



# › MOBILISING YOUR ENTERPRISE FOR BUSINESS ADVANTAGE



## Position Paper

### Nortel Enterprise Mobility Solutions

#### Introduction

Mobility solutions are in high demand as organizations seek to be more flexible and productive. Employees are increasingly working from home, on the road visiting customers or moving throughout large business premises. Mobile employees want to be reachable, they want access to experts in real-time, they want access to information and applications on a device of their choice, and they want it to be easy — just like it is in the office.

Mobility solutions can help organisations become more productive, more agile and responsive to emerging market opportunities and threats, and to support increasing demands for a more flexible work/life balance amongst employees. However, organisations need to control the costs of their expanding

workforce and prevent their network and systems from being exposed to virus or hacker attacks.

These business drivers and concerns can be met by today's secure mobility solutions. This paper explores the benefits of today's secure enterprise mobility solutions and investigates solutions for three main types of mobility: home office, on-premises mobility and off-premises mobility.

#### Nortel's mobility vision and strategy

The Nortel vision for enterprise mobility is to enable work to be conducted anytime, anywhere and on any device. In effect, it is about taking your office anywhere, which is more than using mobile phones and wireless laptop PCs.

The mobility vision enables the following:

- › I work when and where I want, how I want and I can connect immediately and seamlessly.
- › My access is always available, always on from any device, anytime.
- › I'm always in control of who, when and where people can reach me according to my personal set of rules.
- › My content is multimedia rich so I can collaborate anywhere, anytime with anyone.
- › "My desk" is wherever I happen to be.

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Mobile users want solutions that replicate the benefits of being in the office when traveling away from the office; for example, when traveling across the country or abroad, having the convenience of all the communications tools they have in their office, such as the ability to see and talk to colleagues sitting a few desks away, to have impromptu whiteboard sessions in a meeting room to share ideas, and access to all corporate applications and communications... In effect, to provide all the benefits of meeting “in person” when mobile and remotely connected to the network.

This vision of “Office Anywhere” mobility is part of Nortel’s overall vision of the “Real-Time, Virtual Enterprise” where we remove the barriers of distance and location by enabling secure remote access to corporate networks and enable highly-effective people contact even though people might be far away from each other. The real-time, virtual enterprise ensures information and ideas can flow easily and speedily between employees, between companies in the business value chain and between employees and customers, no matter where they are.

To make this vision a reality, Nortel’s strategy is focused in two main areas:

- › Secure mobile access to the corporate network
- › High-quality people-to-people contact

Only when you combine these two pieces together do you deliver an effective mobility solution that provides the productivity and customer service improvements being sought after.

### **Secure mobile access to the corporate network**

The goal is to give employees the freedom to roam down the corridor, across a campus, across a country and internationally with a seamless and secure mobile connection to the corporate network and all its applications.

To make this goal a reality, Nortel is focused on building open standards-based, broadband wireless networks and on breaking down the boundaries between fixed and mobile networks and between private and public networks. Nortel is building the capability for mobile employees to stay securely connected to the corporate network and voice, data and multimedia applications even when moving between networks.

The security of the network is vital and Nortel is adopting a multi-layered security approach that builds security into all aspects of the device, the network connection, the network and the corporate applications and communication systems. The strategy includes universal access portals that seamlessly support both types of Virtual Private Network (VPN), Secure Socket Layer (SSL) clientless security and IPsec client-based security for secure remote access to data, telephony and multimedia traffic. By using a friendly interface with single login, users can simply focus on the task of connection rather than be concerned about what type of secure connection the network supports. The strategy also involves VPN mobility so the secure connection remains “always-on” as employees move from one location to another, from one network to another. We’re also building strong attack protection into our wired and wireless networks using a layered security approach combination of user and device authentication, device compliancy checking and threat protection systems.

Nortel has developed key partnerships and alliances with several leading security vendors including Symantec, Sygate, Check Point and RSA Security to deliver best-of-breed solutions. More people use our secure remote access clients than anyone else’s — over 100 million worldwide. Nortel was the first vendor to support IPsec and SSL VPN on a single integrated platform allowing mobile users to work in locations with strict firewall environments, and was the first vendor to build IPsec mobility, allowing mobile users to roam without

breaking their connection. With Tunnel Guard, Nortel was the first vendor to support endpoint security.

