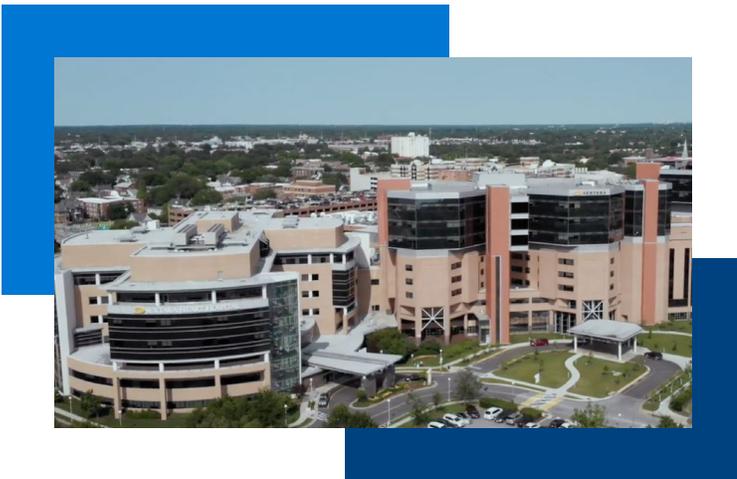


Hybrid, multi-cloud strategy enables agile delivery of patient care

Sentara Healthcare's hybrid, multi-cloud framework — built on Dell EMC PowerMax storage arrays — has dramatically improved performance to enhance quality care for patients.



Customer profile



Healthcare | United States



“Dell Technologies has empowered us to leverage a hybrid, multi-cloud framework and agilely treat patients anywhere, even around the globe.”

Matthew Douglas

Chief Enterprise Architect,
Sentara Healthcare

Business needs

Growing rapidly to serve patients in Virginia and neighboring areas of North Carolina, Sentara Healthcare wanted a way to provide its doctors, nurses and other staff with the information needed for the highest-quality care. Dell EMC PowerMax arrays deployed within an innovative hybrid, multi-cloud model are key.

Business results

- Less than 1 millisecond response times on application data.
- 10 times faster data access due to lower latency.
- Up to 8 times higher IOPS speeds — as much as 160,000 IOPS.
- Multimillion-dollar cost reductions.

Solutions at a glance

- [Dell EMC PowerMax](#)
- [Dell EMC PowerScale](#)
- [Dell EMC Isilon](#)
- [Dell EMC PowerEdge](#)
- [Dell EMC PowerProtect](#)
- [Dell Financial Services**](#)
- [VMware vSphere](#)



“PowerMax NVMe storage really is a game changer. PowerMax reduced our write latency from .7 to .07 milliseconds, which is incredible.”

Robert Jaecques

Operations IT Manager, Sentara Healthcare

Sentara Healthcare has been providing quality care to patients in Virginia and northeastern North Carolina since 1888. The organization has more than 30,000 physicians, nurses and staff in a dozen acute-care hospitals, medical practices and other facilities. Sentara also manages a 900,000-member health plan.

The organization is growing rapidly and has plans to expand to 18 hospitals, double its staff and reach \$10 billion in annual revenues in 2021. To keep pace with increasing demands, Sentara has completed a sweeping modernization of its IT infrastructure.

“The traditional data center in the hospital basement is a thing of the past,” says Matthew Douglas, chief enterprise architect for Sentara Healthcare. “Dell Technologies has empowered us to leverage a hybrid, multi-cloud framework and agilely treat patients anywhere, even around the globe.”

Ten times the responsiveness

Sentara relies on a wide variety of Dell Technologies solutions — from servers and laptops to storage and data protection — to revolutionize patient care. At the heart of these solutions is Dell EMC PowerMax.

To treat patients and respond to their needs, clinicians at Sentara count on the high performance of the organization’s Epic electronic medical record (EMR) system. With PowerMax, doctors can access charts and records, and nurses can pull up essential data much more quickly and efficiently.

“PowerMax NVMe storage really is a game changer,” says Robert Jaecques, operations IT manager for Sentara Healthcare. “PowerMax reduced our write latency from .7 to .07 milliseconds, which is incredible. The Epic team has been impressed as well.”

Peak performance has reached 160,000 input/output operations per second (IOPS), up dramatically from 20,000 to 30,000 IOPS on the organization’s previous platform. This increase in IOPS provides the capabilities that Sentara will need as it continues to grow and expand.

“As we acquire new hospitals, we know that we’ll be able to scale our infrastructure to support increased usage without running out of back-end horsepower,” Jaecques explains.

Mission-critical, cloud-enabled storage

In designing its modernized IT environment, Sentara has implemented an innovative hybrid, multi-cloud strategy, including what it calls a cloud-adjacent model for its Epic EMR solution.



Millions in cost savings.



“By choosing Dell Technologies solutions, I’ve been able to modernize my IT infrastructure while reducing costs by several million dollars.”

Matthew Douglas

Chief Enterprise Architect,
Sentara Healthcare

“We’re getting amazing results leveraging our large databases on PowerMax in our colocated data centers, as well as in the cloud,” comments Douglas. “We’re migrating the data from our old platform to Red Hat on the new platform, and then we’re replicating it using Equinix. Ultimately, some of the data is pushed out to the cloud. We need mission-critical, cloud-enabled storage — and we have that with PowerMax.”

Sentara believes that its cloud-first approach significantly benefits patients by improving telehealth capabilities and better enabling the use of mobile devices to deliver patient care. “We want to be known as an organization that provides great care backed by great technology,” says Dan Bowden, vice president and chief information security officer for Sentara Healthcare. “Cloud, and in particular Dell Technologies, is crucial for that.”

End-to-end encryption is also critical for Sentara to secure and safeguard patient data. “Data is highly secure on-prem, but we also have to safeguard our colocated data,” Jaecques notes. “PowerMax gives us the encryption options we need, while maintaining the low latencies that are essential for responsive patient care.”

Multimillion-dollar cost savings

In addition to PowerMax, Sentara relies on Dell Technologies for Dell EMC PowerEdge servers, Dell EMC PowerScale and Dell EMC Isilon network-attached storage, Dell EMC PowerProtect DD Virtual Edition data protection, and VMware vSphere virtualization.

“By choosing Dell Technologies solutions, I’ve been able to modernize my IT infrastructure while reducing costs by several million dollars,” Douglas remarks. “I’m spending less money and getting better performance.”

Douglas continues, “Further, Dell Financial Services financing has ensured that we can put our employees’ needs first. It’s allowed us to fund their paychecks, retirement benefits and 401(k) plans before having to pay for technology. That’s really important for a nonprofit, cash-flow-driven business like ours.”

[Learn more about Dell EMC Storage Solutions.](#)

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