DATABASE AND ANALYTICS WORKLOADS ON DELL POWEREDGE™ SERVERS WITH AMD EPYC™ PROCESSORS

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

Working together, AMD and Dell® have designed servers to deliver outstanding database performance, energy efficiency, and value. Data management is a fundamental need, and businesses constantly look to optimize and extract value from their data. High-performance solutions that are also energy efficient help reduce TCO which is a key to success. Dell 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 DELL POWEREDGE SERVERS

Whatever your database needs, AMD and Dell provide options that are optimized for performance, energy consumption,and cost. The Dell PowerEdge server portfolio with AMD EPYC processors provides a wide range of solutions that are cost effective to optimize performance, scale dynamically, and help reduce carbon footprint. You can accelerate AI innovations through configurations purpose-built for Dell's AI-ready infrastructure portfolio, helping drive faster business transformations, deliver greater insights with generative AI, and accelerate every AI/ML/DL operation at speed of business.

Model	Dell PowerEdge R6615/R6715	Dell PowerEdge R7615/R7715	Dell PowerEdge R6625/R6725	Dell PowerEdge R7625/R7725
Configuration	1U, 1-socket	2U, 1-socket	1U, 2-socket	2U, 2-socket
AMD EPYC processors	EPYC 9004 Series (R6615) EPYC 9005 Series (R6715)	EPYC 9004 Series (R7615) EPYC 9005 Series (R7715)	EPYC 9004 Series (R6625) EPYC 9005 Series (R6725))	EPYC 9004 Series (R7625) EPYC 9005 Series (R7725)
Memory capacity	12 DDR5-4800 up to 3 TB (R6615) 12 DDR5-5200 up to 3 TB (R6715)	12 DDR5-4800 up to 3 TB (R7615) 12 DDR5-5200 up to 3 TB (R7715)	24 DDR5-4800 up to 6 TB (R6625)) 24 DDR5-6000 up to 6 TB (R6725)	24 DDR5-4800 up to 6 TB (R7625) 24 DDR5-6000 up to 6 TB (R7725)
Front disk bay options (maximum)	10x 2.5", 4x 3.5", or 16x E3.S (R6615) 10x 2.5", 4x 3.5", or 20x E3.S (R6715)	24x 2.5", 12x 3.5", or 32x E3.S (R7615) 24x 2.5", 12x 3.5", or 40x E3.S (R7715)	10x 2.5", 4x 3.5", or 16x E3.S (R6625) 10x 2.5", 4x 3.5", or 20x E3.S (R6725)	24x 2.5", 12x 3.5", or 32x E3.S (R7625) 24x 2.5", 12x 3.5", or 40x E3.S (R7725)
Rear disk bay options (maximum	2 (R6615) 2 (R6715)	4 (R7615) Not available (R7715)	2 (R6625) 2 (R6725)	4 (R7625) Not available (R7725)

290% MORE OLTP PERFORMANCE

- ***Handle intermittent traffic peaks with ease***
- ***Power highly responsive customer applications***
- ***For non-per-core-licensed software, use high-core-count CPUs to deliver higher performance: a server with two 192-core AMD EPYC 9965 CPUs processes 2.9x the transactions per second compared to two 64-core Intel® Xeon® 8592+ CPUs running the TPROC-C benchmark on MySQL***[9xx5-005A]

WORLD-RECORD ANALYTICS DELL TAKES TOP TPC-H™ RESULT SCORE WITH MICROSOFT SQL SERVER®

- ***Turn unstructured data into knowledge and gain faster insights***
- ***AMD EPYC 9554-powered servers with two 64-core processors handle massive amounts of data in less time, capturing best results for the TPC-H benchmark at the 10,000 GB scale factor***

~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 Dell 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.

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