### **High-quality people contact**

To truly replicate the office experience when mobile, it is important to provide high-quality and effective people-to-people communications. Nortel is providing communication tools that enable mobile staff to see when a colleague is available to talk, to enable mobile staff to spontaneously meet and whiteboard, and to see who they’re talking to or what is being explained to them — all virtually done across the network.

Nortel has taken the IETF Session Initiation Protocol (SIP) open standard as the “glue” to tie together previously disparate and disconnected communication services (e.g. telephony, video, instant messaging, conferencing and collaboration) into an integrated, seamless user experience for the mobile workforce. Nortel is embracing SIP across the product portfolio (enterprise voice, data and security) and across enterprise and public broadband and wireless networks.

In enterprises, SIP will enable faster communications (presence, personal call rules, secure instant messaging and file exchange), more productive communications (mixed media collaborative) and better customer service (multiple channels, mix of self and assisted service).

### **What is SIP?**

SIP — Session Initiation Protocol — provides multimodal capabilities that incorporate collaboration software to voice devices. Some of the key features of SIP-based solutions are:

- › **Presence capabilities** – Ability to know a co-worker’s presence availability status before making a call and acting accordingly. For example, if presence status shows a colleague is already talking on the phone, then you may want to send an instant message or ring back when free using a



feature called presence alert. Employees can use presence to manage their workload and control who can reach them according to rules such as time and activity, and determine which communications device they can be reached on according to their personal set of rules.

- › **Multimedia** — SIP is a control protocol for establishing a wide variety of sessions including telephone calls, instant messaging, video and file transfer. SIP enables seamless transition from one media type to another during a single session.
- › **Single, simple addresses** — Workers can reach each other using a single URL address such as *sipusername@nortel.com* or a phone number across various devices.
- › **Simplified use of applications** — Single, intuitive client interface that allows many applications to be controlled by pointing and clicking.
- › **Open standard** — A published open standard being adopted by many companies enabling interworking and integration of a wide variety of third-party products, e.g. SIP phones, applications and gateways for connecting to the PSTN.

Nortel is the only vendor that is *delivering* the critical “people contact” application that enables access to others in real-time — such as presence, instant messaging, video calling, business telephony, mixed media conferencing, file sharing and whiteboarding. This ensures employees have real-time access to expertise to make faster and more accurate decisions and remain accessible to customers and peers.

Nortel has adopted the SIP standard and is building SIP support into business telephony, phones, applications and infrastructure to enable anytime, anywhere access to these services from any device. Nortel has formed an “Open Clients” strategy and “Open SIP ecosystem” to promote the industry-wide adoption of SIP as the protocol of choice to form a more open and more interconnected communications industry. As of Q4 2005, over 120 companies have joined the Nortel Open SIP ecosystem.

With Nortel’s mobility solutions, utilizing presence capabilities that SIP offers, you are able to know the status and availability of experts even though they are geographically dispersed and connected using a variety of devices. Even though employees might be geographically dispersed, they can still glance over and see who is “In the

Office”, or “On the Phone”, etc. This eliminates interruptions, (i.e. if somebody is on the phone, you could instant-message them, rather than calling them on their second line). The multimedia services enable impromptu meetings and the ability to use text chat, video, telephony, whiteboarding, document and applications sharing to replicate the experience of a meeting. The use of SIP-based presence and multimedia services are also being used in the contact centre to provide superior customer service. For example, a contact centre worker, or customer service representative, can use presence and instant messaging to contact an expert and instantly relay the information back to the customer. This mobility solution allows you to make faster and more accurate decisions — improving customer responsiveness and staying ahead of the competition.

In addition to high-quality people-to-people access, Nortel is also providing the ability for people to access information quickly and easily from their mobile device; for example, using self-service Interactive Voice Response (IVR) systems to provide a natural language speech interface to collect information or carry out a transaction or task. The use of self-service voice and Web portals to access business information and applications from any device — e.g. Unified Messaging speech commands and e-mail by phone, conference call handling, one number follow me applications — all help the mobile workforce become more productive.

Nortel has partnered with Research in Motion (RIM) for BlackBerry mobile integration, Microsoft for Office Communicator and Live Communications Server (LCS) integration, Polycom and Tandberg for video conferencing integration, and Citrix for transforming content for display and interaction on IP phones and mobile devices.

Nortel’s strategy is to offer the products for secure mobile access and high-quality people-to-people communications as an enterprise hosted, service provider managed, or service provider hosted service.

