



Microsoft 2008 is Here – and EMC is a Key Partner in Enabling Its Reach into Mission-Critical IT

Analyst: Michael Fisch

Management Summary

You probably have already heard that *Microsoft 2008* is here.

- **Windows Server 2008** – Previously known by its codename “Longhorn,” the next generation of Microsoft’s server operating environment is scheduled for general release in February 2008, with a host of new capabilities.
- **SQL Server 2008** – Microsoft’s most robust, scalable, and functional data platform to date is also scheduled for general release in mid 2008.
- **Visual Studio 2008** – A suite of development tools for more quickly and more easily creating applications that leverage these new Microsoft platforms is already available.

These software updates deliver significant improvements in multiple dimensions, but a central theme of these releases are enhancements for *mission-critical IT*. Microsoft is delivering a level of scalability, security, robustness, performance, and manageability that can be suitable for high-end enterprise environments. Microsoft wants SQL Server and Windows Server 2008 to dwell in the main aisles of the enterprise data center and support workloads that must be available and responsive to run core business applications.

However, no application or operating environment is an island, and Microsoft needs robust supporting infrastructure for its software solutions to be mission-critical. This is where its partnership with EMC stands out. EMC has provided infrastructure for mission-critical enterprise environments for over 15 years. This is familiar territory for it. The *Symmetrix DMX* and *CLARiiON* storage platforms offer five-nines (i.e., upward of 99.999%) availability plus advanced software features for data protection and management, such as snapshots and remote replication. EMC products also have numerous integration points with Microsoft, ranging from straightforward compatibility to deep functional and management integration. These two partners have jointly developed and validated reference architectures. EMC also has a global staff of trained experts, including staff dedicated to Microsoft solutions.

All of this puts EMC in a unique position as a robust, complementary solution provider for Microsoft SQL Server 2008 and Windows Server 2008, especially for high-end or mission-critical environments. As you assess the advantages of these new Microsoft software releases for your enterprise, also consider EMC as a strategic vendor to complete the solution. Read on for the details.

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The EMC-Microsoft Partnership

The partnership between EMC and Microsoft is complementary and offers unique benefits for enterprise consumers of information technology. Both EMC and Microsoft are big fish in the sea of IT – with annual revenues for fiscal year 2006 of \$11.2 billion and \$51.1 billion, respectively. They have a global presence and their solution offerings span a wide range of environments. While EMC began as a provider of high-end enterprise storage solutions and moved over time into the midrange and entry-level segments, Microsoft began as a provider of desktop operating systems and applications and moved over time into the mid-sized and large-enterprise environments. Today, their target markets overlap almost entirely. EMC specializes in storage systems, data protection, and information management, while Microsoft focuses on applications and operation systems. Both bring distinct but essential components of a complete IT solution.

The motivation and opportunity for this partnership lies in the fact that an IT system is the sum of its parts, which require integration to work together. Just like two people must speak the same language and have become familiar with each other to work well together, IT systems must be able to communicate and be aware of each other's features and modus operandi to function synergistically and take full advantage of each other's capabilities. It requires integration and testing of products and solutions, whether for basic interoperability or deeper integration to facilitate advanced features and management. As such, the EMC-Microsoft partnership revolves around complementary solutions and the integration and additional value they can provide mutual customers.

Of special note is Microsoft's drive into larger, mission-critical environments, especially with the release of *Windows Server 2008* and *SQL Server 2008*. Microsoft has built into these products a higher level of scalability, security, robustness, performance, and manageability that is suitable for high-end enterprise environments. For EMC, the high end is familiar territory. It rose to prominence in enterprise data centers during the 1990s with its Symmetrix storage platform and advanced capabilities for data protection and management. EMC continues this presence today with a larger product portfolio, including the *Sym-*

metrix DMX 4, an expanded *CLARiiON* family, and a leading portfolio of data protection and information infrastructure products. For Microsoft to deploy solutions in mission-critical environments, it needs proven infrastructure components of this caliber to provide the best IT experience for their joint customers; Microsoft's partnership with EMC has even greater significance in this light.

