



Chinese bus company takes smarter manufacturing route using Nutanix

Using Nutanix, Suzhou King Long increases the performance of core business applications while making its systems more flexible and easier to manage

BUSINESS BENEFIT

The inflexibility of its existing three-tier infrastructure slowed King Long United Automotive Industry (Suzhou) Company Limited's (Suzhou King Long) progress towards a service-orientated manufacturing plan for the business. By replacing the legacy technology with Nutanix, the company was able to accelerate its goal, replacing three tiers of IT with a series of Nutanix nodes, and migrating over its core workloads. Today, Suzhou King Long has both its business systems and disaster recovery

“By replacing our three-tier architecture with the Nutanix HCI, we ensured the efficient and stable operations of our core business systems, while enabling more flexibility, controllability, and lower cost.”

- Wu Zhen, Director of IT Department, King Long United Automotive Industry (Suzhou) Co., Ltd.

INDUSTRY

Manufacturing

BENEFITS

- Scales hardware in hours not weeks
- More than doubles IT management efficiency
- Enables intelligent manufacturing with 2-3 million storage IOPS available
- Gains greater IT agility while reducing space and power usage by 60%

SOLUTIONS

- Nutanix Enterprise Cloud OS
- Nutanix AHV
- Nutanix Prism management system

APPLICATIONS

- Office automation system
- Business intelligence system
- Customer relationship management system
- Product data management system

architecture on Nutanix and is highly satisfied with the results. With easy scalability built into Nutanix, Suzhou King Long is looking forward to building on the HCI, adding virtual desktops and integrating the solution with the public cloud.

CHALLENGE

Suzhou King Long (also known as Higer) in Suzhou is a leading manufacturer of buses in China. It has 20 percent of the market share and ranks as one of the country's most valuable brands. Valued at RMB 44.68 billion (US\$6.61 billion), Suzhou King Long was the first in China to launch a smart bus initiative and created the G-BOS (G represents the 3Gs: GPS, GIS, GPRS and BOS is "bus operation system" for short) intelligent operation system, transforming to a service-orientated bus manufacturer.

As part of its goal is to create safe, comfortable, and cost-effective smart buses, Suzhou King Long is exploring new fuels and launched a series of new products in response to a national call to promote the use of hydrogen energy. In bus manufacturing, Suzhou King Long is innovative and actively promotes digital transformation. It has developed new capabilities so that it can closely control order processing, the rapid design of customized products, and the supply chain.

To ensure the business keeps pace with developments in autonomous vehicles, the company launched a wholly owned subsidiary, Shanghai Transun Telematics Technology Co., Ltd., which is responsible for the product development. Suzhou King Long continues to invest in research and development (R&D) for driverless vehicles, unveiling the first class L3 driverless bus in 2018, and the first L4 class driverless bus in 2019. Today, the company is combining driverless with 5G to take services to a new level.

To succeed as a service-orientated bus manufacturer, the company needs a highly scalable and powerful IT platform for its workloads. The legacy three-tier infrastructure, however, was too inflexible, time-consuming to manage, and expensive for Suzhou King Long to upgrade to meet its goals. In essence, the existing infrastructure couldn't deliver the service-orientated manufacturing Suzhou King Long hoped for, keeping data siloed when it needed to be easily shared and lacking the agility for spikes in workloads. These challenges became clear when the company planned to build a multi-center disaster recovery architecture, and it began looking for a new solution.

SOLUTION

Suzhou King Long completed detailed research, running proof of concepts and comparing the results before choosing a Nutanix hyperconverged infrastructure (HCI). With the Nutanix solution, Suzhou King Long saw that thousands of employees could launch virtual desktops without performance issues because of the storage performance. Furthermore, the HCI could meet the processing performance and I/O speeds needed for company's large databases, which in some cases need more than 500 gigabytes of memory.

In June 2019, Suzhou King Long deployed four Nutanix NX-8035 nodes and migrated over the office automation system (OA), which is used by 1,000-2,000 staff. After that, the company successively transferred its business intelligence (BI), customer relationship management (CRM), and product data management (PDM) systems. In 2021, Suzhou King Long plans to migrate its R&D and design platform to Nutanix as well as the supply chain system, which completes large numbers of calculations every night to determine procurement demands.

CUSTOMER OUTCOME

Updates in hours not weeks, more than doubling management efficiency

HCI has been an ideal alternative to the traditional three-tier architecture. The HCI is very flexible and can support almost all core systems. One of the biggest advantages of the HCI is easier updates. Also, adding or removing a node will not impact the business. According to Suzhou King Long, the whole process of node replacement can be completed in a few hours, while scaling the previous infrastructure took at least two weeks to complete.

Compared to the original three-tier architecture, the deployment and delivery time for Nutanix is greatly shortened. In addition, Nutanix has reduced operation and maintenance complexity—improving management efficiency by more than 200 percent.

Intelligent manufacturing made possible with 2-3 million storage IOPS

The Nutanix Enterprise Cloud expansion capability is more in line with the IT infrastructure requirements of service-oriented manufacturing. The Nutanix HCI delivers 2-3 million input/output per second (IOPS) compared to 600,000 IOPS on the legacy infrastructure, maximizing server performance.

Because Nutanix Prism monitors the whole system, IT personnel see the performance of servers in real-time, helping ensure the stability and reliability of the system. In the future, all business systems of the group will be migrated to the platform, with Suzhou King Long phasing out legacy systems in the next three years.

Greater IT agility while reducing space and power usage by 60%

In July 2020, Suzhou King Long added six nodes to the Nutanix solution. The native Nutanix AHV hypervisor made virtual machine migration simple. Despite the expansion, the space and power consumption of the Nutanix HCI is more than 60 percent less than the legacy three-tier infrastructure.

Today, Suzhou King Long has a total of 10 Nutanix nodes. The company plans to expand the cluster to 12-15 to support approximately 300 virtual machines. One of the advantages of Nutanix is the decoupling of hardware and software. The number of nodes can be increased or decreased at any time without affecting the business. Therefore, IT is more closely aligned with Suzhou King Long's changing business requirements and the company avoids large upfront hardware investment, lowering expense.

NEXT STEPS

Suzhou King Long plans to run 100 percent of its infrastructure on Nutanix inside a private cloud. It also aims to build a disaster recovery platform and virtualize desktops using Nutanix. The company is looking to use Nutanix as the foundation for a hybrid cloud development, where Suzhou King Long's private cloud can securely intersect with public clouds for the free flow of data.



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