



## SOUTH CAROLINA OFFICE OF THE ATTORNEY GENERAL REFORMS STORAGE WITH COMPELLENT SAN



As any law enforcement officer will tell you, fighting crime isn't just about high speed car chases, shoot-outs, and stakeouts. It's also all about paperwork—a lot of it. From the investigation of white-collar criminals to the prosecution of multi-jurisdictional drug cases, the South Carolina Office of the Attorney General (OAG) manages all of the state's criminal cases as well as state grand

jury activities—and the mountains of case data that entails. Today, the four person OAG IT team supports 180 staff members responsible for functions at every court level—each requiring diverse levels of IT sophistication, data processing, and storage.

With demanding state information retention requirements covering 25 years for case-related data, and nearly 8,600 open cases at any given time, the OAG's existing storage infrastructure was straining to keep up. As capacity ran low, the IT team was periodically forced to ask users to clean out 10 GB e-mail inboxes. Unfortunately, files deleted during this process were often needed again, requiring lengthy and inefficient recovery from tape.

"Since we maintain vast amounts of digitized briefs, correspondence, evidence, and other case documents, we need fast access and quick data recovery to effectively prosecute crime at all judicial levels in South Carolina," says Sandee Sprang, director of information technology for the Office of the Attorney General. "We are also implementing a new electronic document system, which means scanning and housing legal documents spanning more than 100 years. It was time for faster and more reliable storage."

The OAG chose the Compellent® storage area network (SAN) for its flexibility and ease of use in addition to its compatibility with Virtual Iron virtualization software. This end-to-end infrastructure helps improve storage efficiency and speed the backup and recovery process, while adding flexibility to meet future requirements. The system is also more cost-effective: the SAN has resulted in over \$125,000 in savings due to consolidating and eliminating redundant disk costs.

### DATA PROGRESSION AND FAST TRACK INCREASE STORAGE EFFICIENCY AND PERFORMANCE

When it comes to following the laws surrounding compliance, Compellent's Automated Tiered Storage has helped the OAG easily comply with the stringent criminal case data retention regulations. Compellent's Data Progression™ automates the retention and management of electronic case data—including voicemail, e-mail, faxes, and documents—by dynamically classifying and moving data at the block level between tiers of storage



"Fast Track extends Automated Tiered Storage to every drive, allowing us to improve performance and control costs without buying costly third party software."

JOHN LOY  
Network Engineer  
South Carolina Office of the Attorney General

### RESULTS REPORTED BY THE OAG

- » Consolidation on the SAN saved the OAG over \$125,000
- » End-to-end server and storage virtualization speeds server upgrades and reduces data center footprint
- » Boot from SAN saves \$5,000-\$6,000 per year
- » Replays allow recovery in seconds
- » Automated Tiered Storage saved \$40,000 per year
- » Storage Center 4.0 and Fast Track improved performance 25 to 50 percent for frequently accessed data
- » Thin Provisioning and Enterprise Manager help IT staff better predict growth and avoid unplanned purchases

### OPERATING SYSTEMS

- » Novell NetWare
- » Novell Suse OES 2
- » Windows Server 2003

### KEY APPLICATIONS

- » Novell GroupWise
- » Virtual Iron
- » Blackberry ServerWeb Servers
- » Interwoven Document Management

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## EASY TO MANAGE SAN

For Compellent customers, easy to use means being able to manage more storage in less time and accomplish even advanced storage tasks in under 10 minutes.

For the South Carolina Office of the Attorney General, the easy to manage Compellent SAN has reduced storage management time from 5 to 6 hours per week to only 30 minutes per week.

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“Combining Virtual Iron and Compellent has helped us deliver better utilization, comprehensive archiving, and faster service for the attorneys, administration, and staff serving our constituents.”

SANDEE SPRANG  
Director of Information Technology  
South Carolina Office  
of the Attorney General

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based on frequency of access. High-demand data relevant to active cases kept on high-performance Tier 1 FATA drives moves to more cost-effective SATA drives as the cases expire.

Because the OAG has about 10 percent active cases and 90 percent inactive cases at any one time, dynamically moving data to lower-tier storage has a clear impact on productivity. Attorneys can now keep all case-relevant information without concern for storage limits—regardless of file size or format. They can also access old case information as necessary; the OAG still accesses data from 10-year-old cases as they work their way through the system.

The new Fast Track feature available with Storage Center 4.0 automatically places the most active data at the outer edges of each disk. This minimizes seek time for the OAG’s most frequently accessed data and automatically optimizes the performance of each drive in the system.

“Compellent has always provided impressive ‘time to data,’” says John Loy, Network Engineer for the OAG. “After upgrading to Storage Center 4.0 with Fast Track, we saw performance gains of 25 to 50 percent with the same number of 10,000 rpm drives. Our end users actually commented on faster access.”

For IT director Sprang, automating tiered storage in every drive also translates into significant cost savings. “Automated Tiered Storage made it easy for us to create a tiered storage environment,” she explains. “Even better, it automatically migrated 75 percent of our data to lower-cost drives, saving us approximately \$40,000 per year in storage costs as well as personnel time.”

## END-TO-END VIRTUALIZATION LOWERS COSTS

Compellent’s disk-level storage virtualization allows the OAG to easily expand services and applications while maintaining high availability. “I used to spend my entire weekend doing a server upgrade,” says Loy. “That same process now takes 30 minutes—instead of interrupting service for two or three days, I can have our servers back up by the end of lunch.”

Compellent storage virtualization also provides seamless support for Virtual Iron server virtualization to create a real physical footprint savings in the data center. “Virtualizing storage allowed us to switch from 6U servers to 1U servers, giving us much more room to grow in our racks,” says Loy. “Overall, we’ve increased our server and storage functionality without increasing our power and cooling costs.”

With Compellent’s Boot from SAN technology, the OAG saves on server hardware costs. Because every server is booted from central images stored on the SAN instead of a local drive, the office does not need to buy disks when it purchases new servers, saving an estimated \$5,000 to \$6,000 per year.

With snapshots, or Replays, the IT team can recover quickly in the event of lost data—particularly important when data pertaining to a criminal case could affect the outcome of a verdict. “A recent power outage could have had me spending more than two to three days recovering from tape,” says Loy. “Thanks to a Compellent Replay, I was back up and running in 10 minutes with no lost data.”

## THIN PROVISIONING POSITIONS FOR GROWTH

With Compellent’s Thin Provisioning, the OAG finds itself well positioned for managing future data demands. Thin Provisioning helps improve utilization and dynamically expand capacity. By better using the storage on hand, the OAG can delay storage purchases until additional capacity is actually needed.

Advanced management tools also help Sprang and her team optimize IT resources. Compellent Enterprise Manager offers ease of use and reporting features that help Sprang improve resource planning and allocation processes. A Web interface allows staff to manage the SAN from anywhere, and comprehensive reports give the OAG an advantage in dealing with tight state agency budgets. “By allowing us to better plan purchases over time, Compellent has helped us turn reactive storage management to an active data management strategy,” says Sprang.