



Organizations can reduce server costs by 64% over five years with the Dell PowerEdge R7715

A four-node cluster of these servers with AMD EPYC 9355P processors offers improved efficiency and consolidation potential at a lower five-year TCO vs. five-year-old servers

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What we tested



Legacy

Four-node legacy
HPE ProLiant DL380 Gen10
VMware vSAN cluster with dual
28-core Intel® Xeon® Gold
6258R processors



Latest gen

Four-node Dell™
PowerEdge™ R7715 VMware
vSAN cluster with single-socket
32-core AMD EPYC™ 9355P
processors

Two workloads ran simultaneously:

- Data analytics performance comparison
 - Used the HammerDB TPROC-H workload to determine how long it took each solution to complete their workloads, and then calculated the queries per hour that each solution could support
- WordPress webhosting performance comparison
 - Used the Siege benchmark tool to determine the maximum transactions per second (TPS) each solution could support

Calculated five-year TCO

- Used HammerDB results to determine a consolidation ratio for TCO comparison
- Measured CPU and power utilization to compare energy efficiency
- Calculated expected five-year costs for licensing, power, space, and maintenance for the solutions supporting an equivalent number of workloads

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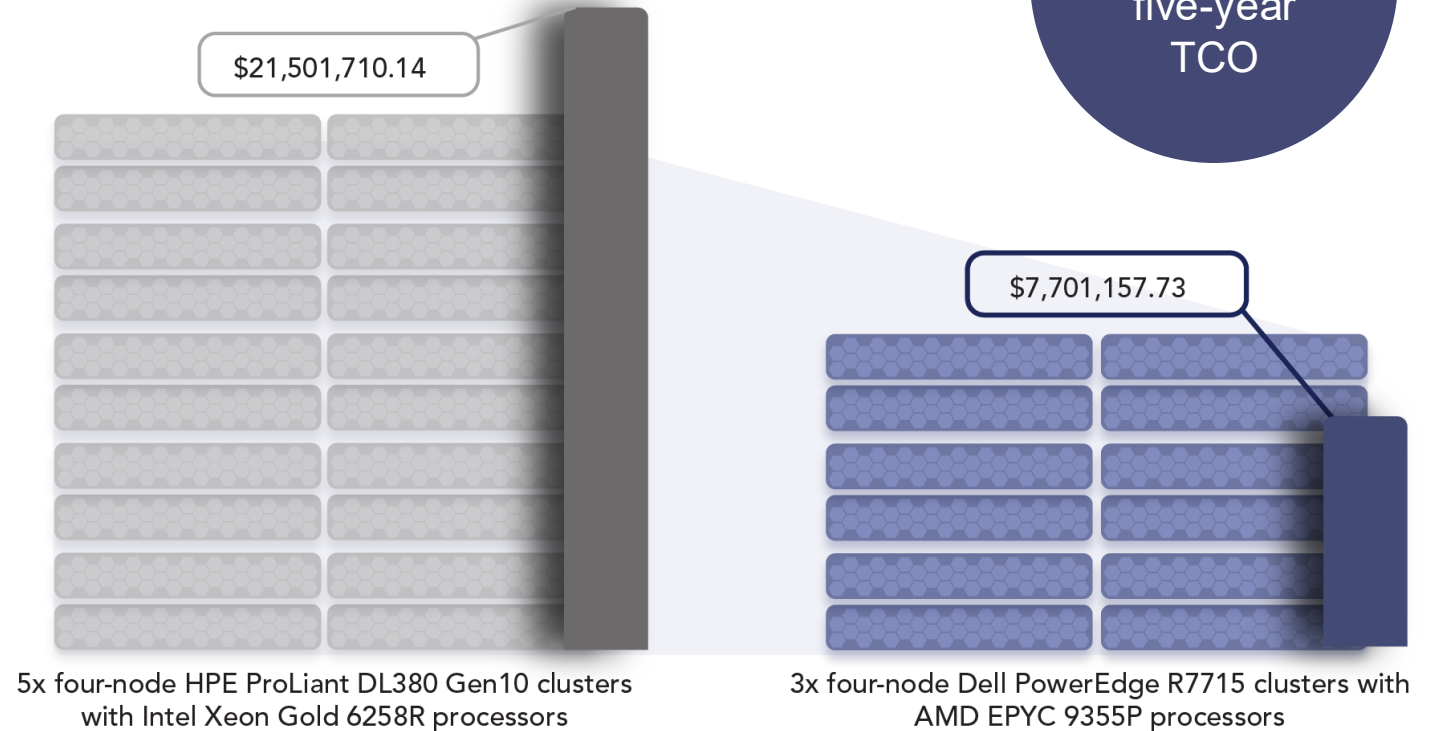


