DataMotion / SuccessStory
Sutter Health

Send It / Secure It / Control It
Cloud based data exchange for business

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Background
Sutter Health, one of the nation’s largest healthcare provider networks, must occasionally share private healthcare information with doctors, insurers, government agencies and others outside of its enterprise network. And its own policies, as well as the Health Insurance Portability & Accountability Act (HIPAA), require that those communications be secure. To help meet that requirement, Sutter Health turned to the DataMotion solution, which is based on Microsoft technology. In addition to helping meet privacy requirements, the solution was fast and cost-effective to deploy and remains highly cost-effective to maintain. The solution “virtually manages itself” Sutter Health says, fits seamlessly within the company’s existing Microsoft infrastructure, and can be supported with little or no increase in the organization’s e-mail support staff.

Situation
The healthcare professionals at Sutter Health, one of the country’s largest not-for-profit healthcare networks, communicate with a broad range of people outside of the network: they consult with colleagues at other institutions, report medical results to insurance companies and state and federal agencies, and participate in research trials that span many institutions. And doctors and other healthcare providers at Sutter Health can access files for viewing at home or at other times while they are away from their offices.

While Sutter’s healthcare professionals always took care to ensure the confidentiality of protected health information (PHI), the network needed to ensure it met the privacy standards required by the Health Insurance Portability & Accountability Act (HIPAA). While some forms of communication used by Sutter Health – including certified U.S. Postal Service and private couriers – were secure, they were costly and too slow for many uses. Electronic Data Interchange was fast, but too expensive for intermittent use such as for the filing of quarterly government reports. E-mail was an essential part of the Sutter Health mix, yet it was one of the most inherently non-secure means of communication, subject to hackers and to inadvertent misdirection.

The network explored a range of options, including equipping all authorized users with software keys for encrypting their communications. But virtually every possible solution had significant drawbacks for Sutter Health, including high purchase prices, high maintenance costs, and high maintenance burdens on the network’s e-mail support staff. Some solutions would subject all Sutter Health e-mail to content filtering, which network IT professionals felt added unnecessary complexity. Other solutions would rely on off-site hosting at an application service provider (ASP), which offered less control over security.

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"We needed an absolutely reliable, secure solution which would neither burden our staff nor exceed our budget," says Ray Balut, Chief Information Security Officer for Sutter Health.

**Solution**
The DataMotion solution meets Balut’s requirements. One thousand of the network’s more than 15,000 users now use DataMotion to send mail securely from their standard Microsoft Office® Outlook 2000 desktop software and to receive secure replies from correspondents outside of the network.

The Right Provider, The Right Technology
“We chose DataMotion because it meets all of our requirements: HIPAA-Compliance, low cost, ease of use, and simple implementation,” says Balut. “It also provides secure support for the range of scenarios we experience, including remote access for our physicians and other healthcare providers, whether they’re using their laptops at home or standing in front of a kiosk at a medical conference.”

Sutter Health was also pleased that DataMotion was built on the same Microsoft® technologies that the company already uses – including the Microsoft Windows® operating system – and that it interoperates with key components such as Outlook on the desktop and Microsoft SQL Server on the backend, according to Andrew Albrecht, Enterprise Security Engineer.

Specifically, the DataMotion solution runs on Microsoft Windows 2000 Advanced Server with Internet Information Services (IIS) 5.0 and the .NET Framework 1.1, and also includes SQL Server™ 2000. The .NET Windows operating system that provides a programming model and runtime for Web services, Web applications, and smart client applications. The solution was developed using the Microsoft Visual Studio® .NET 2002 integrated development environment.

The solution includes a database and application server running SQL Server 2000 and the DataMotion application, which connects to a pair of IIS 5.0 Web servers. The database server sits inside Sutter Health’s internal firewall. The Web servers sit in the DMZ between the internal and external firewalls.

All secure mail – coming in from the Internet or out from Sutter Health’s Exchange Server infrastructure – pass through the Web servers. The Web servers, in turn, are the only servers that communicate with the secure database. Sutter Health deploys two Web servers to provide load-balancing and fault-tolerance.

