SOLUTION BRIEF

Unlock SQL Server's Full Potential with Pure Storage

Eliminate bottlenecks, accelerate transactions and shrink database storage footprint and costs with a simple, resilient platform.

Microsoft SQL Server remains one of the most widely deployed and trusted database platforms for mission-critical environments, supporting everything from transactional systems to data warehousing and business intelligence. The anticipated release of SQL Server 2025 introduces groundbreaking advancements from native AI integration and vector search to cloud-connected innovation. Whether you're modernizing your data infrastructure or launching new initiatives, Pure Storage ensures SQL Server runs with the highest performance you want with an efficient footprint and resiliency that you need.

Storage Challenges for Modern SQL Server Workloads

When people talk about improving SQL Server performance, the spotlight usually falls on compute and memory. But storage is another piece of the puzzle that often gets ignored and frequently the silent bottleneck that holds everything back.

In a busy SQL Server environment, transactions are constant and queries are running nonstop to meet business expectations. But behind the scenes, many of these systems are still running on traditional storage architectures that simply weren't built for today's demands. As workloads become more diverse, organizations start seeing the impact. Latency increases, throughput suffers, and managing everything becomes more complicated than it should be. On top of that, as database volumes grow, so do the physical space and energy requirements. Without an efficient storage solution, organizations struggle to reduce their data center footprint while maximizing performance.

And the problems don't stop with performance. Legacy storage tends to be complex, requires more manual tuning and often lacks high availability options. That puts more pressure on IT teams, slows down access to insights, and increases the risk of outages. When data is lost or systems go down, it can seriously affect business operations and customer trust. Even backup and restore processes can become a major pain point. They take too long, require too much manual effort, and make it harder to meet recovery objectives.

Unmatched Performance Density

Up to 3X more performance and efficiency per rack unit[1] vs. other solutions on the market.

Shrink Costs and Data Center Footprint

Consolidate workloads with industry-leading data reduction that saves space and energy. Cut TCO by up to 72% and reduce AI vector embedding storage footprint by 50%[1]

End Downtime for Good

Get software and hardware updates as well as infrastructure expansions without any service interruption. Your database storage stays always-on and disruption-free with proven 99.9999% uptime guarantee.

These challenges become even more pressing with SQL Server 2025. This release brings powerful new features like vector search, retrieval-augmented generation, and improved hybrid cloud capabilities. These are designed for advanced applications that rely on speed, scale, and constant access to data. But they also place heavy demands on the underlying data storage infrastructure. When AI-powered workloads, real-time transactions, and large volumes of data all hit the same system, traditional storage just can't keep up. The results are slow performance, limited scalability, and growing frustration for both users and IT teams.

To truly get the most out of their SQL Server environment, organizations need a modern storage platform that not only keeps pace with what's next but also drives broader business outcomes.

Accelerating SQL Server Environments with the Pure Storage Platform

Pure Storage unifies your SQL Server storage on a single, as-a-service platform that is simple to deploy, manage, and scale and is built on the proven, non-disruptive Evergreen® architecture. At the core of the platform are Pure Storage FlashArray™, which provides fast, efficient unified block and file storage, and Pure Storage FlashBlade® for fast backup, restore, and scalable unstructured data workloads. With capabilities like non-disruptive upgrades, AI-driven management, automation and intelligent workload placement, the Pure Storage platform simplifies operations, strengthens resilience, and provides a future-ready foundation for scaling modern database workloads with confidence.

Maximized Performance with a Minimized Footprint

As part of the Pure Storage platform, FlashArray delivers high performance at any scale for SQL Server environments. The FlashArray family includes different models designed to meet a wide range of database storage needs. FlashArray//XL™ offers ultra-low latency, high throughput, and consistent performance at massive scale. This makes it ideal for consolidating demanding SQL Server workloads onto fewer arrays with room to grow. The latest generation of FlashArray//XL delivers up to 3X IOPS per RU compared to similarly configured competitive systems, and reduces storage footprint for AI vector embeddings by up to 50%[1]. FlashArray//X™ supports a broad range of general-purpose SQL Server workloads with strong performance and efficiency, while FlashArray//C™ offers cost-effective, high-capacity storage for backups, archives, and capacity-heavy use cases.

Operational Simplicity

Infrastructure teams can eliminate SQL storage silos with a simple data management experience across all workloads, whether on premises, in the cloud, or in hybrid environments. Pure Storage enables seamless data mobility, including snapshot replication across arrays or to the cloud, while maintaining consistency, integrity, and availability. Teams can automate SQL storage management with intelligent workload placement and seamless integration options. Pure Storage supports management via GUI, REST APIs, and third-party tools, enabling alignment with your organization's workflows and scalability requirements.

Pure Storage snapshots also provide versatility to managing SQL Server data, by allowing infrastructure team members to recover data by restoring the original volume, to overwrite that data, to create copies on new volumes, to replicate asynchronously to another array, or to offload for long-term retention to object storage. These snapshots simplify data management, enhance recovery options, and support flexible, scalable storage practices for SQL Server environments.

Reduce Risk and End Downtime for Good

The Pure Storage platform can help teams protect their critical SQL Server 2025 data with always-on encryption, always-on logging, industry-leading reliability, and robust replication capabilities, ensuring unmatched uptime, availability, and SafeMode™ protection. With Pure Storage Evergreen®, teams can also benefit from proactive updates and non-disruptive upgrades that keep their storage infrastructure modern, secure, and resilient, providing predictable access and safeguarding SQL Server data against disasters or breaches without downtime or unexpected costs.

Pure Storage can also reduce backup and recovery times, with minimal overhead and bandwidth requirements. Teams can combine Pure Storage snapshots with native database-level features to quickly restore and meet the most stringent recovery point objectives. They can also replicate SQL Server to other arrays with ActiveCluster™ and ActiveDR®. ActiveCluster also enables non-disruptive workload migration between arrays, allowing them to decouple database operations from underlying storage maintenance. Both features can be combined with native platform and/or database-level availability features to further enhance resiliency. Additionally, FlashArray provides a SLA guarantee of 99.9999% uptime as well as a zero planned downtime guarantee. All components of Pure Storage arrays are also designed to minimize or eliminate disruptions during updates or upgrades.

Control Costs and Fuel Ongoing Savings

The Pure Storage platform delivers enterprise-grade data services with no additional licensing or complexity. This includes industry-leading data reduction technologies like inline deduplication and compression which enable organizations to store more data in less physical space. The result is greater storage efficiency, lower energy consumption, and significant cost savings.

Lastly, organizations can solve the unpredictability of AI data growth with SLA-driven Evergreen//One™ storage-as-a-service that is perfectly aligned with the scalability, cost-efficiency, and continuous operation needs of AI workloads.

Additional Resources

- Learn more about Pure Storage solutions for SQL Server.

- Find more what analysts say about the role of data storage in database environments.

- Read the blog about T-SQL snapshot backups.

1 Based on internal benchmarking. Results may vary depending on configuration, usage patterns and workload.

PURESTORAGE®