## Nortel differentiators

- > Integrated suite of business communication services available on mobile devices
- > Multimedia-optimised and secure wired and wireless network infrastructure
- > Eliminating the proprietary using our “Open Clients” and “SIP” strategy
- > Close partnerships with industry leaders
- > Vast experience in delivering multimedia (SIP) solutions
- > IP Mobility – IPSec and SIP

Mobility solutions are comprised of the device, the network and the applications as depicted in the real-time, virtual enterprise illustration in Figure 1.

## Enterprise mobility solutions

### Home Office

Many employees are looking to strike the right balance between their working lives and personal life commitments. At the same time, organisations are adopting more flexible working practices to attract and retain top talent and to ensure a highly motivated and productive workforce. Studies by Nortel and customers (e.g. Vertex contact centre service bureau) have shown home workers to be 15 percent more productive, and more motivated than equivalent office-based staff. Moving from an ISDN dial-up connection to a broadband IP connection has also saved companies a lot of money while providing extra bandwidth to the home. For example, Arvato in Germany provided home-based PC help desk services and they have saved over €300 per user per month by switching to broadband from ISDN and without any degradation in performance.

Many knowledge worker jobs such as working in a contact centre can be carried out as long as the employee has access to a PC, phone and high-speed network connection. Many contact centre and switchboard staff work part-time during busy periods and do not need to struggle into work with all

the other commuters in order to work just a few hours. With the advent of high-speed networks to the home (ADSL, cable and emerging WiMax) and IP Telephony, it is now cost-effective for organisations to offer home working solutions.

Nortel provides everything the remote and mobile worker requires, from the security and multimedia communications software for the PCs and PDAs through to the IP phones and more specialised communications applications such as contact centres. Nortel also provides the secure network infrastructure (VPN routers, IP phones, Switched Firewalls, IP Telephony and multimedia systems, Threat Protection Systems) for home and remote working. Home workers can connect their PC and IP phone to their corporate network and access all their business applications and phone services as quickly and securely as if they were in the office.

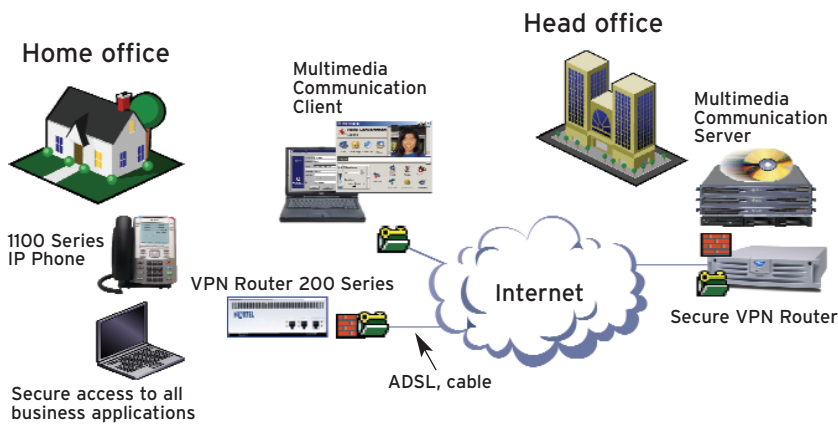
The multimedia software capabilities include personal directories with presence status availability information of colleagues and multimedia communications to enable employees to communicate in the most effective and appropriate manner possible. Presence status messages can be standardised or customised for the individual, e.g. in the office, out of the office, available to talk, not available to talk, in meeting, do not disturb. Presence controls and

management ensure all employees are in better control of their communications and can control when and how they are reached. This enables employees to improve their time management, e.g. ensuring they are not disturbed by phone calls and instant messages when they require quiet time to complete a project, but also ensuring high-priority, urgent calls reach them no matter what phone or communications device they are using. The availability of multimedia communications (e.g. instant messaging, video, file transfer, publishing and sharing documents and applications) with remote colleagues or with whole teams enables a richer and more productive communications transfer of information which can improve overall business effectiveness.

