

**Success Story:
Sendmail
Facilitates HIPAA
Compliance
and More for
Ivy League
University Hospital**

THE HOSPITAL

To enable HIPAA compliance, a leading hospital researched the best way to secure transmission of patient data across its entire network of medical centers and Ivy League academic institutions. With 10,000 email users and volumes in excess of 30,000 messages per day, the IT organization faced performance and system management issues. They needed a robust and comprehensive email solution that would enhance manageability and maintain exceptional service levels. In addition, the system had to integrate with existing mail servers and clients, and provide a secure in-box for patient email.

A HEAD START ON HIPAA COMPLIANCE

Several years before U.S. Health Insurance Portability and Accountability Act (HIPAA) patient confidentiality regulations went into effect, a leading hospital took proactive steps to get a handle on the compliance task. The hospital launched a program to implement a comprehensive Internet mail solution for its associated facilities, which included several Ivy League academic institutions and multiple medical centers. The objective was to secure patient data for transmission to patients, labs, insurance companies and other healthcare providers, thus enabling HIPAA compliance.

The hospital's Information Technology (IT) organization managed Internet mail for 10,000 users. This included nearly 200 hospital physicians, approximately 6,000 hospital email users, as well as additional email users at each university. The email volume had increased to more than 30,000 messages per day, so the IT group was facing performance and system management issues that could impact the service levels expected by users.

The solution needed to run on UNIX and provide Lightweight Directory Application Protocol (LDAP) directory support, list management support, system monitoring, and Multipurpose Internet Mail Extensions (MIME) attachment management. In addition, the solution would also have to integrate with the existing mail servers and Eudora clients already in use.

The central goal of the project was to ensure the security of email in terms of data flow, patient confidentiality, and handling of the messages that travel in and out of the mail system. This involved securing the privacy of Internet mail between mail servers; in addition, administration wanted to extend that security by safeguarding the in-box through which patients would receive secure messages.

SENDMAIL ADDRESSES ALL REQUIREMENTS

After carefully analyzing a number of competitive offerings, the hospital's IT group concluded that Sendmail provided the most comprehensive solution. They felt Sendmail would deliver the ideal balance of a feature-rich, yet user-friendly messaging environment, combined with a robust, directory-driven security architecture.

The hospital has since implemented a solution that includes: Sendmail Mailstream Commander and multiple Mailstream Switch MTAs on UNIX for secure Internet mail routing; Sendmail Mailstream Manager for policy management, content filtering and spam and virus protection; ECOSys Directory for LDAP support and Sendmail Technical Support for expert assistance with Sendmail solutions.

SECURITY

For Internet gateway protection, Sendmail Mailstream Commander is implemented behind the firewall for secure MTA administration, and multiple Mailstream Switch MTAs are installed at the firewall boundary for incoming mail. This phase of the implementation includes LDAP directory support, Simple Mail Transfer Protocol (SMTP) authentication and Transport Layer Security (TLS) encryption between mail servers. The hospital has a centralized directory in the iPlanet LDAP server that the Mailstream Switch MTA supports for multiple user names.

"The Sendmail solution had the flexibility to accommodate all our requirements – this included several specialized needs."

BUSINESS ISSUES

- Protect privacy of email content
- Secure transmission of email between servers
- Provide a secure in-box for patients
- Ensure HIPAA compliance

SENDMAIL SOLUTION

- Mailstream Switch MTA
- Mailstream Flow Control
- Mailstream Commander
- Mailstream Manager
- ECOSys Directory (LDAP Directory)

RESULTS

- Secure and reliable email routing
- Centrally managed MTAs and SMTP connection Control
- Unified policy management and scanning of all email
- Protection of sensitive email to maintain HIPAA compliance
- Enhanced manageability and reduced volume of unwanted mail

MAIL MANAGEMENT

"Sendmail is the best implementation for Internet mail," says the hospital's IT director. An additional Mailstream Switch MTA is deployed as a dedicated server for outgoing mail and functions as the mail hub. The mail hub routes mail to an iPlanet Messaging Server that hosts the mailboxes. The director explains that the IT group considered extending the function of the iPlanet server beyond mailbox hosting. They concluded, however, that iPlanet would not be good as an SMTP server. "It does not handle high volumes for mail routing, spam features are unsatisfactory, and it is not very configurable" However, he added, "It (iPlanet) does work very well with the Mailstream Switch MTA."

DIRECTORY OPTIMIZATION

For additional mail stream control, another Mailstream Switch MTA is used by the hospital's list server. The IT group maintains approximately 600 directory lists that are used for research-based discussions, announcements, broadcasts and departmental issues. Thanks to Sendmail ECOSys Directory (LDAP integration), the group has been able to consolidate user information in one repository, thereby reducing management and maintenance time.

"Sendmail's management tools make the network easy to configure, even for junior administrators," says the hospital's IT director. He appreciates the flexibility of the Sendmail solution. "We have several UNIX administrators that need to access the administration console from anywhere," he says. "The Mailstream Commander Web-based, MTA administration console saves us valuable time." The IT director adds that "Mailstream Switch has superb statistical tools that are incredibly helpful. We are easily able to review peak volumes and patterns in mail usage."

RESULTS: THE MODEL FOR SECURE INTERNET MAIL COMMUNICATIONS

Sendmail's secure Internet mail solution not only enabled the hospital to achieve HIPAA Privacy Rule compliance, but now also provides enhanced protection against spam and unwanted attachment types. It has transformed an inflexible system into a robust communication tool that has become a model for other healthcare organizations. Patient confidentiality and security have been achieved, and management now has the tools necessary to maintain and manage system performance.

- **Secure email communications** – Out of the box TLS support in Mailstream Switch MTA enables compliance with HIPAA regulations and integrates with the hospital's Eudora mail clients.
- **Web-based administration tools** – Remote access to the administration console from anywhere saves valuable time and serves as a training tool for junior administrators.
- **Anti-abuse control** – Prior to the Sendmail deployment, the hospital's IT organization was "throttled with spam on a daily basis." The IT director reports that Sendmail has reduced spam "to negligible levels" through use of the subject line filter and anti-spam controls.
- **Virus protection** – Mailstream Manager advanced content filtering provides a frontline defense to supplement virus protection. Although the hospital is regularly hit by viruses from external Exchange and Outlook clients, the Sendmail solution quickly filtered out suspect attachments based on MIME attachment type. The size restriction feature is also used to restrict attachment size.

FUTURE DIRECTION

This top-ranked clinical and medical research center has standardized on Sendmail as their Internet messaging platform. The hospital's IT director concludes, "If we need anything specialized, Sendmail solutions have the flexibility to accommodate just about anything to meet our requirements. Sendmail is helping us to comply with HIPAA regulations for patient privacy. The standards-based Open Source foundation provides a robust, extensible platform for a solid Internet mail infrastructure to build on."

HIPAA Background

Since April 14, 2003, healthcare providers have been required to maintain compliance with the HIPAA Act of 1996. This Act called for the development of comprehensive privacy standards that established rights for patients with respect to their medical records and defined the conditions for using and disclosing personally identifiable health information or PHI. Rule 45 CFR Parts 160 and 164 set Standards for Privacy of Individually Identifiable Health Information, thus impacting electronic communications, including Internet mail.

**Secure, Dependable
and Compliant
Messaging.**



Sendmail, Inc.

6425 Christie Avenue,
Emeryville, CA 94608

Tel: +1 888 594 3150 or +1 510 594 5400

Fax: +1 510 594 5429

www.sendmail.com