## Why upgrade from Microsoft® SQL Server® 2005 to Microsoft SQL Server 2008?

Upgrading to Microsoft® SQL Server® 2008 provides you with next-generation database capabilities built on the trusted fundamentals of Microsoft® SQL Server®. You can realize many of these benefits without having to alter your database applications, and upgrading to SQL Server 2008 can enhance your organization’s return on investment (ROI) with database software that can pay for itself in as little as six months.

[**http://www.microsoft.com/sqlserver/2008/en/us/default.aspx**](http://www.microsoft.com/sqlserver/2008/en/us/default.aspx)

More than ever, organizations rely on data storage and analysis for business operations. Moreover, to take advantage of new opportunities in today's business world, companies need the ability to deploy data-driven solutions quickly. SQL Server 2008 provides a trusted, productive, and intelligent data platform that can help you run your most demanding mission-critical applications, reduce time and cost of application deployment and maintenance, and deliver actionable insight to your entire organization.

## Return on Investment

A Microsoft-commissioned September 2008 Forrester® Total Economic Impact™ study of a Microsoft customer that had upgraded to SQL Server 2008 placed the three-year ROI between 162 and 181 percent through benefits, such as avoiding additional SQL Server licenses and related hardware, removing third-party software, and employee savings and productivity. This equaled a payback period on their upgrade between four and six months.

## Trusted Database Platform

Encrypting information on your database is essential to maintaining the security of your data. Transparent data encryption in SQL Server 2008 saves time for both database administrators and developers. In comparison to SQL Server 2005, SQL Server 2008 offers much more robust encryption and requires far fewer administrative resources. Additionally SQL Server 2008 can help prevent system outages through enhanced high-availability features such as failover clustering and database mirroring. For enterprise users SQL Server 2008 contains enhancements to clustering and support for virtualization.

Resource Governor is a new utility in SQL Server 2008 that makes it possible for administrators to have complete control over database load by prioritizing all database activity. Database administrators identify and set priorities for workloads and groups, then allocate shared CPU and memory resources as they are requested, based on specified limits. This empowers organizations to fine-tune and scale the database with much more control and stability.

## Productive Database Platform

SQL Server 2008 offers many performance enhancements throughout the technology stack that are designed to help reduce the cost of managing your data infrastructure while streamlining development of database applications.

Policy-Based Management simplifies administration of access to data throughout the enterprise data infrastructure. This reduces the time they spend on daily maintenance operations by defining a common set of policies for database operations. Administrators can also apply policies to many servers for consistent management across the enterprise.

SQL Server 2008 now supports multiple options for virtual server consolidation, providing organizations with the flexibility to choose the consolidation approach that best meets their requirements. Capabilities such as centralized management, auditing, and monitoring make it easy to manage multiple data services on virtual servers significantly reducing administrative overhead.

SQL Server 2008 has built-in compression for database files and transaction log files, row-level and page-level compression, and compression at the backup level. Not only do the SQL Server 2008 data compression features help reduce hardware, space, and cooling costs, they also can enhance processing speeds by reducing the amount of data processed in I/O operations.

*“We’ve seen tables reduced in size by 80 percent using SQL Server 2008 Backup Compression. With 100 terabytes of data, we’re very happy to be able to reduce our backup footprint.”*

*Thomas Grohser Senior Database Engineer, bwin*

As you extend your applications, you can access additional development enhancements. Developers can manipulate new data types and data sources that previously have been difficult to store, providing additional analysis opportunities to users. The new FILESTREAM data type has been introduced to facilitate easier manipulation of unstructured data such as documents and images residing outside the database.

## Intelligent Database Platform

SQL Server 2008 drives business intelligence throughout your organization, manages reports and analysis of any size or complexity, and empowers users by providing powerful visualization and integration with the Microsoft® Office system.

SQL Server 2008 enables organizations to import store and deliver any kind of data, in addition to making it possible for them to manage complex reports. Administrators are able to scale and manage large numbers of users and data with improved query performance on large tables. Unisys and Microsoft recently set a new extract transform load (ETL) performance record by loading one terabyte of data in less than 30 minutes using SQL Server 2008 Integration Services (<http://www.microsoft.com/sqlserver/2008/en/us/benchmarks.aspx>)

Obtaining information from the database is improved over SQL Server 2005 as well. Business users can create complex reports and share them internally and externally with colleagues, customers and partners.

In SQL Server 2008, analysis and additional reporting capabilities have been integrated with familiar Microsoft Office applications like Microsoft® Office Excel® 2007 and Word 2007 as well as Microsoft® Office SharePoint® Server 2007.

In addition to self-service reporting, the new report designer application in SQL Server 2008 allows users to create enterprise-class reports without the need for Developer Studio.

## SQL Server upgrade tools

Microsoft provides a number of tools to help make your upgrade successful and smooth.

*SQL Server 2008 Upgrade Advisor:* Helps smooth the transition to SQL Server 2008 by detecting potential upgrade issues in your earlier SQL Server 2000. It analyzes objects and code within previous instances and produces reports that detail upgrade compatibility considerations that are organized by SQL Server component, providing guidance on how to fix the issues or work around them.

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*Application Compatibility Testing (with Upgrade Advisor):* Alerts you to features your applications use that have been deprecated, discontinued, or changed in the new version to help prevent performance problems and issues related to making the application available.

*SQL Server 2008 Upgrade Assistant:* An external tool that lets you determine in a test environment how an application currently running on SQL Server 2000 will run on SQL Server 2008. This tool uses Upgrade Advisor, along with baseline and trace replay in a test environment, to help identify compatibility issues.

*Best Practices Analyzer:* Examines database state and settings and makes recommendations for developing better, more maintainable SQL Server applications and avoiding oversights in managing a SQL Server installation.

*System Configuration Checker (SCC):* Performs a scan of the computer in preparation for an install. SCC looks for conditions that will prevent a successful SQL Server installation or upgrade.

SQL Server Profiler: Records a running workload and then replays that same activity on a given SQL Server instance. With this you can simulate an upgrade and evaluate performance and behavior.

## Summary

By upgrading to SQL Server 2008, you can increase your organization’s productivity, security, and business intelligence. For more information, see the white paper located at http://www.microsoft.com/sqlserver/2008/en/us/upgrade.aspx