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Today's Healthcare Electronic Commerce Solutions Source

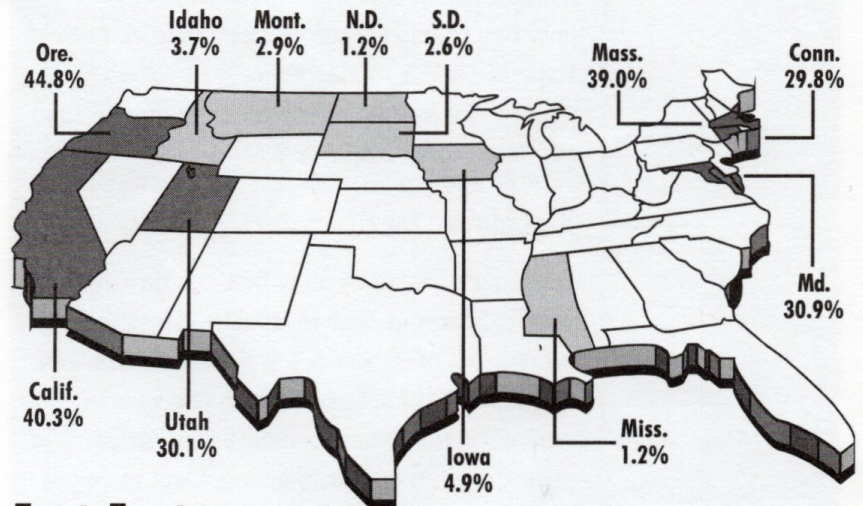
Intranets, Extranets and the Internet

Moving Beyond Vision to Profitable Reality

A patient enters her physician's office. Instead of signing in at the registration desk, she steps up to a graphical kiosk and swipes her personalized healthcare card. Rather than filling out a pre-exam questionnaire, she steps through an interactive survey directly on the screen. After the exam, she files her insurance claim quickly and easily through the same kiosk, instead of filling out and mailing paper forms. The data stored in the kiosk is transferred to a central database, accessible, with the appropriate security clearance, to processing centers and care systems located across the country.

This is an example of automated patient administration already being tested in markets today. The automation is based on Internet technologies linked to existing administrative and financial systems.

Although the benefits of enterprise-wide connectivity far outweigh the cost to implement this type of network infrastructure, the healthcare industry lags behind in its use of Internet technologies. According to an in-depth study conducted by Ernst & Young LLP entitled, "The Role of the Internet in Healthcare: Current State," an overwhelming majority — nine in ten



Fast Facts:

About 59 million Americans (22.3%) are enrolled in managed care health plans, primarily HMOs. States with the largest percentage of their populations in managed care: Oregon, California, Utah, Massachusetts, Maryland, and Connecticut. States with the smallest percentage: Iowa, Idaho, Montana, South Dakota, North Dakota, and Mississippi.

Source: 1997 Health Care Almanac and Year Book

participants — cited security issues as the major reason they have not embraced Internet, despite the potential reduction in cost and volume of transaction processing, a key benefit of Web-enabled technology.

For the healthcare industry, applying Internet technology to streamline administrative procedures is an extremely effective method which has already proven a return on investment. These systems can also raise the quality of medical care and reduce costs by increasing access for intended users and improving the accuracy of patient information.

Benefits of Web-Based Technology in Healthcare

1. Decreased deployment time and expense of software applications significantly cuts costs associated with shipping, installing, and tracking software needed at remote sites

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S2 Systems adds SMTP support to its popular NetX:MailServer product

From the Pacific to the Atlantic

Breaking the Barriers to Healthcare EC at Highmark and NDEX

Everyone now agrees that the Web-volution has changed business processes in healthcare, yet only a few companies have mastered the Web in day-to-day healthcare e-commerce. In the following examples, we will see how two healthcare companies, Network Data Express (NDEX) and Highmark, Inc., found that by embracing the Web and Internet technology, they could reap many rewards.

Highmark, Inc.

Highmark Inc. of Pennsylvania is the eighth largest health insurer in the U.S. Having nearly six decades of experience in healthcare delivery and financing, Highmark serves residents in 29 western Pennsylvania counties with the complete spectrum of both traditional and managed care healthcare coverage as Highmark Blue Cross Blue Shield.

Doing business as Pennsylvania Blue Shield, Highmark provides medical-surgical coverage, managed care coverage, dental, vision and Medicare supplemental coverage across the state, in conjunction with the state's other Blue Cross companies.

Highmark processes more than 75 million electronic healthcare and dental Blue Cross and Blue Shield claims annually. They also process more than one million provider service transactions via phone or facsimile each year, such as eligibility checking, claim statuses, and more. At Highmark, the average call or fax to a service representative costs \$6.25. An on-line transaction via the Web costs as little as \$.45.

"Connectivity is the key to our growth and our ability to bring transaction cost below \$.50," said Scott Mangol, manager of EDI Systems for Highmark. With S2 Systems' Network Express family of products, and particularly NetX:Web, Highmark can offer a degree of connectivity that literally links a physician's office to all members of a healthcare team: the affiliated hospital, colleagues across town, and the vendors of critical supplies. Highmark also provides direct links to important healthcare information sites, allowing users to jump out onto the Internet and independently explore care data.

"NetX helps us link with any internal customer application or host system without worrying how we connect," Mangol added. "More importantly, we have not experienced any downtime or customer complications with the system. That's what reliable switching should mean, Net or no Net."

