

Microsoft BI Stack Overview

An Insight into Microsoft BI Stack

Executive Summary

Microsoft provides a comprehensive Business Intelligence (BI) offering that is based on a scalable data platform for data integration, data warehousing, analysis, and reporting. It includes powerful and intuitive tools that end users can use to access and analyze business information. At the core of the Microsoft BI end-to-offering is Microsoft SQL Server 2008, a complete data platform that enables you to unify storage and access for all data across the enterprise, build and manage sophisticated BI solutions and increase the reach of your BI solution to empower all employees.

SQL Server 2008 builds on the strong momentum in the BI market by providing a scalable infrastructure that enables information technology to drive BI throughout your organization and deliver intelligence where users want it. SQL Server 2008 makes great strides in BI solutions by providing a comprehensive and scalable platform that enables organizations to integrate data into their BI applications faster and to scale and manage the data while delivering insight to all users.

With the more scalable BI infrastructure provided by SQL Server 2008, reports and analysis of any size or complexity can easily be managed, and at the same time empower users through the deeper integration with Microsoft Office. SQL Server 2008 also delivers improved performance in many areas, including data warehousing, reporting, and analytics.

Technology Overview

1. SQL Server Database Engine

A scalable, high-performance data storage engine for extremely large volumes of data makes it an ideal choice for consolidating business data from across the enterprise into a your BI application for analysis and reporting. Through support for data compression, SQL Server 2008 enables you to store your data more effectively and reduce storage costs.

In addition, the compression significantly improves performance for large input/output bound workloads. SQL Server 2008 also provides native support out-of-the-box for backup compression. Additionally, the VARDECIMAL data type, dynamic allocation of Address Windowing Extensions (AWE), Resource Governor Etc. provide better storage efficiency, support and administration.

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2. SQL Server Integration Services (SSIS)

A comprehensive platform for extract, transform and load (ETL) operations that enables the population and synchronization of your BI application with data from the disparate data sources that are used throughout the organization. SQL Server 2008 data source views enable integration of data and access to data that originates from heterogeneous enterprise-wide data stores, such as SQL Server, Oracle, DB2, and Teradata.

Therefore, unifying the data in all of your enterprise data sources is easy to accomplish, regardless of whether you want to build an abstraction layer through a data source view or use an ETL process to synchronize a BI application for analysis and reporting. To help track data changes and ensure data consistency, SQL Server 2008 introduces change data capture functionality to log updates in change tables, which makes it easy to identify rows that have been modified and to determine the details of the modification and its cause.

3. SQL Server Analysis Services (SSAS)

Microsoft SQL Server 2008 Analysis Services builds on the value delivered with the significant investments in Analysis Services 2005 around scalability, advanced analytics and Microsoft Office interoperability. Through substantially improved performance and scalability, and developer productivity you can build enterprise scale Online Analytical Processing (OLAP) solutions The Unified Dimensional Model consolidates data access and provides a wide range of analytical capabilities while deep integration with Microsoft Office and an open, embeddable architecture, allows you to reach every user with familiar tools and drives actionable insight to users across the enterprise.

4. SQL Server Reporting Services (SSRS)

Microsoft SQL Server 2008 Reporting Services provides a complete server-based platform that is designed to support a wide variety of reporting needs including managed enterprise reporting, ad-hoc reporting, embedded reporting, and web based reporting to enable organizations to deliver relevant information where needed across the entire enterprise.

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Reporting Services 2008 provides the tools and features necessary to author a variety of richly formatted reports from a wide range of data sources and provides a comprehensive set of familiar tools used to manage and secure an enterprise reporting solution. Reports are processed and delivered quickly and effectively, enabling users to either receive reports automatically through subscriptions, to access reports from a central report repository on an ad-hoc basis, or to consume reports in context of their business processes through reports directly embedded into their business or web applications.

5. 2007 Microsoft Office System Integration

Microsoft Office is a ubiquitous productivity suite that most information workers in organizations throughout the world use to perform their daily tasks. Through close integration with Office, SQL Server 2008 enables you to empower your employees with critical, timely business information that is tailored to their specific information needs.

Tight integration with the 2007 Microsoft Office System and SharePoint Server enables organizations to save time and money by using technology that works well together. The integration also provides a quicker return on investment in terms of end-user scale by delivering business insight to everyone through familiar tools that are already installed on every desktop computer.

Microsoft Office Excel

Microsoft Office Excel 2007 is a powerful spreadsheet application that you can use as an interface for OLAP analysis, data mining, and report rendering. Through deep integration between SQL Server 2008 and Excel 2007, you can browse data stored in multidimensional OLAP cubes in Analysis Services, build Microsoft PivotTable dynamic views to “slice and dice” data, make predictive analysis available to even non-technical users, harness the highly sophisticated data mining algorithms of SSAS within the familiar environment of MS Office.

