

Update Today, Save for the Life of Your New Server

With the advantages of new hardware, and incentives from Dell Technologies, Microsoft, and AMD, now is the time to update your servers.

Highlights

- Gain better performance at lower cost with Dell EMC™ PowerEdge™ servers powered by AMD EPYC™ processors.
- OEM licensing and core-cap pricing make this an ideal time to upgrade your servers.

If your organization is like most companies, you are hanging on to old servers for too long. According to Forrester, 40 percent of server hardware is more than three years old, with businesses replacing their servers every 3.98 years on average.¹

Leadership might ask for the moon, but your team is stuck with the reality of patching together new systems and software onto legacy hardware, consuming enormous amounts of time and budget just to keep the lights on. Older hardware can hold back your business in multiple ways. For example, it can significantly slow the deployment of new versions of applications, and it can impede performance for end users. Indeed, according to Forrester, less than 30 percent of IT leaders feel the performance of various on-premises applications completely meets the needs of end users.¹ In addition, your older servers might struggle to support the latest software, such as Microsoft® SQL Server® 2019 and Windows Server® 2019. Your older systems are also less agile and unable to help your company digitally transform because they support fewer containers and virtualized instances, and they are less capable for artificial intelligence (AI) and advanced analytics workloads. Financially, older servers are expensive to maintain as time goes on and can also put companies at a tax disadvantage for hardware depreciation.

By contrast, consolidating workloads from older servers onto newer hardware provides numerous benefits. As more capable hardware, newer servers can help you seize emerging business opportunities. And from a financial point of view, besides being able to fully depreciate the cost of server hardware, you can also take advantage of promotional pricing for servers. These discounts can include both the inherent savings connected to OEM licensing from suppliers like Dell, and also promotional pricing on Windows Server 2019 licensing offered by Microsoft and AMD.

Why Update Your Server Hardware?

The IT landscape has changed significantly over the last three years, the period when the average server was last purchased. Forrester reports that the software-defined data center (SDDC) has moved mainstream and is a strategic benefit that 95 percent of IT organizations would like to embrace.¹ The idea of being able to abstract and virtualize all elements in a data center—compute, storage, and networking—holds tremendous promise for IT efficiency, but only if businesses have the right hardware to embrace it.

The rationale for updated hardware extends beyond just operations to new opportunities, however. Newer hardware can help businesses not only deal with the explosion in the amount of data created in recent years, but also better put data to use as a strategic resource. According to Enterprise Strategy Group (ESG), organizations with refreshed hardware reported that 32 percent more of their data is usable within their analytics environments compared to organizations with aging IT infrastructures.² These businesses are more likely to increase customer spend, reduce operational costs, and outperform competitors. In addition, they are also nearly 3x more likely to make data and analytics available to all or most employees compared to organizations with aging IT.²

Moreover, advanced analytics workloads like AI and machine learning (ML) continue to grow in importance for businesses, offering a competitive advantage over rivals who do not use such analytics. ESG notes that AI leaders with advanced servers are:



3.3x

more likely to outperform competitors in digital marketing effectiveness.³



3.1x

more likely to outperform competitors in customer experience and support.³



2.3x

more likely to outperform competitors in product development.³

AI leaders with modern hardware also saw improvements to total customer spend, business-risk reduction, and decision-making speed.³ Aging hardware can hold back companies from taking advantage of these modern IT trends.

The Dollars and Sense of Updating Your Hardware Now

Beyond compelling business reasons, updating server hardware carries immediate financial benefits. Some of these benefits stem from pure accounting. Changes to the United States tax code enacted in 2017 permit accelerated depreciation on servers; accounting firm EY recommends using three-year, straight-line depreciation for servers.⁴

Tax relief is not the only financial reason to refresh the hardware that powers your data center; advances in server technology also enable financial savings throughout every layer of the server stack. For example, consolidating workloads onto fewer, newer servers can shrink your hardware footprint, along with your management, power, cooling, and licensing costs. Reducing the number of servers reduces the number of processor cores that you need to license for your operating systems (primary or guest). And OEM licensing—buying hardware with software such as the operating system already licensed and installed—can save you time and money with your virtualization infrastructure.

