


Modernizing IT at the Edge Saves the Seconds that Save Lives

Sentara, a large regional healthcare system, partners with Dell Technologies to extend advanced healthcare capabilities and life-saving technologies from the data center to the edge.

Customer profile



S E N T A R A[®]

Healthcare | United States



“Reducing the footprint in a hospital is money, cost, performance. Now, what we put at the edge sits on my desk and it’s revolutionizing the way we treat patients.”

Matt Douglas

Chief Enterprise Architect,
Sentara

Business needs

Sentara was looking for a partner to help them modernize and extend their current infrastructure to the edge, to enable the solutions that shave critical seconds off response times to save lives and protect health.

Business results

- Delivers sub-millisecond respond times.
- It takes two hours to run a typical job that previously took 15 hours.
- Zero calls have been made to tech support since the solution was launched, compared to several a day with the prior infrastructure.
- Millions of dollars in savings have been recognized through IT efficiencies.
- 13,000 to 15,000 users can be supported on a five-block Epic Hyperspace pod built on PowerEdge servers.
- Dell EMC PowerEdge R940 is the Ferrari of servers, according to Matt Douglas, Chief Enterprise Architect at Sentara.

Solutions at a glance

- Dell EMC vSAN Ready Nodes with Dell EMC PowerEdge R640 Servers with Intel® Xeon® processors
- Dell EMC PowerEdge R740 Servers with Intel® Xeon® processors
- Dell EMC PowerEdge R940 Servers with Intel® Xeon® processors
- Dell EMC OpenManage Enterprise
- Integrated Dell Remote Access Controller (iDRAC)
- Dell EMC VMware® vSAN®

Sentara Healthcare is a large regional not-for-profit system that includes more than 300 sites in Virginia and Northeastern North Carolina, a regional air ground medical transport, a clinically integrated network, the Sentara College of Health Sciences, and a health plan that serves nearly a million members.

Data center to edge strategy

When Matt Douglas, Chief Enterprise Architect at Sentara, set out to modernize the healthcare system's aging infrastructure, he knew that he would need a strategic partner. He wanted a partner that would help him carry out his vision of a hybrid multi-cloud environment capable of extending better efficiency and response times to multiple edge locations.

Sentara prides itself on using technology to improve patient care. It was important to Matt that the edge technology he chose work in harmony with the company's cloud investments. It would need to provide adequate compute power in the case of connectivity to the cloud, as well as provide better performance for critical latency-sensitive applications that are designed to run on-premises.

As Matt explains, "Fast compute, fast transactions, that's handled at the edge. Storage and deep analytics are handled in the cloud." Adding, "With a stroke patient, you have seconds and minutes for changing a life. Leveraging new, modern solutions that perform at rapid pace...it's life changing, because it's sub-millisecond response- times, reading images of brain x-rays. That impacts human life."

Sentara uses the Epic Hyperspace application at the edge, which enables providers to interact with the Epic electronic healthcare records (EHR) system. According to Matt, "I looked out across the industry and, asked 'Who has the best of breed? Who has the best performance? Who has the best R&D, and who has the best relationship with Epic?'...And it's amazing, leveraging Dell EMC PowerEdge servers."

The IT staff used to receive numerous support calls from users. With the new infrastructure for Epic Hyperspace, based on a five-block PowerEdge R740 pod that can support 13,000 to 15,000 user sessions, Matt reports he "went from having multiple calls a week to having zero calls once we put that application out on that edge infrastructure."

Matt chose Dell EMC vSAN Ready Nodes with Dell EMC PowerEdge R640 Servers for the edge because of their density and small footprint, and Dell EMC PowerEdge 940 Servers for the main data center, using VMware® vSAN® to deploy virtual servers out on the edge as well as in the data center.



"With a stroke patient, you have seconds and minutes for changing a life. Leveraging new, modern solutions that perform at rapid pace...it's life changing, because it's sub-millisecond response-time, reading images of brain x-rays. That impacts human life."

Matt Douglas

Chief Enterprise Architect,
Sentara

Revolutionary infrastructure saves time and costs

Matt describes the new hybrid multi-cloud framework as “revolutionary.” He goes on to say that “Before, I’d have to buy a bunch of hardware, rack it, stack it, and all that. Now that compute capacity is at the edge at all of our facilities, I can rapidly deploy anything that any hospital needs, within seconds. It’s very fast.” In addition, “Reducing the footprint in a hospital is money, cost, performance. Now, what we put at the edge sits on my desk and it’s revolutionizing the way we treat patients.”

According to Matt, “the flexibility of leveraging the Dell PowerEdge servers, it’s like getting a Ferrari.” He adds, “bringing on the PowerEdge R940s in the main data center reduced the costs, increased the performance, and it’s a technology we’re familiar with and can maintain easily...choosing Dell Technologies gave me a several-million-dollar cost reduction by leveraging modern hardware infrastructure, which then raised the performance. So, imagine that. I spent less money and I got better performance out of it.”

Managing from the core to the edge

Dell EMC OpenManage Enterprise was a critical tool for enabling Matt and his team to manage an IT environment that extends to multiple edge locations. The team uses the management platform in conjunction with the iDRAC and VMware vSphere® to keep their infrastructure up and running effectively and efficiently.

According to Rob Jaeques, Operations Manager at Sentara Healthcare, “we’ve got 12 hospitals and then a few other larger sites. And as we go and we acquire these hospitals, we’re basically deploying a lot of infrastructure out there and it gets cumbersome because they want to maintain their older infrastructure as well. And so, as a result, we’ve got this mishmash of old stuff, new stuff and things that we’ve had to do to basically keep them up and running with their old software, their old systems. It’s been nice to be able to deploy one strategy, one solution with the Dell EMC vSAN Ready Nodes...And it’s wonderful. I was able to put them in their own vCenter. They’re all managed by the same vCenter. I can look at that infrastructure and know that it’s up and running and it performs very well.”

Ready for the future

Sentara Healthcare uses a wide variety of Dell Technologies solutions. As the company expands, Matt and his team believe that partnership with Dell Technologies gives them “the ability to agilely treat patients across the globe.” He concludes by saying “One of the things is Dell has really become my partner, from the desktop all the way to the storage all the way to virtualization of the infrastructure...I want to be in there, helping humanity by leveraging technology...today we have an opportunity to change human lives and the care of other humans.”



“The flexibility of leveraging the Dell PowerEdge servers, it’s like getting a Ferrari. Bringing in the PowerEdge R940s in the main data center reduced costs, increased the performance, and it’s technology we’re familiar with and can maintain easily...”

Matt Douglas

Chief Enterprise Architect,
Sentara