Microsoft Office Word

Microsoft Word is a word processing application that you can use as a format for reports. Using the new highly requested report render tool for Word, you are enabled to render SQL Server 2008 Reporting Services reports in Word format. can use as a format for reports. Using the new highly requested report render tool for Word, you are enabled to render SQL Server 2008 Reporting Services reports in Word format.

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Microsoft Office Visio

Visio is a drawing and diagramming application that you can use to annotate, enhance, and present your data mining graphical views. With SQL Server 2008 and Visio 2007, you can render decision trees, regression trees, cluster diagrams, and dependency nets, save data mining models as Visio documents embedded in other Office documents or saved as a Web page. use to annotate, enhance, and present your data mining graphical views. With SQL Server 2008 and Visio 2007, you can render decision trees, regression trees, cluster diagrams, and dependency nets, save data mining models as Visio documents embedded in other Office documents or saved as a Web page.

Microsoft Office SharePoint Server

SharePoint Server is comprehensive collaboration, publishing, and dashboard solution that you can use to provide one central location for placing all your enterprise-wide BI content and tools, so that everyone in your organization can view and interact with relevant and timely analytical views, reports, and KPIs. The integration of SQL Server 2008 Reporting Services with SharePoint Server 2007 enables you to use a consistent user interface to manage and view reports & dashboards, track versions and workflow of reports when they are stored in SharePoint Server 2007 document libraries and manage a single security model for reports through the SharePoint document library.

Capabilities Offered

1. Building and Managing Sophisticated BI Solutions

As organizations demand ever increasingly complex analytics, the need to be able to build and deliver effective BI solutions quickly and to reduce the management overhead of your BI infrastructure has become a major consideration. SQL Server 2008 includes innovative tools that increase developer productivity and manageability, which enables faster capitalization on new analysis and reporting capabilities while incurring reduced administrative overhead.

2. Developer Productivity

SQL Server 2008 simplifies the development of BI solutions. BI developers benefit from easy-to-use utilities and tools that increase control and automate routine, time-consuming tasks, and can use the productivity features of SQL Server 2008 to create effective analysis and reporting solutions more quickly than ever; so your organization can take advantage of them sooner.

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3. Use a Rich, Modern Programming Environment

Through tight interoperability with Microsoft Visual Studio®, developers can easily build and maintain robust, secure, scalable BI applications. SQL Server BI Development Studio offers a single tool that covers multiple types of BI solution and provides a single, consistent environment for developing ETL, analysis and reporting solutions.

4. Increase Reporting Flexibility

SQL Server Reporting Services, to make it easier to build reporting solutions, provides a Visual Studio-based report development interface in BI Development Studio that developers can use to build, debug, and deploy reports. Also, a business-focused report development tool named Report Builder that business users can use to create a wide range of data display structures, including tables, matrices, Tablix, lists, and charts.

5. Manageability

Through Unified Management Tool, enhanced self-tuning capabilities, and a powerful management programming model, SQL Server 2008 extends the SQL Server ease-of-use leadership and increases the productivity of database administrators (DBAs). These enhancements enable DBAs to focus on high value tasks, like database architecture, while spending less time on routine maintenance, configuration, and tuning.

6. Use a Single, Unified Tool

SQL Server 2008 provides DBAs with SQL Server Management Studio; a single, unified management tool that provides integrated management of Analysis Services, Reporting Services, Integration Services, and multiple versions of SQL Server, from the same interface for increased DBA productivity, flexibility, and manageability across extended SQL Server implementations.

7. Enterprise Scalability

A key factor related to the successful delivery of truly sophisticated BI solutions requires sustained developer productivity and manageability even through large-scale implementations. Furthermore, the infrastructure must provide performance-related scalability, which in SQL Server 2008 has achieved a wide variety of investments that are focused on ensuring this enterprise-scale sustainability even through the largest scale of BI implementation.

8. Scalable Analytics

SSAS enables you to drive broader analysis with enhanced capabilities, including complex computations and aggregations through flexible caching model, declarative attribute relationships, block computation to eliminate unnecessary aggregation calculations, write-back to MOLAP and execution plan persistence.

9. Scalable Reporting

You can generate reports from multiple diverse data sources and deliver reports of any size or complexity both internally and externally through the simple deployment and configuration capabilities that are provided by Reporting Services. Reporting Service provides support and the ability to control server behavior with memory management, infrastructure consolidation, and straightforward configuration through a centralized store and an API for all configuration settings.

10. Extending the Reach of Your BI Solution

SQL Server 2008 enables you to create a BI solution that can scale to thousands of users and deliver a rich user experience to everyone through an extensible, open, and embeddable architecture that is optimized for interoperability with Microsoft Office thus extending the insights that are available through BI to all employees and embedding those insights into the day-to-day operations of the business.

