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GOVERNMENT AGENCIES CONNECT

SECURELY WITH EACH OTHER

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Success Story - Massachusetts Criminal History Systems Board

Customer:

The Massachusetts Criminal History Systems Board

Challenge:

In response to the events of September 11, 2001, new information-access requirements were placed on the Massachusetts CHSB, necessitating an increase in the size, scope and overall capabilities of their network.

Solution:

Massachusetts CHSB deployed Contivity* Secure IP Services Gateways to provide secure VPN connectivity between local law enforcement agencies and other government sites across the state.

Benefits:

CHSB now has a cost-effective way to flexibly expand their network while ensuring security between remote sites.

The Massachusetts Criminal History Systems Board opts for a Nortel multiservice IP VPN solution.

For organizations such as the Massachusetts Criminal History Systems Board (CHSB), “standard operating procedure” assumed an entirely new definition after September 11, 2001. Additional personnel, new facilities and resources, heightened measures of security—these are but a few among the many circumstances of a new and necessary reality.

Consider, for example, CHSB’s communications network. Prior to the attacks of September 11, CHSB was operating a 400-site Frame Relay network connecting state and local law enforcement locations, municipal offices, the port authority and DMVs across the state. While this network had proven successful previously, new demands signaled the need for a more robust network. Several new state and federal informational access and security mandates were put in place and Homeland Security offices were established, thereby requiring an increase in the size, scope and overall capability of the CHSB network.

Nortel’s Contivity 2700 Secure IP Services Gateways are now meeting these new demands. The two Contivity 2700s, located within the CHSB network, are providing virtual private network (VPN) tunnel termination of remote-site Contivity 1100s located at local law enforcement agencies.

The Contivity 2700 can cost-effectively extend IP-based access to remote locations, supporting advanced quality of service and bandwidth-management features with no changes necessary to the network, workstations, applications or operating systems.

The Contivity 1100 delivers comprehensive IP services with stateful firewall, encryption and authentication—all of which are critical to CHSB’s evolving mandates.

The Contivity Configuration Manager is used as the configuration and element manager for all the Contivity devices in the CHSB VPN. Existing Nortel BCN routers are used to terminate Frame Relay connections from remote sites.

New imperatives

“We were facing two major issues,” says Robert Mulvanity, director of networks and operations for the Commonwealth of Massachusetts, Executive Office of Public Safety, Criminal History Systems Board. “The first was meeting new federal security requirements, tying into a national system. The second, closer to home, involved allowing all our police departments to communicate with one another rather than through our mainframe.

“Contivity’s comprehensive security capabilities meet our FBI, Homeland Security and Massachusetts security initiatives,” Mulvanity avows. “Contivity allows us to deploy a single device at the branch that provides secure VPN routing and wide area network services, offering our police departments the flexibility to interact securely with other entities such as record-management vendors.”

An unprecedented network demand

First, CHSB needed to address tremendous growth in the size and reach of its network. The new security legislation requires that CHSB allow ubiquitous open access to extend access to the information in its criminal history database beyond its primary 400 branch locations to over 650 new locations. Moreover, in accordance with newly established FBI data communications regulations, the network itself must provide security in the form of data confidentiality, data integrity, strong user authentication, and access control in adherence to federal security best practices.

CHSB had an installed base of IP routers, but quickly realized that many of these older routers couldn't be upgraded to support IPsec 3DES, and thus would need to be replaced with an entirely new VPN-capable router. Some of its more recently deployed routers that could be upgraded to support 3DES couldn't scale to meet the higher performance requirements of 256 kbits and beyond—they would need to be retrofitted with a hardware encryption card or be replaced with a new VPN + router bundle.

The answer

Throughout its decision-making process, a primary concern for CHSB was the ability to meet the new federal security mandate.

After consulting with both internal and external security experts, it was decided that the network would use IPsec as the primary method of ensuring data confidentiality, integrity and non-repudiation, by leveraging IPsec data encryption, authentication and secure hashing functions.

