



Microsoft®
**Office PerformancePoint™
Server 2007**

Monitoring and Analytics

Training Manual – CTP4

Delivered By



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Microsoft Confidential

Introduction

- Name
- Company affiliation
- Title/function
- Job responsibility
- CPM experience
- Expectations for the course

Course Materials

- Name Card
- Student Presentation Manual
- Student Lab Manual
- Lab Machine
- Course Evaluation

Course Outline

- **Module 1: Monitoring and Analytics Fundamentals**
- **Module 2: Dashboard Designer Fundamentals**
- **Module 3: Elements**
- **Module 4: Dashboards**
- **Module 5: Security**

Initial Logon Procedure

- Account: administrator
- Password: pass@word1

Facilities



- Class hours
- Building hours
- Parking
- Restrooms
- Meals
- Phones
- Messages
- Smoking
- Recycling

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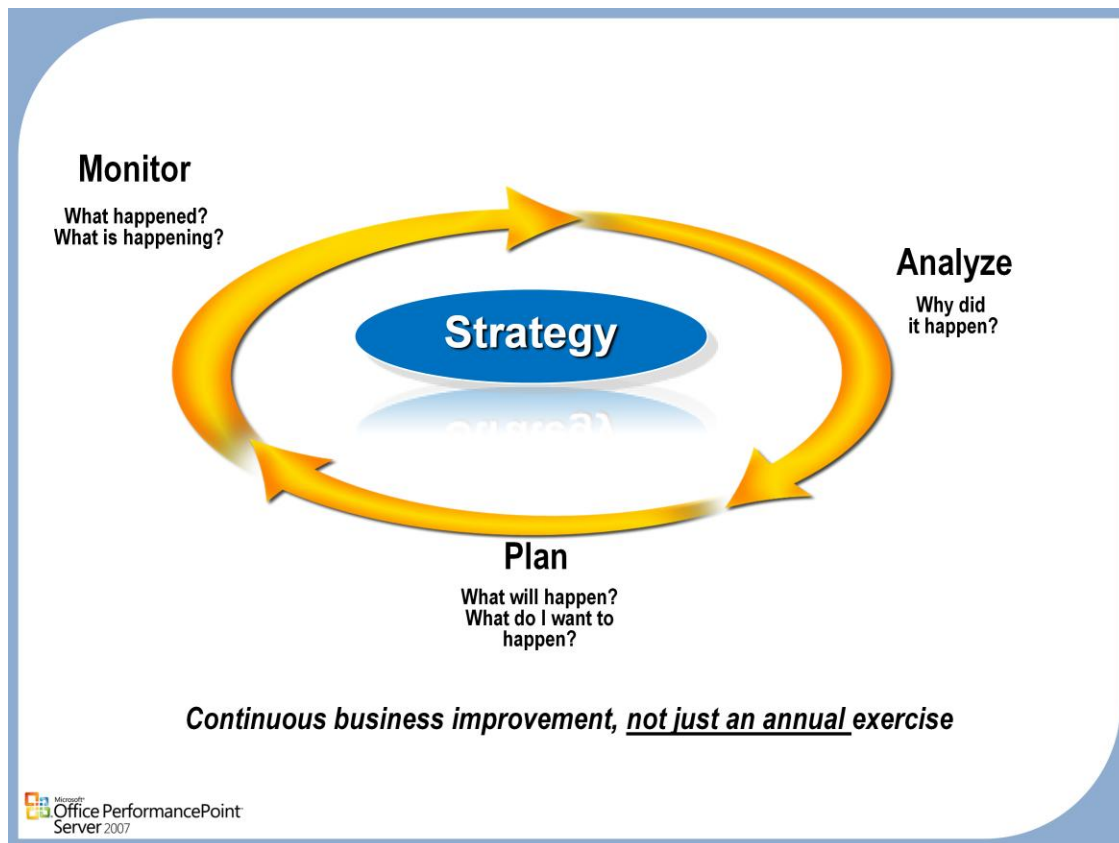
Chapter 1 – Introduction

Module 1: Monitoring and Analytics *Fundamentals*

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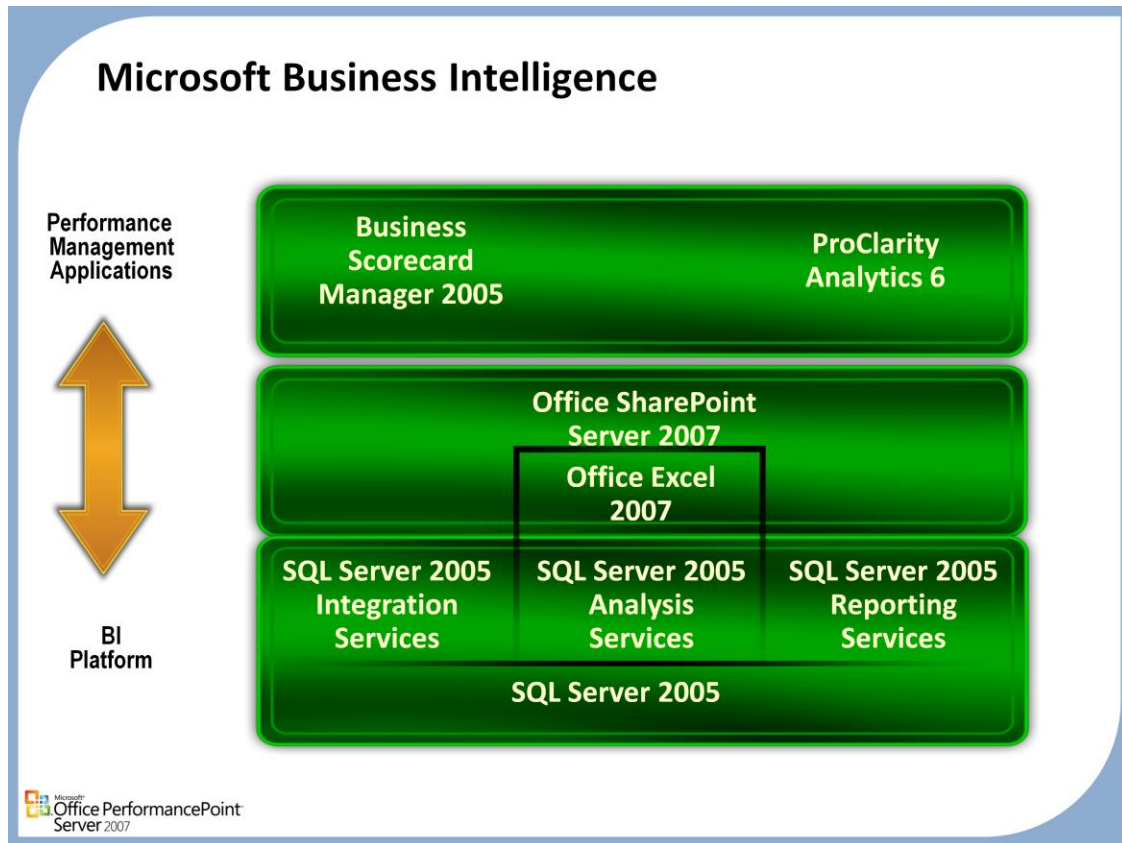
Agenda

- **PerformancePoint Server 2007 Introduction**
- **ProClarity, BSM, and PerformancePoint Roadmap**
- **PerformancePoint Server Monitoring and Analytics v1 Features**

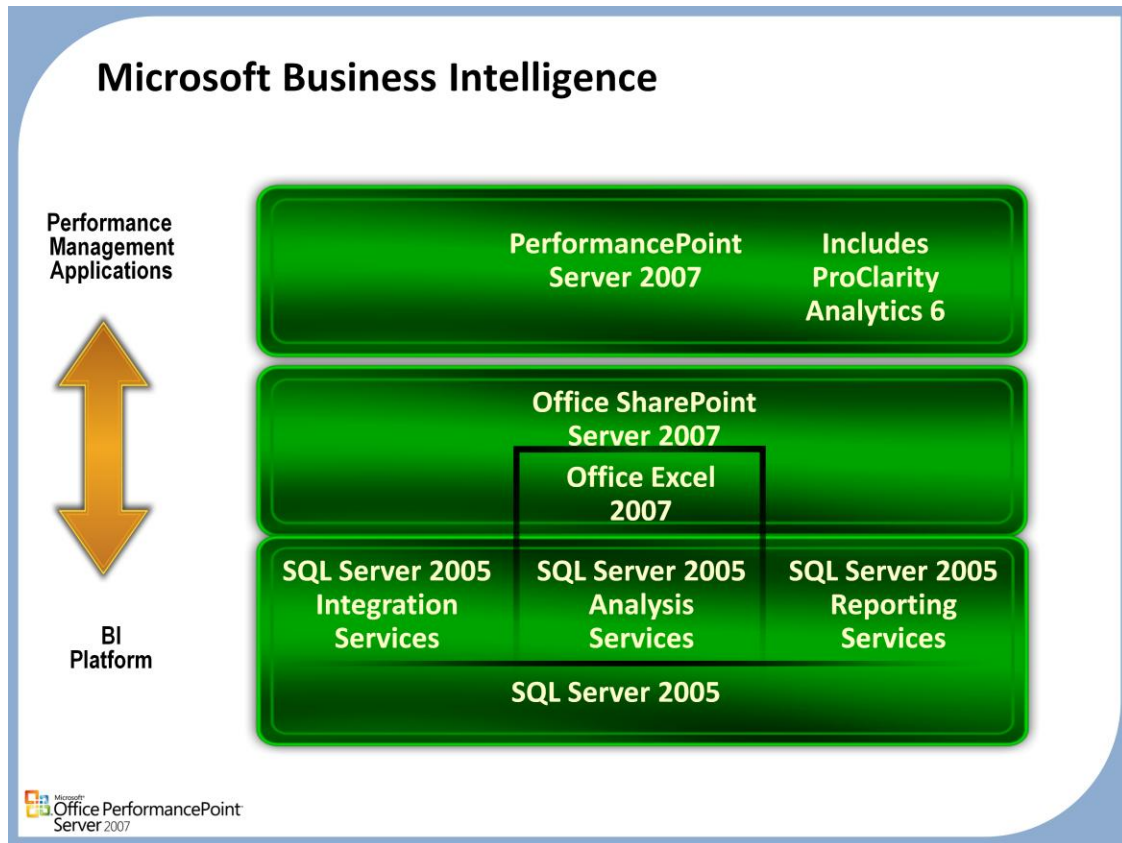


Monitor / Plan / Analyze

- An integrated Performance Management process is the ultimate goal of our vision. Using the different capabilities associated with BI, and tying them all together to be fully integrated, allows the PM cycle to be repeated as often as the business demands it. This is a far cry from what most companies are able to do today, and reveals itself as a competitive advantage through optimization of the operational efficiency.



Performance Management Roots

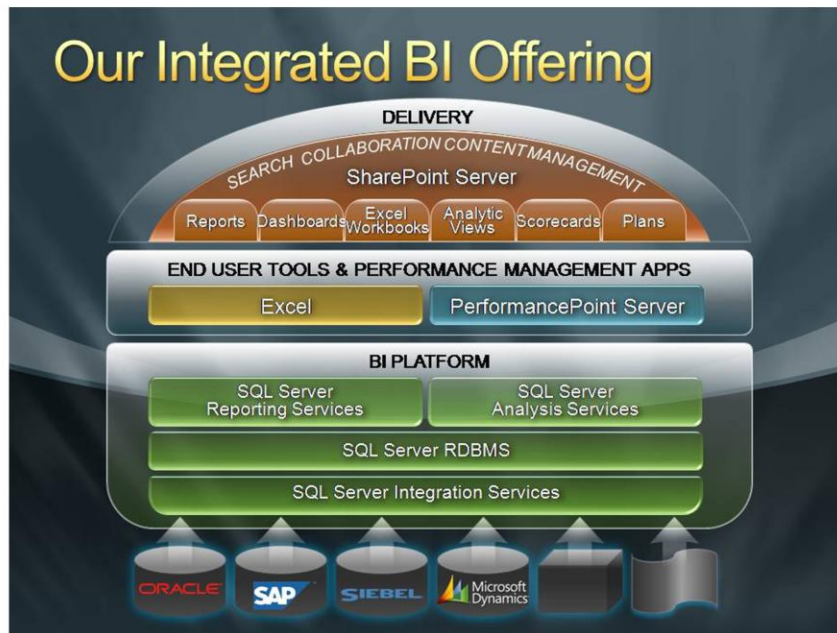


Performance Management Future

Version 1.0 “Focus”

- Combine scorecards, dashboards, and analytics to create a performance management experience optimized to bring rapid visibility of corporate performance against plan to all users
- Access data from a variety of resources bringing rapid visibility of corporate performance against plan to all users
- Centrally manage and secure business definitions
 - Provide non-technical users with a simple, powerful interface for monitoring and managing metrics
 - Promote understanding of data through interactive analytic views
- Empower users through the delivery of dashboards and scorecards
 - Provide interactive, web-based performance dashboards in SharePoint

Microsoft BI



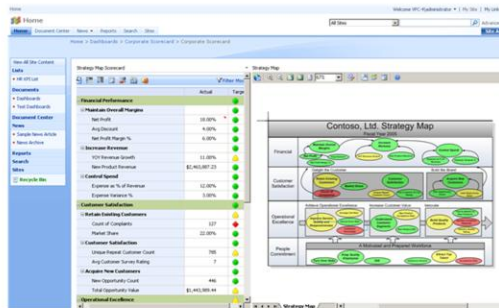
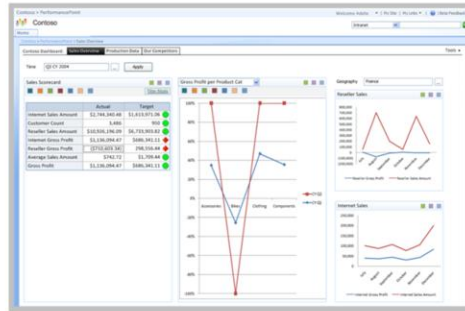
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Integrated Offering

- The Microsoft product that plays the primary role here is SQL Server 2005. Besides the relational engine, SQL Server provides three key components that support the three key technical activities, or verbs, of BI. Integration Services is the ETL tool. It lets you pull together data from multiple sources and create, or synthesize, new information. It's high-performance, with a very rich feature set. Analysis Services let's you express, and calculate, business logic. You want to enrich your data with consistent, centralized calculations that express the way the company thinks about its data, and its business. Reporting Services addresses distribution of data and information, to end-users, via reports. These can be ad-hoc reports built using Report Builder. Or they may be production reports delivered, on a schedule, through email or your corporate portal, typically SharePoint.
- Once you believe in, trust, your data, the next step is to address and support the insights your employees derive from that data. Microsoft Office and the Office Server System, via Excel and SharePoint, address the need to *'trust your insights'*. We have a lot of end-user tools. But just letting your users loose with an OLAP tool and a server full of cubes will not lead to consistent, quality insights. First, you'd be making your users find the data. And who's to say two people trying to explore the same opportunity will find the same supporting data. Yes, we want creativity, but we don't want one department working off this year's numbers while another only finds last year's. The related problem is that users often find too much data. We don't really need everyone accessing every piece of data in the company. The other issue companies face at this middle level is a daunting investment in training users on these tools. There is a staggering amount of shelf-ware in the OLAP tools market. In the Microsoft stack, we use SharePoint, in particular the Business Data Catalog, to help users find relevant, fresh data. Excel is the tool that most end-users already know. In Office 2007 we've built a tight link between Excel and SQL Server Analysis Services, you can see that in the diagram, that makes analysis of centrally calculated and managed data a first-hand experience.
- Now, beyond trusting your data, and trusting the insights of your employees, you need to address the quality of corporate decisions. If you just deploy the first two layers of the Microsoft BI stack, you will have enabled individuals in your company to gain better insights and hopefully make better decisions. That's BI at the personal level. What makes BI corporate? What let's you *'trust your decisions'*? We're adding a new layer to the stack that addresses Performance Management. We want to make BI more complete, more corporate and more accountable. By more complete, we mean more subject areas and the whole BI process. We need to break these down separately. Most users, when they do personal BI, generally consume one, maybe two data sources, but rarely multiple subject areas. So we might analyze the sales of our store. Maybe we're focusing on how to understand our revenues based on time of day. Imagine being the district manager and doing this across your stores. That's interesting. But you have to look at other factors. If one of those stores pays outrageous rent, the right answer might be to shut that store down. Or move it. All the sales analysis in the world is wasted until you discover and address the real performance issue. By BI process, I go back to the 'five questions' of BI. These are:

PPS M&A v1 Release Highlights

- **Dashboards**
 - Dashboard Designer
 - Parameterization
- **New Report Types**
 - Thin, Interactive OLAP Charts
 - Thin, Interactive OLAP Grids
 - Strategy Maps
 - Data Mining Trend Charts
 - Excel Services
- **New Scorecards Capabilities**
 - Import Analysis Services KPIs
 - Export to PowerPoint (from SharePoint)
 - Export to Excel (from SharePoint)
- **New data sources**
 - Excel 2007
 - Excel Services
 - SharePoint lists
- **Enhanced User Experience**
 - Bulk Editing
 - Analytic View Designer
 - Time Intelligence
- **Extensibility**



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New features

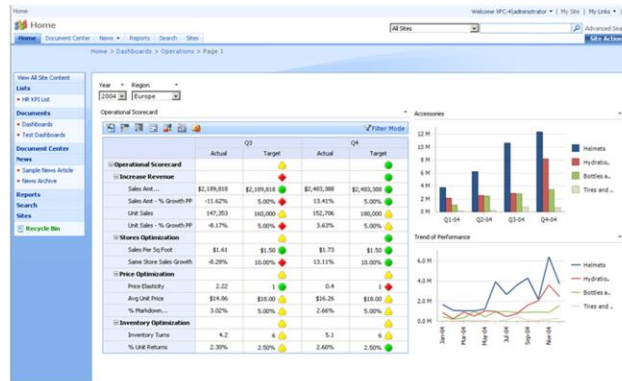
- Microsoft Business Scorecard manager launched the first wave in Microsoft's scorecard offering. With the release of PerformancePoint Server 2007 Microsoft takes this to an enhanced new level, offering greater flexibility and extended capabilities.

Dashboards

Key Capabilities

- Interactive, visual displays of performance data
- Reports from multiple data sources
- Integrated with SharePoint
- Parameterized using filters
- Customized using SharePoint Master Pages

- Easily deliver aggregated, interactive views of your performance metrics and data to all your stakeholders and decision makers.



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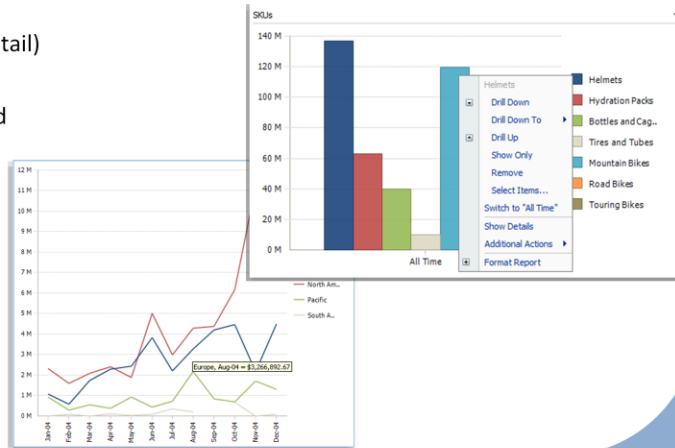
Analytic Charts

Key Capabilities

- Drill Up/Down
- Drill Down To (Cross Drill)
- Expand/Collapse
- Pivot
- Smart sizing
- Show Details (Drill to Detail)
- Tooltips for data points
- Show chart data in a grid
- Export to Excel
- Show in New Window
- AJAX technology

- Present Analysis Services 2005 queries in chart views tailored for dashboard displays. Explore the data to understand driving factors.

