



BEAUMONT, TEXAS SCHOOLS EMBRACE HYBRID LEARNING WITH AI-DRIVEN JUNIPER NETWORK

Summary

Company:

Beaumont (TX) Independent School District

Industry:

Education

Business Challenges:

Deliver reliable network services to enable both virtual and in-person learning.

Technology Solution:

- Juniper Series of High-Performance Access Points
- EX4600 and EX3300 Ethernet Switches
- QFX5100 line of Switches
- SRX4100 Services Gateway

Business Results:

- Enabled virtual and in-person education to 18,000 students with highly reliable network services
- Simplified network management with AI-driven operations
- Prevented cyber attacks even as number of attacks rise

Living in Beaumont, Texas means enjoying an appealing mix of Lone Star independence and Cajun good times. The city is about 90 miles from Houston, a couple of hours drive from Louisiana and 30 miles from the Gulf of Mexico. Since oil was found in the 1900s, the area has attracted a diverse set of oil and gas, technology, industry, and commerce to become a booming metro area with a population of 403,000. Beaumont Independent School District (ISD) serves 18,000 students from 30 public schools across an 85-mile area. Beaumont ISD relies on AI-driven Juniper networking from the classrooms to the data center.

Shift to Hybrid Learning

The COVID-19 pandemic accelerated Beaumont ISD’s goals to put a laptop or tablet into every student’s hands, as it first pivoted to emergency remote instruction and now to a hybrid learning environment as students and teachers return to the classroom. With the flexibility of hybrid learning, some students can choose face-to-face instruction while others prefer to learn remotely.

“Having a robust network means we can support our students in whatever learning environment suits their needs,” says Ryan Deloney, network administrator for Beaumont ISD.

Beaumont ISD first migrated to Juniper switching and security at school sites, administrative offices, and its data center. Based on the success, it is evaluating refreshing the schools’ Wi-Fi with Juniper wireless networking, driven by AI.

“We did a lot of research and Juniper kept coming up as a better alternative with more performance and a more reasonable price point,” Deloney says. “We realized Juniper would help us support a more digital learning landscape and prepare us for 1:1 computing.”

“We are living in unprecedented times and having reliable, intelligent, and flexible networks means we can respond to whatever is thrown at us. With a Juniper network, we are ready.”

- Ryan Deloney, network administrator, Beaumont Independent School District

A Flexible Network Foundation

Delivering all the instruction and resources that students require to learn at home and in the classroom hasn't been easy, but a Juniper network has proven powerful for both in-person and remote learning.

With Mist AI™, Beaumont ISD can prioritize network experiences for students and faculty by providing unprecedented insights into user behavior. Students have fast and easy access to their digital learning tools in the classroom, and learning isn't interrupted by spotty wireless coverage or poor performance.

Beaumont ISD deployed the Juniper Series of High-Performance Access Points starting with the new construction at one high school and other selected buildings, and is evaluating a full campus refresh using eRate funding.

Outdoor Wi-Fi at the school will be extremely helpful for students who do not have Internet access at home. Mobile hotspots were a quick fix when the district pivoted to emergency remote instruction, but in practicality, a single Zoom class could easily eat up the daily data limit.

"It makes a lot of sense for us to give students a little bit of time to sit at the playground and do some work," Deloney says.

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A Smooth Transition

The simplicity of a Juniper network proved critical as Beaumont ISD deployed the new Wi-Fi in a COVID-safe manner.

"Juniper Mist is fantastic," Deloney says. "I received the access points and set up the wireless network in 20 minutes. It was that easy."

Mist AI also minimizes operational costs with automation and proactive actions for the network team. Deloney relies on Mist AI to identify performance problems and provide troubleshooting suggestions for both inside and outside spaces.

The compact, scalable Juniper Networks® EX4600 line of Ethernet Switches provides connectivity at 35 school and administrative sites with a 20 Gbps connection at the district's data center. At each school site, Juniper Networks EX3300 Ethernet Switch supports access layer switching.

High-density, high-performance Juniper Networks QFX5100 Switches serve in the data center, to support the district's instructional and administrative applications and enable students to continue to learn remotely.

Moving to Juniper for its campus and data center networks was a clean transition with no operational disruption. Deloney rapidly acclimated to using Junos® operating system, which runs across Juniper's routing, switching, and security solutions.

Deloney attributes much of the success to Juniper's simplicity. "The Junos OS command structure is very intuitive, and I picked it up quickly," he says. "Other networking interfaces make things more difficult than they need to be."

It's not just Juniper technology that's reliable. As part of a lean IT team, Deloney knows he can count on the Juniper team, whether it is to support a new educational requirement or solve a knotty problem.

"Compared to every other networking company I've dealt with, Juniper offers the best service and support," Deloney says.

Protected Against Rising Threats

In a hybrid learning environment, security is even more important as students connect to school resources from their personal devices and home Internet. Students still need protection against malware, inappropriate content, and other threats. Yet bad actors have taken note of the increased risk and redoubled their efforts to steal valuable student and financial information or disrupt district operations.

Fortunately, Beaumont ISD is protected with Juniper Networks SRX4100 Services Gateway.

"With our Juniper firewall, we can block traffic from foreign locations," Deloney says. "We see a lot of traffic attempting to hit our network, but we have a geoIP block that prevents the traffic from reaching us."

A Network Prepared for the Unknown

A few years back, Tropical Storm Imelda destroyed three of the buildings at one Beaumont high school. Beaumont ISD rebuilt all three buildings better than before with the newest and most advanced resources, including state-of-the-art networking.

In facing the pandemic, the school district had to rethink student education. Both events forced Beaumont ISD to make unexpected adjustments, but no matter what challenge is thrown at it, the district has made serving students' needs its top priority.

Having Juniper networking across its school sites, offices, and data center has meant that the IT operations team is ready for the known and the unknown.

“We are living in unprecedented times and having reliable, intelligent, and flexible networks means we can respond to whatever is thrown at us,” Deloney says. “With a Juniper network, we are ready.”

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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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