EMC² where information lives

Petron Corporation

EMC solutions eliminate downtime and help Petron maintain its lead in the energy industry

As the Philippines' leading oil refining and marketing company, Petron Corporation demands a powerful and highly scalable IT infrastructure that can store and manage huge volumes of data, keep pace with a wide array of critical transactions, and distribute information across an expanding network of remote sites. A partnership between the world's largest oil producer, Philippine National Oil Company and Saudi Aramco, Petron supplies more than one-third of the Philippines' oil requirements. The company's refinery in Limay, Bataan has a capacity of 180,000 barrels per day—the largest in the country—processing imported crude oil into a full range of petroleum products. Petron also operates a fully automated lubrication oil blending plant in Pandacan, Manila, which also is the biggest and most advanced of its kind in the country.

Growing pains put a premium on reliable, scalable storage

To maintain its lead in an energy industry made even more competitive by globalization and deregulation, Petron has made enterprise storage management one of the cornerstones of its IT strategy. According to Business System Support Department Manager Lucio Batugal, the company spends a considerable amount of its IT budget on storage solutions.

In response to the company's growing storage requirements, Petron deployed the EMC CLARiiON® CX series midsize full Fibre Channel networked storage system for a highly scalable, low-cost backbone for its storage area network (SAN). Offering the highest bandwidth of any product in its class, the CX series system can swiftly deploy SAP, Microsoft Exchange, and other applications throughout the enterprise. Petron has also deployed EMC SnapView™ and PowerPath® software.

SnapView accelerates backup and recovery through economical, disk-based "instant restore" of production data. PowerPath combines multiple path I/O capabilities, automatic load balancing, path failover, logical volume management, and volume mobility functions into one integrated package. Petron's EMC-based SAN is integrated with SAP and Microsoft Exchange applications.

The need for speed and scalability prompted the migration because the old storage solution was proving to be too costly and cumbersome.

"One of the biggest issues we faced with the old setup was that it was too slow for the growing demands of the business," says Batugal. "We were running out of storage capacity and we had new applications that demanded higher storage capacity. We upgraded to a newer version of SAP, so naturally along with the upgrade came an increase in storage requirements. We experienced a two- to three-fold increase in terms of storage."

"EMC already has a proven track record and provides excellent support. It means that if we need something or if there is a problem, with just one call, someone can come over and fix it, especially our production systems. Availability is important to us, and EMC support personnel are prepared and can anticipate potential problems. We had an incident where we had something repaired. When the engineer came, he also tended to another part of the system that needed attention. EMC engineers are proactive."

Lucio Batugal

Business System Support Department Manager

Upgrading critical data storage from DAS to SAN

"Direct-attached storage (DAS) could no longer cope with the demands," says Batugal. "It wasn't flexible and managing the system was already becoming a burden. It's not a scalable solution or as fast as SAN-based storage, which is why we decided to migrate to the CLARiiON CX series. All our servers are Compaq-HP. Before we deployed EMC, our storage solution was a SAN using Hitachi 9200. Now, we are transferring all our production disks from the Hitachi storage to the CX. We will eventually use Hitachi for backup purposes only and it will be redeployed to our development servers. Our development systems are still linked to DAS, but if we have to support production that is stored in the SAN, the development systems will eventually have to follow suit. We are slowly migrating everything to the EMC infrastructure."

Research firm Gartner Inc. has noted that the hidden costs of DAS could actually make unmanaged storage a more expensive proposition in the long run in terms of total cost of ownership (TCO). According to the research firm, the average data center doubles storage every 18 to 24 months, making it increasingly difficult and expensive to manage and support a DAS infrastructure. Gartner has advised enterprises with more than five terabytes of usable storage to evaluate the cost benefits of a SAN in managing TCO.

The migration from DAS to more advanced storage networking architectures such as network-attached storage (NAS) and SAN is an industry trend in response to the explosive growth in recent years of the volume of data that businesses must store, process, and manage. With DAS, information is stored on individual servers, leading to physical limitations that can impact system growth and scalability, while also making it difficult to share data with different users. NAS provides a more dynamic approach because instead of attaching information to individual servers, the files are stored directly on the local area network (LAN) and made available for network applications and users through IP addresses.

A SAN, however, goes one step further by offloading storage from the LAN or wide area network. Instead, a dedicated storage network provides high-speed access to users using Fibre Channel connections. Not only does this setup distribute data more quickly to users than a LAN can, but also the LAN can now perform more efficiently because it is no longer burdened by having to store backup data.

Reducing TCO through a managed storage solution

Petron is using the SAN for sales and distribution, delivery, accounting, procurement/purchasing, inventory, and data warehousing.

"We also use the SAN for our e-mail and file services," said Batugal. "Our departments have consolidated servers and storage into one storage solution. The savings was equivalent to more than 10 servers."

By offering the most advanced network storage solutions, EMC empowers e-businesses throughout the globe by ensuring the steady flow and efficient use of information, making the latest data readily available to users across the enterprise—where it is needed, when it is needed.

Just as oil is the lifeblood of the global economy, so too is information one of a company's most vital resources. Information by itself, however, will not translate to a competitive advantage unless a company maximizes its value and makes it readily available to users. EMC promotes a proactive information lifecycle management (ILM) strategy. The goal is to efficiently manage the company's information throughout its lifecycle, from the moment it is created, deployed, and re-used, until it is eventually discarded. More than simple hardware and software solutions, ILM seeks to tie every stage in the development of the information network to business policy.

Assessing and eliminating cost of downtime

"Performance-wise, we needed a fast exchange of data between servers and storage so that our users wouldn't complain," said Batugal. "We have remote users as far away as Mindanao. If they try to access the data on our servers, one of the most time-consuming elements is the server retrieving the database, particularly when searching for or changing data. We are maintaining more than 40 remote sites. If there's a price increase or modification, the system must be fast, otherwise customers will complain if the response time is slow. Thus, our need to have an efficient system is also customer-driven."

To become successful in a 24/7, global digital economy, a company cannot afford to make data unavailable for long periods while it performs backup and maintenance. The industry mantra is business continuity, since every user denied information is a potential lost customer. EMC SnapView, however, addresses this need by reducing backup windows to seconds while keeping applications online and productive. Meanwhile, PowerPath provides automatic error detection and dynamic load balancing while allowing storage elements to be added or deleted without interrupting applications.

When asked about the cost of downtime, Batugal said, "If we are going to convert the effect of downtime, we estimate that it could reach P26 million worth of transactions a day."

Anticipating the future with EMC Services

In choosing to partner with EMC, Petron not only considered the best technology but also the level of customer support that each vendor offered.

"EMC already has a proven track record and provides excellent support," said Batugal. "It means that if we need something or if there is a problem, with just one call, someone can come over and fix it, especially our production systems. Availability is important to us, and EMC support personnel are prepared and can anticipate potential problems. We had an incident where we had something repaired. When the engineer came, he also tended to another part of the system that needed attention. EMC engineers are proactive."

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