
Confidently accelerate your digital transformations with smart infrastructure solutions
Lenovo and AMD advantage - global technology partnership, engineering prowess, and proven innovation.
Lenovo
AMD

Table of contents

Explore Lenovo & AMD advantage

Lenovo & AMD – Better together

Lenovo and AMD help data-centered customers solve real-world problems.

Together we dramatically help accelerate our customers' IT transformation journeys while improving their competitiveness to solve humanity's greatest challenges.

Using the strength of our global technology partnership, engineering prowess and proven innovation, Lenovo and AMD:

- Enhance business value for our customers
- Provide optimized solutions from edge to cloud
- Offer energy-efficient infrastructure solutions

Business value

Delivering outstanding business value with smart infrastructure

Get outstanding business value with improved performance, excellent economics, fast deployment, efficient administrator productivity and cloud-like financial choice.

Why Lenovo & AMD:
We provide smart infrastructure solutions that are highly performant, agile, flexible and available as-a-Service to help give you better value and a competitive advantage.

ThinkAgile integrated systems with AMD EPYC™ processors deliver

Exceptional performance

Run more compute-intensive applications and workloads for competitive advantage

Fast deployments

Get up and running quicker with fast deployments, including a software license, deployment services and a single support point

Enhanced productivity

Improve administrator productivity by reducing complexity, speeding response, and enhancing the availability of services with Lenovo XClarity, an integrated and centralized resource management solution

Better economics

Realize better economics by deploying critical workloads with peak efficiency, requiring up to 50% fewer servers* and run data/analytic workloads at full enterprise efficiency

Agile infrastructure

Experience cloud-like financial agility with the advantage of an on-premises infrastructure

*Advanced Micro Devices: 5 REASONS WHY AMD EPYC™ CPUs MATTER FOR HYPERCONVERGED INFRASTRUCTURE (HCI) 2021. LINK To support 1000 virtual desktop sessions, approximately 10 servers are required using two Intel® Xeon® Gold 5220 processors (36C) and only approximately five servers powered with two AMD EPYC 7F72 processors (48C)

Lenovo smart infrastructure solutions with AMD

Outcomes

Outstanding on-premises
IT capacity

World's highest performing
x86
server processor[1]

Up to **2.7X**
additional VM capacity[2]

100+
performance
world records[3]

Best uptime among
all **x86**
platforms[4]

Up to **50%**
fewer servers for
similar tasks[5]

[1] https://www.amd.com/en/processors/epyc-server-cpu-family

[2] 4 Ways to Help Maximize Your HCI Investment. LINK to the infographic 2020.

[3] As of November 1, 2021. Lenovo ThinkSystem Servers Continue to Lead the Industry in Performance and Customer Value. LINK

[4] Information Technology Intelligence Consulting (ITIC). ITIC 2020 Global Server Hardware, Server OS Reliability Report. February/March 2020. LINK

[5] Advanced Micro Devices: 5 REASONS WHY AMD EPYC™ CPUs MATTER FOR HYPERCONVERGED INFRASTRUCTURE (HCI) 2021. LINK To support 1000 virtual desktop sessions, approximately 10 servers are required using two Intel® Xeon® Gold 5220 processors (36C) and only approximately five servers powered with two AMD EPYC 7F72 processors (48C)

Customer case study

Supership: Energy-efficient solutions that deliver high performance

Lenovo ThinkSystem SR635, powered by AMD EPYC™ processors

Challenges	Outcomes
» Advertising technology expansion » Consolidate servers, reduce operational costs and workload in the data center » Address number of work requests in a dynamic business environment	» **3x** increase in server consolidation rate » **30%** increase in virtual CPU availability » **2x** increase in cores and threads per CPU computing

Read case study

"Lenovo's ThinkSystem SR635 servers powered by AMD met all our requirements and offered excellent price-performance."

Takayuki Komaki
Ad Platform Business Area, Supership

Optimized solutions

Confidently accelerate your Hyperconverged, Virtualization, HPC, and Big Data workloads, and speed time to insights with Lenovo and AMD solutions.

Why Lenovo & AMD:

Optimized solutions offer the right infrastructure for your workload and help identify, design, install and support hybrid cloud, HPC, database, analytics, and AI workloads.

Accelerating workloads with optimized infrastructure

With Lenovo and AMD you can confidently accelerate your Hyperconverged, Virtualization, HPC, and Big Data workloads and speed time to insights.

For example, our HCI and Virtualization Hybrid-Cloud solutions can help you consolidate your IT infrastructure and make it easier to manage.

