5 REASONS 3RD GENERATION AMD EPYC™ PROCESSORS MATTER IN THE DATA CENTER AND CLOUD

AT A GLANCE

What could you accomplish with 28 hours in a day? New capabilities in AI, HPC and analytics—and even virtualization and cloud—can drive your progress in a rapidly changing world. But how do you simultaneously improve performance, manage costs for the long haul, and minimize the trade-offs of flexibility, efficiency and security while achieving more, faster? Boost performance and agility to empower innovation confidently, and accelerate to better business outcomes, with the latest advancement in compute platforms. Nothing Stacks Up to AMD EPYC™ Processors.

1 ACHIEVE MORE, FASTER

Leverage faster processing and higher throughput across much of your infrastructure and application footprint with the World's Highest Performance Server CPU, AMD EPYC 7763.[MLN-016B] Pursue IT and business goals effectively, quickly and efficiently with ***exceptional workload performance***.

What's New? AMD EPYC 7003 Series processors with AMD 3D V-Cache™ technology triple the amount of L3 cache close to the core compared to standard 3rd Gen processors, enabling breakthrough performance for several technical computing workloads.[1]

2 YOUR DATA, YOUR WAY – ON PREMISES OR IN THE CLOUD

With 3rd Gen AMD EPYC™ Processor–based servers available both in your data center and in the cloud, take advantage of their simple power, scalability, flexibility and enduring efficiency and security features to get more out of ***your data, your way***.

3 ADDRESS FUNDAMENTAL DATA AND PRIVACY RISKS SIMPLY

Help reduce the burden of transforming IT and your business with AMD ***security by design***.

4 MAXIMIZE YOUR IT INVESTMENTS

Better manage the unknowns of cost and risk while simultaneously increasing agility and efficiency. Help squeeze out ***more production and innovation*** per dollar, per person, per day.

5 ENABLE NEW CAPABILITIES FOR YOUR BUSINESS

Configure your platform just how your workloads demand, without burdensome tradeoffs. Apply the advantages of the AMD EPYC™ Family of Processors to more CPU configurations and use cases, thanks to the ***architectural leadership*** of 3rd Gen AMD EPYC Processors.

What's New? Designed to be the World's Highest Performance x86 Server Processors for Technical Computing,[MLNX-032] AMD EPYC™ 7003 processors with AMD 3D V-Cache™ technology triple the amount of available L3 cache to 768MB per socket compared to standard EPYC 7003 CPUs.[MLNX-012]

Continue reading for more technical detail

TECHNICAL DEEP DIVE

#1 ACHIEVE MORE, FASTER

- Industry-leading performance with 250+ world records[2]
- 2P 3rd Gen AMD EPYC 7763 powered servers outperform 2P 3rd Gen Intel® Xeon® Platinum 8380 based servers on matched pair VMmark® 3.1 by 52% and support 71% more VMs MLN-102
- A 2P AMD EPYC 7763 powered server delivers 72% more SQL Server® OLTP transactions than a 2P Intel Xeon Platinum 8280 based one MLN-091
- ***NEW:*** ~66% average maximum speedup on targeted technical workload benchmarks when using AMD EPYC 7003 processors with AMD 3D V-Cache technology compared to similar core-count standard EPYC 7003 Series processors. MLNX-021B

#2 YOUR DATA, YOUR WAY – ON PREMISES OR IN THE CLOUD

- Compatible out of the box with major x86 application vendors whether on premises or hosted by one of the major cloud providers
- ***NEW:*** Existing software that works on AMD EPYC 7003 Series processors also works without modification on AMD EPYC 7003 with AMD 3D V-Cache technology
- Broader range of use cases than ever before, from virtualization, SDI and containerization to AI, ML, HPC and advanced data analytics
- Fast time to value and compelling economics

#3 ADDRESS FUNDAMENTAL DATA AND PRIVACY RISKS SIMPLY

- AMD Infinity Guard – a state-of-the-art security feature-set – can help decrease potential attack surfaces as software boots, executes, and processes your critical data[3]
- The dedicated AMD Secure Processor is integrated on die which enables Hardware Root of Trust and a foundation for platform security, with no x86 software changes required
- All-new Secure Nested Paging (SEV-SNP) feature addition to AMD Secure Encrypted Virtualization, helps prevent malicious hypervisor-based attacks like data replay, memory re-mapping, and more in order to create an isolated execution environment
- Reliable execution of a multi-year AMD EPYC processor security roadmap

