



T · · Systems ·

# T-SYSTEMS

**Bridging legacy to meet speed and efficiency demands.**

Cloud computing pioneer T-Systems modernised its infrastructure to bring customers the speed and flexibility they demand through Lenovo Open Cloud Automation (LOCA).



Lenovo

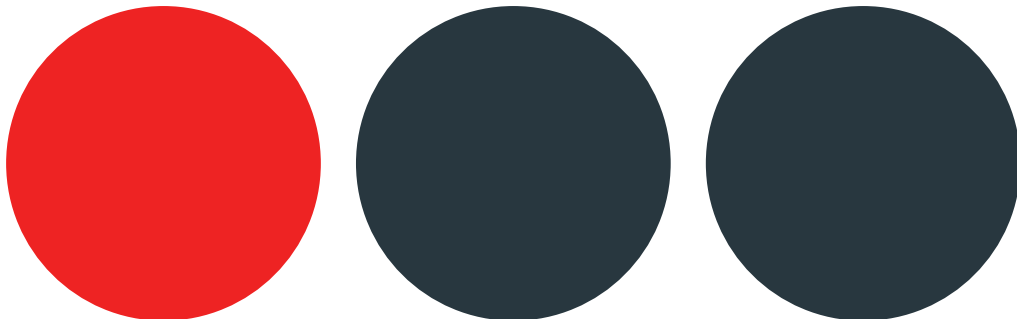


T-Systems is a pioneer in cloud computing for multinational corporations and the public sector, with unrivalled service capabilities and a strong partner ecosystem. It provides customers with the building blocks they need to successfully enable digital transformation. Headquartered in Frankfurt, Germany, the IT consulting and services firm employs 37,500 people globally and is a subsidiary of Deutsche Telekom.

As part of Europe's leading telecommunications provider, T-Systems operates a huge private cloud estate with cloud-like platforms located across approximately 30 data centres worldwide. This includes hosting 65,000 virtual machines

(VMs) on around 10,000 physical servers, which contain business-critical applications. A typical customer has around 300 VMs, but some use up to 5,000. Furthermore, the company is growing at a rate of up to 8,000 VMs year on year, and subsequently undergoes constant migration.

T-Systems is the world's largest SAP Hosting Provider, with 5.9 million users using its systems, and runs Europe's largest cyber defence and security system. Its 4,800 digital transformation experts provide consulting, digital solutions and co-innovation. This forms the bedrock for an integrated portfolio focused on four key areas: cloud and infrastructure, connectivity, digitalization and security.

