

Enhancing energy efficiency in the era of AI

Lenovo | AMD



How to scale and evolve your AI operations while optimizing energy efficiency, performance, and cost

AI workloads require more power

40%

Power and cooling account for up to 40% of total data center operating costs.¹

10-30 kW

Average server rack power densities continue to rise as more facilities adopt racks in the 10-30 kW range.¹

Does that mean you should abandon your AI initiatives now – along with the cutting-edge innovation, customer satisfaction and competitive advantage?

No. There is another way.

Optimize for efficiency

Advance your cost and sustainability goals with ultra-efficient infrastructure from Lenovo and AMD.



Energy-efficient servers



Modern cooling systems



Predictive management tools



Fewer servers for the same workload



Enjoy phenomenal performance per watt...

Lenovo servers, powered by AMD EPYC™ processors, are among the world's most energy-efficient servers.²

94%

Lenovo V3 servers with AMD processors offer 80 PLUS Platinum or Titanium certified power supplies – up to 94% efficient.³

Double your speeds...

200%

Up to 200% increased compute performance improvement vs. previous generation with Lenovo V3 servers with AMD processors.⁴

And lower your data center footprint...

3:1

Up to 3:1 server consolidation vs. older servers with Lenovo V3 servers running on AMD EPYC processors.⁵

Take the heat off your costs

Combined Air and Lenovo Neptune® Liquid Cooling

Reduce power consumption while enabling GPU-optimized AI solutions with Lenovo's innovative liquid-to-air and direct water-cooling options for AI installations.

Up to **100%**

heat captured⁶

40%

reduced power consumption⁷

3.5x

thermal efficiencies vs. air-cooling⁸

Available on

ThinkSystem SR675 V3, ThinkSystem SD665 V3, ThinkSystem SD665-N V3, ThinkSystem SR645 V3, ThinkSystem SR665 V3, ThinkSystem SR685a V3

Lenovo servers with AMD EPYC processors helped a leading managed service provider in France maintain high performance while reducing energy consumption at its new data centers.

30%

lower power consumption

30%

reduced in heat emissions

40%

increase in application performance

[Read case study >](#)

Improve the efficiency with automation and support

Automate AI management

Free up time and resources with self-healing, self-optimizing infrastructure.

XClarity™ One powered by AIOps

- AI-powered hybrid cloud-based unified Management-as-a-Service
- Provides autonomous hardware operations & workload optimization

Optimize datacenter performance

Ensure you're getting maximum power and efficiency from your infrastructure with help from advanced technicians with Lenovo Premier Support for Datacenters.



Single point of contact



Rapid diagnosis



End-to-end problem resolution



Third-party collaborative software support & assistance

Meet changing business needs with Lenovo TruScale for HPC

Access on-prem and hybrid cloud HPC options on-demand. Manage costs and emissions by only using what you need, when you need it – with help from HPC schedulers.

Discover how Lenovo and AMD can help optimize your AI operations efficiently and effectively.

[Learn More](#)

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¹Uptime Institute. (2025). Global Data Center Survey 2025. <https://uptimeinstitute.com/resources/research-and-reports>
²Lenovo ThinkSystem servers with AMD processors have eight of the top ten SPECpower_ssj2008 results | [Rank - overall ssj_ops/watt] #3 - 42,312; #4 - 42,182; #5 - 41,526; #6 - 41,427; #7 - 40,785; #8 - 40,528; #9 - 40,278; #10 - 40,013 results as of 11/14/2025. See <http://www.spec.org> for additional information. SPEC® and SPECpower_ssj are registered trademarks of the Standard Performance Evaluation Corporation.
³CLEAResult. "What do the different PSU (power supply units) ratings mean? 2026 <https://www.clearesult.com/80plus/80plus-psu-ratings-explained>
⁴Lenovo SR665 V3 with 2xAMD EPYC 9845 160-core processors achieved a SPECrate2017_fp_base score of 2140 compared to 636 for the Lenovo SR665 with 2x AMD EPYC 7763 64-core processors. See <https://www.spec.org/cpu2017/results/res2025q2/cpu2017-20250529-48378.html> and <https://www.spec.org/cpu2017/results/res2021q1/cpu2017-20210302-25198.html> for complete details. Results are current as of 11/14/2025. See <http://www.spec.org> for additional information. SPEC®, SPEC ACCEL®, SPEC CPU®, SPEC MPI®, SPEC OMP®, SPEC VIRT_SC®, SPEC VIRT_SPCIP®, SPECJOB®, and SPECpower_ssj are trademarks of the Standard Performance Evaluation Corporation (SPEC).
⁵VMmark 3.11 results, as of 11/14/25. Two Lenovo ThinkSystem SR665 V3 servers, each with two AMD EPYC 9654 processors, scored 40.66 @ 42 tiles. See <https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/vmmark/2023-06-13-Lenovo-ThinkSystem-SR665V3.pdf> for further details. Two previous generation Lenovo ThinkSystem SR665 servers, each with two AMD EPYC 7763 processors, scored 21.58 @ 24 tiles. See <https://www.vmware.com/products/vmware/dam/digitalmarketing/vmware/en/pdf/vmmark/2021-05-04-Lenovo-ThinkSystem-SR665.pdf> for further details. To find out more about VMmark, visit <https://www.vmware.com/products/vmmark.html>. VMware® and VMmark® are trademarks or registered trademarks of VMware, Inc. VMware VMmark is a product of VMware, Inc.
⁶Lenovo Neptune's 5th generation cooling captures up to 100% of the system heat (depending on specific environment) using up to 45°C water temperature." <https://lenovopress.lenovo.com/lp1612-lenovo-thinksystem-sd665-v3-server>
⁷Select Lenovo V3 servers powered by AMD processors use Lenovo Neptune Direct Water Cooling, which lets you increase your power efficiency by up to 40%. <https://lenovopress.lenovo.com/lp1612-lenovo-thinksystem-sd665-v3-server>
⁸Lenovo. (2025). Lenovo Wins SEAL Sustainability Award for Environmental Achievement and Leadership. <https://news.lenovo.com/pressroom/press-releases/wins-seal-sustainability-environmental-achievement-and-leadership/>