Elevate your e-commerce business by upgrading to the Dell EMC PowerEdge R740xd with 2nd Generation Intel Xeon Scalable processors

Moving from a legacy environment can drive the number of customers you support to new heights

A successful online business requires powerful data center hardware that handles large numbers of orders and lets customers make their purchases without delay. Upgrading your aging servers can empower your business to handle significant growth.

In the Principled Technologies data center, we ran an e-commerce workload on a two-server VMware® vSAN™ cluster of Dell EMC™ PowerEdge™ R740xd servers powered by 2nd Generation Intel® Xeon® Scalable processors. Compared to previous tests running the same workload on 1) a pair of seven-year-old Dell PowerEdge R720 servers with a SAN storage array (legacy server environment) and 2) a previous-generation vSAN cluster of Dell EMC PowerEdge R740xd servers with 1st Generation Intel Xeon Scalable processors (previous generation solution) the new servers with 2nd Generation Intel Xeon Scalable processors offered a dramatic performance boost that makes a compelling argument for a server upgrade.

In fact, the new cluster powered by 2nd Generation Intel Xeon Scalable processors did the work of over 11 legacy server clusters, showing that improving hardware efficiency is possible when you upgrade your servers to the latest Dell EMC PowerEdge R740xd.

Handle more customers
with **11.4X** the orders per minute vs. a legacy R720 environment

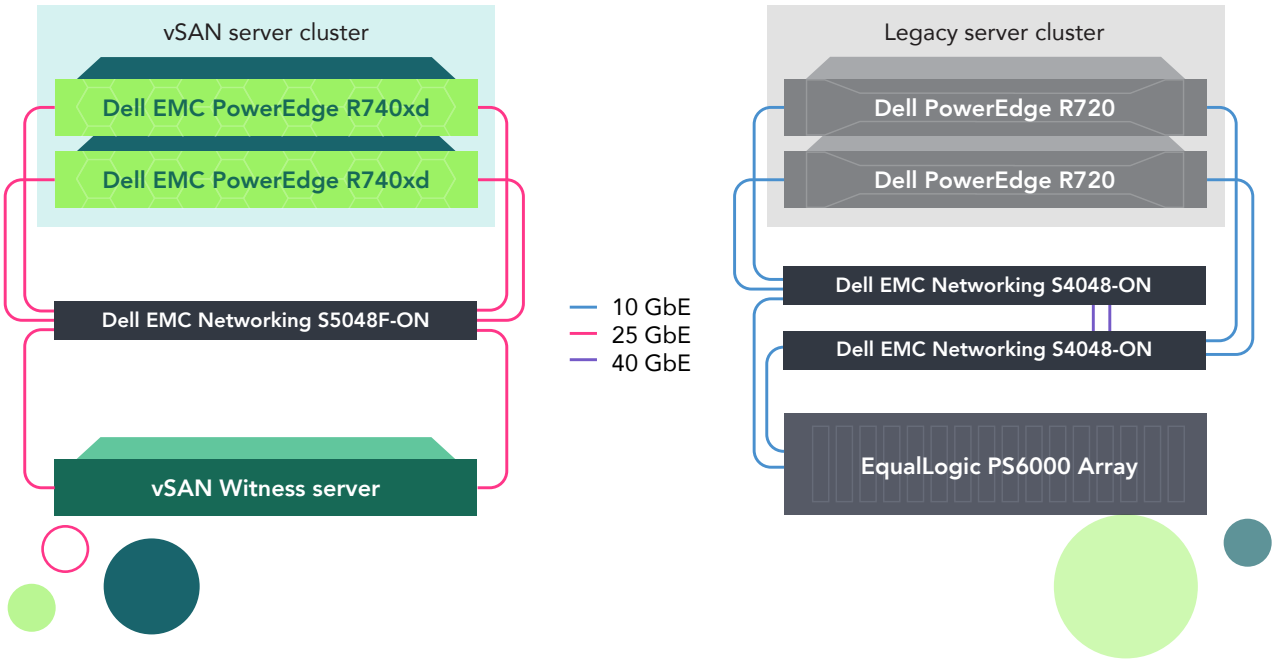
Increase orders over the previous generation
with **1.3X** the orders per minute vs. a solution with 1st Gen Intel Xeon Scalable processors

Big performance gains and new tech give many reasons to upgrade

Is any organization ever satisfied with the status quo? To succeed in business, you must grow—and with those new customer demands comes a need for updated hardware infrastructure to power vital transactions. If your data center is packed with legacy servers such as the 12th generation Dell EMC PowerEdge R720 and bulky external storage arrays, it may be time for a change. Even if you have servers with previous-generation processors, upgrading could make a worthwhile difference.

By upgrading to the latest technology, you can more efficiently use your data center space by doing more work per server or even consolidating servers into fewer new servers to save on space, power, cooling, and more. Plus, you get the latest in embedded server management, support for newer storage technologies, and can even reduce maintenance-related hassles and costs. Choosing a new 2nd Generation Intel Xeon Scalable processor-powered Dell EMC PowerEdge R740xd also lets you take advantage of software-defined storage (SDS), which can reduce the need for bulky, expensive external arrays.

