

Executive summary



Achieve more analytics work, faster, with the Dell EMC PowerEdge R740xd

The Dell EMC server, powered by new Intel Xeon Scalable processors, performed the work of 10 five-year-old servers in less time

Data analytics tools present a powerful opportunity to learn more about your business and identify areas for improvement, optimization, and growth. But if you're running data analytics on legacy servers, you're missing out on speed and power—qualities that could result in obtaining key business insights sooner than you would otherwise.

At Principled Technologies, we found that a current-generation Dell EMC™ PowerEdge™ R740xd, powered by 2nd Generation Intel® Xeon™ Scalable processors and configured with SATA SSDs, performed six times the data warehouse analytics work of a PowerEdge R720xd and three times the work of a PowerEdge R730xd. When configured with NVMe SSDs from Intel, the PowerEdge R740xd performed ten times the work of the PowerEdge R720xd and five times the work of a PowerEdge R730xd.

Further, the PowerEdge R740xd with NVMe SSDs completed its workload in 95.2 percent less time than the PowerEdge R720xd and 26.9 percent less time than the PowerEdge R730xd. This could allow you to perform even more mission-critical work, or enable you to pursue projects with a larger scope.



Gain key insights faster

A PowerEdge R740xd with NVMe SSDs completed 10x the analytics work of a PowerEdge R720xd in less time



Boost your analytics performance

A PowerEdge R740xd with NVMe SSDs completed 5x the analytics work of a PowerEdge R730xd in less time

The winning solution at a glance

Dell EMC PowerEdge R740xd server

- 2U, two-socket server
- 24 DDR4 DIMM slots
- Up to 271 TB of storage
- Offers scalability and performance for data processing and analytics work¹

2nd Generation Intel Xeon Scalable processors

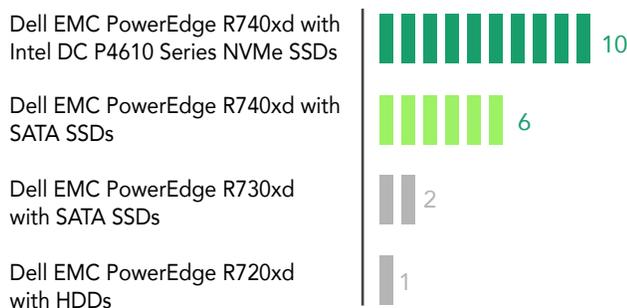
- Offers multiple levels of performance to match your workloads, including Bronze, Silver, Gold, and Platinum
- Supports new memory and storage technology for workload acceleration, Intel Optane™ DC memory²

Finish more work...

The PowerEdge R740xd with SATA SSDs was able to handle the work of six VMs—six times the amount of the legacy PowerEdge R720xd and three times that of last generation’s PowerEdge R730xd. Outfitting the PowerEdge R740xd with NVMe drives enabled it to run 10 simultaneous workloads—10 times as much as the PowerEdge R720xd and five times the amount of the PowerEdge R730xd, enabling you to run more analytics work simultaneously.

Number of simultaneous workloads

Higher is better



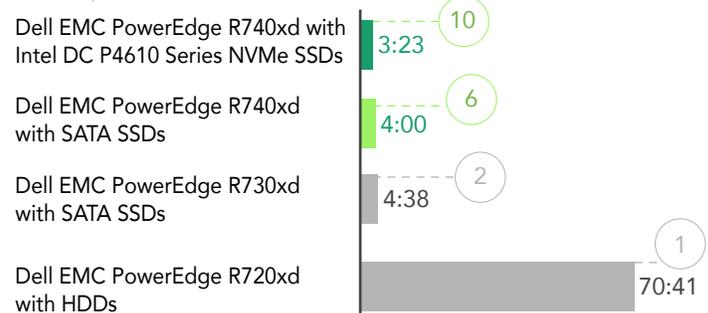
...in less time

The PowerEdge R740xd with SATA SSD storage completed six sets of queries in four minutes flat, while the configuration with NVMe SSDs completed 10 sets of queries in less than three and a half minutes. By contrast, the PowerEdge R720xd took more than an hour to complete just one set of queries.

Finishing analytics workloads quickly enables you to get key business insights sooner, which in turn can help your organization to stay competitive.

Time to complete data warehouse queries

min:sec | Lower is better



= number of query set(s) running

Conclusion

It pays to invest in hardware that can synthesize your organization’s data in good time. In the time it takes your older PowerEdge servers to process a data analytics workload, newer PowerEdge R740xd servers powered by 2nd Generation Intel Xeon Scalable processors could accomplish the job many times over.

- 1 Dell EMC, “PowerEdge R740xd Rack Server,” accessed June 10, 2019, <https://www.dell.com/en-us/work/shop/povw/power-edge-r740xd>.
- 2 Intel, “2nd Gen Intel Xeon Scalable Processors Brief,” accessed June 10, 2019, <https://www.intel.com/content/www/us/en/products/docs/processors/xeon/2nd-gen-xeon-scalable-processors-brief.html>.

Read the report at <http://facts.pt/6yh586b>



Facts matter.®

Principled Technologies is a registered trademark of Principled Technologies, Inc. All other product names are the trademarks of their respective owners. For additional information, review the report.