

Port of Anacortes Introduces Wireless to Its Challenging Marine Environment



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ANTHONY ESPOSITO,
INFORMATION TECHNOLOGY SERVICES
MANAGER,
PORT OF ANACORTES



Overview

WITH 100 SQUARE MILES OF NATURAL RESOURCES TO PRESERVE, the Port of Anacortes was formed in 1926 to promote economic development for Anacortes and the surrounding area. Establishing an eco-friendly environment and community-centered approach, the Port of Anacortes was awarded “Port of the Year” by the Washington Public Ports Association. Today, Xirrus Wi-Fi enables the port to offer guests and boaters high-speed internet that is resilient enough to withstand the harsh weather conditions of the sea.

The Port of Anacortes leads the industry in environmentally conscious efforts, prompting a series of awards, including the American Association of Port Authorities Environmental Award and the Clean Marina Washington Award. With more than 950 boat slips, the Port draws thousands of visitors and supports nearby downtown businesses.

In 2012, the Port of Anacortes installed security cameras with integrated Wi-Fi to support the security system and also support staff and boaters. Unfortunately, the challenging conditions of the marina environment – wind, rain, boats, tide, fog, snow, and water, among other factors - interfered with wireless network.

“The wireless network supported the cameras, but besides that, the signal was virtually nonexistent,” said Anthony Esposito, Information Technology Services Manager at Port of Anacortes. “We had big technology plans for both port staff and members, but a sub-par wireless network held these initiatives hostage.”

Administrators at the Port of Anacortes contracted EPI Networks, a company with extensive knowledge in outdoor, marina environments, to implement a high-performance wireless network.

Anticipating Boaters’ Expectations and Enabling Staff

ALREADY PROVIDING A COMPREHENSIVE SET OF AMENITIES, including a restaurant, picnic areas, taxi services, fuel, seafood sales, fishing charters, bait and tackle, propane, RV facilities, laundry and ice, the Port of Anacortes predicted that wireless would be a welcomed addition for boaters.

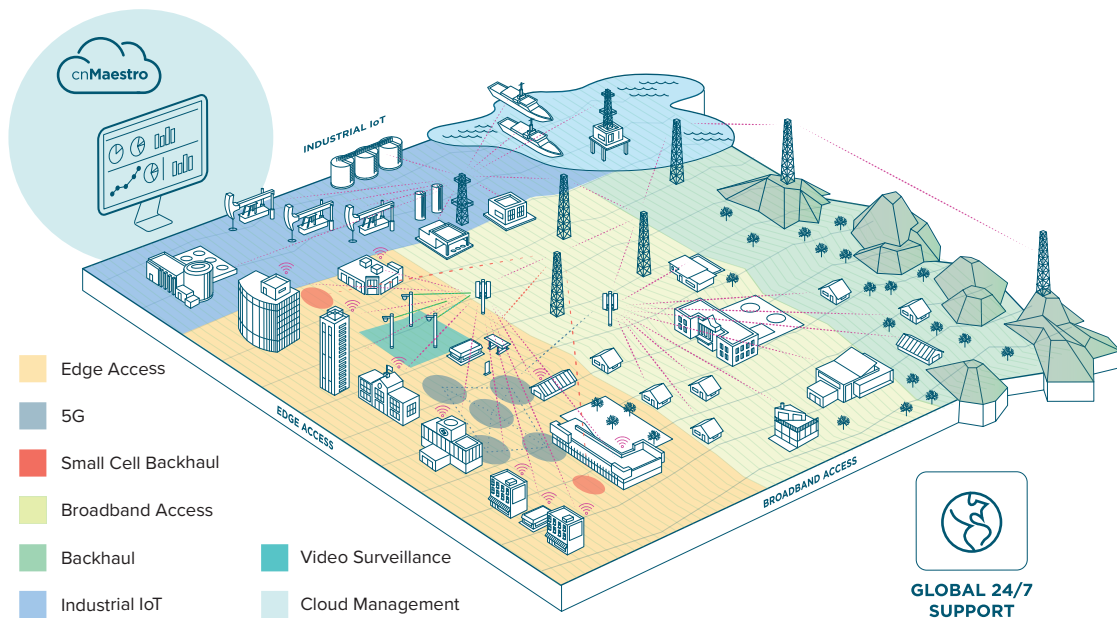
Esposito added: “The Port of Anacortes is so much more than well-maintained docks and slips – for many of our guests, it is a home away from home. We wanted to lead the industry, and demonstrate that mobile technologies could enhance the traditional port and marina experience.”

