

# Genesis Wireless Brings Service to Resort, Builds Revenue

Braham, Minnesota



## Solution Provider

Genesis Wireless is a wireless Internet service provider and system integrator based in Braham, Minnesota. Its state-of-the-art wireless network has 23 Points of Presence (POPs), covers over 3,000 square miles (more than 4,800 square km) and delivers carrier-grade broadband services. Genesis Wireless provides voice and data services to all types of businesses both in urban and remote locations, including custom point-to-point links in metropolitan Minneapolis for corporate, government, municipal and medical organizations.

## The Situation and Challenge

Genesis Wireless recognized the Mille Lacs lake resort community in Minnesota as an under-served market. Broadband connectivity into the remote location was scarce and at a premium cost. If Genesis could deploy a wireless broadband link to the community, it could service the hotels, small businesses, casinos, emergency services and more.

However, a wireless connection over the critical 20-mile (32-km) path into Mille Lacs from Genesis' POP in Mora, Minnesota, could not be deployed with reliability. The terrain and slope of the wireless path obstructed the line-of-sight, preventing a reliable connection – and extreme weather in this geography would only make matters worse. Gaining direct line-of-sight would require building a 300-foot (91.4-meter) tower.

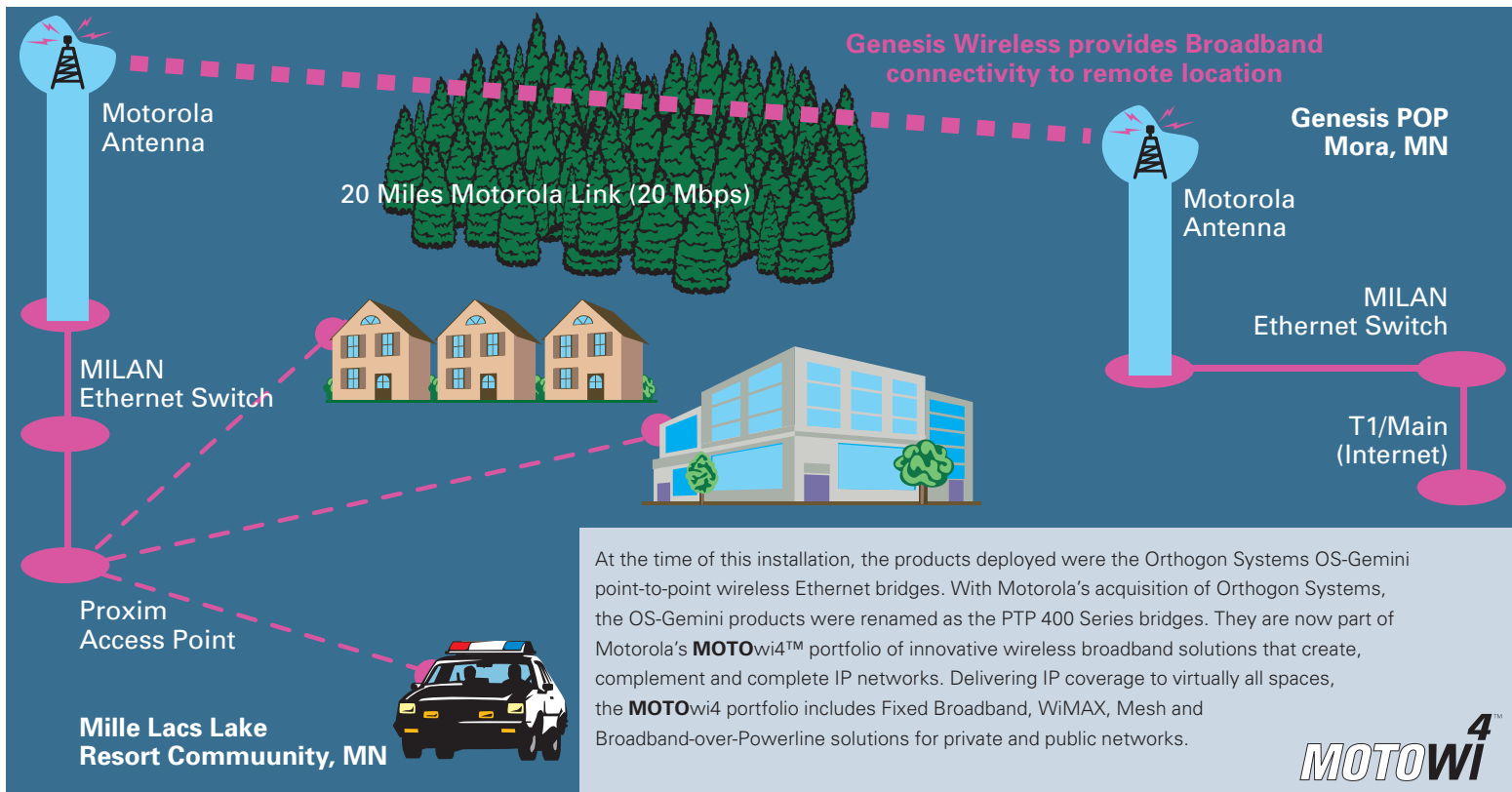
## Technical Requirements

- The 20-mile (32-km) link required high throughput over a fully-obstructed fresnel zone and partially obstructed path to backhaul traffic from Mille Lacs
- The connection required carrier-class reliability for emergency services
- The broadband link had to support both voice and data
- High levels of security were needed

## Deployment Detail and Interoperability

Genesis' Point-of-Presence (POP) in Mora, Minnesota, was 160 feet (48.8 meters) higher than the Mille Lacs endpoint and the path was heavy with 80-foot (24.4-meter) tree growth. The Motorola PTP Wireless Ethernet Bridges – 400 Series Connectorized system with a Radio Wave four-foot (1.2-meter) dual polarity antenna was mounted on 110-foot and 130-foot (33.5-meter and 39.6-meter) water towers on either end of the connection.

On the Mille Lacs side of the link, the Motorola PTP 400 unit connects with a MiLAN 10/100 auto-sensing Ethernet Switch feeding to a Proxim ORiNOCO AP-1000 Access Point with two 802.11 ports that provide the last-mile wireless connectivity to customers. On the Mora side of the link, the Motorola PTP 400 unit connects with a MiLAN 10/100 auto-sensing Ethernet switch that feeds directly into a T1 line in the NorthStar Central Office in Mora.



