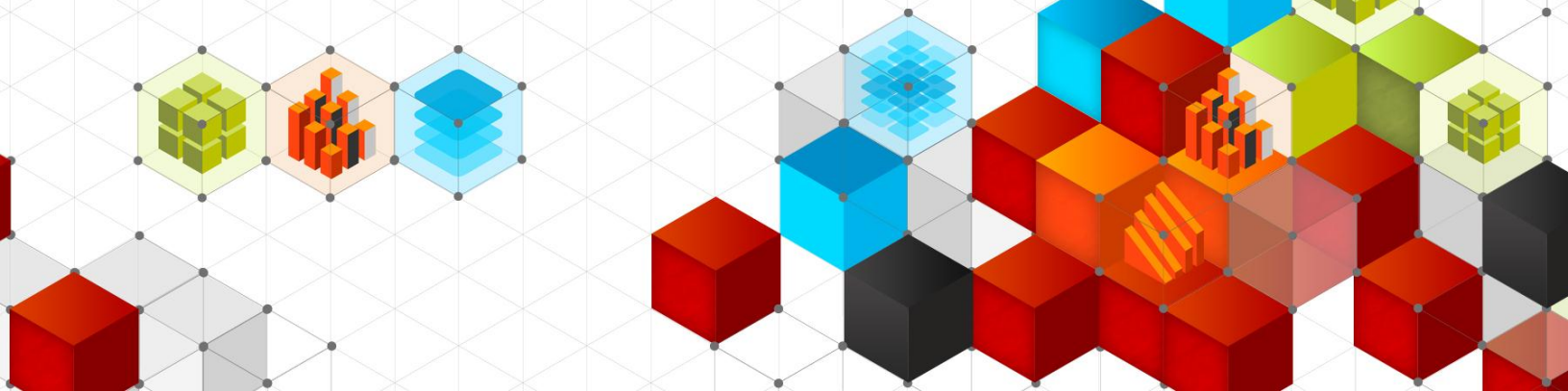




# Microsoft® SQL Server® 2012



## Overview

Microsoft® SQL Server® 2012 is a cloud-ready information platform that will help organizations unlock breakthrough insights across the organization and quickly build solutions to extend data across on-premises and public cloud, backed by mission critical confidence.

### Highlights

- **The 9s you need with AlwaysOn**
- **Blazing-fast query performance with ColumnStore Index**
- **Rapid data discovery via Power View and PowerPivot**
- **Credible, consistent data via BI Semantic Model and Data Quality Services**
- **Scale on demand from devices to datacenter to cloud**
- **Write applications once, run anywhere with SQL Server Data Tools**

### Mission Critical Confidence

**Enable mission critical environments including availability and performance at low TCO**

**Required 9s and protection**  
**Deliver required uptime and data protection, server to cloud without wasting time and money**

- Help reduce planned and unplanned downtime with the new integrated high availability and disaster recovery solution, SQL Server AlwaysOn.
- Achieve maximum application availability and data protection with options to configure multiple secondaries and ability to quickly failover and recover applications.
- Significantly reduce OS patching with new support for Windows® Server Core.
- Eliminate idle hardware and improve IT cost efficiency and performance using Active Secondary which enables offloading of various

workloads to the secondary instances.

- Maintain uptime during maintenance operations using enhanced online operations and eliminate planned downtime on Hyper-V™ environment using Live Migration.
- Simplify deployment and management of high availability requirements using integrated configuration and monitoring tools.
- Achieve highest level of availability regardless of whether applications are deployed on-premise or on Microsoft private or public cloud.

**Blazing-fast performance**  
**Gain breakthrough and predictable performance backed by industry-leading benchmarks**

- Make a bet on a trusted platform that continuously leads in industry-relevant TPC-E and TPC-H performance benchmarks<sup>1</sup>. Release over release SQL Server is SAP-certified to run some of the industry's most demanding workloads.

