Case Study - WiMAX in rural and remote areas:

Netago Wireless - Special Areas in Alberta, Canada

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Items covered in this presentation

- Introduction
- Main drivers of the project
- Location and population of the Special Areas
- The Special Areas Board
- Background on Netago Wireless
- Why Netago chose WiMAX?
- Nortel’s involvement
- Success Story
Introduction

- This presentation describes a WiMAX trial of a solution in south eastern Alberta in an area called Special Areas of Canada
- The area is administered by the Special Areas Board or SAB
- WiMAX is a leading technology for providing high speed access to sparsely populated rural areas
- WiMAX brings the benefits of DSL-like speeds similar to urban areas to rural and remote areas and enables access to the internet
- Nortel provided a trial deployment of WiMAX for Netago Wireless in the Area
- This trial demonstrated how WiMAX can successfully provide service to a large, remote area that would otherwise be underserved or, at best, significantly underserved.
Main drivers of the project

- The population is growing across Alberta except in the Special Areas. The aim is to attract new businesses and families to SAB, retain future generations
- Provide high-speed data services to residents of rural Alberta at comparable prices to urban areas
- Nortel objective was to supply the customer with the best WiMAX technology and expertise to deliver a cost-efficient fixed broadband solution

Broadband services is a missing critical economic driver
Special Areas are in the province of Alberta, Canada.
Population in the area is around 12,000
Area is approximately 21,000 square km
Arid terrain
Industries: farming, ranching, oil and gas
SAB is a unique rural municipal area covering approximately 2.1 million hectares in south-eastern Alberta.
Special Areas Board (SAB)

- SAB is responsible for the administration of all municipal services in the area.
- SAB is also responsible for public land management with the lease of more than 50% for the purpose of the local economy (e.g. oil and gas development, pastures, grazing for cattle, cultivation of fields etc...)
- Role of maintenance and extension of all local roads comprising some 6000 km and growing.
- Provides for the maintenance of parks including planting of trees, maintaining grass and park facilities.
- Aims for rural stabilization and economic development through a series of partnerships which allow exploration and development of community supported activities.
NETAGO Wireless

- Internet Service Provider that now provides the Area with broadband services
- 2003: Netago Wireless is created
- 2004: Options for broadband connectivity remain cost prohibitive
- 2005: Alberta SuperNet launches - fiber connections for all of Alberta
  - Netago establishes partnerships
    - Upstream provider: Alberta SuperNet
    - Municipal government: Special Areas Board
    - Equipment manufacturer: Nortel
- 2006: WiMAX trial and network launch

Partnerships are essential to make the impossible probable
Decision - Making process: Why NETAGO Chose WiMAX?

- Non-proprietary solution
- Economies of scale
- Quality of service

- Extend existing coverage by 50%
- Lower cost to consumers
- Enable VoIP, prioritize business over end-users

WiMAX is THE technology to make broadband happen for this area
Nortel involvement in the project

• Timing
  • Summer 2005: RFP requested
  • Dec 2005: Equipment arrives
  • Jan 2006: Trial launched

• Implementation:
  • Cover Hanna and 2 rural areas
  • Network operates in the 3.5 GHz band
  • Trial began with 3 towers/3 Base Transceiver Stations (BTS)
  • Omni directional antennas
  • 35 outdoor and 8 indoor subscriber units

• Results:
  • Ranges up to 20 km and 15 km to outdoor and indoor units
  • Speeds of 1.5 / 2 and 3 Mbps, depending on the needs
  • Tested streaming video at 8 Mbps

“Nortel's product achieved ranges close to 20 km from the base station to the outdoor end-user equipment and 15 km to the indoor solution. This exceeded our expectations. And being such a small company, we really appreciate the relationship we've established with Nortel.”

Terry Duchcherer, president and founder, Netago Wireless
Success Story:
Some enabled services and applications

- Residents: office from home, online banking, distance learning

- Ranchers: agricultural research, buy/sell cattle

- Oil company: company LAN speeds of 2 Mpbs increased work productivity

- Calgary Stampede: 2 Mpbs enables transfer of high-bandwidth data

Customers are delighted
Success Story - cont.
Coverage at the start of the Netago trial
Success Story - cont.
Current Coverage by Netago Wireless
References and more information

- SAB:  
  http://www.specialareas.ab.ca

- Netago Wireless:  
  http://www.netago.ca

- Nortel Netago Case Study:  

- Nortel WiMAX solutions:  
  http://products.nortel.com/go/solution_content.jsp?segId=0&parId=0&prod_id=56600&locale=en-US

- Alberta Super Net:  
  http://www.albertasupernet.ca