“People come to the port to get away from the city,” said Chris Craig, Owner of EPI Networks. “Nonetheless, boaters, their guests and families want to stay connected; they want to browse the web, stream videos and share their experiences on social media. The Xirrus [Wi-Fi] network we installed allows them to do that.”

EPI Networks set out to create a network to support high-bandwidth applications, such as boaters streaming high-definition movies on Netflix from their boats. EPI Networks created a distributed network using XR series Wi-Fi access points (AP) deployed in outdoor enclosures across the large open spaces and often harsh environment of the port.

XR series Wi-Fi APs are fully modular, enabling field upgradability to support new wireless technologies such as 802.11ac without forklift hardware upgrades. XR Wi-Fi APs feature from 2 to 16 radios to deliver highly scalable wireless with consistent performance.

EPI Networks deployed XR-2420, XR-4420 and XR-4820 Wi-Fi AP models supporting 4, 4 and 8 radios respectively per AP. Each XR radio is software programmable meaning it can support either 2.4 GHz or 5GHz, with data rates up to 300 Mbps. The multi-radio Wi-Fi AP architecture significantly reduced the amount of equipment required in the Anacortes deployment, resulting in savings in cabling, switch ports, installation time, maintenance and power consumption that contributed to the lower total cost of ownership (TCO) of the solution.



Cambium Networks' Gigabit wireless solutions enable municipal, enterprise and service provider operators to tailor connectivity to meet exact requirements and grow as needs evolve.

Each Xirrus Wi-Fi AP supports Application Control that identifies applications on the wireless network and lets administrators set a variety of policies, including prioritizing bandwidth for specific applications, limiting bandwidth for other applications, or blocking applications outright. This helps ensure Port of Anacortes that business critical applications are provided sufficient treatment on the network. Besides supporting boaters, the wireless network supports new customer service initiatives, including providing port staff access to custom mobile applications on tablets to check in boaters, take payments, and update dock information.

“Beyond satisfying guests, the introduction of comprehensive wireless coverage made our internal information and processes more dynamic. Mobility allows things to happen in real-time, and that makes us more efficient and better able to serve boaters,” said Esposito.

Site administrators credit Xirrus Wi-Fi APs with minimizing complaints and the need for IT intervention.

Prepared for Tiered Wireless plans and Monetization

WITH A COMPREHENSIVE NETWORK covering all areas of the port, administrators are considering new revenue opportunities. One such consideration is offering tiered plans for Wi-Fi access. Administrators plan to establish daily and monthly rates, with varying rates depending on membership status and the Internet speeds provided.

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The Port of Anacortes also enabled wireless service for Seafarer’s Memorial Park Building, providing high-speed Internet access to the 125-capacity building. The wireless network services parties hosting barbecues, weddings, receptions, family reunions and graduation celebrations. The network also extends to a waterfront stage in Memorial Park, where concerts are held.

With a scalable wireless network in place, network engineers plan on extending the network to the Marine Technology Center Conference Room, a 290-capacity building for training, classes or company meetings, creating an additional revenue opportunity.

Since deploying the network, administrators have identified an eight-fold increase in wireless network traffic via the Xirrus Management System (XMS).



Advantages of Xirrus Wi-Fi

WITH THE EXPLOSION OF SMARTPHONES AND TABLETS, mobility has become pervasive. People expect to connect wirelessly. Organizations depend on high-bandwidth to send and receive voice, video and data, from any device to any one. Xirrus Wi-Fi APs draw from cellular tower design principles to provide wired-like reliability, increased user density and capacity plus superior security. They perform under the most demanding conditions and have lower infrastructure requirements. When integrated with business and IT objectives, they help you do more than ever before.

Cambium Networks applies the “best practices” of wired networking to wireless infrastructures by distributing the intelligence to the edge and outfitting Wi-Fi APs with dense multi-state radios in the same manner as a wired switch. Xirrus Wi-Fi APs work as part of a strategic IT infrastructure advantage that fuels organizations.