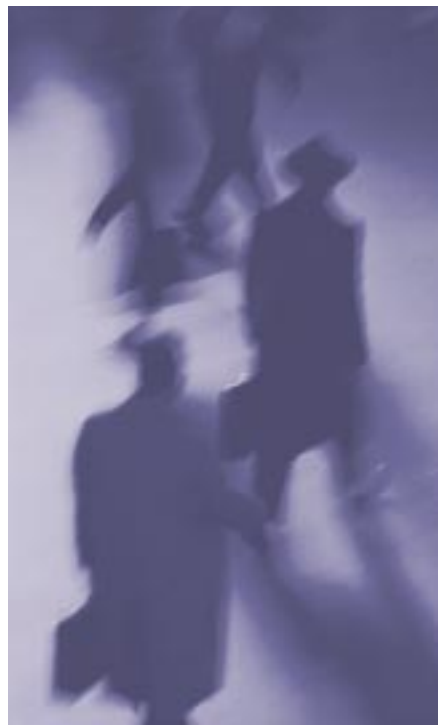




# Reunion

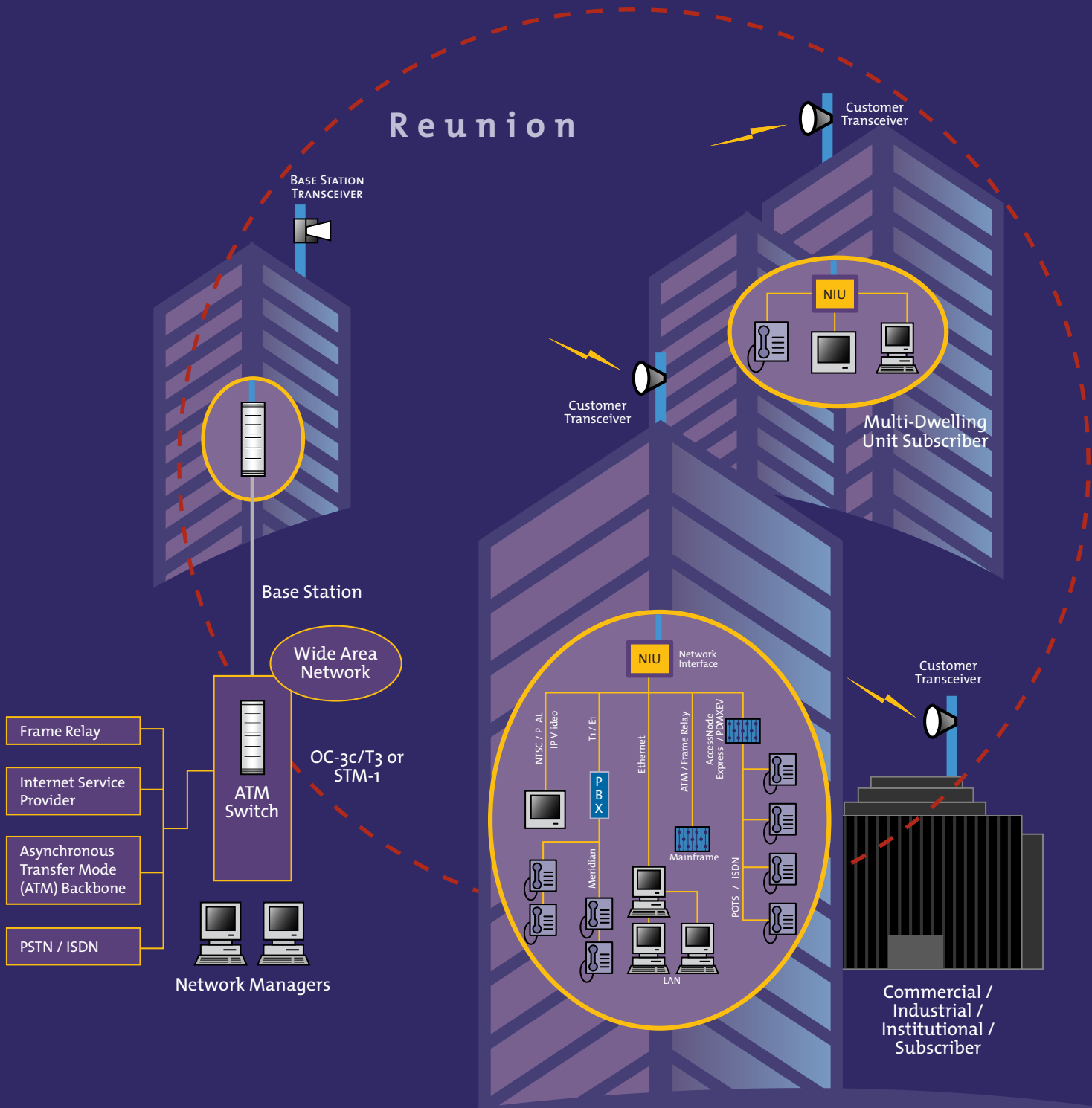
The innovative, **flexible** and cost-effective  
Broadband Wireless Access **solution**