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Analytic Grids

- **Key Capabilities**

- Drill Up/Down
- Expand/Collapse
- Pivot
- Show Details (Drill to Detail)
- Show Member Properties
- Drill Down To (Cross Drill)
- Export to Excel
- Export to PowerPoint
- Show in New Window
- Smart column header and label shortening
- Tooltips with full header label
- Customizable grid formatting with CSS
- Change Report Type

- **Present Analysis Services 2005 queries in grid views tailored for dashboard displays. Explore the data to understand driving factors.**

| Product | Q1-05 | Q2-05 | Q3-05 | Q4-05 |
|-------------------|-----------------|-----------------|----------------|----------------|
| Helmets | \$10,596,903.05 | \$12,385,774.29 | \$4,944,665.02 | \$8,181,682.81 |
| Hydration Packs | \$2,850,155.42 | \$8,140,723.91 | \$2,606,748.17 | \$3,569,618.65 |
| Bottles and Cages | \$2,779,420.69 | \$3,428,675.47 | \$1,486,300.79 | \$2,860,659.86 |
| Tires and Tubes | \$750,953.12 | \$644,066.73 | \$327,630.31 | \$576,442.30 |
| Mountain Bikes | | \$,692.96 | \$3,340,217.70 | \$8,740,134.12 |
| Road Bikes | | Loading... | 8.06 | \$1,208,104.80 |
| Touring Bikes | | \$,286.77 | \$961,656.16 | \$1,795,015.32 |

| Product, Geography | Q1-05 | Q2-05 | Q3-05 | Q4-05 |
|--------------------------|----------------|----------------|----------------|----------------|
| Helmets | | | | |
| Europe | \$1,205,464.55 | \$4,106,643.80 | \$5,269,643.25 | \$4,692,936.20 |
| North Amer | \$2,619,749.29 | \$3,881,317.42 | \$5,207,409.70 | \$9,446,219.48 |
| Pacific | \$769,434.08 | \$167,461.16 | \$2,637,634.74 | \$1,802,240.83 |
| South Amer | \$90,017.09 | \$26,280.43 | \$156,366.56 | \$201,972.55 |
| Hydration Packs | | | | |
| Europe | \$1,139,700.06 | \$1,828,439.26 | \$1,262,554.08 | \$2,617,903.00 |
| North Amer | \$1,060,219.83 | \$1,367,779.29 | \$2,686,117.30 | \$7,181,800.38 |
| Pacific | \$406,828.28 | \$373,400.10 | \$125,820.29 | \$670,482.21 |
| South Amer | | \$129,178.99 | | \$144,970.24 |
| Bottles and Cages | | | | |
| Europe | \$445,824.21 | \$1,024,703.65 | \$1,652,552.53 | \$953,343.68 |
| North Amer | \$584,893.53 | \$1,521,639.14 | \$1,145,963.33 | \$3,345,381.17 |
| Pacific | \$455,583.06 | \$314,317.07 | \$477,472.11 | \$335,926.39 |
| South Amer | | | \$458,181.43 | |
| Tires and Tubes | | | | |
| Europe | \$166,752.37 | \$162,243.81 | \$59,347.17 | \$321,522.59 |
| North Amer | \$141,591.54 | \$295,839.72 | \$448,364.69 | \$955,648.03 |
| Pacific | \$13,229.14 | \$103,237.85 | \$99,519.18 | \$121,997.15 |
| South Amer | \$6,077.26 | \$15,120.91 | | |
| Mountain Bikes | | | | |



Analytic View Designer

- **Key Capabilities**

- Drag and drop hierarchies
- Select members and measures
- Navigate through hierarchies
- Preview view
- Add filters
- MDX editor mode

- **Design Analysis Services 2005 queries using navigation, query layout, and member selection.**

The screenshot displays the Microsoft PerformancePoint Dashboard Designer (PPD) interface. The main window shows a bar chart titled "Performance" with the following data series:

| Quarter | Accessories (Sales Amt) | Bikes (Sales Amt) |
|---------|-------------------------|-------------------|
| Q3-04 | ~8M | ~4M |
| Q4-04 | ~12M | ~8M |
| Q1-05 | ~16M | ~10M |
| Q2-05 | ~22M | ~15M |

The interface includes a "Design" tab, a "Query" tab, and a "Properties" tab. A "Details" pane on the right lists available items such as Measures (Cost, Days Late, Lead Time, On Time, Units, Fact Sales Count, Customer Distinct Count, Gross Margin %, Gross Profit %), Dimensions (Geography.City, Geography.Country, Geography.Geography, Geography.Region, Geography.State, Product.Cost, Product.Family, Product.Line, Product.Price, Product.Product, Product.Product Name, Product.Type), and Hierarchies (Product, Time, Geography).

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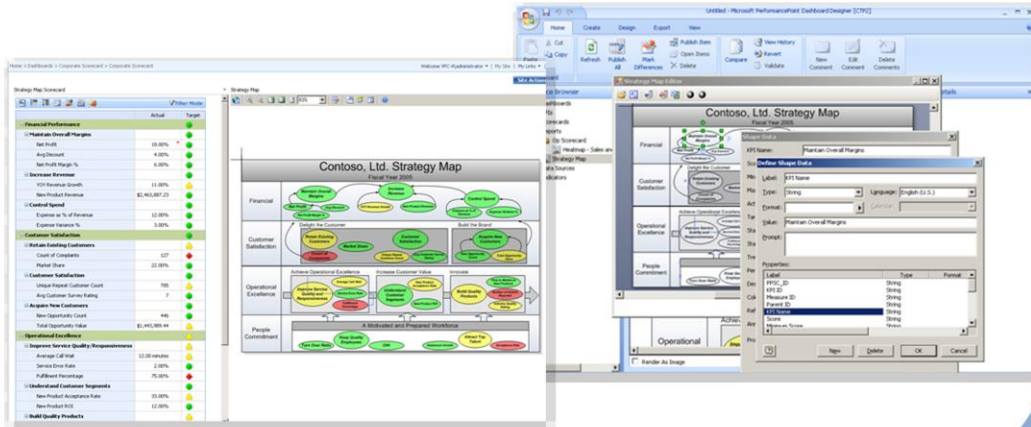
http://hsap-01-40000/ScorecardServer/PmService.aspx 3.0.3142.00

Strategy Maps

Key Capabilities

- Displays KPI status on Visio objects
- Uses PPS KPIs
- Supports Visio stencils

- Visually combine your organization's overall strategy with its performance goals, status, and related data.



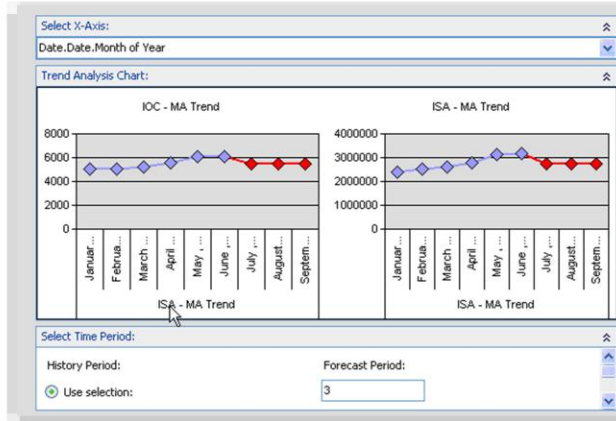
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Trend Chart and Analysis

Key Capabilities

- Forecast data using scorecards and KPIs
- Set number of periods to forecast
- Set data mining algorithm parameters

- Forecast values using the historical performance of scorecard data. Use SQL Server data mining algorithms to generate projections



PPS Report Types

- Scorecards
- Strategy Maps*
- Analytic Charts and Grids*
- Trend Charts*
- Reporting Services
- ProClarity Analytics Server*
- Excel 2007 and Excel Services*
- Web URLs
- PivotTables and PivotCharts

* New for PPS (not in BSM 2005)

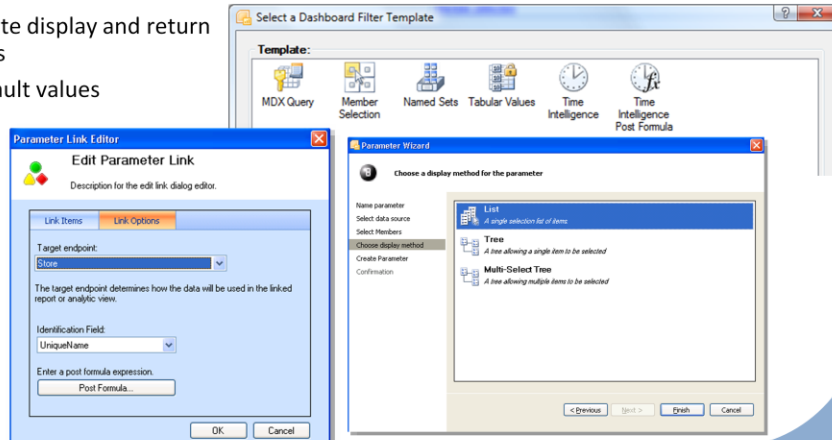
Dashboard Filters

Key Capabilities

- Add filters to pages, zones, or items
- Override filters with custom MDX
- Use a fixed value list
- Use dynamic list based on MDX queries
- Designate display and return columns
- Set default values

- Explore and compare performance across views and reports by choosing items from filter lists. Linked views and reports update together.

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Data Sources

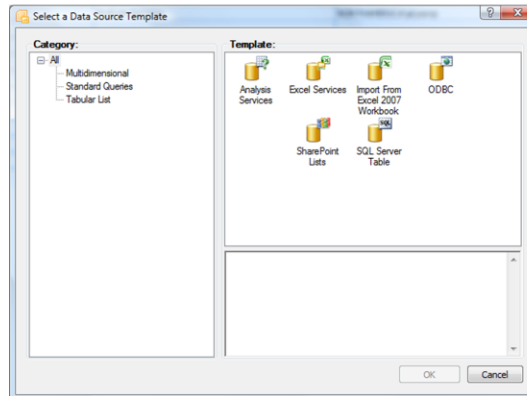
• Key Capabilities

- Create KPIs with slice-and-dice capabilities (Analysis Services)
- Create KPIs from tabular data sources such as Excel Services
- Combine multi-dimensional and tabular data on a single scorecard

- **Access and combine data from a variety of resources bringing rapid visibility of corporate performance against plan to all users**

• Data Source Connectivity

- Excel Services
- Excel
- SharePoint Lists
- SQL Server
- Analysis Services
- ODBC
- Extensible



Export to Excel 2007

Sales

| | Q1-04 | | Q2-04 | | Q3-04 | | Q4-04 | |
|-----------|-----------------|--------|-----------------|--------|-----------------|--------|-----------------|--------|
| | Actual | Target | Actual | Target | Actual | Target | Actual | Target |
| Cost | \$10,344,613.28 | | \$17,819,851.40 | | \$22,119,330.81 | | \$35,329,879.79 | |
| Days Late | 4,995 | | 3,378 | | 1,834 | | 1,401 | |
| Lead Time | 8,954 | | 6,927 | | 3,395 | | 3,516 | |
| On Time | | | 327 | | 292 | | 334 | |

Key Capabilities

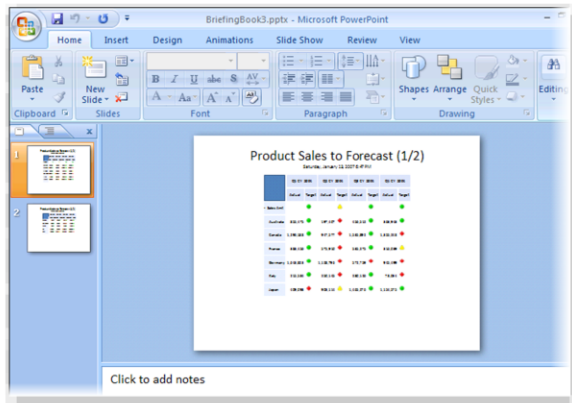
- Export scorecards, analytic grids, analytic charts, and strategy maps directly from dashboards to Excel 2007
- Exported views are static

The screenshot shows the Microsoft Excel 2007 interface. The main window displays an 'Operational Scorecard' dashboard. On the left, a table lists various KPIs with their actual values, targets, and performance indicators (traffic lights). On the right, a 3D bar chart titled 'Sales Summary' compares sales across three regions: Europe, North America, and Pacific. A context menu is open over the dashboard, showing options such as 'Save Background As...', 'Set as Background', 'Copy Background', 'Export to Microsoft Excel', and 'Properties'.

| | Q3 | | Q4 | |
|--------------------------|-------------|-------------|-------------|-------------|
| | Actual | Target | Actual | Target |
| Operational Scorecard | | | | |
| Increase Revenue | | | | |
| Sales Amt... | \$2,189,818 | \$2,189,818 | \$2,483,388 | \$2,483,388 |
| Sales Amt - % Growth PP | -11.82% | 5.00% | 13.41% | 5.00% |
| Unit Sales | 147,353 | 160,000 | 152,706 | 180,000 |
| Unit Sales - % Growth PP | -8.17% | 5.00% | 3.65% | 5.00% |
| Stores Optimization | | | | |
| Sales Per Sq Foot | \$1.61 | \$1.50 | \$1.73 | \$1.50 |
| Same Store Sales Growth | -8.28% | 10.00% | 13.11% | 10.00% |
| Price Optimization | | | | |
| Price Elasticity | 2.22 | 1 | 0.4 | 1 |
| Avg Unit Price | \$16.86 | \$18.00 | \$16.26 | \$18.00 |
| % Markdown... | 3.02% | 5.00% | 2.66% | 5.00% |
| Inventory Optimization | | | | |
| Inventory Turns | 4.2 | 6 | 5.1 | 6 |
| % Unit Returns | 2.30% | 2.50% | 2.60% | 2.50% |

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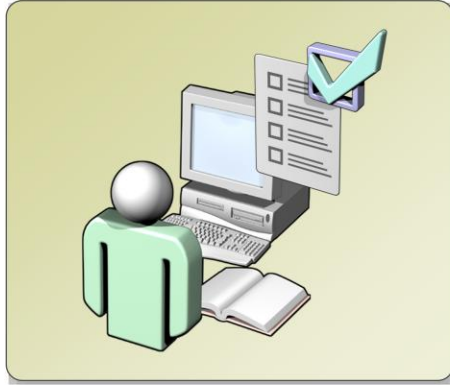
Export to PowerPoint 2007



Key Capabilities

- Export scorecards, analytic grids, analytic charts, and strategy maps directly from dashboards to PowerPoint 2007
- Exported views are static

Questions





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Monitoring and Analytics

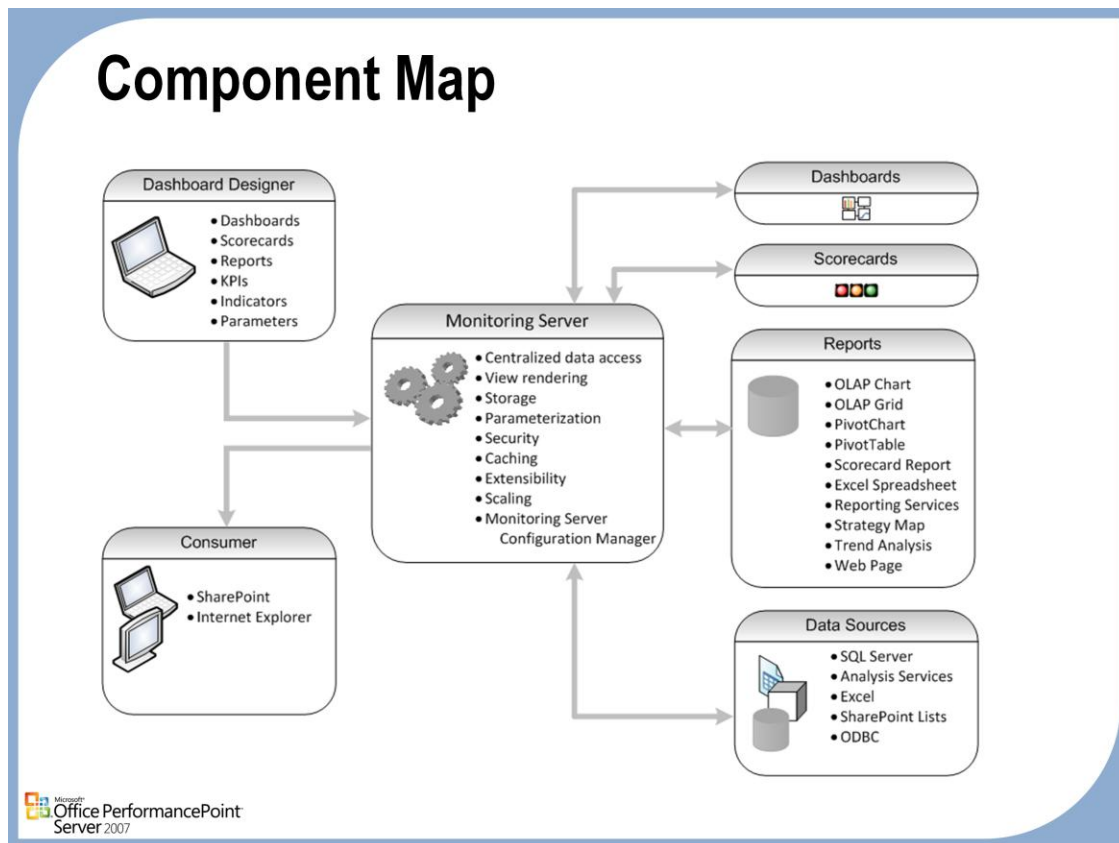
Chapter 2 – Fundamentals

Module 2: Monitoring and Analytics *Fundamentals*

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Agenda

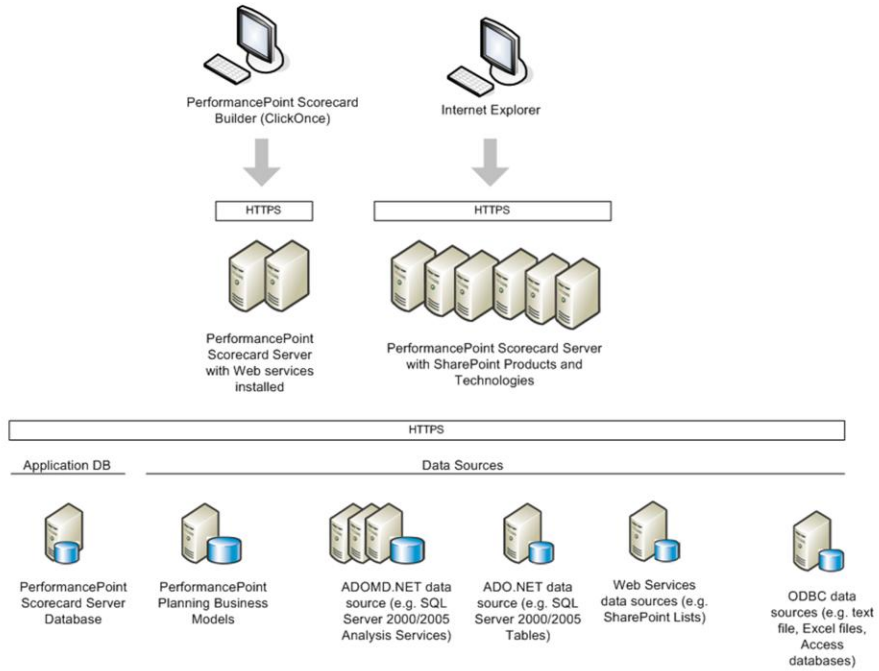
- Discuss the Architectural Components
- Understand the basic building blocks in Dashboard Designer



Components

- Monitoring Server is a computer or group of computers that host Monitoring System Database and Monitoring Server Web Service. Monitoring System Database is a database that stores the Monitoring Server metadata, which consists of user permissions and settings for dashboard elements. Monitoring Server Web Service is a collection of application programming interfaces (APIs) that provide the core functionality of Monitoring Server, connecting Dashboard Designer to the Monitoring Server database, Dashboard Viewer for SharePoint Services, and data sources.

