AMD
EPYC

AMD EPYC™ 9004 SERIES PROCESSORS:

ADVANCING
DATA CENTER PERFORMANCE AND ENERGY EFFICIENCY

IT'S TIME FOR TRUE DATA CENTER TRANSFORMATION.
Drive exceptional time-to-insight for your business-critical applications with 4th Gen AMD EPYC™ processors. Based on the AMD "Zen4" architecture, this new generation of server processors builds on the record-setting performance of 3rd Gen AMD EPYC processors and is optimized to help you achieve remarkable results right out of the box for a wide range of workloads from the enterprise to the cloud.

DATA AGILITY

Organizations are pivoting to data-centric strategies that take advantage of innovative new tools and capabilities to grow and analyze huge and diverse information sets. **91.7% of organizations are increasing investments in Data and AI.**[1]

DIGITAL TRANSFORMATION-LED GROWTH

The COVID-19 pandemic accelerated digital transformation efforts across all industries – and those investments are paying off. Amid global economic uncertainties, continued investments can protect and bolster that growth. **60% of executives say digital transformation is their most critical growth driver.**[2]

THE EVOLUTION OF THREATS

Changes in how we work, the increasing number of security and privacy threats, plus new categories of risk such as noncompliance, supply-chain disruption, global events and energy vulnerabilities require more from IT Infrastructure. 1% of global electricity demand in 2020 was from data centers; strong growth in demand is being offset by ongoing efficiency improvements,[3] yet **the average annual cost of energy is $1.4 million per data center.**[4]

DEMAND RAPID ADVANCES IN ENTERPRISE COMPUTING POWER AND EFFICIENCY.

THE COSTS OF NOT TRANSFORMING CAN BE GREAT

HOW FLEXIBLE IS YOUR PLATFORM?

You need to deploy a wider variety of compute-intensive applications, but architectures can be rigid. Must you reinvent and reinvest over and over?

ARE YOU EFFICIENT ENOUGH?

What could you gain by achieving more performance in less space, using less power?

ARE YOU READY FOR NEW RISKS?

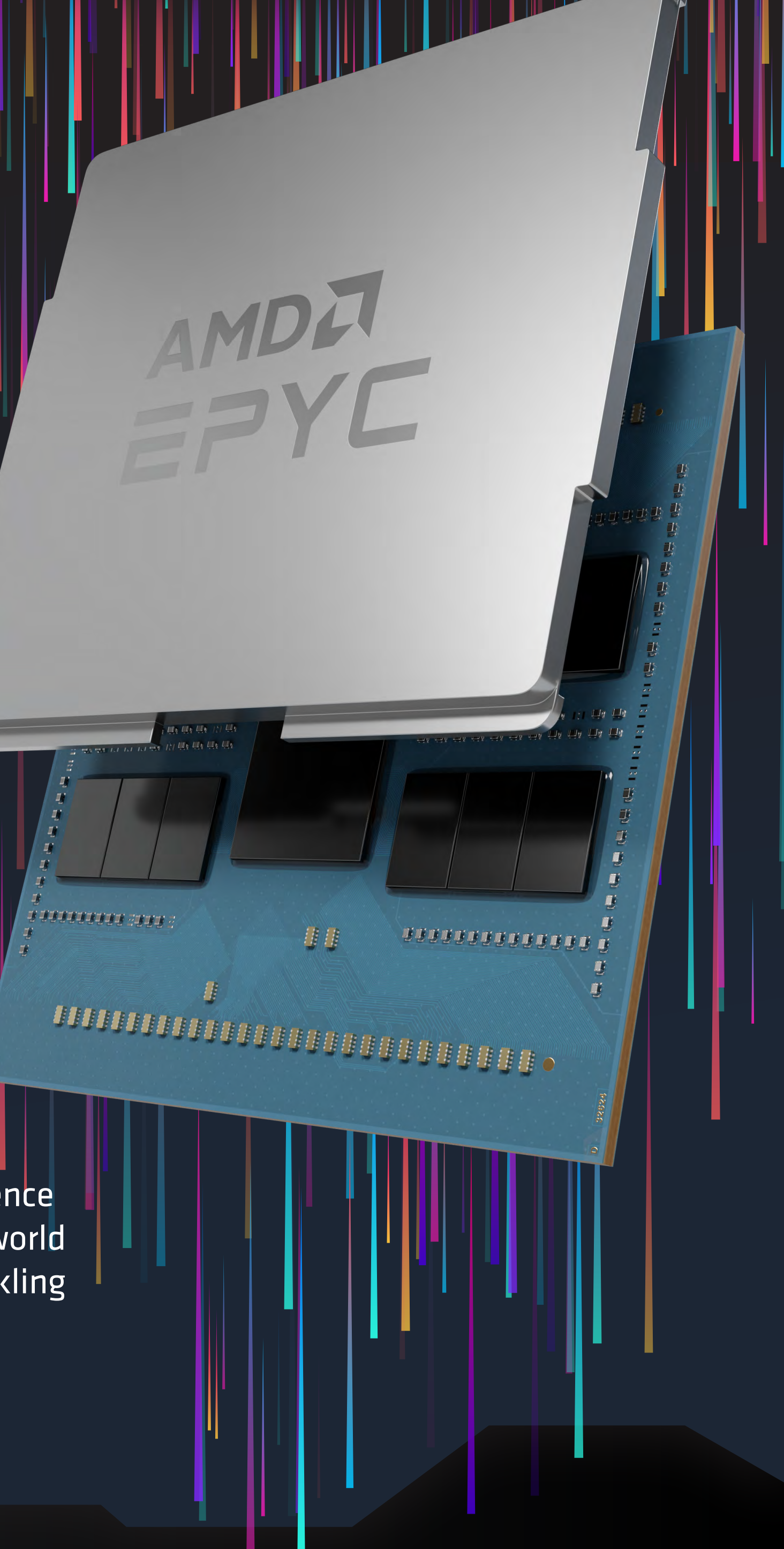
Security and privacy threats persist, but possible energy constraints, sustainability concerns and supply-chain disruptions also loom large.

