

# Unleash SQL Server to Maximize Business Performance

Microsoft® SQL Server® is a powerful database solution for OLTP, data warehouse, business intelligence, real-time analytics, SharePoint®, and in-house developed applications. However, unprecedented data growth makes managing, scaling, and ensuring database availability difficult, if not cost prohibitive.

Maximizing the business value of SQL Server assets requires high performance storage that is capable of delivering real-time actionable information and non-disruptively scaling alongside your business.



## 5 Reasons

### to Run Your SQL Server Databases on the Violin WFA

With the Violin Windows Flash Array, SQL Server 2014 access is blazing fast so that your databases and applications can achieve higher performance from existing server investments. The unique optimization of Microsoft Windows® Storage Server 2012 R2 to leverage Violin's All Flash Array means you can optimize your SQL Server resources and consolidate workloads to best match your organization's needs while recouping existing IT investments for other workloads.

## 1 Optimize SQL Server Performance by Eliminating I/O Bottlenecks

The WFA addresses bottlenecks through a unique all-flash storage solution featuring SMB Direct and Microsoft's kernel level optimization of Windows Storage Server 2012 R2 for the WFA. With the WFA, you no longer need a dedicated storage infrastructure to support SQL Server. This makes storage simpler and less risky to setup and manage, as there are no disk groupings, data locality issues, performance mapping or tuning required. With consistent I/O performance, you are protected against spikes in transactional workloads.

Early customer testing found the WFA delivering up to twice the SQL write performance and up to 50% higher SQL read throughput compared with an industry standard all-flash array. WFA is well suited to the random I/O associated with OLTP, plus you can consolidate smaller databases without taking a performance hit.

## 2 Improve ROI by Scaling SQL Server Higher than Before

SMB Direct delivers the performance of DAS. You get the efficiency for ultra-fast read and write commits that can increase performance by up to 10x while reducing CPU demand by up to 30% and storage latency up to 50%. Violin's distributed architecture allows more users to access data at the same time. With the WFA, you maintain consistent SQL Server performance while adding users, threads, tables, LUNs, etc.

Scale-out File Server (SOFS) enables non-disruptive volume extensibility that lets your databases grow without going offline. You can scale out to four arrays to ensure maximum flexibility in your SQL Server deployments. In addition, Microsoft has qualified the WFA for the Windows Azure Pack for Windows Storage Server Certificate, so you can easily integrate onsite and offsite storage with Microsoft Azure™ SQL Database and other Azure data services.

## 3 Reduce Operational Risk to Stay Online All the Time

SQL Server databases and related applications demand 24x7 service levels. The WFA combines a multi-node cluster and a storage array featuring global hot spares to help you achieve modern 24x7 operational requirements. Disaster recovery is simple with High Availability configurations and deployment is option-rich and as streamlined as software configuration.

Windows failover ensures continuous availability of Microsoft SharePoint and other applications using SQL Server on the back end. SMB Multichannel I/O provides enhanced connectivity and availability. In addition, transport-level encryption guards against eavesdropping or unauthorized data disclosure. The WFA's balance of compute, network, and storage performance reduces potential service interruptions due to workload spikes.

## 4 Enhance In-Memory OLTP and Startup Times for SQL Server 2014

Maintaining in-memory performance requires fast persistent storage and with low latency for the transaction log, non-in memory tables, and other disk based database objects. Without this, writing logs and out-of-memory tables will constrain database performance. The WFA SQL write performance is twice that of an industry standard all flash array so you can sustain maximum in-memory OLTP throughput. The WFA's up to 50% faster SQL reads can dramatically reduce load times for large databases and hence deliver faster SQL Server startup.

## 5 Improve Your SQL Server Operations with a Rich Set of Data Services

Consolidation or virtualization of SQL Server workloads is unleashed with WFA. SQL Server can now scale to enterprise workloads while delivering consistent service levels eliminating application growth barriers, increasing your investment protection. The WFA delivers operational flexibility through Storage Live Migration, which enables movement of executing databases without down time. Violin's WFA architecture allows for the quickest path with parallel loads and reloading data at will. This delivers increased flexibility and simplicity in addressing potential service interruptions due to sudden workload spikes or seasonal peaks.

With WFA, you can maximize your database and application ROI with greater resource flexibility on a simpler architecture so you can run your SQL Server databases and applications in a flash.