the innovation engine that powers AI and analytics with PowerScale to enable object storage and application persistence, Medacis has achieved remarkable performance improvements. Automation and consolidated processing of client data helps Medacis deliver highly accurate analytics and save clients time. “On our Genesis data platform, we have reduced a 24-hour lag time on data processing to around 5 minutes in some cases,” Brzozowski says. “One of our clients reported a time savings of 120 hours a week as a result of the performance and efficiency delivered through our new offering.”

Servers in business-critical positions

Medacis uses Hadoop to perform statistical analysis of large data volumes. The Hadoop cluster resides on Dell EMC PowerEdge R540 and R640 servers running demanding AI workloads including intensive machine learning and statistical algorithms. This configuration provided a 13 percent cost savings. PowerScale H500 storage enables the analytical processing on the Hadoop data lake. Unlike the legacy technology that made data sharing difficult, PowerScale supports a variety of protocols,

including Amazon S3 object storage service, Network File System, Server Message Block, Hadoop Distributed File System and others. Brzozowski says, “PowerScale allows us to share data among multiple applications efficiently without having to create custom message bus systems.”

Medacis’s Kubernetes environment, another important pillar in its cloud-native architecture, runs on PowerEdge R740 servers. “We have greatly increased the agility of our business by running Apache Spark workloads in Kubernetes on PowerEdge servers,” Brzozowski explains. “The PowerEdge R740 provides the agility to adapt to ever-changing business needs, including running Kubernetes. We’re able to run our machine learning workloads on NVIDIA GPUs within the same platform, resulting in cost savings on both hardware and operational overhead.”

Streamlined, secure infrastructure management

Medacis IT managers have access to advanced capabilities that make it easy for them to keep their infrastructure running smoothly and securely. They use VMware vCenter and vSphere Enterprise Plus to manage virtualized server resources and optimize server performance. This allowed Medacis to onboard more customers with minimal headcount increases.



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The Medacis storage infrastructure is both efficient and secure. Brzozowski says, “Managing PowerScale with VMware allows you to virtualize Hadoop efficiently. The Dell Technologies solutions enable a high level of security by encrypting data at rest and in transit while being replicated between PowerScale nodes.”

To interact with physical servers, IT managers rely on Dell EMC OpenManage Enterprise and Dell EMC iDRAC in addition to the PowerScale OneFS distributed file system. Managing systems with VMware, OpenManage Enterprise, iDRAC and OneFS allows Medacis to easily deploy, monitor and manage system updates and add new technology. “OpenManage Enterprise offers a complete view of all the servers in our infrastructure,” Brzozowski explains. “It’s an easy-to-use, centralized management tool that gives us the transparency to detect and address issues as soon as they occur. Through OpenManage Enterprise, we can ensure that our PowerEdge infrastructure is at the optimal firmware patch level. We maintain control not just over the operating system security patches, but over server security overall.”

Continuing innovation spurs growth.

The PowerEdge and PowerScale infrastructure can scale to support the growth of data and the number of new clients. Brzozowski says, “We can accommodate customer and data growth all while continuing to aggregate results, derive synthetic datasets and profile data in real time—without having to rip and replace servers or storage.”

Medacis expects to continue innovating on its Dell Technologies foundation as the company advances. Brzozowski concludes, “We can adopt newer technologies and drive business growth on our Dell Technologies infrastructure. We benefit from the agility to innovate our suite of offerings without having to worry about the underlying hardware layer.”

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