Lenovo and AMD Big Data and Analytics solutions can help transform data into insights quickly using ThinkAgile solutions engineered for high-performance workloads, like compute-intensive in-memory databases and I/O intensive operation.

Our performance-intensive solutions can help use data to dramatically accelerate HPC workloads, improve competitiveness, and solve humanity's greatest challenges.

For Big Data workloads, including batch and real-time analytics, the Lenovo Big Data Validated Design for Cloudera Enterprise on ThinkSystem SR655 and SR635 with AMD EPYC™ processor -based servers provide excellent price performance.

Workload optimized infrastructure solutions

Lenovo and AMD provide **infrastructure solutions and services that are scalable, open, and offer robust security features, to customers of all sizes**, from growing midsize businesses to large enterprises, academia, research institutions, and government.

Lenovo ensures you can confidently navigate the Edge to Cloud with resilient, secure infrastructure solutions to help mitigate security risks, data threats, and harsh environments.

Our infrastructure solutions are powered by AMD EPYC™ processors and optimized using our combined engineering and technical expertise, delivering **100+** performance world records. They can provide a performance uplift across a variety of technical computing workloads.

Delivering record-breaking performance, Lenovo ThinkSystem servers powered by AMD EPYC™ processors offer the power to gain rapid new data insights and accelerate business transactions.

For organizations looking for secure remote access, the Lenovo ThinkAgile VX Series featuring AMD EPYC™ processors with VMware Horizon software delivers a turnkey infrastructure solution for VDI.

Customer case study

Blue Sky Systems: Enabling a leading IT solutions provider to deliver high-quality client services 24/7

Lenovo ThinkSystem Servers with AMD EPYC™ processors

Challenges

- Continue to deploy solutions that will run within the product lifecycle without replacement
- Drive innovation and offer clients enhanced service, reliability, cost-savings
- Need for a quality technology vendor to deliver high level of service

Outcomes

- Reliable hardware with low failure rates
- Tailored solution for each client based on their unique requirements
- Excellent price/performance/ power usage ratio with AMD EPYC™ processors
- Responsive support services
- **2** hours to receive quotes

"We're continuously expanding and upgrading our cloud platform to accommodate growing client demand. We know we can rely on Lenovo to deliver the hardware we need, when we need it."

Jonathan Bastin
CEO & CTO,
Blue Sky Systems

Read case study

Lenovo and AMD collaborate with industry-leading partners

NUTANIX™ YOUR ENTERPRISE CLOUD | SAP | vmware®

Lenovo ThinkSystem HPC solutions use AMD EPYC™ processors that feature massive CPU core density and memory footprint to help accelerate higher performance workloads and improve efficiency and total cost of ownership.

Lenovo and AMD collaborate extensively in Artificial Intelligence. We partner through **Lenovo AI Innovation Centers**, where we work to help ensure the success of our mutual customers with their AI initiatives. Here, customers get access to Lenovo and AMD AI experts to consult on projects, including the proper infrastructure to run a proof of concept before deployment.

And we collaborate with the **Lenovo AI Innovators program**, where we have multiple AI software companies whose codes have been optimized to support Lenovo servers with AMD EPYC™ processors and AMD Xilinx™ Accelerators.

Advantages of Lenovo and AMD optimized infrastructure configurations

HCI & Virtualization Solutions

- Consolidate IT Infrastructure
- Easy to manage

Analytics and Database solutions

- Quickly transform data into insights
- Engineered for high-performance workloads

High-Performance Computing solutions

- Dramatically accelerate workloads
- Improve competitiveness

Lenovo Big Data Validated Design

- Excellent price-performance
- Ideal for Big Data workloads, batch and real-time analytics

Proven innovation

Run smart, fast, and energy-efficient applications using Lenovo’s innovative end-to-end infrastructure portfolio.

Why Lenovo & AMD:

AMD and Lenovo work together with the goal to provide open, reliable, powerful and energy-efficient infrastructure solutions using the world’s highest-performing x86 server processors.[1]

Lenovo and AMD joint engineering innovation

Lenovo refreshes the entire ThinkSystem and ThinkAgile server portfolio, leveraging AMD EPYC™ processors, delivering a performance boost to run more compute-intensive applications and workloads.

Performance

- Fast time-to-insights
- Exceptional application performance

Security

- Enhanced ThinkShield security capabilities
- Help defend internal and external threats
- Avoid downtime

Reliability

- Extremely reliable hardware
- **100+** World Benchmarking Records, **2X** more than Lenovo's nearest competitor[2]

Energy efficiency

- Highly energy-efficient solutions
- Advance sustainability goals
- Help reduce energy costs

Lenovo ThinkShield with AMD Infinity Guard

Lenovo ThinkShield security capabilities have been enhanced with AMD Infinity Guard* on ThinkSystem, and ThinkAgile Servers using AMD EPYC™ processors.

