



AMD

together we advance_data centers

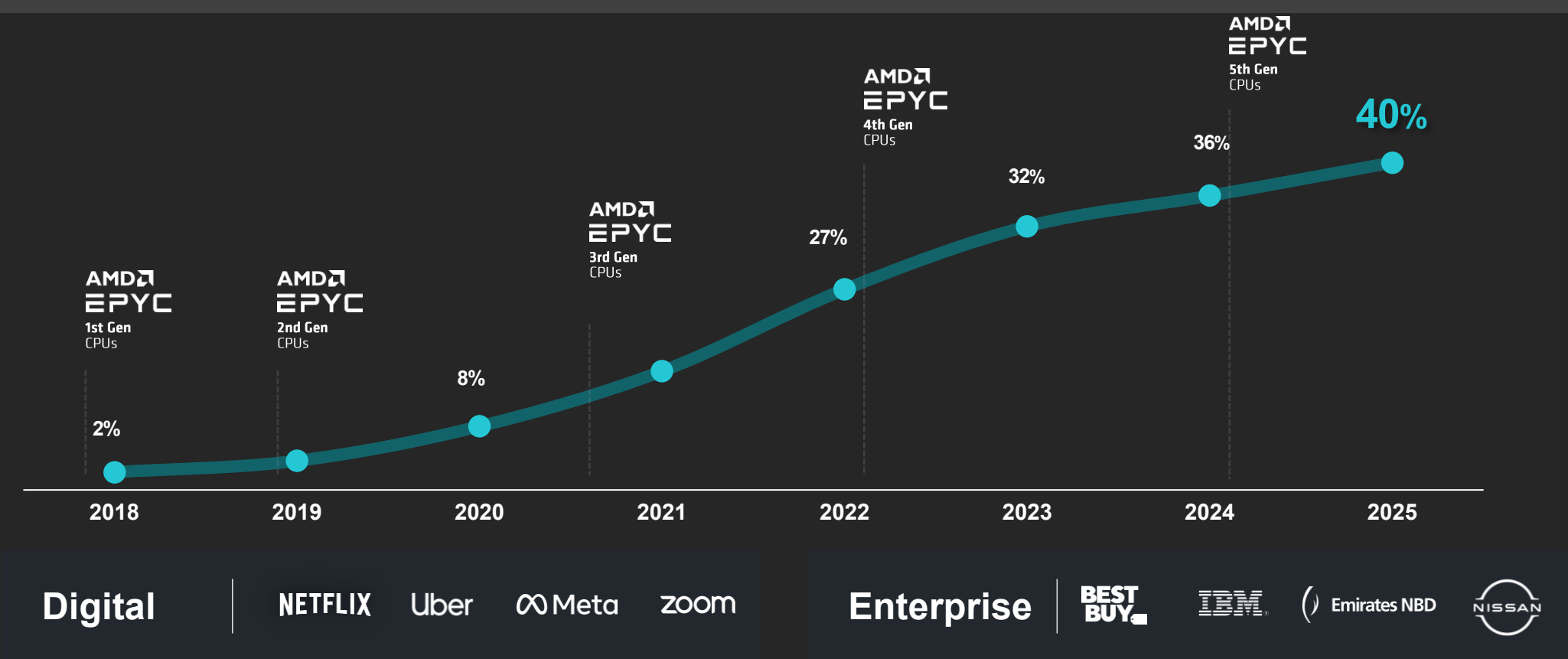
Driving Significant Growth

Setting the Foundation 2015		“Zen” Launch 2017		High-Performance Leadership 2021		High-Performance and Adaptive Leader 2023	
intel	Intel: \$150B	intel	Intel: \$171B		Nvidia: \$444B		Nvidia: \$1,103B
Q	Qualcomm: \$105B		Broadcom: \$102B	intel	Intel: \$231B		Broadcom: \$369B
	Broadcom: \$37B		Nvidia: \$89B		Broadcom: \$191B	AMD	\$184B (#3)
	Mediatek: \$21B	Q	Qualcomm: \$85B	Q	Qualcomm: \$152B	intel	Intel: \$149B
	Nvidia: \$11B		Mediatek - \$13B	AMD	\$97B (#7)	Q	Qualcomm: \$128B
	Marvell: \$7B	AMD	\$11B (#15)		Mediatek: \$56B		Marvell: \$52B
AMD	\$2B (#18)		Marvell: \$9B		Marvell: \$44B		Mediatek: \$34B