**NORTEL**  
**NETWORKS**<sup>™</sup>

*How the world shares ideas.*

# How to get a competitive in a rapidly



High-Speed Data Transfer • LAN/WAN Interconnection • Internet/Intranet Access • Telephony • Home Banking • Distance Learning • Tele-Medicine • Video Conferencing • VPN • E-Commerce •

# edge changing market

The telecommunications industry is confronting a whole new paradigm of demand, competition, and opportunity.

Data traffic is pushing networks built for voice to the limits of their capacity. In fact, demand for data delivery of all kinds, including high-bandwidth multimedia and fast Internet connections, is growing ten times faster than the demand for voice.

The urgent need for instantaneous and ubiquitous access to mission-critical data is occurring in a global economy that is often expanding faster than ground can be broken to lay wired networks.

In a market like this, imagine the impact of multipurpose high-speed digital pipelines that can flash voice and data around the world faster than the eye can blink ... and can be installed or relocated in mere *hours* or *days*.

Nortel Networks\* Reunion\* broadband wireless access network is just such a revolutionary solution. Reunion gives you wire-free "last mile" access to your customers. And in today's fast-paced business world, that can be a serious advantage. You can connect almost any customer to a full suite of communications services in record time.

**Our rich portfolio serves the needs of your most demanding customers**  
While high-quality voice communication will always be important, today's end users need a much more comprehensive set of features and advanced applications at their fingertips.

Nortel Networks recognizes the pressure these demands are placing on telecommunications operators. We offer dynamic solutions that meet the challenge head on.

**A scalable solution that creates real value for operators**  
Reunion is a point-to-multipoint (PMP) system – also referred to as broadband wireless access (BWA), local multipoint distribution service (LMDS), or local multipoint communication system (LMCS). Point-to-multipoint systems are similar in design to cellular or narrowband wireless local loop systems, but offering bandwidth connection ranges from 64 Kbps up to 155 Mbps – offering great flexibility in serving local access markets. PMP employs a wireless cell covering a specified geographical area (typically a 2 to 5 km radius) to deliver telecommunications services to subscribers within that cell area.

To provide consistency and congruence with wired networks, Reunion architecture is designed to support Asynchronous Transfer Mode (ATM).



**Voice over IP • Corporate Video Services**

**Web TV • Interactive Gaming • Video Streaming**



The ATM cell structure allows for two-way transmission of mixed media – such as voice, data and video – with adaptive layering to maximize the integrity of each medium.

A central component of Nortel Networks' Unified Networks\* vision, Reunion broadband wireless access helps both incumbent network operators and new entrants to seize the newest competitive edge in the local market through adopting the latest point-to-multipoint technology and innovations. Reunion can give you the power to deploy high-capacity, point-to-multipoint communications services in many existing and emergent market spaces: big business, e-commerce, home office, and vertical markets such as medical and retail.

Doesn't that sound like the competitive advantage you've been looking for?

