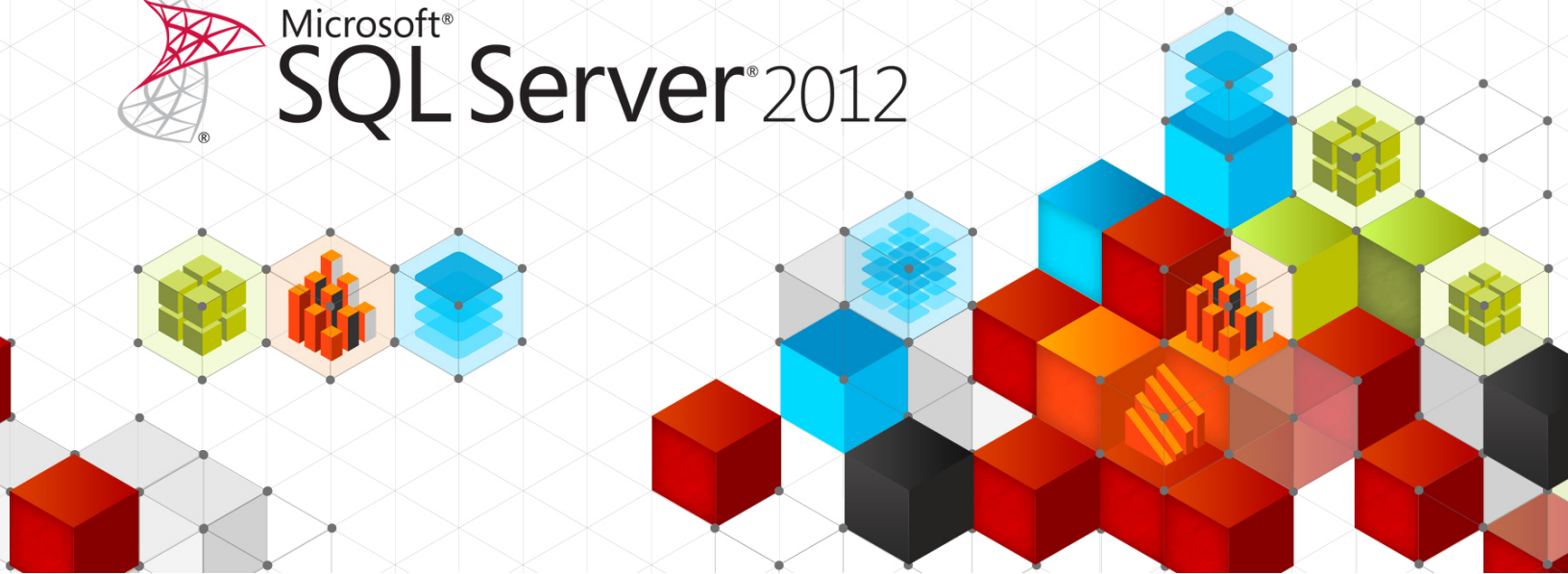




Microsoft® SQL Server® 2012



SQL Server 2012 Fast Track Data Warehouse for Violin Memory

Highlights

- **Any Data, Anywhere**
- **Fastest Time to Solution at Lowest Cost**
- **Immersive Insight, Wherever You Are**
- **Optimized Configuration on Latest Violin flash-Memory Array**

Memory and Microsoft deliver the first all-silicon Data Warehouse solution. This unique solution dramatically simplifies the usage, management and configuration of Data Warehouse (DW) deployments while delivering consistent and predictable performance. In traditional DW systems, the biggest challenge is the growth and change in usage patterns – whether it is growth in the database size or number of users. Violin’s all-flash Memory Arrays enhance the predictability of the Fast Track system by

delivering sustained peak performance regardless of the number of threads, users, tables, files or LUNs. The reference architecture scales up to 25TB, and provides 900,000 IOPS and 3.5GB/s *random I/O* bandwidth from a single 3U, highly available storage node. Each configuration is certified by Microsoft to provide optimal performance.

SQL Server 2012 Fast Track DW for Violin Memory provides a data platform that processes any amount of data, in any amount of tables in any number of LUNs or files for any number of users - all at the same throughput.

Violin provides the fastest time to solution as the all-flash Memory Arrays support any data architecture. Violin’s unique architecture guarantees the same consistently high level of performance both today and 5 years after installation without any

tuning or extensive maintenance requirements.

Any Data, Anywhere

Next-generation Performance
SQL Server 2012 Fast Track DW for Violin Memory features a new generation of all-flash Memory Array, providing an unprecedented, sustained IOPs and throughput. Unlike legacy spinning media, performance is unaffected by where your data resides or how it was loaded into the DW.



3U Storage Node 32TB (RAW) (above)
 *VM 6232 - rated at 25 TB
 *VM 6212 - rated at 11 TB
 **VM 6232, Maximum using ColumnStore Indexes

xVelocity in-memory technologies further extend performance gains, delivering a generational leap in

performance (10-100x times) for single query execution and measured workload throughputs at double Fast Track for SQL Server 2008 R2 rates.

