

# SharePoint Server 2010 INSIGHTS

Business intelligence is the delivery of accurate, useful information to the appropriate decision makers within the necessary timeframe to support effective decision making. Microsoft SQL Server 2005 and 2008 & 2008 R2 provides a storage and management foundation for business data, and a set of reporting and analysis tools. Microsoft SharePoint Server 2010 provides controlled access to, and analysis of, business data, and the ability to leverage data to make better business decisions.

The **business intelligence tools you use depend on the specific problems you are trying to solve.** Your daily business activities have associated information and insights that emerge in three main areas of business intelligence: personal, team, and organizational. There will be overlap across these areas.

## Areas of business intelligence

### Self-service and personal business intelligence

Personal and self-service business intelligence is information available or delivered to people when they need it and in the desired format. It may integrate a self-service business intelligence platform to reduce the backlog of requests. Typically there is little or no IT involvement.

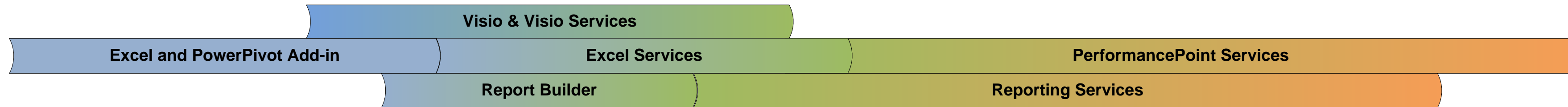
### Business intelligence for the community

People don't work just as individuals but in groups and teams to complete projects. Business intelligence for the community delivers information that reflects this, providing business intelligence that focuses on the ability to promote collaboration, and rapid sharing of information to drive to a common decision.

### Organizational business intelligence

Organizational business intelligence describes a set of tools that help people align their objectives and activities with overall company goals, objectives, and metrics. It is business intelligence that helps synchronize individual efforts by using scorecards, strategy maps, and other tools that connect to corporate data.

## Business intelligence in SharePoint Server 2010



### Platform for business intelligence

Business Intelligence Developer Studio (BIDS) is SQL Server's BI the authoring tool in Visual Studio for developing solutions for ETL, Reporting Services and Analysis Services, and data mining.

# Getting started with business intelligence in SharePoint Server 2010

The SharePoint Server 2010 application platform enables you to store data that represents your organization's key business processes, organize that data in a useful manner, and present that data as meaningful information. Knowledge workers can act on that information to increase productivity and to provide feedback that improves underlying business processes.

The outputs of each of these business intelligence tools can be published in SharePoint Server. The following business intelligence tools work cohesively. For example, a PerformancePoint KPI can use Excel and Excel Services as data sources.

## Excel and PowerPivot Add-in

Excel 2010 is the end user's analyst's tool of choice for viewing, manipulating, performing analysis on, generating intelligence from, and creating reports about their organization's data. As the end user tool of Microsoft for Business Intelligence, Excel is where BI begins.

**Excel 2010 PowerPivot Add-in** is an extension to Excel that adds support for large-scale data. It has an in-memory data store as an option for Analysis Services. Multiple data sources include corporate databases, worksheets, reports, and data feeds. Can publish to SharePoint Server 2010.

## Excel Services

Excel Services is a Microsoft SharePoint Server 2010 shared service that brings the power of Excel to SharePoint Server by providing server-side calculation and browser-based rendering of Excel workbooks.

Excel Services can be used for:

- Real-time, interactive reporting to include parameterized what-if analysis.
- Distribution of all or part of a workbook for analysis by using SharePoint Server or the Office client applications.
- A platform for building business applications.

## Visio Services

The Visio Graphics Service is a service on the Microsoft SharePoint Server 2010 platform that allows users to share and view Visio diagrams. The service also enables data-connected Microsoft Visio 2010 diagrams to be refreshed and updated from a variety of data sources.

### Consider using Visio Services when ...

Use Visio Services to build a visual representation of your business structures that are bound to data. Examples include processes, systems, and resources. An engineer can use the visualization to create data-bound objects to represent a process.