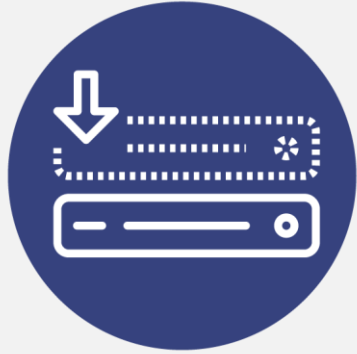
Benefits

- Save in licensing, power, space, and maintenance
- Save \$13.8M over the next five years—64% reduction
- The more servers you consolidate, the more you can save
- Newer AMD EPYC 9355P processors reduce core count from 1,120 to 384, yielding 66% lower software licensing

Save \$13.8M over five years from consolidation

Five-year TCO for equivalent VM count
US dollar | Lower is better





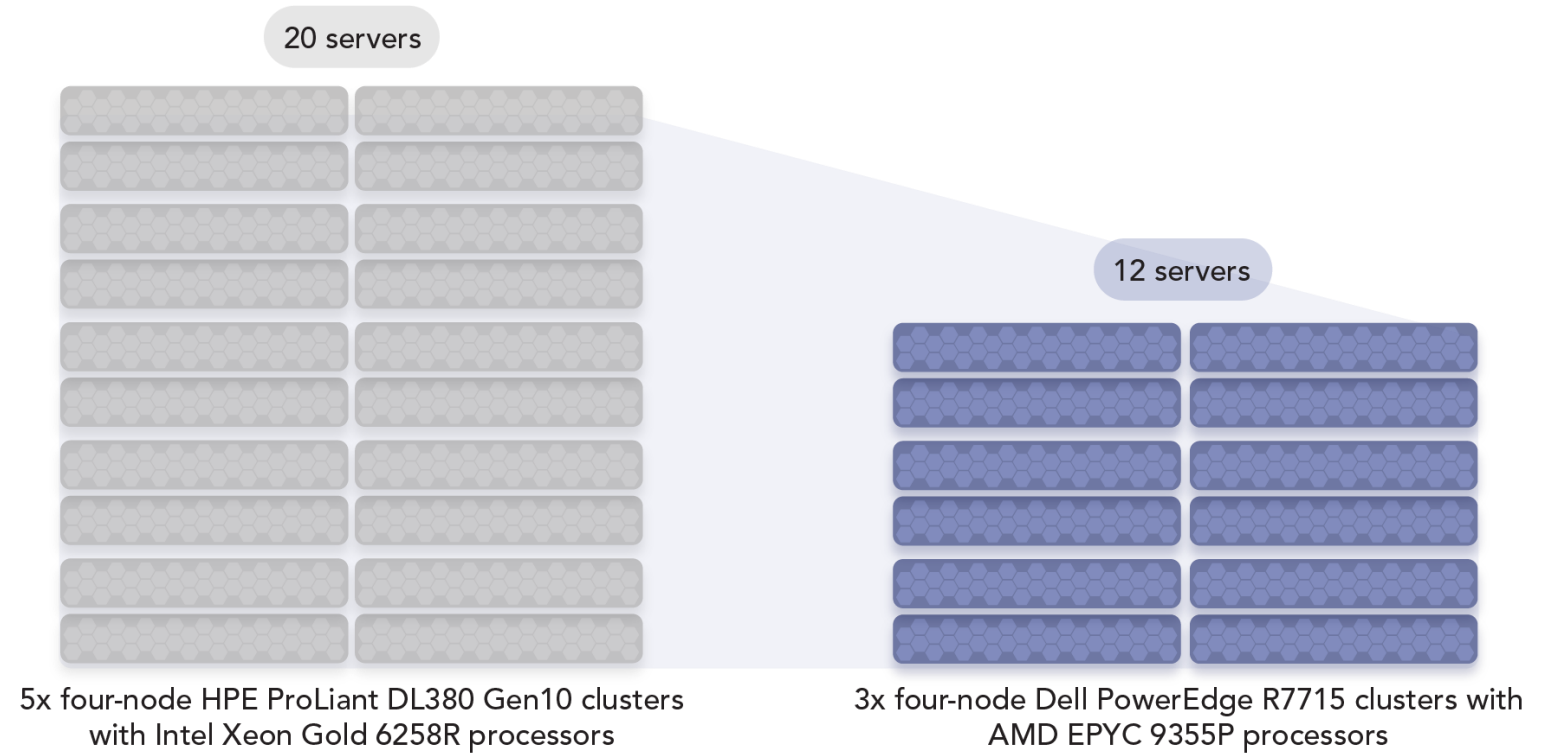
Benefits

- 40% reduction in rack space
- 32% energy reduction

Consolidate through improved performance

Five-year TCO for equivalent VM count

US dollar | Lower is better





Benefits

- 69% more query sets per hour while running webhosting workloads
- 66% more data analysis VMs while spending 42% less on software licenses (due to 42% fewer cores)
- 2.9X the data analysis per SQL license

Boost analytics to unlock timely insights

Query sets completed per hour (TPROC-H workload)

Number of query sets | Higher is better

4x Dell PowerEdge R7715 servers with AMD EPYC 9355P processors



4x HPE ProLiant DL380 Gen10 servers with Intel Xeon Gold 6258R processors





Benefits

- Get up to 3X the power efficiency (performance per watt) in head-to-head cluster comparisons
- Reduce power and related cooling costs

