Email at Cedars-Sinai Medical Center is critical to delivering quality care. With soaring email volume, it began to generate significant management costs. Faced with the need to purchase 15 Microsoft Exchange servers annually to accommodate burgeoning growth in email, Cedars-Sinai deployed Symantec Enterprise Vault software. And seeking to manage myriad of incoming spam, the healthcare leader added Symantec Brightmail AntiSpam software. The combined enterprise messaging management solution is producing tangible results, including more than $2 million in cost avoidance over two years, a 50 percent reduction in email through spam filtering, and a 50 percent reduction in email storage.

**A healthcare star**

Located in Los Angeles, California, and operating for more than a century, Cedars-Sinai Medical Center has achieved a number of distinctions for excellence in medical research and healthcare. One of them is that it’s been voted the most preferred hospital for all health needs in an independent survey of Los Angeles residents—for the past 17 years.

The hospital is also among the top 10 non-university hospitals nationwide receiving competitive research funding from the National Institutes of Health. And in the 2005 issue of *U.S. News & World Report*’s “America’s Best Hospitals” survey, only 176 hospitals out of more than 6,000 in America received a ranking for excellence in even one specialty. Cedars-Sinai received a ranking in seven specialties!

Supporting the high quality of its healthcare is an advanced use of technology. Cedars-Sinai has been chosen as one of America’s 100 most wired hospitals by *Wired* Magazine for four years out of the past seven. Among the several Cedars-Sinai advances that helped earn the 2005 *Most Wired* honor was Electronic Signature Capabilities for Physicians. This system allows Cedars-Sinai physicians the ability to view, edit, and sign off on patient medical chart information via a computer, regardless of location—whether within hospital facilities or outside of facilities.

“The innovative use of technology,” says Thomas M. Priselac, president and CEO of Cedars-Sinai Medical Center, in a media release announcing the award, “enables our caregivers to spend more time with patients and less time with paperwork.”
Supporting the human touch

Working behind the scenes to enable the technology, Jim Brady, email administrator for Cedars-Sinai, spends his time tending to another kind of patient: the hospital’s email system. Circulation among its 12,500 mailboxes needs to be healthy and reliable to help caregivers deliver patient care.

“Email definitely is business-critical here, and it’s expected to be up and running 24x7,” Brady says. For instance, his team implemented a Web-based system to provide physicians with the ability to get reports and communicate securely with other healthcare professionals online, using a product called Zix VPM (Virtual Private Messenger). Zix VPM inspects outgoing emails and encrypts the ones with confidential information in them, storing them elsewhere. Then, it sends another email to the recipient, who can log on, click on a hyperlink, and download the original email to respond.

“As a result,” Brady explains, “confidential communication is swift and secure, and senders and receivers don’t need special software. Another positive result is that doctors can now rely on electronic communication, a great time and cost saver.”

As the hospital’s email system became a vital part of delivering care, it became overloaded. Volume soared and email databases swelled dangerously on their servers. Most users do not regularly delete emails, and the space problem became particularly acute a couple years ago when the email information store reached one terabyte with 100 percent annual growth. Indeed, the Microsoft Exchange email databases grew to almost 95 percent of the available disk space, exceeding Microsoft’s recommended sizes by over 400 percent. As a result, system performance suffered, and the risk of a crash increased.

In response, Cedars-Sinai took steps that many companies employ when facing this predicament. The first step was to purchase additional servers. “We then moved our email storage from locally A combination of

Symantec Brightmail AntiSpam software at the gateway stops 95 percent of spam with 99.9999% accuracy (less than 1 false positive in every million messages). It gets spam signature updates every 5 to 10 minutes from the Symantec global probe network, which uses thousands of decoy email accounts to monitor global spam activity.