EMC's Microsoft Bona Fides

EMC is one of Microsoft's top Platform and Technology partners and has eight gold-level certifications from Microsoft, which places it in a small circle of favored partners. EMC also has a specific Microsoft Practice within its Global Services organization. Over the past two years, it acquired professional services firms that specialize in Microsoft environments in an effort to build up these services. Today, the EMC Microsoft Practice has 600+ consultants that provide strategy, design, implementation, and support services for Microsoft-focused IT solutions (with a focus in North America and growing presence in Europe and Asia Pacific).

- **Information Gateway Services** – Customer relationship management based on Microsoft *Dynamics CRM*, knowledge worker, portal collaboration, and trading partner integration services based on the Microsoft *Office* platform, and user experience and information architecture services.
- **Application Infrastructure Services** – Custom application development based on the *.NET Framework*, application integration based on *BizTalk Server*, business intelligence and data management based on *SQL Server*, and service-oriented architecture (SOA) expertise.
- **Technical Infrastructure Services** – Messaging based on Microsoft *Exchange Server*, unified communications, systems management based on *System Center*, identity management, infrastructure optimization, and managed services.

EMC also has a Microsoft solutions office, whose task is to configure, test, and validate solutions based on combinations of EMC and

Microsoft technologies. They focus especially on *Exchange Server*, *SharePoint Portal Server*, and *SQL Server*, and their output includes reference architectures and integration guides to facilitate enterprise deployments in areas such as:

- Upgrades and migration
- Consolidation and management
- Backup and rapid restore
- Disaster recovery and data replication for operational productivity
- Archiving for legal discovery, compliance, and operational efficiency

The mission-critical storage technologies and services that EMC brings to the Microsoft partnership are easily visible in *SQL Server* environments.

SQL Server 2008

SQL Server 2008 is Microsoft's most robust, scalable, and functional data platform to date, delivering numerous improvements to the previous version *SQL Server 2005*. Microsoft's main objectives were to:

- Deliver a database platform for demanding, mission-critical environments
- Lower the time and cost of developing and managing applications
- Provide actionable insight to enterprises with capabilities for data analysis

The tagline for *SQL Server 2008* is "your data any place any time¹," implying a data platform that is both broadly accessible and highly available. EMC storage infrastructure supports these objectives, especially for mission-critical and highly-available environments. *SQL Server 2008* is scheduled for general release in mid 2008.

The capabilities of *SQL Server 2008* fall broadly into three areas – *trusted*, *productive*, and *intelligent*.

Trusted

Trusted means that *SQL Server 2008* is secure, reliable, and scalable enough to run mission-critical applications, competing with

the likes of *Oracle* and *IBM DB2*. *SQL Server 2008* can encrypt a database without modifying the application. At a time when theft or inadvertent exposure of private and confidential data is all too common and leads to costly consequences, the ability to encrypt data at the source offers enterprises real peace of mind. Extensible key management and advanced auditing are also available to improve security. *SQL Server 2008* supports Database Mirroring for redundancy, application failover, and business continuity. It can hot-add a CPU to boost performance. A feature called *Resource Governor* prioritizes workloads through resource allocation and enables more consistent performance according to service levels.

In support of a scalable and reliable data platform, EMC offers a number of technologies and services for *SQL Server*, which it will continue to expand and deepen with this new release. As testimony to this fact, many of the largest *SQL Server* online transaction processing (OLTP) and data warehouse deployments in the world run on an EMC storage infrastructure.

EMC participates in the *SQL Server Always On Technologies Program*. As its name suggests, its purpose is designing for high availability at scale. Michael Raheem, a Senior Product Manager at Microsoft in the Always On program, noted, "EMC's strong storage solution capabilities for *SQL Server* earned it early acceptance into the *SQL Server Always On Technologies Partner* program. EMC is also offering *SQL Server* enterprise customers advanced optimization, planning, and recovery services to ensure that both the storage infrastructure and the surrounding application environment can meet the tough demands of mission critical applications on the *SQL Server* data platform."