Better Performance at a Lower Cost with Powerful AMD EPYC™ Processors

A Dell EMC™ PowerEdge™ R7525 server took up to 36 percent less time to complete a Spark-Bench workload than an HPE® ProLiant® server.⁵

A Dell Technologies™ cluster of single-socket PowerEdge R6515 servers showed 11.73 percent better performance with Microsoft® SQL Server® 2019 than a cluster of dual-socket HPE ProLiant servers, and it delivered a 56 percent better performance-to-cost ratio.⁶

In a VMware vSAN™ environment, a cluster of single-socket Dell EMC PowerEdge R7515 servers delivered 9.6 percent better performance per dollar than a cluster of dual-socket HPE ProLiant servers.⁷

Savings at every layer

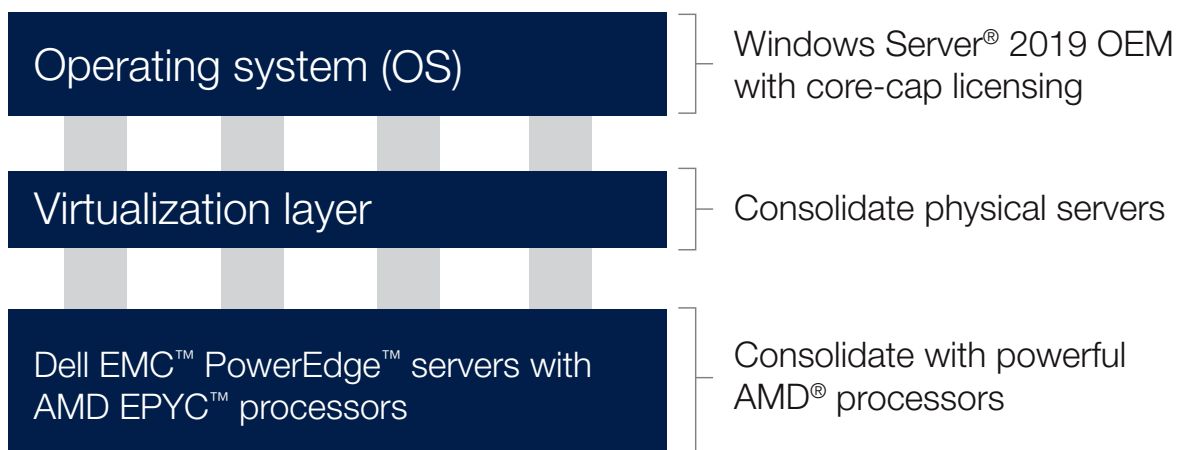


Figure 1. Promotional pricing from Dell Technologies, AMD, and Microsoft delivers savings at every layer of the stack that supports your applications

Save by Consolidating on Servers Powered with AMD EPYC™ Processors

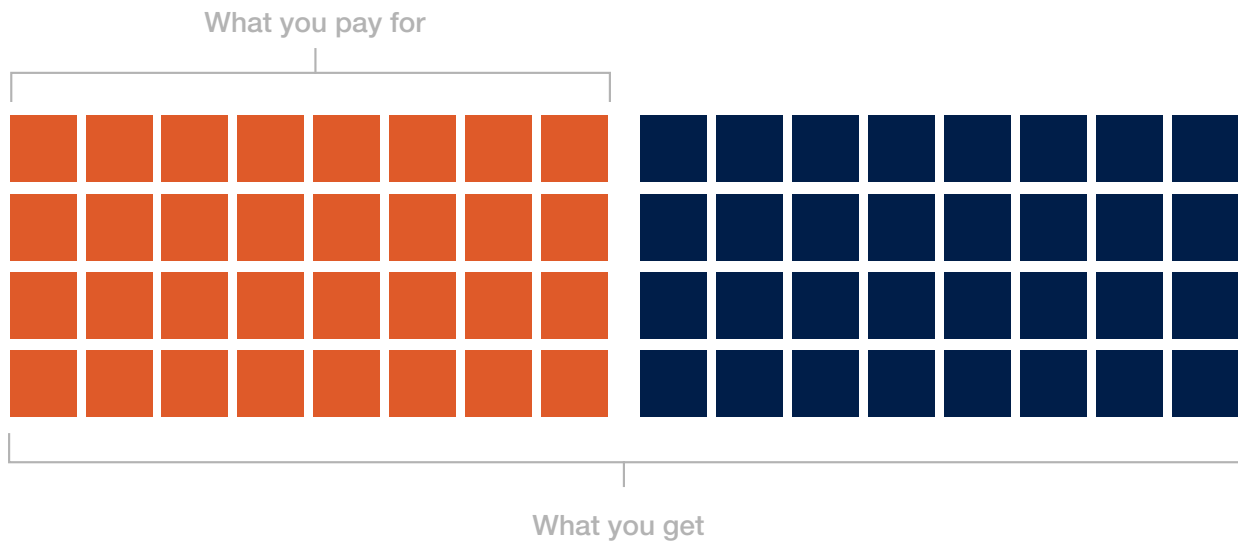
Of all the savings that consolidating workloads onto new hardware can provide, the savings on licensing can be the most dramatic. This is because much of the enterprise software on which businesses rely—such as operating systems and databases—is licensed by either the number of sockets or CPU cores on the server on which that software runs.