ARE CREEPING COSTS HITTING YOUR BUDGET?

It can seem as though any single move you make breeds additional requirements, threatening never-ending cost increases.

AMD EPYC 9004 SERIES PROCESSORS:

THE NEXT GENERATION OF SERVER ARCHITECTURE AND ENERGY-EFFICIENCY, TODAY.



With AMD EPYC 9004 Series processors you can experience significant performance improvements, explore a new world of possibilities and become more efficient, all while tackling new and emerging vulnerabilities.

EXPERIENCE CONTINUED PERFORMANCE LEAPS

ZEN 4

Powered by "Zen4" technology, AMD EPYC 9004 Series processors represent ***a quantum leap*** in performance over previous generations. Get leadership socket and per-core performance, plus the highest available memory bandwidth. AMD EPYC 9004 Series processors offer:

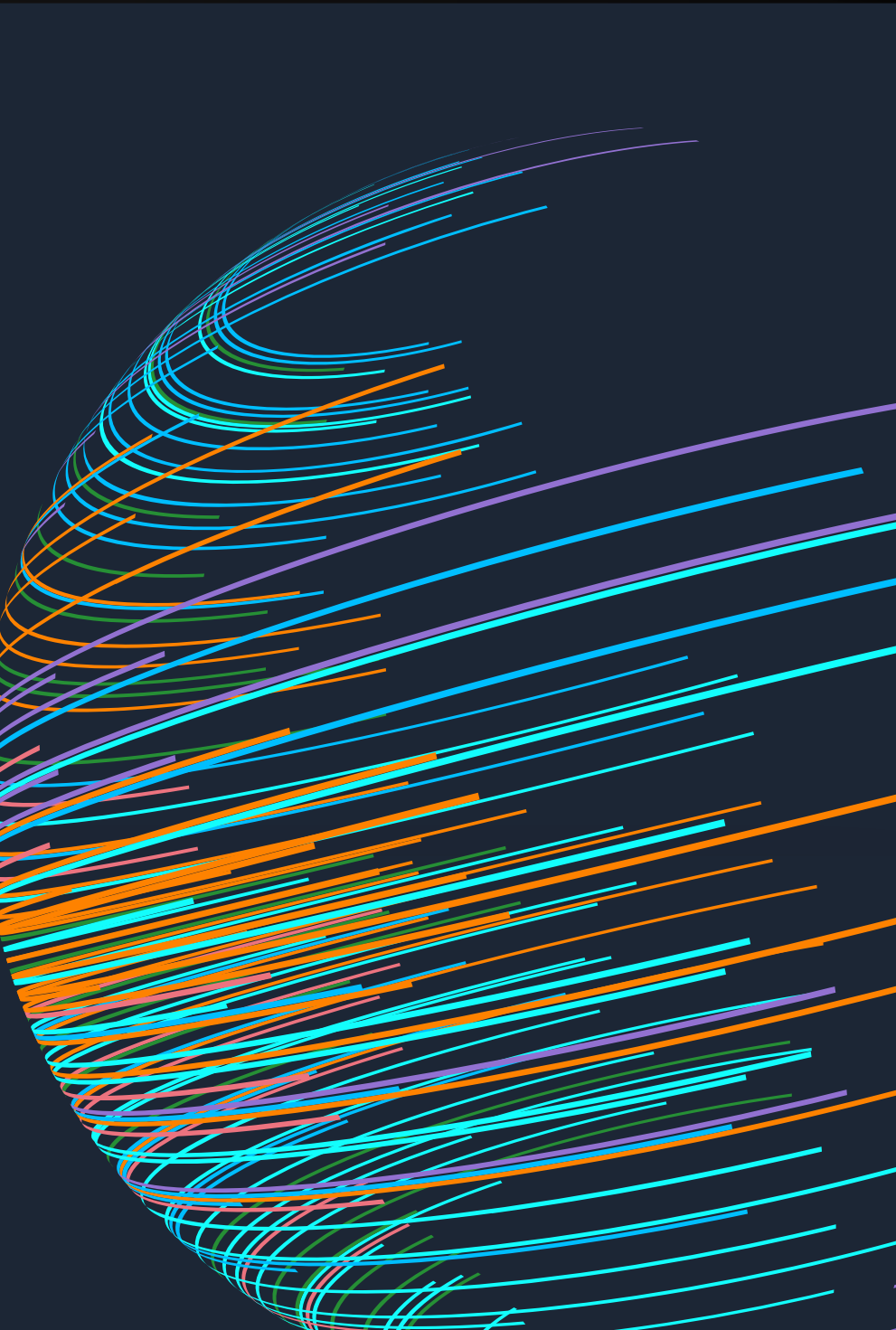
THE WORLD'S HIGHEST PERFORMING
x86 SERVER CPU [SP5-013A]

