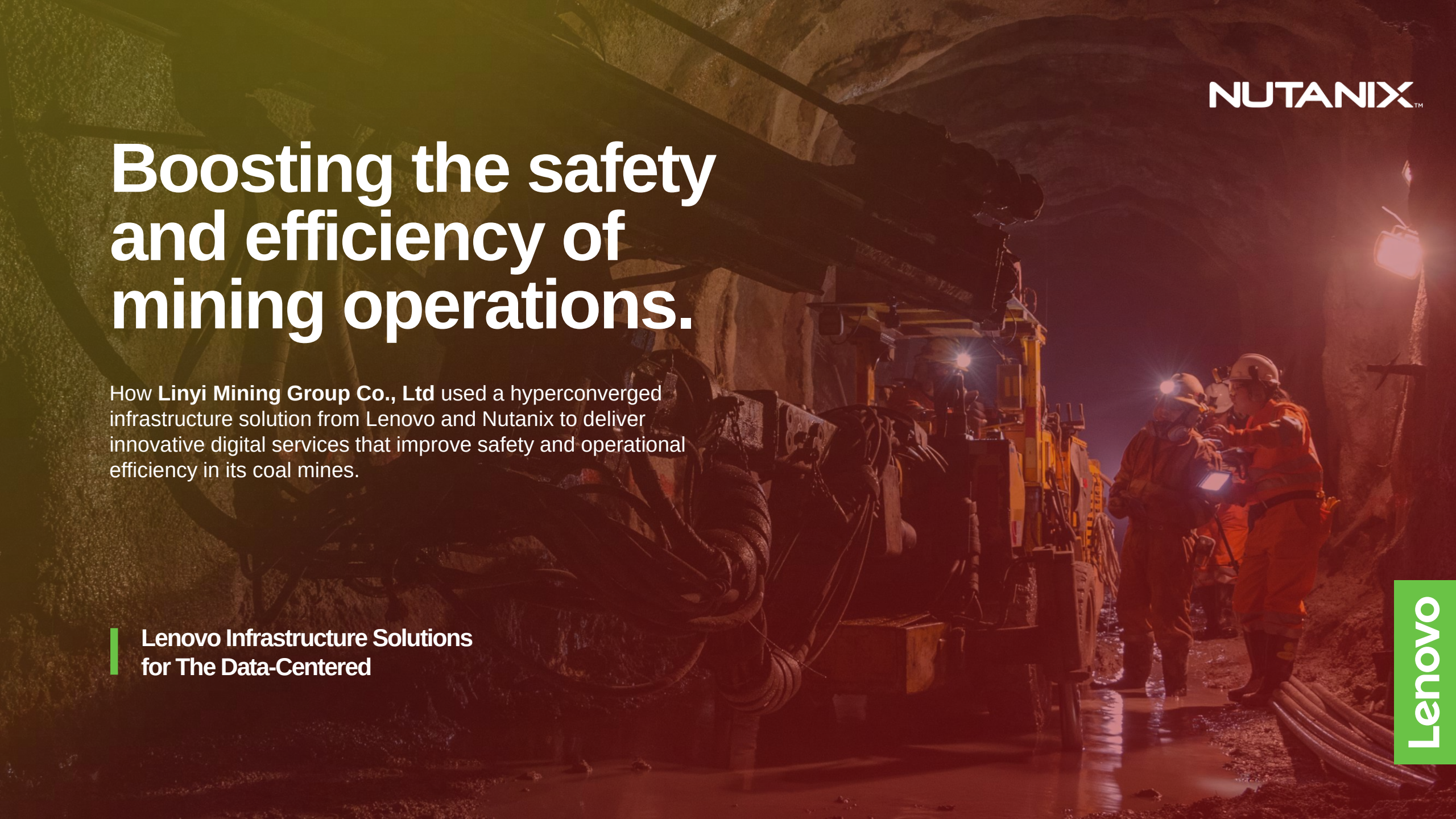


NUTANIX

Boosting the safety and efficiency of mining operations.

How **Linyi Mining Group Co., Ltd** used a hyperconverged infrastructure solution from Lenovo and Nutanix to deliver innovative digital services that improve safety and operational efficiency in its coal mines.

Lenovo Infrastructure Solutions for The Data-Centered

Lenovo

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Background

Wholly owned by the Shandong Provincial People's Government, Linyi Mining Group Co., Ltd employs more than 20,000 people in coal mining operations across Shandong, Inner Mongolia, Gansu, and Shaanxi provinces in China and in Australia. With total assets equivalent to approximately US$5.6 billion, the company maintains coal reserves of 20 billion tons.

Mining operations can present many potential hazards to employees working underground. The deeper the mine, the more hazardous it is. Linyi Mining Group is always striving to find more effective ways to mitigate risk and safeguard the health and safety of its employees. By integrating new technologies such as 5G networks, the industrial internet of things (IoT), machine learning, artificial intelligence, and automation, Linyi Mining Group aims to minimize safety risks and improve production efficiency.

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Challenge

Working in mines creates many safety challenges, and Linyi Mining Group must manage hazards such as fire, heat, noise, and dust. Situational awareness is crucial for carrying out day-to-day operations safely, and to enable a fast and effective response in the event of an emergency.

