PUBLIC AUTHORITY FOR INDUSTRY
EMC solutions enable high service levels to support Kuwait's industrial growth

OVERVIEW
The Public Authority for Industry (PAI) is responsible for the development and regulation of Kuwait’s industrial sector. As part of its remit the Authority regulates industrial construction and building processes, including those for major oil refineries, for environmental and construction considerations. PAI data is used by the Kuwaiti government for ongoing economic reporting and analysis.

BUSINESS CHALLENGES
Kuwait’s rapid industrial expansion had put pressure on the existing PAI storage infrastructure. To manage 25 percent annual data growth, the Authority had deployed fifty standalone servers. These servers supported 17 Tier One Oracle applications and databases as well as Tier Two resources such as Microsoft Exchange, Microsoft SharePoint, and Microsoft SQL Server.

But the decentralized environment lacked the scalability, performance, and management simplicity required to meet critical SLAs and support the organization’s journey to cloud computing. PAI staff struggled with Oracle workflows, delaying permits and applications sought by Kuwaiti citizens and businesses. In addition, maintaining separate servers was expensive and required outsourcing to 12 administrators.

Scaling up the decentralized environment was also expensive and time consuming. Additionally, internal CCTV security video images were managed and stored on NetGear infrastructure, which could not quickly scale to meet growing needs.

The organization's backup, recovery, and DR processes were also facing challenges. Decentralized tape backup systems required manual intervention and were difficult to maintain and manage. In addition, a Sun StorageTek tape library used to protect Oracle data was prone to error. Because of these inadequate systems, only a small fraction of critical block and file data was protected, while virtual machines and data held on laptops and desktops received no protection at all.

Backup windows could take several hours despite the small backup footprint. In the event of data corruption, RTOs could take days because tapes were kept offsite. Also, email generated by Microsoft Exchange was never adequately retained for communications traceability. And disaster recovery processes were almost non-existent. Due to these shortcomings, PAI was unable to comply with its requirements to retain critical data for five years or longer.

To overcome these challenges, PAI considered bids from a wide range of other technology vendors including EMC. The company chose EMC.

"Most of the vendors talked only about data and their technologies," explains Mr. Abdelkarim Taki, CIO, PAI. "But EMC wanted to know about our business. They showed us the gaps in our existing infrastructure and demonstrated how they could effectively fill those gaps with a comprehensive solution to make us stronger."
SOLUTIONS

To resolve its challenges, PAI embarked on a two-stage implementation program. Working with EMC, it first consolidated all Tier One applications and databases onto a single EMC® VMAX® 20K enterprise storage solution. Tier Two applications including Exchange, SharePoint, and SQL Server, as well as CCTV data, were consolidated using an EMC VNX® unified storage solution. Microsoft Hyper-V provides virtualization for Tier Two applications.

In phase two, PAI deployed an EMC end-to-end backup, recovery, and DR solution to achieve information lifecycle management and address data retention requirements. EMC Avamar® automatically and continuously backs up all Tier One information stored on the organization's VMAX solution. EMC Avamar Desktop / Laptop (DTLT) backs up critical data held on PAI desktops and laptops. VNX data is protected with EMC Cloud Tiering Appliance which backs up all file, block, and virtual machine data using policy-based automated processes. EMC SourceOne™ Email Management archives email generated by Exchange. Data from all of these sources is automatically streamed to an EMC Centera® system for low cost archiving.

To ensure high levels of availability and infrastructure performance, PAI purchased EMC Residency Services which provides onsite EMC personnel on a 24/7 basis.

IMPROVING ORACLE PERFORMANCE BY 700 PERCENT

Since deploying VMAX, PAI has significantly increased customer service levels via a 700 percent Oracle performance improvement. VMAX now manages 30 terabytes of mission-critical Oracle data within a consolidated, easy-to-manage, automated environment.

"Before we implemented VMAX, it could take staff more than eight hours to run an Oracle query," says Mr. Taki. "With VMAX, the same query takes just over an hour."

Today, it takes less than half the time than previously to manage 100 to 200 customer queries per day, significantly improving customer satisfaction. Increased efficiency also allows PAI to redeploy employees to more value-added projects for continuous service level improvements.

VNX provides significantly increased performance for 100 terabytes of SharePoint, Exchange, SQL Server, and CCTV video data. By retiring the old NetGear system and replacing it with VNX, CCTV video data is much easier to access and manage.

SCALABLE TO MEET FUTURE GROWTH

VMAX and VNX can easily scale to meet PAI’s anticipated data growth. To scale up, PAI only has to install and configure additional disk and IO capacity.

"Scalability was important in our solution selection," Mr. Taki says. "Because VMAX and VNX can be scaled so quickly, we won't have to make a large IT infrastructure investment for some time which means that our CAPEX will fall considerably."
The EMC storage infrastructure is also much easier to manage. PAI no longer has to employ 12 outsourced administrators to maintain a decentralized environment. Instead it relies on only three IT staff.

"VMAX and VNX both use the EMC Unisphere® management system and both work the same. This means that our administrators' efficiency has been significantly improved," explains Mr. Taki.

FULL DATA PROTECTION MEETS COMPLIANCE

Because PAI's tape backup systems are being replaced with Avamar, the company's primary backup and recovery infrastructure will soon be fully tapeless—the first Kuwaiti government agency to do so. With Avamar and Avamar DTLT, combined with EMC Cloud Tiering Appliance, the Authority centrally protects 100 percent of all file, block, and VM data.

In addition, backup windows are now less than one hour. Desktop and laptop backups, managed centrally with a single Avamar graphical console, take only minutes. Also, RTOs for many applications and files have been reduced from days to almost no time. And management costs are 80 percent less due to centralized automation. As part of its new data protection and business continuity procedures, PAI is also building a new DR center. By utilizing EMC policy-based retention features, PAI now complies with its requirements.

"Avamar provides us with 100 percent protection," Mr. Taki explains. "We can easily change Avamar policies to retain data for five years, seven years, or much longer. EMC enables us to comply with any data protection requirement and will give us complete histories of all critical processes."

A SHOWCASE FOR CLOUD COMPUTING

When PAI has completed its deployment, the Authority will be a showcase for next-generation cloud computing in Kuwait. "With VMAX, VNX, and Avamar, we will have completely consolidated our storage and business continuity infrastructure into a seamless, fully tiered, tapeless environment," says Mr. Taki. "EMC will enable us to easily share information with other government agencies and ministries. It will also help us to work more effectively with international organizations and businesses. The agility and flexibility provided by EMC will allow us to easily meet future needs that are today not even known."

CONTACT US

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, contact your local representative or authorized reseller—or visit us at www.EMC.com.