Symantec Enterprise Vault software provides a flexible archiving framework to enable the discovery of content held within email, file system, and collaborative environments—while helping to reduce storage costs and simplifying management. Cedars-Sinai chose these Enterprise Vault options:

- The PST Migrator option discovers PST file data on the network, identifies the owner, and migrates the file to an archive repository where it can be searched effectively.
- The Exchange Journal Archiving option enables Cedars-Sinai to retain copies of all email messages sent and received, ensuring they’re kept long enough to comply with regulatory or legal retention requirements.
- The Compliance Accelerator option provides the framework to select and sample target email and record the process for audit purposes, dramatically decreasing compliance costs.
- The Discovery Accelerator option enables complete online (paper-free) legal discovery and marking by legal staff—in most cases without IT help.

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attached storage to SAN storage, doubling the total disk capacity,” Brady explains. “But about a year later, we realized that the databases were once again too big relative to disk space.”

**Small number of users has large impact**

At that point, an analysis showed that six percent of users accounted for 90 percent of the email storage. “As a result, we identified them,” Brady recalls, “but we realized that these users would need some assistance to archive old emails into .PST files.”

“There was a special challenge for us here,” Brady continues. “Many of the heavy email users tend to be executives, managers, and researchers doing critical work, so we hired technology consultants to help them create .PST archives.”

In addition, Brady says, any user who created .PST files tended to need ongoing support. “The .PST file format is problematic,” he explains. “The archives live on users’ hard disks and therefore don’t get automatically backed up. They’re easily lost in hardware upgrades and often become corrupted or damaged if they’re allowed to grow too large.” As a result, Brady and his colleagues were often called upon to help users manage, retrieve, reinstall, repair, and search old .PST files for email.

**.PST files: $94,000 per year**

“It quickly became obvious that .PST files were not a practical solution,” Brady concludes. “The staff time needed to support users in retrieving, searching, and repairing .PST files was costing us $94,000 per year. We needed a different solution.”

In addition, because the use of email was increasing and attachments were getting larger, storage capacity promised to fill up even faster than before. “We kept adding Microsoft Exchange servers,” Brady says, “and before long we had added six of them to reach a total of 15. At that point, about two and a half years ago, we decided to acquire email archiving software.”

**A turnaround in email health**

The hospital evaluated EMC Email Xtender against Symantec Enterprise Vault™ software and chose Enterprise Vault. “Essentially, we observed that Enterprise Vault had the functionality our users wanted. It’s transparent to the end user and blends seamlessly with Microsoft Outlook—and it’s easier to use.”

Users tend to be sensitive to change, Brady points out, and with Enterprise Vault, they don’t have to change. When an email is archived in Enterprise Vault,

“I’d sum up Enterprise Vault as the perfect sixth man on the bench. I’m a big basketball fan and Enterprise Vault comes into play just when you need it most. It’s really coming through for us.”

Jim Brady
Email Administrator
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“Enterprise Vault is significantly reducing our migration costs to a new email system. Because we’ve archived 2 terabytes—or 50 percent—of our email data in Enterprise Vault, we won’t have to incur the cost of moving that data. This cuts migration time in half.”

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Behind the scenes, and transparently to the end user, Enterprise Vault archives designated email messages from the Microsoft Exchange server, reducing the storage space typically required by 40 to 60 percent. It then stores the emails on a broad choice of storage platforms and devices that are far more cost-efficient than a Microsoft Exchange server.

Behind the recovery

For Cedars-Sinai, Enterprise Vault is delivering a 50 percent reduction in email storage requirements due to compression and “single instance” storage of attachments. Single instance storage means that if 10 people receive a 15 megabyte Microsoft PowerPoint presentation, Enterprise Vault archives only one copy—instead of 10—saving 135MB of storage.

“This is a significant storage savings, and there’s a broader impact to this feature,” Brady explains. “Microsoft Exchange server is only able to implement single instance storage within a single exchange database. If a mailbox is moved to a different database or server, single instance storage is lost. Enterprise Vault is able to implement single instance storage across multiple Microsoft Exchange databases and servers.”