Within the umbrella of Healthcare Companies, Highmark owns Direct Access Services (DAS), a Highmark health information division that provides healthcare professionals access to a spectrum of electronic services, including Highmark payment and membership information. DAS offers an on-line claims processing service that also uses NetX:Web, while providing a secure communications network. DAS is accessible via the CareConnect Network, an Internet network for interactive and electronic referrals. DataStream, an additional company under Highmark's Healthcare Companies who also utilizes NetX:Web, handles multi-payor

Through the use of NetX:Web linked to mainframe and UNIX-based applications, NDEX providers verify patient eligibility, check the status of claims and obtain authorization for referrals via Web-based applications.

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such as physician's offices, laboratories, clinics and hospitals. Consider the cost of deploying an application to 3,000 workstations scattered across the county or statewide. Now imagine 30,000. With Web-based application software, distribution, installation, training and maintenance costs are all cut dramatically.

2. Decreased customer call center expenses while improving information access that is up-to-the-minute and accurate. For example, one indemnity carrier saves almost \$6.00 for each web inquiry versus traditional phone or faxing methods. Forms, referral databases and more can be updated in one step, reducing the chance for error.
3. Global access that is independent to back-end host systems allows for Web-based applications to be easily integrated with old and new interfaces and operating systems. Web-based technology coupled with electronic commerce gateways allow for access and system protocols to interface with front-end systems such as Bisync 3270, TCP/IP, and Asynchronous dial-up systems. For example, graphical documents sent via the Internet and text-based screens from yesterday sent via an asynchronous dial-up modem can coexist on the same 24x7x365 network system.

Extranets

The concept of the "extranet" or Internet EC Gateway is somewhat new and is under careful evaluation by those implementing them. An Extranet is set up to be a door to the internal network. It allows trading partners, vendors, clients and even potential customers to obtain user-specific information from back-end host systems that contain an enormous amount of sensitive data.

Providing a door to an organization's internal network can seem frightening. However, utilizing the right security measures combined with a strong EC Gateway can provide a safe and controlled environment.

EC Gateways in Healthcare

Can your members fill out an enrollment form, send it electronically to you, then receive the approved form back to be filed electronically with the rest of their healthcare records? The scenario is not as unlikely or complex as it may sound.

With Network Express (NetX), the process can be as simple as creating an email message, adding a form as an attachment, and sending the message via SMTP (Simple Mail Transaction Protocol) from any standard browser through a Web server to a back-end application. When the transaction is complete, the patient receives the returned form, fully processed by the insurer.

In the healthcare industry, the need to conduct a series of complex, data-rich transactions is part of an organization's daily routine. With Network Express as an underlying platform for communications and messaging management, however, any organization can be securely integrated into the transaction equation.

Parties to the transaction can then attach enrollment data, claims pending authentication, or even authorization data. The various hardware and software platforms are seamlessly connected. NetX eliminates entirely the need for an extra layer of data to tie the pieces together.

To learn more about the family of Network Express products and S2 Systems' other EC Gateway and healthcare products, contact S2 at 972/458-3800, via the World Wide Web at www.s2systems.com, or via email at Ken_Bell@Stratus.com. ♦

Compare the idea of controlling the Internet to that of maintaining security in your neighborhood. Homeowners use fences, padlocks, deadbolts and alarms, just as network administrators use firewalls, gateways, proxy servers and passwords. In either case, you choose how to best protect your important assets.

The framework necessary to build EC applications requires integrating the information on host systems with that of the rest of the enterprise and the Internet. In terms of connecting, routing and processing patient, provider, payor and other organizational request, the Internet is a prime facilitator for conducting these types of electronic data interchange (EDI) transactions, message-oriented transactions and live, on-demand data interchange. ♦

HealthLine is published by S2 Systems, Inc., the most proven provider of enterprise software and services products that solve today's Healthcare ElectronicCommerce demands.

To request further information or suggest stories for our next issue, please contact:

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claim and encounter submissions that are used by thousands of healthcare providers. DataStream supports asynchronous communications at speeds up to 14,400 bits per second.

Both Direct Access Services and DataStream are accessible via Highmark's integrated on-line healthcare network at www.careconnect.com.

NDEX

On the opposite side of the U.S., NDEX, King County Blue Shield's electronic commerce subsidiary, currently processes electronic transactions for more than 1,500 provider offices in Washington and Oregon. King County Medical is the test site for a Web-based claims and referral automation application. Included will be an intranet to integrate TCP/IP traffic via an 800 number with asynchronous dial-up transmissions. "The only nervousness I've gotten is that we don't want this data traveling the Internet right now," said Jerry Tonkovich, president of NDEX. "I am confident that we will evolve to the point where security issues are in place to use the Internet."

King County Medical hopes its Intranet will enable providers to increase communications with the plan and will help other major Blues plans in the Northwest. In addition, they hope to

establish a common link to the various plans at the physician's desktop. Tonkovich also stated, "King Country saves more than \$3 per transaction done electronically, either via clearing-houses or eventually through the Intranet, rather than on paper or via telephone queries."

NDEX can be found on the World Wide Web at www.ndex.com. ♦

Messaging Standards for Healthcare

NetX:MailServer Now Supports SMTP Transport

Because most proprietary mail systems have SMTP (Simple Mail Transaction Protocol) gateways, SMTP transport is used by virtually every host system sending mail messages via the Internet or other TCP/IP networks.

S2 Systems has integrated SMTP support in its NetX:Web, NetX:Window, NetX:FileTransfer and NetX:EDI products through NetX:MailBox. The products are available in a single integrated software product family. ♦

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