“We chose Hitachi Data Systems primarily for the scalability and cost-effectiveness of its solution. But we have also realized a significant improvement in performance levels and application response times with this storage upgrade.”

IT Team
Elecon Engineering Co., Ltd.

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Elecon Engineering Builds Platform for Business Growth on Hitachi Modular Storage

Established in 1951, Elecon Engineering Co., Ltd., is one of the 3 largest manufacturers of materials-handling equipment and industrial gear in Southeast Asia. For over 5 decades, Elecon has been pioneering breakthrough innovation in the manufacture of materials handling equipment, industrial geared motors and reducers, mining equipment, casting processes and more. The India-based company was seeking to upgrade its storage infrastructure in order to better handle business growth and the associated capacity and performance requirements. Hitachi Adaptable Modular Storage 2100 proved to be the solution to these challenges.

Company Background
Elecon has consistently maintained high quality and product performance standards. The company has made its presence felt in such core sectors as fertilizer, cement, coal and power generation, chemical, steel plant and port mechanization across the country.

Going forward, Elecon 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 defense, wind energy and plastics.

Elecon’s Storage Needs
The 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 Elecon IT Team felt it was important that the new system have 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 center solutions designed to minimize 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.

Hitachi Data Systems Solution Tests Best
After evaluating a few competing solutions, 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 midrange storage system built to handle complex tasks while delivering operational efficiencies and superior performance. It is designed for easy addition of capacity, connectivity and performance and has built-in provision for data-in-place upgrades to higher end systems.

Equipped with Hitachi Dynamic Provisioning software, the system reconfigures storage based on application usage patterns, thus improving utilization rates and simplifying storage management. The solution also features 8Gb/sec Fibre Channel 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.

“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.”

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The system 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 proven and highly 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 minimize 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 8Gb/sec performance in an energy-efficient, optimized 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 a user-friendly and 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 periods of heavy access. They virtually eliminated controller bottlenecks found in traditional asymmetric controller designs. For Elecon, minimizing latency in application usage also had the overall effect of reducing system management time and costs, improving resiliency and lowering risk.

Efficiency through Dynamic Provisioning
Dynamic Provisioning software lowered storage and operational expenses for Elecon by building in 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 optimize its physical disk utilization and improve performance in general.

Cost-effective Customization
An aspect of the customized 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 increased in the future. These 2 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.