

FORSYTH COUNTY

County government manages data explosion with next-generation EMC solutions



ESSENTIALS

Challenges

- Dramatic expansion of data assets
- Tighter IT budgets with economic recession

Solutions

- EMC CLARiiON CX4 storage
- EMC Unisphere management software
- EMC Fully Automated Storage Tiering (FAST)
- EMC FAST Cache
- EMC Block Data Compression

Key benefits

- Simpler, centralized management of virtual and physical server environments
- Better utilization of storage resources with automated tiering
- Significant compression of both image and file system data
- Dramatic improvement in response times

One of North Carolina's largest counties is Forsyth County. Home to approximately 359,000 residents, Forsyth County spans a total area of 413 square miles that includes the city of Winston-Salem. The county government coordinates parks and recreation, public health, social services, deed registry, the Sheriff's office, and public schools, among many other services.

As the county's population has increased and more applications have gone online, Forsyth County's storage infrastructure has grown from 12 to 167 terabytes in only six years. To comply with data governance laws, the county is required to retain increasing volumes of files and data for seven years or longer. In addition, the economic recession has reduced tax revenue, which in turn has tightened IT budgets.

"We've had an absolute explosion of data," says Alisa Phelps, network analyst. "The challenge is slowing our data growth while increasing IT efficiency."

SIMPLIFYING MANAGEMENT ACROSS VIRTUAL AND PHYSICAL SERVERS

Forsyth County views EMC's latest advancements in disk technology, compression, and management software as an opportunity to significantly improve efficiency and simplify management of its infrastructure.

To gain a deeper understanding of EMC's next-generation technologies, Forsyth County's IT department conducted a four-month beta test of EMC® Unisphere™ management software, EMC FAST (Fully Automated Storage Tiering) software, EMC FAST Cache, and Block Data Compression.

Testing was conducted on an EMC CLARiiON® CX4 unified storage system, which comprised a mix of Enterprise Flash drives (EFDs), SATA drives, and Fibre Channel. The environment also included physical and VMware® vSphere™ virtualized servers and Cisco MDS9216.

A long-time EMC customer, Forsyth County stores Oracle, Microsoft SQL Server, Microsoft Exchange email, file sharing, VMware virtual machines, and other critical applications on the EMC CLARiiON CX4 system.

EASY TRANSITION TO A NEW PLATFORM WHILE GAINING ADVANCED FUNCTIONALITY

Forsyth County deployed EMC Unisphere, EMC's solution for centrally managing CLARiiON CX4 and Celerra unified storage.

"We've been using EMC's Navisphere® to manage CLARiiON for years, but it only took me a couple of days to get used to Unisphere," says Phelps. "Creating LUNs, storage groups, and pools with Unisphere flow the way you would expect them to in Navisphere. The system is very user-friendly, so it's easy to learn. There is a lot of new functionality in Unisphere that you don't see in Navisphere. It's a big change but a good one. For example, the nice visual interfaces make it very easy to see both your physical and virtual servers."

"We've been very pleased with not only EMC technology, but also the planning, execution and support we've received from EMC employees who work with us onsite. With EMC, we know we're getting the complete package."

ALISA PHELPS, NETWORK ANALYST

BETTER EFFICIENCY WITH AUTOMATED STORAGE TIERING

Using EMC FAST, Forsyth County was able to automate data movement within the CLARiiON CX4 and support more granular transfer of block data at the sub-LUN data.

"There is a lot of automation that makes the initial migration to the FAST storage pools very easy," explains Phelps. "Once everything was moved over, we loved how inactive data no longer sat on the Fibre Channel. It automatically went to the more cost-effective SATA drives."

Phelps also was impressed that the data movement was completely transparent.

"The FAST automated tiering was completely seamless, and users had no idea anything was happening behind the scenes," says Phelps. "There was no strain at all on the CLARiiON performance."

In addition, Forsyth County used FAST with the CLARiiON system's innovative block data compression functionality to compress inactive data and reclaim storage capacity.

"In the county, we have six million images of plots, drawings, and photographs of property that are taking up a terabyte of storage on one of our servers," says Phelps. "Because images are already compressed, a 25 gigabyte-image block was cut to 12 gigabytes. We got a really good return with both our image and file system data. FAST and block compression are a powerful combination."

NEW PERFORMANCE THRESHOLDS FOR FLASH DRIVES

Forsyth County implemented EMC FAST Cache to further leverage the speed of EMC's top-performance Enterprise Flash drives.

"FAST Cache and the Flash drives were amazing," says Phelps. "We were not expecting such a large improvement in response times because the Flash drives are already so fast."

With these performance gains, Forsyth IT can more easily manage unexpected spikes in processing loads. In addition, storage efficiency is increased as the highest-performance disks are applied to the most demanding workloads.

COMPREHENSIVE SUPPORT AND SERVICES

While Forsyth County values the extended functionality of these next-generation technologies, EMC's comprehensive support and services have played a key role in the long-term relationship.

“Quality of services and support is always a big part of our decision. We’re confident we’ll continue to receive the same excellent support as we expand our use of Unisphere, FAST, FAST Cache, and Block Data Compression.”

ALISA PHELPS, NETWORK ANALYST

“We’ve been very pleased with not only EMC technology, but also the planning, execution and support we’ve received from EMC employees who work with us onsite,” says Phelps. “With EMC, we know we’re getting the complete package. Quality of services and support is always a big part of our decision. We’re confident we’ll continue to receive the same excellent support as we expand our use of Unisphere, FAST, FAST Cache, and Block Data Compression.”

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