With the Nortel multimedia software on the PC, office and home-based employees have a choice of two work modes. The first mode is to use the PC multimedia software together with an office desk phone, functionality Nortel calls “Converged Desktop”. This converged desktop uses the existing desk phone for telephony and uses the Nortel PC multimedia software to add extra value, such as providing the desk phone user with click-to-call from Web directories or from phone numbers embedded in documents and to provide multimedia communications such as video, instant messaging and presence status alerts. The second mode is to



Figure 1. The virtual enterprise



**Figure 2. Nortel's Home Worker solution**

rely solely on the PC multimedia communications software, removing the need for a separate physical desk phone when traveling or in the office. These two modes of working are also supported when using Microsoft's multimedia software, Live Communications Server (providing presence and instant messaging) and Office Communicator (providing multimedia communications) connected to the Nortel IP or PBX telephony system. This is powerful testament to Nortel's open standards commitment to support third-party products as well as our own.

Nortel's security software provides a secure, encrypted multimedia connection to the corporate network over any public network. As part of the Virtual Private Network (VPN) software, Nortel provides software to check the mobile device is equipped with the latest anti-virus software in accordance with corporate policy, before granting corporate network access. If not in compliance, the home worker can be put into a remedial VPN connection in order to download the latest anti-virus software. Once connected to the network, the Nortel Threat Protection System can ensure secure network access by continually inspecting the data traversing the network and close off the network access if any threat is detected. Nortel's Switched Firewalls provide a modern day moat around the corporate network to protect against hacker and virus attacks. It is important that security systems such as firewalls checking for malicious data do not slow down network performance to

the point that VoIP and multimedia communications do not work in real-time. Nortel's Switched Firewalls ensure real-time multimedia communications without risking security through a combination of hardware acceleration and voice-friendly quality of service features.

Nortel contact centre software enables call centre staff (agents, supervisors, managers) to work from home or remotely. Call centre staff can use their PC multimedia software to handle calls, to connect to remote experts (a term Nortel calls "Expert Anywhere"), and to monitor and improve call centre operations. This creation of a virtual IP contact centre increases productivity and customer service through a combination of a flexible home working solution and the synergy and economies of scale created through virtualization of the contact centre.

### On-Premises Mobility

Many organisations are implementing more flexible working practices across their locations in order to improve customer responsiveness, improve productivity and save office space costs. A study by the International Teleworking Association found that between 50 to 70 percent of office space is unoccupied during normal business hours. Nortel has implemented a more flexible hotdesk and shared desk policy resulting in real estate savings of \$22M per year. Arendal Municipality in Norway, a local government, has implemented six floors of WLAN coverage in their new HQ building using 45 Nortel Access

Points centrally managed and secured using Nortel WLAN Security Switch. They have experienced soaring productivity levels through the adoption of flexible working practices with WLAN and hotdesking.

Nortel's IP Telephony systems enable on-premises mobility by allowing employees to securely log-in at any IP desk phone and have full access to all their telephony features (personal message waiting indication, personal directory, missed calls list, redial list, quick dial keys and personal extension number). Nortel's multimedia communications software for laptop PCs and PDAs enables staff to connect their PC from any desk with a network connection and use their telephony and multimedia software as flexibly as they're used to doing with e-mail and Web applications. Nortel's multimedia communications software provides all the tools required for effective "virtual" face-to-face meetings (video, voice, data, document publishing and application sharing) without having to all convene within the same meeting room. This means employees and teams can be dispersed around different offices and buildings yet still connect, communicate and collaborate together.

To provide the ultimate in on-premises mobility, enterprises are complementing hotdesking practices with on-premises wireless LAN (WLAN) networks. This is particularly evident in the healthcare industry as hospitals provide their medical staff with mobile access to medical information and network-based applications at the point of patient care. WLAN networks are also growing in popularity in retail operations to speed access to retail data from anywhere across the store or warehouse, therefore providing faster customer service. Factories are also making use of WLAN networks to control machinery, manage security and ensure mobile access to operations data. This convergence of applications can allow the user to carry a single mobile device which provides easy access to all types of information and cuts the cost and hassle of needing multiple devices.

Nortel is building the necessary security, the intelligence for ensuring delay-sensitive voice traffic gets priority over delay-insensitive data traffic, and the high bandwidth required for enterprises to adopt complete Wireless LAN networks to cover their office buildings which might be hospitals, factories, stores or warehouses. The WLAN uses the same multi-layer security infrastructure put in place for LANs so corporate security and operations are not compromised from mobile devices. This includes not only the robustness and security of the WLAN infrastructure itself, but also the security of all people and devices using the WLAN. For example, the use of VPN encryption on mobile clients, to authenticate the mobile device and ensure conformance to corporate security procedures before connection, and to continually check for virus and other security threats while connected. Nortel offer a complete secure network access architecture to provide maximum network security.