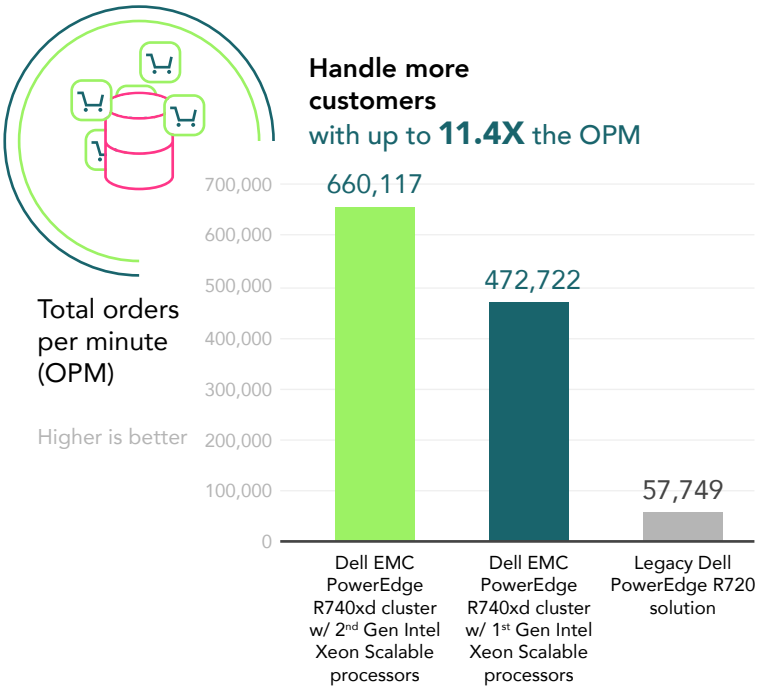
The image below shows our test comparison. We sought to compare a true upgrade, where the legacy and previous-generation solutions use server hardware, storage options, and software versions that were likely in use at the time of purchase to show what benefits organizations could see by upgrading a complete solution. For the legacy solution, storage was the bottleneck; we were able to run six virtual machines (VMs) on it, and we subsequently ran six VMs on the other solutions, not seeking to maximize performance on them—both the previous-generation and new R740xd solutions could handle larger workloads, but we wanted to show how the same workload could benefit from upgraded software/hardware. Please note that the testbed for the new R740xd server cluster and the previous-generation solution were identical (see left in the diagram below), though they differed in software and hardware versions. While VMware recommends using two-node clusters for specific use cases such as extended data center hosted services, organizations frequently use larger clusters. We tested on a two-node cluster with a vSAN Witness server with the understanding that workloads on larger clusters would also see these performance advantages. To learn all the details behind our testing, visit the science behind the report.



Want 11 times the performance per cluster?

Efficiency is key to success in business, and it's also true of your data center. By holding onto older servers and external arrays, your organization isn't taking full advantage of the space you have, and you may not be giving your customers the snappiest experience.

As our results with a real-world e-commerce workload show, a VMware vSAN cluster comprising two 2nd Generation Intel Xeon Scalable processor-powered Dell EMC PowerEdge R740xd servers dramatically outperformed a legacy solution from just two generations ago, the 12th Generation of Dell PowerEdge R720 servers with SAN array. The new R740xd cluster delivered 11.4 times the orders per minute (OPM) of that legacy environment. Plus, the Dell EMC PowerEdge R740xd cluster with 2nd Generation Intel Xeon Scalable processors delivered 1.3 times the OPM of the R740xd cluster with 1st Generation Intel Xeon Scalable processors.



While we conducted testing for the Dell EMC PowerEdge R740xd in May 2019, we tested the Dell EMC PowerEdge R720 cluster and the Dell EMC PowerEdge R740xd with 1st Generation Intel Xeon Scalable processors in July 2017. We used the same methodology to ensure a fair comparison, simulating a true upgrade by using software versions appropriate to the time for both legacy and new solutions. To see the original report, visit https://www.principledtechnologies.com/Dell/PowerEdge_R740xd_comparative_0318_v2.pdf.

About 2nd Generation Intel Xeon Scalable processors

The latest from Intel, the 2nd Generation Intel Xeon Scalable processor platform features a wide range of processors to support the workloads you run, including Bronze, Silver, Gold, and Platinum. According to Intel, the 2nd Generation Intel Xeon Scalable platform can handle a variety of workloads, including enterprise, cloud, HPC, storage, and communications.[1] This new processor line also supports a new memory and storage technology to further accelerate workloads, Intel Optane™ DC persistent memory.

To learn more about the 2nd Generation Intel Xeon Scalable processor family, visit https://www.intel.com/content/www/us/en/products/docs/processors/xeon/2nd-gen-xeon-scalable-processors-brief.html.

About the Dell EMC PowerEdge R740xd

What does the xd stand for? Extra drives—with up to 24 NVMe drives and 32 2.5" or 18 3.5" drives in just 2U of rack space, the Dell EMC PowerEdge R740xd promotes flexibility through several drive options and density that allows you to rely on SDS solutions. The two-socket Dell EMC PowerEdge R740xd rack server features 2nd Generation Intel Xeon Scalable processors and embedded Dell EMC iDRAC9 and Dell EMC OpenManage™ software for management. To learn more about the Dell EMC PowerEdge R740xd, visit https://www.dell.com/en-us/work/shop/cty/pdp/spd/poweredge-r740xd.

In conclusion

The benefits of moving from an outdated server-and-storage solution to a VMware vSAN cluster of Dell EMC PowerEdge R740xd servers with 2nd Generation Intel Xeon Scalable processors are clear. Not only can you increase the efficiency of your data center hardware, you can also avoid the maintenance hassles and costs that come with aging hardware and hold on to customers by giving them great response times when they visit your e-commerce site. With more than 11 times the OPM of a legacy solution, the 2nd Generation Intel Xeon processor-powered Dell EMC PowerEdge R740xd can help elevate your business capabilities and bring your business into the future.

1 Intel, "2nd Gen Intel Xeon Scalable Processors Brief," accessed May 23, 2019, https://www.intel.com/content/www/us/en/products/docs/processors/xeon/2nd-gen-xeon-scalable-processors-brief.html.

Read the science behind this report at http://facts.pt/gycl03z ▶

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