Harnessing the Power of E-mail

by Chris Gray

Without e-mail, Holly Ballam's duties as privacy officer and physician liaison director for Beth Israel Deaconess Hospital in Boston, MA, would be nearly impossible to manage. Working from home on maternity leave, Ballam, an RHIA, is responsible for suspending physicians who fail to complete records in a timely fashion. All of her correspondence is conducted through e-mail. "Since there are more than 1,000 doctors in the network, the only way to communicate is via e-mail," says Ballam.

As a result, efficiency has skyrocketed. Only six months ago, the number of delinquent records was between 4,000 and 5,000. Now, the number is down to approximately 1,100, and Ballam says e-mail is one of the main factors behind the dramatic reduction.

E-mail Leads the Pack

Just five years ago, most communication in the healthcare industry was done by phone, fax, or postal mail. However, because e-mail is reliable, fast, inexpensive, and widely accessible, it has displaced traditional corporate communication systems. Further, as healthcare organizations spend more money on technology, they look for cost-effective ways to streamline communications practices between doctors, healthcare professionals, existing and prospective patients, and suppliers. E-mail is an effective way to help leverage corporate information technology spending.

At the same time, patients have become more "Web savvy" and have started to research ailments on the Web and ask doctors for advice via e-mail. According to a Harris Interactive poll on interactive healthcare, more than half (55 percent) of all practicing physicians use e-mail to communicate with professional colleagues and a third (34 percent) use e-mail to communicate with their support staff.

Juan Rodriguez, LAN administrator at the department of surgery for Memorial Sloan Kettering Hospital in New York, argues that e-mail has become as essential as phone usage for non-urgent administrative and or clinical issues.

His facility has officially replaced hard copies of employee memos, meeting notes, and most forms of inter-office communication with e-mail.

At the University of Michigan, Lee Green, MD, associate professor of the department of family medicine, recently led an e-mail pilot program for doctors to evaluate e-mail communication with patients. Most doctors, according to Green, were very receptive to the program and considered e-mail to be an effective replacement for telephone tag.

Have We Created a Monster?

As much as e-mail has enhanced communications in the healthcare industry, it has also created new challenges, most notably the ever-growing volume of messages. Ferris Research recently estimated a 50 percent growth in corporate e-mail messages last year, and the volume is expected to increase 30 to 50 percent in 2001. According to Creative Networks, Inc., an e-business strategic consulting and market research firm based in Palo Alto, CA, 60 percent of business information used for daily tasks is stored in an e-mail or messaging system.

Because doctors at Memorial Sloan Kettering Hospital have become inundated with official business e-mail, they have set up automatic replies indicating they cannot respond to all messages. At Beth Israel Deaconess Hospital, Ballam still receives notices from IS administrators when her mail begins to clog the server and slow its performance, despite the significant volume of disk space in her messaging system.

Privacy of health information is another concern as the healthcare industry adopts e-mail as a communication channel. As part of Green's pilot program, doctors sent a disclaimer to patients with all correspondence of a private and confidential nature. This disclaimer explained that the hospital is not responsible for the security of the recipient's e-mail system to protect against liability issues.

While the security and transmission of private and confidential information is critical to an organization's legal safety, most currently do not have e-mail communication policies in place. Ballam and Rodriguez indicate that there are currently no e-mail policies dictated by their organizations and that correspondence is left to common sense.

The usual archival and retrieval issues related to e-mail are complicated when managing messages that contain confidential, private, and sensitive information. Like most hospitals, due to legal requirements, Memorial Sloan Kettering stores and archives e-mail online (instantly accessible) for one year and near online (easily accessible) for approximately five to seven years. However, the proliferation of e-mail makes it difficult and time consuming for users in all healthcare facilities to manually search for or access lost or inaccessible e-mail. Creative Networks found in a recent survey that 81 percent of end users could not access archived e-mail without administrator assistance. In addition, e-mail administrators spend five to six hours per week finding and restoring archived messages for end users. As a result, user productivity is drastically diminished, costs associated with recovering e-mail increases, and vital healthcare information may disappear or become inaccessible.

Taming the Beast

With traditional message store architectures, e-mail storage is not centrally controlled, server message stores are constantly increasing in size, and backup tapes of these message stores are used primarily for disaster recovery purposes. To help healthcare organizations overcome problems associated with e-mail, message management systems must be able to recover sensitive or legally significant messages, comply with regulations, and provide reliable record keeping, while reducing operation costs and liability. In addition, companies need to keep a historical record of backup tapes in case there is an external request for information as a result of legal issues, HIPAA regulations, or Freedom of Information Act inquiries.

There are several options for managing and accessing the deluge of e-mail.

First, organizations can rely solely on the message store and local backups. However, without the appropriate technology and policies, e-mail messages will clog message stores, which in turn will threaten e-mail server performance and force IT departments to routinely and indiscriminately purge critical files from the system.

Another option is to implement a centrally controlled storage system that routinely makes backup tapes of e-mail server archives, which can be searched when necessary. However, this system requires employees and administrators to reload backup tapes on duplicate messaging systems and search through the backlog of e-mail messages to find a lost file, which is an expensive and time-consuming process.

Another alternative is to implement an e-mail or messaging system with centralized archive and retrieval capabilities to store messages and attachments in a secure and rapidly searchable archive. This system would automatically copy e-mail messages and attachments from the message server into a messaging center, eliminating restrictions on mailbox or message sizes. The e-mail management system should also provide:

- e-mail server management by providing automatic capture capabilities, integrated support for low-cost storage, and content-based classification rules. This reduces message store saturation and increases message availability by transforming an organization's temporary cache of messages on a server into an enterprise document management system
- fast and efficient access to the historical body of e-mail messages and attachments through full-text indexing and cataloging for employees and end users
- reduced costs associated with being able to recover messages or documents from an e-mail archive more quickly and efficiently. Creative Networks estimates that large organizations spend an average of $193 per user, per year to retrieve messages from archives. An e-mail message system should help reduce this expense
- record management that adheres to an organization's e-mail policies and enables it to comply with HIPAA, federal, state, and local e-mail management requirements
- protection of business communications to ensure e-mail records are tamper-proof throughout their life cycle

- the ability to clean up a message store and guard against the loss of information following a virus attack

E-mail is a critical tool that has tremendous value. However, without quick, reliable, and thorough access to historical e-mail, there are some potentially serious business and legal ramifications. As a result, healthcare organizations need an e-mail or messaging system that can help them channel the daily stream of e-mail messages and attachments into a tool that provides a competitive advantage for their healthcare organization.

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