Deployment



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System Requirements

| | |
|--------------------|--|
| Consumer | Internet Explorer Version 6 or 7 Office Web Components 2003 Office PowerPoint and Excel 2003/2007 (Optional: Export Scenarios) Office Visio Viewer (Optional: Strategy Maps) |
| Dashboard Designer | Windows Vista, Windows XP SP2 Office Web Components 2003 Office PowerPoint and Excel 2007 (Optional: Export Scenarios) Office Visio (Optional: Strategy Maps) .NET Framework 2.0 |

System Requirements

Monitoring Server

Windows 2003 SP1, Windows Server 2008

SQL Server 2005 SP2, ADOMD.NET 9.0, OLE DB for OLAP 9.0

SQL Server 2005 SP2 Reporting Services (Reporting Services Integration Scenarios)

Windows SharePoint Services 3.0 or MOSS 2007 (Excel Services)

.NET Framework 2.0

AJAX Extensions

Office Visio (Optional: Strategy Map Deployment)

Migration and Integration

• Migration

ProClarity 6.2 content will migrate to ProClarity 6.3

BSM 2005 scorecards will migrate to PPS v1

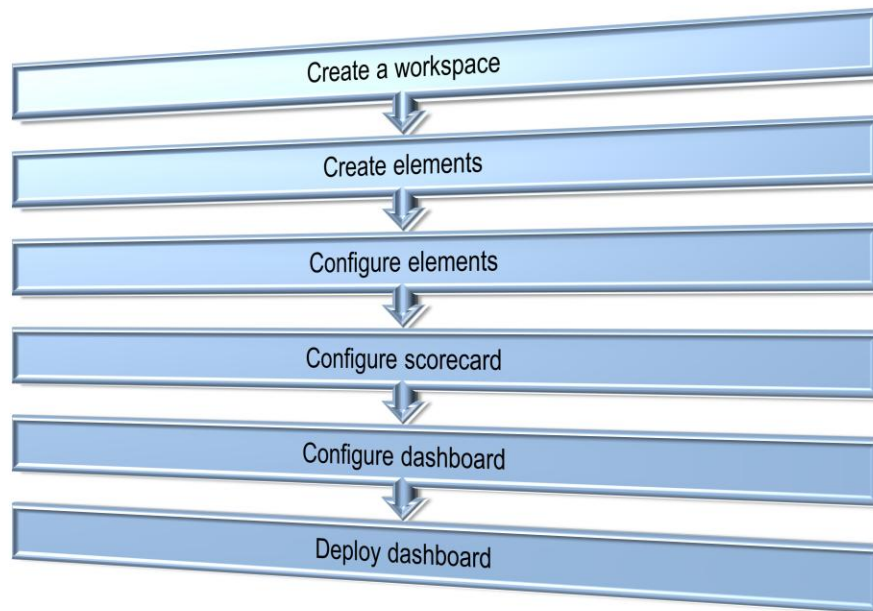
ProClarity 6.3 to PPS migration will be provided in PPS v2

• Integration

PPS customers may continue to use ProClarity 6.3 for Business Analytics

Some integration points between ProClarity 6.3 and PPS v1

Steps to Create and Deploy Dashboards



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Step One: Create a workspace

- First you create a workspace, which is a type of file that stores information, called elements, on which scorecards are based. These elements are key performance indicators (KPIs), scorecards, data sources, reports and indicators. After you create a workspace you can create multiple scorecard elements within that workspace.

Step Two: Create elements

- Next you create the elements for your workspace (KPIs, scorecards, data sources, reports, indicators and dashboards). You can create them in any order, but some dependencies apply. For example, except for fixed data KPIs, you will need to create the Data Source first.

Step Three: Configure Elements

- Next you configure elements in the Dashboard Designer by adding data sources and indicators to KPI's.

Step Four: Configure scorecard

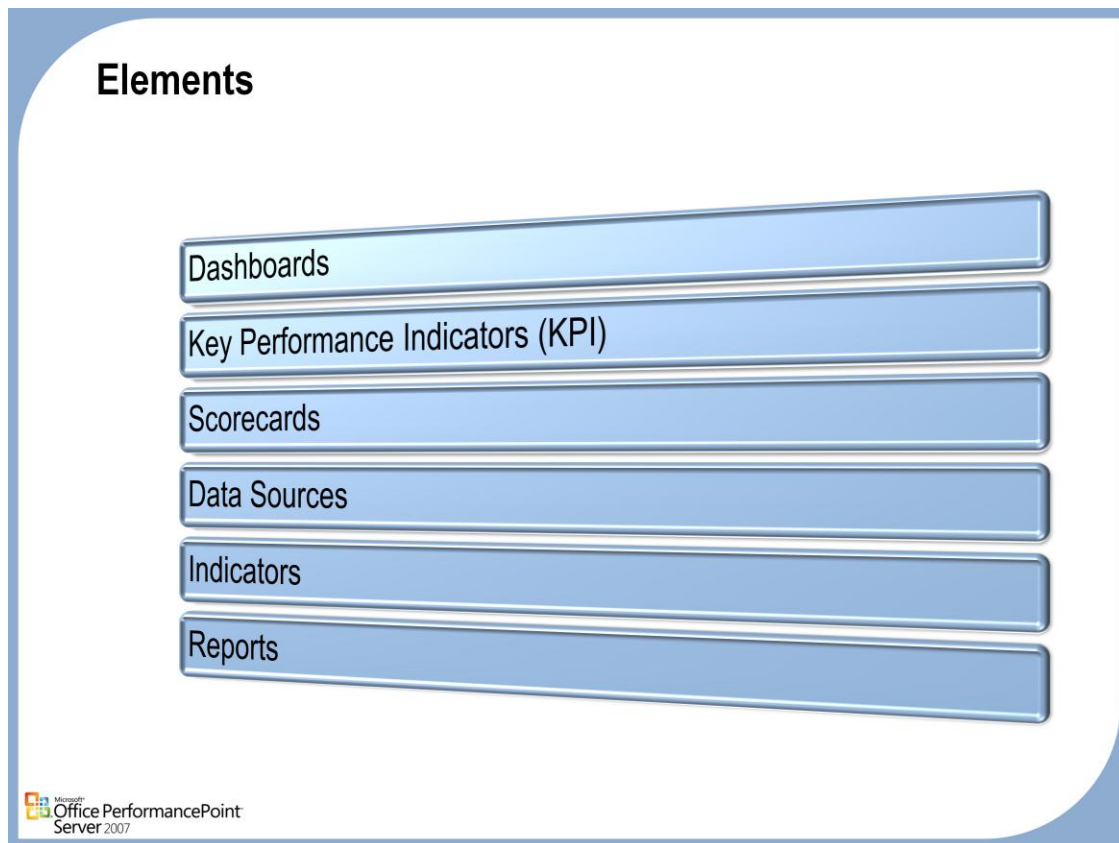
- Design your scorecard by adding KPI's and arranging your hierarchy

Step Five: Configure dashboard

- Design your dashboard by adding scorecards and linking reports

Step Six: Deploy dashboard

- Finally, you deploy your dashboards so users can interact with it.



Dashboard

- A related group of interactive scorecard and report views that are organized together in a single SharePoint site. Dashboard elements may share common filters that control the data displayed within the elements

KPI

- An explicit and measurable value taken directly from a data source. KPIs are used to measure performance in a specific area, such as revenue per customer.
- The value of the KPI is determined by the method used to define the element entry

Scorecards

- .A collection of key performance indicators (KPIs) and objectives, possibly arranged hierarchically. Scorecards are used to measure multiple facets of organization performance.

Data Sources

- A source of business data used by Dashboard Designer to create scorecards. Data sources include online analytical processing (OLAP) cubes, relational databases, or any other Open Database Connectivity (ODBC) or ADOMD.NET data source.

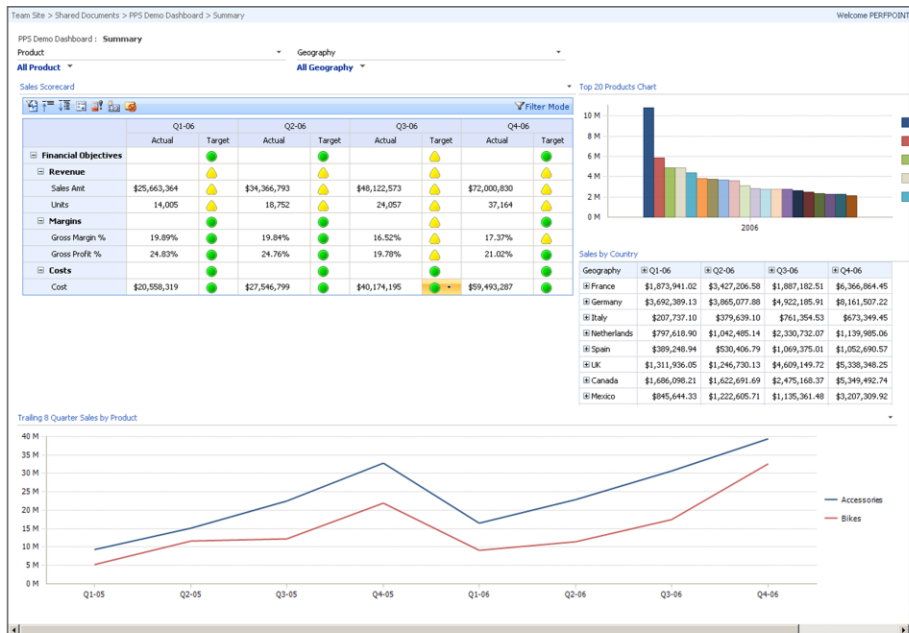
Indicators

- A graphical status symbol that represents where the value of a key performance indicator (KPI) is in relation to the target value. Indicators are represented by using status images and colors (indicator band colors). Users that configure the indicator designate a color for each indicator band.

Reports

- A set of one or multiple read-only PerformancePoint Server matrixes that are created by using PerformancePoint Add-in for Excel. These matrixes are made up of rows, columns, and optionally, data filters, and other data or strings that are displayed in an Excel workbook. A report can be created by using the PerformancePoint Add-in for Excel authoring pane or the Create a Report wizard

Building a dashboard - Demonstration



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PPS Demo Dashboard

- PerformancePoint Server Monitoring ships with a number of predefined dashboards. In this demonstration we will look at the Demo Dashboard and explore the new features and capabilities.

Workspace

Definition

An XML file that stores elements on which scorecards are based
.bswx file extension