<sup>1</sup> <http://www.microsoft.com/sqlserver/en/us/product-info/benchmarks.aspx>

- Significantly boost query performance, by up to ~100x for star join and similar queries, using the new ColumnStore Index.
  - Support blazing fast queries with dramatic improvements to Full-Text Search that offer serious performance and scale advances.
  - Accelerate the performance of I/O intensive workloads by cutting growing volumes of data ~50-60% with compression capabilities.
  - Gain consistent performance for concurrent and mixed workloads by defining resource usage across different applications with Resource Governor.
  - Analyze query execution plans, capture database activity, optimize indexes and structures, and help ensure consistent query performance with familiar, easy-to-use management tools.
- improving manageability through Contained Database Authentication that uses self-contained access information without the need for server logins.
  - Help protect data with built-in encryption capabilities that help protect confidential information without changes to the application.
  - Help ensure compliance and increase manageability related to auditing with audit resilience, filtering, user-defined audit, and enablement across all SQL Server editions.
  - Increase manageability and decrease complexity of database schema through Default Schema for Groups by allowing a default database schema for Windows group user accounts.

## Organizational security and compliance

### Help enable security and compliance with built-in security and IT controls

- Easily manage permissions around data access with User-Defined Server Roles to support separation of duties.
- Help ensure security enhanced deployments and minimize surface-area attacks by enabling only required services through Configuration Manager—built-in services turned off by default.
- Help secure end user data analytics with built-in IT controls, including new Microsoft SharePoint® and Active Directory® security models for end user reports published and shared in SharePoint.
- Control database access to deployed applications while

## Peace of mind

### Help ensure peace of mind with premier services and support, a trusted partner ecosystem, and a wealth of free tools

- Microsoft's Premier Mission Critical Support and the Microsoft Critical Advantage Program, provide the services and support needed for companies to establish the proactive IT environment and operations necessary to deliver maximum availability and performance to their Mission Critical Applications.
- Microsoft offers a broad ecosystem of partners with more than 640,000 partners, including best-of-breed applications from vendors such as SAP, Temenos, and Kronos®, as well as partnerships with leading OEMs like Dell, HP, and EMC®.
- Microsoft delivers piece of mind with the licensing program, Enterprise Application Program, which offers unlimited support to

- customers with specific software assurance plans
- Unlike many software companies, Microsoft offers free access to software service packs.
- Quickly plan for an upgrade or migration with a wealth of no-fee tools developed by Microsoft engineers and available online.

## Breakthrough Insight

### Unlock new insights with pervasive data discovery across the organization

#### Rapid data discovery

#### Plow through mounds of data for deeper insights with rapid data exploration and visualization

- Discover and share insight across all levels of the organization with Power View that offers highly interactive web-based drag-and-drop data querying and visualizations for insights at the speed of thought.
- Sift through mounds of data in a familiar way at lightning-fast speeds in Excel with the award winning PowerPivot add-in, including new advanced analytic capabilities.
- Inspire data discovery innovation across end users with data mash-up capabilities including connectivity to cloud-based data in SQL Azure™ DataMarket or via third-party providers with Open Data Protocol (OData).

#### Scalable & managed self-service BI

#### Enable accessible intelligence across the organization through managed self-service BI, IT dashboards, and SharePoint collaboration

- Provide a complete view for reports and dashboards across heterogeneous data sources with the BI Semantic Model that can scale from small personal BI solutions to the largest organizational BI needs.
- Offload IT tasks and reduce support requests with self-service analytics tools, like Power View and PowerPivot that scale to thousands across the organization.
- Balance the need to monitor, manage, and govern the data and analytics end users create with IT dashboards and controls that help IT monitor end user activity, data source usage, and gather performance metrics from servers.
- Make information-based decisions part of everyday life with SharePoint integration for insights collaboration, and custom Alerts that keep users apprised of relevant data changes.
- Extend rich user insights to even more people with SQL Azure Reporting that removes the need for deploying and maintaining a reporting infrastructure.
- Deploy more than just breathtaking end user analytics tools, SQL Server continues to deliver end-to-end BI through easy to stand up and manage traditional OLAP and reporting cubes.

### **Credible, consistent data**

#### **Provide a complete view across business data and help ensure data confidence through integration, cleansing, and management**

- Reduce time-to-solution for innovative, team-based data integration across data sources by utilizing the industry-leading tools in SQL Server Integration Services

(SSIS) that help deliver credible, consistent data reliably and efficiently.

- Improve data quality by using organizational knowledge and third-party reference data providers to reliably profile, cleanse, and match data with the new SQL Server Data Quality Services - run as a standalone or leverage SSIS.
- Create, maintain, store, and access master data structures used for object mapping, reference data, and metadata management with Master Data Services (MDS) while a new MDS Add-in for Excel makes it easy for end users to manage and maintain central data.