Two added benefits

Users at Cedars-Sinai required very training upon the deployment of Enterprise Vault according to Brady. “Most users realize how to use Enterprise Vault without any instructions,” Brady reports. “That’s just what we wanted.”

The hospital’s 4,700 heaviest email users were the first to use Enterprise Vault. Any email in their accounts older than three months now gets automatically archived using Enterprise Vault. Brady initially used the PST Migrator option in Enterprise Vault to migrate end user PST files to IBM TotalStorage DS 4300 SAN subsystem.

There’s another way that Enterprise Vault is helpful to Brady’s team. “Enterprise Vault is reducing our migration costs to a new email system significantly,” explains Brady. Because we’ve archived two terabytes—or 50 percent of our email data—we will not need to incur the cost of moving this extra data. This cuts migration time in half.”

Symantec technical support “was tremendous”

Before deploying Enterprise Vault, Brady spent three days working with Symantec Technical Support to set it up and learn how to configure and operate the software. “Symantec Technical Support delivered tremendous value,” he says. “They showed me how to take advantage of some powerful control capabilities of the scripting module within Enterprise Vault Policy Manager. Companies who get Enterprise Vault, especially those with many users, will benefit from getting additional advice to see all that can be accomplished with scripting. I can automate recurring and special one-time tasks that would be otherwise impossible to do manually if an organization has a large number of users.”

Achieving cost-efficient compliance

Enterprise Vault also aids Brady’s group at Cedars-Sinai in complying with external and internal regulations. Using the Exchange Journal Archiving option in Enterprise Vault, Brady is able to have all incoming and outgoing email logged, tracked, and managed by the appropriate retention policy, which can vary depending upon the date, department, subject, or other details of the email.

Brady is also implementing the Discovery Accelerator and Compliance Accelerator modules for Enterprise Vault. “At any given time the IT department may be called upon to produce emails to meet the demands of a number of legal or regulatory compliance requirements,” he says, estimating this task requires the
equivalent of a full-time staff job. The Discovery Accelerator option offers a highly customizable means to automate and optimize the search and discovery process, keeping it all electronic, and allowing the bulk of the work to be delegated to designated non-IT department staff, thereby minimizing the role of IT. As regards to Compliance Accelerator, Brady plans to leverage it to help ensure compliance with Health Insurance Portability and Accounting Act. Using Compliance Accelerator, he will be able to specify groups and individuals for automated auditing. “The implementation of Discovery Accelerator and Compliance Accelerator will mean substantial additional savings,” Brady concludes.

Saving $850,000 a year—and more

Overall, Cedars-Sinai has two terabytes of Microsoft Exchange data, and an additional two terabytes of compressed email stored using Enterprise Vault that would otherwise add over four terabytes if it were stored on the Microsoft Exchange servers.

Brady estimates that Enterprise Vault enabled Cedars-Sinai to avoid the purchase of 15 Exchange servers, which at about $25,000 apiece, totals $375,000. Additional staffing for the servers would cost the hospital another $375,000 annually, and miscellaneous costs for the servers would have added another $6,000. Enterprise Vault also eliminates an estimated $94,000 in annual IT staffing cost related to helping users create, maintain, and troubleshoot .PST file email archives. The result is a total year-one savings of $850,000 for a 100 percent payback in eight months.

A growing benefit

This savings not only repeats in year two, it increases each year. Without Enterprise Vault, the hospital would have to purchase 15 new Microsoft Exchange servers per year, add staff to support them, and continue the expenses of .PST archiving in order to keep up with the volume of incoming email. This translates to $850,000 each year, plus $375,000 in costs for the server support staff added each prior year. With Enterprise Vault, the hospital avoids the additional $375,000 in annual costs. Year-one savings of $850,000 grows to $1.225 million in year two. For the third year, as Cedars-Sinai plans to upgrade from Microsoft Exchange 5.5 to Microsoft Exchange 2003, which will improve email administration, the cost avoidance ratios decrease, though incremental year-to-year cost avoidance. “It’s a strong financial case,” Brady says.