Centralizes scorecard elements

Benefits

Create scorecards offline

Migrate to another environment

Collaboration

```
<?xml version="1.0"?>
<ScorecardModel
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  DocumentVersion="0.1"
  ScorecardServerUrl="http://192.168.100.20:40000/ScorecardServer/BmService.asmx"
  FileName="C:\Documents and Settings\Administrator\Desktop\test.bswx"
  LastModified="2006-10-24T01:16:23.4292448-07:00">
  <DirtyList>
    <guid>ada0fc8b-bce8-472f-801a-d309fa48b8eb</guid>
    <guid>d8c62023-039c-4fb1-a90b-8d4147dcb81d</guid>
    <guid>6c5da588-2f57-4ab6-ae75-ce135347978d</guid>
  </DirtyList>
  <ScorecardsInWorkspace>
    <Scorecard Guid="d8c62023-039c-4fb1-a90b-8d4147dcb81d"
      Folder="" CreatedDate="2006-10-24T01:15:37.6767248-07:00"
      Version="0" TemplateType="General">
      <Properties>
        <BpmProperty xsi:type="BpmPropertyText"
          UniqueName="8dd07d4d87794510afdb1f07664359bc_Element_Name"
          DisplayName="Name" Description="Name Description"
          Required="false" Visible="true" Text="myScorecard" />
        <BpmProperty xsi:type="BpmPropertyLongText"
          UniqueName="8dd07d4d87794510afdb1f07664359bc_Element_Description"
          DisplayName="Description" Description="Description"
          Required="false" Visible="true" Text="" />
        <BpmProperty xsi:type="BpmPropertyUser"
          UniqueName="8dd07d4d87794510afdb1f07664359bc_Element_Owner"
          DisplayName="Person Responsible" Description="Person Responsible Description"
          Required="false" Visible="true" Login="CONCERTOVM01\Administrator" />
      </Properties>
      <Comments />
      <Memberships>
        <Membership Login="CONCERTOVM01\Administrator"
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```



Definition

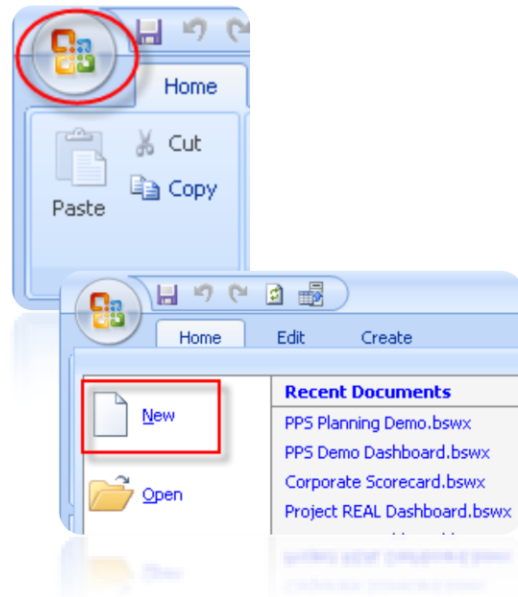
- The Dashboard Designer both consumes and saves element information in .bswx files. These offline XML files contain the metadata that defines the scorecards and their elements.
- Workspaces can be stored in any location on either a local file system or a network share. When you design a company's business intelligence (BI), you should standardize development strategy file storage.
- When you open Dashboard Designer, a vertical bar separates the workspace into two panes. The pane on the left is the Workspace Browser. After you open a workspace in Dashboard Designer, you use the Workspace Browser to create new scorecard elements or to quickly access existing scorecard elements so that you can review or modify them. As you create scorecard elements, they are added to the list of elements in the Workspace Browser. The pane on the right is where scorecards and their related elements are created and reviewed.
- When you select an element or folder in the Workspace Browser, information about that element or folder appears in the right pane. For example, if you select the KPI folder, a list of actions appears in the pane to the right. If you select a specific KPI, details about the KPI appear.

Benefits

- You can create scorecards and scorecard elements offline and save the data you create locally.
- You can migrate to and from Microsoft Dashboard Designer and another environment, for example, from a test to a production environment.
- You can send workspace files to coworkers for feedback before publishing the scorecards and scorecard elements in these workspace files to the Monitoring Server.

Create a new Workspace

1. Click the **Microsoft Office** button to see the PerformancePoint Dashboard Designer File menu commands.
2. Select **New** to Create a new Workspace.



Publish

- Publishes information stored in the local workspace .bswx file to the Monitoring Server
- All users with the proper permissions can access this information
- You can publish:
 - All elements
 - Individual elements
- A pencil icon means element changes have not been published.



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Publishing

- After you create one or more KPIs, scorecards, data sources, indicators or reports, you can publish these elements to the PerformancePoint Monitoring Server. In doing so, the elements you created from within your local workspace are made available to all users with access to the server and who are assigned the permissions to view scorecards on the server.

Synchronizing

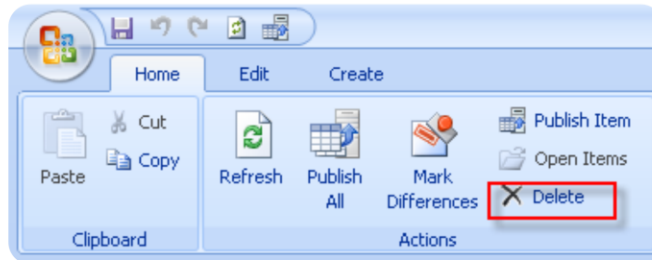
- A pencil icon on the element icon in the Workspace Browser indicates that the element has not yet been published to the server. You can publish elements individually or you can publish all unpublished elements in an open workspace simultaneously.
- If you are publishing scorecard elements that have already been deployed to your SharePoint site, updates to these scorecard elements appear on the site immediately after you publish them.

Note

- Publishing to the server does not automatically save a local copy of the updates made in your workspace. Saving changes locally and publishing to the server are separate actions.

Delete

- Deletes the element from the Monitoring Server or the local workspace



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Delete

- You use the Delete command to delete an element (KPI, scorecard, data source, indicator or report) from the Monitoring Server or the Workspace.

To delete an element

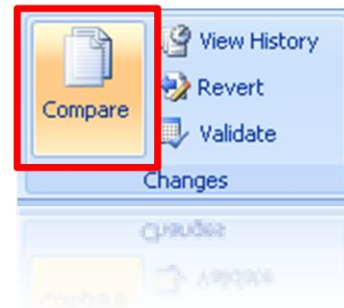
1. In the Workspace Browser, click the type of element you wish to delete.
2. In the Workspace, click the Sever or Workspace tab.
3. In the Workspace, select the element you wish to delete
4. In the Home tab of the ribbon, in the Editing group, click Delete.
5. A message asking you to confirm the deletion appears. Click Yes to confirm the deletion.

To restore an element

1. If you have deleted an element from the server, but not from the workspace, you can re-publish that element to the server.
2. If you have deleted an element from the workspace, but not from the server, you can select it in the server tab, and In the Home tab of the ribbon, in the Editing group, click Open Item.
3. If you have deleted an element form both the server and the workspace, if you have a backup of the SQL Server-based database you can restore the database to another server and then pull the element down to the local workspace and publish to the production server.

Compare

- Shows the difference between an element in a local workspace and what is published on the server
- If there is a difference then both versions will be displayed
- You can do a Compare operation from the Changes group in the Home tab.



| Modified Date | User | Field | Old Value | New Value |
|--------------------|-------------|-----------------|------------|------------|
| 11/26/2006 8:55:23 | CONCERTO... | Actual 'Actual' | See Actual | See Actual |
| 11/26/2006 8:15:06 | CONCERTO... | | | |

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Compare

- Each time a scorecard element is published to the PerformancePoint Monitoring Server, a new version of the element is created on the server. Use the Compare command to view the differences between a scorecard element in your local workspace and the latest published version of the element on the server.

To compare an element in a workspace and on the server

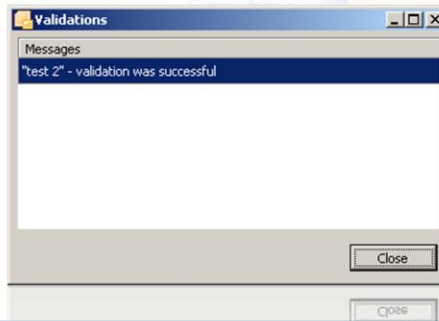
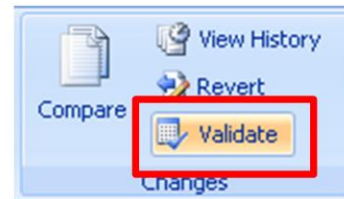
1. In the Workspace Browser, click the element that you want to compare against the corresponding version on the server, and then in the Changes group, in the Home tab, choose Compare.
2. Click OK to close the dialog box.

Note

- If there is a difference between the local workspace version and the published version of the element, the Compare with Server dialog box appears and displays the difference.

Validate

- Check whether all of the required values for the scorecard or the scorecard element exist and have been published to the Monitoring Server



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Validate

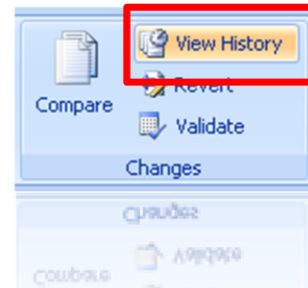
- When you create or update a scorecard in PerformancePoint Business Scorecard Builder or create or update an element in the scorecard, you can check whether all of the required values for the scorecard or the scorecard element exist and have been published to the Monitoring Server. For example, you can validate a key performance indicator (KPI) to make sure that the data sources and indicators associated with the KPI have been published to the server. You also can validate a scorecard to check whether all of the KPIs in the scorecard and their corresponding data sources and indicators have been published to the server. If there is an error in a scorecard when you view the scorecard on a SharePoint site, use the validate command on the scorecard in Business Scorecard Builder to view issues related to the scorecard.

To Validate an element

1. In Workspace Browser, click the element that you want to validate, and then in the Home tab, in the Changes group, click Validate.
2. If all of the elements that are associated with the scorecard element exist on the server, a confirmation message is displayed to that effect.
3. If the scorecard element or any of its associated elements do not exist on the PerformancePoint Monitoring Server or if you do not have the required permissions to access the element, the Validations dialog box opens. Specific information about what is missing from the server is displayed in the dialog box.
4. Click OK to close the message box or dialog box.

View History

- Displays the following historical information for an element edit:
 - User
 - Date and time
 - Type of edit
- Historical information is stored in the SQL Server-based database for Monitoring



| Modified Date | User | Field | Old Value | New Value |
|-----------------------|-------------|-------------|-----------|-----------|
| 11/28/2006 10:59:2... | CONCERTO... | Description | ; | hello; |
| 11/28/2006 10:59:1... | CONCERTO... | | | |

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History

- The history of a scorecard element shows the user who edited the element, the date and time of the edit, and details about the type of edit. For example, if a user was added to the Reader role, the domain and alias of this user will appear in the history.

To view the history of an element

1. In the Workspace Browser, right-click the element whose history you want to view, and then select View History. The History table appears.
2. Review the history for the scorecard element, and then click OK to close the table.

Revert

- Reverts a scorecard element to previous version within the workspace
- Keeps track of changes by date and time
- Previous information is stored in the SQL Server-based database for Monitoring



| Modified Date | Modified By | Version | Last Comment |
|------------------------|------------------------|---------|--------------|
| 11/28/2006 10:59:20 PM | CONCERTOWM01\Admini... | 2 | |
| 11/28/2006 10:59:11 PM | CONCERTOWM01\Admini... | 1 | |

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Revert

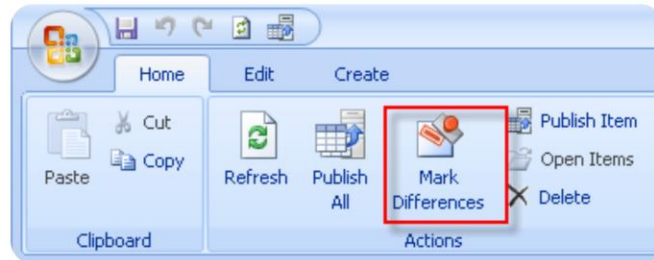
- Each time a scorecard element is published to the Monitoring Server, a new version of the published item is created on the server. Use the Revert command to revert to a previous version of a scorecard element from within the open workspace.

To revert to a different version of a scorecard or scorecard element

1. In the Workspace Browser, click the appropriate scorecard, KPI, indicator or report, and then click Revert. The History dialog box appears.
2. In the History list, select the version that you want to revert to.
3. Click OK. The version you choose to revert to will appear in the open workspace.

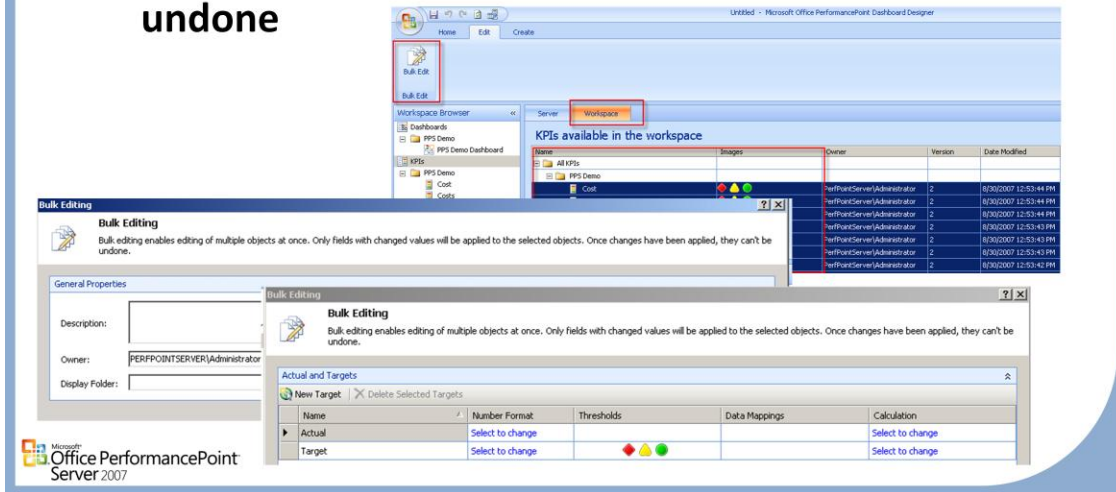
Mark Differences

- **Compares and marks the difference between the Server and the Workstation**



Bulk Edit

- Allows multiple changes at once
- Changes cannot be undone



Bulk Edit

- Often businesses have a performance target change that affects more than one KPI. Dashboard Designer provides the ability for you to update multiple KPIs one pass by using the Bulk Editing dialog. You can only edit KPIs that are in your workspace, not on the server.

Important:

- Bulk editing enables editing of multiple objects at once. Once changes have been made, they cannot be undone.

To Bulk Edit multiple KPIs

1. On the workspace browser pane, click on the top KPI folder.
2. Click the Workspace tab in the center pane.
3. Select as many KPIs as needed to edit (SHIFT+Click)
4. Click the Edit tab on the ribbon, and then click Bulk Edit.
5. Type the description of the changes you are making in the box provided.
6. Enter the name of the person that owns this action.
7. Create or select a display folder under which to save these newly edited KPIs (optional).
8. Click Next.
9. Make the necessary edits. Click Finish.
10. When the confirmation screen displays, click Close.

Questions



Microsoft Office PerformancePoint Server 2007



Microsoft®

Office PerformancePoint™ Server 2007

Monitoring and Analytics

Chapter 3 – Elements

Module 3: Monitoring and Analytics *Elements*

 Microsoft Office PerformancePoint
Server 2007

Agenda

- Data Sources
- Indicators
- KPIs
- Scorecards
- Reports

Data Sources

Data Source Overview

- **Types of Data Sources**
 - Multidimensional
 - Tabular
 - Standard
- **Contains the instructions and security context for linking to back end data stores**



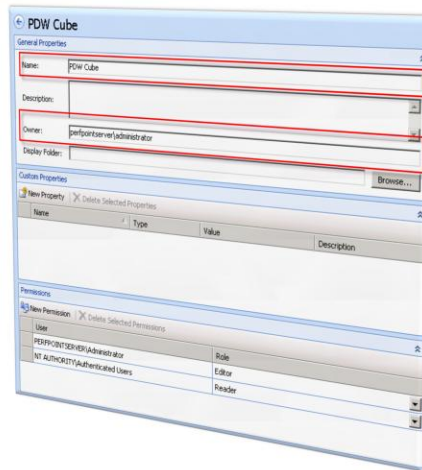
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Data Source Overview

- PerformancePoint Server allows you to connect to many types of data sources to take advantage of the often complex and varied data systems where companies store their data.

General Data Source Properties

- The property section is universal for all Data Source types.
- Take notice of the Owner and Security sections for data authentication



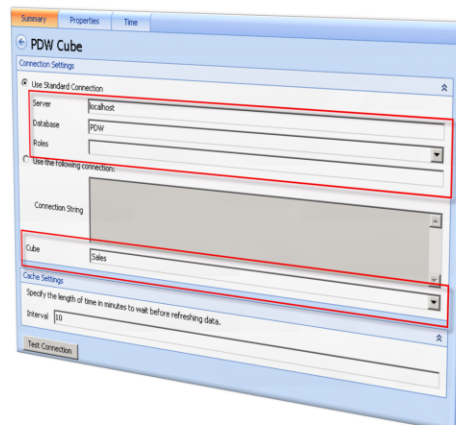
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To Set General Properties for a Data Source

1. Click the Properties tab to adjust any general properties.
2. In the Name text box (required), keep or edit the name of the data source.
3. In the Description text box (optional), enter a description that defines this data source.
4. In the Person Responsible text box (required), enter the name of the person creating this data source.
5. In the Display Folder text box (optional), enter the name of the folder which contains this data source.
6. If you want to add one or more custom properties, click the New Property button. Select the property type you want to add and click OK. Enter the Name, Value and Description of the property. (optional)
7. To add a user with permission to read or edit this data source, click the New Permission button.
8. In the new row that's created, add the new user's name in the format DOMAIN\alias, and then choose a permission of either Editor or Reader.

Analysis Server Data Source

- Enter the Analysis Server instance name in the “Server” field to initiate communication.
- For specific control the connection string box allows free form entry