### Nortel WLAN 2300 in-building wireless network

Nortel's WLAN 2300 solution is optimised for running high-quality voice and multimedia applications, offers smooth scaling of capacity and coverage across the entire campus, seamlessly integrates with existing networks and security, and provides strong security, performance and service resiliency. The WLAN 2300 Series comprises of a portfolio of Security Switches, a multi-mode Access Point (AP) and a Management Software system. The Nortel WLAN 2300 series system provides open standards, 802.11 support for industry-standard mobile devices, security and quality of service.

The WLAN 2300 Security Switch provides secure and seamless mobility across WLAN Access Points and subnets. Nortel's secure network access products provide a centralised threat protection and security policy across WLAN and LAN networks and this can be extended to remote workers.

The Nortel Voice over Wireless LAN portfolio provides all the features and functionality of an IP desk phone on a mobile, WLAN-enabled device and provides applications integration.

The WLAN 2245 is a network appliance that works with access points to maintain connectivity with the call server and ensure voice quality by providing quality of service (QoS) on the WLAN.

The WLAN 2246 Application Gateway provides an interface into third-party applications so voice over WLAN devices such as the 2212 handset can access network information and applications such as "nurse call" for hospital patients.

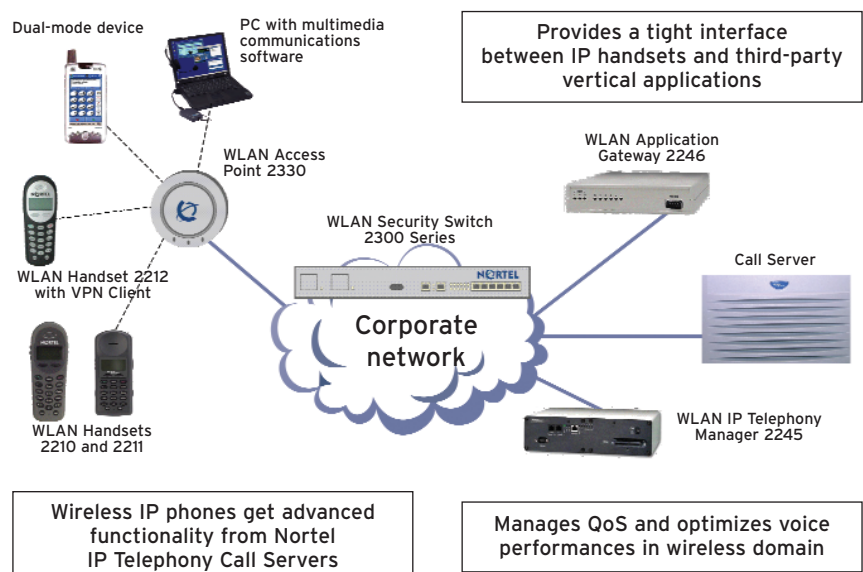
WLAN handsets include the 2211 model providing a small, lightweight phone with clear voice quality and full breadth of Nortel telephony features and walkie-talkie style push-to-talk functionality for two-way communication. The 2212 model includes an integrated VPN client to enable secure encrypted connection over WLAN and provides a "wipe clean" cover to enable a good, virus-free handset for hospital workers. Wireless-enabled PC laptops and PDAs equipped with Nortel multimedia communications software can connect to the IP PBX system over this wireless network.

This single wireless infrastructure provides a solution for voice, data and multimedia communications whereas the historical choice of DECT cordless telephone networks generally just provides for voice communications.

Nortel is also developing Wireless Mesh networks which enable access points to inter-connect over a wireless network, removing the need for a wired LAN network between access points. This enables effective indoor and outdoor wireless coverage where cabling is not available or allowed and can reduce the cost and time required for deployment. Nortel is also developing WiMAX products based on the IEEE 802.16 standard.

### Off-Premises Mobility

Workers are becoming increasingly mobile. According to Yankee Group, 48 percent of workers in EMEA and NA are mobile workers; that is to say they spend at least 20 percent of their time away from the office. What's more, 40 percent of respondents to the Yankee Group survey in Q4 2005 stated that it was very important to have a solution that allows mobile phones to be the main communications device inside and outside of the office. Enterprises need to manage this expanding mobile workforce by ensuring productivity levels are high and mobile phone costs



**Figure 3. Illustration of Nortel WLAN 2300 campus wireless network**

are under control. These business drivers are driving the adoption of Fixed Mobile Convergence (FMC) which can be summarised in two parts: Dual Mode handsets that provide connection to WLAN and WWAN (e.g. GSM) networks and “mobile extension” which delivers corporate applications and communication services to mobile phones.