AMD is Now World's Third Most Valuable Semiconductor Company

Growing Market Momentum

AMD EPYC™ CPUs Trusted to Power ~40% of the World's Servers
>18x Server CPU Market Share Growth



Perfectly Positioned to Win More Together

Source: Mercury Research Sell-in Revenue Shipment Estimates, 2025 Q1

ADDRESSING THE INDUSTRY'S BIGGEST CHALLENGES

MODERNIZING THE DATACENTER WITH AI



- Finding the Budget to Invest
- Physical Space in Datacenter
- Not Enough Power Available
- AI Increasing Power Challenge

DISRUPTION TO VMWARE LICENSING COSTS



- Broadcom Acquisition of VMWare
- New Licensing Model Announced
- Shift to Core-Based Licensing
- Significant Increase in Expected Licensing Costs to Enterprise
- ~2-10X increase in Licensing costs

CORPORATE SUSTAINABILITY



- Half of World's Largest Companies Committing to Net Zero
- Rising Electricity Costs -> California electricity up 45.9% since 2020

AMD VALUE PROPOSITION



PERFORMANCE

The Highest Processor Performance
and Scalability



SECURITY

Advanced Security Features
Help Mitigate Risk



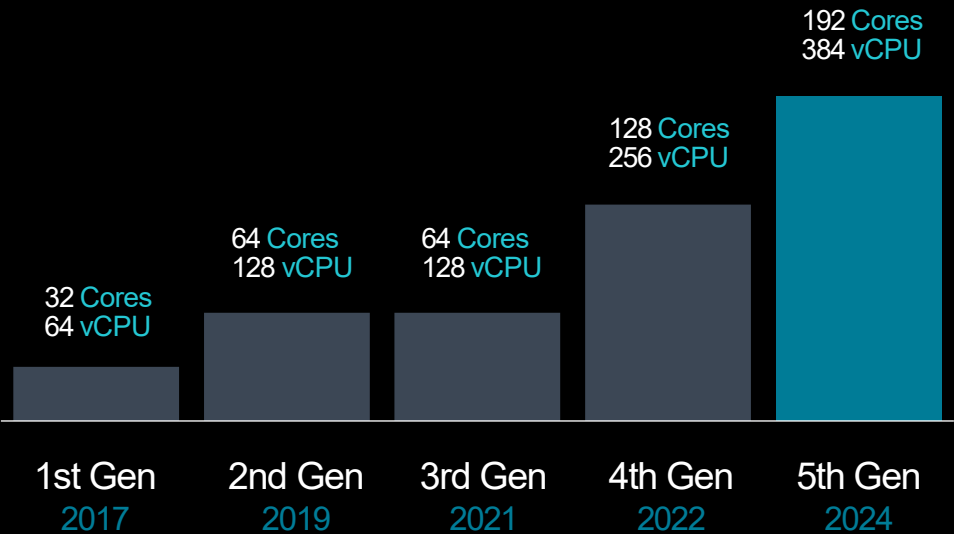
COST OF OWNERSHIP

Capture the Full Benefits
of Your IT Investments

WITH UNMATCHED SYSTEM ARCHITECTURE TO POWER
THE EXASCALE ERA FROM SUPERCOMPUTERS TO CLOUD

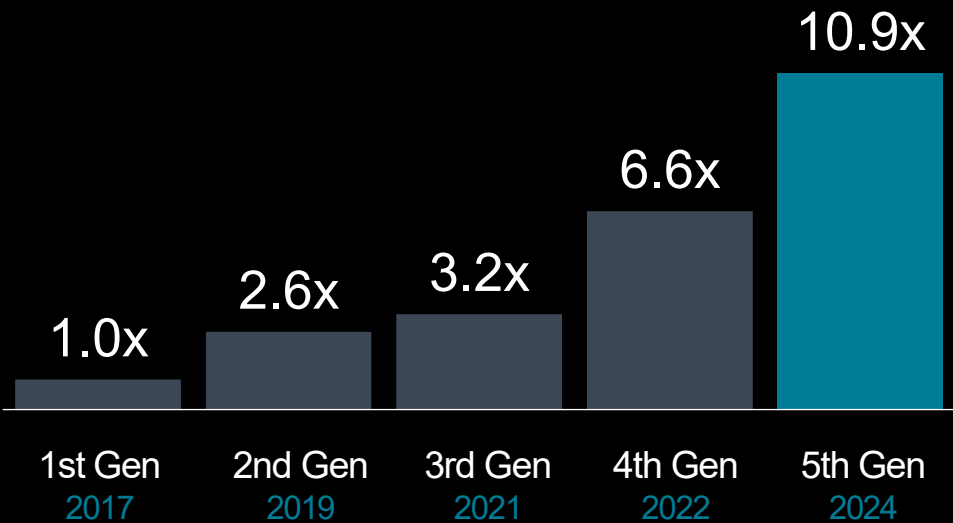
Fifth Generation of CPU Leadership

6x Core Count
Across 5 Generations



10.9x Performance
Across 5 Generations

Relative SPECrate2017_int_base best score by end of launch year



As of 10/10/2024. See endnote 9xx5-069A



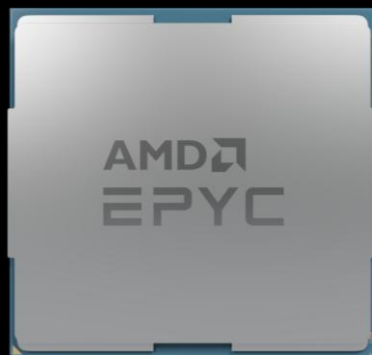
THE BEST GETS ^{EVEN} BETTER

300+ WORLD RECORDS AND *STILL* COUNTING



BUSINESS APPS

- 8 ERM/SCM Business
- 48 Enterprise server-side Java®
- 18 **Enterprise Energy Efficiency**
- 4 FinTech



DATA MANAGEMENT & ANALYTICS

- 16 Business Intelligence
- 6 Structured Database Management
- 2 Unstructured Analytics Database
- 9 AI Platform/Text & Media Analytics



INFRASTRUCTURE/HCI/SDI

- 23 Cloud and Virtualization
- 15 Integer Performance/General Purpose
- 8 **Integer/General-Purpose Energy Efficiency**
- 3 **VM Energy Efficiency**



ENGINEERING/TECHNICAL

- 73 Massively Parallel applications
- 37 Modeling & Simulation
- 16 Floating Point Compute Intensive apps
- 12 **HPC Energy Efficiency**



