Proxim wireless

CASE STUDY

Transportation/ Maritime

Sunrise Wireless Deploys Proxim Wireless' Backhaul, WiMAX and Wi-Fi to Unwire the San Francisco Bay

Sunrise Wireless, a pioneer in the development of wireless broadband systems for the maritime industry, has deployed Proxim Wireless' equipment to unwire the San Francisco Bay. Sunrise Wireless deployed a system that uses a combination of Proxim's point-to-point wireless backhaul, license-free WiMAX, and Wi-Fi® products for an end-to-end broadband wireless network that enables wireless connectivity for vessels throughout 62 square miles of the Bay.

The system, which is designed to service all users of the Bay – from the researcher in a small boat collecting marine samples to the commuter traveling to work at 40 mph in the comfort of a high speed ferry – is called SFOWetNet. The SFOWetNet consists of two networks sharing a common backhaul that overlay one another. One network is designed to serve commercial vessels, and the second provides Wi-Fi access for recreational boaters throughout the central and western parts of San Francisco Bay. These two networks include:

- WiMAX for commercial vessels – Provides high-performance, unlicensed WiMAX connectivity to enable reliable connectivity for commercial vessels, including ferries, tugboats, tankers, cargo and dinner cruise vessels as well as public safety vessels such as police, fire and search and rescue boats. The network currently provides broadband Internet connectivity and in the near future will provide wireless VoIP and wireless real-time streaming video for the delivery of news and entertainment directly the vessels on the move.
- WiFi for the recreational boater – Provides Wi-Fi connectivity for all recreational vessels, enabling all boats to receive Wi-Fi access via an hourly, daily or monthly subscription. A laptop is all that is needed to enjoy Wi-Fi service up to a half mile from shore, and longer distances are possible with the use of a range-extender.

The wireless network coverage area stretches from the Bay Bridge to the San Rafael Bridge, as well as from Alcatraz/Angel Island all the way to the Golden Gate Bridge.

"We have utilized Proxim's end-to-end wireless systems for maritime deployments in the past – including our deployment with the Washington State Ferry (WSF) system – and I believe the Proxim solution is the best for marine broadband networks," said Milton Gregory, President of Sunrise Wireless. "Not only does the system just work, but Proxim is the only place I can get a complete Wi-Fi, WiMAX and point-to-point wireless backhaul solution in one place. Proxim has the tools needed to enable high speed roaming applications combined with the ability to provide high-bandwidth wireless connectivity over water, which is an exceptionally demanding RF environment. No other technology is as cost effective for this application."

In order to cover the San Francisco Bay with wireless connectivity, Sunrise Wireless utilizes the following Proxim Wireless products:

- Proxim Tsunami™ MP.11 5054R and 5054R-LR – The Tsunami MP.11 5054R-LR base stations and subscriber units provide license-free WiMAX connectivity from commercial vessels all the way to the shore from within the 62 square mile coverage area.
- Proxim ORiNOCO® AP-4000 MR-LR – The ORiNOCO AP-4000s provide long-range Wi-Fi coverage from the shore to about a half mile into the water for laptop users and further for those using a range extender, enabling recreational boats to connect via Wi-Fi.

Challenge:

- Sunrise Wireless needed to create a wireless network covering a large body of water, which is a tough environment for RF
- A complete end-to-end solution was needed, which could provide wireless backhaul, point-to-multipoint connectivity, and Wi-Fi access all in one system
- Not only did they want to offer basic Wi-Fi connectivity for recreational boaters, but also high performance mobile PtMP connectivity for commercial vessels capable of streaming VoIP and video

Proxim solutions:

- Proxim Tsunami™ MP.11 5054R and 5054R-LR – Base stations and subscriber units provide license-free WiMAX connectivity from commercial vessels all the way to the shore from within the 62 square mile coverage area.
- Proxim ORiNOCO® AP-4000 MR-LR – Provide long-range Wi-Fi coverage from the shore to about one mile into the water for laptop users and further for those using a range extender, enabling recreational boats to connect via Wi-Fi.
- Proxim Tsunami®.GX – Provides the wireless backhaul from the WiMAX and Wi-Fi radios back to the network operations center – 40 miles of wireless backhaul, total.

Results:

- 62 square miles of the San Francisco Bay covered, providing wireless connectivity for both commercial and recreational vessels
- Commercial vessels can receive 12 to 36 Mbps wireless connection throughout the Bay, and can stream both VoIP and video
- Recreational boaters can connect via Wi-Fi up to a half mile from the shore