Microsoft<sup>®</sup> Business Intelligence

Kristina Kerr Intelligence Delivered Through SharePoint Server Sr. Product Manager, Bl Microsoft

# Agenda

SharePoint Server Application integration

- Report Center
- Reporting Services
- ProClarity
- PerformancePoint Server
- Excel Services

# What does it take to deliver on the promise?

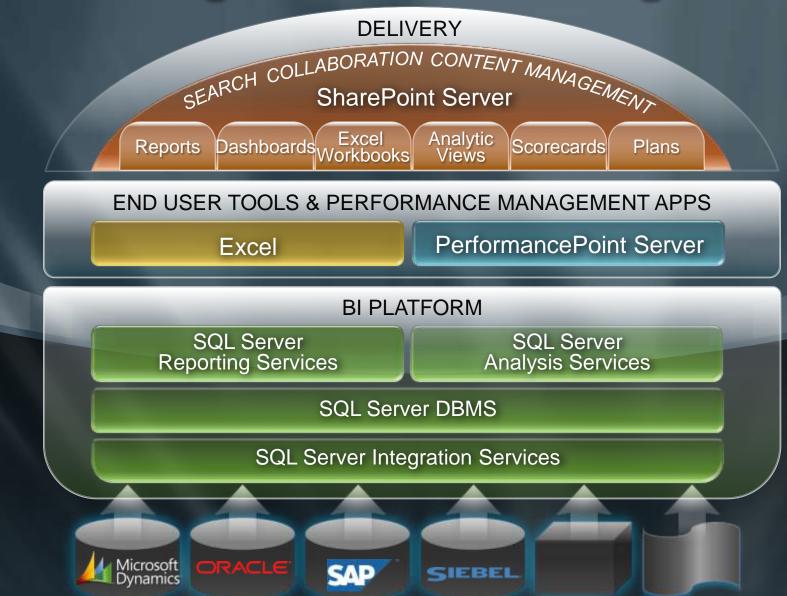
Connectivity, Interoperability and Integration – work with what you have, and innovate for the next generation

# Business Intelligence Adoption Challenges

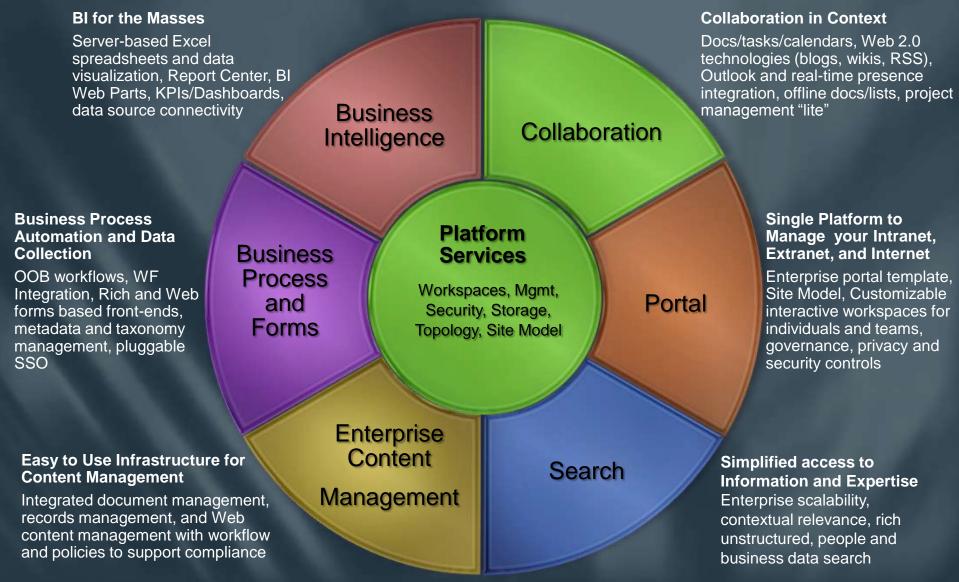
Users lack necessary skills
TCO is high
Difficult to learn and use
Insight to action gap