## PerformancePoint Services

PerformancePoint Services in SharePoint Server 2010 is a performance management service with tools to monitor and analyze business. It provides easy-to-use tools for building dashboards, scorecards, and key performance indicators (KPIs). PerformancePoint Services can help individuals across an organization make informed business decisions that align with company-wide objectives and strategy.

- You can bring together data from multiple data sources (including Analysis Services, SQL Server, SharePoint lists and Excel Services) to track and monitor your data.
- Use the visualization Decomposition Tree is a new report type that enables you to quickly and visually break down higher-level data values from a multi-dimensional data set to understand the driving forces behind those values.

### Consider using PerformancePoint Services when ...

Use PerformancePoint Services for creating dashboards, scorecards, and key performance indicators (KPIs) that help deliver a summarized view of business performance. The dashboard is a point of entry to drill-down analysis for driving agility and alignment across an organization. PerformancePoint Services gives users integrated analytics for monitoring, analyzing, and reporting.

## Reporting Services and Report Builder

SQL Server Reporting Services provides a full range of ready-to-use tools and services to help you create, deploy, and manage reports for your organization, as well as programming features that enable you to extend and customize reports. The report authoring tools work with an Office type application and are fully integrated with both SQL Server tools and components as well as the SharePoint Server environment. You can build reports on top of SharePoint lists, publish reports to SharePoint 2007 or 2010, incorporate reports inside your portal using a reports Web Part, and fully manage your reports published in SharePoint document libraries.

### Consider using Reporting Services when ...

Use SQL Server Reporting Services to deliver reports that publish at regular intervals and on-demand. It's also suitable where report requirements are well established and customers are not always familiar with the underlying data set.

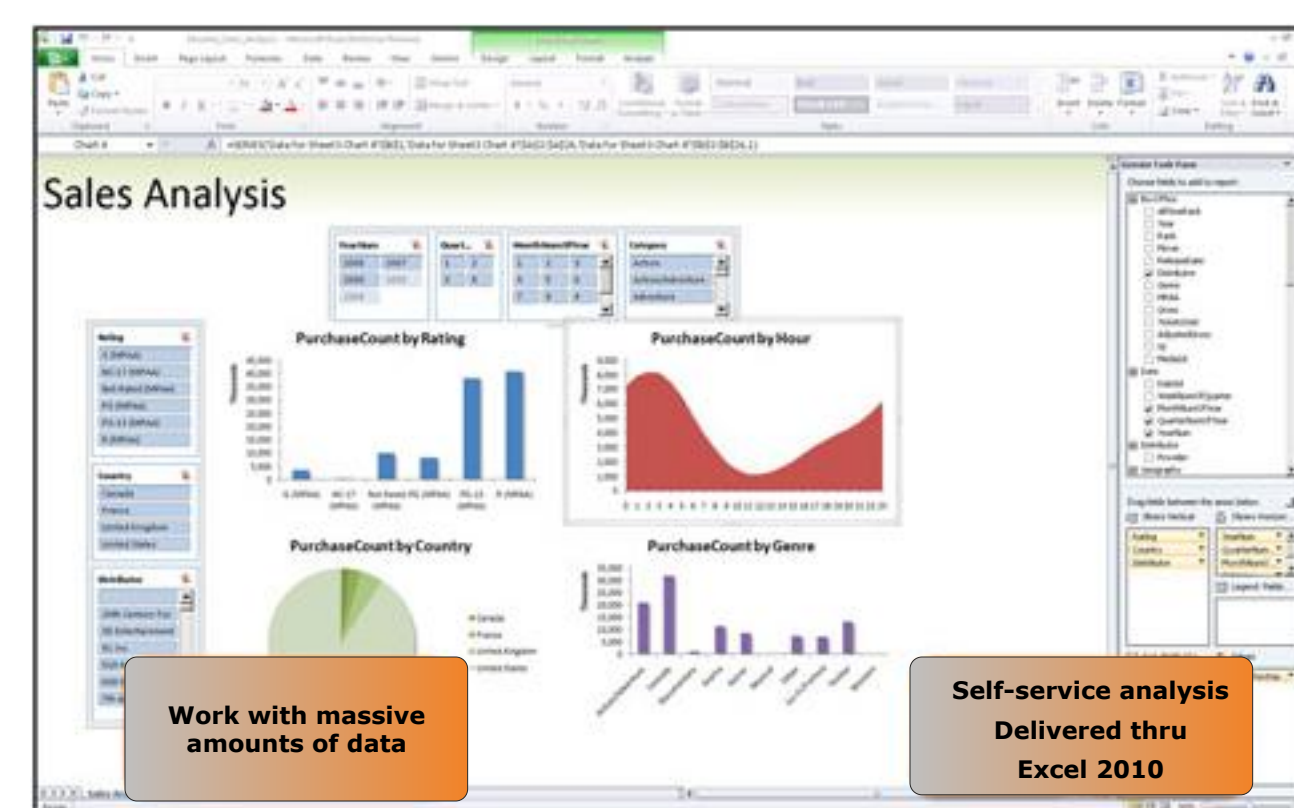
### Consider using Excel and PowerPivot Add-in when ...

