PROWESS

Lower Your Data Center TCO with a Server Refresh

A total cost of ownership (TCO) study conducted by Prowess Consulting reveals that refreshing three-to-five-year-old server platforms with the latest generation of Dell PowerEdge servers and 4th Generation AMD EPYC™ processors can improve performance, efficiency, and security.

Prowess Consulting conducted a research study to investigate the benefits of a server refresh cycle for data centers. The purpose of this study was to build upon the findings of a Forrester Consulting survey using results from the following industry-standard benchmarks and environmental registries:[2]

- SPEC® CPU 2017 benchmark
- VMmark® 3.x benchmark
- Global Electronics Council Electronic Product Environmental Assessment Tool (EPEAT™)

Our research focused on the effects of upgrading legacy servers powered by three-to-five-year-old x86 processors to the latest-generation Dell PowerEdge servers equipped with 4th Gen AMD EPYC processors. Our findings indicate that a server refresh cycle can significantly lower total cost of ownership (TCO) across your server infrastructure via increased compute power, more efficient power management, and enhanced security. Through these technological improvements, your organization can become more productive, agile, competitive, and secure.
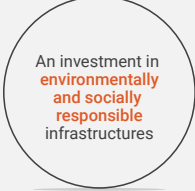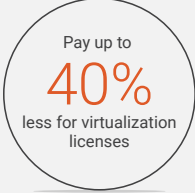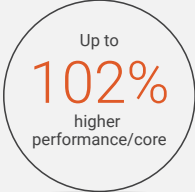
Industry-standard benchmarks indicate that a server refresh can boost your data center's overall processing power. PowerEdge servers with 4th Gen AMD EPYC processors earned top performance scores using the SPEC and VMmark benchmarks.[1] For example, you could get up to 102% higher performance per core after upgrading from a server with three-to-five-year-old x86 processors. This performance boost could give data centers more compute power to run today's demanding artificial intelligence (AI) and high-performance computing (HPC) workloads.[1]

Furthermore, we found that a server refresh can result in up to a 232% increase in performance per watt following an upgrade from a server with three-to-five-year-old x86 processors. This can allow organizations to achieve higher application performance, while at the same time reducing infrastructure power consumption.[1]

We discovered that a server refresh from a server with three-to-five-year-old x86 processors could be used to consolidate data centers' server footprints by a ratio of up to 5:1. This level of consolidation could allow organizations to lower their virtual licensing costs by up to 40%.[1]

Highlights

Here are a few of the many TCO benefits you can get by refreshing your legacy servers to the latest-generation Dell PowerEdge servers and 4th Gen AMD EPYC™ processors:[1]

Up to
102%
higher performance/core

Up to
232%
higher performance/watt

Pay up to
40%
less for virtualization licenses

An investment in **environmentally and socially responsible** infrastructures

If environmental sustainability is an operational goal for your organization, only PowerEdge servers are Silver-rated by the Global Electronics Council's EPEAT registry.[1]

Many newer server platforms also offer features for monitoring and managing power consumption. In the case of the PowerEdge servers we looked at, Dell OpenManage Enterprise Power Manager lets you monitor real-time and historical power usage and configure power-usage policies.

Another reason for a server refresh is to improve data center security. Aging server platforms can lack the security features necessary to protect against today's sophisticated cyberthreats. 4th Gen AMD EPYC processors include hardened security features that help protect against malicious users, devices, and code. The latest-generation PowerEdge servers support the integrated Dell Remote Access Controller (iDRAC) management controller and OpenManage Enterprise platform management, which can be used to set up a zero-trust ecosystem that protects data, users, and systems from advanced cyberthreats.

Get the full story by reading the technical research study,

"Harness Increased Performance, Efficiency, and Lower TCO with Dell PowerEdge Powered by AMD."

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[1] For system details, test results, and analyses, see the full report: Prowess Consulting. "Harness Increased Performance, Efficiency, and Lower TCO with Dell PowerEdge Powered by AMD." Commissioned by Dell Technologies. August 2023.

[2] Tech Republic. "Forrester: Why Faster Refresh Cycles and Modern Infrastructure Management are Critical to Business Success." Forrester Consulting report sponsored by Dell Technologies. December 2018.