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Fueling health IT transformation through hybrid-cloud solutions

Sentara Healthcare modernizes IT to facilitate a patient-centric, data-first, cloud-smart approach with Dell Technologies.

Sentara Healthcare modernized its patient care delivery model with a hybrid, multi-cloud strategy. In this case study, Sentara's C-level executives tell how they improved patient engagement, IT security and staff efficiency — and made a reactive operational model proactive — by transforming health IT operations and infrastructure.

Transformations

Modernized technology transformation increases collaboration, resource utilization and efficiency.

Connected workforce transformation enables clinical and business staff to work anywhere, at any time.

Secure care transformation improves data protection and helps to ensure HIPAA compliance with a Zero Trust model.

Outcomes

Boosts patient's experience by speeding data access by 88 %.
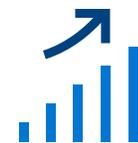
Increases efficiency and accelerates EMR workloads by 13 hours.

Saves millions of dollars in IT costs.

Improves immediate and long-term security and agility.

Many healthcare organizations still use IT architectures designed to support traditional operating models. As the industry continues its shift to improving the patient experience with value-based care, organizations can pave a strategic path forward—while leveraging existing and new IT—with hybrid, multi-cloud architectures.

Boosting flexibility to meet diverse requirements and unlock innovation

As one of the nation's top integrated healthcare systems, Sentara Healthcare wanted to improve patient engagement by adopting a value-based care model as quickly and effectively as possible. With this goal in mind, the organization tasked a team of three—with different priorities and leadership styles—to create and lead an effective transformation plan. Jeffrey Thomas, Sentara's VP and CTO, aimed to align workflows and technologies to improve customer interactions and clinical outcomes. Dan Bowden, Sentara's CISO, wanted security infused into every system and process. And Matt Douglas, Sentara's chief enterprise architect, had the IT expertise to design an infrastructure rebuild from the ground up.

"We had to answer the question of how to make Sentara become more patient-focused and engage people on their terms," says Bowden. "That drove questions about how we'd manage our infrastructure, our capability for scaling, and our ability to do new things on the fly."

Sentara's new approach and solution had to dramatically improve flexibility, service innovation, and efficiency among IT, business, and clinical staff. Minimizing costs and boosting excellence were also critical.

Creating an innovative, hybrid multi-cloud architecture to enhance efficiency, mobility and security

The team determined the best way to meet its requirements was with a hybrid, multi-cloud solution that's highly virtualized and automated. This template gives Sentara the ability to run applications and host data using the best mix of public- and private-cloud services that optimize performance, security, user experience and cost — in every scenario.

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>
> **Matt Douglas**
> Chief Enterprise Architect,
> Sentara Healthcare

Cloud services that **optimize performance, security, user experience and cost.**

> **"We had to answer the question of how to make Sentara become more patient-focused and engage people on their terms."**
>
> **Dan Bowden**
> Chief Information Security
> Officer, Sentara Healthcare

In just **18 months**, Sentara built a highly flexible foundation.

To help design and implement a comprehensive solution, Sentara worked with Dell Technologies, VMware and partners including Equinix, Epic and Microsoft. "We save so much time and energy by working with Dell Technologies," Douglas says. "Its experts tell us which options work well together and the performance we can expect, so we can focus on more important things such as patient care delivery."

In just 18 months, Sentara built a highly flexible foundation. With it, the organization supports:

- Modernized technology transformation that improves collaboration, resource utilization and efficiency so that teams can focus on innovation versus "keeping the lights on." Core workloads, such as medical imaging and electronic medical records (EMRs), now run on a highly virtualized, software-defined infrastructure that includes hyperconverged building blocks jointly built by Dell Technologies, VMware and Epic.

- Connected workforce transformation so that clinical and business staff can work anywhere, at any time. Protected client devices from Dell Technologies give clinicians and business employees reliable and secure access to virtual desktops supported by, and managed with, VMware solutions.

- Secure care transformation that increases data protection and helps to enable HIPAA compliance. The adoption of a Zero Trust model and the inclusion of security personnel at the onset of all projects provide critical governance and security strategies. IT teams have also improved system availability and are saving time with Dell Technologies data protection and storage solutions.

Modernizing legacy health IT to be cloud-smart

One of Sentara's biggest challenges to advancing its transformational strategies was to remove artificial boundaries created to support legacy systems and business requirements. "Most organizations have very siloed IT departments with teams managing solutions that they've built using their own strategies," Thomas says. "As we started moving forward with our new hybrid cloud strategy, we broke down these silos very quickly."

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To help staff learn new skills and customer-centric approaches, Sentara paired them with Dell Technologies solution experts. "That pairing created the momentum we needed to drive our cultural transformation," says Douglas.

Lifting performance by 88% and saving millions of dollars

Today, Sentara is more agile, clinicians enjoy dramatically faster IT access, and the organization is saving money. Douglas explains, "We reduced costs by several million dollars and raised performance by choosing Dell Technologies."

For example, today Sentara can support unlimited data growth and deliver 88% faster data-access speeds. An EMR workflow that used to take 15 hours now takes 2 hours. And system recoveries only take minutes instead of hours or days. IT teams can also rapidly pivot to meet unexpected requirements. "With the hybrid cloud we built with Dell Technologies, we quickly shifted our workloads and services to support new ways to work and interact with patients when COVID-19 hit," says Thomas. To realize similar benefits, other healthcare organizations are engaging Sentara for strategic advice and for its patent-pending, hybrid cloud template.

Unlocking new services with data-first strategies

With its protected and flexible IT foundation, Sentara is developing more proactive and collaborative care models. "We can help people derive more value from their information and provide guidance and incentives for taking better care of themselves by giving them more access to their information with Dell Technologies Cloud, powered by VMware and its partners," says Thomas. "This will reduce costs and improve the overall health of our communities."

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"We can help people derive more value from their information ... with Dell Technologies Cloud, powered by VMware and its partners."

Jeffrey Thomas
Vice President and CTO,
Sentara Healthcare

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