"By using SQL Server 2012 xVelocity, we were able to extract about 100 million records in 2 or 3 seconds versus the 30 minutes required previously."

- Atsuo Nakajima, Assistant Director, Bank of Nagoya

Big Data

By integrating unstructured data from a Hadoop cluster, SQL Server 2012 Fast Track DW deployments can make use of new data types to gain additional data analysis insights.

Fastest Time to Solution!

The SQL Server 2012 Fast Track DW for Violin Memory does not require complex database restructuring or countless hours of code rewriting to accommodate data locality or vendor-specific tuning. Violin's offering is designed for high-speed, random access to any data at any given time, eliminating bottlenecks, hot spots and data segregation requirements. Any block of data is available at any given time, allowing for any data schema or pre-existing storage layout to be ported over. Any number of LUNs,

files, volumes or mount points work equally fast.

Your Total Cost of Ownership

A data warehouse shouldn't be the size of a warehouse. At 5U, the SQL Server 2012 Fast Track Data Warehouse for Violin Memory takes up less space, power and HVAC than existing solutions, reducing your operational costs. It also reduces data locality management software licensing.

Less Hassle

Database sizes will continue their exponential growth. Avoid solutions that require constant purchases of new spindles and constant tweaking of tiering, locality or LUN striping to address performance and capacity requirements. Violin's all-flash Memory Arrays scale to these requirements.

Tried, Tested, Proven

This defined reference architecture delivers a pre-certified performance build that follows best practices guidelines. Reference architecture explains step by step how to set up compute, storage and software to build the certified configuration. End-to-end installation, configuration and migration services are also available from consulting companies such as Pragmatic Works. This eliminates

complex hardware and software balancing and takes the guesswork out of system configuration by removing the need to carefully plan, tune, configure and test various configurations. This approach has saved customers like [Ontario Lottery Group](#).

"SQL Server Fast Track Data Warehouse literally took years off the development time for the project,"

-Les Norbo, Solution Development Analyst, Ontario Lottery and Gaming

Immersive Insight, Wherever You Are

The top barriers to BI adoption across the enterprise are the cost and complexity of the solution. Microsoft BI eliminates both, by providing BI capabilities through the use of tools built upon the familiar Excel and SharePoint applications. As a result, BI is no longer the sole domain of savvy analysts and top-level decision-makers anymore, but rather is now directly accessible to decision makers at all levels of the organization.

Microsoft SQL Server is the only major DW offering that ships with major components of an integrated BI and EIM platform as a core part of the database license.



Figure 1: SQL Server Report Builder 3.0

Optimized Configuration on Latest Violin flash- Memory Array

Violin Memory and Microsoft's Joint Offering Details

SQL Server 2012 Fast Track DW for Violin Memory architecture brings together the right mix of technology and software, integrating the powerful Violin Memory Compute Node, the robust Violin all-flash Memory Array and the data warehouse capabilities of SQL Server 2012 Enterprise.

11TB Certified Data Warehouse

Solution ID: VM-DW-1

Compute Node:

CPU: 2x Intel Xeon E5-2643 3.3Ghz (4Core)

RAM: 128 GB

Drive: 2x Intel 520 SSD (240GB)

Storage Configuration:

Violin Memory 6212 with FC

Usable space: 6.6TB

FT rated User Data: 11TB (compressed)

25TB Certified Data Warehouse

Solution ID: VM-DW-2

Compute Node

CPU: 2x Intel Xeon E5-2680 2.7Ghz (8Core)

RAM: 256 GB

Drive: 2x Intel 520 SSD (240GB)

Storage Configuration

Violin Memory 6232 with FC

Usable space: 20.2TB

FT rated User Data: 25TB (compressed)

Max User Data: 50TB (compressed)

Summary

SQL Server 2012 Fast Track DW for Violin Memory builds on the success of earlier Fast Track offerings with the ability to process any data, anywhere, at any scale. The entire solution is just 5U with easily upgradable components, preserving your initial infrastructure investments. Contact Microsoft or Violin today to learn if this offering is right for you.

Additional Resources

SQL Server Fast Track Data
Warehouse

<http://www.microsoft.com/sqlserver/en/us/solutions-technologies/data-warehousing/fast-track.aspx>

Violin Memory Fast Track Data
Warehouse

<http://vmem.com/sql-server-data-warehouse/>

Pragmatic Works DW Services

<http://www.pragmaticworks.com/>

Microsoft Big Data Solution

<http://www.microsoft.com/sqlserver/en/us/solutions-technologies/business-intelligence/big-data-solution.aspx>

Microsoft Business Intelligence

<http://www.microsoft.com/bi>

Join the conversation

www.microsoft.com/sqlserver

Or follow us:

<http://www.violin-memory.com/blog/>



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