Case In Point

CASE STUDY

CALPINE CORPORATION

ELECTRONIC VAULTING SOLUTION HELPS CALPINE CORP. ACHIEVE FIRST-YEAR ROI OF 200 PERCENT

ROI Estimated To Top 500 Percent by Third Year

CUSTOMER: Calpine Corporation

BUSINESS: Leading energy producer and world's leading geothermal power producer

CHALLENGE: Transform high-volume data backup at remote locations while lowering costs and increasing reliability

Headquartered in San Jose, Calif., Calpine Corp. is a leading North American power company operating more than 80 energy centers in 21 states, Canada, and the U.K. that deliver clean, efficient, reliable electricity in an environmentally responsible manner. The company increased its generating capacity by more than 70 percent in 2002 and, with more than 10 projects under construction, expects a capacity of more than 29,000 megawatts by 2006.

GROWTH SPURS A CHANGE

Calpine's high-growth strategy has led to a broadening, geographically dispersed infrastructure. With each location producing massive volumes of data, the company faces an ongoing challenge safeguarding that information.

According to Marc Eisenstein, distributed systems manager for Calpine, the company's backup procedures and equipment for its plant information system data are critical. "The company values the information stored on these systems," he explained. "These systems capture all operational parameters of the plant— hundreds of thousands of data points — used to make adjustments in operating the plant, plan for future operating designs, and provide evidence of manufacturers' warranty compliance."

"Power plants aren't necessarily ideal settings for delicate tape backup equipment," explained Brett Kernen, IS support services director for Calpine. "There can be relatively significant levels of dust, moisture, vibration, and strong electromagnetic fields. These conditions can decrease the lifespan of tape backup equipment and increase the incidence of maintenance and failure, driving up support costs."

Kernen and Eisenstein also noted that, due to the distributed nature of Calpine's power plant locations, plant personnel were asked to handle routine backup tasks. "Our plant personnel were responsible for overall tape management including tape rotation, labeling, and shipping backup tapes off-site," said Eisenstein. "That's a costly and non-strategic use of their time."

As Calpine's tape backup fleet neared its end-of-life replacement cycle, Calpine began a search for new equipment. "We were just continuing on our traditional path of replacing old tape equipment with new tape equipment," said Kernen, "until we saw electronic vaulting technology."

A SOLUTION FOR CALPINE'S HIGH VOLUME BACKUPS

Electronic vaulting technology from Iron Mountain backs up changes to server files — e-mail, databases, and file servers — ensuring data is protected and current up to the last file change no matter where the server is located. Ongoing backups replicate only the bytes that have changed and the new files since the last backup, reducing bandwidth requirements, server loads, and network congestion.

The entire process is monitored 24/7 by experts who furnish notifications and assistance if a backup isn't successful. Once the data arrives at an Iron Mountain vault, it also gets backed up to tape, securely stored off-site, off-line, and out-of-reach of disasters or human errors.

"We quickly recognized that electronic vaulting technology had the potential to meet many of our needs for reducing risk and increasing security," said Eisenstein. "It got us out of the tape business at our remote sites — no more tapes to buy, rotate, label, ship, and store. That alone gave us the ROI. But we had concerns about remote sites' limited bandwidth availability.

"Our initial challenge was to backup 58 servers with over 900 GB of data. This data changes an average of 50 GB every day, so throughput was a big issue."

PASSING THE TEST WITH FLYING COLORS

"Iron Mountain met our design specifications," said Eisenstein. "Even though we are allocated no more than 15 percent of the total remote-site bandwidth, the performance met our requirements. Our plant's IS team initiated a surprise recovery request and we had their data restored to them within four hours. "We didn't have to make a single site visit to deploy this solution. As a result, we were able to meet our aggressive implementation timeline and reduce our labor and travel costs."

With electronic vaulting technology in place, Calpine has a structured, repeatable process for protecting and preserving its data. Eisenstein explained, "We transmit our data each night to Iron Mountain. From there, it is backed up to tape for 30 days, then archived offline for seven years."

AN EXCELLENT RETURN ON INVESTMENT

"Iron Mountain Electronic Vaulting has delivered a proven return on our investment," said Eisenstein. "We calculated what it would have taken to upgrade our tape backup infrastructure at all of our remote plant locations. We factored in the rising data volumes and what it would take to ensure the right levels of security and reliability. We determined that electronic vaulting technology gives us a 200 percent ROI in the first year and a 500 percent ROI over three years."

"In a nutshell, the electronic vaulting technology solution aligned with our IS infrastructure strategy for support of our multiple remote locations, and was fiscally and operationally the right choice," said Kernen.