### Mobile Extension Services

Mobile Extension Services, or mobex for short, enable the mobile phone to operate as an extension off the enterprise telephone switch. All incoming and outgoing business calls go through the corporate PBX enabling simpler billing and access to corporate communication services. This enables employees to be more productive and corporations to cut mobile phone costs. This also allows the employee to publish a single number on business cards and e-mail signatures.

There are essentially three levels of mobile extension services — which for the purposes of this paper will be termed bronze, silver and gold level.

#### Bronze Level Mobile Extension Services

The first level is providing mobex features to traditional, single-mode mobile phones (e.g. GSM phones). Mobex services are enabled through the use of tones (DTMF) to get access to PBX features. With Nortel’s Integrated Call Director (ICD) application, employees can use their mobile phones to access PBX features such as Speed Dial lists, Call Transfer and Conference, and one number follow me service. Nortel ICD also allows employees to be able to toggle calls between their mobile phone and desk phone, easily handing the call over from their mobile phone to their desk phone when they reach their office, for example, and back again to their mobile phone if they have to travel. These mobile phones can also receive voice messaging alerts from corporate voice and unified messaging systems in the form of an SMS text message or phone call.

<b>Mobile Extension Service</b>	
<b>Smart Phone</b> (Phone with an OS) 	<b>Nortel MCS for BlackBerry</b> <ul style="list-style-type: none"> <li>&gt; Presence alerts (ring again)</li> <li>&gt; IM and presence management</li> <li>&gt; Click to callback from MCS for unified billing (leverage corporate directory)</li> <li>&gt; Call routing rules</li> <li>&gt; Unified Messaging</li> </ul>
<b>Standard mobile phone</b> 	<b>Nortel Dual Mode SIP Client</b> <ul style="list-style-type: none"> <li>&gt; Runs on Microsoft Mobile OS</li> <li>&gt; Supported on MCS 5100</li> <li>&gt; Unified Messaging</li> </ul>
<b>Nortel Integrated Call Director (ICD)</b> <ul style="list-style-type: none"> <li>&gt; One number service</li> <li>&gt; Make calls via PBX</li> <li>&gt; Access PBX features, e.g. Transfer/Conference/Ring Again/Speed Dial</li> <li>&gt; Call toggling (e.g. between mobile/desk phone)</li> <li>&gt; SpeechDial IVR</li> <li>&gt; Message Waiting Alerts</li> </ul>	<b>Nortel Integrated Call Director (ICD)</b> <ul style="list-style-type: none"> <li>&gt; One number service</li> <li>&gt; Make calls via PBX</li> <li>&gt; Access PBX features, e.g. Transfer/Conference/Ring Again/Speed Dial</li> <li>&gt; Call toggling (e.g. between mobile/desk phones)</li> <li>&gt; SpeechDial IVR</li> <li>&gt; Message Waiting Alerts</li> </ul>
<b>Single mode</b>	<b>Dual mode (WLAN and cellular)</b>

**Figure 4. Nortel Mobile Extension Services**

Another very useful mobex service is the SpeechDial application from Nortel which enables mobile workers to connect to any name stored in the corporate telephone directory, simply by speaking the name of the person or department they wish to connect to. This is particularly useful while driving as it allows people to connect to anyone in the organisation while keeping both hands firmly on the wheel. The SpeechDial system also has advanced functionality to resolve any ambiguities, such as employees with the same name, by asking for more information like the name of the location or department the employee belongs to. If a one number follow me product is not being used, SpeechDial can also be used to directly route to the person’s mobile phone if required. All these mobex services are capable of being delivered to the tens of millions of single-mode mobile devices in use today.

