

mobilizing

Solution Brief

Nortel Networks Mobilizing your VPN

Modern business requires mobility and always-on connectivity to compete. Cell phones and PDAs have become indispensable for business. Laptop computers give us the mobility to allow us to take our work with us—whether to a conference room, home, or around the world.

Wireless LANs, now a standard feature of many PDAs and laptops, are being deployed both privately and publicly in hospitals, universities, homes, and in thousands of hotspots in coffee shops, hotels, and airports. The emerging public 3G and 4G public cellular networks are set to make a huge difference to the corporate business community.

As knowledge workers continue to demand anywhere, anytime access to corporate resources and applications, the enterprises that serve these users continue to struggle to provide comprehensive wireless solutions that address true user/device mobility without impacting the enterprise's current security mandate while at the same time avoiding unnecessary network complexity and keeping costs down.

Current wireless mobility deployment challenge

Over the past year, wireless-enabled enterprises have struggled to understand how a plethora of innovative point solutions may (or may not) provide a solution fit for two of the biggest challenges in their wireless (Wi-Fi, WWAN) networking deployments enabling seamless mobility (across access types) and providing security while in motion.

Solutions that endeavor to solve this challenge range from proprietary security and mobility technology, to completely new overlay architectures based on Mobile IP, to deploying new security, VPN, and mobility clients and servers within existing enterprise networks.

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While many of these solutions do offer legitimate options to help solve the “secure mobility” challenge, many of these solutions only address aspects of the overall problem. For example Mobile IP-based solutions only address the IP mobility part of the problem—still requiring the enterprise to address security issues—which often require the enterprise to deploy this separate “mobile overlay” solution on top of their current security/VPN infrastructure.

A number of small start-ups have also focused on this wireless/mobility challenge by developing wireless solutions that offer varying degrees of roaming coupled with security and VPN. Some of these solutions are confined within the limits of the enterprise’s “private” Wi-Fi network. For example, wireless users are still not able to “roam” outside their private Wi-Fi network into public wireless LAN or WAN environments while staying securely connected in a persistent manner.

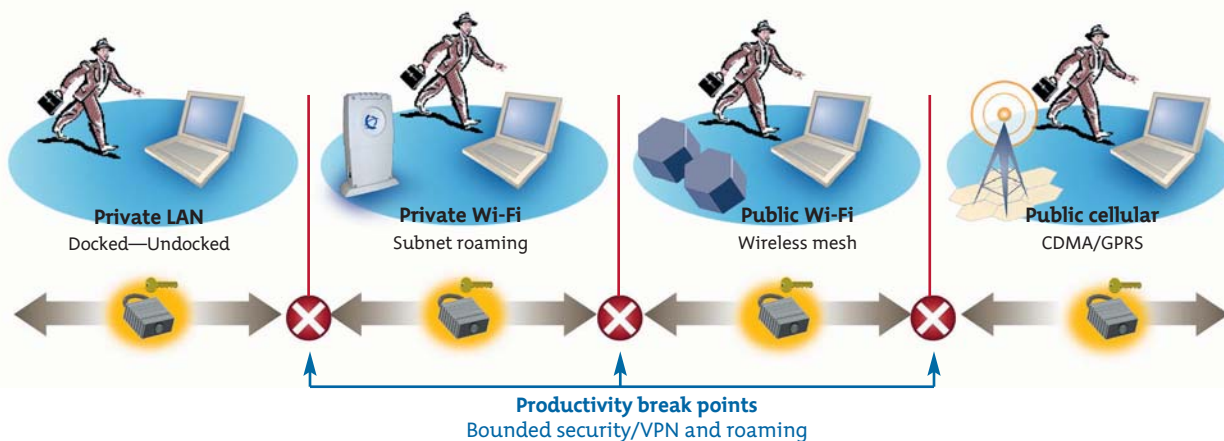
Enterprises must seriously consider how these potential solutions will impact or disrupt their current network infrastructure. Most of these solutions require that the enterprise deploy new mobility clients and new VPN clients along with new servers or appliances within the network—all leading to increased administrative burden, and additional upfront and ongoing support costs.

Nortel Networks uniquely understands the growing and evolving mobility and security requirements of enterprises and is delivering solutions as part of our Secure Mobility strategy that combine standards-based, highly secure IPSec VPN technology and IP mobility technology to deliver unmatched capabilities in facilitating flexible, secure, anywhere, anytime access.

