Lenovo transforms hybrid cloud management with AI-powered automation

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Cutting cloud costs, boosting cloud availability, and accelerating cloud management

Challenge: Managing Complex IT Resources

From empowering remote workers to boosting the reliability of key applications, it's easy to understand why so many global enterprises are embracing a hybrid cloud strategy. However, managing a complex and fast-growing set of public and private cloud resources can quickly overwhelm internal IT teams.

As one of the world's leading global IT companies, Lenovo has first-hand experience with these challenges—and we know how to solve them.

Originally developed as an internal tool to manage our global infrastructure and cloud services, Lenovo is now offering our hybrid cloud solution to organizations across China. Built on Lenovo intellectual property, the solution has reduced the time we spend on cloud management by 60%, boosted availability from 99.95% to 99.99%, and cut our public cloud

costs by up to 35%.

If hybrid cloud is on your roadmap, then Lenovo has the solutions to help automate and accelerate the entire lifecycle of cloud build, migration, use, management, and operation. **Challenge: Staying Ahead through Tight Governance**

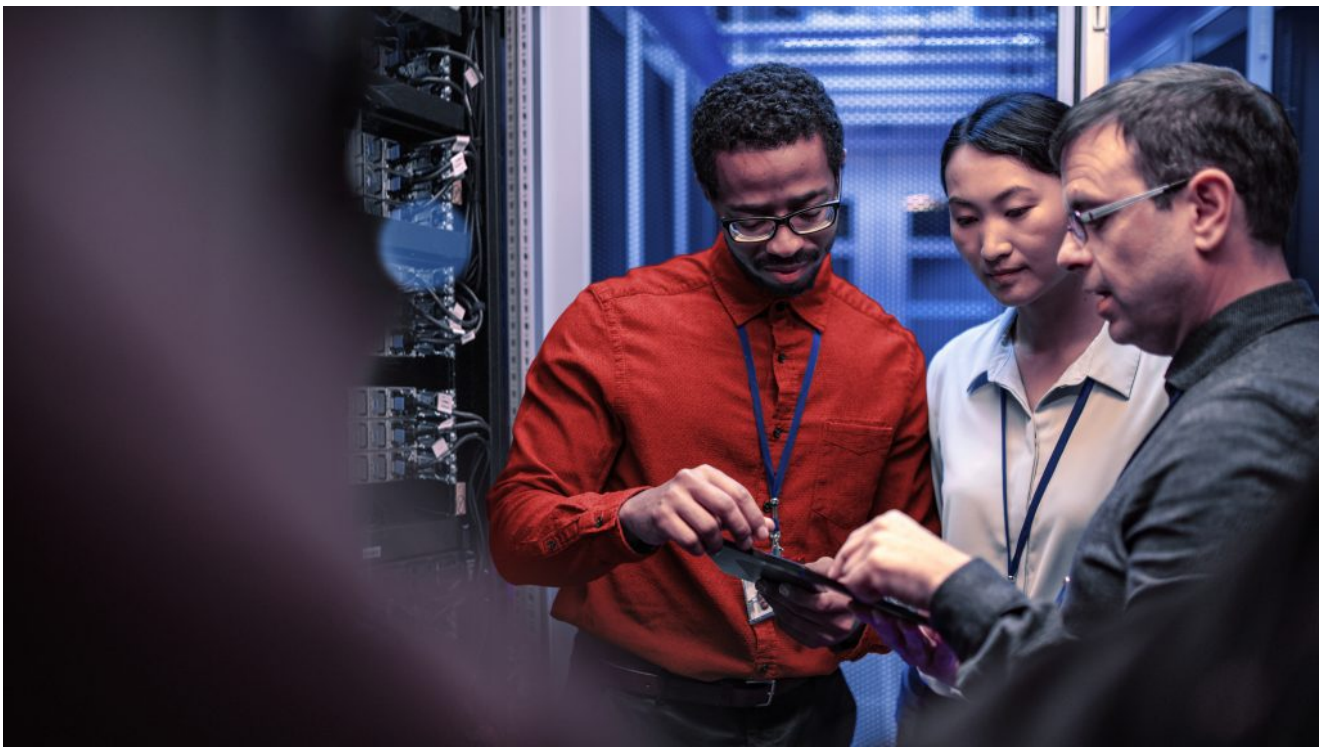


Wenjie Zhang,
Cloud Native
Products R&D
Director, Lenovo

Lenovo has been pioneering IT innovation since 1984—and today, we have 18 research and development sites and hold 33,000 patents and patent applications. So, when the cloud revolution took off, Lenovo was quick to leverage cutting-edge private cloud technologies to support its global operations.

