



On-Premises AI for Financial Services: Lower TCO, Faster Results

Testing by Prowess Consulting shows that on-premises Dell™ PowerEdge™ servers with 4th Generation AMD EPYC™ processors can deliver a better total cost of ownership (TCO) and higher performance for AI market-analysis workloads than cloud solutions.

Enterprises are grappling with rising cloud costs and growing demands for performance, security, and data governance. On-premises infrastructure can offer a compelling alternative. Research by Prowess Consulting reveals that modern Dell™ PowerEdge™ servers equipped with 4th Generation AMD EPYC™ processors and NVIDIA® GPUs can outperform cloud-based alternatives for AI workloads—especially in financial services.

Prowess Consulting tested a real-world marketing analytics pipeline supports marketing teams across industry verticals, though the study focused primarily on financial services. Our testing found that Dell PowerEdge servers completed workloads up to 16% faster than a Microsoft Azure® cloud-based solution.¹ The Dell PowerEdge servers also delivered up to 88% lower cost per run compared to the Azure solution.¹ Over a three-year horizon, this would translate to a 58% lower total cost of ownership (TCO).¹ Notably, we found that these gains are achievable despite the cloud configuration using higher-tier components, highlighting the efficiency and right-sizing advantages of using an on-premises deployment.

In real-world terms such as in financial-services marketing, servers from Dell Technologies like the Dell PowerEdge R7615 tested by Prowess Consulting can complete AI pipelines up to 16% faster than cloud-based instances. That means a financial-services firm could run its pipeline seven times in the time a competitor could run the same pipeline six times using a comparable cloud solution. These performance benefits can add up over time, particularly in hyper-competitive industries like finance.

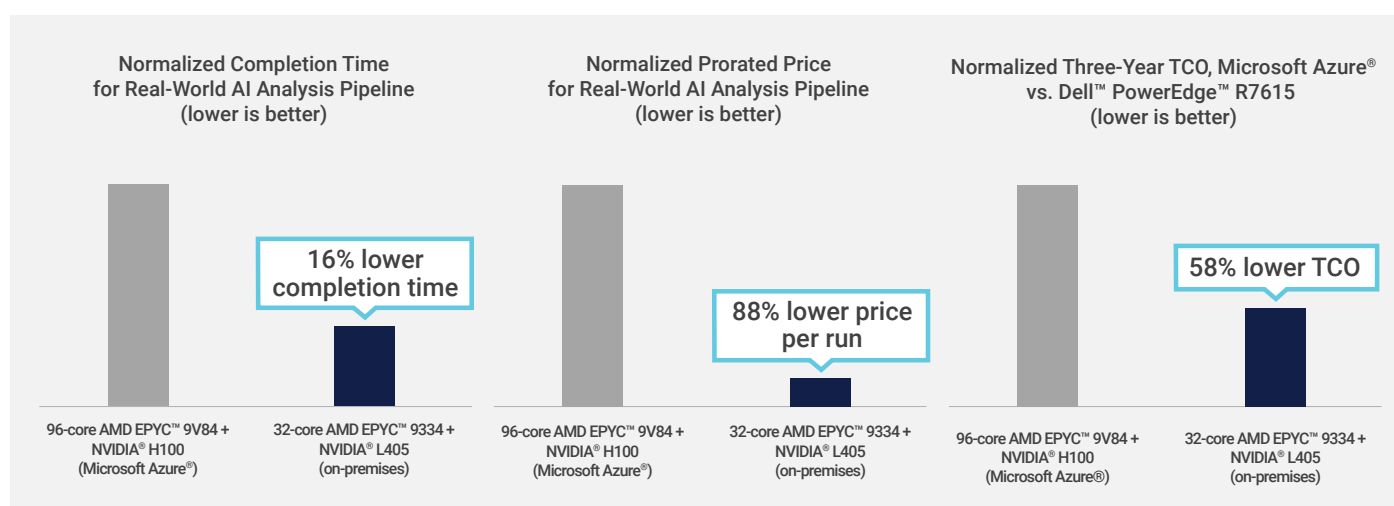


Figure 1 | Normalized comparisons of completion time, price-per-run, and three-year TCO between the Microsoft Azure® cloud-based solution and the on-premises Dell™ PowerEdge™ server-based solution

The broader examination of Dell PowerEdge servers by Prowess Consulting showed that they offer more than just performance and cost advantages highlighted by our testing. They provide architectural flexibility, predictable budgeting, and enhanced data control—critical features for regulated industries like finance. With support for advanced cooling, power efficiency, and integrated Dell Technologies management tools, these servers provide a scalable, sustainable foundation for AI innovation.

Learn More

As our testing shows, the Dell PowerEdge platform can be a serious contender for financial services enterprises reassessing their cloud commitments in light of AI scale-out challenges. For complete study details, visit [“Financial Services Firms can Run Digital Marketing Campaigns Faster and Cheaper with On-Premises AI.”](https://prowessconsulting.com/resources/dell-poweredge-finserv-ai-performance-tco-savings/)

Endnotes

¹ Prowess Consulting. “Financial Services Firms can Run Digital Marketing Campaigns Faster and Cheaper with On-Premises AI.” <https://prowessconsulting.com/resources/dell-poweredge-finserv-ai-performance-tco-savings/>



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