CONTENT APPS

- 5 Rendering



DIGITAL SERVICES

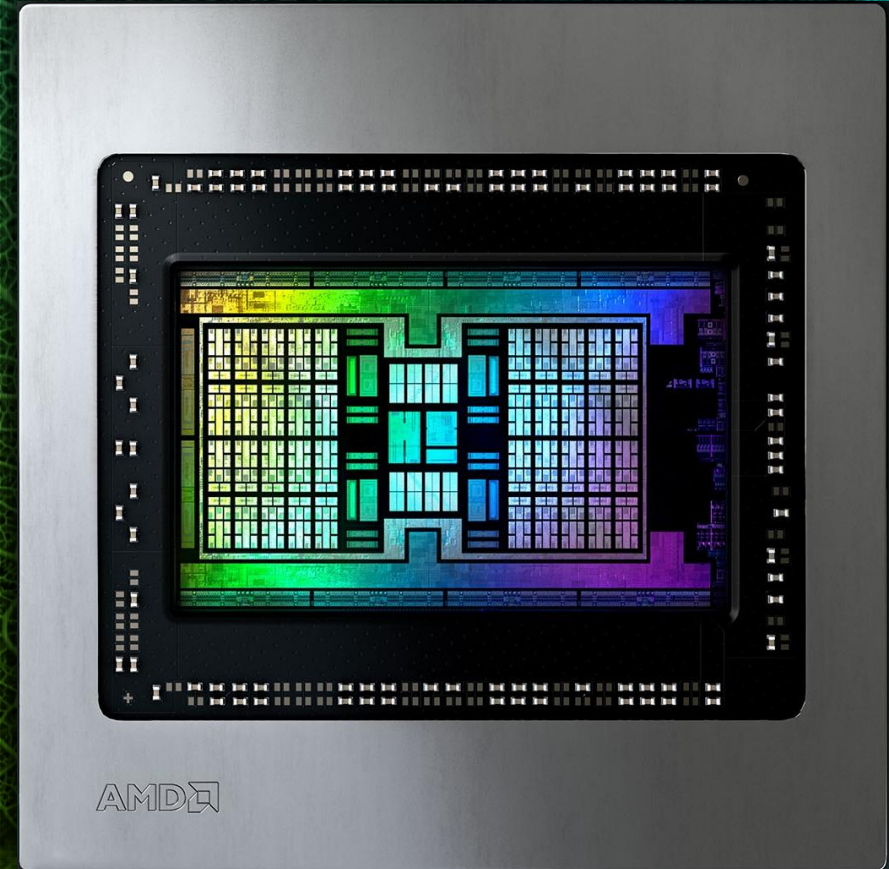
- 1 Social Networking BI

Why it matters

Of recent survey respondents*

- *70% of technology sourcing, procurement and vendor management leaders will have environmental-sustainability-aligned performance objectives for their functions, by 2026.*
- *75% of organizations will increase business with IT vendors that have demonstrable sustainability goals and timelines and will seek to replace vendors that do not, by 2026.*