Designed with security in mind to be highly resistant to today's sophisticated attacks, AMD Infinity Guard delivers a leading set of modern security features to help protect sensitive data, avoid downtime, and reduce resource drain. It helps defend against internal and external threats attacking data and decreases potential attack surfaces as software is booted, executed, and processes critical data.

*AMD Infinity Guard features vary by EPYC™ Processor generations. Infinity Guard security features must be enabled by server OEMs and/or Cloud Service Providers to operate. Check with your OEM or provider to confirm support of these features. Learn more about Infinity Guard at https://www.amd.com/en/technologies/infinity-guard.

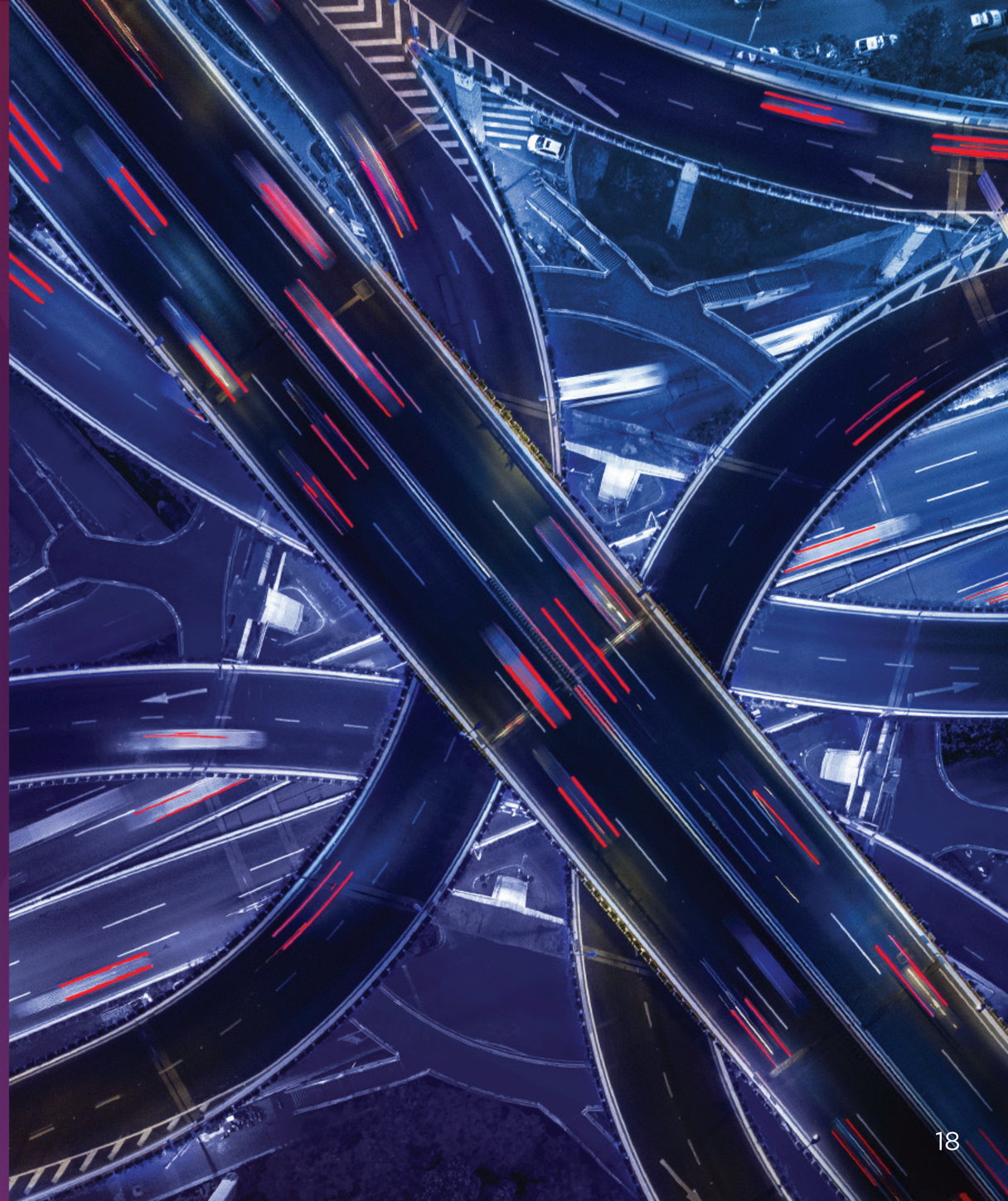
Lenovo ThinkSystem UEFI for firmware

Lenovo ThinkSystem Unified Extensible Firmware Interface (UEFI) provides an interface to the server firmware that controls boot and runtime services.

