Case Study

HO SONG ENTERPRISE CO., LTD
Producer of Precision Machined Parts Since 1981

Ho Song Enterprise Group

Background

Ho Song Enterprise Co., Ltd. is a Kaohsiung, Taiwan based component and part processing company with over 30 years of experience in engineering and manufacture of precision parts. Employing over 200 people in Taiwan and Vietnam, Ho Song caters to a worldwide customer base, including customers in the automotive, aerospace, biotech/medicine, and semiconductor industries. For more information about Ho Song, please visit their website at http://www.hosong.com.tw

"With a small shop like us, IT budget and expertise is pretty much limited. However, facing ever increasing competitive business environment, we still demand an IT infrastructure with advanced technologies and design in order to stay competitive. We are fortunate to find VSky series of hyperconverged solutions, which fits perfectly with our needs and budget!"

Arthur Chang, CSO, Ho Song Enterprise

Challenges

Ho Song was producing and handling more than 600 types of products a month, requiring a variety of source materials, up to micron-level tolerances, as well as various post-processing procedures, some of which were done by third-party processors. On top of this, 80% of their products were being exported -- mainly to the US and Japan. It was becoming increasingly difficult to track and ensure the resources, manufacturing and logistics for each product. Ho Song had already made a clear step toward optimizing their production by introducing their Enterprise Resource Planning (ERP) and was looking for a cost effective way to take the next step in their digital transformation, by integrating a new Manufacturing Execution System (MES).

Ho Song planned to migrate and consolidate their existing ERP and two additional application and single database server for their MES onto a single platform for ease of maintenance and procurement, as well as eventual Industry 4.0 automation The new IT infrastructure would also need to support legacy applications such as automation quality improvement vital to their ISO 9001 Certification, enable Ho Song to deploy new cloud based IT services, as well as work across their sites in both Taiwan and Vietnam while not taxing their existing personnel.

Apart from functional requirements, Ho Song only possessed a limited IT budget and staff; they did not have the resources to do a complete hardware swap before existing solutions reached the end of life. Ho Song already possessed a large amount of legacy storage for eSOP (electronic Standard Operating Procedure) and Drawing Management, or the processes and schematics associated with each product. Separate storage was also being used for a surveillance solution. Their replacement solution would need to provide a simple migration path from legacy infrastructure.

Solutions

Ho Song deployed of 3 VSkyCube c100 appliances used as a primary site to consolidate their ERP and MES applications and provide secondary storage for the existing NAS and Surveillance systems. The scale-out capability and flexibility of the VSkyCube based solution was an important factor in winning this business as the ability to scale the new system and migrate as legacy hardware reached end of life gave Ho Song a visible upgrade path while reducing upfront costs considerably
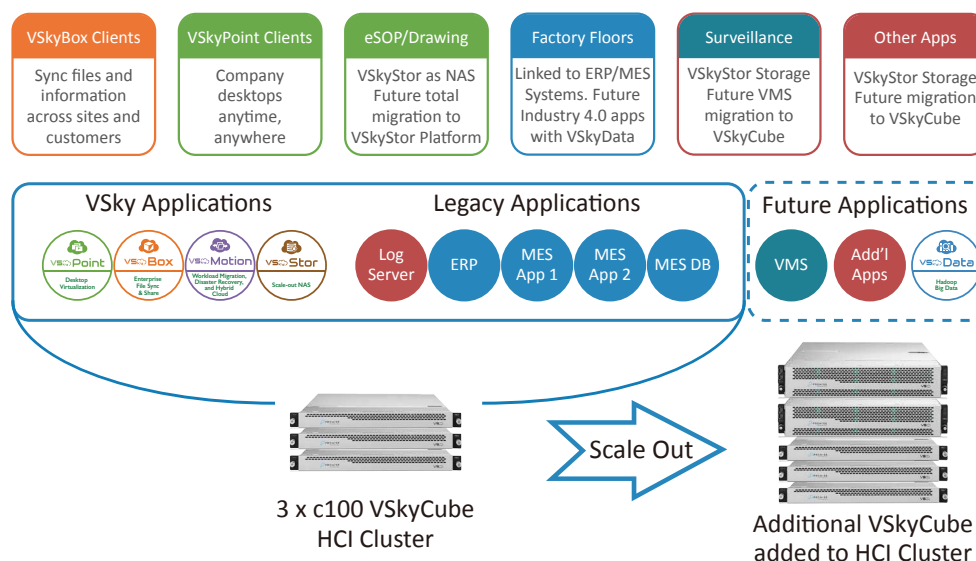
VSky Software solutions were also a crucial element in the new system. VSkyBox was deployed for enterprise file syncing and sharing allowing more efficient and secure collaboration and data sharing between the major operations centers of the company. VSkyBox was also integrated into Ho Song's drawing management flow to ensure production changes and records were properly synced and the most up-to-date information was available instantly to all stakeholders. The ability to provide customized customer accounts on VSkyBox also allowed Ho Song to instantly share information related to order status and completion, significantly raised customer satisfaction by reducing errors and providing accurate data-driven feedback on their orders.