Achieve more work per watt for cost savings

Power efficiency with TPROC-H workload

*Completed query sets per hour per watt
Higher is better*

4x Dell PowerEdge R7715 servers
with AMD EPYC 9355P processors



4x HPE ProLiant DL380 Gen10 servers
with Intel Xeon Gold 6258R processors



Power efficiency with webhosting workload

*Completed TPS per watt
Higher is better*

4x Dell PowerEdge R7715 servers
with AMD EPYC 9355P processors



4x HPE ProLiant DL380 Gen10 servers
with Intel Xeon Gold 6258R processors



Upgrade to save money and do more with fewer servers



Maximize efficiency

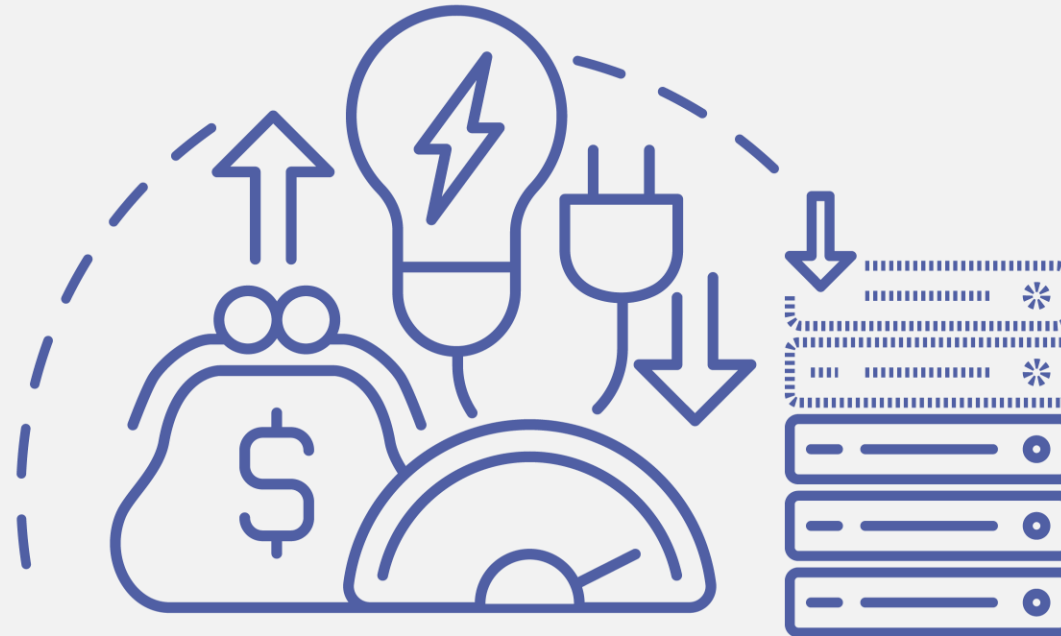
Consolidating workloads onto fewer servers helps simplify management, reduce datacenter footprint, and lower power and cooling demands

Boost performance per watt

The Dell solution supported more users per watt than the HPE solution, helping improve sustainability and potentially reduce energy spend

Cut costs

Consolidating to Dell PowerEdge R7715 clusters could save you over \$13.8M over five years, primarily coming from licensing savings



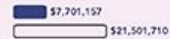
Support business growth

Higher database throughput and more concurrent web users allow your IT environment to scale as your organization grows, without proportional increases in infrastructure



Save \$13,800,552 over the server lifecycle

Five-year total cost of ownership (TCO)



Save on licensing costs

Reduce license count by getting 2.95X the data analysis per database license



Do more work with fewer servers

Consolidate 5 older clusters running data analytics and webhosting workloads onto 3 newer clusters



- Dell PowerEdge R7715 servers with AMD EPYC 9355P processors
- Legacy servers

Cut server infrastructure costs over five years with the Dell PowerEdge R7715

A four-node cluster of these servers with AMD EPYC 9355P processors offers improved efficiency and consolidation potential at a lower five-year TCO vs. five-year-old servers.

