

5 REASONS WHY AMD EPYC™ CPUs MATTER FOR RELATIONAL DATABASES

AT A GLANCE

Break through data bottlenecks and master database transformation with the power of AMD EPYC™ processors. Get the fast performance, advanced security features, flexibility and operational efficiencies you need to succeed.

AMD maintains strong relationships with leading software and hardware providers to integrate new innovations and deliver optimized solutions that help take servers, storage and database power to the next level.

1

ACHIEVE MORE, FASTER, ACROSS MULTIPLE WORKLOADS

Boost your business with accelerated data, virtualized

Keep your business running fast with world-record performance¹ for greater flexibility in performant database hosting. The AMD EPYC 7713 processor scored a 2 CPU, 1-node world record result on TPC Express Benchmark V TpsV as of 3/11/2021. [MLNWR-024](#) Plus, 3rd Gen AMD EPYC processors deliver 72% higher SQL Server® OLTP performance than the best published competitive score. [MLN-091](#)

2

CREATE FAST AND FLEXIBLE DEPLOYMENTS

Right-size your processing power and hosting model to hit your performance and agility goals

AMD EPYC processors enable consistency of results whether on premises or in the cloud, with database-optimized instances available from all major cloud providers. In your data center, 3rd Gen AMD EPYC processors power no-compromise, single-socket servers that can perform at competitive dual-socket levels [MLN-104A](#) and AMD powered dual-socket servers that can perform at competitive four-socket levels. [MLN-103A](#)

3

ADDRESS FUNDAMENTAL DATA AND PRIVACY RISKS SIMPLY

Help protect stakeholders with advanced security features, on premises or in the cloud

Add protective shielding to databases hosted in virtual and cloud environments without having to add costs or code. AMD Infinity Guard, a hardware-based set of advanced security features available in AMD EPYC processors, isolates each virtual host to help defend it from many outside and internal threats.²

4

MAXIMIZE YOUR INVESTMENT

Help reduce data center cost, power and space

3rd Gen AMD EPYC processors can help reduce total cost of ownership (TCO) for virtualized infrastructure by up to 12% over three years, lower hardware acquisition costs by 31% and lower power costs by 47% to deliver 320VMs. [MLNTCO-002](#) By using fewer servers to host the same number of VMs, you can save on data center space, energy and cooling.

5

ENABLE NEW CAPABILITIES FOR YOUR BUSINESS

Optimize your current and future data center investment

AMD EPYC processors are optimized for the leading relational database management solutions. Our long-term product road-map can help you keep your IT investment on the path of continuous data ingestion, transformation and innovation.

Continue reading for more technical detail

TECHNICAL DEEP DIVE

#1 ACHIEVE MORE, FASTER, ACROSS MULTIPLE WORKLOADS

- A dual-socket, 32-core EPYC 75F3-powered server outperforms the 2x 32-core Intel Xeon Platinum 8358 by 28% on SPECrate®2017_int_base. [MLN-090B](#)
- Maximize your flexibility in virtualizing database host environments without compromise. A four-host, dual-socket EPYC 7713-based server delivers 1.1x the VMmark® vSAN™ performance compared to a four-host, four-socket Intel® Xeon® Platinum 8380H-based server. [MLN-D65A](#)
- 3rd Gen AMD EPYC processors offer improved database performance, with ~19% more HammerDB OLTP per minute generationally. [MLN-006](#)

#2 CREATE FAST AND FLEXIBLE DEPLOYMENTS

- AMD EPYC processors are compatible out of the box with major x86 application vendors whether on premises or hosted by one of the major cloud providers.
- Get started quickly with database-ready cloud instances including AWS C5a/ad, Google Cloud N2D-standard, IBM Cloud Bare Metal with AMD EPYC 7F72, Microsoft Azure EAv4 and Oracle Cloud E4.
- On premises, 3rd Gen AMD EPYC processor single-socket solutions offer up to 64 cores, 8 memory channels and 128 PCIe® 4.0 lanes.

#3 ADDRESS FUNDAMENTAL DATA AND PRIVACY RISKS SIMPLY

- AMD Infinity Guard provides a modern multi-faceted approach to data center security with virtually zero impact on performance.²
- AMD EPYC processors are the only x86 server processors with Secure Encrypted Virtualization (SEV), which encrypts and isolates VMs with unique encryption keys known only to the processor.

#4 MAXIMIZE YOUR INVESTMENT

- In the heart of the enterprise server market, 24C and 32C 3rd Gen AMD EPYC processors deliver up to ~20% TCO advantage compared to same core count 3rd Gen Xeon options. [MLNTCO-004A](#) [MLNTCO-005A](#)
- A dual-socket AMD EPYC 7763-powered server, to deliver 10,000 units of integer performance, takes 33% fewer servers, 50% less space, 42% less power and has a 36% lower 3-year TCO than a dual-socket Intel Xeon Platinum 8380-powered server. [MLNTCO-003A](#)

#5 ENABLE NEW CAPABILITIES FOR YOUR BUSINESS

- 3rd Gen AMD EPYC processors are compatible with IBM DB2®, Maria DB®, Microsoft SQL Server®, MySQL™, Oracle Database 19c and PostgreSQL®.
- Dual-socket servers based on 2nd or 3rd Gen AMD EPYC processors offer up to 256 threads, 160 PCIe® Gen4 lanes, with 3rd Gen EPYC™ featuring synchronized clocks between the fabric and memory, all driving better, faster time to results.
- 3rd Gen AMD EPYC processor single-socket solutions offer up to 64 cores and 4TB memory per CPU, plus up to 32MB L3 cache per core.

LEARN MORE AT [AMD.COM/EPYC](https://amd.com/epyc)

For footnote details see amd.com/en/claims/epyc.

- 1 For a complete list of world records see <http://amd.com/worldrecords>.
- 2 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 amd.com/en/technologies/infinity-guard. GD-183

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