



AVEANNA REINVENTS PEDIATRIC HOME HEALTHCARE, EMPOWERED BY STREAM NETWORKS AND A JUNIPER MULTICLOUD DATA CENTER

Summary

Company:

Aveanna Healthcare

Industry:

Healthcare

Business Challenges:

Leverage technology to modernize pediatric home healthcare experience and deliver better outcomes.

Technology Solution:

- QFX5120 Switch
- EX3400 Ethernet Switch
- SRX4600 Services Gateway

Business Results:

- Deployed tablets to 12,000 homes to deliver better care outcomes and simplify charting for nurses
- Built a scalable data center network to scale both traditional and cloud-native applications
- Increased application performance as much as 50 percent with data center refresh
- Partnered strategically with the business to enable growth

Caring for a child with special needs is challenging and stressful, and many families turn to Aveanna Healthcare for assistance. As the largest provider of pediatric home care in the U.S., Aveanna offers pediatric skilled nursing, pediatric therapy autism services, enteral nutrition, therapy, and adult services, providing patients with in-home tablets to empower nurses and therapists to improve care outcomes. Traditional and cloud-native applications run in Aveanna’s high-performance, scalable data center, powered by Juniper networking and security.

Caring for Our Most Fragile Children

The private equity-backed Aveanna Healthcare was created to reinvent home healthcare for children and adolescents.

“Aveanna is the largest pediatric home healthcare organization in the U.S.,” says Joseph Sharp, assistant vice president of technology strategy, governance, and architecture at Aveanna Healthcare.

Aveanna works closely with families to carry out a child’s treatment plan with care, compassion, and clinical excellence. The company has 225 locations, and 35,000 active duty private nurses serve 30,000 children and adolescents.

Skilled nurses provide care to children who are dependent on oxygen, have feeding tubes, or are prone to frequent seizures. Physical therapists help children with a variety of congenital, developmental, and neurological diseases. Behavior therapists help children with autism use strategies and develop skills to reach their full potential. For kids who need enteral nutrition, Aveanna’s experts help find not only the right formulas but also cute backpacks to hide the portable pumps.

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- Joseph Sharp, assistant vice president of technology strategy, governance, and architecture, Aveanna Healthcare

Technology-Supported Patient Care

Like many organizations that have grown by merger and acquisition, Aveanna relied on disparate applications and infrastructure. Aveanna set out to align technology with the needs of delivering the best care outcomes.

“We did a strategic review to create the best technology architecture for now and to take us five to seven years in the future,” Sharp says. “By the end of 2020, we won’t have a single piece of technology that we haven’t refreshed in the last two years.”

Core to Aveanna’s patient-centered care are its Hope tablets in every patient home.

“Our Hope software and tablets directly connect our patients and caregivers,” Sharp says.

Nurses and therapists use the in-home Hope tablets for charting, completely eliminating the need to transcribe paper records. Beyond immediate care, establishing a digital connection to patients and their families is filled with potential.

“The technology team sits with the executive leadership team to dream. That’s how you innovate, disrupt an industry, and create the most favorable outcomes.”

- Joseph Sharp, assistant vice president of technology strategy, governance, and architecture, Aveanna Healthcare

“Having a bedside tablet in the home also opens up new ways to be connected to patients,” Sharp says. “It’s a true point-of-care device, and we’re doing a lot of strategic application development for new ways to be connected to patients.”

To support patient-centered care, Aveanna revamped its application development operations, and a new team is dedicated to creating mobile applications tailored to caregivers and patients. It is migrating to a new electronic health records system as well.

To imagine the future of technology for pediatric home healthcare, Sharp says he looks to the financial services industry.

“We are taking our experience on the leading edge of the payments industry and applying that to healthcare,” he says. “In pediatric healthcare, many of the technologies are legacy.”

Building a Strong Technology Foundation

The foundation of successful transformation is Aveanna’s data centers in Atlanta and Dallas, built for the highest availability and redundancy.

“In pediatric home healthcare, we can’t afford a single minute of downtime,” Sharp says. “The network has to be bulletproof. We can’t lose visibility to 30,000 critical-care patients.”

“We came up with the best possible data center architecture to support our plans to grow by acquisition,” Sharp says. “Many in the industry are taking the route of hyperconvergence, but we decided to go with a hybrid of modern virtual networking and computing with physical hardware to create a high-performance, stable environment from the network to our applications.”

Aveanna worked with Stream Networks, an Atlanta-based consultant and managed services provider, to review its technology. Together, Aveanna and Stream Networks designed a best-of-breed data center that delivers agility and easy scalability as the business grows.

