



## Extending the Reach of Clinicians With Secure Networks

*By addressing the issues around network security, the way is cleared for improving productivity in healthcare organizations.*

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## Abstract:

*As the healthcare industry addresses the stress and pressures being placed on it by an aging population, a shortage in healthcare professionals, demands for quality of service, government regulations and more, the industry is looking for ways to do more with less. The key to success is technology – secure technology – not just deploying it, but embracing it. Connecting the healthcare universe simplifies communications, coordinates efforts, reduces paper work and puts the information caregivers and staff need where and when they need it. This, in turn, increases productivity, reduces costs and improves the process of care.*

*A secure network mitigates the risks of intrusion, infection and attacks. Providing secure remote access, inspection of the all information being transported, global management and business continuity maximizes the benefits of connecting the healthcare universe and sharing data.*

*This document addresses all these considerations with an eye towards the real goal: better healthcare delivery.*

## The Case for Connectivity

There is not a more dynamic sector than healthcare as an intersection of societal and business trends. The demand for healthcare services is increasing rapidly due to a growing and aging population. This, in turn, is increasing the demand for professional care providers, facilities and related business services.

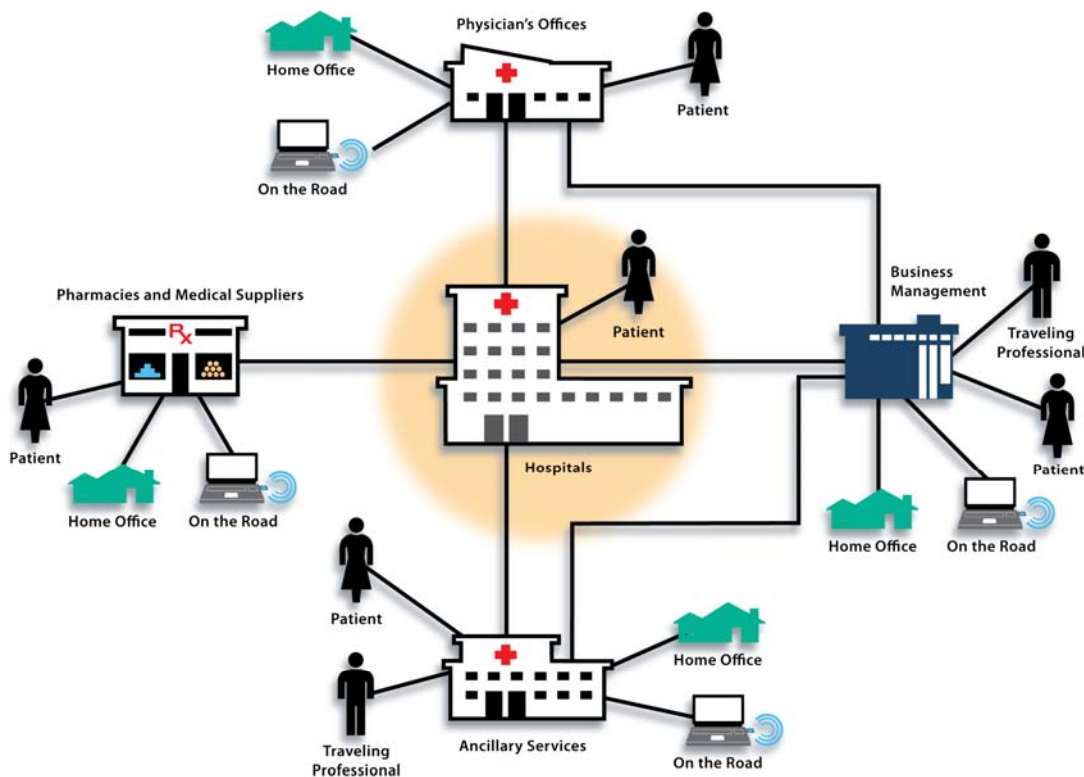
At the same time, the healthcare sector is under relentless operational pressure. There is a shortage of qualified and skilled personnel. The underlying cost structure is distorted by regulation and geography. And the conventional market forces that drive other industries do not translate. The single greatest factor in overcoming these challenges is the adoption of information technology.