CHSB determined that upgrading and/or replacing the legacy branch routers would prove to be far too costly. After careful examination of the requirements, CHSB determined that it needed a multiservice device that could provide IP access in addition to IP security services, such as VPN and firewall, in a cost-effective, integrated platform.

It was at this point that CHSB turned to Nortel. The Contivity Secure IP Services Gateways with Secure Routing Technology (SRT) were the answer.

The Contivity 2700 supports up to 2,000 tunnels and performs as either an IP access router, a dedicated VPN or a firewall. It supports load balancing for both tunneled and non-tunneled traffic and offers a range of bandwidth management features. It also can be centrally and securely managed through the Contivity Configuration Manager or via Web browser or command line interface.

The Contivity 2700s deployed into the CHSB network exceeded all its many strict requirements—VPN security (site and client), encryption, firewall, NAT, routing, WAN, DNS, DHCP and QoS services.

“We've gone from no encryption at all,” Mulvanity says, “to several steps above the federal requirement.”

Contivity was also less expensive—from both a capital expense and ongoing operating expense perspective—than retrofitting the other vendor's installed legacy routers.

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Although it made good sense for some CHSB sites to continue with Layer 2 Frame Relay service, for a number of other sites, scaling the frame network to the required higher WAN speeds would have proved far too cost prohibitive.

Moving to an IP-based model allowed for consolidation to a higher-speed and unified access method, as well as the elimination of costly duplicate Frame Relay permanent virtual circuits (PVCs). The IP-based alternative provided, on average, 40 percent less cost per site. Seventy percent of the new locations requiring access to CHIN data already had some form of Internet access readily available. Rather than waiting weeks or months to get a frame PVC provisioned to a new site, these new locations could leverage their Internet access connection to be up and running within days.

“Contivity has allowed us to build from an existing system we were happy with,” Mulvanity says. “We’ve built upon our original Nortel platform. The configurations didn’t change; our people are schooled on it, they know it.

The ease of operation was big for us, as was protection of our investment. We’re still using a chassis that we bought 12 to 14 years ago.”

The IP-based alternative also provides an excellent fit in support of the remote access requirement. Furthermore, many of the new imaging applications CHSB intended to use are, in fact, IP-based.

Best practice. Best bet.

Contivity’s Secure IP Services Gateways are purpose-built secure access routing devices designed to secure transmission of IP traffic via VPN/IPsec branch office tunnels.

Contivity’s Secure Routing Technology (SRT) capability was a perfect fit for the comprehensive security and IP routing requirements CHSB had laid out in their RFP.

SRT is a Nortel architectural framework that addresses the dynamic routing and scaling requirements of deploying large-scale secure VPNs. As enterprises move to deploy large-scale VPNs, it’s critical that these networks scale to the same performance levels and dynamic flexibility of traditional clear-text IP-routed networks. Most recently deployed enterprise branch VPN networks have been constrained by static branch configurations and complex overlay protocols and administration that have limited their size and scale. SRT facilitates secure access across any IP connection (i.e., Frame Relay, Ethernet, DSL) and from any client (including PDAs, and wireless LAN users). SRT from Nortel enables secure routing, secure access and policies and secure management—capabilities that addressed critical CHSB concerns.

CHSB’s security experts had been concerned that an open IP router-based solution wasn’t architected to address security in a holistic manner. They were concerned that a bolted-on security solution would be less than best practice. What they sought was a true multiservice device that could provide IP (WAN) access in addition to IP security services (VPN/firewall) in a highly integrated but low-cost platform.

Nortel’s SRT provided exactly that—truly integrating dynamic IP routing capabilities within a secure VPN framework to allow extremely high levels of scalability, performance and overall security when building large enterprise-class VPNs.



➤ “To be honest, the existing preferred vendor was a Nortel competitor. So the Nortel team really had to step up. And they have. When it comes down to it, you’ve got to implement the solution, and I have absolute confidence in these guys to get the job done.”