“Juniper is the basis for a high-performance, extensible, and stable platform that will support Aveanna’s current and future data processing requirements,” says Andrew Martin, senior technology partner at Stream Networks.

Each data center has an identical architecture for a simple, modular design that is easy to scale out as workloads grow.

“The network is the core of everything,” Sharp says. “Without a network, a business doesn’t exist. Juniper is a rock-solid foundation.”

Aveanna uses the Juniper Networks® QFX5120 Switch for the IP fabric spine-and-leaf nodes. As a protector of sensitive patient data, Aveanna also embraced a Zero Trust approach to cybersecurity. Using Ethernet VPN (EVPN)-Virtual Extensible LAN (VXLAN) for the overlay network architecture enables efficient Layer 2/Layer 3 network connectivity with greater scale, simplicity, and agility. Data center traffic is secured at the most stringent levels using the Juniper Networks SRX4600 Services Gateway.

“We made a decision to move to a modern data center deployment using EVPN/VXLAN because it puts Aveanna in a position to grow,” Martin says. “We can simply pop in additional QFX Series switches as leaf nodes and scale the fabric horizontally.”

With Juniper, Aveanna is prepared to make the most of a hybrid, multicloud environment. The data center fabric can accommodate any type of workload, whether cloud-native or traditional, and workloads and containers can move seamlessly and securely across data center resources.

“The underlay/overlay architecture with Juniper dovetails nicely for plans to migrate to a future with hybrid cloud and container-based applications,” Martin says.

Empowered to Deliver the Best Care

“With high-performing technology, we can increase overall efficiency and support our caregivers in the field,” Sharp says.

Aveanna has more than 40,000 clinical and administrative staff in its pediatric home healthcare, staffing, and medical supplies businesses.

The outcomes are stellar.

“With our entire data center refresh, including optimizing applications and databases and new compute, storage, and networking, we’re seeing a 30 to 50 percent increase in application responsiveness,” Sharp says. “Application access is near-real-time.”

That experience impacts not only skilled nurses and therapists who tend to children in their homes, but also Aveanna’s schedulers who manage the flow of patient care, ensuring that each child receives quality service and their families are satisfied with care.

“Overall increased application performance means we can fill shifts faster with qualified caregivers,” Sharp says. “The bottom line is that we can put more nurses in the field to take care of more children.”

Stream Networks also oversees ongoing management, lifting the burden of day-to-day operations from Aveanna’s IT team and freeing them up for strategic work.

Sharp has a long and trusted relationship with Stream Networks.

“In terms of complex and highly available networking, Stream Networks has the best minds in the country,” Sharp says. “Stream Networks delivers the right technology and network solution, and they explain what you need and why.”

Agility Begets Rapid Covid-19 Response

Coronavirus didn’t give nurses and other essential workers respite from caring for medically fragile children. When the pandemic first appeared in the U.S., Sharp and his team took rapid action. Many of the technology transformations were already in place, making the switch to remote work faster.

“We tackled every area of where we had a deficit in technology to support a mobile workforce,” Sharp says.

For administrative staff, new laptops and tablets replaced virtual desktops, and all access to on-premises and cloud applications was secured through two-factor authentication and a robust VPN. Phones were converted to a cloud-based system, including a 600-seat call center in the medical supply business.

“Our IT team of four provided remote access to 4500 employees in record time,” Sharp says. “It was a big lift, but our goal as a technology team is to enable the organization to get their jobs done, and to accomplish that goal, we have to be proactive.”

A Shared Vision to Reinvent Pediatric Care

The need for high-quality and affordable pediatric home healthcare is urgent as more children have chronic illnesses, suffer an injury, or are born with medical complexities. Pediatric home healthcare will be a \$55 billion market by 2026.

That human need is driving digital change.

“In many healthcare organizations, the IT team is really viewed as support staff,” Sharp says. “Over the last two years, we’ve transformed the IT organization from being support staff to become the right hand of the business, and they lean on us to innovate.”

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- Andrew Martin, senior technology partner, Stream Networks

Digital transformation success comes through strategic partnership.

“We work with executive leaders to foster the best outcome for our patients,” Sharp says. “The technology team sits with the executive leadership team to dream. That’s how you innovate, disrupt an industry, and create the most favorable outcomes.”

Aveanna nurses and therapists bring skill and compassion to the lives of children with special needs and help support their families. With an innovative technology-empowered approach and the foundation of Juniper multicloud, Aveanna can continue to care for our most fragile children.

For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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