Hengtong Group Improves IT Governance and Business Agility with Nutanix

Hyperconverged solution lets global manufacturer unify management and maximize infrastructure availability for mission-critical operations

BUSINESS BENEFIT

Hengtong Group is a leading manufacturer of fiber optic networks, power grids, and other solutions for customers worldwide. Its most critical enterprise applications and production processes reside on its infrastructure, and the organization was seeking to improve governance and enhance IT support for its branch and subsidiary locations. The

> **"Hengtong Group 's IT strategy is now highly dependent on Nutanix hyperconvergence technology. Nutanix products and solutions are very rich. I believe that through our in-depth cooperation with Nutanix, we will be able to better promote Hengtong Group's digitization process."**
>
> – Zhang Zhengping, Director of IT Department, Hengtong Group

> **"With traditional standalone or independent storage-based virtualization solutions, when the power goes out unexpectedly, the server cannot be turned on or the storage hangs. Hardware issues require a long wait for repairs. The Nutanix hyperconverged solution lets us avoid these problems, providing advantages that we really value."**
>
> – Gu Xueming, IT Manager, Hengtong Group

INDUSTRY
Manufacturing

BENEFITS
- Accelerated deployment of new IT systems from weeks to days saves 80% on-line time

- Unifed remote management of multi-service platforms via Prism improves IT governance

- Improved reliability of production system enables rapid recovery and ensures business continuity

- Scalable hyperconverged solution streamlines configuration and optimizes resource utilization

SOLUTIONS
- Nutanix Enterprise Cloud OS
- Nutanix AHV
- Nutanix Prism management software

APPLICATIONS
- MES production execution system
- Supply chain applications
- Financial applications
- OA platform
- Document management
- VDI desktop virtualization architecture

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Nutanix hyperconverged infrastructure provides the visibility, performance, and enhanced availability the firm needs to support its most essential applications and manufacturing processes. The flexible, agile solution lets the manufacturer respond to changing needs fast, reducing deployment time of new IT systems from weeks to days.

CHALLENGE

One of the top 100 private enterprises in China, Hengtong Group has established industrial bases in 13 provinces in China as well as nine countries across the globe. Its business covers more than 130 countries and regions. With annual sales exceeding 100 billion RMB, it is a complete supply chain enterprise from upstream manufacturing to downstream sales and service integration.

The firm's infrastructure supports systems such as SAP, CRM, SRM, OA, and HR applications. Manufacturing Execution Systems (MES) power its factory management and planned production scheduling, and aggregate production data to the group's SAP ERP system in real time. To stay competitive, the company was seeking to improve the reliability of IT support systems distributed around the world, and enhance management and control of its information systems.

Hengtong's branches had limited IT resources compared to those at its headquarters. The branches and the group independently account for each IT project, which needs to be purchased separately. New IT initiatives took several months, from the establishment of the project to tendering and implementation. When the company's Information Department is doing unified IT planning, one of its key considerations is to maintain the current procurement budget, while having the parent company provide IT technology support to the branches, in order to improve their management and maintenance capabilities.

SOLUTION

After repeated investigation, comparison, and field tests, Zhang Zhengping, Director of IT Department at Hengtong Group, deployed a Nutanix hyperconverged infrastructure solution to the company's branches. Four-note Nutanix Appliances at three branches in Beijing, Chengdu and Xi'an support critical systems, including the firm's MES production execution system and desktop virtualization architecture (VDI).

Scalable and flexible, the Nutanix solution lets Hengtong branch locations to set up new IT systems in just a few days, instead of weeks—a saving of more than 80 percent of its deployment time. For off-site branches with minimal technical resources, the Group Information Department can use Nutanix Prism to centrally manage multiple clusters distributed in different locations. This end-to-end management solution also simplifies and automates operations and maintenance to enable unified management and remote support.

Nutanix Prism is an end-to-end management solution for virtual data centers. It has one-click management capabilities for operations such as virtual machine creation, start, stop, migration, and system upgrade. It can also provide system performance monitoring, event warning, and capacity planning. The Nutanix solution lets Hengtong to optimize and automate operation and maintenance of the virtual data center.

MES needs to be deployed in the factory to provide real-time data to the production line. The factory's data center is a harsh environment, and unexpected power outages often occur, as well as other hidden issues.