### **Complete data warehouse solutions**

#### **Gain scale and flexibility with complete data warehousing solutions that offer massive scale at low cost**

- Help reduce data warehouse costs with reference architectures and appliances designed to offer incredible performance at a low price per terabyte.
- Choose hardware and deployment options to suit unique organizational needs with Fast Track configurations from 11 hardware vendors or software only solutions, reference architectures and appliances.
- Scale data warehouses with built-in database features like Remote Blob Storage and partitioned tables that scale to 15,000 partitions that support large sliding window scenarios.
- Gain high scale with support for up to 256 cores – enabling high-performance for very large

workloads or consolidation scenarios.

- Leverage best practices and drive fast time to market with data warehouse reference architectures and appliances that help deliver faster time to solution.
- Scale to 100s of TB while maintaining high performance through Massively Parallel Processing (MPP) architecture with Parallel Data Warehouse.

## **Cloud On Your Terms**

### **Create and scale business solutions fast, on your terms from server to private or public cloud**

#### **Scale on demand**

#### **Scale on demand with flexible deployment options on your terms server to cloud**

- Gain operational flexibility with proven Microsoft cloud offerings, private or public, that deliver interoperable deployment options with SQL Server 2012.
- Break free and scale beyond the constraints of any one deployment environment by taking advantage of a common architecture spanning traditional servers, appliances, and the cloud.
- Gain virtualized, on-demand capacity and self-service provisioning and usage metering with Microsoft private and public cloud offerings across SQL Server 2012 and SQL Azure.
- Start small or leverage large scale with SQL Azure, a cloud database service, running in Microsoft's global datacenters, which offers a pay-as-you-grow business model and guaranteed SLA uptimes.

## Fast time to solution

### Reduce complexity and accelerate time to solution through appliance and private or public cloud offerings

- Speed time to solution with SQL Server appliances by eliminating the time to design, tune and test all the hardware and software components.
- Accelerate top organizational priorities with appliances for data warehousing of varying sizes, business intelligence, private cloud, consolidation, and transaction processing.
- Microsoft collaborates with partners to design, optimize and tune appliances and define reference architectures that help deliver an incredible price/ performance.
- Provision databases in minutes without any physical administration or infrastructure investments with SQL Azure.

## Optimized productivity

### Optimize IT and developer productivity across server and cloud with common tools

- Take database development to the next level with SQL Server Data Tools, an integrated development experience for developers building next-generation web, enterprise, and data-aware mobile applications across on-premises and public cloud.
- Build, deploy, and manage database or business intelligence solutions across on-premises and cloud environments using the same development tools, frameworks and T-SQL based model.
- Manage efficiently at scale with a single console, SQL Server

Management Studio (SSMS), to deploy and manage database assets across servers, private cloud and public cloud. Additionally, use SSMS to manage high availability configurations, BI services, and resource utilization. New productivity features include Distributed Replay and support for PowerShell 2.0.

- Simplify application testing and minimize errors with application changes, configuration changes, and upgrades using new Distributed Replay.
- Streamline virtualization management with Microsoft System Center Virtual Machine Manager.
- Support for Windows PowerShell 2.0 automates management tasks across the Microsoft platform while up-to-date management packs for System Center enable centralized monitoring.
- Use Data-tier Application (DAC) support across SQL Server and Microsoft Visual Studio® to more easily define and contain the schemas and objects required to support an application, then deploy, import, and export DACs more easily across on-premises and public cloud.

## Extend any data, virtually anywhere

### Extend the reach of data virtually anywhere across server and/or cloud with expansive developer technologies

- Enable new scenarios with SQL Azure Data Sync, a cloud service that provides bi-directional data synchronization between databases across datacenter and cloud.
- Provide a consistent and open data-

feed to power multiple user experiences across the web, devices and desktop with OData, an open protocol built on widely used web standards.

- Manage and extend relational and non-relational data including XML data, Windows files, and spatial information.
- Monetize accumulated data through SQL Azure DataMarket that allows organizations to publish data for purchase and consumption by other entities.
- Extend heterogeneous environments by connecting to SQL Server and SQL Azure applications using any industry standard APIs (ADO.NET, ODBC, JDBC, PDO, and ADO) across varied platforms including .NET, C/C++, Java, and PHP.

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