Servers powered by 2nd Generation AMD EPYC™ processors provide one means of reducing socket-count. 2nd Gen AMD EPYC processors doubled the maximum number of cores per processor socket compared to the previous generation, while only modestly increasing the processors' power consumption and thermal output. This means that one-socket servers powered by 2nd Gen AMD EPYC processors can do the work of most older two-socket servers using a single processor socket.⁸

Maximizing cores per processor socket also opens the door to additional savings on operating system licensing through Microsoft and AMD. Because while 2nd Gen AMD EPYC processors provide more cores per socket, Microsoft and AMD have created a pricing structure to cap the number of cores per socket considered for licensing Windows Server 2019.

Save up to 50 Percent with Core-Cap Pricing on Windows Server® 2019

Operating system licensing—either as the primary operating system on a server or as a guest operating system for VMware virtual machines (VMs) running on the server—can be a major cost for upgrading hardware. Dell Technologies is the first to market with “core-cap” pricing for Windows Server 2019 on servers with 2nd Generation AMD EPYC processors. For single-socket servers, Windows Server 2019 OEM licensing costs beyond the first 32 cores are free (applies to Dell EMC™ PowerEdge™ R6515 and Dell EMC PowerEdge R7515 servers) under this Microsoft and AMD core-cap OEM agreement; with dual-socket servers, Windows Server 2019 OEM licensing costs beyond 64 cores are free (applies to Dell EMC PowerEdge R6525 and Dell EMC PowerEdge R7525 servers), as shown in Figure 2. Figure 2 also shows AMD EPYC processors eligible for core-cap licensing. Because Windows Server 2019 licenses depend on core count in the server, this discount can translate to savings of up to 50 percent.



OEM licensing and applicable Dell EMC™ PowerEdge™ servers

Single-Socket Servers

Windows Server® 2019 beyond the first 32 cores free



Dell EMC PowerEdge R6515



Dell EMC PowerEdge R7515

Dual-Socket Servers

Windows Server 2019 beyond the first 64 cores free



Dell EMC PowerEdge R6525



Dell EMC PowerEdge R7525

AMD EPYC™ processors eligible for core-cap OEM licensing

- AMD EPYC 7552 processor (48 cores)
- AMD EPYC 7642 processor (48 cores)
- AMD EPYC 7702 processor (64 cores)
- AMD EPYC 7702P processor (64 cores)
- AMD EPYC 7742 processor (64 cores)



Figure 2. Get more for less with Dell Technologies and AMD EPYC™ processors

OEM Core-Cap License Pricing Applies for the Life of the Solution (Server + OS)

Note that while servers must be purchased by June 30, 2021, to qualify for the core-cap license cost, Windows Server® 2019 OEM licenses obtained with this promotion are good for as long as the server is in service, which helps reduce TCO. Windows Server 2019 license costs for licenses purchased under the promotion will not go up after the promotional-pricing period ends, which helps keep your license costs predictable. This promotional pricing is only available for on-premises deployments.

Core-Cap Licensing Saves Money in Virtualized Environments

The core-cap pricing for Windows Server 2019 applies to bare-metal installations, but it also extends into the virtual world. Whether you are running Windows Server as the primary operating system using Hyper-V® (Figure 3) or you are a VMware shop using VMware ESXi™ and running Windows Server as a guest operating system (Figure 4), the same promotional benefits and licensing rules for Windows Server apply for the life of the server. Moreover, if you invest in Dell EMC PowerEdge servers preinstalled with VMware vSphere® virtualization technology and the Windows Server 2019 operating system, not only will you spend less money overall on hardware, but you will also save time and effort on deployment. And post-deployment, your modernized data center will be easier to maintain.