It is now possible—using conventional secure network technology—for a rural physician to have radiological analysis performed by a premier urban clinic's radiologist from his or her home, consult with a nationally recognized specialist, transfer all the patient's records to the nearest major hospital with the push of a button, while the financial side of all these transactions is handled by a claims processing center in India. Each of these steps is focused on healthcare's central mission: providing responsive, quality care. Just as important, the mission can be achieved with greater efficiency at a lower cost. The secure network that enables this is the Internet.

Most people do not think of the Internet as a secure environment. Healthcare providers have been hesitant to rely on the Internet as their main information artery. While other sectors of business and the economy are using the Internet to address operating costs, personnel scheduling and even service quality issues, many healthcare organizations still have not embraced the interconnected operational "communities" that improve communications, productivity and reduce costs. By addressing the network security issue, the way is cleared for addressing all the other operating issues in a healthcare organization.

## Making the Connection

Each segment of the healthcare community enjoys its own benefits from secure connectivity and access to the other constituencies. But each link is critical and must be secured against delay, disruption and data loss or corruption. While security used to be seen as an extra layer of technology, it is now an integral consideration for even the most basic functioning of an extended network that can include the operations shown in Figure 1 below:



**Figure 1. Extended Healthcare Information Network**

When information can be accessed securely from remote locations, many benefits can be achieved:

**More Cost-Effective Resource Utilization**

According to projections from the U.S. Bureau of Labor Statistics published in 2004, more than one million new and replacement nurses will be needed by 2012. While the vacancy rate for radiologists is improving as published by RSNA in October 2005, it was still 6.2 percent in April 2005. There is also an increasing geriatric healthcare shortage according to a study by University of Chicago and published in the November 13 Journal of the AMA. The survey found that schools are not training enough geriatric medicine professionals to keep up with the growth in the elderly population, which is estimated to be 20 percent of the total population by the year 2030.

These are just a few samples of the shortages facing the industry. Making staff more productive by eliminating or automating as many administrative tasks as possible is the key. Securely connecting systems, partners, pharmacies, ancillary sites, etc. helps achieve that goal. Providing them access from home and on the road allows them to stay on top of their workload when they're out of the office. Secure networks can make a home computer as safe on the network as a central server.

### **Access to More Sophisticated and/or Specialized Resources**

Diagnostic analysis can be performed by experts in clinics anywhere in the world. Physicians can “consult” with peers using shared records. Labs can be employed for their expertise, not just their physical location. Secure networks assure even the largest files will move without disruption or corruption to their intended destination. For example, in Canada’s national health system, hospitals are using remote consultations to provide access to care and specialists for citizens that live in rural areas. The system also provides access to leading specialists across the country without travel expenses.

### **More Access to Current and Stored Data**

Digital “originals” can be shared instead of copies for greater accuracy. Complete records can be made available to all care-providers at the touch of a button. No longer do records have to be pulled from storage warehouses and transported to the location where they’re needed. Securely accessing complete records speeds diagnosis and the best course of treatment – even when the caregiver isn’t on site. Storing data online is also a much less expensive alternative to renting, leasing or purchasing storage facilities.

### **Greater Responsiveness and Patient Involvement**

A secure network is much less susceptible to delays so all aspects of patient care can proceed at the fastest rate possible. Providing patients access enables them to take a more active role in managing their care. They can log on and check their test results, schedule appointments, reorder prescriptions, communicate with their physicians and more. Physicians have decision support tools at their fingertips, helping them to make the best diagnosis and check prescription doses immediately. They can even securely connect to pharmacies to place the prescription order directly. When the patient arrives at the pharmacy, the prescription is ready and waiting for them.

### **Accelerated Insurance Payments**

Insurance claims can be securely submitted online. Codes are automatically attached to procedures to ensure that the submission is accurate. Supporting documents can be sent as well. Eliminating typos and incorrect codes means being reimbursed on the first submission and can eliminate up to 30 days from the payment cycle.

