



## > NORTEL SMALL AND MEDIUM BUSINESS SOLUTIONS

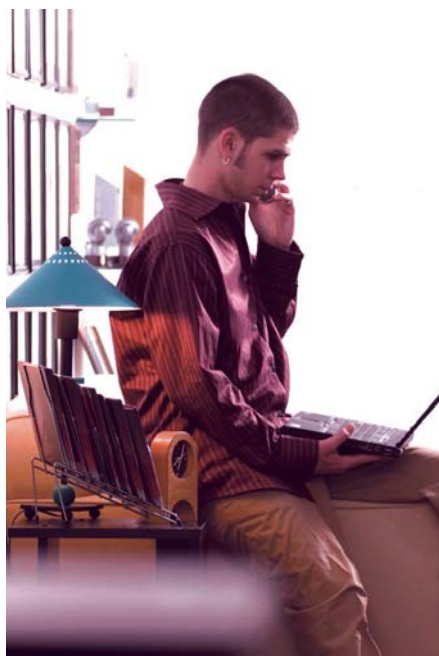
# NORTEL

### Product Brief Nortel Business Access Point 120

**Establish a wireless local area network (WLAN) throughout your office or facility, based on global industry standards.**

**Free users from their desks, and enable their voice, data and multi-media communications to go where the work goes.**

**Do it all with easy-to-manage, wireless access points that provide capabilities you wouldn't expect at such an affordable price.**



In so many businesses, the action doesn't take place at a desk. In fact, some 50 to 70 percent of office space is unoccupied during normal business hours, according to the International Telework Association and Council. That leaves a lot of desktop phones ringing for an empty chair. Meanwhile, the employees have gone where the work needs to be done.

Could staff be more productive if they could stay in touch even when they're on the manufacturing floor, helping retail customers, visiting patients or meeting with colleagues? Could computer-aided tasks, such as taking inventory, updating patient records or tracking incoming shipments, be streamlined by using wireless scanners or tablet PCs that could accept data entry on the spot, anywhere?

Would you like to extend wireless access to communal workspaces and gathering areas? Or offer wireless Internet access in your customer lounge or dining area as a perk for customers?

If so, you have probably investigated wireless solutions for your business —

and you have probably seen systems that don't fit your needs, for reasons on either end of the scale:

- > Wireless solutions targeted for residential use are inexpensive and simple to use, but they lack the features and security you need for serious business communications.
- > Solutions designed for large enterprises are robust and secure, but you might be paying for capacity and features your business will never need. High-end solutions also tend to require a central WLAN (wireless local area network) controller and security switch — which adds cost and complexity a small business doesn't need.

That's why Nortel developed an in-building wireless networking solution designed specifically for the requirements and budgets of small to mid-sized businesses. If you need to extend secure, reliable wireless service — and it has to be simple and affordable — Nortel has the solution to fit.

## Nortel Business Access Point 120

### Wireless IP networking for users and guests in your workplace

The Nortel Business Access Point 120 is the key component of a WLAN solution designed specifically for small to medium-sized organizations, such as medical clinics, offices, retail stores, schools and service/distribution centers.

The Business Access Point 120 is a compact device about the size of a hardback novel. It is usually mounted on a wall or ceiling, or it can stand on a shelf or desktop. It connects to your LAN switch (such as the Nortel Business Ethernet Switch), via a 10-Mbps or 100-Mbps Ethernet connection. Each access point contains its own internal intelligence, so there's no need for a central WLAN controller or separate security switch.

Users access the WLAN from IP devices equipped with a wireless NIC (network interface card). Most PDAs and laptop PCs sold today come already equipped for wireless access. Older devices, such as handheld scanners and laptops, accept a wireless access card in a NIC slot.

If users have PDAs and laptops equipped with Nortel IP Telephony software (the Nortel IP Softphone 2050), they can also make and receive voice calls on the wireless IP network. The access point supports the Wi-Fi Multimedia (WMM) industry standard to give voice service the priority treatment it requires.