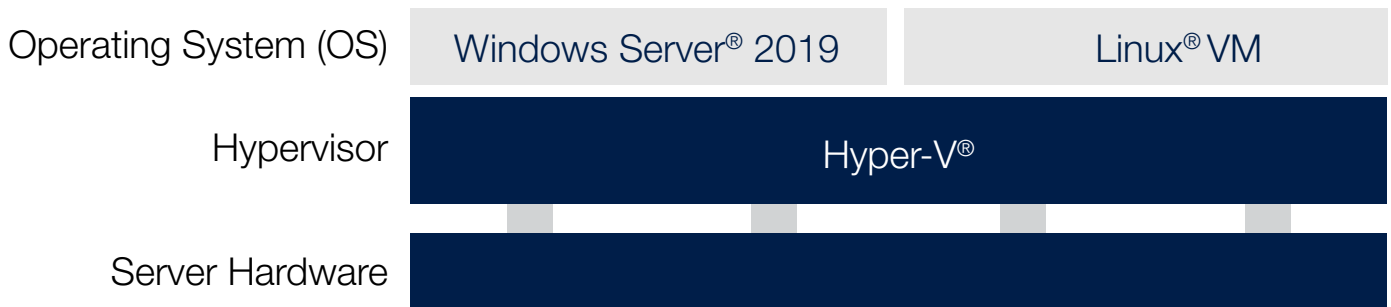


Figure 3. The hardware and software layers of an enterprise server with Windows Server® 2019 as the primary operating system

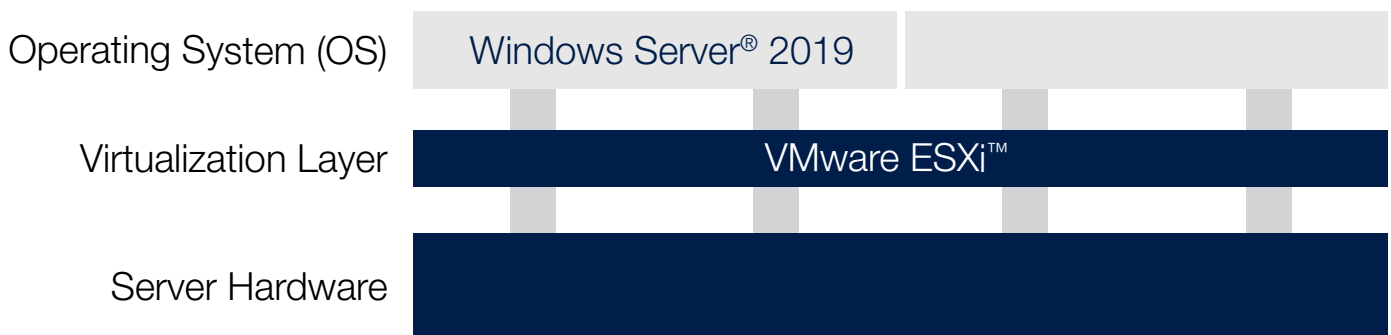


Figure 4. The hardware and software layers of an enterprise server with Windows Server® 2019 as a guest operating system

Virtualizing workloads can improve server utilization. Instead of dedicating a server to a workload that does not use its full capabilities, multiple workloads can be run on a single physical server to better use all of the server's capacity. And as businesses need to provision additional workloads, new VMs can be deployed quickly.

Workload virtualization can not only improve server utilization, it can also create a path to a hybrid-cloud infrastructure. Virtualized workloads are positioned to easily move to and from the cloud as business needs dictate. Running virtualized workloads on new, performant hardware both helps individual workload performance and helps ensure that servers have the headroom to accommodate additional VMs.

Microsoft Azure® and VMware® Software on Dell Technologies™ Solutions Support the Data-Intense, Virtualized Workloads That Enterprises Need Today

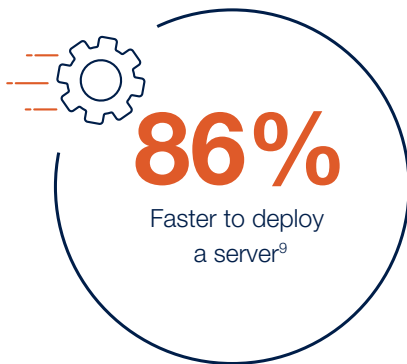
To learn more about Dell Technologies solutions for VMware solution-integrated cloud workloads, visit www.delltechnologies.com/vmware.

For more information about Microsoft Azure with Dell- for Microsoft-centric workloads, visit www.delltechnologies.com/microsoft.

