



Microsoft® SQL Server® 2008 R2

Your Data, Any Place, Any Time

Microsoft®



Choose Microsoft SQL Server 2008 R2 data management software as your optimal database for deploying highly available, high-performance, and reliable SAP installations of all sizes on the Microsoft platform. SQL Server 2008 R2 can run the most demanding and critical SAP applications, so you can share and take advantage of company information, and deliver actionable insight to your company. It also provides scalability and promotes security to meet the database needs of SAP customers.

<http://www.microsoft.com/sap/sql>

Trusted Data Platform for All SAP Deployments

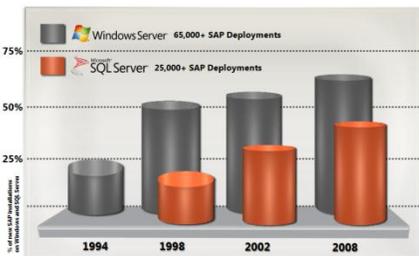
Built using the proven experience of thousands of SAP customers worldwide, SQL Server 2008 R2 is a trusted, productive, and intelligent data platform that delivers unprecedented value for SAP installations of all sizes using the Microsoft platform.

SAP and Microsoft: The Right Partners

SAP and Microsoft have been working together closely for more than 15 years to make sure that the Microsoft platform and SAP solutions are fully integrated.

SQL Server 2008 R2 Enterprise was tuned jointly with SAP engineers to ensure maximum performance and interoperability. SAP and Microsoft are uniquely positioned to provide integrated business value.

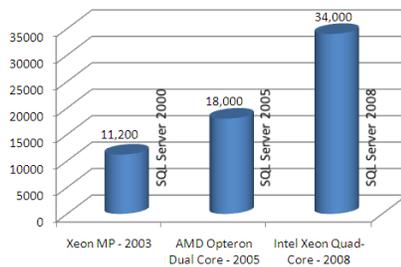
Based on this collaboration, Microsoft is the platform most frequently selected for SAP solutions and application deployments.



World-Class Performance

SAP ERP workload tests prove that SQL Server 2008 R2 can take full advantage of the latest hardware architectures.

Increase of SAP sales and distribution benchmark for user throughput.



Today, SAP customers can run a significant level of workload on four-processor industry standard servers. Just five years ago, running this same level of workload would have required a higher investment in proprietary hardware architectures. In addition, SAP customers now can benefit from the rapid performance increase of commodity servers.

Leading TCO

SQL Server 2008 R2 offers a very compelling total cost of ownership (TCO) for SAP implementations. SAP customers have two options for licensing SQL Server 2008 R2:

- **Through Microsoft** when SQL Server is used for SAP and other applications. Customers benefit because the database is licensed per processor, and not per core, reducing the cost by a factor of three or more.
- **Through SAP** when SQL Server is used for SAP applications only. This option results in even greater savings and streamlined support.

In addition, SAP customers can take advantage of SQL Server 2008 R2 comprehensive data management capabilities as standard features at no additional cost. These features include advanced data mining, integration services, business intelligence, high availability, manageability, and TCO features such as database compression.

Enterprise-Proven Availability

Enterprises running SAP applications need around-the-clock availability. SAP supports SQL Server 2008 R2 capabilities that enable highly available environments.

Currently, SQL Server customers are running applications with multi-terabyte databases with more than 99.998 percent availability.

New Features in SQL Server 2008 R2

SQL Server 2008 R2 includes the following new features:

- **Database mirroring.** Asynchronous and synchronous database mirroring with transparent failover ensures that a hot-standby SAP database copy is rapidly available in the event of hardware failure. Database mirroring allows for geographical redundancy, with network traffic being encrypted and compressed by default.
- **Online indexing.** All index maintenance operations can be performed online. Incremental reindexing with read-consistent scans and lock handling improve SAP performance.

