

Record Holders: World Records, Awards, & Benchmarks on Dell PowerEdge Servers

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Summary

Dell Technologies has achieved numerous world records and prestigious awards for its exceptional PowerEdge servers. This document provides a comprehensive compilation of these accolades, complete with detailed industry benchmark results. Dell Technologies conducts rigorous benchmarking on its PowerEdge servers to highlight their performance evaluations. The consistently high benchmark scores underscore the servers' capabilities and have subsequently received industry recognition. Across various models, Dell Technologies maintains a strong record, highlighting their impressive compute power.



[World Records & Awards](#)



[AI Benchmarking](#)



World records & awards

- [World-Record Power-Performance Results for - Virtualization Workloads](#)
- [World-Record Performance Results for Database-Management Workloads](#)
- [World-Record Performance for Big Data and Analytics](#)
- [World-Record Performance for AI and ML](#)
- [World Record VMmark® 3 Performance Server and Storage Power-Performance using Dell PowerEdge AMD Portfolio](#)
- [Dell PowerEdge R760 Delivers Record Breaking VMmark Results Using Intel® 5th Gen CPUs](#)
- [Dell PowerEdge C6615 Delivers World Record VMmark Power-Performance Results](#)
- [In the Red Dot Design Award, Dell's PowerEdge T160 was in 2024 awarded with the Red Dot: Best of the Best award.](#)

Industry Benchmarks

1. **AI Benchmarking:** AI benchmarking plays a crucial role in optimizing Dell PowerEdge servers for AI workloads. By fine-tuning BIOS settings and leveraging CPUs, Dell Technologies has achieved impressive performance boosts for AI inference tasks.
 - [World-Record Performance for AI and ML](#)
 - [Fine-Tuning Enterprise LLMs at Scale with Dell™ PowerEdge™ & Broadcom](#)
 - [Deploy and Finetune Llama2 70B Chat on PowerEdge XE9680 with AMD Instinct MI300X](#)
 - [Delivering Choice for Enterprise AI: Multi-Node Fine-Tuning on Dell PowerEdge XE9680 with AMD Instinct MI300X](#)
 - [Performance Insights-Generative AI Performance Insights Dell XE 9680](#)
 - [Partnership Drives AI Innovation](#)
 - [Part III | How to Run Llama-2 via Hugging Face Models on AMD ROCm™ with Dell PowerEdge™?](#)
 - [Part II | How to Run Hugging Face Models with AMD ROCm™ on Dell™ PowerEdge™?](#)
 - [Part I: Is AMD ROCm™ Ready to Deploy Leading AI Workloads?](#)
 - [Lab Insight: Dell CPU-Based AI PoC for Retail](#)
 - [Lab Insight: Dell and Broadcom Deliver Scale-Out AI Platform for Industry](#)
 - [Lab Insight: Dell AI PoC for Transportation & Logistics](#)
 - [Lab Insight: AI on CPUs- A PoC for Healthcare](#)
 - [Llama-2 on Dell PowerEdge XE9640 with Intel Data Center GPU Max 1550](#)

2. **MLPerf benchmarks:** Developed by MLCommons, the MLPerf benchmarks play a crucial role in assessing the performance of AI systems. These benchmarks provide standardized and objective evaluations across various tasks, ensuring fair comparisons. By conducting rigorous tests under controlled conditions, MLPerf helps organizations make informed decisions when selecting hardware, optimizing software, and deploying AI solutions.

- [MLPerf™ Inference v4.0 Performance on Dell PowerEdge R760 with NVIDIA L40S GPUs](#)
- [MLPerf™ Inference v1.0 – CPU Based Benchmarks on Dell PowerEdge R750 Server](#)
- [MLPerf Inference v1.0 – CPU-based benchmarks on the Dell EMC PowerEdge R750 Server](#)
- [Unveiling the World's First MLPerf 4.1 Performance Results for AMD Instinct MI300X on PowerEdge XE9680](#)

To learn more about MLPerf training and inference benchmarking, check out the following resources:

- [Benchmark MLPerf Inference: Datacenter | MLCommons V3.1](#)
- [Benchmark MLPerf Inference: Edge | MLCommons V3.1 Results](#)
- [Benchmark MLPerf Training | MLCommons Version 2.0 Results](#)

3. **SAP:** Standard Application Benchmarks evaluate the hardware and database performance of SAP applications and components. These benchmarks help customers and partners find suitable hardware configurations for their IT solutions. The SAP Application Performance Standard (SAPS), derived from the Sales and Distribution (SD) benchmark, quantifies system performance in the SAP environment.