AMD embraces the responsibility to protect our planet and the opportunity to help others reduce IT-related energy use and greenhouse gas (GHG) emissions.

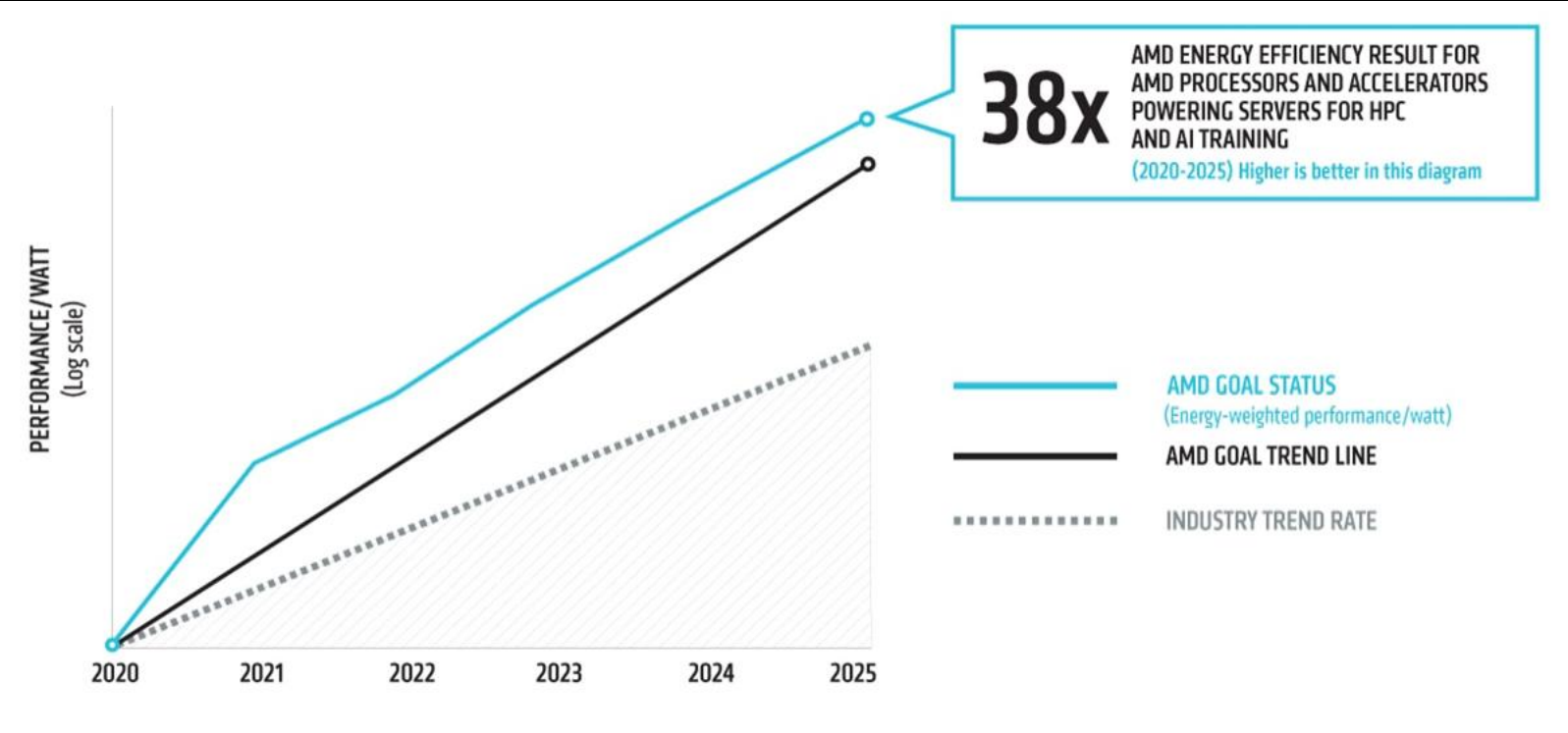


* Gartner®: Predicts 2023: Environmental Sustainability is Now an IT Sourcing Imperative – January 2023
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Advancing data center sustainability