Lenovo follows a cloud-first implementation strategy, carefully reviewing workloads to determine whether private, public, or hybrid cloud deployment is the best fit. We operate 23 private cloud data centers and edge data centers in 17 cities across the globe, while also taking advantage of 16 public cloud regions.

Wenjie Zhang, Cloud Native Products R&D Director at Lenovo, says: “Managing our data and services effectively has always been a top priority. Governance is crucial: we aim to maintain tight control over everything.”



Challenge: Managing Complex Hybrid Cloud Environments

Initially, Lenovo relied on commercial off-the-shelf virtualization and containerization tools to drive its private cloud environments. In regions where private cloud implementation costs were high, teams began to adopt public cloud services for less critical workloads.

Within Lenovo, demand for cloud services was growing steadily, with internal users leveraging Docker and Kubernetes to create, run, and manage containerized environments. However, the complexity of Lenovo's vast on-premises IT footprint and public cloud deployments created technical and operational challenges that soon outgrew the capabilities of our existing resource management tools.

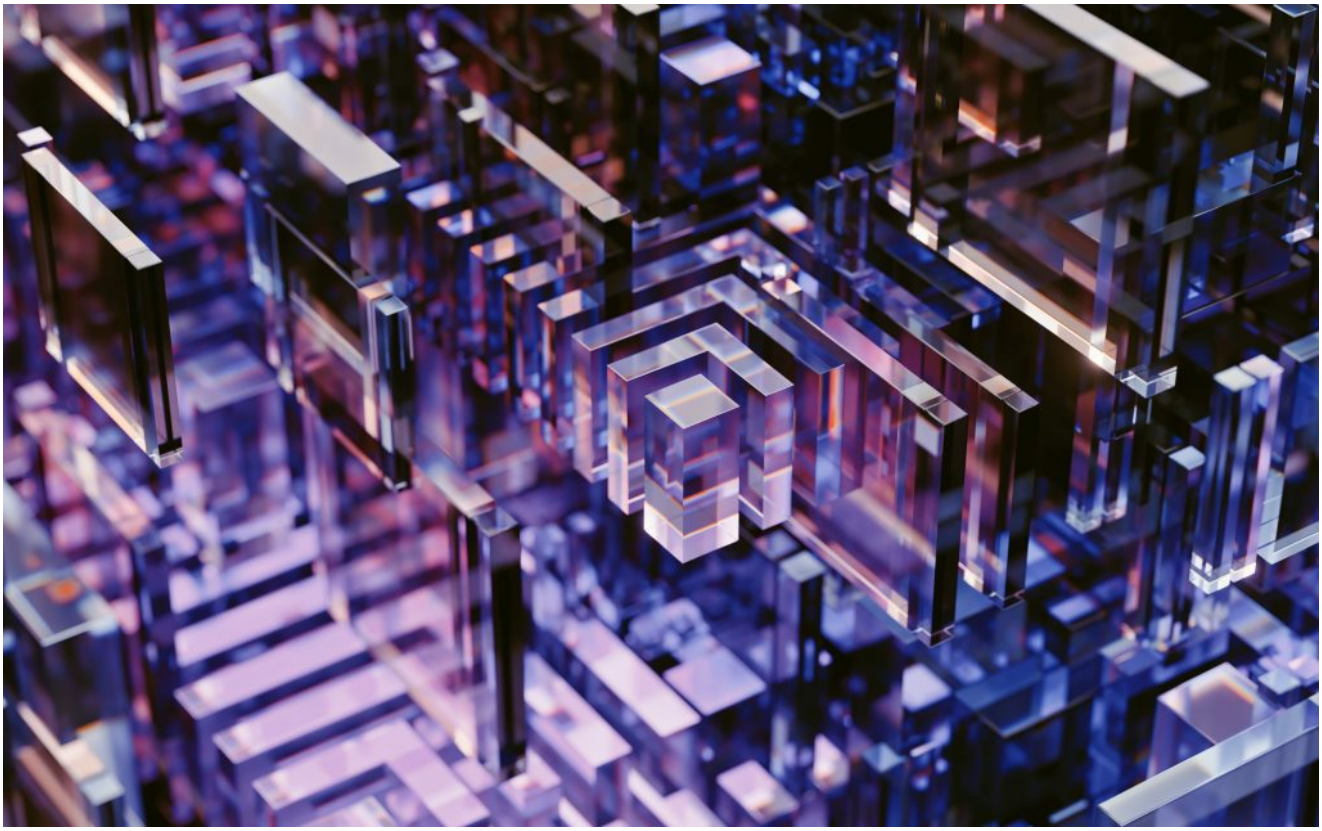
Wenjie Zhang explains: "We saw an opportunity to develop our own solution for hybrid cloud management. The aim was to unlock the full potential of containers and gain greater control over our global data centers and public cloud deployments." **Solution: Lenovo powers Lenovo with Intelligent Digital Workflows**