#### **LOWER ENTRY AND DEPLOYMENT COSTS**

Reunion can get you started in business at lower entry and deployment costs than traditional wired access networks. You can save with Reunion because there is no need to spend on the capital cost and labor of installing and distributing hard-wired networks for access services.

#### **FASTER AND EASIER DEPLOYMENT**

Reunion systems can be deployed rapidly, with minimal disruption to the community

and the environment. Reunion can give you the flexibility to respond quickly to developing markets, new marketplace dynamics, existing market expansion, and market deregulation opportunities – all of which can help you enhance your return on investment.

#### **DEMAND-BASED BUILDOUT**

Reunion's modular and scalable architecture, built on open industry standards, ensures that your services and coverage areas can be easily expanded as customer demand warrants. You can invest in direct relation to revenue opportunities.

#### **ECONOMICAL NETWORK MAINTENANCE, MANAGEMENT, AND OPERATING COSTS**

Economical ongoing costs are another advantage of Reunion's advanced wireless design. With fewer components to deploy and manage, the network maintenance, management, and operating costs can be lower than hard-wired networks.

#### **HIGH EFFICIENCY,**

#### **HIGH QUALITY, SERVICE DELIVERY**

By utilizing ATM, Reunion offers the Quality of Service (QoS) functionality needed for voice operation, bundled with dedicated or variable data and video services – helping you maintain your competitive edge.

#### **Reunion's network architecture supports your business success**

The Nortel Networks Reunion broadband wireless access network has been designed to help in the successful launch of your business today, and the future network expansion and growth of your business tomorrow.

Whether you are serving large corporations, small- to medium-sized businesses, telecommuters or tenants of multi-dwelling units such as apartments, Reunion's inherent flexibility helps you tailor services customer by customer and market by market.

Designed to be both modular and flexible, Reunion can grow as you and your customers grow. Network buildouts can be gradual, minimizing capital investment in comparison to wired networks. Reunion offers state-of-the-art technology supporting as many as 16 sectors and hundreds to thousands of customer premise equipment units per base station complex.



#### THE POWER OF FOUR: QUAD-4

Designed with the future in mind, Reunion's unique Quad-4 architecture exploits the potential of four access technologies to produce exceptional network flexibility and efficiency. The advantage of Quad-4 is that it gives you the ability to tailor and optimize your network deployment. Quad-4 makes FDMA, TDMA, ATM, and IP connections possible – all from a single platform.

- FDMA provides efficiency in delivering high volumes of data
- TDMA's greater spectrum and cost efficiency is suited for low bandwidth and sporadic voice and data needs
- ATM is an excellent solution for multimedia applications and high Quality of Service requirements
- IP is the technology of choice for low-cost customer premise equipment and end-user applications to help penetrate the SOHO market.

The Nortel Networks Reunion portfolio offers high-speed data, Internet and voice services and video conferencing for your customers. Reunion can be deployed to handle bundled multimedia services or single service solutions, allowing operators to capture new market opportunities while protecting the efficiency of the evolutionary path.

#### THREE MAJOR ELEMENTS OF REUNION NETWORK ARCHITECTURE

##### • BASE STATION EQUIPMENT

The Reunion Base Station consists of a flexible and rich network architecture which gives operators control over network growth. The Base Station, consisting of the Network Node Equipment (NNE) and the Base Station Transceiver (BTR), facilitates the multiplexing, mapping, modulation, and transmission of multimedia content to and from the access market.

This state-of-the-art equipment, which operates in a variety of downstream and upstream frequencies between 2 GHz and 42 GHz, offers tremendous capacity. All of this capacity and performance is packed into a small footprint. In addition to supporting this high capacity, Nortel Networks' Base Station platform enables you to expand

## THE ADVANTAGES OF QUAD-4

TECHNOLOGY X 4 = FDMA + TDMA + ATM + IP  
SERVICES X 4 = VOICE + DATA + VIDEO + INTERNET

capacity as you grow your business, allowing you to match your capital investment with customer revenue.