The AMD “30x25” goal is to deliver 30x more energy efficiency for our accelerated compute nodes powering servers for AI-training and HPC (2020-2025).² The goal represents:

- 2.5x acceleration of the industry trends from 2015-2020 (measured by worldwide energy consumption for these computing segments)
- 97% reduction in energy use per computation from 2020-2025



Learn more at <https://www.amd.com/en/corporate-responsibility/data-center-sustainability>

In the past 5 years, we've **increased our own data center performance over 8x while using only 3x the number of compute CPU cores.**

And we achieved that while maintaining the same datacenter footprint over the last two years despite the huge increase in compute capability.

Pushing the envelope in performance and energy efficiency is a foundational part of our product development strategy.

8x

increase in **AMD's datacenter performance** since 2018

3x

increase in **AMD's datacenter number of cores** since 2018

The Exascale Era



World's 1st Exascale
Supercomputer also World's
Most Energy Efficient.

Faster than the next best 7
supercomputers combined

9,408 CPUs + 37,632 GPUs
connected by 90 miles of
network cables

AMD EPYC™ CPUs

Workload optimized platforms



NO COMPROMISE

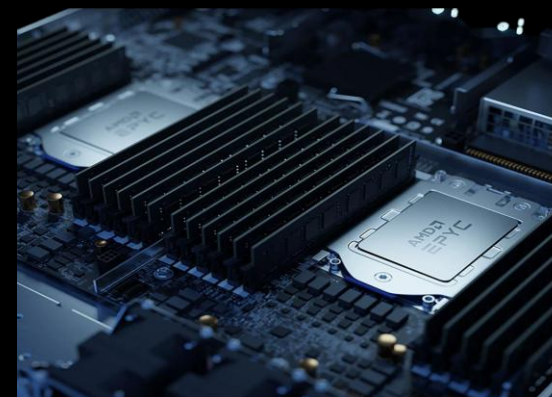
ONE SOCKET

Right-Size Systems to Workloads
without Compromise

Outstanding
Performance

Highly
Scalable

Cost
Optimized



LEADERSHIP

TWO SOCKET

High-Performance,
Balanced Architecture

Exceptional
Performance

Maximum
Scalability

Cost Effective

AMD EPYC™ 9004 Series Processor

- All-in Feature Set support
 - 12 Channels of DDR5-4800
 - Up to 6TB DDR5 memory capacity
 - 128 lanes PCIe® 5
 - 64 lanes CXL 1.1+
 - AVX-512 ISA, SMT & core frequency boost
 - AMD Infinity Fabric™
 - AMD Infinity Guard

Cores	AMD EPYC	Base/Boost* (up to GHz)	Default TDP (w)	cTDP (w)
96 cores	9654/P	2.40/3.70	360w	320-400w
84 cores	9634	2.25/3.70	290w	240-300w
64 cores	9554/P	3.10/3.75	360w	320-400w
64 cores	9534	2.45/3.70	280w	240-300w
48 cores	→ 9474F	3.60/4.10	360w	320-400w
	9454/P	2.75/3.80	290w	240-300w
32 cores	→ 9374F	3.85/4.30	320w	320-400w
32 cores	9354/P	3.25/3.80	280w	240-300w
32 cores	9334	2.70/3.90	210w	200-240w
24 cores	→ 9274F	4.05/4.30	320w	320-400w
	9254	2.90/4.15	200w	200-240w
	9224	2.50/3.70	200w	200-240w
16 cores	→ 9174F	4.10/4.40	320w	320-400w
	9124	3.00/3.70	200w	200-240w