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Analysis Server Data Sources

- Create a data source connecting to data from SQL Server Analysis Services. First you set up the basic structure for the data source and configure it, and then you can adjust the properties and define Time Intelligence (optional).

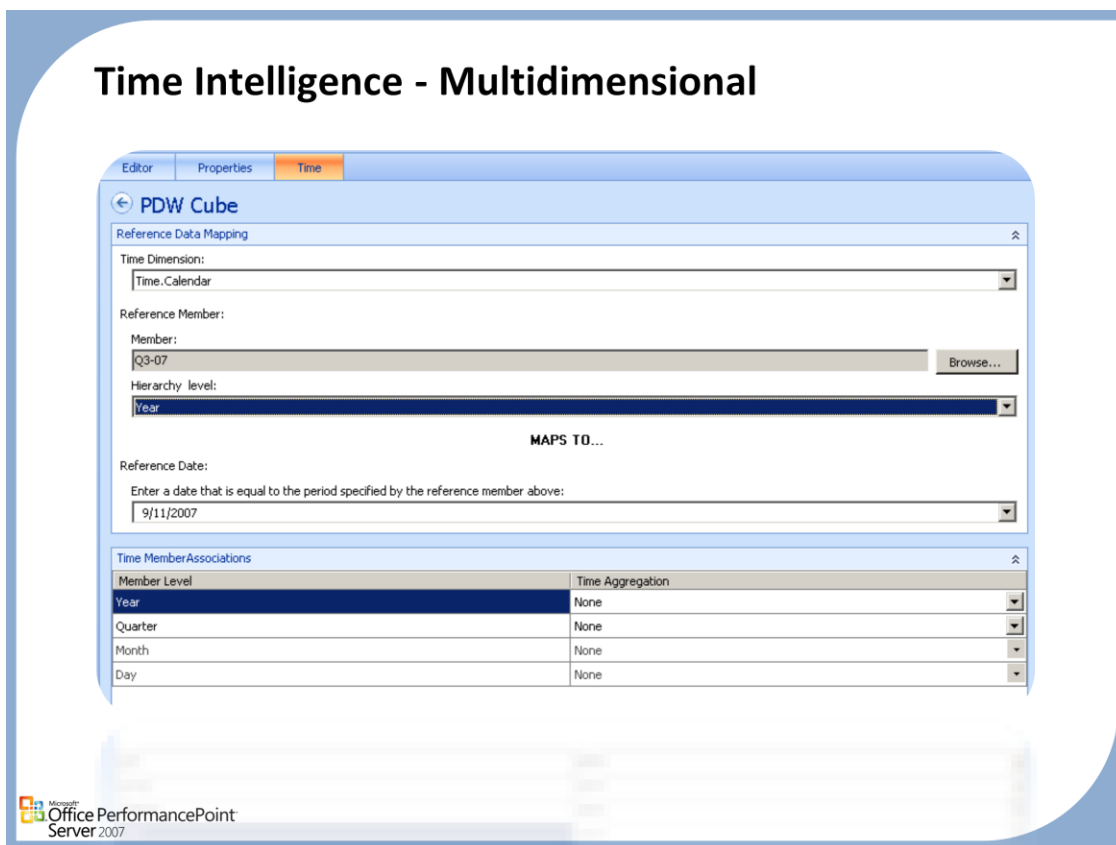
To set up the structure for the Analysis Services data source

1. Click the Create tab in the Ribbon, and then click Data Source.
2. In the Select a Data Source Template dialog box, click Multidimensional and then select the Analysis Services icon. Click OK.
3. Type the data source name in the Name text box and specify the folder display location and user access options. You can create or select a new folder location by clicking Select Display Folder. The folder you specify will appear in the Workspace Browser pane, which is useful for organizing multiple reports.
4. Click Finish. This will set up the basic structure for your data source and display a confirmation screen. On the confirmation screen, click Close. Your data source is now available for editing in the workspace.

To configure the data source connection

1. Click the Editor tab in the workspace, and establish the connection settings by typing the complete path to the Server.
2. The Database box will be automatically populated with values based on the server designated. Select a Database name.
3. In Roles, type in an informational role description (this is optional)
4. OR: Click Use the following connection to enter a connection string to the server and database to where you want to connect.
5. Select the specific cube you want to use as the data source in the database.
6. Adjust the refresh rate under Cache settings (this is optional).
7. Click Test Connection to confirm the connection is properly configured.
8. Click the Home tab in the Ribbon, and then click Publish All.

Time Intelligence - Multidimensional



Multidimensional Time Intelligence

- *Time Intelligence* (TI) is a collection of built-in enhancements of Monitoring Server. TI features enable you to create reports that use relative levels for time members, such as "the most recent 6 months". Monitoring Server recalculates the report automatically as the current date changes.
- TI features enable you to map time member levels for each separate data source into a unified calendar. The unified calendar and its associated calendar hierarchies are called the Master Time Dimension. In this manner, TI enables you to combine data from multiple and different data sources. For example, you can create a report that uses revenue data from a multidimensional data source and then combine that information with budget data from an Excel spreadsheet.
- You can map hierarchies from several different multidimensional cubes to the Monitoring Server Master Time Dimension. However, you can map only one time hierarchy per data source. To map more than one time hierarchy from a single cube, you must create separate data sources for each dimension you want to map.

Steps To Set Time Intelligence Settings on Multidimensional Sources

1. In the Workspace Browser pane, expand Data Sources. Then double-click the name of the multidimensional data source that you want to configure for TI.
2. The Workspace pane displays tabbed screens that enable you to edit the data source properties or configure settings for TI.
3. In center Workspace pane, click the Time tab.
4. In the Reference Data Mapping pane, select the source time dimension from the drop-down list that you want to map to the Master Time Dimension.
5. In the Reference Member section, do the following:
 1. Click **Browse** to select a **Member**. The **Member Selection** dialog box opens and displays the members of the time dimension you selected in step 3. Monitoring Server uses the **Reference Member** as the basis for time operations. Monitoring Server calculates all other dates and time periods that are used in the dashboard relative to this reference point.
 2. From the **Hierarchy level** drop-down list, enter the hierarchy level that corresponds to the **Member** that you selected in step 4-a. This value must be one of the following: Year, Semester, Quarter, Month, Week, Day, Hour, Minute, or Second.
6. Enter a Reference Date that represents the time period specified by the Reference Member that you specified. Monitoring Server uses the Reference Date to identify the relationship of the Reference Member to the Gregorian calendar.
7. In the Time Aggregation grid, select the time period level, such as Year, Month, Week, or Day, at which you want Monitoring Server to calculate aggregation for the indicated member.
8. Notice that only members of time dimensions that have been mapped to the Master Time Dimension are available for aggregation settings. Monitoring Server calculates aggregations to the same level of detail that is used for the Reference Member that you specified in step 4.

SharePoint List Data Source

| SalesPersonID | FullName | Title | SalesTerritory | 2002 | 2003 | 2004 |
|---------------|------------------|----------------------|----------------|----------------|----------------|----------------|
| 275 | Michael G Blythe | Sales Representative | Northeast | \$1,951,086.83 | \$4,743,906.89 | \$4,557,045.05 |
| 276 | Linda C Mitchell | Sales Representative | Southwest | \$2,800,029.15 | \$4,647,225.44 | \$5,200,475.23 |
| 277 | Jilhan Carson | Sales Representative | Central | \$3,308,895.85 | \$4,991,867.71 | \$3,857,163.63 |
| 278 | Garrett R Vargas | Sales Representative | Canada | \$1,135,639.26 | \$1,480,136.01 | \$1,764,938.99 |

| Column Name | SalesPersonID Key Name | Title1 Dimension Name | SalesTerritory Dimension Name | Sales 2002 Fact Name | Sales 2003 Fact Name | Sales 2004 Fact Name | ID Unique Name |
|------------------|------------------------|-----------------------|-------------------------------|----------------------|----------------------|----------------------|----------------|
| Michael G Blythe | 275 | Sales Representative | Northeast | 1951086.8256 | 4743906.8925 | 4557045.0459 | 1 |
| Linda C Mitchell | 276 | Sales Representative | Southwest | 2800029.1528 | 4647225.4431 | 5200475.2311 | 2 |
| Jilhan Carson | 277 | Sales Representative | Central | 3308895.8507 | 4991867.7024 | 3857163.6311 | 3 |
| Garrett R Vargas | 278 | Sales Representative | Canada | 1135639.2632 | 1480136.0065 | 1764938.9857 | 4 |
| Tom Michael Reih | 279 | Sales Representative | Southwest | 292887.0127 | 2661156.2419 | 2811012.715 | 5 |
| Shu K Ito | 280 | Sales Representative | Southwest | 1472076.9138 | 900366.5797 | 166492.8626 | 6 |
| Jose Edvaldo Sa | 281 | Sales Representative | Southwest | 204518.8229 | 2879320.8578 | 3618725.4858 | 7 |
| David R Campbell | 282 | Sales Representative | Canada | 252028.9127 | 1480793.0386 | 3189256.2465 | 8 |
| Rachel B Valdez | 283 | Sales Representative | Northwest | 124350.7081 | 1374743.3288 | 1500089.5031 | 9 |
| Lynn N Tosillas | 285 | Sales Representative | United Kingdom | 528104.3125 | 9015602.3751 | 10 | |

SharePoint List

- Create a data source connection to a Window SharePoint Services 3.0 list or Microsoft Office SharePoint Server 2007 list. First you set up the basic structure for the data source and configure it, and then you can adjust the properties and define Time Intelligence (optional).

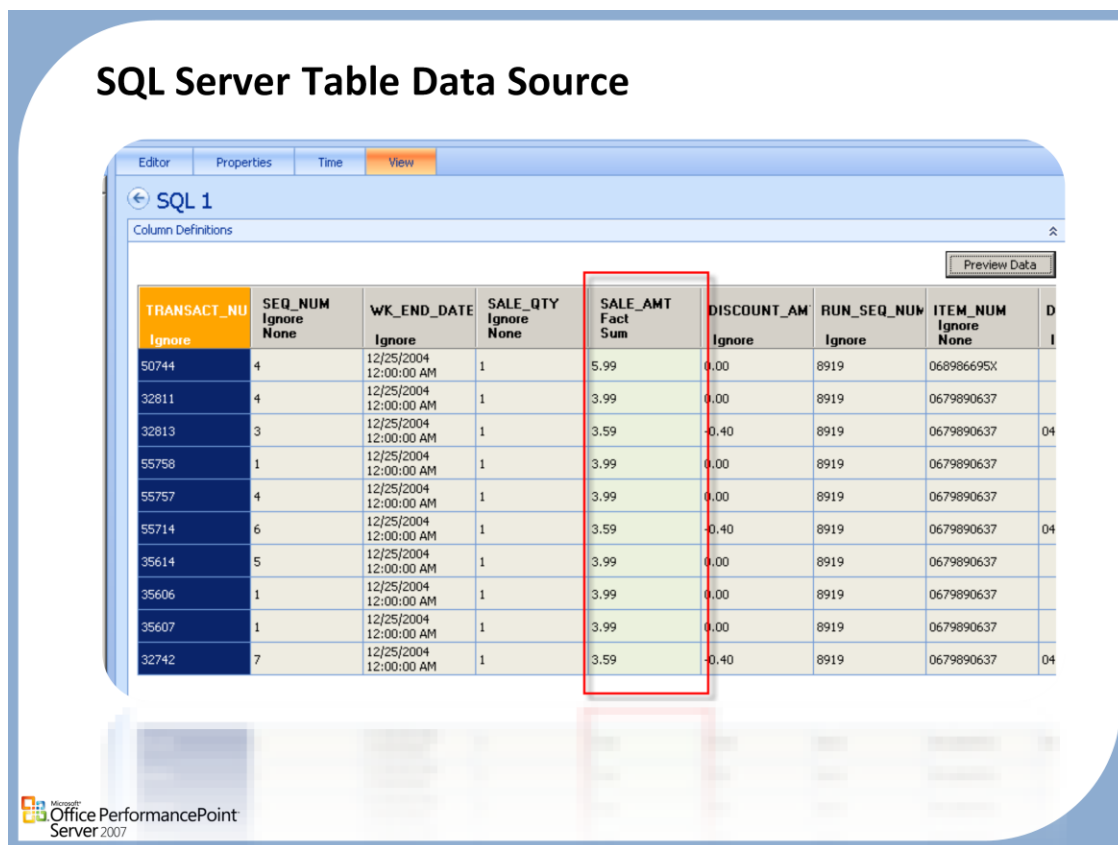
To create a SharePoint List data source

1. Click the Create tab, and then click Data Source.
2. In the Select a Data Source Template dialog box, click Tabular List and then click the SharePoint Lists icon. Click OK.
3. In the Name text box, type the data source name.
4. (Optional) Click the Select Display Folder button, and then enter a new folder location or click Browse... to select a location.
5. The folder you specify will appear in the Workspace pane, which is useful for organizing multiple reports.
6. (Optional) Check Grant Read permission to all users who are authenticated to PerformancePoint Monitoring Server to enable users to read the data and settings in the data source.
7. Click Finish.
8. This will set up Monitoring Server object for your data source, and then display a confirmation screen.
9. On the confirmation screen, click Close. Your data source is now available for editing in the workspace.

To configure a connection to the SharePoint data source

1. Click the Editor tab in the workspace, and type the URL to the SharePoint site in the text box.
2. From the SharePoint Site List, select All Lists.
3. Select the specific data list you want to use as the data source from the drop-down list.
4. In the Cache Settings section, in the Interval text box, enter the refresh rate (in minutes) for the cache. Data from this data source will be updated at this interval.
5. Click Test Connection to confirm the connection is correctly configured.
6. Click the Home tab, and then click Publish All.

SQL Server Table Data Source



SQL Server Table

- You can use a table from a SQL Server database as a data source for your Dashboard elements. First you set up the basic structure for the data source and configure it, and then you can adjust the properties and define Time Intelligence (optional).

To set up a SQL Server Table data source

- Click the Create tab, and then click Data Source.
- In the Select a Data Source Template dialog box, click Tabular List and then click the SQL Server Table icon. Click OK.
- In the Name text box, type the data source name.
- (Optional) Click the Select Display Folder button, and then enter a new folder location, or click Browse to select a location.
- The folder that you specify will appear in the Workspace Browser pane, which is useful for organizing multiple reports.
- (Optional) Select the Grant Read permission to all authenticated users check box to enable users to read the data and settings in the data source.
- Click Finish.
- This sets up the basic structure for your data source and displays a confirmation screen.
- On the confirmation screen, click Close. Your data source is now available for editing in the workspace.

To configure a connection to a SQL Server Table data source

- Click the Editor tab in the workspace to establish the connection settings. Do this by selecting either Use Standard Connection or Use the following connection.
 - If you select **Use Standard Connection**, type the name of the server where the SQL Server data resides and then select the database.
 - If you select **Use the following connection**, type a connection string to the server and then select the table.
- From the Tables drop-down list, select the tables that you want to include in your data source.
- In the Cache Settings section, in the Interval text box, enter the refresh rate (in minutes) for the cache. Data from this data source will be updated at this interval.
- Click Test Connection to confirm that the connection is correctly configured.
- When you finish configuring the data source, click the Home tab, and then click Publish All.

Excel 2007 Workbook Data Source

| Country Dimension Sum | Product Dimension None | Time Dimension None | Sales Amt Fact Sum | Forecast Fact Sum |
|-----------------------|------------------------|---------------------|--------------------|-------------------|
| France | Bikes | Q1 CY 2006 | 23476 | 20000 |
| France | Bikes | Q2 CY 2006 | 18973 | 20000 |
| France | Bikes | Q3 CY 2006 | 21739 | 20000 |
| France | Bikes | Q4 CY 2006 | 30298 | 30000 |
| Germany | Bikes | Q1 CY 2006 | 21938 | 20000 |
| Germany | Bikes | Q2 CY 2006 | 24287 | 20000 |
| Germany | Bikes | Q3 CY 2006 | 17390 | 20000 |
| Germany | Bikes | Q4 CY 2006 | 40186 | 40000 |
| USA | Bikes | Q1 CY 2006 | 26259 | 20000 |
| USA | Bikes | Q2 CY 2006 | 20873 | 20000 |

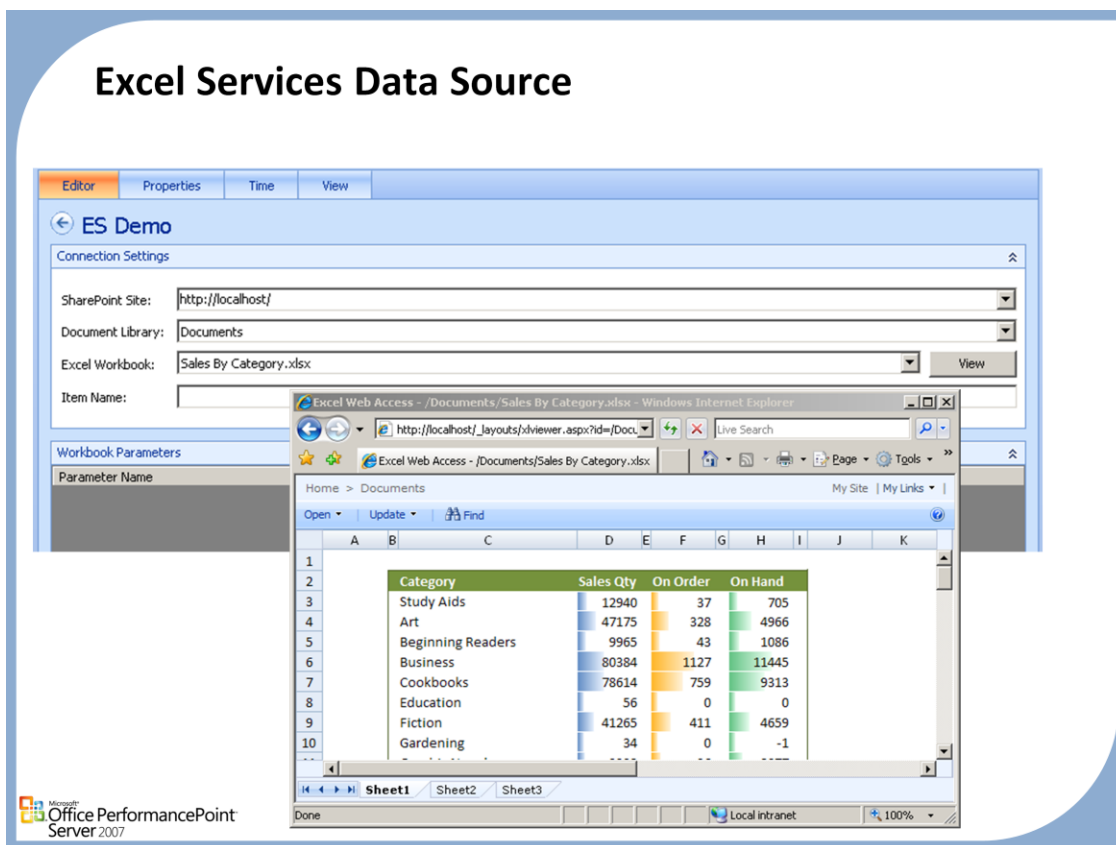
Excel 2007

- When you create a data source using an Excel data source, Monitoring Server imports and saves the data to the Monitoring Server database. You can set a column as a key, choose to aggregate data in a number of ways and even choose to ignore a column.
- Use an Excel 2007 workbook for a data source when you do not want to share the Excel data with users via Excel Services. The Excel Workbook will be stored and hosted within the Dashboard Designer database, and can only be edited and updated from within Dashboard Designer.

To Create an Excel Workbook Data Source

1. Click the Create tab, and then click Data Source.
2. In the Select a Data Source Template wizard, click Tabular List, click the Import from Excel 2007 Workbook icon, and then click OK.
3. In the Name text box, type the data source name.
4. (Optional) Click the Select Display Folder button, and then enter a new folder location or click Browse... to select a location.
5. The folder you specify will appear in the Workspace Browser pane, which is useful for organizing multiple reports.
6. (Optional) Check Grant Read permission to all users who are authenticated to PerformancePoint Monitoring Server to enable users to read the data and settings in the data source.
7. When finished, click Finish. The name of the data source now appears in the Workspace Browser under Data Sources.
8. Add data to the data source. You can either populate a blank worksheet or open a workbook that you have already created.
 - a) To create data in a new workbook, click the **Editor** or **View** tab, and then click **Edit**. Office Excel will open a blank worksheet.
 - b) To import data from an existing workbook, click the **Editor** tab, and then click **Import**. Browse to the source file. Only Office Excel 2007 worksheets can be imported into Monitoring Server.
9. When you are ready to save the data, click Accept changes in the Edit data in Excel dialog box. The data will be imported into Monitoring Server for use as a data source.

Excel Services Data Source



Excel Services

- Monitoring Server enables you to create a data source using Excel Services, which is part of Microsoft Office SharePoint Server 2007. Excel Services extends the capabilities of Microsoft Office Excel 2007 by enabling broad sharing of spreadsheets, and improved manageability and security.
- When you use Excel services as a data source, you can publish an Office Excel Workbook to SharePoint. You can also refer to Named Objects in the workbook, such as Table, Named Range, and Pivot Table. You can update the workbook within Excel and any changes to the data will automatically be reflected in the data source.

To Create an Excel Services Data Source

- Click the Create tab, and then click Data Source.
- In the Select a Data Source Template wizard, click Tabular List and then click the Excel Services icon. Click OK.
- In the Name text box, type the data source name.
- (Optional) Click the Select Display Folder button, and then enter a new folder location or click Browse to select a location.
- The folder you specify will appear in the Workspace Browser pane, which is useful for organizing multiple reports.
- (Optional) Select the Grant Read permission to all users who are authenticated to PerformancePoint Monitoring Server check box to enable users to read the data and settings in the data source.
- Click Finish.