Leveraging our technology expertise and leadership in cloud, Lenovo developed a solution to empower internal users to rapidly build, migrate, utilize, and manage private and public cloud environments.

The Lenovo hybrid cloud solution incorporates a range of innovative capabilities that streamline and accelerate key cloud management tasks. For example, the solution substitutes intelligent digital workflows for manual container management via scripts and command-line interfaces.

"The solution offers powerful self-service tools that help users do their work more quickly and

efficiently," explains Wenjie Zhang. "For example, it enables users to self-order computing, storage, container, and database services on a unified portal, and automatically delivers the required resource environment to users within minutes or even seconds."



Solution: Leveraging AI Innovation

By aggregating data from multiple sources into a single point of control, the Lenovo hybrid cloud solution offers users a 360-degree view of the health of their cloud environments. In addition, the solution incorporates AI capabilities that enable teams to rapidly drill down into the root causes of potential issues.

"Through AI-powered automation, the Lenovo hybrid cloud solution enables users to analyze data and achieve the optimal balance of compute, storage, and networking resources for cloud workloads," says Wenjie Zhang. "AI-assisted analytics can quickly pinpoint issues with APIs, servers, or networks, even if they are buried deep in the stack."

The solution enables teams to manage all resources—including Lenovo private cloud resources and hyperscaler platforms from other companies. Wenjie Zhang adds: "We analyze public cloud usage and spend, creating valuable opportunities to reallocate workloads to the most cost-efficient platforms." **Result: Eliminating Repetitive Manual Tasks**

By leveraging microservices and DevOps practices to automate repetitive daily management tasks, the Lenovo hybrid cloud solution delivers time-savings of up to 60% for operations engineers. Similarly, automated infrastructure management and proactive fault alerting can deliver a significant increase in uptime: Lenovo has boosted the availability of our cloud

platforms from 99.95% to 99.99%.

The Lenovo hybrid cloud solution also brings valuable cost-efficiencies to multi-cloud operations, enabling teams to automatically determine the optimal private or public cloud platform for their workloads. Using the solution, Lenovo has achieved operational cost-savings of 35% on cloud resource consumption. **Result: Fast and Flexible Transformation**

In addition to using the hybrid cloud solution to manage our own global infrastructure and cloud footprint, Lenovo now offers the solution to customers in China. The Lenovo hybrid cloud solution can be deployed on customers' existing on-premises servers, delivered as a datacenter-in-a-box offering running on Lenovo hardware, or as a service.

"The hybrid cloud solution transformed the way that we manage our IT estate, bringing new levels of manageability and control," says Wenjie Zhang "What started out as an internal-only tool for Lenovo has now grown into an enterprise-class solution for hybrid cloud management. Some of our largest customers now rely on the solution to orchestrate their environments, and the user base is growing all the time."



Result: Unlocking the Value of Hybrid Cloud

The Lenovo hybrid cloud solution helps customers with a wide range of use cases. Kevin Feng Tian, IaaS Solution Architect & Senior Project Manager at Lenovo, confirms: "We can help

customers achieve their cloud goals, no matter how big or small their ambitions. As one of the world's leading hardware manufacturers, we can provide everything as service to our customers need to spin up a hybrid cloud architecture quickly, efficiently, and securely."

The Lenovo hybrid cloud solution enables customers to dramatically accelerate cloud deployments while slashing management requirements. Wenjie Zhang concludes: "We recently deployed the solution for a leading automotive manufacturer in China. After a year of using the solution, the company needed just one engineer to support their entire enterprise-class platform."

To find out how Lenovo could help your organization unlock the full value of cloud, visit Lenovo.com or speak to your Lenovo contact.