#### Silver Level Mobile Extension Services

New smart phone devices (those with a built-in operating system) offer a richer level of mobex functionality compared to traditional mobile phones. These smart phones might be single-

mode, GSM only-type devices or dual mode (WLAN and GSM)-type devices. The operating system enables richer functionality. Nortel is making use of these smart phone devices and the IETF open SIP standard to offer real-time multimedia communication applications for the mobile workforce. Nortel’s multimedia client software for BlackBerrys, for example, uses the data signaling channel of the mobile operator (e.g. GSM/GPRS networks) to deliver presence status alerts (a type of ring-back-when-free) and presence management (advertise availability to communicate), secure instant messaging, click to call from corporate directory which activates a call back to the mobile BlackBerry phone from the corporate PBX, and graphical user interface for easy provisioning of call routing rules. For example, if a BlackBerry user is traveling internationally and does not want to incur the cost of inbound calls on their BlackBerry GSM device, they can easily redirect phone calls to another phone, hotel room or PC softphone. The actual voice traffic is delivered over GSM while the multimedia features described above are delivered over GPRS data link. The system infrastructure back in the corporate HQ, data centre or service provider premises is the

Nortel Multimedia Communication Server and the BlackBerry Enterprise Server for security. Clients for other types of smart mobile device will be developed.

Smart phones also often provide mobile e-mail access and Nortel delivers unified messaging software that integrates e-mails, voice messages and fax messages into a single mailbox which can be viewed and managed from a smart mobile device.

### Gold Level Mobile Extension Services

The ultimate mobile extension services will be delivered on smart phones using next-generation, high-bandwidth mobile phone networks to enable consistent multimedia communications (voice, video, data applications) over WLAN and broadband wireless WAN networks. They will offer the same level of multimedia communication services and business applications as are available on today's PCs with Nortel multimedia communication software. These will be delivered as these multimedia mobile devices and networks become available.

Mobex services are available for single-mode and dual-mode devices and are complementary to the benefits of Dual Mode device capability for connecting to WLAN networks where WWAN network coverage is not available or where it makes more sense to route traffic over lower-cost WLAN networks.

### Dual Mode Handsets

Dual Mode is the ability for a mobile device (PDA, mobile phone, laptop PC) to be able to connect to both wireless LAN networks and to mobile operator wide area networks (GSM, CDMA, 3G). Some devices only enable data services while newer smart mobile phones — those with a built-in operating system, e.g. Nokia E60, E61 and E70 dual-mode mobile phones, and PDAs (HP iPAQ 6300 series and iMate PDA2K) — enable voice and data connection over wireless LAN and mobile phone networks.

The business value of dual mode is to use WLAN networks where WWAN network coverage is not available or for least cost routing for phone calls and data applications over WLAN networks. Enterprises have the opportunity to mobilise their on-premises workforce as well as save a large amount of money from offloading mobile phone calls onto corporate networks. Various industry research reports 60 percent or more of mobile phone calls are made from locations such as offices or homes.

As well as providing client software for dual-mode mobile devices, Nortel's strategy is also to enable seamless, secure mobility between these different types of wireless network using an enterprise or service provider hosted solution. Nortel VPN router products enable mobile devices (laptop PCs, PDAs) to keep a secure VPN connection to the corporate network, even as

the user moves from one network to another. This saves the time previously required to re-establish a secure connection and enables always-on business applications. Nortel is also developing a secure, seamless handover server mechanism to ensure employees use corporate WLAN for phone calls whenever possible. This works by automatically switching a live phone call over from the mobile operator's WWAN to the corporate WLAN network, ensuring lower cost routing. It also provides employees the freedom to start calls on either WLAN or WWAN networks and continue the conversation while moving between in-building/campus coverage and WWAN network coverage. For example, an employee may start a conference call in the office and stay connected on the conference call when they leave the office and drive in their car to their next meeting. The employee benefits from freedom of mobility without missing information on the call and saving the employee the time and hassle involved in reconnecting to the conference call. The business benefits from having least cost routing whenever possible but ensuring a more productive mobile workforce.

### Example customer scenarios

#### Faster customer service

The customer calls the account manager. The account manager is out travelling but because he is using Nortel Multimedia Communications system with personal call routing service, he answers the call on his mobile. The customer says the contract will be awarded to his company if they can agree to an install date of next week, which is a week earlier than previously requested. The account manager says he will investigate immediately and get back to the customer within the next hour. The account manager is using a BlackBerry mobile and is able to browse the directory for the Operations Manager. He checks the availability status of the Ops Manager before making the call and views the fact that the Ops Manager is in a meeting. The account manager