- This will set up the basic structure for your data source and display a confirmation screen.
- On the confirmation page, click Close. Your data source is now available for editing in the workspace.

To configure a connection to the Excel Services data source

- Click the Editor tab in the workspace, in the SharePoint Site text box, type the full path of the SharePoint site where you have Excel Services installed.
- Select the Document Library where the workbook is located. This field will be automatically populated based on the available libraries on the SharePoint site that you entered.
- From the Excel Workbook list, select the file that you want to use. To view the workbook in the browser, click View.
- In the Item Name text box, type an item name. An Item is a feature of Excel Services 2007 that enables you to isolate a subset of data that cannot be easily grouped in other ways.
- In the Workbook Parameters section, enter parameters for the workbook. An Excel Services parameter enables you to specify cells that can be modified when you view the workbook. Within Excel Services determine which parameters you want to make available to the user.
- In the Cache Settings section, in the Interval text box, enter the refresh rate (in minutes) for the cache. Data from this data source will be updated at this interval.
- Click Test Connection to confirm that the connection is correctly configured.
- Click the Home tab, and then click Publish All.

Excel 2007 Data Columns and Aggregation

| Property | Description |
|---------------------------|---|
| Column Name | Friendly column name – this is the display name of the column shown to end-users in Dashboard Designer. |
| Column Unique Name | This is the internal unique column name used to reference the column within code. It actually corresponds to a dimension name for the tuples in the key columns. |
| Column Type | This is an enumerated value that determines how data in the column will be treated in Dashboard Designer. Selecting Fact as a column type means treat the data in this column as a measure and aggregate values. Dimension means values in the column should be used to determine dimension membership. Other values Ignore, Key, Time Dimension. |
| Aggregation | Only available on "Fact" column types. The default setting is Sum, but options include Average, Count, Dimension Minimum, None, Statistical Standard Deviation, Sum, Statistical Variance and First Occurrence. |
| Key Column | Designate a column as a key value. Key allows the user to specify it as a dimension. |


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To Set Aggregation Levels on Fact Columns

1. On the workspace browser pane, double-click on the Excel data source you want to edit.
2. In the workspace, click the View tab.
3. Select a column (typically those with numeric values) that you want to set an aggregation level on.
4. In the Details pane, verify that the column type is set to Fact.
5. From the Aggregation list, select the level at which you want to aggregate the data in that column.
 - . The default setting is Sum. Other options: Average, Count, Dimension Minimum, None, Statistical Standard Deviation, Sum, Statistical Variance and First Occurrence.

Time Intelligence – Tabular Data Sources

| AnnualRevenue | BankName | BusinessType | YearOpened | Specialty | SquareFeet | Brands |
|---------------|------------------------|----------------|-----------------------|----------------|----------------|----------------|
| Fact | Ignore None | Ignore None | TimeDimension None | Ignore None | Ignore None | Ignore None |
| 30000.0000 | International Bank | BM | 1970 | Road | 7000 | AW |
| 30000.0000 | International Security | B5 | 1972 | Mountain | 18000 | 3 |
| 30000.0000 | International Security | B5 | 1972 | Mountain | 18000 | 3 |
| 30000.0000 | International Security | B5 | 1972 | Mountain | 18000 | 3 |
| 30000.0000 | International Security | B5 | 1972 | Mountain | 18000 | 3 |
| 50000.0000 | Primary International | O5 | 1974 | | | |
| 50000.0000 | Primary International | O5 | 1974 | | | |
| 30000.0000 | United Security | BM | 1976 | | | |
| 30000.0000 | United Security | BM | 1976 | | | |
| 30000.0000 | Primary Bank & Reserve | B5 | 1978 | | | |

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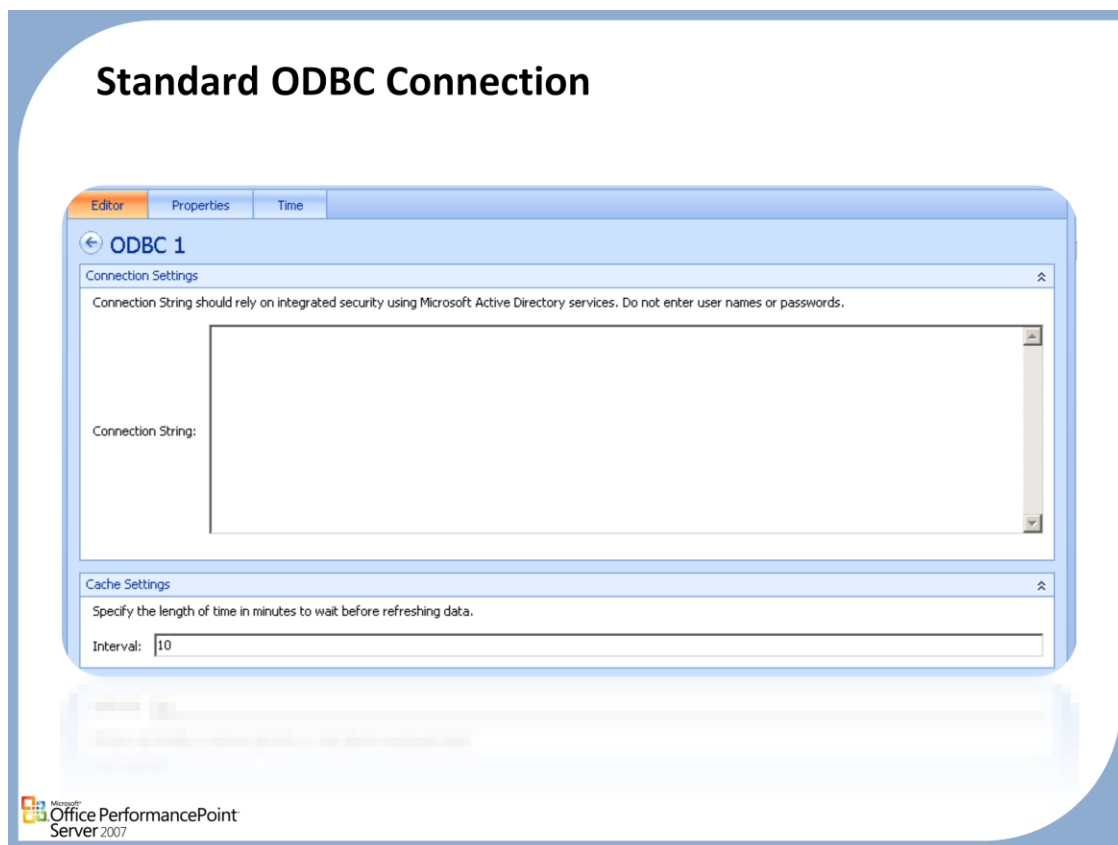
Time Intelligence – Tabular Data Sources

- Time intelligence is the definition of the current time period. In Dashboard Designer, customize the time period levels when you create your tabular data source.

Setting Time Period Levels for Tabular Data Sources

- On the **Workspace Browser** pane, expand **Data Sources**. Then, double-click the name of the tabular data source that you want to configure for TI.
- The **Workspace** pane displays tabbed screens that enable you to modify the data source properties, or configure settings for TI.
- In the center **Workspace** pane, click the **Time** tab.
- Select the **Master** check box that corresponds to the **Time Dimension** that you want Monitoring Server to use as the **Master Time Dimension** for TI.
- Notice that the **Time Dimension** column lists names of data source columns that have a **Column Type** property of Time Dimension.
- In the **Time Period Levels** pane, select the time periods that you want TI to use for aggregation, such as Year, Month, Week, Day, and so on.
- From the **Fiscal Start Month** drop-down list, select the month that you want to use as the start month of your fiscal calendar.

Standard ODBC Connection

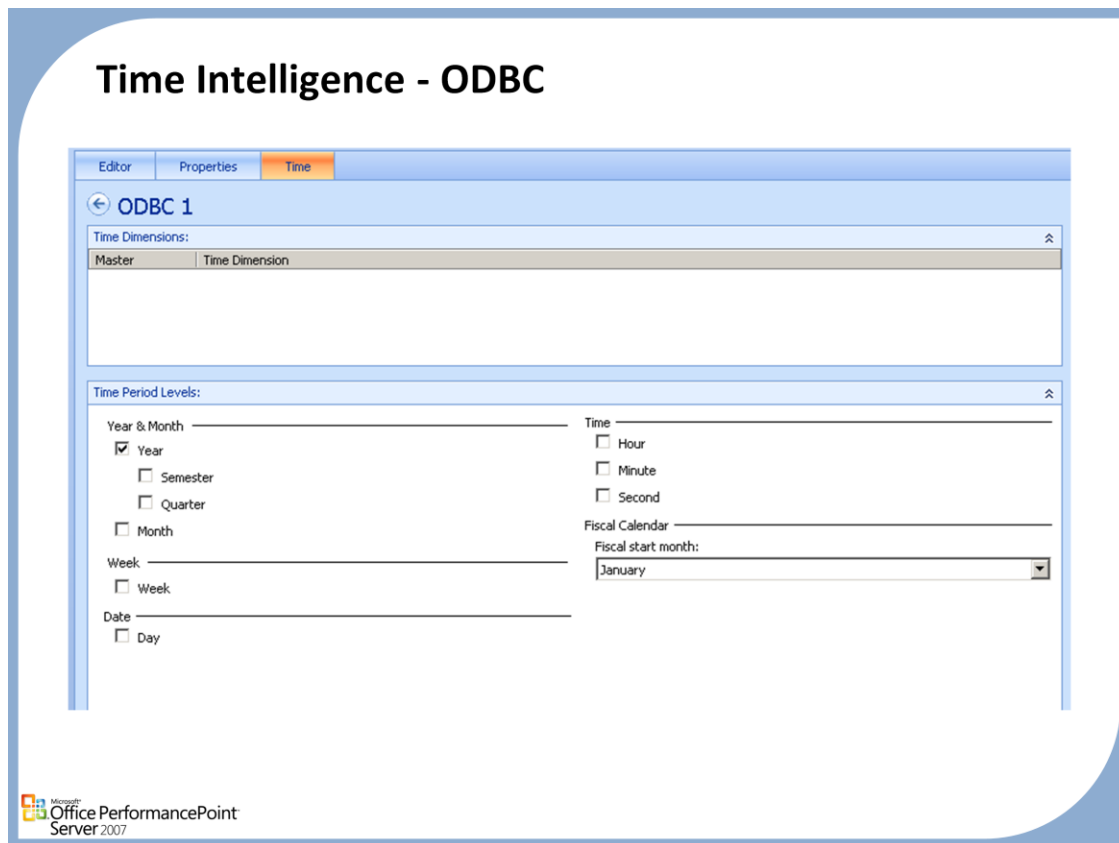


ODBC Connections

- Dashboard Designer provides the ability for you to use an Excel ODBC connection to connect to external Excel Workbook files located on the PerformancePoint Server. This solution allows customers who do not have SharePoint the ability to update their Excel files outside of Dashboard Designer. For this usage, Dashboard Designer supports Excel 97 through Excel 2007.

Steps to create an ODBC data source

1. Click the Create tab on the Ribbon, and then click Data Source.
2. In the Select a Data Source Template wizard, click Standard Queries, click the ODBC icon, and then click OK.
3. Type the data source name in the Name text box (required).
4. To grant Read permission to all authenticated users, select the Grant Read permission to all authenticated users check box.
5. When you finish, click Finish. The name of the data source now appears in the Workspace Browser under Data Sources.
6. In the Connection Settings section, in the Connection String box, type the connection string for the ODBC connection.
7. Example: `Driver={SQL Server};Server=ComputerName;Database=AdventureWorksDW`
8. In the Cache Settings section, in the Interval box, enter the refresh rate (in minutes) for the cache. Data from this data source will be updated at this interval.
9. Click Test Connection to confirm that the connection is correctly configured.
10. Click the Properties tab to adjust any general properties. In the Name text box, keep or change the name of the data source.
11. In the Description text box (this is optional), enter a description that defines this data source.
12. In the Owner text box, enter the name of the person who created or owns this data source.
13. In the Display Folder text box (this is optional), enter the name of the folder that contains this data source.
14. If you want to add one or more custom properties, click the New Property button. Select the property type that you want to add and then click OK. Enter the Name, Value, and Description of the property.
15. To add a user who has permission to read or edit this data source, click the New Permission button.
16. In the new row that is created, add the new user's name in the format `DOMAIN\alias`, and then select a permission of either Editor or Reader.
17. Click the Home tab, and then click Publish All.



ODBC Time Intelligence

- Time intelligence is the definition of the current time period. In Dashboard Designer, customize the time period levels when you create your ODBC data source.

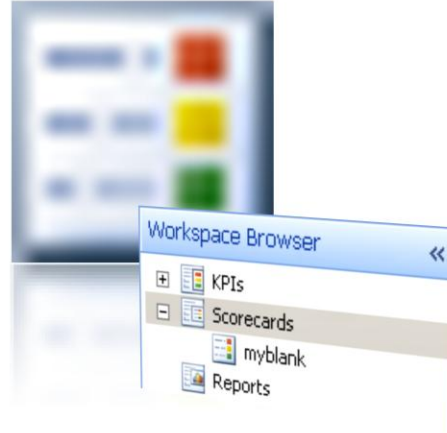
Steps to Set Time Intelligence on ODBC Data Sources

1. On the Workspace Browser pane, double-click the data source that you want to change.
2. In the center Workspace pane, click the Time tab.
3. Select the time period levels (Year, Semester, Quarter, Month, Week, Day) in the Workspace Browser pane, double-click the data source that you want to change.
4. In the center Workspace pane, click the Time tab.
5. Select the time period level at which you want to roll-up or group your data. Options include by Year, Semester, Quarter, Month, Week, and hour, minute and second.
6. Select the starting month of your fiscal calendar in the Fiscal Start Month box.

Scorecards

Scorecard Overview

- A collection of key performance indicators (KPIs) and objectives, possibly arranged hierarchically. Scorecards are used to measure multiple facets of organization performance.



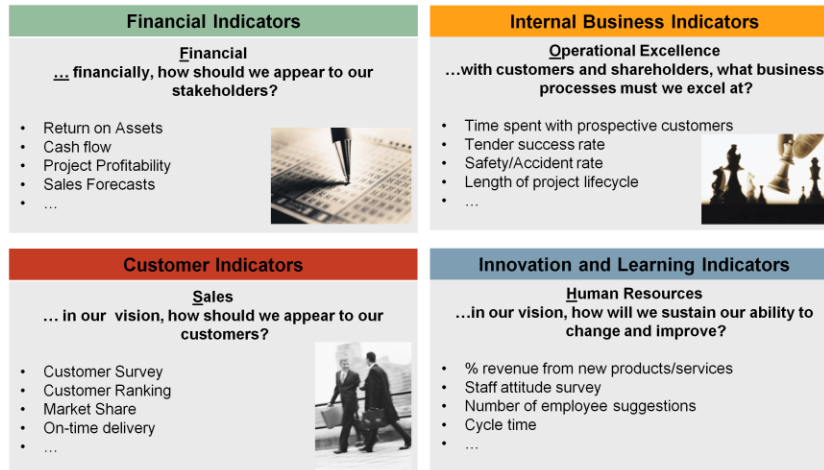
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Working with Scorecards

- The Scorecard workspace appears when either Scorecards is highlighted in the Workspace Browser pane or an individual Scorecard has been selected. This workspace, which appears as the largest pane in the center of the Dashboard Designer interface, allows you to edit Scorecards and view details, such as related key performance indicators (KPIs), Data Sources, and Indicators. It also allows you to adjust properties, such as the Scorecard name, folder location, and user permissions.
- Two different sets of tabs can be visible in the Scorecard workspace, depending on what is selected in the Workspace Browser. For example, the Server and Workspace tabs are visible only when Scorecards is selected in the Workspace Browser pane and no particular Scorecard has been selected. The Editor and Properties tabs are visible only when a Scorecard has been selected for editing, which is done by double-clicking on a Scorecard name in either the Server or Workspace

Balanced Scorecards

- The flexibility in the monitoring solution allows for multiple scorecard types
- This example highlights the balanced scorecard



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The FOSH Metrics

Balanced Scorecards:

- According to David Norton, the father of the Balanced Scorecard, “a balanced scorecard is a system of linked objectives, measures, targets and initiatives which collectively describe the strategy of an organization and how that strategy can be achieved.”
- The term “balanced” refers to the fact that companies must take a balanced approach to managing their business. All too often, businesses focus on financial metrics – Net Income, Revenue, Earnings per share. Financial metrics are great and easy to understand, the only problem with them is that they tend to be lag indicators. They are great at telling you how your business did but how many of us drive our cars looking in the rearview mirror?

FOSH

- Balanced scorecards measure progress from four recommended perspectives

Financial

- Financial metrics portray the economic results of the previous business decisions and actions. Financial metrics tend to lag the actions, and therefore are not necessarily reflecting the business as it is run today. They are often the ultimate determinant of whether the strategy is successful or not.
- A typical question related to the financial perspective is: To succeed, how should we appear to our shareholders?

Operational Excellence, also called Internal

- The operational perspective reflects the business processes that support the strategy. They may include processes related to financial collections, safety in manufacturing, or product development. The common thread running through these processes is that they are the ones that the business must excel at to succeed.

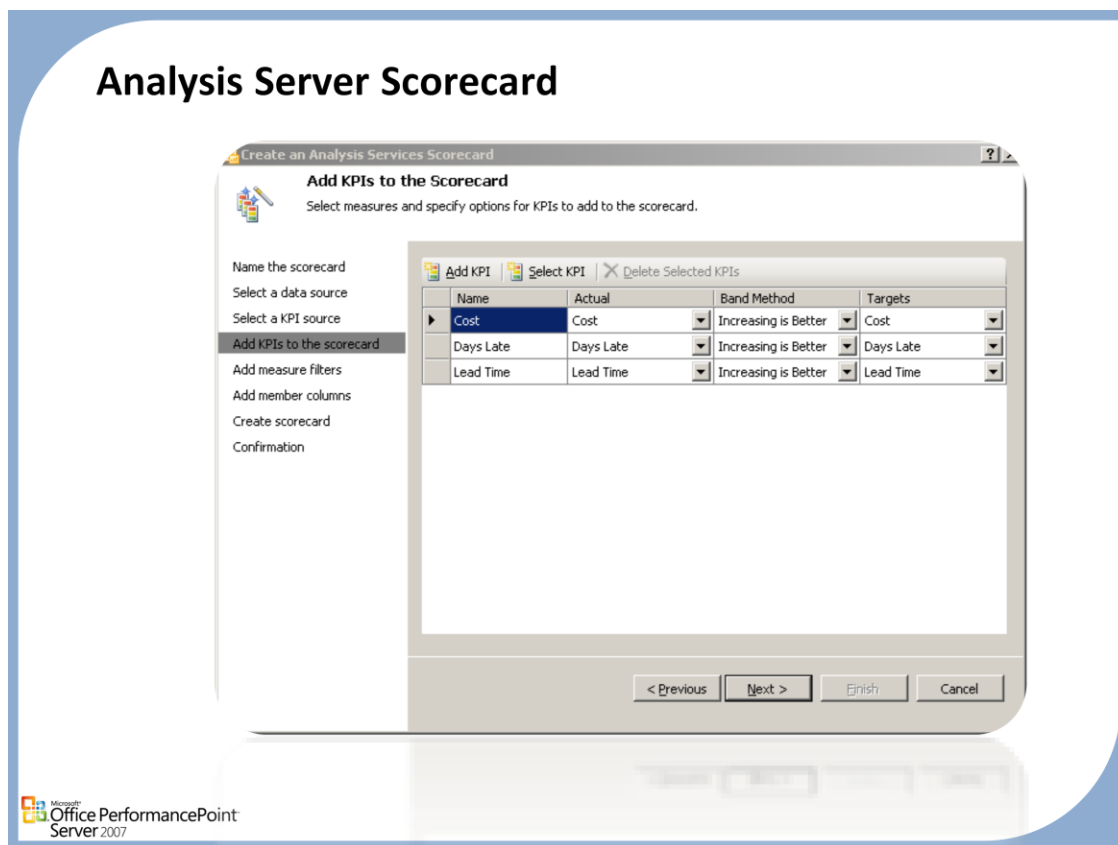
Sales, referring to the Customer

- The sales perspective focuses on how the customers perceive the business. Because customer perception is affected by a number of business activities, this perspective tends to be a good general performance indicator. For example, it is affected by such things a product quality, delivery reliability, help desk responsiveness and competency, and the manner in which the sales force treats them. If your customers perceive your performance negatively, you may need to make adjustments in other perspectives.

Human Resources, also called Learning and Growth

- The human resources perspective encompasses the infrastructure of the company, mainly the employees, systems and organizational procedures. Metrics in this perspective highlight the success of businesses maintaining employee skills, improving work satisfaction, updating the systems they use to perform their jobs, and ensuring that the organizational procedures facilitate success.

Analysis Server Scorecard

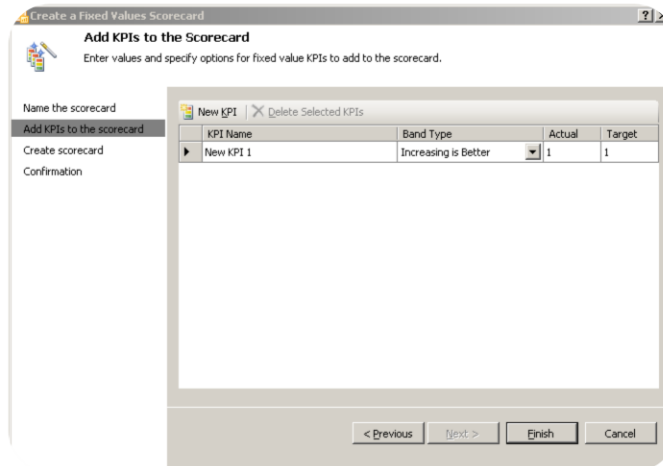


To create an Analysis Server scorecard

1. On the Create tab of the Ribbon, click Scorecard.
2. In the Template Wizard dialog box, click Microsoft, and then click the Analysis Services template. Click OK.
3. Specify the scorecard name and the folder location for the default display. The default display folder is an optional feature that can help you organize your scorecards in the Workspace Browser.
 - If desired, select the **Grant Read permission to all authenticated users on the PerformancePoint Scorecard server** check box.
4. Select the data source from either the Workspace or Server tab. Click Next. Note: Click Refresh to make sure that you are viewing the current list of defined data sources.
5. Select either Create KPIs from Analysis Services Measures or Import SQL Server Analysis Services KPIs as the source of your KPIs. Click Next.
6. Use one of the following procedures.
7. Add new KPIs by clicking Add KPI for every KPI that you want to add. Adjust the settings for each KPI as needed OR Click Select KPI to select a pre-defined KPI. Select the desired KPI from either the Workspace or Server tab and then click OK. Repeat this for every additional KPI that you want to add.
8. Note: Click Refresh to make sure that you are viewing the current list of defined data sources.
9. Click Next.
10. Select the Add measure filters check box if you want to add measure filters for the Scorecard KPIs.
11. Click Select Dimension. Select the dimension desired, and then click OK.
12. Click Select Member to select the specific members for the Actual measure filter. Click OK.
13. Click Select Member to select the specific members for the Target measure filter. Click OK.
14. Click Next.
15. Select the Set members for the columns check box if you want to create a matrix-style view for your scorecard.
16. Click Select Dimension. Select the dimension for the columns (typically time), and then click OK.
17. Click Select Member. Select the specific members to be displayed on the columns. Click OK and then click Finish.
18. When you see the confirmation screen, click Close.
19. From the Details pane, drag any additional items onto your workspace in the center pane (optional).
20. From the Home tab, click Publish All.