Sources: - Gartner: The Business Intelligence Market Trends and Directions, 2006

# **Our Integrated BI Offering**



#### Integrated Capabilities to Streamline Collaborative Work



# **SharePoint Architecture**

Collaboration Discussions Calendars E-Mail Presence Project Mgt Offline	Authoring Approval Web Publishing Policy & Auditing Rights Mgt Retention	Portal MySites Targeting People Finding Social Networking Privacy Profiles Site Directory	Search Indexing Relevance Metadata Alerts Customizable UX	BPM Rich\Web Forms Biz Data Catalog Data in Lists LOB Actions Single Sign-On BizTalk Integ.	BI Excel Services Report Center KPIs Dashboards SQL RS\AS Integ. Data Con. Library	
1		Core S	ervices			
Management	Security	Storage	Topology	Site Model	APIs	
Delegation Provisioning Monitoring Staging	Rights\Roles Pluggable Auth. Per Item Rights Trimming	Repository Metadata Versioning Backup	Config. Mgmt. Farm Services Feature Policy Extranet	Rendering Templates Navigation Visual Blueprint	Fields\Forms OM and SOAP Events Deployment	
Web Parts   Personalization   Master Pages   Provider Framework (Navigation, Security)						
Database services		Search	Search services		Workflow services	
Operating System Services						

## SharePoint BI Web Parts in MOSS 2007

#### Types of Business Data Web Parts

#### Web Part

Business Data List Web Part

Business Data Item Web Part

Business Data Related List Web Part

Business Data Actions Web Part

Business Data Item Builder Web Part

#### Description

Displays a list of <u>entity instances</u> from a business application registered in the Business Data Catalog. For example, you can use a Business Data List Web Part to display the customers or orders from the AdventureWorks database.

Displays the details of an entity instance from a business application. For example, you can use a Business Data Item Web Part to display the details of a particular customer or order from the AdventureWorks database.

Displays a list of related entity instances from a business application. For example, you can use a Business Data Related List Web Part to display all the orders for a particular customer from the AdventureWorks database.

Displays a list of <u>actions</u> associated with an entity as defined in the Business Data Catalog. For example, you can use a Business Data Actions Web Part to display all the actions that portal users can perform on the Customer entity. Some examples of these actions are to send an e-mail message to a customer or to edit the address of a customer.

Creates a Business Data item based on parameters in the query string and provides it to other Web Parts.

#### Report Center Rich Integration Point SharePoint Site Templates for Sites and Subsites

- Reporting Services
- Excel Services
- Excel 2007
- Data Connection Libraries
- All Document Management features of MOSS 2007
  - Check-in/out, version history and control, workflow integration, publishing capabilities, ...

# **Reporting Services Integration in 2006**

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Sales Commissions NEW	PASSDEMO\administrator	
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Type Name↓	Subscription Description	When Run				
Company Sales	s 😤 Adventure Works sales by quarter and product category. This report illustrates the use of a matrix data region that provides drilldown from summary data into detail data by showing and hiding rows. This report also illustrates the use o background images.	of				
Employee Sales Summary	Adventure Works sales for an individual employee. This report includes Sales Comparison and Current Month Sales Comparison charts in addition to a Current Month Order Summary table with drillthrough to individual orders. This repo illustrates the use of multiple datasets, charts, tables, drillthrough, and dynamic parameters.	urt				
Product Catalog	g 😤 Adventure Works full product catalog with pictures. This report illustrates the use of embedded images, database image page breaks, page footers, tables, conditional formatting, and a document map.	es,				
Product Line Sales	Adventure Works top five sales people and stores. This report illustrates a dataset with queries containing the TOP clau It also illustrates the use of tables, charts, parameters, calculated fields, and drillthrough links.	se. 💌				
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# **SSRS & SharePoint Integration Today**

- Seamless integration with SharePoint Document Library in Office SharePoint Server 2007
  - Report server namespace and security is hosted in WSS content database
  - SharePoint database stores Report Server reports, data sources, models, resources etc.
  - Report Server database used for additional metadata (schedules, caching, subscriptions)
  - Enables collaboration, workflow, versioning