The Business Access Point 120 supports the WLAN industry standards defined by the Institute of Electrical and Electronics Engineers (IEEE):

802.11a — 5.7 GHz, data transfer up to 54 Mbps

802.11b — 2.4 GHz, data transfer up to 11 Mbps

802.11g — 2.4 GHz, data transfer up to 54 Mbps

802.11 Super AG — With performance-boosting features for faster transmission

- > Cost-effective WLAN for small and medium businesses
- > Easy to expand as wireless needs evolve
- > Enterprise-grade WLAN capabilities at a small-business price
- > Standards-compliant for investment protection
- > Seamless roaming for maximum productivity and accessibility
- > Simplified management to reduce effort and costs
- > Antenna options to address varying environments
- > Security protections applied at device and network level



### Compelling advantages for your business

The Business Access Point 120 WLAN solution provides the features that redefine how work gets done — offering new levels of freedom and flexibility without requiring you to become (or employ) a network guru.

**Network access throughout the building.** Call forwarding, conference calling, voice mail, personalized greetings, Unified Messaging, Automated Attendant... these features and more will work just the same on the voice-ready wireless device as on the desktop phone.

Users can send and receive e-mails with attachments, work with server-based applications, transmit files and data, surf the Web and more — from anywhere within the reach of a Business Access Point 120.

**Excellent coverage.** The Business Access Point 120 can be associated with up to 128 clients (users), or 64 clients if security features are added to the accounts. With or without security, the system can support up to 64 active users at a time. And since the WLAN uses a different radio frequency than cell phones, there's no cross-talk or interference between the two.

The range of an access point depends on which 802.11 standard is being used and whether the coverage area is relatively clear or has obstructions, such as permanent walls or industrial machinery. For example, in a cluttered office environment, you can expect an access point to reach about 425 feet at 1 Mbps, or 85 feet at 54 Mbps. In an open office environment, that coverage area could more than double, to reach 1,100 feet at 1 Mbps and 180 feet at 54 Mbps.

**Support for Wireless Distribution System (WDS).** The Business Access Point 120 supports the WDS industry standard, which enables access points to communicate with each other to transmit wireless traffic. In a Wireless Distribution System, only one access point has to be directly connected to the Ethernet core switch. In this arrangement, Business Access Point 120 units adopt one of two roles:

- > In *Wireless Repeater Mode*, an access point can serve mobile users and communicate with another access point.
- > In *Wireless Bridging Mode*, the access point only transmits traffic among access points; it doesn't serve mobile users.

One such access point serves as the root bridge, with wired access to the Ethernet switch, and from there, to the rest of the wired company network.

A key advantage of a Wireless Distribution System is that it doesn't require an Ethernet connection to every access point. If you don't need the full throughput capacity of each access point (and you have local power available), wireless distribution can conserve ports on the Ethernet switch and further simplify installation.

**Secure access for authorized users only.** The Business Access Point 120 includes security provisions that protect your network and its users. For example:

- › *Authentication* procedures ensure that users really are who they say they are, and prevent unauthorized users or devices from gaining access to the network.
- › *Encryption* protects the confidentiality of traffic in the air, so even if a hacker could intercept a wireless transmission, the content would be unreadable.
- › *Virtual LANs* segregate traffic into logical partitions of the network, so one physical network can perform just like several private networks — up to eight of them.

**Your own Wi-Fi hotspot for customers.** The virtual LAN (VLAN) capability enables you to set up a wireless hotspot for customers to use when they visit your locations. While they're in your dining area, customer lounge or guest room, customers could browse the Web and use e-mail from their wireless-enabled IP devices. Guest traffic goes to a separate VLAN that connects only with the Internet, not to any internal network resources or users. This capability enriches the customer experience without compromising the security of your internal company network.

## Wireless IP from anywhere

Do you need to connect people whose jobs are not tied to any one location, such as service technicians or outside salespeople? Nortel offers a wireless solution for these employees too. With special client software on their laptops or other portable IP devices, mobile users can connect from Wi-Fi 802.11 wireless IP hotspots at any remote location — and receive calls or browse the Internet just as though they were at their desks.

**Fast and easy implementation.** Because the Business Access Point 120 is a “thick” access point (contains its own service intelligence), there's no need to install separate controller or security components. That means fewer boxes to install, configure and manage.

There's no need to cut holes in the walls, pull new electrical wires or install new electrical outlets, because the Business Access Point can receive its power over the Ethernet connection from the switch. Optionally, you can get a power cord for local powering.

Furthermore, these access points are so economical that there's no need for a complex site survey before installation. Just determine the general area that needs wireless coverage, compare this to the range of the Business Access Point for your operating conditions (up to 1,100 feet in open office areas), and you'll have a workable plan for how many access points to install, and where.