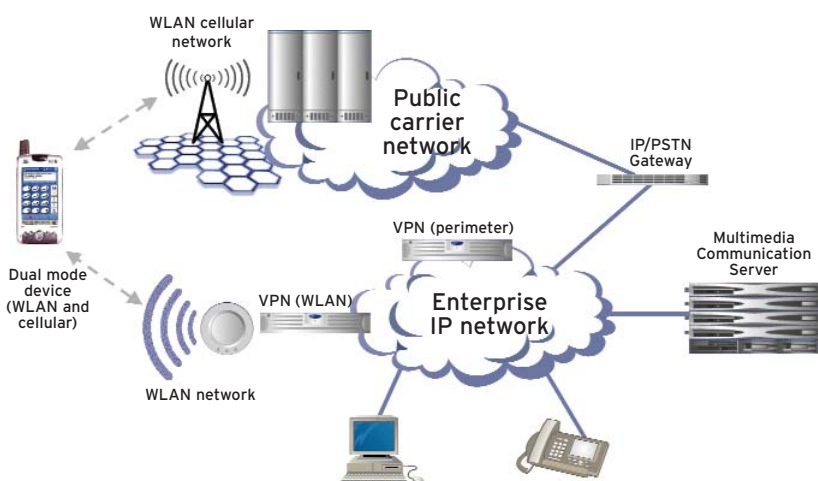


Figure 5. Nortel Dual Mode Network

decides to instant message the Ops Manager to see if he is available to take this urgent call. He soon receives an IM back saying he will move out of the meeting and take the call. Using click to call, Nortel's MCS system connects the Ops Manager with the account manager and they agree to an install date for next week. The account manager is able to call the customer back and give the confirmation. This shows the use of Nortel SIP-based multimedia communications to speed information flow and decision-making, which in turn improves customer service.

### Improved organisational productivity

A project team is under pressure to complete the new product design on schedule. The team is dispersed across several office locations across several cities, making it difficult to meet in person. Additionally, they have several employees who are home-based. With travel budgets tight and limited time when everyone can meet to discuss ideas for completing the new product, the team relies on Nortel Multimedia Communications system to virtually meet in person using the audio, video and Web conferencing application module of Nortel MCS. This allows the team manager to propose a new design idea which will cut development time to meet the new schedule. He discusses the design idea on the conference bridge and publishes the design drawings on the Web for all to see. One of the home-based employees spots a potential problem and uses the application sharing function on MCS to take control of his manager's drawing design application and makes a few swift modifications to the design for all to see and comment. All agree on the plan forward and the team manager is able to "save" the modifications and have the final design ready. What's more, the team manager has the buy-in of the whole team who understand what needs to be done. Even though the team is dispersed, they are able to work together to solve the business problem and ensure the project remains on track.

### Nortel is with you

Nortel is ready to provide you with a complete mobility solution. To us, mobility is more than carrying a mobile phone or PDA. We believe employees should have a consistent experience when they communicate — in effect, enabling employees to take their "office anywhere" and communicate effectively with colleagues and customers as if they were face to face with them, in the office.

Nortel mobility solutions take account of the wireless and wired networks required, the security, the multimedia IP communications software and the choice of mobile device.

Nortel mobility solutions enable your employees to be more flexible and productive wherever they work and enable you to transform the way your business works. For more information on how Nortel can bring enterprise mobility to your organisation, contact your Nortel representative or visit [www.nortel.com](http://www.nortel.com).

The applications needed for enterprise mobility are provided today by the following Nortel solution suites:

Nortel solution suite	Description
<b>Nortel Home Working Solution</b>	Helps employees work as productively and securely from home as when in the office. Solution involves IP phones, multimedia SIP-based communications and VPN secure remote access over wired or wireless network.
<b>Nortel On-Premises Mobility Solution</b>	Delivers voice, data and multimedia SIP-based communication services to employees across the business premises. Enables secure connection over a voice and multimedia-optimised WLAN network or secure hotdesking across the converged network.
<b>Nortel Off-Premises Mobility Solution</b>	Provides one number access to mobile employees, making them more accessible to customers and colleagues. Enables mobile employees to connect, communicate and collaborate with people wherever they are using SIP-based multimedia applications. Open SIP multimedia software clients available for a variety of mobile device, e.g. PDA, Wi-Fi-enabled laptop PC and mobile phone. Dual-mode phones enable the same device to be used across Wi-Fi and mobile GSM networks for least cost routing.

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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](http://www.nortel.com).

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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