11. Extend your Reporting Solution with Microsoft Office

Reporting Services 2008 supports rendering to both Excel and Word formats. Rendered reports are fully editable in the appropriate Office application, which extends your reporting solution so that users can create custom documents based on business reports.

12. Publish Business Insights throughout the Enterprise

SQL Server 2008 integrates tightly with SharePoint Services to make it easy to publish and manage reports centrally in a SharePoint site and to build user-specific dashboards that provide customizable views of relevant reports.

13. Empowering End Users through Flexible Reporting

SQL Server 2008 provides a number of reporting enhancements that enable you to quickly and easily generate the reports that your organization needs, in the format that you want, and in a layout that makes sense of the data they contain.

14. Create Ad Hoc Reports with Report Builder

Report Builder has been enhanced extensively in SQL Server 2008 to enable users to easily build ad hoc reports with any structure. The intuitive design interface makes it easy for non-developers to create business documents, such as purchase orders, invoices, and contracts, based on report data.

15. Include Richly Formatted Data

Rich formatting can make business documents and reports more intuitive and significantly easier to understand. The rich text component of SQL Server 2008 enables mixed-formatting text boxes and importing of marked up text strings, and supports the new chart formats and the Tablix data region so that users can generate reports with high standards of visual designs to convey business information clearly and logically.

16. Benefit from Increased Responsiveness

As reports become more central to the way organizations distribute business information, ensuring the highest levels of performance and scalability of your reporting solution has become more critical. The Reporting Services engine in SQL Server 2008 has been significantly re-engineered to resolve current limitations, and now includes on-demand processing and instance-based rendering to provide the best possible reporting performance.

17. Deploy Reports Securely Over the Internet

SQL Server 2008 enables you to extend the reach of your Reporting Services solution to external users, such as customers and suppliers, by publishing reports securely over the Internet.

Strengths

Microsoft's flagship database product, SQL Server, is fully equipped with state-of-the-art BI components. Starting with SQL Server 2000, and then with marked improvements in SQL Server 2005 and now SQL Server 2008, Microsoft has built a full complement of data warehousing, ETL, analytics and reporting tools into the platform. Any company that runs the Standard or Enterprise editions of Microsoft SQL Server already has the basic components of a BI system.

Microsoft's Business Intelligence platform and toolset represent a complete end-to-end solution, with low total cost of ownership. Because it is so self-contained, yet with an architecture open enough to integrate with tools from virtually any other vendor, it can serve as either the backbone of a BI architecture or just a component of a large and heterogeneous BI system. SQL Server scales very well, and offers excellent performance even at high data volumes.

- ▶ One-stop shopping of all BI needs
- ▶ Solid value proposition – best-of-breed tools at a compelling pricing model
- ▶ Leading provider of BI solutions
- ▶ Occupies position in Leaders Quadrant of Gartner's BI Platforms Magic Quadrants
- ▶ Growing market penetration
- ▶ Comprehensive resources to help you succeed
- ▶ Familiar stack: Your customers may already have the tools like MS SharePoint, MS Excel
- ▶ A strong channel program
- ▶ Common Visual Studio-based development environment across SQL Server BI tools

About eDynamic

Established in 1999, eDynamic is a Global Web Solutions Firm. We are a one stop shop for Web solutions offering a wide range of services including Web and Enterprise Content Management, Portals, Web Design/User Experience, Online Marketing, Custom Application Development, Business Intelligence and Managed Services. We blend strategy, technology and creativity to deliver integrated, fully customized business solutions, and partner with our clients for cornerstone strategies and critical Web initiatives.

eDynamic has a flexible delivery model that is driven by agile methodologies & a cutting edge technology resource base. We also have partnerships in place with Sitecore, Ektron, Microsoft, Open Text, IBM, Kentico, Media Chase. Through our offices in New York, Phoenix, Los Angeles, Toronto, Dubai, and New Delhi, we are serving customers such as Suncor Energy, UPS, PepsiCo, New York Life, Aviva Insurance, Minnesota State University, Moneris Solutions, HarperCollins, Estee Lauder, GlaxoSmithKline, Sunlife, General Electric, Allianz, Advance America, Intercontinental Hotels, Jet Airways, Samsung, Sony, among many others.

eDynamic's BI offerings include

- ▶ Data Warehousing
- ▶ Analytical BI (OLAP)
- ▶ Google mash-ups
- ▶ Benchmark reporting
- ▶ Portal integration with BI tools
- ▶ Business process management
- ▶ Company branded reports
- ▶ Dashboard & scorecards
- ▶ Operational BI (OLTP)
- ▶ Key Performance Indicator analysis
- ▶ e-Statements
- ▶ Invoice generation
- ▶ BI solution maintenance and support
- ▶ Report designing, modification, customization

For more information on eDynamic's expertise in BI, refer to the link below:

www.edynamic.net/home/Services/ITServices/BusinessIntelligenceDataWarehousing.aspx

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