VSkyPoint was deployed to simplify and centralize management of desktop and laptop machines for the company at the home site, allowing IT to ensure common platforms and software suites were available to Ho Song's engineers both in Taiwan and Vietnam, as well as on the road or at customer sites. In conjunction with VSkyBox, this increased corroboration and unification of engineering resources between the two sites, and provided a more mobile and flexible workplace.

VSkyStor was deployed to serve as a NAS storage header for Ho Song's existing security and surveillance systems as well as backup for their important data, allowing Ho Song to plan a gradual phase-out of their existing eSOP/schematic storage infrastructure without having to worry about lost data. Finally VSkyMotion was able to help achieve significant time savings for Ho Song's migration, and was also used to backup important applications as well as mission critical data between two sites, giving Ho Song a measure of safety and redundancy that was previously out of reach, budget-wise.

Setup

With the SDN functionality of the VSkyCube solution Ho Song was able to configure independent subnets and logical networks for each of their important applications. Certain outward facing services were placed in a DMZ completely cut off from internal subnets.

Legacy app servers were moved to their site in Vietnam and linked with the VSkyCube cluster, which allowed the MES system to handle both sites and enabling the secondary site to pull data from the VSkyStor header directly. Separate VSkyStor VMs were also configured to accept security data and backups for the existing NAS systems. A future transition of their Vietnam site to a similar VSkyCube platform will allow disaster recovery operations between the two sites via the VSkyMotion platform already in place.

VSkyBox Clients	VSkyPoint Clients	eSOP/Drawing	Factory Floors	Surveillance	Other Apps
Sync files and information across sites and customers	Company desktops anytime, anywhere	VSkyStor as NAS Future total migration to VSkyStor Platform	Linked to ERP/MES Systems. Future Industry 4.0 apps with VSkyData	VSkyStor Storage Future VMS migration to VSkyCube	VSkyStor Storage Future migration to VSkyCube

3 x c100 VSkyCube HCI Cluster

Scale Out

Additional VSkyCube added to HCI Cluster

Results

Ho Song was very pleased with the end results of the installation. The integration capability and the unification of the services meant that they only needed to purchase 3 nodes upfront, with no additional IT staffing requirements. The transition to VSkyCube HCI also provided Ho Song with unprecedented Disaster Recovery and Backup, as well as prepared them for future growth. The following table summarizes the improvements realized:

Benefits	Items	Description	Benefits/ Improvements
TCO Saving	CAPEX	With VSkyCube solutions, only 3 nodes were required for the initial site, instead of 10 separate servers and storage.	8x
	OPEX	1.5 IT staff with proper training able to handle daily operations for both sites even with marked increase in server workloads.	3x
	Solution Integration and Transition Costs	Integrated solution allowed Ho Song to use single platform for cloud based as well as legacy applications, reducing redundant costs. VSkyMotion workload migration automation allowed existing workloads to be transitioned without need for costly admin overtime or rework.	3x
Enterprise Features and Benefits	Backup & DR	With integrated backup and disaster recovery facility VSkyMotion, important data and applications are protected.	DR/Backup previously ruled out as too costly
	High Availability & Fault Tolerance	VSkyCube's high availability feature provides always-on service for critical data and applications on each site and ensure uninterrupted production operations.	Redundancy previously ruled out due cost and large number of dissimilar systems
	Agility and Scalability	Ho Song was confident in investing in the VSkyCube solution knowing that VSkyCube's cloud architecture meant that future deployment, migration, expansion of most applications could be done without the need to forklift any part of infrastructure; scaling any portions of infrastructure to meet new demands would be easy and cost effective.	Upgrading and/or changing IT infrastructure previously a painful and costly process and done piecemeal with no clear integration path