



Travel & Transportation

Staying on track with future-proof IT solutions

AKN Eisenbahn GmbH

How AKN Eisenbahn GmbH used a hyperconverged infrastructure solution from Lenovo and Nutanix to consolidate its IT, taking business agility and resiliency to the next level.

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Who is AKN Eisenbahn GmbH?

Public transport has a long history in the German federal state of Schleswig-Holstein. AKN Eisenbahn GmbH has been providing regional rail services across the Hamburg Metropolitan Region since 1883. The company connects more than 3.67 million people across this dynamic and international trading hub in the north of Germany.

Headquartered in Kaltenkirchen, AKN Eisenbahn GmbH has 330 employees and runs five railway lines with approximately 40 trains and 80 stations, serving 12 million passengers every year.

In its effort to offer smooth and easy connectivity across the region, AKN Eisenbahn GmbH is always looking for new opportunities to facilitate travel between a wide range of locations. Currently, the company is launching a new initiative for even faster connections between regional centers to bring people together and cut commuting time.

AKN

Meine tägliche Verbindung.

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The challenge

AKN Eisenbahn GmbH is continuously expanding its network. The more services it takes on, the larger area it covers and the more infrastructure—such as stations, bridges, signals, and trains—it needs to manage. This also makes scheduling and maintenance more complex to ensure fast and timely journeys.

Frank Dubberke, Head of IT at AKN Eisenbahn GmbH, says: “As we add more routes, we’re also investing heavily in upgrading and modernizing the rail infrastructure. Passengers today have very high expectations. To attract enough people to run profitable services, we need to offer comfortable coaches with air conditioning, real-time status information, and added-value services such as free mobile internet connectivity.”

AKN Eisenbahn GmbH runs regional services across municipal and state borders, so close integration of services and billing processes with partners such as hvv, the Hamburg Public Transport Association, and the Schleswig-Holstein Local Transport Association (NAH.SH GmbH), is essential for the company’s business model.

With AKN Eisenbahn GmbH managing and operating its own infrastructure in close collaboration with its partners, the company must run a highly heterogeneous system landscape. “Railway companies use a lot of specialized systems and software,” confirms Dubberke. “We need to support everything from heavy maintenance equipment to mobile apps and integrated, digital ticketing systems. Our job is to ensure that we can run our trains on time—reliably and cost-efficiently.”



“Staff productivity is key. With our network expanding, managing maintenance tasks on the go has become much more important for our technicians, since they can no longer simply return to the central warehouse between jobs. And our office-based staff expect flexibility and fast performance of business applications. We have to enable all that with small profit margins in a challenging economic environment.”

Frank Dubberke

Head of IT, AKN Eisenbahn GmbH

Why **Lenovo**?

Eager to expand its IT infrastructure to boost system performance, AKN Eisenbahn GmbH recognized that its current environment lacked the flexibility it needed. The company evaluated different options together with its trusted technology partner PROFI Engineering Systems AG—a Lenovo Platinum Partner.

“Talking to PROFI Engineering Systems, we quickly realized that a hyperconverged infrastructure [HCI] solution with Lenovo servers and Nutanix software would offer a future-proof platform for our business,” explains Dubberke. “It became clear that we could simplify our IT operations with customizable building blocks from Lenovo combined with strong project management, implementation services, and support from PROFI Engineering Systems.”

AKN Eisenbahn GmbH worked closely with PROFI Engineering Systems to choose a configuration that maximized performance within the available budget. The HCI solution, based on reliable Lenovo servers with leading, easy-to-use Nutanix software, would enable the company to modernize its IT while reducing costs.





“Lenovo delivered the solution so quickly that our partner PROFI Engineering Systems was able to complete the deployment ahead of schedule. The whole process was very smooth, the specialists from Lenovo and PROFI Engineering Systems guided us along the way, and now everything just works.”

Frank Dubberke

Head of IT, AKN Eisenbahn GmbH

Quick delivery and easy deployment

Replacing its outdated and complex infrastructure, AKN Eisenbahn GmbH implemented three Lenovo ThinkAgile HX 5000 Series nodes with all-flash storage and fast networking. The new solution combines Lenovo servers with the powerful Nutanix Cloud Platform, using the AHV virtualization software built on top of the proven open-source Linux KVM hypervisor.

“It was very easy to get started with the new Lenovo and Nutanix solution,” adds Dubberke. “We were surprised how much better the performance of the entire stack was compared to our previous environment.”