##### • CUSTOMER PREMISE EQUIPMENT

Nortel Networks recognizes all customers are not the same. As a result, we have developed a comprehensive Customer Premise Equipment (CPE) portfolio designed to meet the varying needs of your customers. A cost-effective integrated CPE helps you meet the needs of the small- to medium-sized customer, providing up to four E1/T1 and 10Base-T circuits utilizing either TDMA or FDMA access technologies. A modular CPE, expandable to accommodate future needs, can be used to serve building sites with multiple small to medium tenants as well as larger, more bandwidth-intensive customers.

We also know your customers are not static – that over time, their communications requirements change and grow. Our answer to this growth is a CPE that will allow you to keep pace, without the need for costly hardware upgrades. Nortel Networks' in-band software management program enables software upgrades to be delivered over the air, allowing customers to use upgraded capacity, new system and feature releases, and other improvements quickly – without any interruptions in service.

No matter what the size of your customers, Nortel Networks' Reunion CPE portfolio helps you meet their needs.

##### • NETWORK MANAGEMENT

The Reunion element management system facilitates the operations, administration, maintenance, and provisioning of the network. Reunion uses Simple Network Management Protocol (SNMP) via in-band signalling to exchange information about the network's performance. The management system is comprised of two components – the agent application and the management application.



- The agent application is a fully integrated SNMP application that resides in all elements of the network including the base station, RF, and CPE equipment. This application provides for fault, performance, and provisioning management through in-band SNMP signalling transactions.
- The management application is a single GUI-based collection application operating in conjunction with Hewlett Packard's HP OPENVIEW network management platform. The management application monitors faults and network performance and facilitates in-band provisioning through SNMP signalling.

The network management system allows your technicians to view the entire access network from a single location, providing end-to-end visibility and provisioning of the access network. The operator can provision and optimize a network from the cell level to the service level within each CPE through a single network management terminal.

#### **A complete network solution from an industry leader**

Nortel Networks' global strength and technology leadership stand behind the Reunion broadband wireless access system. Nortel Networks is uniquely positioned to provide a fully integrated end-to-end network – complete with the exceptional technical support and services required for a successful turnkey network deployment.

#### **END-TO-END NETWORK DESIGN**

Nortel Networks is an industry leader in voice and ATM switching, with extensive experience in transport, enterprise, and wireless networks. Combined with our point-to-multipoint expertise, Nortel Networks can create an end-to-end solution tailored to your needs.

#### **POINT-TO-MULTIPOINT**

##### **BUSINESS CASE DEVELOPMENT**

With a proper business case you can easily determine whether point-to-multipoint is the right access choice for you. Nortel Networks broadband wireless access has dedicated resources available to assist you in developing a business case that profiles your specific opportunity.

##### **RF PLANNING AND DESIGN**

Nortel Networks' trained and experienced RF network design staff can work with you to determine coverage and service availability requirements. The planning process utilizes sophisticated software that evaluates environmental factors in the coverage area, effects of weather, and propagation predictions based upon industry accepted models.

##### **INSTALLATION AND COMMISSIONING**

Nortel Networks can install your cell site equipment using qualified teams of trained installation technicians. Commissioning, programming, testing, and cutover activities associated with launching your network into service can be provided – allowing you to get information service quickly and easily.

##### **PROJECT MANAGEMENT**

Nortel Networks maintains dedicated resources to support and direct our customers' network deployment. These resources can help you manage all activities related to project co-ordination, delivery, installation, commissioning, and network integration.

##### **TECHNICAL AND FIELD SERVICE**

Nortel Networks provides a 24-hour, 365-days-per-year call-in service to its Reunion customers. Should any problem arise with the operation of a network, you'll have access to a skilled technician when you need it.

Reunion offers an entrée to the rich opportunities that are waiting to be tapped by new multimedia operators. Reunion can give you the power to respond rapidly to new opportunities, to capture growth markets, and to deliver bundled services your customers request.

#### **Reunion – Success in the last mile**

For more information, call your Nortel Networks representative today at the location nearest you. Or visit our web site at <http://www.nortelnetworks.com> and <http://www.nortelnetworks.com/wireless/bwa/>





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*How the world shares ideas.*

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