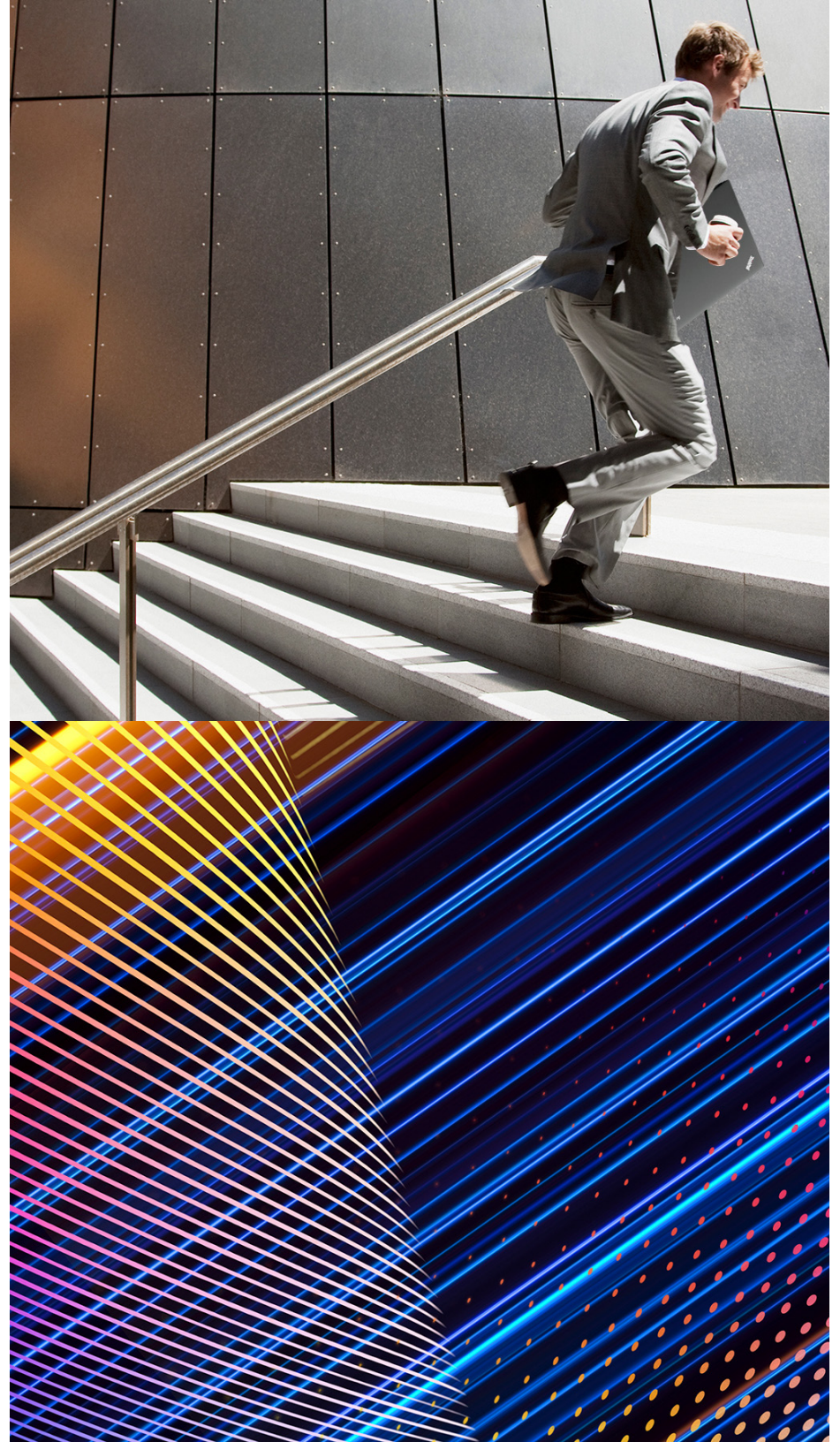


Using these as the foundation of its approach, T-Systems helps businesses to build the right ecosystem for their digital transformation requirements. It is therefore critical for the business to provide consistent performance and zero outages through a standardised, tailored and scalable portfolio.

However, the inflexible nature of T-Systems previous private cloud offering demanded high operational efforts due to different configuration methods. As Thomas Rumpf, CTO Private Cloud at T-Systems, summarises: “The old way of working was too slow, complex and costly. There was a lot of ‘dead time’ where the server guys would have to wait on storage and networking. This resulted in lots of tickets in the internal system, lots of coordination and the vast majority of time was waiting time.

**“We needed a more prescriptive approach and a solution to really separate the control and data planes.”**

The big turning point came when T-Systems realised that customers were increasingly operating multi-cloud environments. “Our customers wanted to use services the same way they used cloud services from AWS, Azure or GCP,” said Thomas Rumpf. “This meant that our platform wasn’t suited to our customers’ needs and it was too slow to be able to meet their demands.”



T-Systems needed to save costs and modernise its infrastructure with an open, end-to-end automated platform that could host future workloads for customers on- and off-premises while maintaining its legacy environments. It also needed to ensure the customer's experience of using the private cloud was as seamless as the public cloud, could address scale and complexity, provide speed and agility, and support the VMware Cloud Foundation.