MOST MEMORY CHANNELS
50% MORE
memory channels than any other x86 processor [EPYC-033]

HIGHEST MEMORY THROUGHPUT
125% MORE
x86 memory throughput than the competition, the highest available today [EPYC-032]

INTEGER PERFORMANCE
110% BETTER
generation over generation at the **top of the stack** and 26% average generational integer performance across 16, 24 and 32-core processors [SP5-001C, SP5-019]

OPEN UP A NEW WORLD



Generate new value from workload performance with an x86-compatible system-on-chip that's designed for solutions, not just specs.

FLUENT® CFD
2.5X PERFORMANCE
for improved computational fluid dynamics when comparing 2-socket servers with 96-core AMD EPYC 9654 CPUs vs. 40-core Intel® Xeon® Platinum 8380 CPUs [SP5-034A]

MULTIJVM MAX
~90% HIGHER
generation over generation **top of stack** performance for improved virtualization, SDS/HCI, Apache Hadoop® and NoSQL instances [SP5-005C]

FLOATING-POINT
2.5X THROUGHPUT
for faster HPC performance in design, simulations, and research, when comparing 2-socket powered servers with 96-core AMD EPYC CPUs vs 40-core Intel® Xeon® Platinum 8380 CPUs [SP5-009C]

MODERNIZE EFFICIENTLY WHILE ADDRESSING DATA CENTER SUSTAINABILITY GOALS

Deploy fewer servers to accomplish the same jobs, often with less power usage and the associated lower CO_2 generation. Get more performance per watt than the previous generation at the same core count.

ENERGY EFFICIENT SERVERS
4th Gen AMD EPYC processors power **THE MOST ENERGY EFFICIENT X86 SERVERS** [SP5-072]

PERFORMANCE PER WATT
24% MORE INTEGER
~52% MORE FLOATING-POINT
Get an estimated 24% more integer performance [SP5-003A] and ~52% more floating-point performance [SP5-004A] per watt than the previous CPU generation at the same core count (2x 64-core AMD EPYC 9534 vs 2x 64-core AMD EPYC 7763)

VMMARK® 3.1
2.1X SCORE
2.2X VM CAPACITY
Comparing 4-node, 2P servers running VMmark® 3.1.1, the 32-core EPYC™ 9374F CPU has 2.1x the score and 2.2x the tile (VM) capacity than the 32-core Intel® Xeon® Gold 6338 CPU [SP5-055A]

VALUE CHAIN IMPACT
AMD takes a collaborative approach with our suppliers to promote continuous improvement and drive positive change across our value chain

TARGET AND MANAGE A NEW SET OF BUSINESS VULNERABILITIES

Leverage a growing ecosystem for confidential computing that encrypts data in cloud and virtualized environments. Invest with confidence, knowing that AMD works with suppliers to advance human rights, environmental sustainability and supply chain resilience.

