EL CENTRO REGIONAL MEDICAL CENTER ELIMINATES CHRONIC WI-FI PAIN WITH JUNIPER MIST

Summary

Company:
El Centro Regional Medical Center

Industry:
Healthcare

Business Challenges:
Resolve longstanding issues with Wi-Fi to enable clinicians and administrators to reliably use mobile devices and connected medical equipment.

Technology Solution:
- *Juniper Mist Platform*
- *Marvis Virtual Network Assistant*
- *Juniper Mist Wi-Fi Assurance*
- *Juniper Mist Wired Assurance*
- *EX4300 and EX2300 Ethernet Switches*

Business Results:
- *Delivered superior network user experience everywhere in the hospital*
- *Streamlined network operations with AI-driven insight and automation*
- *Elevated perception of IT as business partners*
- *Rapidly deployed Wi-Fi in medical tents to triage Covid-19 patients*

El Centro Regional Medical Center serves the healthcare needs of Southern California's Imperial Valley, a region known for growing lettuce, carrots, and other vegetables. Affiliated with UC San Diego Health Care Network, El Centro includes a 161-bed hospital with a state-of-the-art trauma center, two outpatient centers, and specialty outpatient services. El Centro overcame chronic Wi-Fi problems and transformed its network user experience with Juniper's wired and wireless access solution, driven by Mist AI™.

Hidden Causes of Wi-Fi Pain

"When I started at El Centro, everyone complained about the Wi-Fi," says Darryl Mark, information systems manager at El Centro Regional Medical Center.

At the time, clinicians struggled to access patients' medical records from their laptops and tablets. Applications were sluggish over the virtual desktop infrastructure. Medication carts would disconnect when nurses rounded a corner. Secure text messages weren't delivered reliably within the hospital.

One of the most problematic Wi-Fi spots was the executive conference room, but unreliable Wi-Fi affected everyone from doctors and nurses to patients and their families.

Frustrations were justified, but as typically happens, the wireless network was saddled with more than its share of the blame.

"The Wi-Fi was blamed for everything," Mark says.

"During the Covid surge, we couldn't have functioned without the Mist wireless system."

- Darryl Mark, information systems manager, El Centro Regional Medical Center

A New Therapy for the Network

Mark, along with Steve Perez, El Centro's wireless engineer, tried everything in their bag of network tricks. But complaints persisted.

Then Mark and Perez discovered the Juniper AI-Driven Enterprise.

Juniper® Mist™ cloud architecture is built on a modern microservices framework that enables elastic scale to meet the healthcare provider's network transformation needs. It focuses on operational simplicity, 100% API-based programmability, and end-user engagement through location-based services.

With Mist AI, El Centro's network user experience is predictable, reliable, and measurable with unprecedented visibility into the user experience. Wi-Fi is optimized in real time across the hospital based on changing conditions. Time-consuming manual tasks are replaced with AI-driven automation and self-healing actions.

"Juniper networking with Mist AI is a night-and-day difference from other wireless LANs," Perez says. "The level of insight that Mist AI provides is what every Wi-Fi engineer has wanted all this time.

"There's so much work and manual labor that goes into troubleshooting Wi-Fi and capturing data, and Mist AI does it automatically."

Juniper Mist Wi-Fi Assurance automates wireless operations and replaces time-consuming manual troubleshooting, providing predictable, reliable, and measurable Wi-Fi with unique visibility into user service levels. IT can set up and track critical service-level expectations (SLEs). Anomaly detection automatically triggers packet capture for event correlation.

"Dynamic packet capture sold me on Mist AI," Perez says. "At the end of the day, reporting is one thing, but is there data to back it up? When you have a packet capture, all your doubts go out the window. As a wireless engineer, dynamic packet capture with Mist AI was the cherry on top."

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- Steve Perez, wireless engineer, El Centro Regional Medical Center

Changing Perceptions

Once El Centro deployed a Juniper network with Mist AI, a curious thing happened.

"We saw an increase in trouble tickets for the first six months," Mark says. "It was actually a good thing, because it meant that people were calling because they thought we could fix the problem. Mist AI allows us to really see when there are issues."