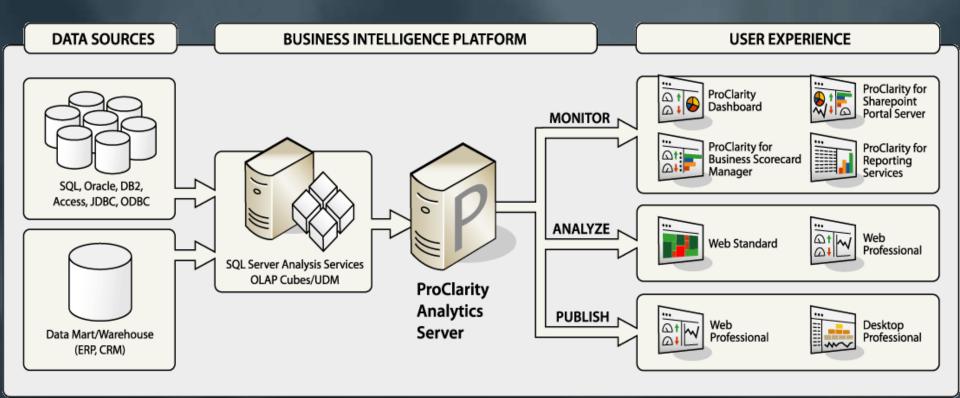
## **SSRS & SharePoint Integration**

- Centralized user interface for Report Management through Office SharePoint Server 2007
  - Upload, manage, render and deliver Reports all through Office SharePoint Server 2007 UI
  - Administration using Office SharePoint Server 2007
- Rich reporting experience to "light up" Office SharePoint Server 2007
  - Filter web parts enhancing dashboards in Office SharePoint Server 2007

#### **ProClarity** Simple, Powerful, Adaptable Interface to Insight

- ProClarity Analytics simplifies how people receive and gain insight into their data
- ProClarity Analytics provides organizations with the tools to conduct powerful analytic modeling
- ProClarity Analytics works within your existing business and technical infrastructure and it adapts with your organizations ongoing needs

#### **ProClarity Analytics**





# Excel On Servers Customer needs and challenges

- Multiple versions of the truth
- proprietary information
- BI dashboard arena
- Re-coding
- Client program

## Excel Services What is it?

- Built on the SharePoint platform
- Server-side Excel calculation engine
- Browser access
- Web service access

# Excel Services Overview

Microsoft Office SharePoint Server 2007

External data retrieval and caching

100% calculation fidelity

SharePoint platform

Spreadsheet calculation and rendering



Excel 2007

- Save Spreadsheets I
- Design and author
- Save to SharePoint

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Custom

applications

View and ets Interact

Export/Snapshot into Excel

**Programmatic Access** 

- High quality web rending
- Zero-footprint
  - Interactive: Set parameters, sort, filter, explore



- Open in Excel for rich exploration and analysis
- Open snapshots
- Set values, perform calculations, get updated values via web services
- Retrieve full workbook file

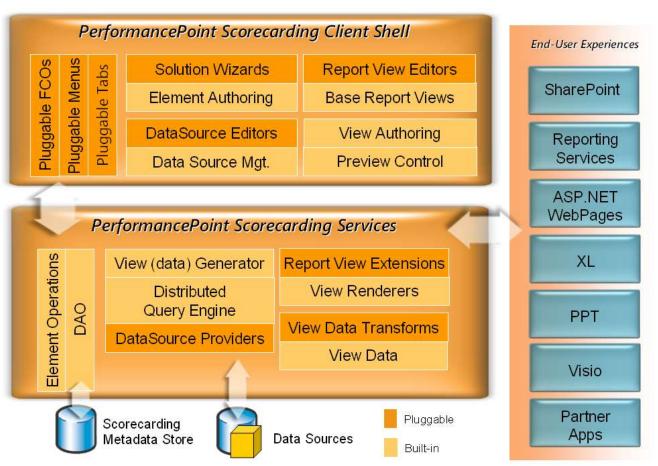
## Excel Services Architecture

- Web front-end
  - SharePoint UI
- Application server
  - Maintains state
  - Caching
- SharePoint Server 2007
  - Solution platform
  - Store
  - Management
  - Security
- Single box or multi-tier
- Independent scale-out

#### Web Front End Excel Web **Excel Web** Access Services **Application Server User-Defined Excel Calculation Functions** Services SharePoint Content Database **Excel Workbooks External Data Sources**

