alaska COMMUNICATIONS.

ALASKA COMMUNICATIONS TELEHEALTH NETWORK BRINGS HIGH-QUALITY HEALTHCARE TO RURAL AND REMOTE VILLAGES

Summary

Company:
Alaska Communications

Industry:
Healthcare

Business Challenges:
Use telemedicine to give patients in rural and remote areas of Alaska access to high-quality healthcare services.

Technology Solution:
- *MX80 and MX5 Universal Routing Platforms*
- *SRX Series Services Gateways*

Business Results:
- *Now providing emergency services, advanced diagnostics, specialized medical treatments, palliative care, and mental healthcare to Alaskans in rural areas and the bush*
- *Improved the success rate and reduced costs for treating patients with chronic illnesses*

"In Alaska, telehealth is not a word," says Colin Underwood, healthcare program manager at Alaska Communications. "It's just the way healthcare is done here." Underwood has led Alaska Communication's healthcare program for the last eight years—and witnessed a monumental transformation.

Alaska is known for its great expanses and rugged beauty, but those same attractions become major obstacles when it comes to providing healthcare. Alaska comprises roughly one-sixth of the nation's total land area, and 99.95% of the state is rural. Several hundred small communities are not reachable by roads, connected to the electrical grid, or have terrestrial broadband.

Many of these communities are so small or remote that they do not have readily available healthcare. People may wait months for a nurse practitioner or physician to fly in; once there, clinicians don't necessarily have access to patients' medical records or other healthcare applications and resources they have in the cities. When sick or injured, people may have to travel great distances (and at a great expense) to get treatment. A particular specialist may be available in only one hospital—or not at all.

Thankfully, those days are now over.

Alaska Communications offers a specialized private network that enables healthcare providers to serve the needs of the people in urban centers, rural areas, and the bush. The Alaska Communications medical network spans the continuity of care, connecting public healthcare providers, tribal community health centers, and private hospital systems across the state. Some 25 healthcare providers and 100 locations are connected.

All in a Day's Work: Permafrost and Bears

Building a network in Alaska means overcoming mountains, rivers, permafrost, and subzero temperatures. The construction and maintenance season is short, and crews have to watch out for bears, wolves, and other wildlife. But those hardships haven't stopped the team at Alaska Communications from transforming the way healthcare is delivered in their state.

"With the Juniper network connecting the hospital and radiology provider, that image can be sent in two minutes now."

- Colin Underwood, Healthcare Program Manager at Alaska Communications

Alaska Communications chose Juniper Networks® MX Series Universal Routing Platforms for its private healthcare network, based on its long history of using Juniper routing in its core network that delivers broadband and IT managed services across the state. "Juniper was a natural choice for our private medical network," says Underwood. Expertise in Juniper Networks Junos® operating system enabled the team to build the network faster and simplify operations.

The network delivers fast, reliable, secure connectivity to healthcare providers and partners, with a core network uptime of 99.9999%. Capabilities like IP/MPLS, quality of service, and guaranteed service-level agreements extend from the core to the edge, right into the healthcare providers' facilities, making it easier to deliver consistently high-quality services to customers.

A Juniper network affords a high degree of flexibility, making it easier for Alaska Communications to adapt its network to the individual performance, availability, and security requirements of its healthcare customers. "We listen to our customers, understand their needs, and deliver a unique solution for each," says Underwood. "With a Juniper infrastructure, we can fine-tune our network to meet each customer's needs, and that's really where we differentiate ourselves."

Bringing Quality Care to Villages

"Before telehealth, people had long delays in healthcare," says Underwood. "Things were done by mail, phone, or fax. People had to wait for a rotating physician or nurse to come through the village."

Now, with the Alaska Communications network, healthcare providers can provide emergency services, advanced diagnostics, specialized medical treatments, palliative care, and mental healthcare to people in rural areas and the bush at levels that simply were not possible before. High-speed broadband has reduced the cost of and improved the success rate for treating patients with chronic illnesses such as diabetes and heart disease.

Telehealth has transformed care at AK Child & Family, which provides care and treatment for youth with emotional and behavioral diagnoses. Angie Rush, director of development at AK Child & Family, has been with the nonprofit for 21 years. Just two years ago, when a child was in crisis, it was exceedingly difficult to contact families and get their permission to admit the children to the hospital. In places like Gambell—on an island in the Bering Sea—families often had to take a snowmobile or boat into town to use the phone at the grocery store, she says. A missed call could delay admission even longer.

Through telehealth, AK Child & Family has a virtual presence in seven schools in the bush, with psychiatrists and other professionals on call for interventions and care. Village elders and family members can be trained to be therapeutic foster parents. Students, teachers, and families can learn about suicide trends, fostering kids, and other key educational resources through on-demand resources and videoconferencing. Kids in crisis can get the help they need—without removing them from their communities unless absolutely necessary.

"In Alaska, telehealth is not a word. It's just the way healthcare is done."

Colin Underwood, Healthcare Program Manager at Alaska Communications

"It's a joy to be more responsive and help more families," says Rush. "We can provide immediate intervention. We don't just have to tell them to go to the hospital. With the videoconferencing technology, we can support them where they're at."

Chugachmuit, which serves the native communities of the Chugach region, was among the first in the state to use telehealth for emergencies. Chugachmuit has a main clinic in Seward, AK and seven bush locations, all connected by Alaska Communications' network. Now, if a person has a serious accident or a stroke, for instance, a community health aide can use a tablet to get instant access to the emergency room doctors at Alaska Native Medical Center in Anchorage, more than 100 miles away.

"Working virtually, the ICU staff and the in-person staff at the community health center work to triage the patient, diagnose what needs to be done, and the ICU staff can walk the medical professional through the procedures to treat the patient," says Underwood.

More than 500 miles away, broadband has had a major impact at Sitka Community Hospital. Medical images can be transmitted faster, shaving the time it takes a radiologist to read a scan and return a diagnosis to a physician. Before becoming an

Alaska Communications customer, it could take up to two hours to send images to the hospital's radiology provider in Oregon. "With the Juniper network connecting the hospital and radiology provider, that image can be sent in two minutes now," says Underwood.

"Imagine all of the services that are available to you in one building when you go to your doctor's office," says Underwood. "In Alaska, healthcare providers are trying to do that via telehealth." With technology continually advancing and the need for high-speed broadband ever-growing, Alaska Communications continues to innovate to push the boundaries of delivering reliable connectivity under some of the harshest conditions in the world.

"With a Juniper infrastructure, we can finetune our network to meet each customer's needs, and that's really where we differentiate ourselves."

- Colin Underwood, Healthcare Program Manager at Alaska Communications

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.

Corporate and Sales Headquarters

Juniper Networks, Inc.

1133 Innovation Way

Sunnyvale, CA 94089 USA

Phone: 888.JUNIPER (888.586.4737)

or +1.408.745.2000

Fax: +1.408.745.2100

www.juniper.net

APAC and EMEA Headquarters

Juniper Networks International B.V.

Boeing Avenue 240

1119 PZ Schiphol-Rijk

Amsterdam, The Netherlands

Phone: +31.0.207.125.700

Fax: +31.0.207.125.701

JUNIPER NETWORKS | Engineering Simplicity

EXPLORE JUNIPER
Get the App.

JUNIPER 1ON1

Available on the App Store

ANDROID APP ON Google Play