Use Excel Services to give users browser-based access to a server-calculated version of an Excel spreadsheet. Use Office Excel 2010 and Excel Services to view, refresh, and interact with analytic models connected to data sources, and for analysis, filtering, and presentation of locally stored data.

**PowerPivot Add-in with Excel:** You can combine native Excel 2010 functionality with the PowerPivot Add-in in-memory engine to allow users to interactively explore and perform calculations on large data sets. Use Excel and PowerPivot Add-in when you want to quickly manipulate millions of rows of data into a single Excel workbook for ad-hoc reports.

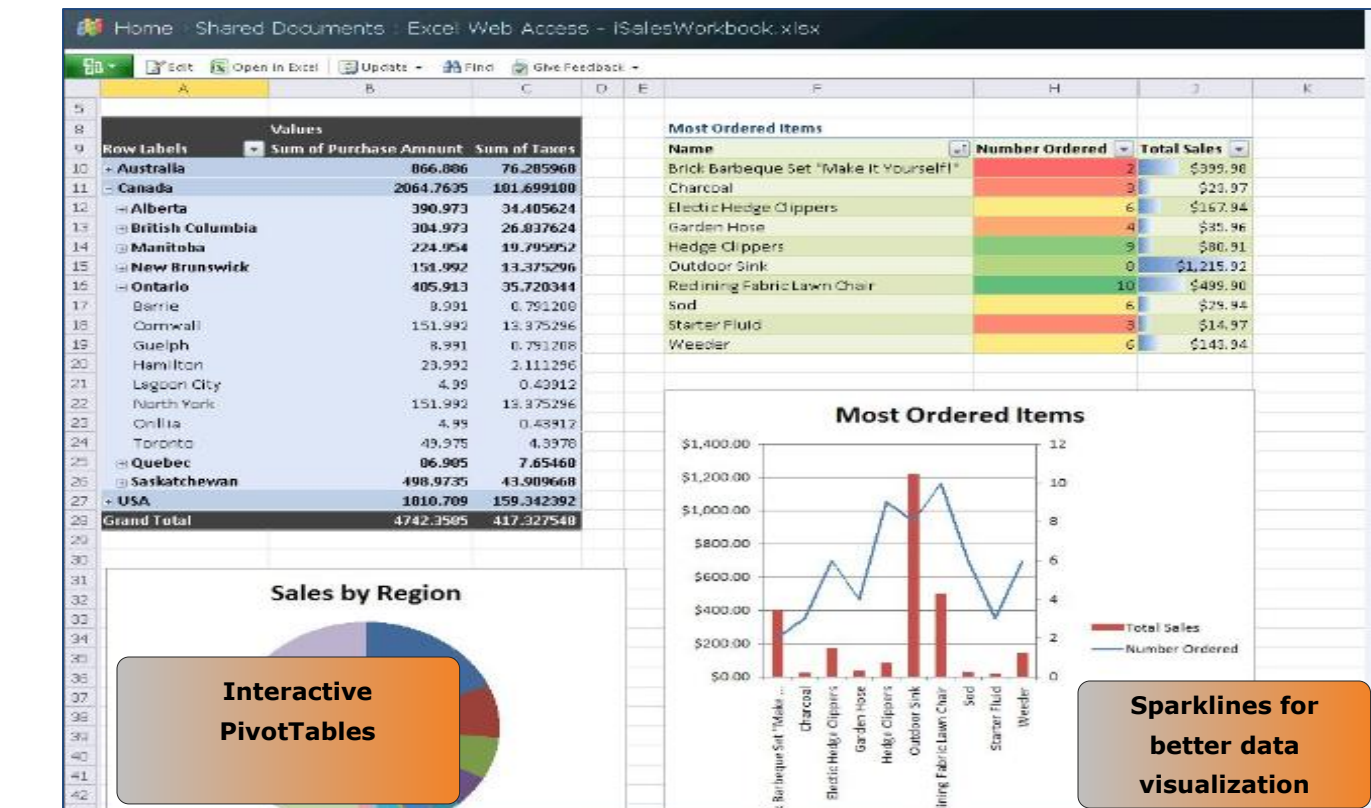
### Consider using Excel Services when ...