AMD EPYC™ 9005 Series Processors



Increased core density



Energy efficient



Broad OPN stack

Cores	AMD EPYC	CCD (Zen5/Zen5c)	Base/Boost* (up to GHz)	Default TDP (W)	L3 Cache (MB)	Price (1 KU, USD)
192 cores	9965	"Zen5c"	2.25 / 3.7	500W	384	\$14,813
160 cores	9845	"Zen5c"	2.1 / 3.7	390W	320	\$13,564
144 cores	9825	"Zen5c"	2.2 / 3.7	390W	384	\$13,006
128 cores	9755	"Zen5"	2.7 / 4.1	500W	512	\$12,984
	9745	"Zen5c"	2.4 / 3.7	400W	256	\$12,141
96 cores	9655	"Zen5"	2.6 / 4.5	400W	384	\$11,852
	9655P	"Zen5"	2.6 / 4.5	400W	384	\$10,811
	9645	"Zen5c"	2.3 / 3.7	320W	256	\$11,048
72 cores	9565	"Zen5"	3.15 / 4.3	400W	384	\$10,486
64 cores	9575F	"Zen5"	3.3 / 5.0	400W	256	\$11,791
	9555	"Zen5"	3.2 / 4.4	360W	256	\$9,826
	9555P	"Zen5"	3.2 / 4.4	360W	256	\$7,983
	9535	"Zen5"	2.4 / 4.3	300W	256	\$8,992
48 cores	9475F	"Zen5"	3.65 / 4.8	400W	256	\$7,592
	9455	"Zen5"	3.15 / 4.4	300W	256	\$5,412
	9455P	"Zen5"	3.15 / 4.4	300W	256	\$4,819
36 cores	9365	"Zen5"	3.4 / 4.3	300W	192	\$4,341
32 cores	9375F	"Zen5"	3.8 / 4.8	320W	256	\$5,306
	9355	"Zen5"	3.55 / 4.4	280W	256	\$3,694
	9355P	"Zen5"	3.55 / 4.4	280W	256	\$2,998
	9335	"Zen5"	3.0 / 4.4	210W	128	\$3,178
24 cores	9275F	"Zen5"	4.1 / 4.8	320W	256	\$3,439
	9255	"Zen5"	3.25 / 4.3	200W	128	\$2,495
16 cores	9175F	"Zen5"	4.2 / 5.0	320W	512	\$4,256
	9135	"Zen5"	3.65 / 4.3	200W	64	\$1,214
	9115	"Zen5"	2.6 / 4.1	125W	64	\$726
8 cores	9015	"Zen5"	3.6 / 4.1	125W	64	\$527



Addressing the Memory Evolution

The DRAM Market Remains Tight well into 2027

Channel Positioning

- DRAM supply remains constrained through 2027 due to sustained AI-driven demand
- Limited supply expansion is driving structural pricing pressure (“memflation”)
- Memory inflation is a long-term shift, not a temporary market fluctuation

AMD Positioning & Guidance

- Lead with right-sized AMD EPYC™ Server CPU solutions that balance performance and memory efficiency
- Prioritize 1P platforms to deliver required performance with fewer DIMMs and lower system cost
- Optimize for memory utilization and bandwidth to reduce spend

What This Means for the Channel

- Memory is becoming a primary driver of server TCO and refresh decisions
- Over-provisioned memory especially in 2P systems, increases cost without proportional benefit
- Partners need guidance to balance capacity, bandwidth, and platform efficiency

Partner Outcome

- Lower customer TCO despite ongoing memory cost inflation
- Increased attach and differentiation through optimized platform design
- Shift customer conversations from “more memory” to “smarter memory”

Modernize Your Data Center to Stay Ahead

Act Now and Here is Why

- The Cost of Doing Nothing is rising
- Not modernizing introduces risk, higher costs, and missed efficiency gains

The Cost of Doing Nothing

- Rising operational risk from gaining infrastructure and security exposure
- Escalating support and warranty costs on legacy infrastructure
- Missed efficiency gains from modern, optimized platforms

Why Act Now

- Modern AMD EPYC™ Server CPU solutions reduce cost and improve performance per watt
- Right-sized infrastructure lowers memory, licensing, and system costs
- Improved security, reliability, and operational efficiency

AMD Advantage

- Strong TCO and rapid payback, even in today's memory cost environment
- AMD EPYC™ Server CPUs enable consolidation and right-sizing for immediate savings
- Proven path to modernize without sacrificing performance

Why Moving from 2P to 1P makes sense in a “Memflation” Environment

Customer Reality: Memory can now account for 50+% of Server BOMs

- 2P platforms scale memory by adding DIMMs to a second CPU. Cheap memory makes overprovisioning easy.
- Optimizing 2P platform performance with overprovisioned memory can now be cost prohibitive.
- 1P platforms allow ability to right-size memory footprint while optimizing platform performance.