—Robert Mulvanity, director of networks and operations for the Commonwealth of Massachusetts

Wireless LAN applications

Ask employees what they gain from the mobility a Wireless LAN provides, and the answers are likely to be the ability to save time and to work whenever, wherever they want. For the enterprise, those answers translate into increased worker productivity. Improved productivity saves costly man-hours. Whether using a WLAN Handset or a WLAN-enabled PDA, the wireless exchange of data on the factory floor, in a warehouse or throughout a large retail establishment are good examples. In other organizations, such as a hospital or healthcare facility, improved productivity can save lives. Being able to input data at the patient's bedside, in the examination room or at any point where care is given often results in better care, higher efficiency and greater accuracy.

A true sense of security

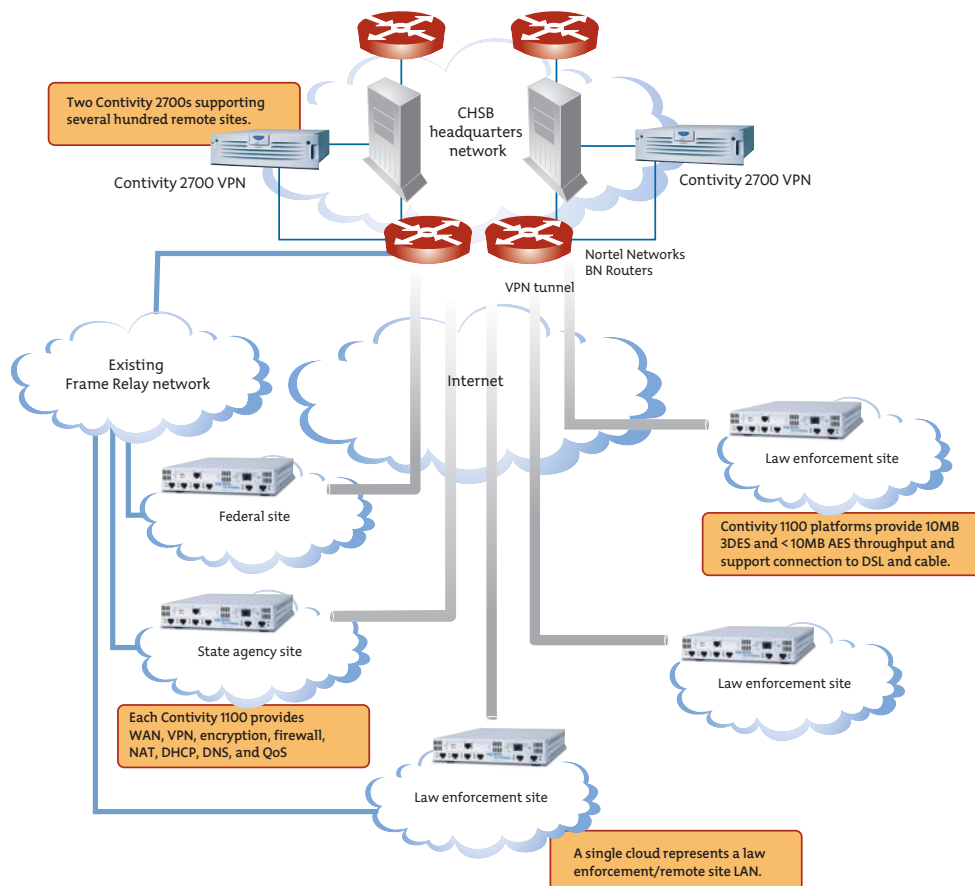
"I'd be remiss," Mulvanity concludes, "if I didn't mention the local support we've received every step of the way—sales support, technical support, business support. It's been the kind of true team effort that you don't often see, and that's what's really made the difference."

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I report to the executive director of this agency, and it helps me put his mind at ease when I can attach faces to our system, faces we both know."

In sum: A truly secure system, and pure peace of mind.

Massachusetts CHSB network



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