- [Remarkable SAP Benchmark Performance Results for Dell PowerEdge R760 Servers](#)
- [PowerEdge R760 SAP HANA Performance - Analyst Paper](#)
- [New SAP HANA World Record with 5th Generation Intel® Xeon® Processors](#)
- [On the record for Sapphire: World Record SAP HANA Performance with Dell PowerEdge R760 Servers](#)

To learn how more about the specifics of the benchmarks, check out the following resource:

- [SAP Standard Application Benchmarks](#)

4. **SPEC:** The Dell Solutions Performance Analysis Lab (SPA) runs the SPEC CPU® 2017 benchmark on series of processors. SPEC benchmarks are widely-recognized industry standards for evaluating the performance of computer systems, including CPUs, GPUs, and other hardware components. These benchmarks provide standardized metrics for tasks like floating-point calculations, integer operations, and system throughput. By running SPEC benchmarks, manufacturers and users can assess and compare the performance of different hardware configurations. SPEC CPU is an industry-standard benchmark that measures compute performance for both floating point (FP) and integer operations.

- [Introducing the PowerEdge T360 & R360: Gain up to Double the Performance with Intel® Xeon® E-Series Processors](#)
- [Intel® Xeon® E-2300 Processor Series](#)
- [Intel Xeon E-2300 Processor Series for Next-Generation PowerEdge Rack and Tower Servers](#)
- [Intel Xeon D Processor for the Edge](#)
- [Get improved performance and new features from Dell EMC PowerEdge servers with 3rd Gen AMD EPYC processors](#)

- [DDR5 Memory Bandwidth for Next-Generation PowerEdge Servers Featuring 4th Gen AMD EPYC Processors](#)
- [Memory Population Rules for Intel® Xeon® Scalable Processors on PowerEdge Servers](#)
- [Memory Bandwidth for Next-Gen PowerEdge Servers Significantly Improved with Sapphire Rapids Architecture](#)
- [Memory Bandwidth for New PowerEdge Servers is Significantly Improved with Ice Lake Architecture](#)
- [Memory Bandwidth for New PowerEdge Servers is Significantly Improved with Ice Lake Architecture](#)
- [Memory Bandwidth for New PowerEdge Servers is Significantly Improved with Ice Lake Architecture](#)
- [Benchmark Performance of AMD EPYC™ Processors](#)
- [Unleash up to 2x Performance on the PowerEdge T160 & R260 with the Latest Intel® Xeon® E-2400 Processors](#)
- [Testing LLAMA-2 models on Dell PowerEdge R760xa with 5th Gen Intel Xeon Processors](#)
- [Next-Generation Dell PowerEdge XR Server CPU Improvements](#)

To learn how more about the specifics of the benchmarks, check out the following resources:

- [SPEC CPU® 2017 Results](#)
- [SPEC_CPU_Dell_Results_06/24/2024](#)

5. **TPC:** TPC benchmarking provides a standardized and reliable way to evaluate the performance and scalability of database management systems.

TPC-H: This illustrates decision support systems that examine large volumes of data, execute queries with a high degree of complexity, and provide answers to critical business questions.

1,000 GB Results

- [Dell PowerEdge R7515](#)
- [Dell PowerEdge MX740c](#)

3,000 GB Results

- [Dell PowerEdge R7525](#)
- [Dell PowerEdge R6525](#)
- [Dell PowerEdge R6415](#)

10,000 GB Results

- [Dell PowerEdge R7625](#)
- [Dell PowerEdge R7525](#)
- [Dell PowerEdge R6525](#)
- [Dell PowerEdge R940xa](#)
- [Dell PowerEdge R6415](#)

30,000 GB Results

- [Dell PowerEdge R6525](#)

100,000 GB Results

- [Dell PowerEdge R6525](#)

TPCx-V: This is a virtualization benchmark designed to measure the performance of a virtualized server platform under a demanding database workload.