THE AMD EPYC 9004 SERIES PROCESSORS DELIVER
STATE-OF-THE-ART SECURITY FEATURES
to help keep your critical data protected[5]

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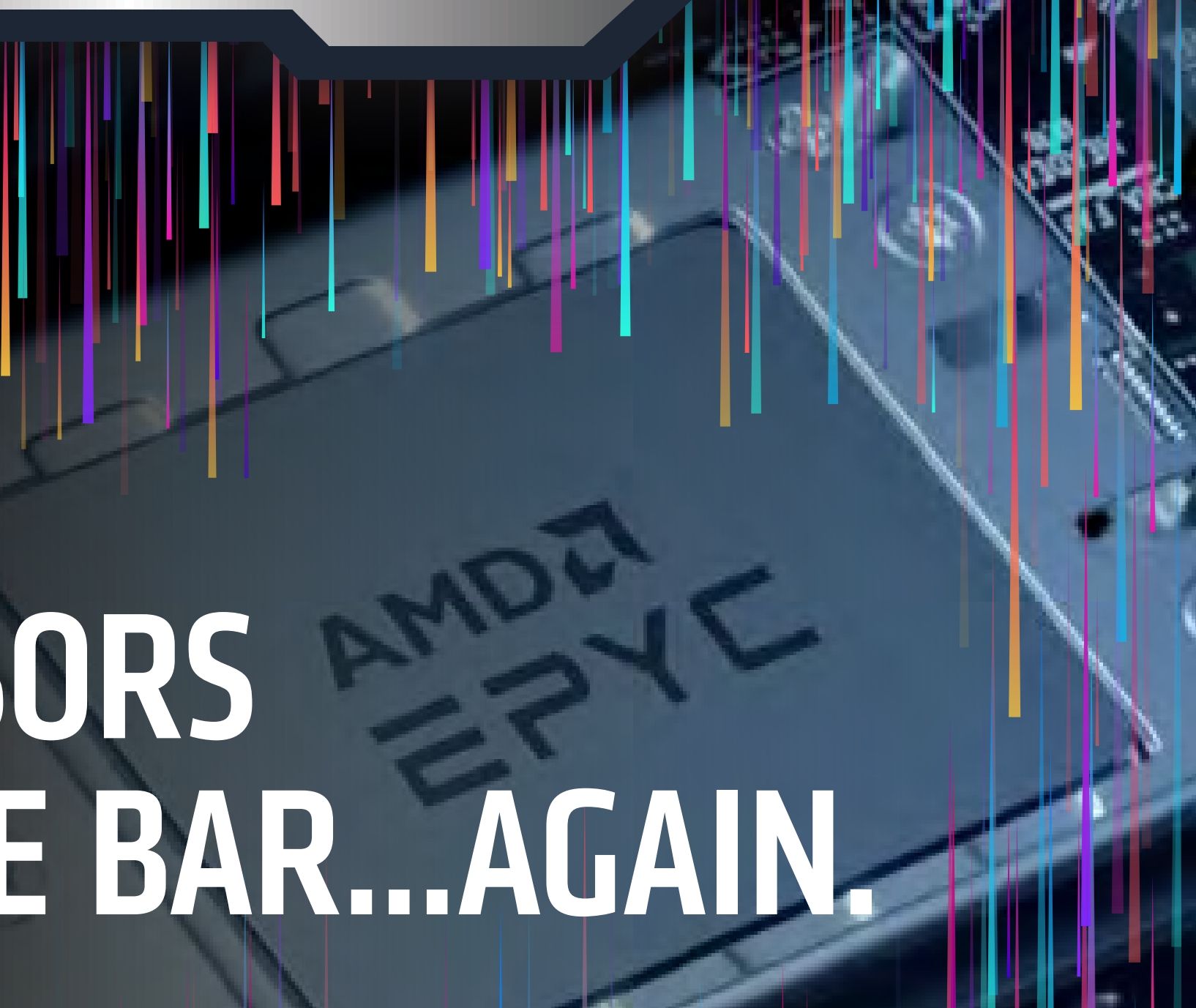

AMD EPYC 9004 SERIES PROCESSORS ARE RAISING THE BAR...AGAIN.

TOGETHER WE ADVANCE

Contact your AMD sales representative

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Visit https://www.amd.com/en/claims/epyc4 for more information on claims.

[1] Data and AI Leadership Executive Survey 2022, New Vantage Partners, January 3, 2022, https://www.newvantage.com/_files/ugd/e5361a_ad5a8b3da8254a71807d2dccdb0844be.pdf p3.

[2] "PwC Pulse Survey: Executive views on business in 2022," PwC, 2022, https://www.pwc.com/us/en/library/pulse-survey/executive-views-2022.html

[3] IEA (2021), Data Centres and Data Transmission Networks, IEA, Paris, https://www.iea.org/reports/data-centres-and-data-transmission-networks

[4] Looking At Cutting the Data Center Energy Bill? 5 Efficient Technologies to Adopt in 2022, Spiceworks, December 15, 2021, https://www.spiceworks.com/tech/it-infrastructure/articles/cutting-the-data-center-energy-bill/

[5] GD-183: 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

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a DCC business

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