Use Excel Services when an end user, or analyst wants or needs to share content with multiple persons across an organization. It provides an easy, intuitive mechanism for taking authored content in Excel 2010 and making it browser accessible. Excel Services is also used when an end user, or analyst has generated a model which can be broadly used (i.e. mortgage calculator). In both use cases, Excel Services enables the author to publish targeted content without making the underlying intellectual property available to consumers.



Work with massive amounts of data

Self-service analysis delivered thru Excel 2010



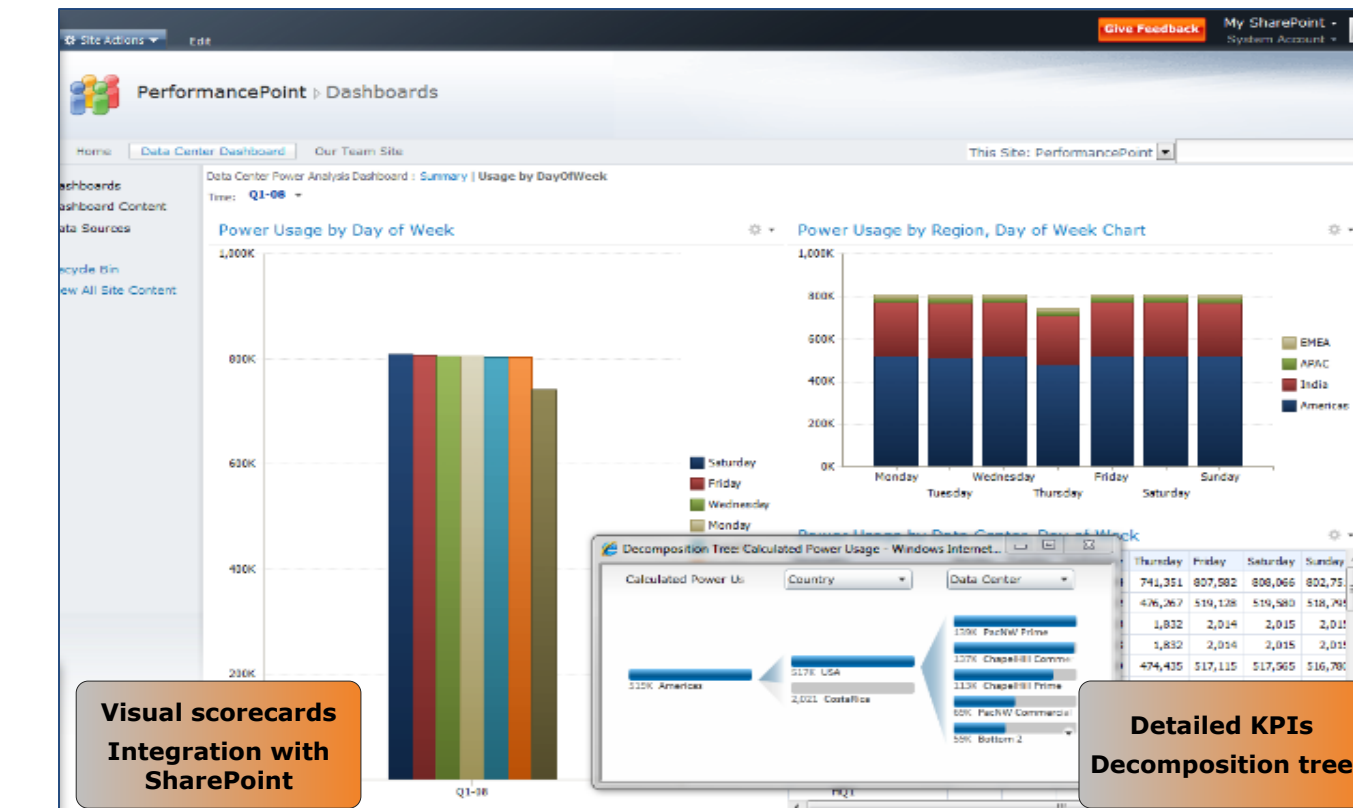
Interactive PivotTables

Sparklines for better data visualization



Real-time updates with data connectivity

Real-time visual data



Visual scorecards integration with SharePoint

Detailed KPIs Decomposition tree

Sales Summary		2001	2002	2003	2004							Total
Region	Product	2001	2002	2003	2004	AU	CA	DE	FR	GB	US	Total
Albert, Amy	Phx, Dca	6,036,309	20,338,657	22,830,061	18,811,024			9,335,866			5,503,339	52,882,328
Abbas, Syed	Valley, Rachel	848,333	2,286,760	1,374,856						4,509,889		8,509,889
Total		6,884,642	22,625,417	24,204,917	18,811,024			9,335,866		4,509,889	5,503,339	61,392,316