Nutanix enables Hengtong to dramatically improve the reliability and stability of its MES system, while keeping procurement costs flat. The solution's automation improves availability of virtual machines, and the applications that run on them. When a node fails, it can automatically restart virtual machines on other nodes to ensure business continuity. In addition, Nutanix software defines storage characteristics and supports replication factor settings to configure the number of data copies. When data is written locally in a virtual machine, it is automatically written to another one, and can be copied to additional nodes in the cluster. When a single node fails, it will automatically copy data from other nodes to reconstruct the data. Gu Xueming, IT manager of Hengtong Group, personally tested Nutanix's data recovery capabilities by using the hot-swappable hard drive with electricity before the application went live.

For the frequent accidental power outage of branch companies, the Nutanix hyper-convergence solution also provides superior recovery capabilities. In the three branches that have been launched, Beijing Branch and Xi'an Branch have encountered unexpected power outages. Take Xi'an Branch as an example. An unexpected power failure occurred in the computer room, and the UPS (redundant power system) failed to take over, which is equivalent to being directly unplugged. But after such an accident, Nutanix restarted smoothly, and the system started automatically in only 10 minutes. It is precisely because of the harsh environment on site that Hengtong Group is extremely satisfied with Nutanix's hyper-convergence solution.

"After deploying the Nutanix hyperconverged solution, I feel more at ease," said Gu. "With traditional standalone or independent storage-based virtualization solutions, when the power goes out unexpectedly, the server cannot be turned on or the storage hangs. Hardware issues require a long wait for repairs. The Nutanix hyperconverged solution lets us avoid these problems, providing advantages that we really value."

With Nutanix Virtual Desktop Infrastructure (VDI) solution, Hengtong avoids the complexity of traditional virtual desktop architecture with independent storage and servers, and improves its agility. Nutanix's linear expansion feature supports the growth of desktop applications and avoids inefficient over-configuration. Now branch operation and maintenance personnel can use Nutanix Prism to uniformly manage the virtual desktop infrastructure and allocate appropriate resources according to the needs of the plant terminals. If a virtual desktop fails, Hengtong operation and maintenance personnel can quickly reset or rebuild the failed desktop. The high performance enables the company to complete fault processing tasks within a few minutes, reducing problem resolution time by more than 90 percent.

CUSTOMER OUTCOME

The successful deployment of Nutanix HCI in the branch, especially its ability to enable automatic recovery after an unexpected power outage, impressed Director Zhang Zhengping. The organization decided to take advantage of Nutanix Prism's ability to manage virtual data centers and extend the solution to improve the administration, control, and governance across its entire group of companies.

In July 2019, Hengtong Group deployed 11 Nutanix hyperconverged nodes at its headquarters, occupying half of the cabinet space. Compared with the previous architecture, the solution saves more than 50 percent of rack space and reduces power consumption by more than 40 percent. These high-density, high-performance nodes support the firm's MES and VDI applications, as well as its group OA, web and document management applications.

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Hengtong Group's previous IT environment was a complex mix of devices from multiple vendors, making management and maintenance challenging. If a staff member departed or moved, knowledge transfer was difficult. Today, the IT strategy requires that the team responsible for the infrastructure must be familiar with Nutanix hyperconvergence solutions and technologies. Consolidating operations on a single unified platform makes it easier for the organization to accumulate and build on knowledge and skills, and deliver a consistent level of operation and maintenance.

As a result, Zhang is much more confident in the operation and maintenance of infrastructure. "Improving IT governance was painful, because it was a black hole before," he said. "Gaining insight and optimizing virtual machine usage was difficult. Now through the Nutanix Prism platform, we can merge or eliminate inefficient virtual machines and release resources for more important applications. This lets us improve the utilization of all of our IT resources."

"With the help of Nutanix HCI, I can now log in to the Prism unified management platform and directly monitor the status of the entire cluster," Gu Said. "The solution makes it easy to discover and handle potential problems early to ensure system availability."

NEXT STEPS

Although existing local clusters have implemented multi-copy data storage, as more and more virtual machine applications are hosted, data becomes denser—and more critical. To safeguard this essential data, Hengtong is considering activating Nutanix' built-in data replication and disaster tolerance features, which include support for copying data to public clouds. These options will enable the company to achieve application and data-level replication and disaster recovery without additional cost, while protecting the integrity of core IT systems.

For the core SAP system of the Group, Zhang also did his homework. "Hengtong 's SAP system was launched in 2015 and is currently deployed on UNIX. Today, talent is scarce to support UNIX, and maintenance costs are growing. We plan to migrate the SAP system to the Nutanix hyperconverged solution to minimize costs and gain operation and maintenance advantages."

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