Executive summary

Modernizing your data center with Dell and AMD

Amidst global market challenges, such as rising inflation and high interest rates, businesses worldwide have faced significant financial pressures in recent years. In response, many organizations are reconsidering their IT strategies, particularly server refresh cycles. The typical lifespan of most servers ranges from 3 to 5 years,[1] and companies may opt to extend this timeline to delay capital expenditures (Capex).

This approach can be costly due to maintenance time and effort. The older servers can also be more susceptible to security breaches, which may incur a hefty cost.

In contrast, newer servers are typically more efficient than older servers—helping you spend less on cooling and power—and offer stronger security features. Newer servers also typically include technologies that increase performance significantly, which can enable you to save money by consolidating multiple older servers into a single newer one.

With the latest generation of Dell PowerEdge servers powered by 5th Generation AMD EPYC™ processors, you can modernize your data center to achieve these benefits while tapping into the vast resources, partnerships, and services both companies provide to help your business thrive into the future.

With latest generation Dell™ PowerEdge™ servers, you can

Save on licensing

Consolidating with the PowerEdge R7715 could yield an **80% reduction** in license costs[2]

Reduce energy consumption and costs

Consolidate up to 7 five-year-old servers into one PowerEdge R7725 server and **save up to 65%** on CPU energy costs and **save up to 34%** in licensing costs[3]

Boost AI performance

The PowerEdge R7725 ran an AI workload **19% more** effectively than a similarly configured previous-gen PowerEdge server[4]

Improve management and security

Dell OpenManage offered **3.5X** as many security features as a competing server management solution[5]

1. Jannik Linder, "Server Statistics," accessed June 11, 2025, https://gitnux.org/server-statistics/.
2. Principled Technologies, "Propel your business into the future by refreshing with new one-socket Dell PowerEdge R7715 servers with 32-core AMD EPYC 9355 processors," accessed June 11, 2025, https://www.principledtechnologies.com/clients/reports/Dell/Dell-PowerEdge-R7715-server-refresh-0525.
3. Based on Dell analysis comparing the SPECint and SPECFP scores of the AMD EPYC 5th Gen 9755 processor in a Dell PowerEdge R7725 server (2,620 and 2,270) with the SPECint and SPECFP scores for an Intel Xeon 8280 processor in a Dell PowerEdge R740xd (375 and 296). The data from Dell is accurate as of 10/2/2024. Actual performance will vary. See the SPECint results and SPECFP results for the PowerEdge R7725, and see the SPECint results and SPECFP results for the PowerEdge R740xd.
4. "MLCommons – Inference Datacenter," accessed June 11, 2025, https://public.tableau.com/shared/KFJPP94M5.
5. Principled Technologies, "Increase security, sustainability, and efficiency with robust Dell server management tools," accessed June 11, 2025, https://www.principledtechnologies.com/Dell/Management-tools-vs-Supermicro-0424.pdf.

Fewer servers, lower costs

Modernizing your infrastructure with newer Dell PowerEdge servers powered by 5th Gen AMD EPYC processors can help reduce both software costs and hardware footprint. By consolidating workloads onto fewer more powerful systems, organizations can minimize per-core licensing costs. In our analysis, replacing 15 older servers with just three 32-core Dell PowerEdge R7715 systems can reduce license costs by up to 80 percent.[6]

Faster results, more headroom

Upgrading to the latest generation servers doesn't just lower costs—it also unlocks performance capacity for growing workloads. In our testing, the 256-core Dell PowerEdge R7725 server handled 62 percent more transactions per minute per core,[7] performance that supports both higher throughput and headroom for future growth. These improvements enable faster insights, more responsive applications, and a stronger foundation for scaling operations.

Reduce energy consumption for savings and sustainability

Consolidating to fewer servers means less power and cooling—translating to measurable energy savings. In our analysis, consolidating workloads onto PowerEdge systems led to a potential 61 percent reduction in power and cooling costs.[8] Using less energy also supports broader sustainability initiatives and environmental, social, and governance (ESG) goals without compromising performance or reliability.

Bring high-performance AI to your data center

Latest-gen Dell PowerEdge servers with AMD EPYC processors can help unlock advanced AI capabilities across training, inference, and large language model workloads. AMD EPYC CPUs in PowerEdge R7725 servers with GPUs delivered 19 percent better AI workload performance compared to prior generations relying on the same GPUs,[9] demonstrating how just modernizing server resources can impact inferencing and analytics workloads while minimizing additional infrastructure costs.

Adopt modern technologies for efficiency, resilience, and scalability

The latest generation of Dell PowerEdge servers with AMD EPYC processors introduces platform-level enhancements to support more efficient operations and long-term scalability. Smart Flow chassis designs improve airflow with a middle channel and redesigned backplane, while optional direct liquid cooling can reduce operating temperatures—even in 35°C environments—helping lower power consumption and extend component life.[10] Storage flexibility also improves, with systems such as the PowerEdge R7725xd supporting up to 24 front U.2 Gen5 NVMe bays—allowing massive capacity per drive to support growing data needs. Built-in security features, such as iDRAC integration with AMD Platform Secure Boot and AMD Secure Encrypted Virtualization, help ensure platform integrity while protecting data in virtualized environments—all without sacrificing performance or manageability.

6. Principled Technologies, "Propel your business into the future by refreshing with new one-socket Dell PowerEdge R7715 servers with 32-core AMD EPYC 9355 processors," accessed June 11, 2025, https://www.principledtechnologies.com/clients/reports/Dell/Dell-PowerEdge-R7715-server-refresh-0525.
7. Principled Technologies, "Propel your business into the future by refreshing with new one-socket Dell PowerEdge R7715 servers with 32-core AMD EPYC 9355 processors."
8. Principled Technologies, "Achieve faster analytics performance and better energy efficiency on Dell PowerEdge R7625 servers powered by AMD EPYC 9654 processors," accessed June 11, 2025, https://www.principledtechnologies.com/Dell/PowerEdge-R7625-data-analytics-competitive-1124.
9. "MLCommons – Inference Datacenter," accessed June 11, 2025, https://public.tableau.com/shared/KFJPP94M5.
10. Principled Technologies, "Dell PowerEdge server cooling: Choose the cooling options that match the needs of you and your workloads," accessed June 11, 2025, https://www.principledtechnologies.com/clients/reports/Dell/PowerEdge-cooling-options-0525.

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