DATABASE AND ANALYTICS WORKLOADS ON LENOVO® THINKSYSTEM® SERVERS WITH AMD EPYC™ PROCESSORS

Matching processors to your specific workloads can help optimize performance, cost, and efficiency. Lenovo offers flexible and powerful servers to meet your data management needs.

Working together, AMD and Lenovo have designed world-class servers to deliver outstanding database and analytics performance, energy efficiency and value. Data management is a fundamental need, and businesses constantly look to optimize and extract value from their data assets. High-performance solutions that are also-energy-efficient help reduce TCO which is a key to their success. Lenovo servers with AMD EPYC™ processors provide flexible options optimized for every business need, in conjunction with the data management ecosystem's leading software products. Transforming data into value more quickly has earned AMD EPYC processors nine world records on structured database benchmarks and ten on business intelligence and analytics workloads.[1] AMD EPYC processors power energy-efficient servers, helping to reduce energy costs, holding 45 world records in virtualization and integer energy efficiency.[1] Efficiency leads to value, and choosing 5th Gen AMD EPYC processors over 5th Gen Intel Xeon processors can lead to fewer servers to achieve the same results, with less power consumption and lower TCO. See page 2 for details.[9xx5TCO-001B]

EPYC Performance Accelerates Data Analytics and AI Inference

Microsoft SQL Server®

~44%

More Queries/Hr

QPHH@3000GB benchmark based on TPC-H
2x 32c EPYC 9374F vs 2P 32c Intel® Xeon® 8562Y+

Cloudera®

~40%

More Queries/Hr

QPHH@3000GB with 6-node clusters
benchmark based on TPC-DS
Comparing 1x EPYC 9654 vs 2x Xeon 8480+

MySQL®

~2.7x

Queries/Hr

TPROC-H on DSS benchmark
2P EPYC 9654 vs. 2P Xeon Platinum 8380 [SP5-070]

EPYC Processors Accelerate Transactions and Queries to Gain Actionable Insights

Microsoft SQL Server

~31%

More Transactions/Sec Per Core

TPC-E comparing 1P 96C EPYC 9654
to 2P 60C Xeon 8490H [SP5-148]

MySQL

~3.9x

Transactions/Sec

TPROC-C comparing 2x 192C EPYC
9965 vs 2x 64C Xeon 8592+ [9xx5-005A]

PostgreSQL®

~58%

Higher Transactions/Sec

OLTP using a 1P EPYC configuration
1x EPYC 9374 vs 2x Xeon 8462Y+

CHOOSE YOUR ADVANTAGE WITH LENOVO THINKSYSTEM SERVERS

From growing small businesses to enterprise workloads, Lenovo rack servers offer the exceptional value, flexibility and leadership efficiency to meet mission-critical demands with legendary quality and reliability. Modern IT applications like AI, software-defined and virtualization applications require servers with flexibility and performance to manage the constantly growing amount of data. Featuring the 5th Gen AMD EPYC™ processor, considerable PCIe lanes for I/O speed, and multiple drive options, the SR665 V3 has the performance to tackle the complex workloads of today and tomorrow.




Model	Lenovo ThinkSystem 635 V3	Lenovo ThinkSystem 645 V3	Lenovo ThinkSystem 655 V3	Lenovo ThinkSystem 665 V3
Configuration	1U, 1-socket	1U, 2-socket	2U, 1-socket	2U, 2-socket
AMD EPYC processors	EPYC 9004/9005 Series	EPYC 9004/9005 Series	EPYC 9004/9005 Series	EPYC 9004/9005 Series
Memory capacity	12 DDR5-6400 up to 1.5 TB	24 DDR5-6400 up to 6 TB	12 DDR5-6400 up to 1.5 TB	24 DDR5-6400 up to 6 TB
Front disk bay options (maximum)	12x 2.5" or 16x E3.S	24x 2.5", 12x2.5, or 16x E3.S	20x 23.5" or 40x 2.5"	20x 3.5" or 40x 2.5"

WORLD-RECORD OLTP

LENOVO TAKES TOP TPC-E™ RESULT SCORE WITH MICROSOFT SQL SERVER®

- ***Deploy super-fast EPYC CPU-powered servers to propel an exceptional low-latency transaction experience***
- ***Handle intermittent traffic peaks with ease***
- ***AMD EPYC 9554-powered servers with two 64-core processors manage more transactions in less time, capturing the top result for the TPC-E benchmark as of 4/30/24.***

EPYC CPUS DELIVER ~2.6x DATA ANALYTICS PERFORMANCE

OUTPERFORMING INTEL XEON ON TPROC-H WITH MYSQL

- ***Turn unstructured data into knowledge and gain faster insights***
- ***AMD EPYC 9965-powered servers with two 192-core processors handle massive amounts of data in less time, exceeding servers with two 64-core Xeon 8592+ CPUs.*** [9xx5-054]

EPYC CPUS DELIVER

~44% LOWER 3-YEAR TCO

~63% FEWER SERVERS

~45% LESS POWER

- ***Comparing the number of servers needed to produce an aggregate SPECrate®2017_int_base score of ~39,100, using 2-socket servers with 192-core EPYC 9965 processors compared to 64-core Xeon 8592+ CPUs.*** [9xx5TCO-001B]

READY TO SWITCH?

- Learn more about Lenovo servers with AMD EPYC processors
- Learn more at AMD EPYC processors at amd.com/epyc

FOOTNOTES

For details on the footnotes used in this document, visit amd.com/en/claims/epyc.
[1]EPYC-022F: For a complete list of world records see: http://amd.com/worldrecords.

LE-92601-00 01/25