

## Washington State Ferry System Offers Wi-Fi® to Passengers on Boats Using Proxim for Wireless Backhaul from Ship to Shore

The Washington State Ferry (WSF) system deployed Proxim's license-free WiMAX solutions to provide wireless backhaul to their entire fleet of vessels, enabling them to offer Wi-Fi access to all passengers. WSF has utilized a combination of Proxim's Tsunami™ MP.11 5054-R base station units and Tsunami MP.11 5054-LR base and subscriber units to provide point-to-multipoint connectivity with over 12 Mbps throughput to every vessel.

WSF carries 25,000 passengers per day on 500 sailings. Wi-Fi service is available on 15 vessels ranging in size from 460 ft. vessels that carry 2,500 passengers and 200+ cars and trucks down to the smallest that carry about 1000 passengers and 80 cars and trucks. Users experience seamless internet coverage over five routes that vary in length from 2.8 miles to over 15.5 miles. Coverage is also provided at 11 of 14 WSF terminals.

To design the system, WSF contracted with Wi-Fi service provider Parsons Corp. of Irvine California, who sub-contracted system design, development and deployment to Sunrise Wireless, a San Francisco Bay Area wireless integrator. The original design goal was to provide a minimum of 12 Mbps throughput to each vessel in the WSF fleet, while guaranteeing an always-on connection. The final solution using Proxim products exceeded that goal.

WSF has 25 vessels that run different routes from as far south as Port Defiance in Washington all the way up to Sidney in British Columbia, so one major challenge was developing a system that could maintain the high throughput levels and seamless connectivity regardless of where a vessel was located along a route and also be independent of what route a vessel was taking.

In addition to the size of the area that needed to be covered, Sunrise had the added challenge that water brings to all RF environments due to the added attenuation affects that water has on RF. After assessing connectivity needs and the present challenges, Sunrise determined that the only system that could meet users' needs in a cost-effective manner was Proxim's point-to-multipoint license-free WiMAX solution.

"We tested solutions from other wireless vendors, but had difficulty in getting reasonable performance particularly when it came to roaming over water – the requirements and environment were very demanding," said Milt Gregory, President of Sunrise Wireless. "Satellite solutions would cost significantly more and provide less throughput than needed, so that wasn't an option either. At the end of the day, Proxim's WiMAX gear came through, and far exceeded the requirements for the project. We are consistently getting throughput that is significantly greater than the design goal of 12 Mbps, out to each vessel and throughout the system. Additionally, support from Proxim throughout the design and deployment has been exceptional – an important contribution because of the very harsh marine RF environment."

The system, which is now completed and fully operational, connects 15 vessels with 11 terminals and numerous shoreline access points. And because Proxim's products are providing greater throughput than the original 12 Mbps design goal, the system is already capable of supporting advanced wireless applications such as VoIP and streaming video in the future without requiring any additional radios.

"Wireless connectivity has become so ubiquitous that people just come to expect it wherever they are, whether they're in stores, at coffee shops, or in public parks. Why shouldn't they be able to remain connected while on the ferry each day?" said Robb Henshaw, Global Director of Marketing at Proxim Wireless. "At Proxim, all we do is wireless, so we have the focus and experience it takes to overcome challenging deployment environments like these and provide wireless connectivity that exceeds the performance of other solutions, and in a more cost-effective manner."



### Challenge:

- Washington State Ferries (WSF) carries 25,000 passengers per day – many of whom are commuters who prefer to stay connected and use the commute time to remain productive
- As an added service to passengers, WSF decided to provide free Wi-Fi on all of their vessels
- In order to provide Wi-Fi connectivity, though, they needed to establish a wireless connection to the vessels, and the cost of satellite solutions was far too high for too little bandwidth

### Proxim solutions:

- A ship-to-shore point-to-multipoint (PtMP) wireless backhaul network that can maintain connections with the vessels as they travel throughout their routes
- WSF utilized a combination of Proxim's Tsunami™ MP.11 5054-R base station units and Tsunami MP.11 5054-LR base and subscriber units to provide PtMP connectivity with over 12 Mbps throughput to every vessel

### Results:

- Wi-Fi service is available on 15 vessels, and the connectivity enabled by Proxim provides much higher bandwidth than competing solutions (satellite, etc.) at a fraction of the cost
- Users experience seamless internet coverage over five routes that vary in length from 2.8 miles to over 15.5 miles
- Coverage is also provided at 11 of 14 WSF terminals

### ABOUT PROXIM

Proxim Wireless (OTCQX: PRXM) is a leading provider of end-to-end broadband wireless systems that deliver the quadruple play of data, voice, video and mobility to all organizations today. Proxim's portfolio of point-to-point, point-to-multipoint/WiMAX, Wi-Fi Mesh and WLAN products enable applications including wireless video surveillance, intelligent traffic systems (ITS), last-mile connectivity, enterprise WLANs, cellular backhaul and more. Proxim's wireless networks are utilized by organizations of all types, including WISPs, carriers/service providers, government organizations, enterprises, educational institutions and healthcare organizations. Proxim has shipped over 2 million units to more than 250,000 customers worldwide and is ISO-9001 certified. For information, about Proxim can be found at <http://www.proxim.com>