Fixed Value Scorecard

- Manually enter Actual and Target Values
- Values stored in the Monitoring Database
- Useful for prototyping and fostering collaboration



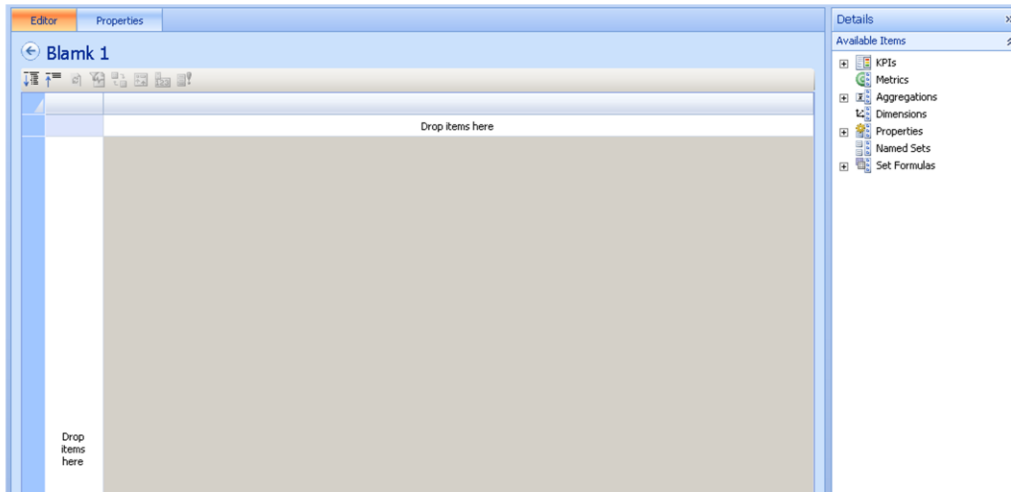
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To create a Fixed Values scorecard

1. On the Create tab of the Ribbon, click Scorecard.
2. In the Create New Fixed Values Scorecard dialog box, click Fixed Values, and then click OK.
3. Specify the scorecard name and default display folder location. Click Next:
 - a) The default display folder is an optional feature that can help you organize your scorecards in the Workspace Browser.
 - b) If desired, select the **Grant Read permission to all authenticated users on the PerformancePoint Scorecard server** check box.
4. Add new key performance indicators (KPIs) by clicking New KPI.
5. To edit or create a new name for each KPI, click on the value in the KPI name box and start to type.
6. Select the desired band type.
7. Enter your desired Actual and Target values.
8. Repeat for each additional KPI you wish to add. When complete, click Finish and then Close.
9. Your completed scorecard appears in the Workspace. If you wish to include additional items to your scorecard, drag and drop from the Details pane onto the center workspace.
10. From the Home tab, click Publish All.

Blank Scorecard

- Creates a blank palette to build custom scorecards



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Blank Scorecards

- Use a blank scorecard to design a scorecard that does not have predefined content or data mappings. Use a drag-and-drop operation to move elements from the Details pane to the center workspace.

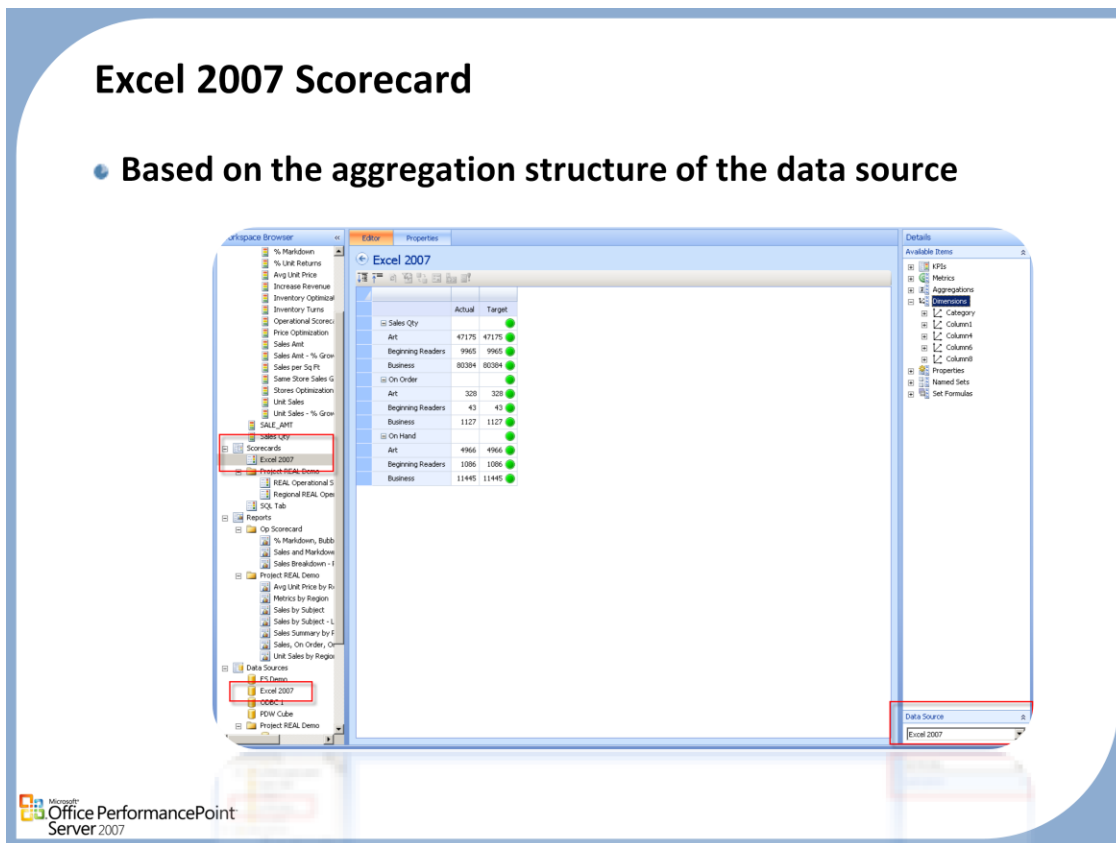
Note: You must define your KPIs before you build your scorecard.

To create a blank scorecard

1. Click the Create tab, and then click Scorecard.
2. In the Select a Scorecard Template dialog box, click Standard and then click Blank Scorecard. Click OK.
3. Specify the scorecard name and default display folder location. The default display folder is an optional feature that can help you organize your scorecards in the Workspace Browser.
4. If you want to, select the Grant Read permission to all authenticated users check box.
5. Click Finish.
6. From the Details pane, drag the elements onto the center Workspace and design your scorecard.
7. On the Home tab, click Publish All.

Excel 2007 Scorecard

- Based on the aggregation structure of the data source



To create an Excel 2007 scorecard

- On the Create tab of the Ribbon, click Scorecard.
- In the Select a Scorecard Template dialog box, click Tabular and then Excel 2007. Click OK.
- Specify the scorecard name and default display folder location. The default display folder is an optional feature that can help you organize your scorecards in the Workspace Browser.
 - If desired, select the **Grant Read permission to all authenticated users on the PerformancePoint Scorecard server** check box.
- Click Next.
- Select the data source from either the Workspace or Server tab. Click Next. Note: Click Refresh to ensure you are viewing the current list of defined data sources.
- Add new key performance indicators (KPIs) by clicking Add KPI for every KPI you wish to add. Adjust the settings for each KPI as necessary OR
- Click Select KPI to select a pre-defined KPI from either the Workspace or Server tab. Click OK. Repeat this step for every additional pre-defined KPI you want to add. Note: Click Refresh to ensure you are viewing the current list of defined data sources.
- Click Next.
- Select the Add measure filters checkbox if you want to add measure filters for the Scorecard KPIs.
- Click Select Dimension. Select the dimension for the measures filter, and then click OK.
- Click Select Member to select the specific members for the Actual measure filter. Click OK.
- Click Select Member to select the specific members for the Target measure filter. Click OK.
- Click Next.
- Select the Set members for the columns checkbox if you want to create a matrix style view for your scorecard.
- Click Select Dimension. Select the dimension for the columns (typically time), and then click OK.
- Click Select Member. Select the specific members to be displayed on the columns. Click OK and then click Finish.
- When you see the confirmation screen, click Close. Your scorecard appears in the center Workspace.
- From the Details pane, drag and drop additional elements to the center pane (optional).
- From the Home tab, click Publish All.

Excel Services Scorecard



To Create an Excel Services Scorecard

1. On the Create tab of the Ribbon, click Scorecard.
2. In the Template Wizard dialog box, click Tabular and then the Excel Services template. Click OK.
3. Specify the scorecard name and default display folder location. The default display folder is an optional feature that can help you organize your scorecards in the Workspace Browser.
 - If desired, select the **Grant Read permission to all authenticated users on the PerformancePoint Scorecard server** check box.
4. Select the data source from either the Workspace or Server tab. Click Next. Note: Click Refresh to ensure you are viewing the current list of defined data sources.
5. Add new key performance indicators (KPIs) by clicking Add KPI for every KPI you wish to add. Adjust the settings for each KPI as needed OR
6. Click Select KPI to select a pre-defined KPI from either the Workspace or Server tab. Click OK. Repeat this step for each additional pre-defined KPI you want to add. Click Refresh to ensure you are viewing the current list of defined data sources.
7. Click Next.
8. Select the Add measure filters checkbox if you want to add measure filters for the Scorecard KPIs.
9. Click Select Dimension. Select the dimension desired, and then click OK.
10. Click Select Member to select the specific members for the Actual measure filter. Click OK.
11. Click Select Member to select the specific members for the Target measure filter. Click OK.
12. Click Next.
13. Select the Set members for the columns checkbox to create a matrix style view for your scorecard.
14. Click Select Dimension. Select the dimension for the columns (typically time), and then click OK.
15. Click Select Member. Select the specific members to be displayed on the columns. Click OK and then click Finish.
16. When you see the confirmation screen, click Close.
17. From the Details pane, drag and drop additional elements to the center pane (optional).
18. From the Home tab, click Publish All.

SQL Tabular Scorecard

| | Canada | | United States | |
|----------------|----------------|-----------------|-----------------|-----------------|
| | Actual | Target | Actual | Target |
| Annual Sales | | | | |
| 2000 | \$3,000,000.00 | \$12,000,000.00 | \$15,400,000.00 | \$39,000,000.00 |
| 2001 | \$2,000,000.00 | \$12,000,000.00 | \$9,000,000.00 | \$39,000,000.00 |
| Annual Revenue | | | | |
| 2000 | \$300,000.00 | \$240,000.00 | \$1,540,000.00 | \$3,300,000.00 |
| 2001 | \$200,000.00 | \$240,000.00 | \$900,000.00 | \$3,300,000.00 |

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To Create a SQL tabular Scorecard

1. On the Create tab of the Ribbon, click Scorecard.
2. In the Select a Scorecard Template dialog box, click Tabular and then the SQL Tabular template. Click OK.
3. Specify the scorecard name and default display folder location. The default display folder is an optional feature that can help you organize your scorecards in the Workspace Browser.
 - Select the **Grant Read permission to all authenticated users on the PerformancePoint Scorecard server** check box (optional)
4. Select the data source from either the Workspace or Server tab. Click Next. Note: Click Refresh to ensure you are viewing the current list of defined data sources.
5. Add new key performance indicators (KPIs) by clicking Add KPI for every KPI you want to add. Adjust the settings for each KPI as needed OR
6. Click Select KPI to select a pre-defined KPI from either the Workspace or Server tab. Click OK. Repeat this step for each additional pre-defined KPI you wish to add. Click Refresh to ensure you are viewing the current list of defined data sources.
7. Click Next.
8. Select the Add measure filters checkbox to add measure filters for the Scorecard KPIs.
9. Click Select Dimension. Select the dimension you want, and then click OK.
10. Click Select Member to select the specific members for the Actual measure filter. Click OK.
11. Click Select Member to select the specific members for the Target measure filter. Click OK.
12. Click Next.
13. Select the Set members for the columns checkbox to create a matrix style view for your scorecard.
14. Click Select Dimension. Select the dimension for the columns (typically time), and then click OK.
15. Click Select Member. Select the specific members to be displayed on the columns. Click OK and then click Finish.
16. When you see the confirmation screen, click Close.
17. From the Details pane, drag and drop additional elements to the center pane (optional).
18. From the Home tab, click Publish All.

SharePoint List Scorecard

The screenshot displays the SharePoint List Scorecard interface. The main workspace shows a table with the following data:

| | Actual | Target |
|----------------|----------------|----------------|
| Sales 2002 | | |
| Australia | | |
| Canada | \$3,668,140.18 | \$3,668,140.18 |
| Central | \$3,308,895.85 | \$3,308,895.85 |
| France | | |
| Germany | | |
| Northeast | \$1,951,086.83 | \$1,951,086.83 |
| Northwest | \$2,716,657.68 | \$2,716,657.68 |
| Southeast | \$3,242,697.01 | \$3,242,697.01 |
| Southwest | \$4,840,147.78 | \$4,840,147.78 |
| United Kingdom | | |
| Sales 2003 | | |
| Australia | | |
| Canada | \$2,968,929.35 | \$3,668,140.18 |
| Central | \$4,991,867.71 | \$3,308,895.85 |
| France | \$1,677,652.44 | |
| Germany | | |
| Northeast | \$4,743,906.89 | \$1,951,086.83 |
| Northwest | \$3,161,138.62 | \$2,716,657.68 |
| Southeast | \$2,661,156.24 | \$3,242,697.01 |

The interface includes a Workspace Browser on the left with a tree view of dashboards, KPIs, and reports. The Details pane on the right shows available items like KPIs, Metrics, and Aggregations. The Data Source dropdown is set to 'Sales DS'.

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To Create a SharePoint List Scorecard

1. On the Create tab of the Ribbon, click Scorecard.
2. In the Select a Scorecard Template dialog box, click Tabular and then the SharePoint List template. Click OK.
3. Specify the scorecard name and default display folder location. The default display folder is an optional feature that can help you organize your scorecards in the Workspace Browser.
 - Select the **Grant Read permission to all authenticated users on the PerformancePoint Scorecard server** check box (optional).
4. Select the data source from either the Workspace or Server tab. Click Next. Note: Click Refresh to ensure you are viewing the current list of defined data sources.
5. Add new key performance indicators (KPIs) by clicking Add KPI for every KPI you want to add. Adjust the settings for each KPI as needed OR
6. Click Select KPI to select a pre-defined KPI from either the Workspace or Server tab. Click OK. Repeat this step for each additional pre-defined KPI you want to add. Click Refresh to ensure you are viewing the current list of defined data sources.
7. Click Next.
8. Select the Add measure filters checkbox to add measure filters for the Scorecard KPIs.
9. Click Select Dimension. Select the dimension needed, and then click OK.
10. Click Select Member to select the specific members for the Actual measure filter. Click OK.
11. Click Select Member to select the specific members for the Target measure filter. Click OK.
12. Click Next.
13. Select the Set members for the columns checkbox to create a matrix style view for your scorecard.
14. Click Select Dimension. Select the dimension for the columns (typically time), and then click OK.
15. Click Select Member. Select the specific members to be displayed on the columns. Click OK and then click Finish.
16. When you see the confirmation screen, click Close.
17. From the Details pane, drag and drop any additional items to the center Workspace (optional).
18. On the Home tab, click Publish All.

Adding Elements to Scorecards

The screenshot displays the Microsoft Office PerformancePoint Dashboard Designer interface. The main workspace shows a scorecard titled "Regional REAL Operational Scorecard" with a table of metrics. A red arrow points to the "Unit Sales - % Growth PP" row in the table.

| | Actual | Target |
|------------------------------|--------------|--------|
| Operational Scorecard | | |
| Increase Revenue | | |
| Sales Amt | \$13,533,408 | |
| Sales Amt - % Growth PP | 0.00 | 10.00% |
| Unit Sales | 859,267 | |
| Unit Sales - % Growth PP | 0.00 | 10.00% |
| Price Optimization | | |
| Avg Unit Price | \$15.75 | 16 |
| % Markdown | 3.17% | 3.00% |
| Stores Optimization | | |
| Sales per Sq Ft | \$6.49 | \$1.70 |
| Same Store Sales Growth | 0.00 | 1 |

The right-hand pane, titled "Available Items", lists various metrics and dimensions that can be added to the scorecard, including:

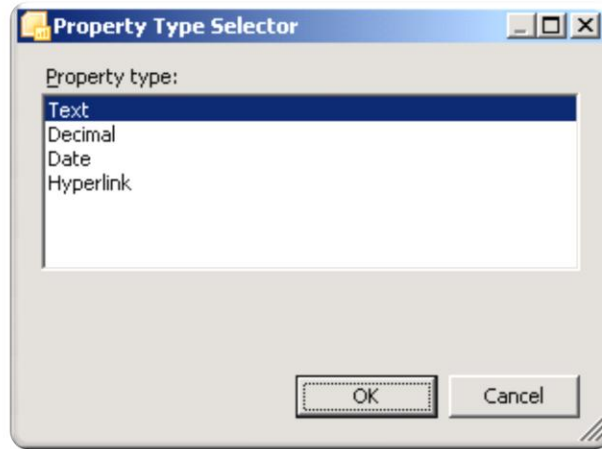
- KPIs
- Metrics
- Aggregations
- Dimensions
- Buyer
- Buyer ID
- Buyer Name
- Customer
- Customer Auto Renewal
- Customer By Geography
- Customer Card Status
- Customer City
- Customer Country
- Customer Cust Info
- Customer Email Addr
- Customer Expiration Dat
- Customer Index
- Customer Member ID
- Customer Name
- Customer Primary Meas
- Customer Purchase Dab
- Customer State
- Customer Years Since Ph
- Customer Zip Code
- DC Vendor Active
- DC Vendor Vendor
- DC Vendor Vendor Nam
- Distribution Center
- Distribution Center Cod
- Item
- Item Author
- Item Author Index
- Item Bargain Catalog In
- Item Btl Retail
- Item Btl Retail Grouping
- Item By Category
- Item By DC Vendor
- Item By Dept

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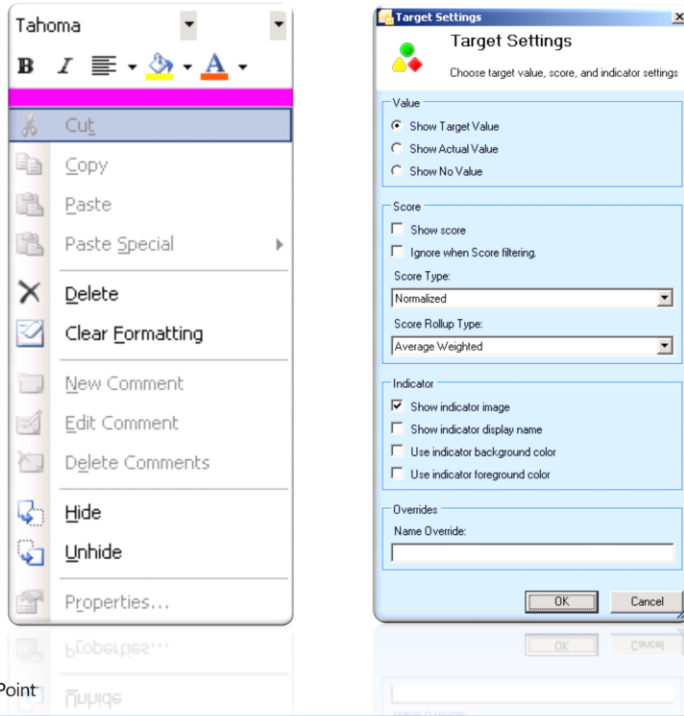
Adding Elements to Scorecard

- Start by adding the KPIs to create the basic structure. From that point Dimensionality and aggregation points are added by dragging the appropriate dimensions to either the column or row locations.

Setting Scorecard Properties



Working with Scorecard Columns and Rows



Microsoft Office PerformancePoint Server 2007

Refreshing Scorecard Data

- Scorecards need to be updated anytime a new element has been added.



Exporting Scorecards to Reporting Services

The screenshot displays the 'Income Statement Scorecard' in PerformancePoint Server 2007. The scorecard is a grid with columns for 'Actual' and 'Target' for three quarters: Q1 Year 2004, Q2 Year 2004, and Q3 Year 2004. The rows list various financial categories such as Expenses, Advertising Agency, Advertising Media, and Revenue. To the right, a 'PerformancePoint Monitoring Scorecard' table provides a summary of the data, with columns for 'Actual' and 'Target' for each quarter. The table includes a 'Total' row and a 'Grand Total' row.

| Category | Q1 Year 2004 | | Q2 Year 2004 | | Q3 Year 2004 | |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | Actual | Target | Actual | Target | Actual | Target |