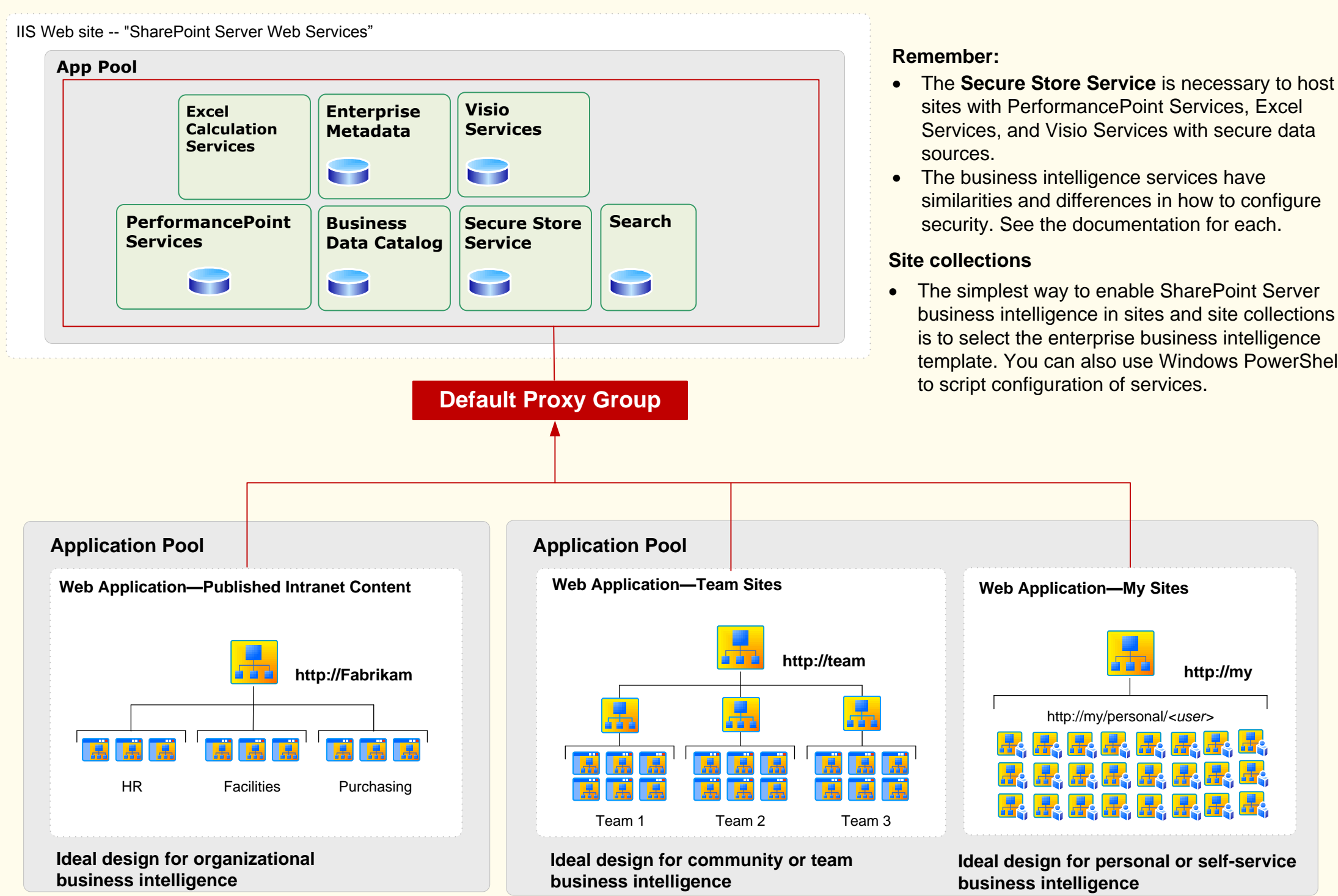
Visual Sparklines

Reporting Services published in SharePoint

# Architecture

## SharePoint Server application services

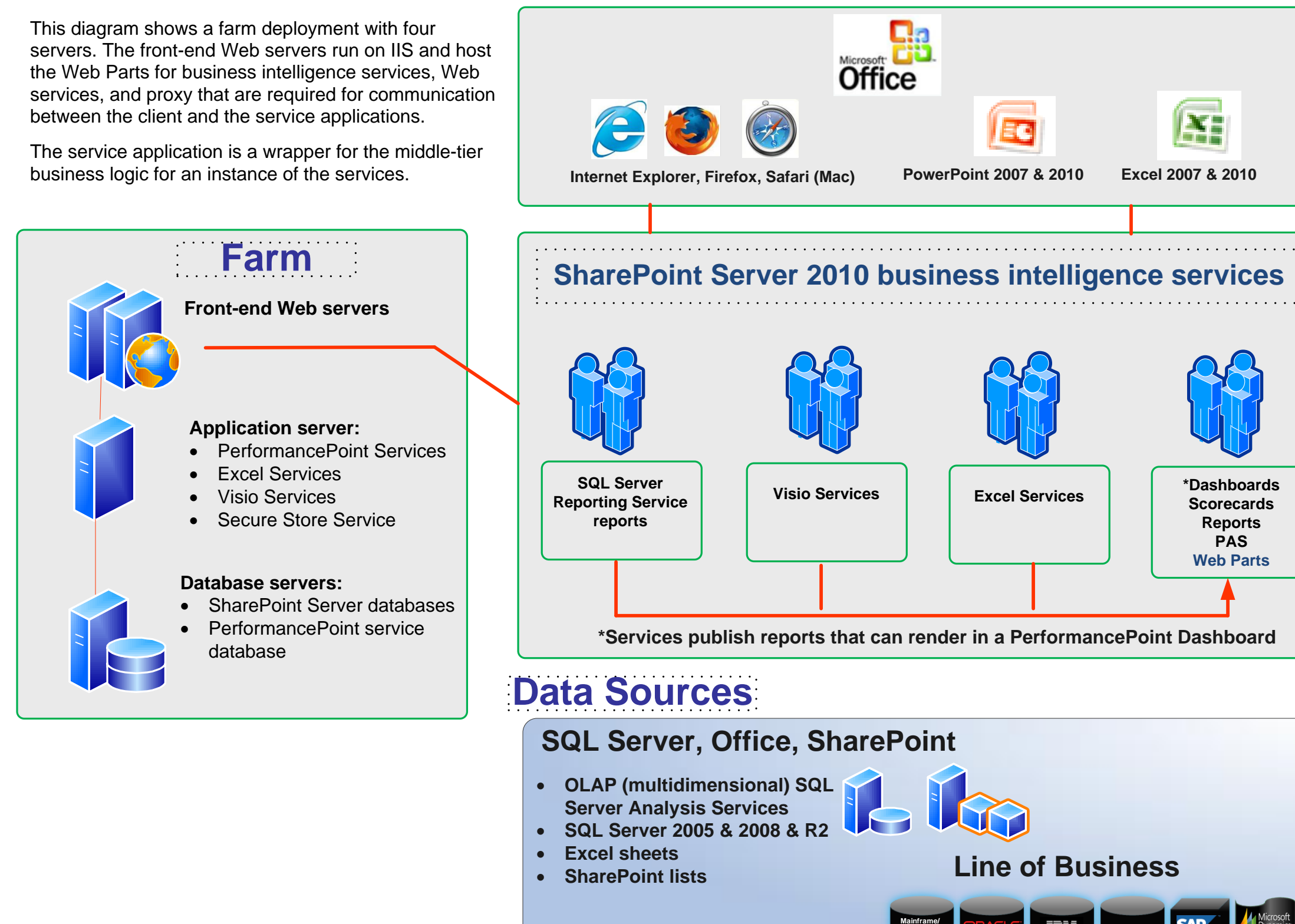
### logical architecture



- Remember:**
- The **Secure Store Service** is necessary to host sites with PerformancePoint Services, Excel Services, and Visio Services with secure data sources.
  - The business intelligence services have similarities and differences in how to configure security. See the documentation for each.
- Site collections**
- The simplest way to enable SharePoint Server business intelligence in sites and site collections is to select the enterprise business intelligence template. You can also use Windows PowerShell to script configuration of services.

## SharePoint Application Services

### physical architecture



This diagram shows a farm deployment with four servers. The front-end Web servers run on IIS and host the Web Parts for business intelligence services, Web services, and proxy that are required for communication between the client and the service applications.