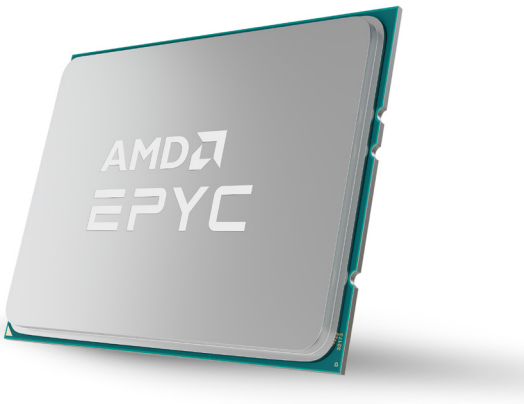
#4 MAXIMIZE YOUR IT INVESTMENT

- To deliver 10,000 units of integer performance, a 2P AMD EPYC 7763–based server stack requires ~33% fewer servers, ~50% less space, and ~42% less power and has an estimated 36% lower 3-year TCO than a 2P Intel Xeon Platinum 8380–based server stack MLNTCO-003A
- To deliver 320 VMs requires an estimated three 2P AMD EPYC 7713–based servers compared to four 2P Intel Xeon Platinum 8380–based servers, with an estimated 28% lower hardware acquisition cost, 23% lower power cost, and 3-year TCO savings of 12% MLNTCO-008
- A powerful, capable platform designed to deliver more value from upgrade, facility and licensing investments. Help realize CAPEX and OPEX savings by specifying AMD on premises and in the cloud

#5 ENABLE NEW CAPABILITIES FOR YOUR BUSINESS

- Full features and functionality for single- and dual-socket server options
- Outstanding per-core integer base performance helps accelerate data access and processing
- From 8 to 64 cores per socket, supporting up to 4TB of memory over 8 double-data-rate channels
- Provide efficient memory balance and help reduce overall memory cost with 4-channel and 6-channel memory interleaving support
- Standard EPYC 7003 processors offer up to 32MB of L3 cache per core, plus synchronized clocks between fabric and memory all driving better, faster time to results
- ***NEW:*** AMD EPYC 7003 Series processors with AMD 3D V-Cache technology enable breakthrough performance by tripling the L3 cache–768MB per socket
- More granular core counts than previous generations of AMD EPYC processors helps you optimize performance and licensing needs

NOTHING STACKS UP TO EPYC™ PROCESSORS



A platform you can rely on—built for solutions, not just specs

Take advantage of innovative, leading-edge AMD processor technology, with expanded applicability thanks to predictable performance scaling and memory flexibility. Upgrade to 3rd Gen AMD EPYC™ Processor–based servers and enable new capabilities in HCI, AI, ML, HPC, advanced data analytics and more.

Easily adopt a newly flexible and efficient foundation

Drive advanced virtualization, hyperconverged infrastructure, containerization and exceptional database performance—whether on premises or in the cloud. Extract optimal value from upgrade, facility and licensing costs, thanks to a platform that's powerful and capable while being compatible out of the box with your existing x86 applications.

Help reduce risk effortlessly—and confidently

3rd Gen AMD EPYC™ Processors have enhanced their state-of-the-art security features, called AMD Infinity Guard, by adding strong memory integrity protection capabilities. With no x86 application software changes required, AMD Infinity Guard helps your organization take control of security and decrease risks to your most important assets.[3]

Designed for performance that redefines your potential

Turn to 3rd Gen AMD EPYC™ Processor–based servers for the simple power, flexibility, enduring efficiency and security features you need when every stakeholder relies on technology to move forward. Transform efficiently, reach goals faster, gain a competitive advantage—and maybe even change the world.

READY TO CONNECT? VISIT EXPLORE.AMD.COM/SERVER-NEWSLETTER/SIGNUP

For details on the footnotes used in this document, visit amd.com/en/claims/epyc.

1 Technical Computing" or "Technical Computing Workloads" as defined by AMD can include: electronic design automation, computational fluid dynamics, finite element analysis, seismic tomography, weather forecasting, quantum mechanics, climate research, molecular modeling, or similar workloads. GD-204

2 As of 3/21/2022. For a complete list of world records see http://amd.com/worldrecords.

3 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. GD-183