

Executive summary

Consolidate three legacy servers onto one Dell EMC PowerEdge R940 with 2nd Generation Intel Xeon Scalable processors

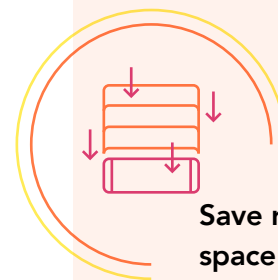
Shrink your footprint while gaining the latest in storage technology, embedded management, and other benefits

If your data center currently houses a bevy of legacy servers, you may wonder what the latest technology could do for your mission-critical database performance. In the Principled Technologies data center, we found that the Dell EMC™ PowerEdge™ R940 with 2nd Generation Intel® Xeon® Scalable processors handled over 3.14 times the workload transactions per minute (TPM) of an Oracle Database using the TPC-C-like HammerDB benchmark compared to a legacy Dell PowerEdge R920.

This large Oracle Database performance increase means that a single Dell EMC PowerEdge R940 could replace three of these 4U legacy servers, or 12U of servers, in just 3U of rack space, reducing the number of servers you must store, power, license, and manage and freeing up significant data center space. By moving to the Dell EMC PowerEdge R940, your organization also gets immediate access to NVMe drive technology, the latest in iDRAC management, and hardware that is less likely to need frequent, costly repair. By delivering all these benefits, consolidating your legacy servers onto new Dell EMC PowerEdge R940 servers with 2nd Generation Intel Xeon Scalable processors can deliver real business benefits now while providing the capacity and workload acceleration to prepare your organization for future growth.



Support more database users per server
3.14x the transactions per minute



Save rack space through consolidation
75% space reduction consolidating 3 servers into 1



Consolidation delivers numerous benefits

When you're looking to upgrade your data center, new server hardware should be able to consolidate legacy servers, so your business can reduce the number of servers you must maintain, license, manage, and power.

On an Oracle Database workload using a TPC-C-like benchmark from HammerDB, the Dell EMC PowerEdge R940 completed 3.14 times the TPM of the legacy server in 25 percent less rack space. This means that you could replace three legacy 4U servers with a single new PowerEdge R940 and cut rack space from 12U down to just 3U—a reduction of 75 percent. This helps you maximize data center efficiency by cutting down physical space and supporting more database users per server.

Please note that the Oracle Database EULA does not permit us to publish exact results, so we present normalized performance numbers to make our comparison.



Total transactions per minute (TPM)

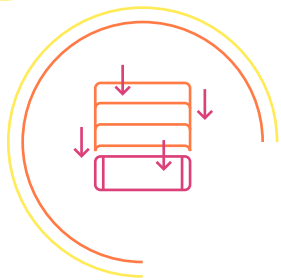
Higher is better
Normalized

Dell EMC PowerEdge R940

3.14

Dell PowerEdge R920

1



The benefits of a new platform with a 3:1 consolidation ratio are many:

- Free up administrators by reducing the hardware they must manage and maintain
- Reduce licensing costs for database and OS software
- Shrink operating costs relating to power, cooling, and data center space as you shrink your data center footprint

By moving from legacy Dell PowerEdge R720 servers to the new Dell EMC PowerEdge R940 powered by 2nd Generation Intel Xeon Scalable processors, your organization stands to gain these consolidation benefits and more.

- 1 Dell EMC, "PowerEdge R940 Rack Server," accessed August 20, 2019, <https://www.dell.com/en-us/workshop/povw/poweredge-r940>.
- 2 Intel, "2nd Gen Intel Xeon Scalable Processors Brief," accessed August 20, 2019, <https://www.intel.com/content/www/us/en/products/docs/processors/xeon/2nd-gen-xeon-scalable-processors-brief.html>.

The winning solution at a glance

Dell EMC PowerEdge R940 server

- 3U, four-socket server
- 48 DDR4 DIMM slots, up to 184 TB of storage, and up to 12 NVMe drives
- Supports demanding workloads including complex databases and dense virtualization¹

2nd Generation Intel Xeon Scalable processor platform

- Offers multiple levels of performance to match your workloads, including Bronze, Silver, Gold, and Platinum
- Supports Intel Optane™ DC memory,² new memory and storage technology for workload acceleration

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



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