- [Dell Power Edge R7625](#)
- [Dell Power Edge R7525](#)

TPCx-HS: This is an industry-standard Big Data benchmark for objectively measuring the performance and price/performance of Apache Hadoop and Apache Spark compatible software distributions.

1TB results:

- [Dell Power Edge R6515](#)
- [Dell Power Edge R6515](#)
- [Dell Power Edge R6415](#)
- [Dell Power Edge R6415](#)
- [Dell Power Edge R7515](#)
- [Dell Power Edge R7515](#)
- [Dell Power Edge R6515](#)

3TB results:

- [Dell Power Edge R7515](#)
- [Dell Power Edge R7515](#)
- [Dell Power Edge R6515](#)

10TB results:

- [Dell Power Edge R6415](#)

100TB results:

- [Dell Power Edge R6515](#)

TPCx-BB: This is a Big Data benchmark that evaluates the performance of Hadoop-based Big Data systems.

SF3,000:

- [Dell Power Edge 7515](#)

SF10,000:

- [Dell Power Edge R730/R730xd](#)
- [Dell Power Edge R640/R740xd](#)
- [Dell Power Edge R640/R740xd](#)
- [Dell Power Edge R660/R760](#)

TPCx-AI: This is an AI benchmark that measures the performance of machine learning and scales the dataset, including use cases like fraud/spam detection and forecasting.

SF3:

- [Dell Power Edge R7615](#)

SF10:

- [Dell Power Edge R7615](#)
- [Dell Power Edge R7615](#)
- [Dell Power Edge C6615](#)

SF30:

- [Dell Power Edge R6625](#)
- [Dell Power Edge R6625](#)

SF100:

- [Dell Power Edge R6625](#)

SF300:

- [Dell Power Edge R6625](#)

SF1000:

- [Dell Power Edge R640/R740xd](#)
- [Dell Power Edge R650](#)
- [Dell Power Edge R6625](#)

TPCx-IoT: This is an industrial standard for benchmarking IoT data management systems. It specifically targets databases deployed in Internet-of-Things architectures. The benchmark addresses critical aspects of IoT data management, including intensive data ingestion and time-range based queries.

- [Dell Power Edge R6415](#)
- [Dell Power Edge R7415](#)
- [Dell Power Edge R7515](#)

6. **VMmark:** The VMmark benchmark is significant for customers using Dell PowerEdge servers because it measures performance, server and storage power, and scalability in virtualized environments. VMmark results provide insights

into a server's ability to run multiple virtual machines simultaneously while maintaining efficiency and low latency. Dell PowerEdge servers often participate in VMmark testing, showcasing their performance and suitability for virtualized workloads.

