

LENOVO ACHIEVES DIGITAL TRANSFORMATION WITH RED HAT OPENSIFT CONTAINER PLATFORM



SOFTWARE AND SERVICES

Red Hat® OpenShift Container Platform

HARDWARE

IBM Storwize V7000 for Lenovo storage

Lenovo System x3850 X6 rack server

Lenovo System x3650 M5 rack server

Lenovo, a multinational technology manufacturer, wanted to achieve a digital transformation and focus on adopting Internet+, a Chinese government strategy that aims to support economic growth through the integration of IT and the internet with manufacturing and industry. To achieve this transformation, its IT team needed to efficiently develop and launch many applications. Lenovo sought to deploy a Platform-as-a-Service (PaaS) solution to provide the agile and cloud capabilities needed to meet demand and gain competitive advantage. By deploying Red Hat OpenShift Container Platform, the company decreased system deployment time and improved productivity through greater automation and increased support for collaborative DevOps work.



I.T. MANUFACTURING

60,000+ EMPLOYEES

“With a PaaS [Platform-as-a-Service] built on Red Hat OpenShift Container Platform, along with our automated management tools, we can provide efficient and agile cloud services internally and externally.”

ZHENYU YAO
EXECUTIVE DIRECTOR,
INTEGRATED TECHNOLOGY SERVICE,
LENOVO

BENEFITS

- Improved productivity and agility with automated deployment, reducing system platform launch time to just minutes
- Gained support for more effective, DevOps collaboration
- Improved competitiveness through faster development and time to market



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“Red Hat’s innovative and open culture is the cornerstone of our partnership. Red Hat has collected our suggestions on new product research and development and closely communicated with us on the technology.”

YANG YU
SENIOR MANAGER,
PAAS PLATFORM,
LENOVO

SUPPORTING ACCELERATING CHANGE

Lenovo, a multinational technology manufacturer based in China, undertook a rapid digital transformation to improve its capabilities and meet business demands faster by focusing on the internet and Internet+, a Chinese government strategy that aims to support economic growth through the integration of IT and the internet with manufacturing and industry.

However, this transformation required frequent updates and changes to the company’s entire IT environment. Some legacy systems struggled with fast iteration, launch, and removal. To cope with the diversity of new businesses, the system would require dozens of system iterations each day, instead of bringing changes online in a single project, as done in the past. In addition, the system had to deliver a lot of new businesses at the same time. As a result, the team faced major challenges in quickly developing and delivering resources.

“Lenovo has over 100 self-developed systems and many test environments,” said Fuzhong Ma, senior manager of the technical platform division of IT Infrastructure Service at Lenovo. “Application systems with shorter life cycles that require rapid responses need to be placed in the cloud.”

Lenovo sought a comprehensive solution that could support agile delivery of application systems, improve internal communications and collaboration through support for DevOps, and increase productivity.

CHOOSING A PLATFORM

To meet its requirements, Lenovo decided to implement cloud computing by deploying a Platform-as-a-Service (PaaS) solution.

“We chose PaaS as the preferred solution to gain efficient and agile support for our business team,” said Zhenyu Yao, executive director of Integrated Technology Service at Lenovo.

Lenovo had previously formed a strong relationship with Red Hat. After in-depth technical exchanges and research discussions, the company chose to deploy Red Hat OpenShift Container Platform 3 as its PaaS solution to support Internet+ transformation and faster development.

“Through over six months of research and testing, we found that Red Hat OpenShift Container Platform offers efficient, flexible and scalable services to support fast business development and delivery while reducing costs,” said Yang Yu, senior manager, PaaS platform at Lenovo.

Based on Docker and Google Kubernetes technologies, Red Hat OpenShift Container Platform offers unified PaaS resources, including incorporating Lenovo’s own automation platform, to orchestrate resource management and automate application deployment and log visualization.

“The recent years of close communication and collaboration with Red Hat, coupled with its open working style, gave us confidence to further extend our in-depth cooperation with Red Hat.” said Yu.

FASTER AND MORE EFFICIENT

GREATER PRODUCTIVITY THROUGH INCREASED AUTOMATION AND DEVOPS COLLABORATION

With Red Hat OpenShift Container Platform, Lenovo has achieved full automation of its development and production processes. Developers can now find an appropriate platform, then upload system programs and applications into the relevant environments, according to operations rules, without additional input from IT operations staff.

With the help of Lenovo's own automation platform, the management of code versions, code review, applications launch, log query, and data analysis will be offered to development and operations teams, thus achieving the standards and requirements of DevOps.

This shift from person-to-person communication to person-to-platform communication has greatly improved employee productivity, enabling developers to focus more on business requirements and application development.

Once the requirements of new businesses are brought forward in the morning, a simple application demo will be finished and further discussions on relevant businesses can be conducted in the afternoon, thus meeting the business needs more accurately and faster.

Moreover, the operations staff can get relevant data from the online system faster via the platform, giving more accurate data analysis for development teams and relevant businesses.

A consistent, unified PaaS environment based on Red Hat OpenShift Container Platform helps Lenovo's developers and IT operations staff collaborate and assist each other. IT operations staff can enhance their technical capabilities by transitioning from a traditional operations role to a higher status by gaining development skills. As a result, staff can more effectively support system operation.

INCREASED COMPETITIVENESS THROUGH FASTER PROCESSES

Traditionally, building a new IT infrastructure system to meet requirements related to server room, network, storage, hardware, and operating system took Lenovo's teams at least one week. With Red Hat OpenShift Container Platform, the company's IT staff can now build a system in minutes.

In addition, a consistent, unified testing environment has helped IT teams save time. Previously, operations staff had to sync the production and testing system, then decrypt the data, to ensure consistency. With Red Hat OpenShift Container Platform, Lenovo's operations staff can quickly implement and replicate massive deployments and system iterations.

These improvements in development times have helped Lenovo gain a large competitive advantage. Previously, it would require staff with different roles to collaborate and complete over 10 procedures, which will now be streamlined and processed through platform automation.

"With a PaaS built on Red Hat OpenShift Container Platform, along with our automated management tools, we can provide efficient and agile cloud services internally and to customers," said Yao.

CONTINUING A SUCCESSFUL PARTNERSHIP

Lenovo plans to include Red Hat PaaS technology as an important development component in its IT development roadmap. The company has not only sought to expand its use of Red Hat OpenShift Container Platform but has also adopted additional Red Hat products, including Red Hat Enterprise Linux® and Red Hat JBoss® Enterprise Application Platform.

Lenovo is actively improving the technology in different modules, including project management, resource management, operation automation management, continuous integration (CI), public cloud resource management, and operational data visualization.

"Red Hat's innovative and open culture is the cornerstone of our partnership. Red Hat has collected our suggestions on new product research and development and closely communicated with us on the technology," said Yu. "This is a relationship with common goals and a common vision. We believe such a relationship can last for the long term."

ABOUT LENOVO

Lenovo is a \$45 billion global Fortune 500 company and a leader in providing innovative consumer, commercial, and enterprise technology. Its portfolio of high-quality, secure products and services covers PCs (including the legendary Think and multimode Yoga brands), workstations, servers, storage, smart TVs and a family of mobile products like smartphones (including the Motorola brand), tablets, and apps.

ABOUT RED HAT



Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to provide reliable and high-performing cloud, Linux, middleware, storage, and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.



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