

SHOWCASE

Data Center Modernization Strategies for 2023: Dell PowerEdge Server with AMD EPYC Processors

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ABSTRACT: Mounting IT complexity, coupled with unrelenting data growth, fuels an increasing need for IT modernization. Dell Technologies and AMD have partnered to present a series of new offerings designed to accelerate IT performance, business initiatives, and operations. This provides significant opportunities for partners to satisfy demand and impact both top and bottom lines for themselves and their customers.

Overview—Market Landscape

The rise of digital initiatives is transforming entire businesses. In a recent research survey by TechTarget's Enterprise Strategy Group, nearly every IT organization (97%) reported being in some phase of digital transformation.¹

Businesses seeking to transform themselves digitally are doing so because they want to become more operationally efficient (reported by 54% of respondents), develop new data-centric products and services (cited by 47%), and/or deliver a better customer experience (45%).

Success in these initiatives, however, often requires IT organizations to accelerate projects intended to modernize applications and infrastructure, which is difficult in an age marked by increasingly complex and diverse technologies, as well as mounting skills shortages.

Accelerating IT Transformation—Dell PowerEdge Servers Powered by AMD EPYC Processors

It is, therefore, fortunate and timely that Dell Technologies, a market leader in IT infrastructure, has unveiled a range of new Dell PowerEdge servers with 4th Generation AMD EPYC processors, designed to serve as the backbone for a new, modern data center and which offer scalability to handle the changing/high workload demands that accompany large data sets.

Solution Design and Details

Performance and reliability are critical for servers and storage in the enterprise data center. To meet the demands of enterprise applications, 4th Gen AMD EPYC processor enhancements have enabled improvements in the Dell PowerEdge server stack. Dell and AMD have collaborated to design jointly developed solutions that deliver accelerated performance, automation, efficiency, security, and sustainability.

The addition of new EDSFF E3.S NVMe SSDs from KIOXIA² provides a cost-effective range of capacity and security for applications that require fast response with low latency in the following use cases:

¹ Source: Enterprise Strategy Group Research Report, [2023 Technology Spending Intentions Survey](#), November 2022. All Enterprise Strategy Group research references and charts in this showcase have been taken from this research report.

² https://americas.kioxia.com/content/dam/kioxia/en-us/business/ssd/data-center-ssd/asset/KIOXIA_EDSFF_E3_Intro_White_Paper.pdf

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- For high performance solutions in performance-intensive computing, artificial intelligence, and end-user computing.
- In demanding industries like healthcare, financial services, and manufacturing operations.

Importantly, PowerEdge servers incorporate Dell Technologies' commitment to building/delivering sustainable solutions that aim to minimize energy usage and resource consumption, while aggressively reducing greenhouse gas emissions.

Solution Benefits

There are several benefits for customers who invest in PowerEdge and 4th Gen AMD EPYC processors, including the ability to accelerate data center transformation, deliver improved business agility, experience enhanced security, and most importantly, be confident in the business. IT leaders can now scale and optimize their data centers while achieving efficiency, speeding time to value, and reducing CapEx and OpEx.

The Dell PowerEdge servers with AMD EPYC processors have impressive performance/watt and performance/core. Dell also has unique Smart Cooling features³ that increase efficiency and can reduce data center footprint. Security is always a critical aspect of modern IT infrastructure and Dell offers a comprehensive zero-trust based architecture that is closely integrated with AMD Infinity Guard.⁴ Dell also offers a comprehensive suite of systems management and automation tools (iDRAC, OpenManage CloudIQ) that simplify the lifecycle management aspect of digital transformation.

Dell Technologies and AMD have truly produced a “better together” set of offerings with outstanding business impact, based on results seen here of Dell Technologies' 2022 internal benchmark testing:

- Up to 121% higher SPECintRate performance compared with top bin 4th Gen AMD EPYC processors and top bin 3rd Gen processors.
- 55% CPU performance/watt improvements when upgrading to the top bin 4th Gen AMD EPYC processor from a top bin 3rd Gen AMD EPYC processor.
- 50% more core density over the previous generation, with up to 96 cores.

The Bigger Truth

Why should customers embrace the Dell+AMD collaboration? It's all about acceleration—allowing IT to match the speed of change within the business, accelerating the addition of new IT services and accelerating the speed of managing infrastructure. Dell and AMD “better together” enables global customers to realize the benefits of AMD EPYC processor-powered solutions with Dell Technologies PowerEdge, resulting in faster, intelligent results that empower problem solving and decision making.

Importantly, the Dell Technologies and AMD collaboration is time-tested. The companies have devoted the up-front investment and resources to develop jointly engineered solutions that leverage their legacies of engineering excellence and rock-solid design that are well-integrated to maximize impact and minimize risk.

³ <https://www.dell.com/en-us/dt/servers/power-and-cooling.htm#tab0=0>.

⁴ <https://www.amd.com/en/technologies/infinity-guard>. 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. GD-183.

The outcomes of this collaboration will offer numerous advantages to organizations, specifically helping them to:

- Replace older, less efficient servers to help lower energy costs and advance corporate sustainability goals.
- Deliver adaptability, flexibility, and predictability for demanding workloads.
- Address security concerns by adding a layer of protection to decrease the potential attack surface.
- Support a multi-/hybrid cloud application-focused strategy.
- Provide rapid time to value with CapEx and OpEx options.
- Leverage the competitive supply chain advantages of Dell Technologies.
- Supply the products and services their customers are looking for today.

Enterprise Strategy Group has reviewed the products and business impact of the Dell+AMD collaboration, and our point of view is that the partnership addresses the overall challenges organizations are asking vendors to help them solve. When understanding the market challenges and the approach organizations are taking, the Dell+AMD offerings check all the main boxes.

Visit [Dell PowerEdge Servers Powered by AMD](#) to learn more.

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