Mobilizing your IPSec VPN

With over 60 million IPSec VPN Clients deployed globally, Nortel Network Contivity* customers now have the option of simply extending their current Contivity IPSec VPN deployments by adding our innovative **IPSec Mobility** capability to their currently deployed IPSec VPN clients and gateways, seamlessly, while leveraging their existing feature-rich Contivity VPN infrastructure and current remote user policies and security mechanisms.

Figure 1. Security begins to “break down” as users go “mobile”

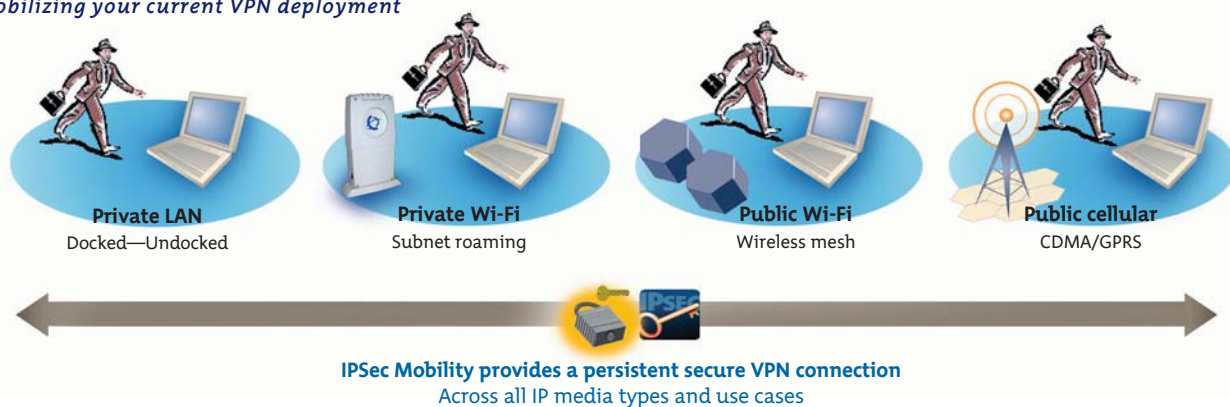


Nortel Networks **IPSec Mobility** allows a (laptop, PDA, tablet PC) user to move from an 802.3 physical Ethernet “use case” to the enterprise wireless LAN (Wi-Fi) environment (roaming between subnets) into a public Wi-Fi environment and into a public WAN (CDMA/GPRS) type environment...all while keeping a persistent Contivity IPSec VPN user tunnel up and connected—without having to re-login as they “roam” or having to restart applications.

Prior to this capability, a remote IPSec VPN user's connection (tunnel) would "break" when their IP address would change (roaming between two access technologies—wired and wireless, for example).

IPSec Mobility overcomes this previous limitation by combining the security of IPSec VPN with full mobility. Contivity customers can now in effect “mobilize” applications that may not otherwise work when a user is roaming wirelessly by providing a persistent IPSec connection to ensure the user keeps the same virtual IP address as the physical IP address changes on the notebook, PDA, or tablet PC. This maintains connectivity at the application level—enabling multimedia, voice, video, e-mail, and file transfer sessions to remain intact.