**Putting DataMotion To Work**
Sutter Health authorizes its users to send secure e-mail on a user-by-user basis, which gives its Privacy Officers the opportunity to understand what private healthcare information is flowing outside the organization via e-mail. Authorized users then are provided with a simple plug-in for their desktop Outlook software, which adds a “Send Certified” button to their tool bars. Users thus have the option to continue to send non-private mail normally by clicking “Send,” in addition to sending PHI securely by clicking “Send Certified.”

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Several steps complete the DataMotion SecureMail process:

When users choose to send an e-mail message securely via DataMotion, the “Send Certified” button directs the message from their Outlook software through the Exchange Server as usual.

The message is then routed to the DataMotion system, which stores the message in the user’s account on the database server.

The solution generates an e-mail message to the intended recipient, which explains that the recipient has a secure message, created by the sender. The recipient clicks on a hotlink in the e-mail message to go to a secure DataMotion Web page, where they are directed to choose a password, establishing their account.

The solution then generates a second account verification e-mail to the recipient, with a hot link to a DataMotion Web page on which the recipient can enter the password and view the message.

Recipients can choose to send secure replies to the original senders, who will receive similar notifications in their Outlook inboxes about the availability of those replies. The system can be configured to deliver inbound DataMotion messages “in-the-clear” to the internal mail server, eliminating the need for employees to click on messaging waiting links.

In addition to making the solution available to authorized users via their desktop computers, Sutter Health allows them to access their DataMotion accounts remotely, over the Web, while they’re away from the office. This version of the solution works like the Web mail accounts – such as MSN or Hotmail – with which most e-mail users are already familiar.

A physician, for example, can access a private document to his or her home or office computer for after-hours work using the system. Instead of sending the document out of the Sutter Health secure infrastructure, he or she sends a link only and can later view the document securely from its storage location without actually downloading it.

**Benefits**

**Compliance with HIPAA Requirements**

Sutter Health was looking for a way to bring its e-mail communications into compliance with HIPAA standards, and the DataMotion solution running on the Windows platform delivers this benefit, according to Sutter Health.

“Bringing our e-mail communications into compliance with HIPAA is additional assurance for our patients that their private information will remain private, and assurance for Sutter Health that we are meeting our customers’ needs and compliance requirements,” says Jean Bowman, Application Security and HIPAA Security at Sutter Health. “We’ll continue to use a variety of solutions to communicate PHI to authorized parties but e-mail is essential to our operations: it’s one of the fastest and most convenient ways we have to communicate and is an integral part of our patient care operations. The DataMotion and Microsoft solution ensures that we can take full advantage of e-mail while ensuring patient confidentiality.”
Simple, Low-cost Deployment and Maintenance

Sutter Health needed its secure e-mail solution to be more than effective – it needed it to be simple and cost-effective, as well. And the solution provides these benefits as well.

DataMotion worked with Sutter Health to develop the solution design and deployment plan, then implemented that plan in just 29 days. Microsoft technologies such as Microsoft Windows Server™ Terminal Services enabled DataMotion to install and configure the solution software remotely, subsequent to establishing a secure VPN connection—making the process simultaneously quicker and less expensive. On a continuing basis, various features contribute to a solution that Sutter Health can implement without adding to the size and cost of its modestly sized e-mail support staff. E-mail messages are automatically compressed and encrypted in the SQL Server database and purged automatically after a system-defined expiration period, eliminating the need for manual deletion. Administration is handled by an integrated ASP.NET administrative console and SQL Server Enterprise Manager. The SQL Server automated backup and maintenance wizard further reduces the need for manual maintenance.

“There’s almost no cost to maintaining the DataMotion and Microsoft solution – it virtually manages itself,” says Balut. “Nor do we have to take time to support users who lose encryption keys or have other problems with the software – there’s nothing for them to lose or break. In fact, because the solution integrates seamlessly with Outlook, our users need minimal training. They tell us they love the solution. And since the solution relies on the same Microsoft technologies that we already know and support, we didn’t need any special training in IT either.”

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