

**CASE STUDY**

**About ABC Communications**

ABC Communications is one of the largest Wireless ISP (WISP) in Western Canada, serving thousands of residential customers, government agencies, and schools in rural British Columbia. With presence in over 30 cities and towns, and covering a wide geographic area, from the US border to Northern BC, ABC's wireless networks use a mix of licensed and unlicensed frequencies, legacy equipment and cutting-edge technology. ABC Communications was an early adopter of WiMAX technology, and continues to implement WiMAX networks to provide Internet access, VoIP, Video, and VPN access to a growing number of customers.

**The Challenge**

In communities such as Naramata and Indian Rock on the eastern shores of Lake Okanagan, close to the City of Penticton, the frequency environment was getting congested, leading to degradation of service for wireless customers operating in the unlicensed 2.4GHz frequency band. Since most of the infrastructure installations for these deployments are typically outdoors, network equipment also needed to withstand the inclement weather conditions of this region with temperatures ranging from -30 °C to +40 °C.

**The Solution**

ABC Communications held license for 3.5GHz spectrum and the lightly licensed 3.65GHz spectrum for the majority of British Columbia, and needed a practical and a cost-effective way to use these licensed frequencies to deliver broadband services customers in these sparsely populated areas. After evaluating multiple equipment vendors, ABC selected Tranzeo's WiMAX solution incorporating Pico Base Stations (pBS), Subscriber Units (SU), and AirSync Network Management System (NMS) to provide predictable network performance and assured service levels. ABC installed a Tranzeo Pico Base Station next to existing Tranzeo 2.4GHz access point and began migrating customers to the new 3.65GHz system. The 3.65GHz SU uses similar platform as the 2.4GHz CPE, so no changes to the mounting hardware and cabling at the customer sites were required.

*"Return on investment is the driving force behind our product choices," said ABC president, Bob Allen. "The ROI of a broadband network is sensitive not only to the capital cost, but also by the longevity of the equipment and technology. Tranzeo's Pico Base Station offers the performance and flexibility of the WiMAX platform at a price that allows for fast ROI. We're happy, and more importantly, our customers are happy."*

Following the change-out to 3.65GHz, customers reported a vastly improved experience. As word of excellent service levels travelled through the community, the customer base on the Pico Base Stations continue to grow.

*"Tranzeo's Pico Base Station has been solidly reliable and has increased our revenue stream," said Allen. "Our customers appreciate the improvement in service afforded by WiMAX technology and licensed frequencies."*



**Highlights**

- ABC Communications is one of the largest Wireless ISP in Western Canada.
- Provide broadband services to thousands of residential customers, government agencies, and schools for Internet, VoIP, Video, and VPN access.
- Coverage in more than 30 cities and rural communities in British Columbia.
- Congestion in the unlicensed 2.4GHz band lead to degradation of service.
- Used licensed 3.5GHz and lightly licensed 3.65GHz spectrums to maintain best-in-class service levels.
- Tranzeo's 3.5GHz and 3.65GHz WiMAX solutions were selected because they are easy to deploy, rugged, and cost-effective.
- More than 10 Pico Base Stations and 150 Subscriber Units have been deployed to-date with planned future expansions.
- Using AirSync Network Management System for Provisioning, Resource Management, and Device Configuration.
- Improved customer satisfaction and increased revenue stream have been reported.

**Tranzeo Wireless Technologies Inc.**

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### Powerful Pico Base Station (pBS)

Two 3.5GHz Pico Base Stations have been in operation since 2008. The first 3.65GHz base station was installed in mid-2009 when Industry Canada announced their intentions to offer this lightly licensed spectrum for last mile use similar to what the FCC allows in the US. Two additional 3.65GHz Pico Base Stations were installed in late 2009. Now, with more than 10 base stations deployed and over 150 active clients, additional base stations are planned to be installed as more customers continue to subscribe for broadband services in different areas. However, each Pico Base Station is capable of providing service to up to 31 clients. Currently, many of these base stations only have 5-10 customers, so significant growth potential can still be achieved with existing base stations with minimum capital expenditure.

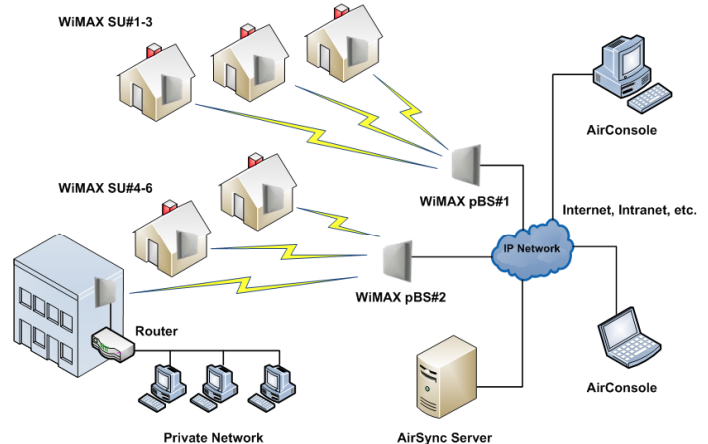
### All-in-One Subscriber Units (SU)

With high performance radio and integrated panel antenna, Tranzeo's Subscriber Units come complete with mounting hardware, POE injector, and power supply for the lowest cost of ownership and for fast installations. With typical distances of 3-11 km between pBS and SU, highest modulation rate of 64-QAM 3/4 was possible thus providing maximum bandwidth, especially in LOS conditions. On the lower side, there are links averaging 5 km through moderate tree coverage, so modulation can drop to QAM-16 1/2, especially in heavy snow tree coverage. Supporting 3.5MHz channel bandwidth, up to 10Mbps aggregate throughput per point of presence (POP) could be achieved, while providing flexible and efficient spectrum usage.



### AirSync Ready - Centralized Network Management

ABC Communications deployed AirSync Network Management System (NMS), which is bundled with the Tranzeo Pico Base Station. AirSync contains three integrated modules (Provisioning Manager, Resource Manager, and Device Manager) that are used to deliver assured service levels and carrier-grade QoS, while meeting the scaling and interoperability requirements expected from a carrier-class solution. Monitoring and controlling of the network from anywhere is made possible via a windows-based application called **AirConsole**.



### The Results

ABC Communications continues to leverage the 3.5GHz and 3.65GHz spectrums to maintain best-in-class service levels to wireless Internet customers, and to protect and increase revenue streams in environments where harmful interference can degrade the performance of unlicensed wireless networks.

*"We are very pleased with Tranzeo's WiMAX solution. In addition to expanding our current user base, we plan to replace parts of our existing 2.4GHz network with the Tranzeo WiMAX product family," said Allen. "The equipment quality and power available in the licensed bands lets us offer reliable systems with good reception throughout our broadcast area."*

### About Tranzeo Wireless

Tranzeo Wireless Technologies Inc. (TSX:TZT) leads the wireless broadband industry for value, by producing high-performance wireless network equipment with a low cost of ownership and unparalleled service allowing communities and businesses to communicate without boundaries. Since the company's inception in 2000, Tranzeo's optimum cost effectiveness, premium quality and responsive support have attracted a growing number of devoted dealers, distributors, and customers worldwide. Tranzeo's full spectrum of point-to-point and point-to-multipoint radios, WiMAX equipment, and mesh network solutions are designed for use by wireless internet service providers, governments, campuses, military, carriers, enterprise, and systems integrators worldwide.

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