

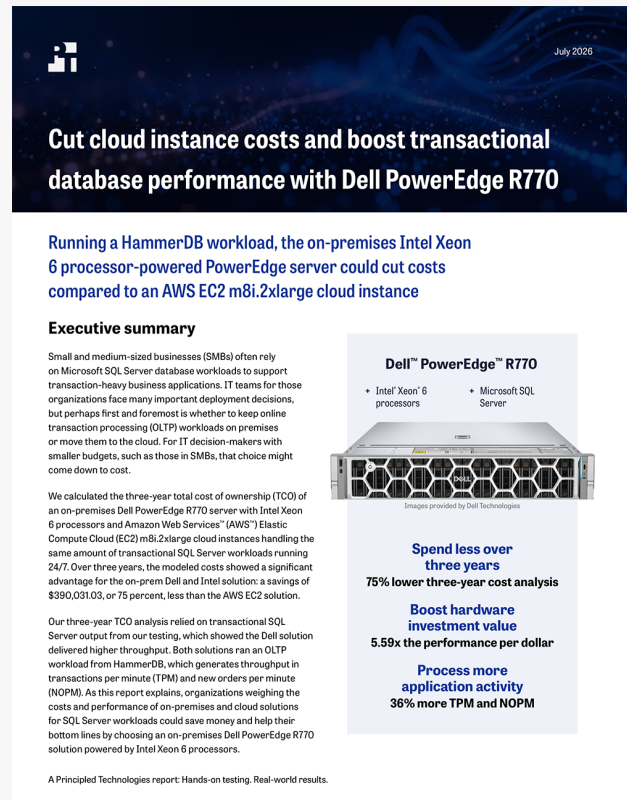
On-premises Dell PowerEdge R770 systems could reduce cloud spending over 3 years

Based on stronger SQL Server performance, Principled Technologies (PT) showed how the server could save nearly \$400K vs. a similarly configured cloud solution.

ROUND ROCK, TX, UNITED STATES, July 22, 2026 /EINPresswire.com/ -- For small and midsize organizations running steady SQL Server workloads, deployment decisions often come down to two practical questions: how much performance a solution can deliver and what it will cost over time. A new PT report compares the three-year total cost of ownership (TCO) and Microsoft SQL Server online transaction processing (OLTP) performance of an on-premises Dell PowerEdge R770 server powered by Intel Xeon 6 processors and Amazon Web Services (AWS) Elastic Cloud Computing (EC2) m8i.2xlarge cloud instances.

The PT study used HammerDB TPROC-C to evaluate transactional SQL Server performance, measuring transactions per minute (TPM) and new orders per minute (NOPM). PT then used those results to model the cost of supporting the same number of 24/7 SQL Server workloads over three years.

According to the report, the on-premises Dell PowerEdge R770 solution could reduce modeled



Cut cloud instance costs and boost transactional database performance with Dell PowerEdge R770

Running a HammerDB workload, the on-premises Intel Xeon 6 processor-powered PowerEdge server could cut costs compared to an AWS EC2 m8i.2xlarge cloud instance

Executive summary

Small and medium-sized businesses (SMBs) often rely on Microsoft SQL Server database workloads to support transaction-heavy business applications. IT teams for those organizations face many important deployment decisions, but perhaps first and foremost is whether to keep online transaction processing (OLTP) workloads on premises or move them to the cloud. For IT decision-makers with smaller budgets, such as those in SMBs, that choice might come down to cost.

We calculated the three-year total cost of ownership (TCO) of an on-premises Dell PowerEdge R770 server with Intel Xeon 6 processors and Amazon Web Services™ (AWS™) Elastic Compute Cloud (EC2) m8i.2xlarge cloud instances handling the same amount of transactional SQL Server workloads running 24/7. Over three years, the modeled costs showed a significant advantage for the on-prem Dell and Intel solution: a savings of \$390,031.03, or 75 percent, less than the AWS EC2 solution.

Our three-year TCO analysis relied on transactional SQL Server output from our testing, which showed the Dell solution delivered higher throughput. Both solutions ran an OLTP workload from HammerDB, which generates throughput in transactions per minute (TPM) and new orders per minute (NOPM). As this report explains, organizations weighing the costs and performance of on-premises and cloud solutions for SQL Server workloads could save money and help their bottom lines by choosing an on-premises Dell PowerEdge R770 solution powered by Intel Xeon 6 processors.

A Principled Technologies report: Hands-on testing. Real-world results.

Dell™ PowerEdge™ R770

- Intel Xeon 6 processors
- Microsoft SQL Server

Images provided by Dell Technologies

Spend less over three years

75% lower three-year cost analysis

Boost hardware investment value

5.59x the performance per dollar

Process more application activity

36% more TPM and NOPM

Report: Cut cloud instance costs and boost transactional database performance with Dell PowerEdge R770

three-year costs by \$390,031.03, or 75 percent, compared to an AWS EC2 m8i.2xlarge deployment sized to support the same number of workloads. The report also found that the Dell PowerEdge R770 delivered 36 percent higher database performance per VM than the AWS EC2 m8i.2xlarge instance and 5.59 times the NOPM per dollar of the AWS EC2 solution. The report states, "Cloud and on-premises deployment choices can look different once teams compare actual workload performance against multi-year costs."

Key results

- 75 percent lower modeled three-year TCO: The Dell PowerEdge R770 solution cost \$125,674.09 over three years, compared to \$515,705.12 for 28 AWS EC2 m8i.2xlarge instances.
- 5.59x NOPM per dollar: PT calculated higher performance per dollar for the Dell PowerEdge R770 solution using HammerDB TPROC-C throughput and three-year TCO.
- 36 percent higher per-VM database performance: The average VM on the Dell PowerEdge R770 delivered 139,616 TPM and 60,101 NOPM, compared to 102,576 TPM and 44,078 NOPM from the AWS EC2 m8i.2xlarge instance.
- 28 SQL Server VMs on one server: The Dell PowerEdge R770 supported 28 SQL Server VMs in the PT test environment.

Why it matters

Many small and medium-sized businesses rely on SQL Server databases for everyday operations, including orders, inventory updates, payments, account checks, and business applications. For these organizations, database infrastructure decisions can affect both application responsiveness and long-term IT spending.

As the report explains, "Spending less on infrastructure can free IT budgets for other priorities such as security improvements, backup and recovery, or application modernization, while higher OLTP throughput can help SQL Server applications complete more database work."

The report also notes that keeping workloads on premises can give IT teams "host-level visibility and operational control over the hardware, management tools, monitoring practices, and data placement policies supporting their database environment."

For organizations refreshing database infrastructure or reevaluating cloud spend, the report concludes that these advantages "could make an on-prem Dell PowerEdge R770 solution a strong option for SQL Server OLTP workloads."

[Read more in the full PT report:](#) Cut cloud instance costs and boost transactional database performance with Dell PowerEdge R770.

About Principled Technologies, Inc.

Principled Technologies, Inc. is the leading provider of fact-based marketing and competitive analysis backed by transparent methodologies.

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