



▶ The Data Detectives

Emtec's detailed assessments solve the mysteries behind customers' complex storage environments.

Fictional detectives such as Hercule Poirot and Columbo go about gathering obscure clues and seemingly irrelevant information to unravel a mystery. The real live data detectives at Emtec, Inc., use similar techniques to reveal the hidden mysteries in enterprise storage environments.

These environments are indeed mysterious. Data storage needs have grown so rapidly in recent years that few IT managers have a real handle on their storage assets. As a result, many organizations buy more storage than they really need and struggle to effectively manage what they have. Worse, these organizations often have inadequate backup systems that leave them exposed to potential disaster.

"A lot of times companies have added so much storage that they don't even know what they have anymore," said Andrew Krantz, Emtec Team Leader. "They're just building more and more storage. That's why IT managers rarely know the exact state of their storage — how much they have, how much is available, what their daily backup is or how many obsolete files they're maintaining and backing up."

Gathering Such Evidence: was the scenario when one of the nation's largest savings and loan organizations, a multi-billion dollar institution, recently engaged Emtec to perform a storage and data profile assessment to support the integration and alignment of data storage for an approaching server & storage consolidation effort. The company wanted to replace its existing SAN environment while also addressing availability, performance, scalability and manageability issues.

"They had a mish-mash of storage with no real Information Lifecycle Management strategy or processes put into place," said Krantz. "The biggest problem was that almost everything was on expensive, fibre-channel type, tier 1 storage. They were also backing up everything every day — even data that is never accessed. Their backup window was just getting crazy

because they were wasting resources and bandwidth backing up a lot of data that never changes."

In mystery novels, the detective often gathers all the suspects together to reveal the murderer. Although not quite as dramatic, Emtec gathers information through an exhaustive assessment process and then delivers the evidence in the form of a detailed report that helps clients better understand their current storage utilization, strengths, shortcomings, bottlenecks and redundant operations.

In this particular case, Senior Storage Architect Larry Fondacaro and Senior Server Architect Chris Mallazzo spent more than a month analyzing the contents of the client's 35 servers and four Storage Area Networks, to produce a 55-page report that explained their findings and offered recommendations for ways to improve the storage infrastructure. A key section of the report included storage details such as the total amount of data stored, the total amount of free space, occupied space on all volumes, file-type analysis, file-aging analysis, duplicate-files analysis and identification of wasted space.

Some of those results were shocking.

"The file-aging analysis and duplicate-files analysis, in particular, produced some interesting numbers," said Fondacaro. "We hit more than 1.6 million duplicate files and more than 2.6 million files that had not been accessed in over three years. We also identified some bottlenecks with some servers that had reached as much as 90 percent of utilization — one." "Some of those was actually

at 99 percent utilization and in severe danger of running out of space while we were doing the assessment.”

“When we handed that report to the client, they were just amazed. They had no idea this was out there.”

Making the Case: Armed with that information, Emtec was able to propose an information lifecycle management (ILM) strategy in which the client’s storage hardware, software, services and processes are aligned to facilitate the management of data throughout its useful life. A key element of ILM is the use of tiered storage, which involves feeding data off to various storage systems of different speeds and reliability, depending on the age and value of the data. Current production data, for instance, would reside on faster and more expensive RAID arrays, while archived materials could be stored on relatively slow but less expensive storage such as offline tape.

In the long run, the tiered approach also offered the client the potential for significant cost savings. The company’s SAN environment comprised 19TB of data, which they initially considered replacing through a forklift upgrade. By following Emtec’s recommendations, however, they would only need to purchase 7TB of raw storage because a significant amount of their existing storage could be repurposed as secondary or tertiary storage tiers.

“What we’ve done is allow them to see how much storage they really need,” said Fondacaro. *“We recommended a storage resource management tool that would help them identify and remove the duplicate files and the old files that aren’t being accessed. Because they aren’t migrating that irrelevant data, they need less total storage and can focus their purchases on the more expensive first-tier storage.”*

That points to the advantage of working with a vendor-neutral Systems Integrator such as Emtec. The client originally considered having its storage infrastructure assessed by a major storage vendor.

“The problem with asking a vendor to do the assessment is that you know going in what the answer is going to be — ‘you need to consolidate this into one

of our boxes,’” said Krantz. *“We pride ourselves on being vendor-agnostic. That means my only concern is doing what’s best for the customer. If you want EMC or Sun or Hitachi or Xiotech storage, we can sell you any of that. What we do is go beyond the hardware and into your actual business processes. Once you’re at that level, you have a true partnership with the client.”*

“I’m proud of the ability of my team to go in and persuade the client to use us instead. It tells you a lot about our internal capabilities, where our strengths lie and the value we can provide. I can’t say enough good things about Larry Fondacaro and Chris Mallazzo. Those two really demonstrated the expertise that allowed this to happen.”

Pulling the Trigger: The client was sufficiently impressed with the assessment and investigative work and decided to engage Emtec to implement their new storage system. Emtec is in the process of installing Sun Microsystems branded Hitachi storage servers, disk arrays and tape drives, while reconfiguring some of the older storage gear for tier 2 and tier 3 storage. Once that project is complete, Emtec will also begin work on a database server consolidation project.

“It all began with the assessment,” said Krantz. *“With that report, we were able to give them some pretty powerful information they did not have. With that information, they are now able to solve real business needs through technology, which is exactly what we preach to our customers.”*

Organizations today face unprecedented challenges in managing storage, including increasing capacity, heterogeneous storage platforms, dispersed locations and the need to deliver the right information to the right place at the right time. Compounding the difficulty are expanding regulatory and compliance influences, which dictate more stringent guidelines for information availability, security and privacy.

By remaining focused on business needs rather than on any specific platform or technology, Emtec shows clients how to align policies, processes, practices and tools to achieve the most appropriate and cost-effective storage solution. All it takes is a little detective work.

About Emtec: Established in 1964, Emtec, Inc. is a systems integrator that provides IT services and products to the federal, state, local, education and commercial markets. Our market leading value-based management methods, coupled with best-in-class IT technology, consulting and development services, address a wide range of specific client needs, as well as support broader IT transformation initiatives. Emtec’s service capabilities span the United States, Canada and countries around the globe.