All that remains is to configure the access points for your application, and that requires no special technical expertise either. A quick-start navigation panel on the graphical management system walks you through the simple set-up procedures. That's all there is to creating an on-premises WLAN.

**Streamlined management.** The Business Access Point 120 was designed to be simple for the casual computer user to manage. It uses the same Nortel Business Element Manager interface that is used for managing the Nortel Business Communications Manager 50, Nortel Business Ethernet Switch 100 and Nortel Business Secure Router 222. The intuitive, graphical Web interface is consistent across these products, which makes administrative tasks easy to use.

## Business communications made simple

Don't take chances with your business communications. Count on the company that has been delivering telephony and data systems to the world's largest service providers and enterprises for decades — the company that pioneered the digital revolution, reinvented business networking in the Internet Age and is a leader in small and medium business telephony.

Find out more about how your business can use wireless IP networking to connect workers whose jobs are not tied to desks, such as healthcare professionals, plant supervisors and sales associates. Contact your local reseller or visit us on the Web at [www.nortel.com/smb](http://www.nortel.com/smb).

## Technical specifications

### General system capabilities

- IEEE 802.11a UNI 1 band (5150 - 5250 GHz)
- IEEE 802.11a UNI 2 band (5250 - 5350 GHz)
- IEEE 802.11a UNI 4 band (5470 - 5735 GHz)
- IEEE 802.11e ECDA/WME
- Seamless roaming (IAPP)
- Auto-RF Channel Selection
- Data, multimedia and voice over in-building WLAN Initial voice support — PDAs/PCs with Nortel IP Softphone 2050 or Mobile Voice Client 2050
- Support for Power over Ethernet — IEEE 802.3af
- Uplink — Auto-sensing IEEE 802.3 10/100 BaseT Ethernet RJ-45, CSMS/CD, Class 2 AF
- Support for eight (8) Service Set Identifiers (SSIDs)
- Mapping of up to eight (8) SSIDs to VLANs
- VLAN trunking
- WDS (Wireless Distribution System) — bridge mode and repeater mode

### Configuration and security

Graphical user interface for access point configuration

- Encryption
  - WEP - 64, 128, 152 bits (RC4)
  - WPA - 128 bit (TKIP, AES)
  - WPA2, IEEE 802.11i - 128 bit (TKIP, AES)
- Authentication
  - IEEE 802.1x
  - EAP: MD5, TLS, TTLS, PEAP
  - WPA/WPA2 - PSK
  - Access control list
  - Blocking SSID broadcast
- VPN pass-through — IPSec, SSL, PPTP, L2TP

### Radio and antenna

- 2dBi/4.5dBi dual band omni-directional antennas
- External antenna connector
- Options: 6dBi/8dBi directional dual-band antennas

### Certifications and regulatory approvals

- Wi-Fi Alliance Certifications: IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, WEP, WPA (Enterprise), WPA2 (Enterprise), EAP-TLS, EAP-TTLS, EAP-PEAP, WMM

### Regulatory approvals

- Radio: FCC, Industry Canada, CE mark
- Safety: CSA / UL, CE mark, C-tick
- Global regulatory

### Physical specifications

- Weight — 0.80 Kg (1.76 lbs)
- Dimensions — 210mm x 125mm x 25mm (8.26" x 4.92" x 0.98") (W x D x H)
- Operating temperature — +0°C to +50°C indoor (32°F to 122°F)
- Storage temperature — -50°C to +70°C (-58°F to 158°F), humidity 0-35 percent, non-condensing

### Shipping

36,000 ft. (10,972 meters) @ -40°F (-40°C), IEC 68-2-40 test Z/AM, IEC 68-2-41 test Z/AMD Power requirements

### Power over Ethernet nominal input voltage

48 VDC; DC power adapter: 5V, 3A power adapter

### Power consumption

Maximum consumption: 8.16W

Typical both 802.11a and 802.11b/g radios: 6.63W

### MTBF

117,034 hours (13 years)

Nortel is a recognized leader in delivering communications capabilities that enhance the human experience, ignite and power global commerce, and secure and protect the world's most critical information. Serving both service provider and enterprise customers, Nortel delivers innovative technology solutions encompassing end-to-end broadband, Voice over IP, multimedia services and applications, and wireless broadband designed to help people solve the world's greatest challenges. Nortel does business in more than 150 countries. For more information, visit Nortel on the Web at [www.nortel.com/nsn](http://www.nortel.com/nsn).

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

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