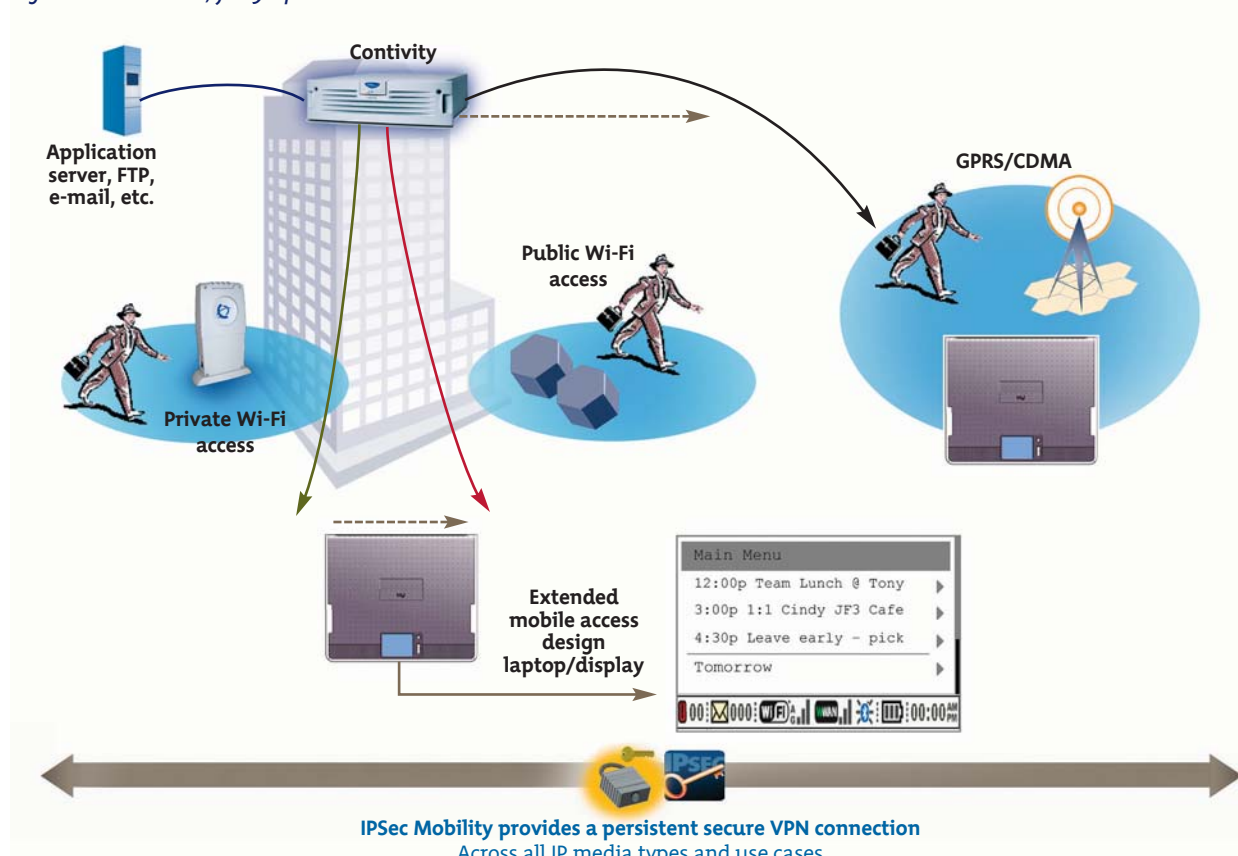
Figure 2. Mobilizing your current VPN deployment



Unlike other third-party mobile IP “overlay” solutions that require additional client software and the deployment of additional mobility servers (many still require VPN security in addition), Nortel Networks **IPSec Mobility** capability is added by simply extending the customer’s current Contivity IPSec VPN deployment by upgrading their existing Contivity VPN clients and gateways to the 5.0/5.01 code release. No additional mobility clients (new VPN clients), servers, or appliances are needed.

Our **IPSec Mobility** capability has also been designed to support the next generation of mobile platforms (and use case). For example, Nortel Networks is collaborating with Intel on their Extended Mobile Access (EMA) vision that enables Centrino laptops to remain connected, operational, and productive while in motion within the enterprise, with the lid closed (see Figure 3). With EMA, the user can continue to access e-mail and calendar information via an always-on outer display while connected to a wireless LAN network, without their IPSec VPN tunnel “breaking” when they roam or go “mobile”.

Figure 3. Closed-lid, fully operation—secure access



Stepping into the breach

Mobile IP (RFC 3344) was developed as a least common mobility denominator—solving the mobility persistence issue, across access types, at the “macro” level.

Designed primarily for wireless service providers, Mobile IP provides a common macro mobility management framework that allows mobile users to roam between different access networks with little or no manual intervention.

Although Nortel Networks Contivity enterprise customers can still leverage Mobile IP to solve their level user mobility requirements, this broad mobile framework is often considered “overkill” for most medium to large enterprises that aren’t inclined to deploy the required overlay infrastructure that’s required to make it work.

Nortel Networks is also actively participating in the IETF MOBIKE working group. This group is chartered to address IKEv2's (the next-generation IKE) lack of roaming, mobility, and multi-homing support. The market implementation timing reality of this collective IKEv2/mobility effort is 2005-2006 and beyond at best.