This firmware interface defines a software connection between the operating system and hardware platform firmware, offering an alternative to the Legacy BIOS firmware interface used for years. The UEFI is used in Lenovo ThinkSystem servers with AMD processors and contains operating modes that pre-define tuning parameters for maximum performance or energy efficiency.

Joint engineering prowess and technical excellence

Backed by Lenovo's **100+** performance benchmarks and world records[3], including **56** world records on High-Performance Computing workloads, Lenovo's ThinkSystem and ThinkAgile servers with AMD EPYC™ processors empower customers to modernize IT from Edge to Cloud, helping improve security and deliver better business outcomes.



Customer case study

Hetzner Online GmbH: Building a high-performance, energy efficient cloud infrastructure that offers customers excellent value for money

Single-socket Lenovo ThinkSystem SR635 servers and dual-socket Lenovo ThinkSystem SR645 servers powered by AMD EPYC™ processors

Challenges

» Deliver the best possible price-performance ratio

» Access latest technology to offer customers practical and innovative products

Outcomes

» Lenovo ThinkSystem SR645 Increased performance by up to **100%** at the same energy costs

» Lenovo ThinkSystem SR635 offered the same performance as other CPU vendors while reducing energy costs by **35-50%**

» Reduced Hetzner Online's TCO by up to **30%**

"Our partnership with Lenovo and AMD enables us to create customizable servers that meet our customers' requirements: high performance, energy-efficient cloud services at affordable prices."

Markus Schade
Head of Cloud Services,
Hetzner Online GmbH

Read case study

Customer case study

HUF HAUS: Building a high-performance, future-ready IT foundation for international growth

Lenovo ThinkSystem servers, powered by AMD EPYC™ processors and all-flash storage

Challenges

» Modernize data center to meet new business requirement

» Improve operational efficiency across all departments

» Boost employee performance and productivity in office and remote workplaces

Outcomes

» **3x** higher compute performance with lower energy consumption and same physical footprint

» **10x** higher storage performance boosts productivity for CAD workplaces

» **90%** faster installation and patching of clients for employees thanks to Lenovo Vantage

Read case study

"Working with Lenovo we have modernized and streamlined our IT, from the data center to our offices and show homes. The Lenovo team inspired us to look for new, innovative solutions and we look forward to working with them for many years to come."

Thomas Ehmann
Head of IT,
HUF HAUS

Get started with us

IT infrastructure has undergone rapid and profound changes over the past 20 years. It is now poised to help transform nearly every industry. At this stage, the greatest impediment is the need for better architectures that show evidence of significant benefits, or validation that these solutions are smarter than those within the organization.

Focused on a bold vision to deliver smarter technology for all, Lenovo is developing world-changing technologies that create a more inclusive, trustworthy, and sustainable digital society. **By partnering with AMD, Lenovo is designing, engineering, and building a complete portfolio of smart infrastructure.**

Together, **Lenovo and AMD help customers adopt smart infrastructure solutions for a broader range of business activities and accelerate their digital transformation**. By adopting these modern solutions, organizations of all sizes typically have better business outcomes as they confidently navigate the edge to cloud using resilient, reliable, optimized infrastructure solutions.

Engage with an expert

References

Business value

[1] https://www.amd.com/en/processors/epyc-server-cpu-family

[2] 4 Ways to Help Maximize Your HCI Investment. LINK to the infographic 2020.

[3] As of November 1, 2021. Lenovo ThinkSystem Servers Continue to Lead the Industry in Performance and Customer Value. LINK

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- ITIC's 2021 Global Server Hardware, Server OS Reliability independent Web-based survey LINK | Alternative source posted on AMD.com LINK

Optimized solutions

- Lenovo internal summary document. ThinkSystem Performance and Benchmarks. The summary document references all benchmark attributions. Nathan Pham, Principal Engineer. As of Jun 1, 2022.
- AMD EPYC™ Energy Efficiency. LINK to the website on AMD.com. July 2022.
- Lenovo Delivers Edge-to-Cloud Solutions with AMD EPYC™ 7003 Processors, Setting a New Standard for Modern IT Architectures. LINK to the press release, posted on Lenovo StoryHub. March 16, 2021.

Proven innovation

[1] https://www.amd.com/en/processors/epyc-server-cpu-family

[2 3] AMD EPYC™ Processor World Records. LINK to landing page on AMD.com as of June 23, 2022.

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