EMC technologies that support and integrate with *SQL Server* in mission-critical environments include:

- **High-performance storage platforms for faster response time** – Symmetrix DMX and CLARiiON CX3
- **Remote replication for disaster recovery** – *SRDF*, *MirrorView*, and *RecoverPoint*

¹ Source: www.microsoft.com

- **Snapshot copies for fast, non-disruptive backups and fast recovery from data corruption** – *TimeFinder* and *SnapView*
- **Backup and restore** – *NetWorker*, *Avamar* for de-duplication, and EMC *Disk Library* for backup to disk

EMC has a specific service for data layout of SQL Server on EMC storage to improve performance, availability, and system utilization. It offers a service for SQL Server upgrades and migrations to ensure a smooth and timely transition and to mitigate risks. EMC technologies also support consistency groups for fast, consistent recovery of databases deployed in a federated model, which is more likely in larger, sophisticated deployments.

Productive

Productive means easier management and streamlined application development. One of the most significant new features for SQL Server 2008 is *Declarative Management Framework*, an automated policy tool for managing database servers across the enterprise. It simplifies the administration of larger, complex environments. Developers can define logical business entities instead of tables and columns using ADO.NET, and Language Integrated Query (LINQ) provides native query and retrieval within any .NET language. SQL Server 2008 supports remote access and synchronization for occasionally-connected applications. It offers a new FILESTREAM data type for storing unstructured documents and images outside the database. Moreover, it has spatial data capabilities to enable location-aware applications.

Intelligent

Intelligent means SQL Server 2008 is designed to better support business intelligence and data warehousing. It can leverage vast amounts of enterprise data for analysis, presentation, and decision-making. SQL Server 2008 has improved performance for large tables and a large number of users of a data warehouse. Through Microsoft *Excel*, users throughout an enterprise can access *SQL Server Analysis Services* to perform complex data analysis. Moreover, both Microsoft *Word* and *Excel* can create reports and visual presentations of the data and analyses.

EMC supports business intelligence on

SQL Server in a number of ways. Its Microsoft Practice creates customized business intelligence solutions on this platform as a regular course of business. The previously-mentioned service for data layout on SQL Server also applies here. EMC has a packaged solution for managing extreme volumes of data (terabytes) in a tiered-storage solution. Storage costs are reduced as business intelligence data becomes less-frequently accessed and is moved to lower-cost storage tiers. This EMC solution augments the database partitioning capability in SQL Server to deliver information lifecycle management effectively.

EMC has experience in exploring SQL Server data warehouse best practices with Microsoft. An example is its participation in *SQL Server Project REAL*. This project documented best practices in designing a data warehouse on SQL Server, and leveraged 2 TB of actual customer data. According to Microsoft, “EMC provided substantial resources for the project, implemented the data integrity features of the system, and provided a backup system for the project.”²

Conclusion

When deploying Microsoft technologies for mission-critical environments, especially SQL Server 2008 and Windows Server 2008, you need a storage and information management infrastructure that effectively supports it. EMC’s long-time presence at the high end of enterprise storage and its deep relationship with Microsoft make it a clear contender for your consideration.



² www.microsoft.com

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About the Author

Michael Fisch is Director of Storage and Networking for The Clipper Group. He brings over eleven years of experience in the computer industry working in sales, market analysis and positioning, and engineering. Mr. Fisch worked at EMC Corporation as a marketing program manager focused on service providers and as a competitive market analyst. Before that, he worked in international channel development, manufacturing, and technical support at Extended Systems, Inc. Mr. Fisch earned an MBA from Babson College and a Bachelor's degree in electrical engineering from the University of Idaho.

- ***Reach Michael Fisch via e-mail at mike.fisch@clipper.com or at 781-235-0085 Ext. 211. (Please dial "211" when you hear the automated attendant.)***

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