The ability to compress email storage and manage email more efficiently is also translating into staffing productivity business value. For example, despite 100 percent annual growth in email storage, Cedars-Sinai has been able to grow its IT staff at a corresponding rate of 10 percent to 20 percent.

When you need it most...

Enterprise Vault saves more than storage and staff costs, according to Brady. “An influential departmental chair contacted me because he lost a significant portion of his [Microsoft] Outlook Sent .PST folder for the past year and a half,” he recalls. “He was on a critical deadline and needed to find an email fast.” Brady thus sent a technician to search the doctor’s laptops and desktops who could not find the messages or a corresponding .PST file. Brady then had the doctor check the Enterprise Vault archive. Brady notes: “He was able to find what he was looking for, met his deadline, and was extremely happy. The Enterprise Vault archive safely retained a complete copy of the missing emails.”

Cedars-Sinai finds the search engine in Enterprise Vault extremely useful, one that expedites end user searches. “Microsoft Outlook has a poor search engine,” notes Brady. “Enterprise Vault has an extremely good one.”

“I’d sum up Enterprise Vault as the perfect sixth man on the bench,” Brady says. “I’m a big basketball fan, and Enterprise Vault comes into play just when you need it most. It’s really coming through for us.”

“To put it simply, quality care at Cedars-Sinai depends on email that is secure and available. We get that from our Symantec solutions: Symantec Brightmail AntiSpam and Symantec Enterprise Vault.”

Jim Brady
Email Administrator
Cedars-Sinai Medical Center
Another bright spot is Brightmail

While Symantec Enterprise Vault helps ensure that email is highly available for business use, Symantec Brightmail AntiSpam™ makes incoming email more secure by filtering out spam. And the need for a good filter is huge. Out of the 90,000 emails the hospital gets each day, half are spam.

The hospital previously tried using an open source anti-spam solution called SpamAssassin. Looking for a product that would raise the bar with spam detection and accuracy, Cedars-Sinai replaced SpamAssassin with Symantec Brightmail AntiSpam software in 2004.

“Symantec Brightmail AntiSpam software does a great job, and it’s a real hit with the IT leadership here,” Brady says. “Everyone we survey indicates it has virtually no false positives. I’d estimate we achieved a 100 percent payback in seven months.”

Because of the low tolerance for false positives, Brady’s team set Brightmail AntiSpam to tag incoming spam with a special subject header. In addition, the users at Cedars-Sinai have configured Microsoft Outlook to automatically move these newly arrived spam emails to their junk folder. Users may check this folder if they opt to do so. And in order to reduce the number of spam emails entering the Microsoft Exchange system, emails sent to invalid Cedars-Sinai recipients are automatically dropped.

Because Brightmail AntiSpam software has proven the quality of its filtering, it will soon be configured to redirect spam to a separate quarantine that will avoid the user’s mailbox altogether. Spam within this quarantine will be automatically purged after 30 days, relieving the user from this responsibility.

“If spam is relocated to a separate quarantine, without anyone receiving it, then we are not obligated to log it and retain it for any potential compliance requirements,” Brady says. “And blocking spam will let us reclaim a significant amount of storage, system bandwidth, and server processing. Indeed, if we had used Brightmail to quarantine spam when it was first deployed, we would have reached a 100 percent payback in three months.”

Brady reports that his end users are also strong fans of Brightmail AntiSpam software. “It puts them back in the driver’s seat. They no longer face an Inbox each morning that’s teeming with spam, forcing them to find the few emails that are legitimate.”

“To put it simply,” Brady sums up, “quality care at Cedars-Sinai depends on email that is secure and available. We get that from our Symantec enterprise messaging management solution, which makes our physicians and staff happy, and that’s very big with us here in the IT department.”