### The Results

The Motorola system enabled Genesis Wireless to enter the Mille Lacs business community with a superior broadband-service offering at an affordable cost. It provided a carrier-class, highly secure 20-mile (32-km) broadband connection running at an average of 28 Mbps to backhaul traffic to its POP – a link that was impossible to achieve with other broadband wireless platforms. And, it didn't require a significant capital expenditure by Genesis.

In addition, the platform enabled a business partnership for cost-effective Voice-over-IP (VoIP) services to be delivered over the link for metro dialing – another value-added service for Genesis' customers. Applications of Genesis Wireless services include:

- Equipping police squad cars with roaming broadband to provide real-time identification data from the Department of Safety database
- Voice and data wireless DSL for small and medium businesses
- Roaming connectivity for businesses and safety services on the lake

The Motorola PTP 400 Series solution offered Genesis a savings of 66% over the cost of using conventional equipment to daisy-chain a connection or building a tower. And the Motorola PTP solution provides higher data rates and greater reliability than conventional solutions.

### Why Motorola?

- Other wireless products could not provide a reliable connection for the near-line-of-sight/non-line-of-sight requirements
- The Motorola PTP 400 Series unit is not affected by extreme weather or water
- The system worked out of the box and kept running with minimal effort
- The upstream/downstream channels can be partitioned and manipulated
- The system is connected in one hop as opposed to two or three
- Genesis Wireless can use its antennas-of-choice

### About Motorola

Motorola is known around the world for innovation and leadership in wireless and broadband communications. Inspired by our vision of Seamless Mobility, the people of Motorola are committed to helping you get and stay connected simply and seamlessly to the people, information, and entertainment that you want and need. We do this by designing and delivering "must have" products, "must do" experiences and powerful networks – along with a full complement of support services. A Fortune 100 company with global presence and impact, Motorola had sales of US \$36.8 billion in 2005. For more information about our point-to-point products and services, visit our website at [www.motorola.com/ptp](http://www.motorola.com/ptp).

*"The Motorola system offered significant cost-savings, peace-of-mind that the link stays up and running, and the confidence to sell business-grade services to our customers. It also opened up new sources of revenue that we were unable to address before."*

*~ Jay Mankie,  
founder and CTO,  
Genesis Wireless*



**For more information about the Motorola Point-to-Point Solutions:**

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**[www.motorola.com/ptp](http://www.motorola.com/ptp)**

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