To improve safety for its sites, Linyi Mining Group relies on the latest technology advancements to support its intelligent dispatching information system. This system provides precise, real-time data on the positioning of underground personnel based on video and image recognition technology, video surveillance of key underground positions, and wearable 5G-enabled devices.

The company's intelligent electromechanics system provides remote monitoring, intelligent analysis, and condition monitoring for power supply, drainage, air pressure, and ventilation equipment. This gives employees and supervisors unique insight into the situation at each site, supports both operational and strategic decision-making, and helps to improve safety.

Linyi Mining Group's intelligent systems also help to reduce dependence on manual labor in the most dangerous environments through automation, for example by shutting down equipment trains remotely. Not only does this improve employee safety, but it also enhances efficiency.

To make its vision of intelligent coal mining a reality and keep the group's mission-critical business systems—including its ERP, finance, HR, equipment management, and safety management systems—running smoothly, Linyi Mining Group depends on its IT infrastructure. The company recognized that its existing server, storage, and networking environment lacked the performance, scalability, and reliability to handle the planned workloads, and decided to look for a future-ready platform.

“Our business is growing steadily, so it was vital that our new IT infrastructure could scale to support a substantial increase in users over the coming years—without driving up the cost and complexity of management and maintenance.”

Director Wang
Information Center, Linyi Mining Group Co., Ltd

Why Lenovo? Proven technology.

As a subsidiary of Shandong Energy Group, Linyi Mining Group has long experimented with emerging technologies to solve its IT challenges. After learning of the advantages of hyperconverged infrastructure (HCI), Linyi Mining Group carefully reviewed a number of market-leading HCI solutions and vendors before selecting a solution based on Lenovo hardware and Nutanix software.

The solution comprises Lenovo ThinkAgile HX HCI clusters installed at sites across the group, combining compute, storage, and networking in a single, lean, and cost-effective data center footprint. With built-in virtualization, scale-out storage, and easy management via Nutanix AHV, Nutanix Files, and Nutanix Prism, the new solution minimizes the need for manual administration tasks, empowering the company's IT team to focus on rolling out intelligent technology to coal mines.

To provide a dedicated, robust, and reliable platform for its core ERP applications, the company selected a Lenovo ThinkSystem SR950 server.



“The Lenovo and Nutanix solution has a number of advantages over other vendors we evaluated. In particular, we were impressed by the technical architecture and scalability of Lenovo ThinkAgile HX Series appliances. It’s also easy to manage multiple clusters from a single point of control with Nutanix Prism, which helps us to contain our operational costs. Nutanix Files enables unified management of structured and unstructured data on the same platform.”

Director Wang
Information Center, Linyi Mining Group Co., Ltd

Growing with the business.

Linyi Mining Group worked with infrastructure experts from Lenovo Assessment Services and Lenovo Design Services to determine the right solution for its needs. Next, Lenovo Deployment Services implemented the Lenovo ThinkAgile HX5510 and HX5520 appliances, and Lenovo ThinkSystem SR950 servers at the company's local data centers and at mine sites. Thanks to the resiliency built into the Lenovo ThinkAgile HX platform, Linyi Mining Group can ensure rapid recovery in the event of disaster at one site.

"Working with Lenovo continues to be a very positive experience, and our deployment projects have all been a great success," explains Director Wang. "The Lenovo ThinkAgile HX environment offers us the compute and storage headroom to roll out innovative digital services such as real-time location tracking for employees."

"Ever since we started working with Lenovo, we've enjoyed a close collaboration—and we find Lenovo Services to be very responsive."

Director Wang
Information Center, Linyi Mining Group Co., Ltd

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Results

By selecting HCI solutions from Lenovo and Nutanix, Linyi Mining Group has gained a dependable and highly scalable platform that grows seamlessly with its business.

“Today, we’re using the Lenovo and Nutanix platform to drive several cutting-edge digital services, including real-time asset monitoring, location tracking for front-line employees, IoT data collection, automation, big data analytics to support decision-making, and more,” comments Director Wang. “Our HCI infrastructure is playing an important role in our digital transformation. Thanks to the new IT platform, we can lift the efficiency of our mining assets, and provide a safer working environment by improving the situational awareness of our on-site supervisors.”

山东能源临矿集团
SHANDONG ENERGY LINYI GROUP

- **Delivers performance and reliability to support mission-critical safety systems**
- **Reduces IT management requirements, boosting operational cost-efficiency**
- **Enables seamless scalability, facilitating business growth**

“Today, we’re using HCI infrastructure from Lenovo and Nutanix to deliver a range of innovative digital services. Real-time insight on mining operations, excavation, machinery, transport, communications, and the whereabouts of employees will help to improve safety and efficiency.”

Director Wang
Information Center, Linyi Mining Group Co., Ltd

What will you do with Lenovo software-defined infrastructure solutions?

The Data-Centered deliver innovative digital services with Lenovo smarter infrastructure solutions, powered by Nutanix.

Explore Lenovo Software-Defined Infrastructure Solutions

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