- **Database compression for all SAP products.** This applies to tables and indexes as row-level and page-level compression. Row-level compression reduces the database size without additional resource consumption. Page-level compression reduces the size of a typical SAP ERP database by half.
- **Self-healing.** Self-healing provides automatic healing of physical consistency issues in combination with synchronous database mirroring.
- **Auditing.** Auditing is available to ensure that customers comply with regulatory requirements.
- **Standard hardware scalability.** SAP customers can scale up for tremendous growth using industry-standard servers.
- **Backup compression.** SAP customers can take advantage of backup compression. This new feature can eliminate the need to use third-party tools.
- **Transparent data encryption (TDE).** With TDE, customers can encrypt an entire database, data files, and log files without the need for application changes. This includes the encryption of application databases and backups of encrypted SAP databases.

High Performance

SAP installations are growing larger and more complex. Multi-terabyte databases and 70,000 tables in a single SAP database are becoming more common. With SQL Server 2008 R2, the self tune-up and auto-administration features can work regardless of the deployment size.

- **Automatic optimizations and tuning.** SAP solution and application users notice faster response times as advanced query optimization automatically improves queries, while auto-tuning adjusts resources dynamically for changing workloads, with no manual intervention.
- **Only 64-bit support for SAP.** In combination with SAP applications, only 64-bit releases of SQL Server 2008 R2 are supported with SAP. SQL Server 2008 R2 completes the move away from the 32-bit platform for SAP because the 32-bit platform no longer supports the SAP workload. SAP

Unicode implementations benefit from nearly unlimited memory.

- **Automatic memory tuning.** Highly sophisticated algorithms adapt memory and cache sizes to changing workload conditions in order to deliver optimal performance to SAP applications.
- **One configuration fits all.** Automatic configuration and tuning algorithms configure SQL Server instances independent of the SAP product. There is no special configuration for SAP business intelligence.
- **SAP platform migration optimization.** The SQL Server 2008 R2 engine provides features that improve SAP Unicode and platform migrations.

Highly Efficient Database Compression for All SAP Products

SQL Server 2008 R2 offers a database compression method that will significantly reduce disk storage requirements by:

- Storing numeric data value length dependent with optimizations for the typical SAP default values used for numeric columns.
- Storing duplicate values and prefixes only once per data page.
- Optimizing the requirement to store Unicode strings so that space requirements are on par with UTF-8 using single-byte code pages. They should be even more efficient than UTF-8 with double-byte code pages like Kanji.

SQL Server database compression technology is fully integrated into SAP products and can be used for all data and index types SAP supports.

So far, SQL Server and SAP customers who are taking advantage of SQL Server database compression technology have saved hundreds of thousands of dollars. Customers using SQL Server database compression against their Unicode SAP ERP systems reported results like the following:

Compression Rates	
Table	Compression rate
COSP	80 percent
GLPCA	89 percent
COEP	87 percent
RESB	90 percent
ACCTIT	87 percent
MSEG	87 percent
FAGLFLEXA	88 percent
BSIS	90 percent
COSB	84 percent
GLFUNCA	89 percent

Simplified Installation and Management

Companies should have to assign people and resources to improve business results—not to maintain systems. SQL Server 2008 R2 does not require additional tools or the assignment of extensive resources to maintain common SAP solutions and application operations.

The SQL Server 2008 R2 engine dynamically tunes database parameters to respond to changing usage characteristics.

- **Automatic maintenance.** Routine tasks such as updating statistics are automated.
- **Simplified installation.** Microsoft and SAP worked together on SQL Server 2008 R2 to ensure that it does not require any special installation or configuration for SAP.
- **Dynamic Management View (DMV).** Added DMVs give greater transparency and visibility into the SQL Server database engine and processing for SAP DBA Cockpit.
- **Simplified storage engine.** The complexity of SAP solutions and application operation is reduced by using real clustered indexes, incremental online reorgs, and streamlined maintenance-free input/output design and file layout for SAP applications.

For more information, visit:
<http://www.microsoft.com/sap/sql>
<http://www.microsoft.com/sqlserver>