### **Simplified Regulatory Compliance**

Sound information security practices also yield a dividend of regulatory compliance. This can mitigate or eliminate the need for separate, disconnected compliance initiatives. Beyond simply satisfying the requirements of regulations, a secure network can provide all the records necessary to speed and satisfy the audits that accompany those regulations.

### **Improved Lifestyle**

A secure network gives flexibility back to physicians – giving them the ability to leave the office in time to catch a child’s ball game or just eat dinner with the family. They’re no longer tied to their desks to get their paperwork done. They can access the files and resources they need from home at any hour of the day. Functions, like transcription, can also be conducted from home-based personnel living wherever they choose, opening up the pool of resources available to healthcare professionals.

## **Securing the Connections**

While most healthcare organizations are confident with the security of their own network, the idea of opening it up to a broader ecosystem seems daunting. It doesn’t have to be. Instead of treating security as a follow-on function and an endless struggle against changing threats, it can be as easy as using component parts—hardware and software—that are secure by nature.

Network security must account for users of all kinds (technologically sophisticated and not), a wide range of financial considerations and even the physical location in which business is conducted. It must be able to

securely backup, protect, provide secure remote access and transport the right information to and from the right resource...wherever they are, whether on a shared system, in an office, on the road or from home.

### **Secure Remote Access (SRA)**

Secure remote access is the key for healthcare professionals to stay in touch and access all the information they need regardless of where they are at the time. The SonicWALL SSL-VPN Series, featuring the SSL-VPN 200 and SSL-VPN 2000, provides organizations of all sizes with an affordable, simple and secure clientless remote network and application access solution that requires no pre-installed client software. SonicWALL SSL-VPN solutions have no restrictions on the number of concurrent users, allowing organizations to scale their remote access connectivity as they grow.

### **Unified Threat Management (UTM)**

The SonicWALL complete UTM solution provides intelligent, real-time network protection against sophisticated application-layer and content-based attacks. It helps keep systems up and running in healthcare's 24x7x365 environment. Healthcare organizations can't afford to have worms or viruses infiltrate their systems. Comprising Gateway Anti-Virus, Anti-Spyware and Intrusion Prevention Service, its solution flushes out both internal and external threats by addressing multiple threat access points and thoroughly scanning all network layers.

### **Email Security**

Many healthcare organizations have taken steps to protect their infrastructure from external attacks; but few have considered their vulnerability to outbound security breaches, such as inadvertent or intentional exposure of data through employee use of e-mail, instant messaging, file sharing, Web posting, or portal activity. The risks of failing to fully protect both inbound and outbound flow of data in healthcare are increasing daily, from government legislation to customer trust. SonicWALL's Email Security provides the highest level of protection from both inbound and outbound e-mail threats by leveraging a unique end-to-end e-mail attack monitoring system. It provides effortless control with simple configuration, easy customization and automated maintenance, all through an easy-to-use, Web-based administrative interface.

### **Continuous Data Protection (CDP)**

SonicWALL continuous data protection is the only data backup and recovery appliance to provide end-to-end data protection for the small and medium-sized offices. The disk-based solution includes user-level instant data recovery with the touch of a button. No longer do caregivers have to wait for an IT expert to come reload the information that was lost. Users can do it themselves, instantly, so there's no down time or loss of productivity. Central administration and SonicWALL's breakthrough hands-free local and offsite data protection technology also eliminates the need for data to be manually transported to remote locations which means less administrative hassle.

## **Summary**

Everybody agrees that information is critical to the treatment of any patient. Giving caregivers access to that information anytime from anywhere can yield important productivity gains. But users need to be sure that the information is accurate, will arrive in a timely manner and remain confidential. All this is achieved by data networks built using secure, remote access. The benefits are well worth the investment, and include:

- Lower administrative costs
  - Simplified management and interaction with remote resources
  - Increased staff productivity and satisfaction
  - Regulatory compliance and simplified audit processes
- and most importantly,
- Improved patient care.

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