#### Office PerformancePoint Server Powerful Architecture with support for extensibility and customization

**Extension Framework Architecture** 

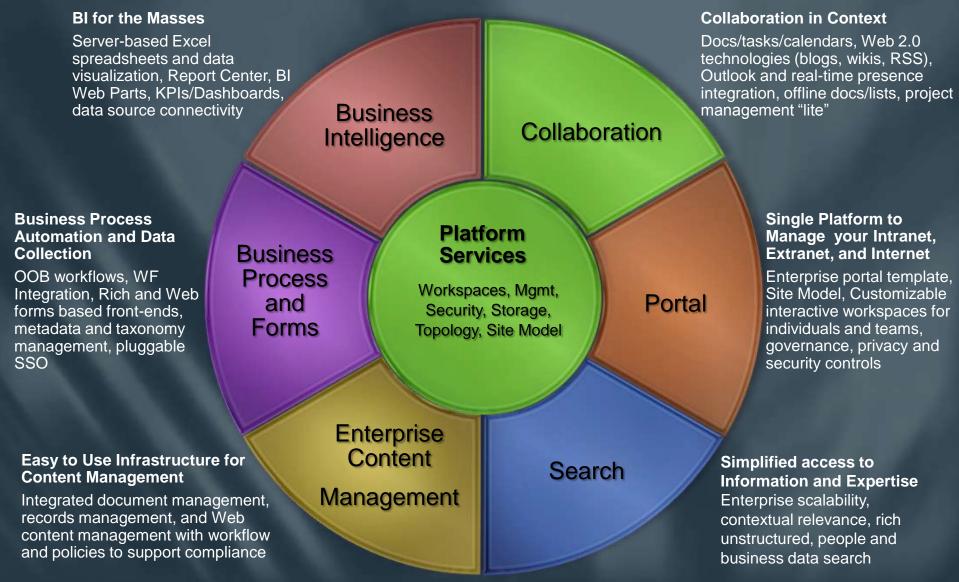


# **Analysis Services Integration**

- OLAP Data Exposed through
  - Reporting Services via SharePoint Webparts
  - OLAP navigation through Performance Point, Excel Services, ProClarity, etc.
  - Sharepoint KPI lists stored in SQLAS
- DataMining Data Exposed through
  - Data Mining sourced Reporting Services
  - Use Excel Addins and then publish results to Excel server (e,g, tables, pivot charts,etc)
  - Use sample web controls (naïve bayes, decision trees – SQL 2005 Samples)



#### Integrated Capabilities to Streamline Collaborative Work



SharePoint is a Broad Platform **Industry Standard for Portal Integration** Reporting, Dashboards, Analytics Visualization Mapping & GIS KPI Lists BPM and .NET Integration Workflow Integration Enterprise Search Breakout Session CL301 WSRP & iView (SAP) support, ... LOB Integration ...

# Summary

- SharePoint 2007 is a major advance in BI Portal Capabilities
  - It provides a Rich infrastructure for BI
- Microsoft BI Applications and Platform Technologies are tightly integrated with SharePoint
- SharePoint is quickly becoming an industry standard for Portals and Unified Communication/Collaboration
  - Strong 3<sup>rd</sup> party support and extensibility
  - Powerful Web Part and Web Services Support for flexible application integration

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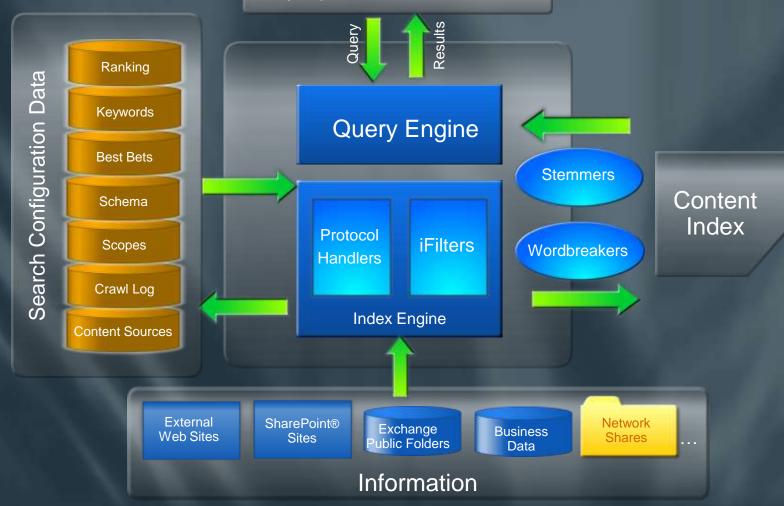


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# **MOSS Search Architecture** Logical

**OOB Search UI/Custom Search Apps** 

Query Object Model and Web Service



#### **Business Data Catalog (BDC) Connects Office servers to business data** User Custom Web Search Lists Profiles Apps Parts List Search Profile Index Store Store **Business Data Catalog** Metadata

Web

Services

Proxy

Web Service

Web Service

Database

Talke Server, SAP

Microsoft<sub>®</sub> BizTalk<sub>®</sub> Server, SAP, Siebel, existing, ...

Microsoft SQL Server™, Oracle, OLEDB, Microsoft Open Database Connectivity (ODBC)