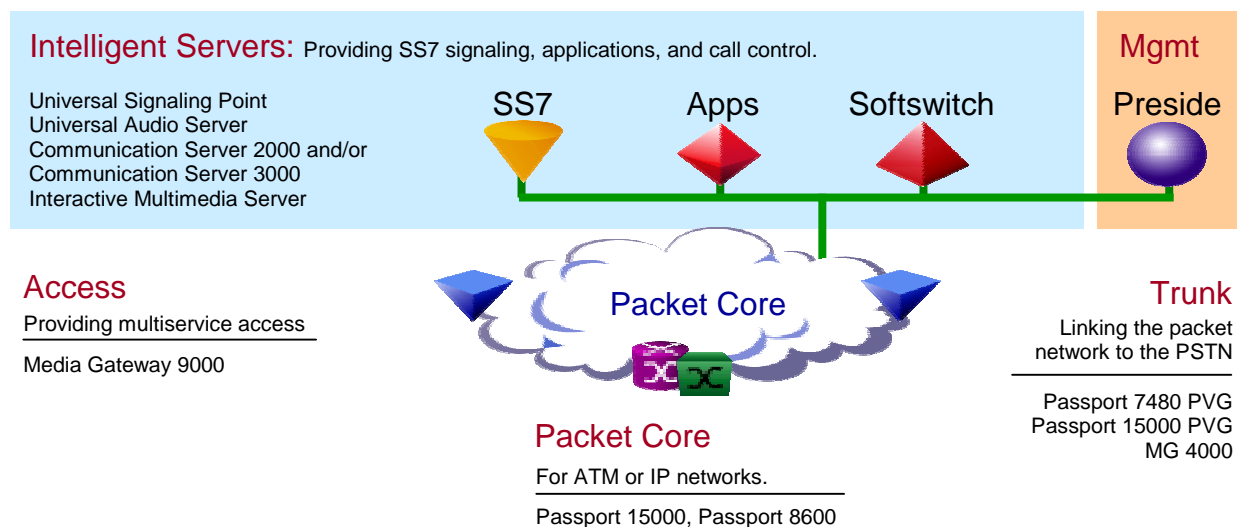# Nortel Networks Voice Over IP Backgrounder

Why Voice over IP?

Overall network traffic growth is accelerating. Data traffic is growing exponentially. Today's sophisticated consumer is demanding new multimedia capabilities. All of these factors are driving service providers to provide the network efficiency, bandwidth, speed, and reliability required to deliver converged multimedia services. The Voice over IP (VoIP) network (see diagram below) is designed to economically meet the consumer's increasing need for bandwidth and sophisticated services.

By migrating their networks from circuit to VoIP, service providers can focus on diversifying their offerings to meet end-user demand, while expanding revenues, controlling costs, and offering maximum availability.

Nortel Networks VoIP

Nortel Networks Voice over IP solutions meet the service provider's business needs, providing a set of features and attributes that no other solution provider can match in scope:

- Migration of the full suite of traditional voice services in addition to new multimedia services
- Greatly reduced cost of ownership
- Carrier-grade quality, reliability, survivability, and scalability
- Solutions that address greenfield, evolution, and hybrid networks
- Service and operational interworking with existing networks
- Sustainable revenue growth
- Easy geographical expansion
- Resilient products, solutions, and networks

Sustainable Cost Reduction

Nortel Networks is a leader in delivering traditional voice services on a IP network, giving customers a long-term platform for extending their largest revenue source while migrating to more profitable and efficient multiservice networks. By implementing a Nortel Networks VoIP solution, our customers will reduce operational and capital costs by 30-60%. Nortel Networks Voice over IP solutions deliver cost savings in three ways:

- **Multi-network integration.** One network for all services.
- **Network efficiency.** Better use of your bandwidth resources through packetization.
- **Operational simplification.** Reduced network maintenance, planning and engineering, and service delivery cost.

Together, these three attributes greatly reduce the service provider's capital, engineering, planning, and operational expenses.

New Revenues
Carrier Voice over IP solutions from Nortel Networks open a new world of service revenue streams. A simplified network design enables service providers to enter the market rapidly with a comprehensive portfolio that starts with the full range of services in the network today, and easily adds new SIP-based multimedia services—many of which are difficult and expensive to deploy on a circuit network infrastructure. In addition, our unified Voice over IP architecture enables service providers to deliver new services, such as high-speed Internet access and voice over DSL, to both urban and rural subscribers from a single packet access platform.

The Nortel Networks Succession portfolio provides the core intelligence and interworking capabilities for our Carrier Voice over IP solutions. Our solutions bridge traditional market boundaries—such as wireline/wireless or carrier/enterprise—to deliver highly profitable solutions to all service provider sectors, including the lucrative hosted and managed business services sectors.

Network Resiliency
Nortel Networks Voice over IP networks are designed to be the most resilient in the world. This resiliency derives from two critical network attributes and outstanding Nortel Networks people and practices:

- **Built-in reliability.** Reliability is engineered into every Nortel Networks product and network before it is deployed. We use a real-world testing environment on all new software releases—including testing at up to 1 million busy hour call attempts (BHCAs) and Failure Mode testing under extreme traffic conditions.
- **Engineered for survivability.** With carrier-grade redundancy and survivability features, VoIP networks from Nortel Networks are designed to recover and continue operation in a crisis. Our VoIP solutions also incorporate overload controls to handle massive surges in traffic volume, and include key regulatory and crisis features, such as Lawful Intercept (CALEA) and Government Emergency Telecommunications Service (GETS).
- **Global readiness and support.** Nortel Networks support carriers with a world-class Global Professional Services organization and customer service teams in over 150 countries and territories. Our Emergency Response strategy includes equipment, installation, and engineering.

Nortel Networks Experience
Nortel Networks VoIP solutions have enjoyed global success with virtually every type of service provider:

- North American carrier leadership. **Qwest** chose Nortel Networks to migrate its entire telephone network to a more cost-effective Voice over Packet architecture—the first incumbent U.S. carrier to do make this transformation.
- Large network transformation. **Cable & Wireless** chose Nortel Networks to transform its global carrier network to a converged multi-service network for voice and data services.
- Small-scale network migration. **Telstra** selected Nortel Networks to migrate their existing circuit switched to a next-generation voice over packet, with a focus on advanced business communications services.
- First to market. **BT Spain** chose Nortel Networks to implement the premier VoIP long distance network for out of territory market entry.

Additional Proof of Portfolio Leadership:
- Frost & Sullivan 2001 Market Engineering Leadership Award for our Communication Server 3000 softswitch.
- Passport PVG #1 in global market for multi-service, switch-based gateways in 2000 (Cahners In-Stat, 2001).
- Three industry analysts—Current Analysis and IDC (2000) and Frost & Sullivan (1999)—have recognized Nortel's VoIP portfolio for superior solution architecture.