With our customers faced with the mandate of delivering practical solutions to their requirements today, Nortel Networks is responding to our large installed base by delivering a solution today that is based on the IPSec standard (without having to wait months or years) that can be deployed incrementally to their currently deployed Contivity VPN clients (5.01) and gateways (5.0) via a simple, low-cost software upgrade.

Delivering on Nortel Networks Secure Mobility vision

Nortel Networks has led the market in successfully deploying large-scale secure remote access VPN networks with enterprises and service providers over the past eight years. Nortel Networks highly successful Contivity Secure IP Services Gateway continues to be widely deployed in thousands of customers' networks and our Contivity VPN client—widely regarded as the best in the industry for its robustness, feature set, simplicity, and security end—is installed on millions of remote users' desktops.

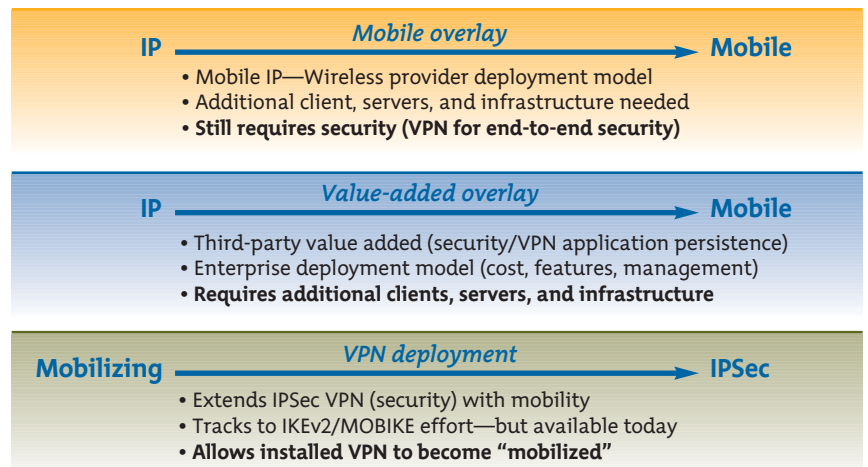
Nortel Networks Secure Mobility vision provides our customers with increasing levels of access and administration simplification from both the end-user's and administrator's perspective, without compromising the security, control, and current manageability of their existing "best practices" secure VPN deployments.

Our Contivity Secure IP Services Gateway 5.0 Product Release and our **IPSec Mobility** capability continues to deliver on our Secure Mobility vision by addressing our customers' continued requirement to extend secure and highly mobile remote access to an ever-growing population of users, locations, device types, and use cases.

Nortel Networks Contivity 5000 Secure IP Services Gateway Virtual Private Network (VPN) solution recently received the highest rating and was awarded "Tester's Choice" in a comprehensive, industry-wide VPN evaluation conducted by *Network Computing*. The results were published in the article, "IPSec VPNs Offer a Safe Passage" in the March 18, 2004 issue (http://nwc.securitypipeline.com/howto/18400234**).

Nortel Networks Contivity 5000 Secure IP Services Gateway also was chosen as the winner of *Network Computing's* Well-Connected Award* in the Security/IPSec VPN Solution category in May 2004.

Figure 4. IP Mobility architectures/options



In the United States:

Nortel Networks
35 Davis Drive, Research Triangle Park, NC 27709

In Canada:

Nortel Networks
8200 Dixie Road, Suite 100, Brampton, Ontario L6T 5P6

In Caribbean and Latin America:

Nortel Networks
1500 Concorde Terrace, Sunrise, FL 33323 USA

In Europe:

Nortel Networks
Maidenhead Office Park, Westacott Way, Maidenhead Berkshire SL6 3QH UK

In Asia:

Nortel Networks
Level 5, 495 Victoria Avenue, Chatswood, NSW, 2067, Australia

Nortel Networks is an industry leader and innovator focused on transforming how the world communicates and exchanges information. The company is supplying its service provider and enterprise customers with communications technology and infrastructure to enable value-added IP data, voice and multimedia services spanning Wireless Networks, Wireline Networks, Enterprise Networks, and Optical Networks. As a global company, Nortel Networks does business in more than 150 countries. More information about Nortel Networks can be found on the web at:

www.nortelnetworks.com

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

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