Real-World Example: 2P → 1P

2P

- 16 or 32 DIMMs to populate all channels and optimize performance

1P AMD EPYC™ Server CPU

- 12 or 24 DIMMs to populate all channels and optimize performance

Fewer DIMMs = LESS MONEY to optimize performance without compromising compute or IO connectivity.

Typical Partner Outcomes

- Higher attach rates
- Faster refresh decisions
- Easier competitive displacement

Protect your customer's budget by letting them buy fewer and lower-density DIMMs — with better performance. Lead with AMD EPYC™ Server CPU platforms and win both technically and financially.

1P AMD EPYC™ Server CPU 9355P vs 2P Intel Xeon® 5218

Exponential Benefits



Better Energy Efficiency

Save up to
56%

on power vs. Intel based legacy systems¹

Larger Space Savings



Up to
57%

fewer servers, saving space and licensing cost¹



Save up to
60%

Higher TCO Savings

TCO 5-Years savings vs. Intel based legacy systems¹

More Performance Per Core



Up to
2.5x
Faster

vs. Intel based legacy systems¹

Lower Upfront Cost



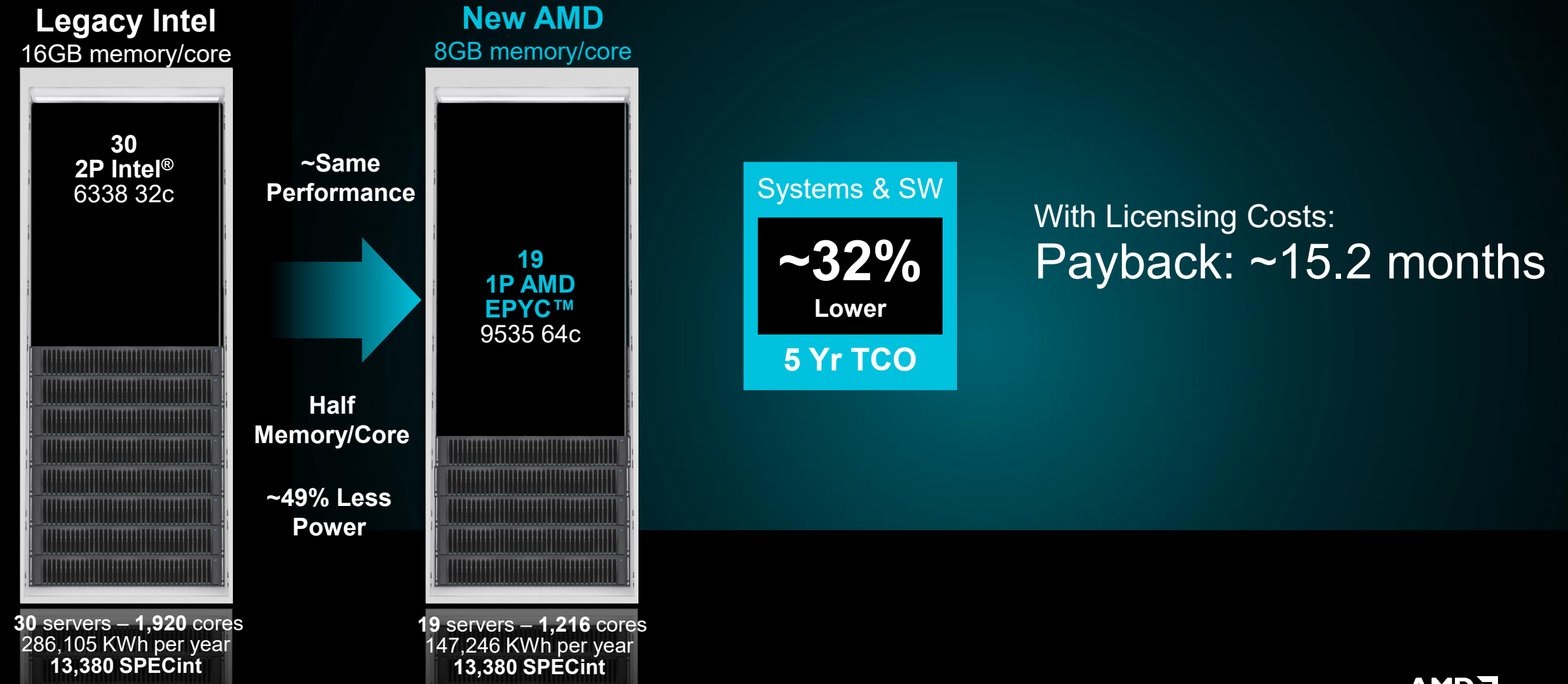
Up to
68%
Capex Savings

vs. Intel based legacy systems¹

Compute Bound:

Refresh with Half the Memory/Core from 2P to 1P

Move to a 1P AMD EPYC™ Server CPU solution, less memory/core, and achieve payback in ~15.2 months



Memory Bound: Refresh with the Same Memory/Core (64C)

Maintain memory/core and achieve payback in ~45 months

Legacy Intel
16GB/core memory



30 servers – 1,920 cores
286,105 KWh per year
13,380 SPECint

New AMD
16GB/core memory



17 servers – 1,088 cores
134,784 KWh per year
13,380 SPECint

~Same
Performance



Same
Memory/Core

~53% Less
Power

Systems & SW

~30%
Lower

5 Yr TCO

With Licensing Costs:
Payback: ~45 months

Stop Over-Provisioning Memory — Right-Size for the Workload

Most environments are over-provisioned on memory—right-sizing protects performance and reduces cost.”.

Compute-Bound Workloads

- Memory is typically over-provisioned relative to compute needs
- Significant memory reduction possible with minimal performance impact
- Opportunity to lower cost while maintaining throughput

Balanced/Mixed Workloads

- Moderate memory optimization delivers strong cost performance balance
- Right-sizing aligns infrastructure to actual workload demand
- Enables efficient scaling without over-investment