For example, Mist AI exposed underlying issues with Domain Name System (DNS) and Dynamic Host Configuration Protocol (DHCP) servers, which could then be resolved. Machine learning correlates events to rapidly identify the root cause. Time-series anomaly detection identifies negative trends and the magnitude of their impact.

"With Mist AI, we can fix a problem quickly," Perez says. "Before we would tell the customer, I'll try to replicate the problem and capture the packets to see what's happening."

Ultimately, more service desk calls led to greater trust and confidence in the IT team.

"Now people know we can fix the issues because a Juniper Mist network is so easy to troubleshoot," Mark says. "We saw a perception shift among the clinical and executive staff.

"My stress levels are down because the executive staff isn't calling to ask what's wrong with the Wi-Fi anymore. We have eyes on our network through the Juniper Mist portal."

Simplified Network Operations

A Juniper Mist network streamlines operations for El Centro's IT team, freeing up resources to focus on strategic technology initiatives.

"In the morning, I grab my coffee and look at the Juniper Mist dashboard for SLE metrics and alerts," Perez says. "Then I move on with my day. I have a high level of confidence in Mist AI, so when things pop up, it's a real issue."

The IT team uses Marvis Virtual Network Assistant to streamline network operations and optimize users' network experiences. Marvis is AI-driven and uses natural language processing to provide the IT team with answers to straightforward questions.

"I love Marvis," Mark says. "This morning, I typed in 'how is the network today?' and Marvis said everything was good except one particular access point was having a problem and asked, would you like me to investigate? It doesn't get better than this. A Juniper Mist network is intuitive and easy to use."

That simplicity is critical at all levels of the IT organization. "I trained a helpdesk tech on Juniper two weeks ago," Perez says. "He hasn't asked me a single question since."

Cohesive Network Foundation

Operational simplicity is extended across wired and wireless networks. El Centro's IT team uses the AI-powered Juniper Mist Wired Assurance to automate provisioning and maintain service levels across the hospital's new Juniper Networks® EX4300 Ethernet Switches and EX2300 Ethernet Switches.

"Wired Assurance gives me a direct connection to my switches and Wi-Fi in a very unified fashion so that I can't tell I'm managing two different infrastructures," Perez says. "It's not a bolt-on capability."

A cohesive network has laid the foundation for using technology to deliver better outcomes to its patients. A fast, reliable network enabled El Centro to reliably connect medical devices such as infusion pumps and remote patient monitoring.

The Juniper Mist network also allows El Centro to keep tighter control over high-value, mobile assets like wheelchairs and beds. Juniper® Series of High-Performance Access Points combine Wi-

Fi, BLE, and IoT, eliminating the need for separate BLE sensors and increasing the value of the wireless network.

"We wanted a modular solution in which the wireless access points provide the location services," Perez says. "With the direction of using more IoT devices, we want to go with open solutions."

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-   Darryl Mark, information systems manager, El Centro Regional Medical Center

Rapid Response to Pandemic

Imperial County was hit hard by coronavirus, with rates nearly triple that of Los Angeles County. By July 2020, medical tents filled El Centro's parking lot, and 90% of patients tested positive for Covid-19.

"We were focused on setting up new wards and tents and supporting all of our users who had to work remotely," Mark says. "Everything was moving so fast, but we didn't have to worry about our Juniper Mist network.

"During the Covid surge, we couldn't have functioned without the Mist wireless system."

Stress-Free Wi-Fi

An AI-driven enterprise with Juniper networking resolved El Centro's longstanding issues with Wi-Fi reliability, making it easier for clinicians to focus on delivering high-quality, cost-effective care to the people of the Imperial Valley. AI-driven insight and automation streamlined IT's workflow, freeing up teams for strategic technology leadership instead of day-to-day network maintenance and troubleshooting.

Having a Juniper Mist network has had a personal impact, too.

"I used to go to bed worrying about the Wi-Fi," Mark says. "Now, I still have things to worry about, but Wi-Fi isn't one of them."

Perez has deep experience with different wireless LAN solutions and is confident that Juniper Mist is his next best step in professional development.

"With Mist AI, I feel like I'm working on the edge of Wi-Fi, and that looks amazing on my resume," Perez says. "On a personal level, I'm gaining value from learning Juniper Mist."

The bottom line, Mark says, is "if you have low resources or are a small team, Juniper Mist is a good team member that plays well with others."

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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