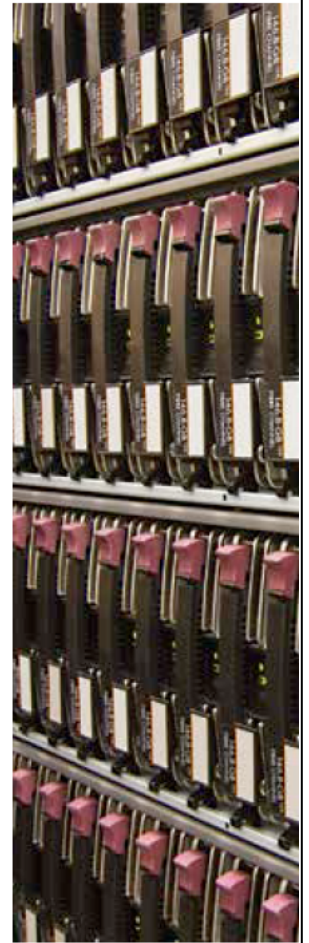


Managing Data Storage

Elecon Engineering was seeking to upgrade its storage infrastructure, Hitachi Adaptable Modular Storage 2100 solved their challenges.



Elecon has made its presence felt in core sectors - such as fertilizer, cement, coal and power generation, chemical, steel plant and port mechanisation across the country. Going forward, it seeks to enter new segments - and to plan for technology acquisition to accelerate its pace of growth. Some of the segments the company is exploring include opportunities in defence, wind energy and plastics.

Elecon's need for storage

The materials-handling equipment and industrial gear manufacturing company's existing storage solution was based on an older FC-AL based technology with 4Gb/sec at the front end - and with SAN Fabric operating on 2Gb/sec technology.

The IT team of the company had felt it was important that the new system had dedicated capacity for the company's current set of applications and data - as well as room for any new applications that were likely to be deployed. However,

the team was concerned about the spike in operating costs that such an upgrade might bring. It was interested in implementing eco-friendly data centre solutions designed to minimise power, cooling and facilities costs. In addition, it wanted to future-proof its investment by ensuring that the new solutions could be easily scaled to meet its expanded storage needs as the business grew.

Selecting the best solution

Elecon decided to go with the Hitachi Data Systems solution as it stood up best to the test of scalability. Hitachi Adaptable Modular Storage (AMS) 2100 is a mid-range storage system - built to handle complex tasks while delivering operational efficiencies and good performance. Equipped with Hitachi Dynamic Provisioning software, the system reconfigures storage - based on application usage patterns, thus, improves utilisation rates and simplify storage management. The solution also features 8Gb/sec Fibre Channel



Elecon has supplied hi-tech equipment to major core sectors such as steel, fertilisers, cement, coal and many others.

connectivity for input / output (I/O) intensive operations involving high-performance Oracle applications. SAS disks cater to production applications and servers while SATA disks provide dedicated storage for file system backups. It allows for high levels of data availability and includes responsive mechanisms that update microcode even while data remains online.

The symmetric active-active controllers in AMS 2100 further facilitate availability and include a dynamic load balancing mechanism that allows for fully automated I/O distribution and prevents bottlenecks. The presence of these features provided a distinct performance-oriented edge to the new system.

Results from the upgrade

For Elecon, the Hitachi Data Systems solution proved to be a significant technology upgrade that delivered business value on many fronts:

New standards for availability: AMS 2100 is a robust storage system built on the reliable

Hitachi modular platform. The system guarantees near-complete data availability (99.999%). There is no single point of failure in the system and it also comes equipped with mirrored cache, complete with battery backup. These features allowed Elecon to minimise both disruption and the risk of data loss in its daily operations.

Improved performance: The new system's 8Gb/sec of front-end connectivity provided a huge boost in system performance and scalability for Elecon in comparison to its existing system. The advanced point-to-point SAS-based architecture also allows for greater throughput and higher random I/O processing, and this further improved Elecon's speed and performance results.

Storage area redundancy: The Storage Area Network (SAN) delivers up to 24 ports of Gb/sec performance in an energy-efficient, optimised 1U form factor to support the most demanding physical and virtual server deployments. Elecon deployed 2 such SAN switches for increased reliability and redundancy.

Simplified management framework: The Graphical User Interface (GUI) of the Hitachi system sports matching CLI and API functions. It is an intuitive interface with many wizards for configuration, management and maintenance. These features allowed Elecon to simplify and automate several system management complexities.

Faster application response times: Dynamic load balancing controllers in the Hitachi solution helped maintain application response times during

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periods of heavy access. They virtually eliminated controller bottlenecks found in traditional asymmetric controller designs. For Elecon, minimising latency in application usage also had the overall effect of reducing system management time and costs, improving resiliency and lowering risk.

Hitachi's dynamic load balancing controllers in AMS 2100 have yielded time and cost savings for Elecon.

Efficiency through Dynamic Provisioning:

Dynamic Provisioning software lowered storage and operational expenses for Elecon by building in a smart and efficient management of storage capacity. As a result of this critical feature that allows for provisioning only what is used, Elecon was able to optimise its physical disk utilisation and improve performance in general.

Cost-effective customisation: An aspect of the customised solution that was attractive to Elecon was the fact that it was tailored to accommodate use of their existing storage solution. The Sun system already in place at Elecon was incorporated

in the new infrastructure to manage the storage needs of the company's data management applications, thus avoiding a costly technology write-off for the company.

Ready for future growth: The Hitachi solution also offered Elecon the ability to seamlessly upgrade to a higher-end system - such as the AMS 2300 or AMS 2500 - if and when the company's capacity needs be increased in the future. These two systems pack the capabilities required to support the most advanced storage management needs of medium and large enterprises. Elecon could thus feel confident that the system would deliver on the critical aspect of scalability that it sought as its business expanded.

Comments from Elecon's IT team

The IT team from Elecon informs, "The dynamic load balancing controllers in AMS 2100 have yielded time and cost savings by eliminating the need to manually mitigate load imbalances. They are a significant value-added feature of the Hitachi solution. We chose Hitachi Data Systems primarily for the scalability and cost-effectiveness of its solution. But we have also realised a significant improvement in performance levels and application response times with this storage upgrade." ■