NORTEL

Nortel Technology Demo

WiMAX technology

Delivering a significantly lower cost of ownership through innovative technology that lowers the cost of network elements while reducing operational cost and complexity.

Consumers and end users within the enterprise share something in common — both continuously demand an improved broadband experience. End users expect higher throughputs to support high-bandwidth applications such as video streaming, and seamless mobility for anywhere, anytime connectivity.

For service providers, the focus is on prioritizing service delivery and network deployments to lower total cost of ownership and improve profitability. These goals can be achieved by lowering capital and operational costs and by being able to deliver customers value-add and rich-feature service offerings to increase average revenue per user (ARPU). Product and technology innovations that deliver significant savings on Capex and Opex are essential to any deployment and to a variety of providers — from incumbents to new entrants. Performance metrics, on the other hand, ensure high-quality service delivery, driving higher revenue per user and minimal churn.

Application demo

- Video streaming
- VoIP
- Web browsing

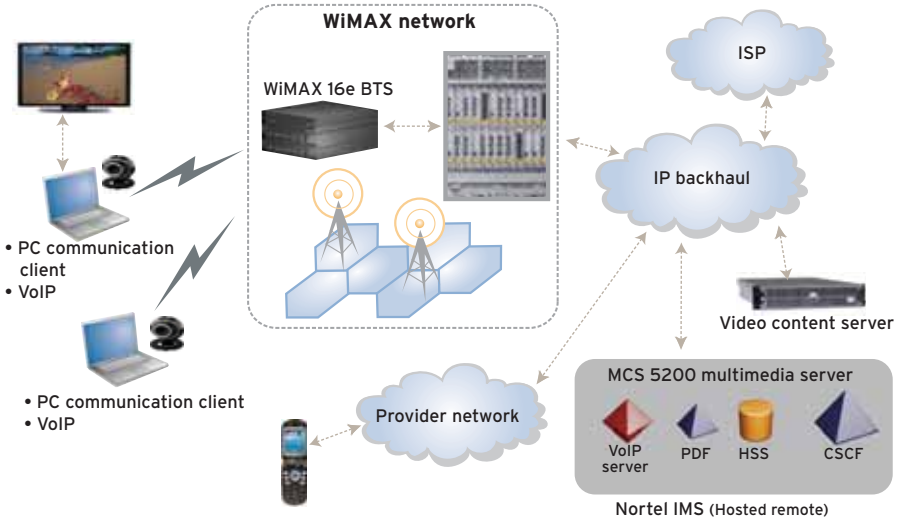
The demos

Description

To further highlight Nortel's leadership as a turn-key solution provider, this broadband application demo shows a true end-to-end WiMAX broadband experience over live air transmission. The main building blocks of this demo use Nortel's WiMAX Access Network (Access Service Network Gateway and Base Transceiver Station) and WiMAX device elements to provide a comprehensive, end-to-end solution.

This demo consists of a 2.3 GHz base station, a MIMO antenna transmitting over live air, an ASN gateway for interconnectivity to the core IMS, and an IP backbone to a landline/mobile device. The voice over IP (VoIP) call utilizes a Nortel MCS Multimedia server and soft client. The demo also includes Nortel's ecosystem PCMCIA device — further evidence of ecosystem interoperability.

WiMAX broadband application demo network setup



Nortel leadership

Base Transceiver Station Radio: Superior transmitter performance

Nortel's WiMAX Base Transceiver Station (BTS) is world-class when it comes to power efficiency and density. Design innovations that drive BTS performance include:

- Complete 2x2 MIMO, 3 Sector BTS (6 x 14W transmitters and 6 receivers) only dissipates 800 Watts at full RF power.
- In a large deployment, the power efficiency of Nortel's BTS translates to a significant reduction in ongoing operational costs. Assuming a 10-year lifecycle of equipment, Opex savings range into multi-million dollars. As an example, a comparative business case study of 10,000 cell sites in a nationwide deployment resulted in $39 million savings in operational costs per year — more than $250 million over the life of the equipment.
- The entire BTS takes only 1.5 cubic feet or 5U of rack space — enabling easy, non-intrusive co-location with the existing 3G wireless equipment in a provider's network.
- Nortel can deliver more RF power per Watt of dissipated power, resulting in smaller radios. Emission performance is provided by second-generation Base Band Pre-Distortion (BBPD) Linearization with Memory Correction, a technique that allows the transmitter to operate at optimum power level while enhancing emission performance.
- Transmitter emission performance.

Miniature Band Rejection Filter (MBRF): Unique filtering to maximize spectrum value

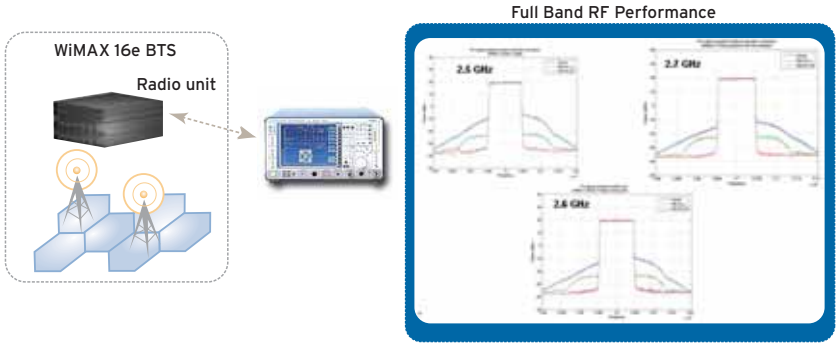
The efficient use of RF spectrum — a scarce resource — is essential to a service provider's business case. 1.5 GHz spectrum, one of the frequencies in the U.S. that supports WiMAX, offers a number of benefits to service providers, including good propagation characteristics. The challenge of this band, however, is in the delivery of services; tightened emissions across this GPS-protected band are difficult to meet.

Nortel has developed a unique patented filtering technique that helps to maximize spectrum usage and enable terminals to meet the tightened emission requirements in l frequency bands encumbered with tight emissions specifications. This filtering technology will be a key enabler for terminals in 1.5 and 2.3 Band Class 2 markets.

A demonstration of a small MBRF device shows high rejection performance, which enabled operators to meet the required regulatory requirements. The diagram illustrates a sample simulation result using MBRF.

Nortel's competency in end-to-end service delivery relies upon extensive experience. We have designed, installed and launched 300 wireless networks in 50+ countries. VoIP and IMS leadership further strengthen Nortel's end-to-end value proposition.

BTS Radio Superior Transmitter: RF performance demo setup



Second-generation BBPD Linearization enabling optimum power level consumption and enhanced emission performance

For more information, contact your Nortel representative, or call 1-800-4 NORTEL or 1-800-466-7835 from anywhere in North America.

In the United States:
Nortel
35 Davis Drive
Research Triangle Park, NC
27709 USA

In Canada:
Nortel
195 The West Mall
Toronto, Ontario M9C 5K1
Canada

NORTEL

› BUSINESS MADE **SIMPLE**