As organizations evaluate infrastructure upgrades amid expiring hardware warranties and shifting VMware[®] licensing models, TCO becomes a critical consideration. Dell[™] PowerEdge[™] R7715 servers with AMD EPYC[™] 9355P processors—deployed as vSAN[™] Ready Nodes—enable consolidation of aging infrastructure while improving performance per core and per license. Reducing physical server count can drive significant savings through optimized licensing and lower power and cooling requirements. This consolidation-focused approach helps organizations lower five-year TCO compared to legacy systems, while also simplifying management and bolstering security.

To highlight the cost-saving potential of infrastructure modernization, we tested two VMware vSphere 9 solutions: a four-node Dell PowerEdge R7715 cluster configured as vSAN Ready Nodes, with a single 32-core AMD EPYC 9355P processor in each server, and a four-node HPE ProLiant DL380 Gen10 cluster using dual 28-core Intel[®] Xeon[®] Gold 6258R processors. The Dell solution delivered stronger performance in data analytics and webhosting workloads running simultaneously, which can easily translate into cost-saving advantages. By supporting more VMs per core, three PowerEdge R7715 clusters can consolidate 20 of the older servers, reduce required licenses by 42 percent, and lower power and cooling demands. In our analysis, this consolidation can yield a 64 percent lower five-year TCO in addition to offering other advantages, such as simplified management. Organizations that modernize with this PowerEdge solution could gain room in their budgets and headroom in their infrastructure, which could better position them to grow without expanding their data center footprint or increasing costs.



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