Today, AKN Eisenbahn GmbH runs over 60 mission-critical virtual machines on the Lenovo ThinkAgile HX platform. The systems include complex SAP ERP business applications and the SAP HANA in-memory database, as well as the comprehensive ELO ECM Suite document management software with thousands of contracts and invoices. The company relies on Microsoft Exchange as its collaboration platform, seamlessly integrated with Microsoft 365 cloud services and applications.

Hardware

Lenovo ThinkAgile HX 5000 Series

Software

Nutanix Cloud Platform with
built-in AHV hypervisor
Nutanix Prism

Services

Lenovo Enterprise Software Support for Nutanix
Lenovo Premier Support
Lenovo Preconfigured Support
Lenovo YourDrive YourData
PROFI Engineering Systems AG



“The Lenovo and Nutanix HCI solution gives us much more flexibility. For example, when our SAP consultants need a new system, we can now easily provision a fresh environment very quickly thanks to the built-in snapshot and instant recovery features. This workflow naturally also strengthens our business resiliency.”

Frank Dubberke

Head of IT, AKN Eisenbahn GmbH

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Results

“By moving to Lenovo ThinkAgile HX Series, we have accelerated our business applications by 40%, improving staff productivity and customer satisfaction,” emphasizes Dubberke. “The faster performance means that we can delay a planned expansion by another node, reducing our overall IT costs substantially.”

The modern, integrated HCI solution allows AKN Eisenbahn GmbH to move running applications from one cluster node to another without disruption, so the company can use its compute and storage capacity more flexibly and optimize its workload distribution.

Another major benefit for AKN Eisenbahn GmbH is the simple and intuitive management with Nutanix Prism. “In the past, platform software updates would be complex and take up to four days,” says Dubberke. “With the Lenovo and Nutanix HCI solution, platform updates can be initiated through the modern, web-based control panel with a single click. This makes it easier for us to always install the latest patches and protect our environment better than ever before with minimal downtime.” The company is also a fan of the sleek, built-in monitoring. “We can quickly get an overview of the system status thanks to the beautiful and effective visualizations,” notes Dubberke. “The proactive monitoring helps us to ensure fast and reliable business operations at all times.”

Thanks to the impressive performance of the Lenovo ThinkAgile HX platform, AKN Eisenbahn GmbH was finally able to replace more dedicated systems. “In the past, we needed to run some core applications on separate servers and storage systems to meet the performance requirements of the business,” remarks Dubberke. “With Lenovo ThinkAgile HX Series, we consolidated our data center significantly and reduced IT costs by about 30% by moving five systems onto the new virtualization cluster. For one large dedicated system alone, this has saved us about €16,000 in investment costs by not having to upgrade the existing hardware.”

Looking ahead , AKN Eisenbahn GmbH plans to capitalize further on its new flexibility. Some vendors are now offering containerized deployment options and the company is evaluating the integrated Nutanix Kubernetes Engine as a production-ready management solution. Together with PROFI Engineering Systems, AKN Eisenbahn GmbH is also considering Nutanix VDI to deliver virtual desktops and applications.



40% faster
performance for
business applications



30% lower
investment and
operating costs



50% lower data
center footprint
and cooling costs



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“Deploying the Lenovo and Nutanix HCI solution together with PROFI Engineering Systems was a piece of cake—almost literally, since Nutanix sent us one for our first Nutanix birthday recently! It’s a nice gesture that neatly expresses the attention to detail and focus on the customer that we have experienced from day one. We now can dynamically align our capacity with our growing business needs and available budgets on a much more granular level than before. And the management is so easy that our staff do not need expensive training or certificates. It was enough to look over the shoulder of the experienced consultants from PROFI Engineering Systems to learn everything we need for our daily operations.”

Frank Dubberke

Head of IT, AKN Eisenbahn GmbH

A photograph of a person with short grey hair, wearing a light-colored sleeveless top and blue overalls, sitting in a wheelchair. The wheelchair is positioned on a yellow ramp leading into the open door of a white bus with red accents. The person is facing away from the camera, looking towards the interior of the bus. The bus has a wheelchair accessibility symbol on the door frame. The background shows a clear blue sky and a building.

Partner perspective: PROFI Engineering Systems AG

“Like for many other mid-sized companies, a Lenovo ThinkAgile HCI solution is a great match here. Traditional multi-tier architectures are expensive and difficult to manage. With the Lenovo and Nutanix HCI solution, we implemented a modern, integrated data center platform with central support and a cost-efficient upgrade path.”

Timo Cordes

Key Account Manager, Top Accounts, PROFI Engineering Systems AG



How do you keep regional rail services running smoothly?

Reducing costs and simplifying IT operations with
Lenovo and Nutanix.

Explore Software-Defined Infrastructure Solutions