Add to Your Savings Using OEM Licensing

Prowess Consulting set out to determine how much OEM licensing can ease the burden of deploying servers for time- and cash-strapped IT personnel. Through our testing and research, Prowess Consulting confirmed that purchasing Dell EMC PowerEdge servers preinstalled with Windows Server 2019 software is a simpler, faster, and less expensive alternative to help IT generalists deploy and support new servers. Independent of core-cap pricing, OEM licensing provides 86 percent faster deployment for servers and a 31 percent lower cost than volume licensing.⁹ Moreover, Dell™ servers are eligible for Dell ProSupport™ IT-management services that support the entire solution—both hardware and software—after deployment. And using OEM-licensed software provides a single point of support for technical issues rather than working with multiple companies to resolve problems.

Faster, less-expensive, simpler, and with better support.



Optimize Your IT Budget with Windows Server 2019 on Dell EMC™ PowerEdge™ Servers with 2nd Generation AMD EPYC Processors

Updating your server hardware can help better position your business to take advantage of new opportunities and meet your strategic IT goals. The combination of OEM licensing and core-cap pricing can provide compelling financial reasons to update your servers now.

Learn more about the suite of solutions from Dell Technologies and Microsoft, including additional information on Windows Server licensing on PowerEdge servers with AMD® processors, at www.delltechnologies.com/microsoft.

Download Prowess's white paper to learn more about the advantages of OEM licensing at www.prowesscorp.com/project/dellemc-poweredge-windowsserver-report/.



¹ Forrester. "Why Faster Refresh Cycles and Modern Infrastructure Management Are Critical to Business Success." Commissioned by Dell EMC. May 2019. www.dellemc.com/en-ie/collaterals/unauth/analyst-reports/solutions/forrester-why-faster-refresh-cycles-and-modern-infrastructure-management-are-critical-to-business-success.pdf.

² Results based on a survey of IT decision-makers from private- and public-sector organizations in eight countries and applying criteria for evaluating organizations' IT modernization. Respondents received an incentive to participate in the survey. Actual results will vary. Source: Enterprise Strategy Group (ESG). "Measuring the Value of Data and Analytics Inside Modernized IT Departments." Commissioned by Dell EMC. August 2019. www.dellemc.com/resources/en-us/asset/analyst-reports/solutions/esg-research-insight-measuring-value-of-data-analytics-in-modern-it-departments.pdf.

³ Based on a survey of 750 global IT decision makers. Actual results will vary. Source: Enterprise Strategy Group (ESG). "Three Transformational Compute Technologies Verified to Accelerate AI and Business Value." Commissioned by Dell EMC and Intel. November 2019. www.dellemc.com/en-us/collaterals/unauth/analyst-reports/products/servers/esg-three-transformational-compute-technologies-verified-to-accelerate-ai-and-business-value-en.pdf.

⁴ Depreciation guidance naturally varies for countries outside of the United States. Refer to the EY guide and your own accounting experts for details. Source: EY. "2019 Worldwide Capital and Fixed Assets Guide." 2019. www.ey.com/gl/en/services/tax/worldwide-capital-and-fixed-assets-guide---country-list.

⁵ Principled Technologies. "Performance comparison: Spark-Bench k-means clustering algorithm on a Dell EMC PowerEdge R7525 server and an HPE ProLiant DL380 Gen10 server." Commissioned by Dell Technologies. February 2020. <https://principledtechnologies.com/Dell/R7525-EPYC-7502-Spark-interim-0220.pdf>.

⁶ Principled Technologies. "Get stronger SQL Server performance for less with Dell EMC PowerEdge 6515 clusters powered by AMD EPYC 7502P processors." Commissioned by Dell Technologies. March 2020. www.principledtechnologies.com/Dell/R6515-EPYC-7502P-Hyper-V-SQL-0320.pdf.

⁷ Principled Technologies. "A single-socket Dell EMC PowerEdge R7515 solution delivered better value on a transactional database use case than a dual-socket HPE ProLiant DL380 Gen10 solution." Commissioned by Dell Technologies. February 2020. www.principledtechnologies.com/Dell/R7515-EPYC-7502P-vSAN-0220.pdf.

⁸ Tirias Research. "The 2nd Generation AMD EPYC Processor Redefines Data Center Economics." Sponsored by AMD. August 2019. www.amd.com/system/files/documents/TIRIAS-White-Paper-AMD-Infinity-Architecture.pdf.

⁹ Prowess Consulting. "Streamline Your Server Deployments by Choosing Dell EMC™ PowerEdge™ Servers with Preinstalled Microsoft® Software." November 2019. www.prowesscorp.com/project/dellemc-poweredge-windowsserver-report/.

The analysis in this document was done by Prowess Consulting and commissioned by Dell Technologies and Microsoft.

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