Memory Bound Workloads

- Memory remains a key performance driver
- Selective optimization can reduce cost
- Right-sized configuration to avoid unnecessary over-provisioning

Right-Size Your Memory for your Workload with AMD EPYC™ Server CPUs

Compute Bound Workloads

50% Memory Capacity Reduction



2% Performance Reduction

Tested Workloads: SIR2017, SpecJBB 2015, FFMpeg, NGINX, REDIS, MySQL TPC-C

Memory Capacity Bound Workloads

25% Memory Capacity Reduction



5% Performance Reduction

50% Memory Capacity Reduction



25% Performance Reduction

Tested workload: SQL Server OLAP

Compute bound = Right size your memory, don't over provision

Observed performance impact is a geomean across the tested workloads

[AMD Official Use Only - AMD Internal Distribution Only]

Optimize Memory for the Workload Capacity or Bandwidth, Not Both by Default

Memory-Intensive / Capacity-Driven (Tiering-Friendly)

Best-Fit Workloads

Relational Databases (Oracle, SQL Server)
Capacity-driven instances, reporting, consolidation

In-Memory Databases
(Redis, MongoDB, TPC-H) Lg Memory Footprint Databases (Hybrid / Tier-Aware)(Analytics, read-heavy, warm/cold datasets)

First-Party Enterprise Workloads
(Internal cloud infra, business apps,)

Lead with capacity-optimized EPYC for dataset-driven, tier-friendly workloads.

AMD Guidance

- Prioritize right-sized memory capacity, not peak bandwidth
- Leverage fewer sockets (1P where possible) to reduce DIMM count and platform cost (Fewer NUMA domains = simpler tuning).
- Use memory tiering to lower TCO without disruption applications

Memory-Bandwidth Bound (when bandwidth truly matters)

Best-Fit Workloads

Cloud General Purpose
(VM density, burst workloads)

Automotive / Manufacturing
(ANSYS Mechanical, LS-DYNA)

Electronic Design Automation
(RTL simulation, IR/EM analysis)

Optimize for bandwidth when performance depends on data movement.

AMD Guidance

- Size memory to bandwidth needs, not historical capacity assumptions
- Favor balanced DIMM configurations that sustain throughput at scale
- Position AMD EPYC™ Server CPU for higher VM density and efficient platform utilization

Capacity drives cost. Bandwidth drives performance. EPYC lets you optimize for the one that matters.



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