- [World Record VMmark® 3 Performance Server and Storage Power-Performance using Dell PowerEdge AMD Portfolio](#)
- [Dell PowerEdge R760 Delivers Record Breaking VMmark Results Using Intel® 5th Gen CPUs](#)
- [Dell PowerEdge C6615 Delivers World Record VMmark Power-Performance Results](#)
- [Dell PowerEdge R7615: VMmark 3.1.1 Score 13.51 @ 12 Tiles](#)
- [Dell PowerEdge T550: VMmark 3.1.1 Score 16.39 @ 16 Tiles](#)
- [Dell PowerEdge C6615: VMmark 3.1.1 Score 17.42 @ 16 Tiles](#)
- [Dell PowerEdge R760: VMmark 3.1.1 Score 18.78 @ 20 Tiles](#)
- [Dell PowerEdge R7615: VMmark 3.1.1 Score 20.65 @ 21 Tiles](#)
- [Dell PowerEdge R7525: VMmark 3.1.1 Score 23.14 @ 24 Tiles](#)
- [Dell PowerEdge R7525: VMmark 3.1.1 Score 23.64 @ 24 Tiles](#)
- [Dell PowerEdge R860: VMmark 3.1.1 Score 23.85 @ 25 Tiles](#)
- [Dell PowerEdge R760: VMmark 3.1.1 Score 25.34 @ 28 Tiles](#)
- [Dell PowerEdge R760: VMmark 3.1.1 Score 39.11 @ 42 Tiles](#)
- [Dell PowerEdge R7625: VMmark 3.1.1 Score 40.51 @ 43 Tiles](#)
- [Dell PowerEdge R7625: VMmark 3.1.1 Score 44.15 @ 49 Tiles](#)
- [Dell PowerEdge R760: VMmark 3.1.1 Score 51.23 @ 55 Tiles](#)
- [Dell PowerEdge R6525: VMmark 3.1.1 Score 63.01 @ 64 Tiles](#)
- [Dell PowerEdge R6525: VMmark 3.1.1 Score 39.01 @ 40 Tiles](#)
- [VMmark on XR4000](#)
- [Dell PowerEdge R6525: VMmark 3.1.1 Score 38.21 @ 39 Tiles](#)
- [Dell PowerEdge R6525: VMmark 3.1.1 Score 29.73 @ 32 Tiles](#)
- [Dell PowerEdge R750: VMmark 3.1.1 Score 24.48 @ 26 Tiles](#)
- [Dell PowerEdge R6525: VMmark 3.1.1 Score 24.44 @ 26 Tiles](#)
- [Dell PowerEdge R6525: VMmark 3.1.1 Score 24.08 @ 28 Tiles](#)
- [Dell PowerEdge R7525: VMmark 3.1.1 Score 20.04 @ 22 Tiles](#)
- [Dell PowerEdge R7525: VMmark 3.1.1 Score 19.40 @ 22 Tiles](#)
- [Dell PowerEdge R6525: VMmark 3.1.1 Score 18.39 @ 20 Tiles](#)

- [Dell PowerEdge R7515: VMmark 3.1.1 Score 15.18 @ 16 Tiles](#)
- [Dell PowerEdge R940: VMmark 3.0 Score 14.71 @ 15 Tiles](#)
- [Dell PowerEdge R750: VMmark 3.1.1 Score 13.95 @ 14 Tiles](#)
- [Dell PowerEdge C6525: VMmark 3.1.1 Score 13.74 @ 16 Tiles](#)
- [Dell PowerEdge R6525: VMmark 3.1.1 Score 13.27 @ 14 Tiles](#)
- [Dell PowerEdge R6525: VMmark 3.1.1 Score 12.42 @ 13 Tiles](#)
- [Dell PowerEdge R7515: VMmark 3.1.1 Score 12.06 @ 13 Tiles](#)
- [Dell PowerEdge R7515: VMmark 3.1.1 Score 11.34 @ 12 Tiles](#)
- [Dell PowerEdge R7515: VMmark 3.1.1 Score 9.16 @ 10 Tiles](#)
- [Dell PowerEdge R740xd: VMmark 3.0 Score 7.45 @ 8 Tiles](#)
- [Dell PowerEdge R6525: VMmark 3.1.1 Score 6.07 @ 6 Tiles](#)
- [Dell PowerEdge R730: VMmark V2.5.2 Score 25.46 @ 22 Tiles](#)
- [Dell PowerEdge R720: VMmark V2.5.2 Score 12.05 @ 10 Tiles](#)
- [Dell PowerEdge R620: VMmark V2.5.2 Score 31.35 @ 30 Tiles](#)
- [Dell PowerEdge M620: VMmark V2.5.1 Score 16.43 @ 14 Tiles](#)
- [Dell PowerEdge R720: VMmark V2.5.1 Score 16.18 @ 14 Tiles](#)
- [Dell PowerEdge R720: VMmark V2.1.1 Score 11.39 @ 10 Tiles](#)
- [Dell PowerEdge R730: VMmark V2.1.1 Score 10.20 @ 10 Tiles](#)
- [Dell PowerEdge R730: VMmark V2.1.1 Score 10.49 @ 10 Tiles](#)
- [Dell PowerEdge R910: VMmark V2.1.1 Score 17.63 @ 18 Tiles](#)
- [Dell PowerEdge R710: VMmark V2.1 Score 7.30 @ 7 Tiles](#)



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