The service application is a wrapper for the middle-tier business logic for an instance of the services.

- Front-end Web servers**
- Application server:
    - PerformancePoint Services
    - Excel Services
    - Visio Services
    - Secure Store Service
  - Database servers:
    - SharePoint Server databases
    - PerformancePoint service database

- SharePoint Server 2010 business intelligence services**
- SQL Server Reporting reports
  - Visio Services
  - Excel Services
  - \*Dashboards Scorecards Reports PAS Web Parts
- \*Services publish reports that can render in a PerformancePoint Dashboard

- Data Sources:**
- SQL Server, Office, SharePoint
- OLAP (multidimensional) SQL Server Analysis Services
  - SQL Server 2005 & 2008 & R2
  - Excel sheets
  - SharePoint lists

- Authoring tools:**
- Dashboard Designer (Launch and run from Front-end Web server)
  - Excel
  - Visio
  - SQL Server Report Builder

# Data Sources

The following list does not contain the complete list of possible data sources for authoring tools and their respective business intelligence services. Additional data sources and provider types can be located in each product's individual documentation or listed in the SharePoint Server service. For example, you can view a list of provider IDs, provider types, and descriptions for Excel Services data sources by going to Central Administration -> Excel Services -> Trusted Data Providers.

Business Intelligence capability	SQL Server 2005 (64-bit) SQL Server 2008 (64-bit)	Supported Data Providers	Other
<b>PerformancePoint Services</b>	Yes	For SQL Server, extends System.Data.SqlClient For SSAS, uses ADOMD.NET	SQL Server Reporting Services reports Visio Graphics Service Reports SharePoint Lists Can import SQL Server Analysis Server KPIs Excel Sheet data
<b>Excel Services</b>	Yes	For SQL Server, extends System.Data.SqlClient For SSAS, uses MSOLAP (.4 by default) OLE DB ODBC	
<b>Excel</b>	Yes	OLE DB Jet 4.0	Excel Sheet data
<b>Excel PowerPivot Add-in</b>	Yes		
<b>Visio Services</b>	Yes	For SQL Server, extends System.Data.SqlClient For SSAS, uses ADOMD.NET	Excel Sheet data

DRAFT