To determine the right solution, T-Systems conducted a lengthy selection process, during which it considered both industry leaders and emerging start-ups as options to address its platform requirements. After carefully perusing the industry, the company came to the conclusion that only Lenovo Open Cloud Automation (LOCA) could meet its needs.

Lenovo's solution offered cloud-scale building blocks, DevOps support and a collaborative partnership that decreased the time it took to onboard new customers and provided automated, error-free rapid deployment and end-to-end lifecycle management. This included factory-integrated racks containing ThinkAgile VX and Think System servers and networking that comprised around 100 racks, 3,000 servers and 350 switches. Furthermore, it offered 100% end-to-end automation through Lenovo Open Cloud Framework and VMware vRealize, containing around 20 workflows and 500 tasks.

Thomas Rumpf recalls: "There was a lot to do to make sure all the components worked properly together. It required a lot of effort to make all the separate components in the architecture fit together, then configure and test them."



But the effort was well worth it. Lenovo's solution has completely changed how T-Systems works. A migration process that previously took two weeks can now be completed in as little as four hours.

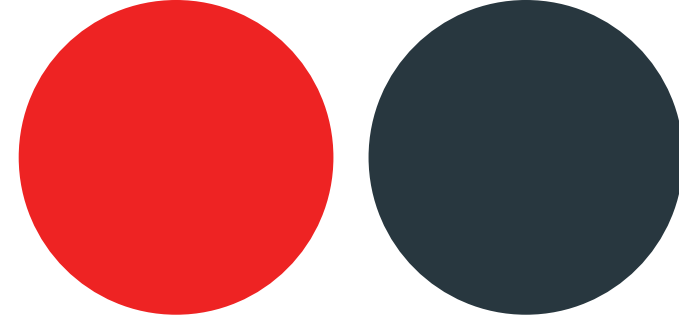
“Standard use cases are now 100% automated within the platform through LOCA” said Thomas Rumpf. “However we are still able to customize services via highly automated blueprints, which leads to cost efficiency in the range of 30 to 40% for the client.”

The company now only works on an API level; its existing Lenovo hardware is also wrapped up in an automated API. Its environment has evolved from three-tier clusters to hyper-converged infrastructure and it operates VMware, which provides high numbers of Lenovo vSAN nodes in different flavours and server types. Meanwhile, configuration is contained in an Ansible playbook that ensures new use cases are repeatable, are quick to roll-out, and can be easily adapted to meet evolving customer demands.



Moreover, T-Systems' operations team now has standardised templates and configurations in place for all components, including switches and networking. LOCA ensures tasks that were previously time-intensive and error-prone are now based on tried-and-tested setups.

Lenovo's open cloud automation solution has helped T-Systems to maintain its IT legacy and make it future-ready. As a next step, the firm is looking to implement dual stacks in some environments and bare metal integration to pair its huge existing storage estate with its OpenStack environment under the LOCA framework.



“It’s a totally different quality in what we’re doing. We now have the option to scale in a way that we simply didn’t have before. Efficiency has increased dramatically and we’re now able to cope with customer requirements at a speed that was previously impossible.”

– Thomas Rumpf, CTO Private Cloud, T-Systems



© 2020 Lenovo. All rights reserved.

Availability: Offers, prices, specifications and availability may change without notice. Lenovo is not responsible for photographic or typographical errors. Warranty: For a copy of applicable warranties, write to: Lenovo Warranty Information, 1009 Think Place, Morrisville, NC, 27560. Lenovo makes no representation or warranty regarding third-party products or services. Trademarks: Lenovo, the Lenovo logo, AnyBay, ThinkSystem, and XClarity are trademarks or registered trademarks of Lenovo. Microsoft and Windows are registered trademarks of Microsoft Corporation. Intel, the Intel logo, Xeon and Xeon Inside are registered trademarks of Intel Corporation in the U.S. and other countries. Other company, product, and service names may be trademarks or service marks of others.