| Income Statement | 831,296,424 | 833,338,788 | 833,934,873 | 831,296,424 | 843,899,138 | 833,934,873 |
| Advertising - Agency | -52,769,833 | -1,066,117 | -52,769,833 | -52,769,833 | -52,769,833 | -52,769,833 |
| Advertising - Media | -52,769,833 | -52,769,833 | -52,769,833 | -52,769,833 | -52,769,833 | -52,769,833 |
| Ar | -274,140 | -274,140 | -274,140 | -274,140 | -274,140 | -274,140 |
| Auto & Taxi | -827,193 | -827,193 | -827,193 | -827,193 | -827,193 | -827,193 |
| Benefits | -53,178,387 | -53,178,387 | -53,178,387 | -53,178,387 | -53,178,387 | -53,178,387 |
| Demus | -54,968,350 | -54,968,350 | -54,968,350 | -54,968,350 | -54,968,350 | -54,968,350 |
| Building & Grounds Maintenance | 88,440,331 | 88,440,331 | 88,440,331 | 88,440,331 | 88,440,331 | 88,440,331 |
| COGS | -445,179,830 | -445,179,830 | -445,179,830 | -445,179,830 | -445,179,830 | -445,179,830 |
| Corporate Allocations | 537,998,381 | 537,998,381 | 537,998,381 | 537,998,381 | 537,998,381 | 537,998,381 |
| Depreciation Expense | -322,264,323 | -322,264,323 | -322,264,323 | -322,264,323 | -322,264,323 | -322,264,323 |
| Enter Licenses | -476,292 | -476,292 | -476,292 | -476,292 | -476,292 | -476,292 |
| Garbage | -468,117 | -468,117 | -468,117 | -468,117 | -468,117 | -468,117 |
| Income Taxes | -44,615,237 | -44,615,237 | -44,615,237 | -44,615,237 | -44,615,237 | -44,615,237 |
| Insurance | -44,647,236 | -44,647,236 | -44,647,236 | -44,647,236 | -44,647,236 | -44,647,236 |
| Intangible/Charging Service | -52,368,411 | -52,368,411 | -52,368,411 | -52,368,411 | -52,368,411 | -52,368,411 |

To Export to SQL Reporting Services

1. On the Home tab of the ribbon, click Refresh and then Publish All.
2. Click the Export tab of the Ribbon, and then click SQL Server Reporting Services.
3. Select the scorecard you want to export. Click Refresh to verify you are viewing the current list that has been published to the server.
4. Click Next.
5. Choose whether you want to deploy the scorecard to SQL Server Reporting Services or to a file. Click Next.
6. If you selected Deploy SQL Server Report to a Reporting Services server:
 - a) In the **SQL Server Report Name** text box, type a name for the Reporting Services report. The name you enter will appear in the URL for the report.
 - b) In the **Measurement System** drop-down list box, select either inches or centimeters as the unit of measure for the report layout
 - c) In the **Reporting Services location** text box, type or select the URL of the Reporting Services server to which you are deploying the report.
 - d) In the **Deployment Folder** text box, type the name of the folder in which the Reporting Services report is to be stored.
 - e) Click **Finish**.
7. If you selected Save SQL Server Report to file system:
 - a) In the **SQL Server Report Name** text box, type a name for the Reporting Services report.
 - b) In the **Measurement System** drop-down list box, select either inches or centimeters as the unit of measure for the report layout.
 - c) Click **Finish**. A **Save As** dialog box will open, allowing you to save the report file to a location of your choice. The file will be save as a Reporting Services file with an .rdf extension. Click **Save**.
8. At the Confirmation screen, click Close.

KPIs

KPI Overview

- Key performance indicators (KPIs) are business metrics that help decision makers at all levels of the organization monitor progress toward meeting organizational performance goals.
- All KPIs must be associated with an actual value and one or more target values.
- To determine how much progress has been made toward the organization's performance goal, the actual value and the target values of the KPI are compared in a scorecard and represented by a graphical indicator.



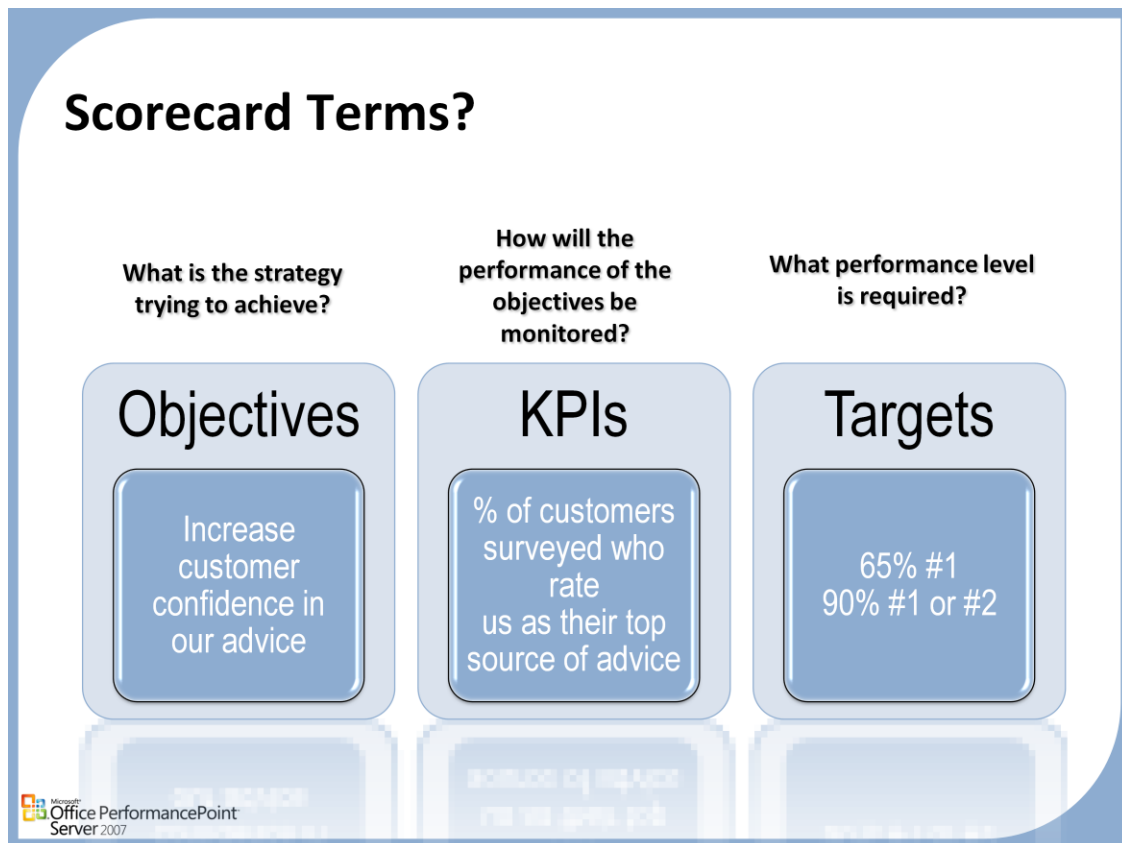
KPI

Key performance indicators (KPIs) are business metrics that help decision makers at all levels of the organization monitor progress toward meeting organizational performance goals. They are one of the core scorecard elements that you create in PerformancePoint Scorecard Builder. KPIs can provide a logical and comprehensive way of describing organizational strategy when organizational stakeholders carefully plan what KPIs to use in their scorecards.

All KPIs in PSC must be associated with an actual value and one or more target values. To determine how much progress has been made toward the organization's performance goal, the actual value and the target values of the KPI are compared in the business scorecard. You can define multiple targets for a single KPI. For example, you could have a KPI called "Sales" that has the three target values:

The actual value is the value for any KPI at a specific point in real time. The target value or values represent the desired level of performance as measured by the KPI with respect to a business goal or strategy.

Each key performance indicator (KPI) that you create in Scorecard Builder should be closely aligned with a specific organizational, departmental, or functional unit or with a specific business strategy or goal. This alignment makes it possible for individual employees in the organization to monitor the KPIs that apply to their areas of responsibility and for the organization to ensure that business actions align with defined goals and strategies.



There are three common terms used when referring to scorecards, Objectives, Key Performance Indicators (KPIs), and Targets.

Objectives

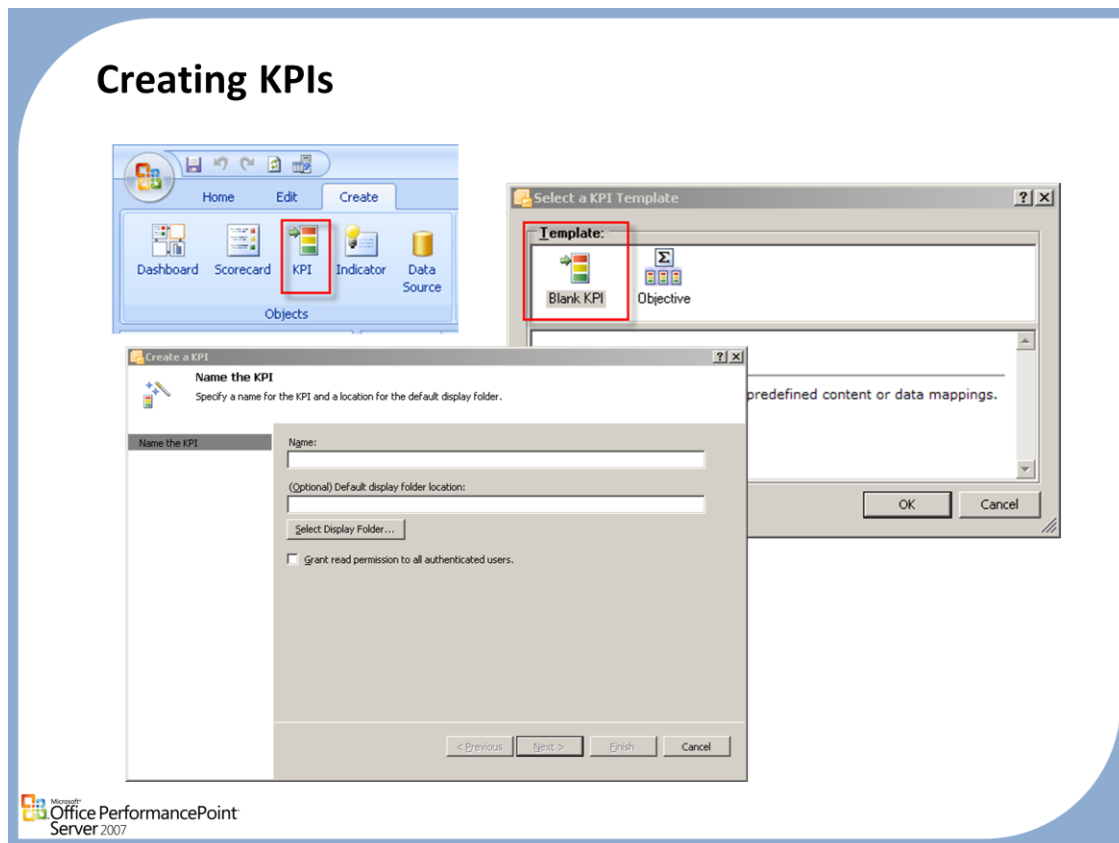
- Objectives are statements of goals for the organization. Some examples are:
- Increase customer confidence in our advice
- Increase the number of new products introduced
- Decrease the number of defects in our products
- A scorecard can contain one or more objectives.

KPIs

- Each objective is measured by a set of KPIs. The KPIs track the performance of the objective. Some sample KPIs for the objectives above are:
- % of customers surveyed who rate us as their top source of advice
- Number of products introduced per quarter
- Number of defects per 1000 manufactured

Targets

- Targets are the numeric goals for a KPI. For example:
- How many new products are we aiming to introduce this quarter?
- How many defects per 1000 is an acceptable goal for this quarter?



Creating KPIs

- Creating a key performance indicator (KPI) in Dashboard Designer is a multi-step process that includes the naming and setting of permissions; creating and defining the actual and target values for each KPI; and setting the scoring patterns (banding) methods. KPIs must be defined before they can be used in a Scorecard.

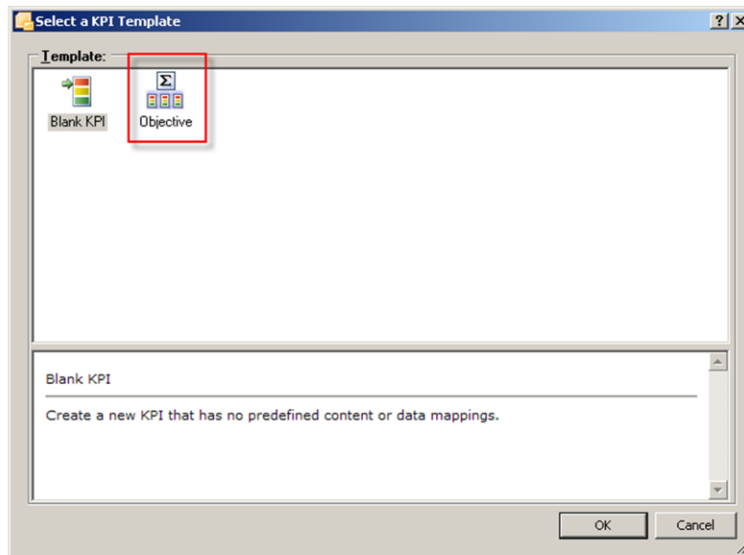
Note:

- When you create a new KPI, the default mapping is to a fixed value of 1. To map your KPI to another source, such as a multidimensional or ODBC data source, click on the Data Mappings link on the KPI Summary tab.

To create a new KPI

1. Click the Create tab in the Ribbon, and then click KPI.
2. In the Select a KPI Template Wizard, click the Blank KPI icon, and then click OK.
3. Enter a name for the KPI in the Name text box (required).
4. If desired, you may name a new default display folder location. These folders appear in the Workspace Browser pane and are useful for organizing multiple data sources.
5. To grant read permission to all authenticated users, click the box provided for that purpose.
6. When finished, click OK. The name of this data source now appears in the Workspace Browser under Data Sources.
7. On the Summary tab, click Data Mappings. By default the KPI data mapping is set to Fixed Values. Either change the current value of 1 (if necessary) or click Change Source to map your KPI to a different data source.
8. To change the data sources, click Change Source. Highlight the data source desired from either the Server or Workspace tab, and then click OK. Note: Click Refresh to ensure that you are viewing the current list of all data sources on the server and workspace.
9. A dimensional data source mapping screen will display. Select the desired measure from the dropdown list.
10. Click the Select member icon. A Dimension selector window will display. Highlight the desired dimension and then click OK.
11. On the Home tab, click Publish All.

Creating an Objective KPI



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Objective KPI

- In Dashboard Designer, you can create scorecards that contain both key performance indicators (KPIs) and objectives. An objective is a collection of related KPIs or objectives. Create an objective to logically group KPIs or create subsets under larger objectives. For example, you could create an objective called "Regional Sales" and then subsets of objectives for each Region.

To Create a New Objective KPI

1. Click the Create tab in the Ribbon, and then click KPI.
2. In the Select a KPI Template click Objectives, and then click OK.
3. Enter a name for the KPI in the Name text box (required).
4. If desired, you may name a new default display folder location. These folders appear in the Workspace Browser pane and are useful for organizing multiple data sources.
5. Select Grant Read permission to all authenticated users to PerformancePoint Monitoring Server if desired.
6. When finished, click OK. The name of this Objective now appears in the Workspace Browser under KPIs.

KPI Calculations

| Calculation Type | Description |
|---------------------|---|
| Default | Use the normalized weighted average score of all child KPIs as the input value for this KPI |
| No Value | Do not use data input from another source for this KPI |
| Source data | Use data from an external source as an input value for this KPI |
| Average of children | Take the corresponding target score for each of the child KPIs immediately below this KPI and use the average as the input value for this KPI |
| Sum of Children | Take the corresponding target score for each of the child KPIs immediately below this KPI and use the sum as the input value for this KPI |
| Max of Children | Use the highest KPI target score from the set of all child KPIs immediately below this KPI as the input value for this KPI |
| Min of children | Use the lowest KPI target score from the set of all child KPIs immediately below this KPI as the input value for this KPI |

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To Edit a KPI Calculation

1. From the left Workspace Browser pane, double-click on the KPI you wish to edit.
2. Click once on the link in the Calculations column you wish to edit.
3. Optionally, clear the checkbox of Use calculated values of Actual and Target to compete the score.
4. In the Calculation dialog box that displays, select the type of calculation (if any) you wish to have performed. Click OK.

Scoring Patterns and Indicators

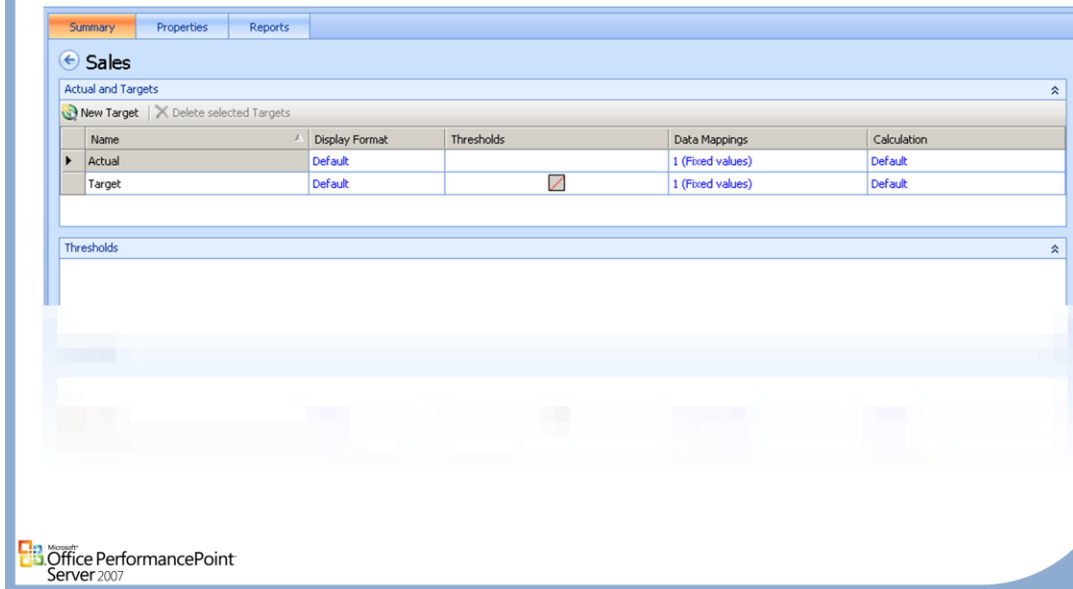
- **The banding method is determined by the combination of the scoring pattern and the selection of banding method.**
- **Banding Methods**
 - Band by normalized value of Actual/Target
 - Band by Numeric Value of Actual
 - Band by Stated Score



Setting scoring patterns and indicators

1. From the Workspace browser, double-click the KPI you wish to edit. Note: This step also occurs within the Create a New KPI Wizard.
2. In the center Workspace pane, highlight a Target KPI.
3. Click Set Scoring Pattern and Indicator in the Thresholds box.
4. Select a scoring pattern.
5. Select a banding method.
6. Click Next.
7. Select an Indicator. Click Next.
8. Enter a worst value. Click Finish.

KPI Workspace – Summary



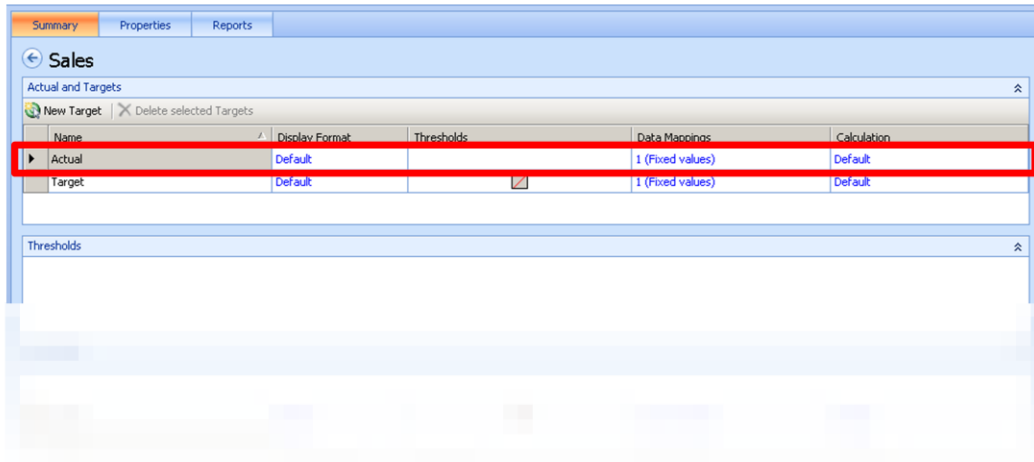
All key performance indicators (KPIs) must be associated with an actual value that you either enter manually as a fixed value or that is retrieved from a data source.

You might find it useful to manually enter an actual value when you are prototyping a scorecard or when data sources are not yet available. The actual value for a KPI is compared

to the target value or values for that KPI to determine how much progress has been made toward the KPI performance goal.

At this stage you have already used the KPI wizard to create a KPI, and should now be in the Workspace Summary ready to set your actual and target values.

KPI Workspace – Actual

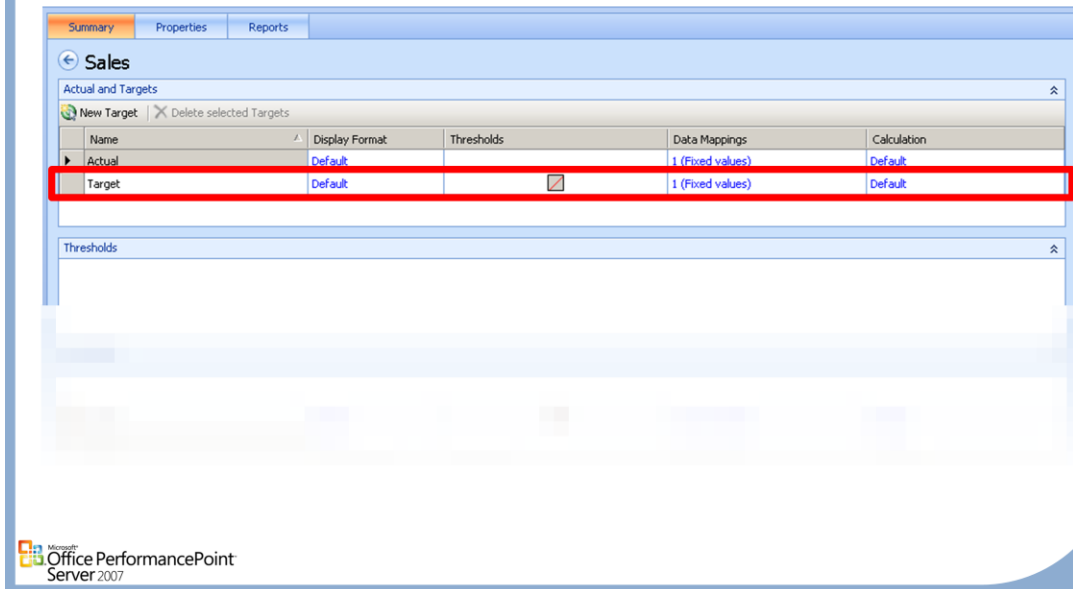


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Setting Actual Values

- If desired, enter a new name to replace Actual in the Name table cell.
- In the Display Format column, click Default to see what the default values are. You may change them by selecting Override Display Format. Click OK when done.
- In the Data Mappings column, the default value is 1. To change the default value, click inside the cell and a dialog box opens. Enter the new number and click OK.
- Data mapping refers to how you can derive the actual value for a key performance indicator (KPI) from a data source, or specify a fixed value (a manually entered value) for the actual value. Fixed values are useful for creating prototype scorecards or for situations where data sources have not yet been created or are not yet mapped to KPI actual or target values.
- In the Calc Type column, a default setting means that its value will be derived from your data source, or, you can specify a fixed value by clicking in the cell, and choosing from a list of options in the dialog box that opens. Once this fixed value is selected, click OK. the KPI wizard to create a KPI, and should now be in the Workspace Summary ready to set your actual and target values.

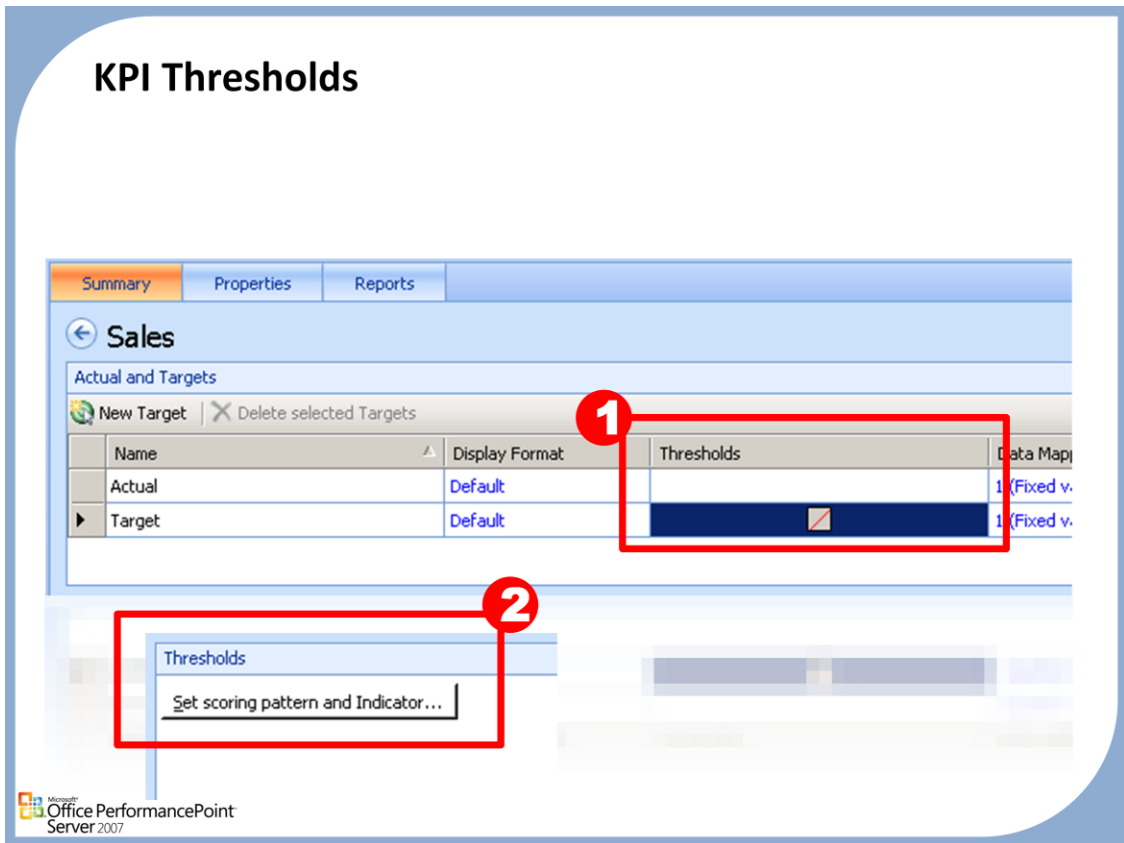
KPI Workspace – Target



Setting Targets

- If desired, enter a new name to replace Target in the Name table cell.
- In the Display Format column, click Default to see what the default values are. You may change them by selecting Override Display Format. Click OK when done.
- In the Threshold column, click inside the cell and the Set Band Pattern button appears in the Thresholds section of the Workspace. See Thresholds procedures below for more information.
- In the Data Mappings column, the default value is 1. To change the default value, click inside the cell and a dialog box opens. Enter the new number and click OK.
- In the Calc Type column, a default setting means that its value will be derived from your data source, or, you can specify a fixed value by clicking in the cell, and choosing from a list of options in the dialog box that opens. Once this fixed value is selected, click OK.

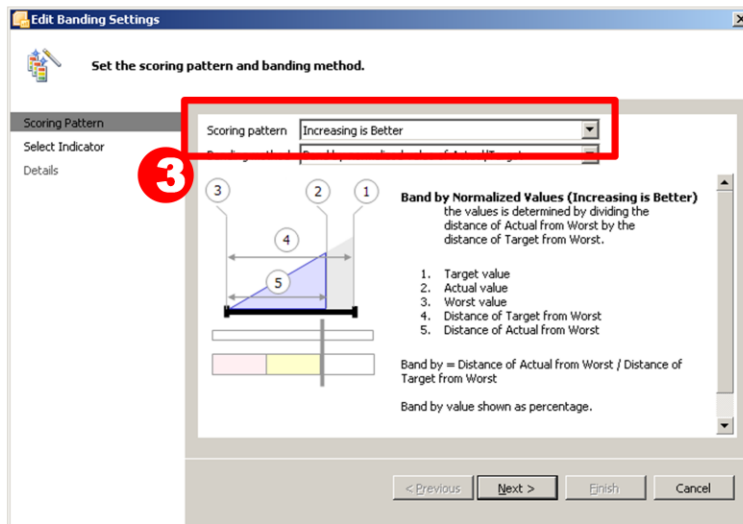
KPI Thresholds



Adjusting Thresholds

1. Click inside the Threshold cell. The Set Scoring pattern and Indicator button appears in the Thresholds section of the Workspace Summary.
2. Click Set scoring Pattern..
3. In the Edit Band Settings dialog box, in the Scoring pattern window, click inside the field and then click which of the 3 patterns that you want.
4. In the Banding method window, click inside the field, click which of the 3 methods that you want, and then click Next.
5. 5. Select the indicator, and then click Next.
6. 6. Enter the worst-case threshold value (if not zero), and then click Finish.

KPI Thresholds

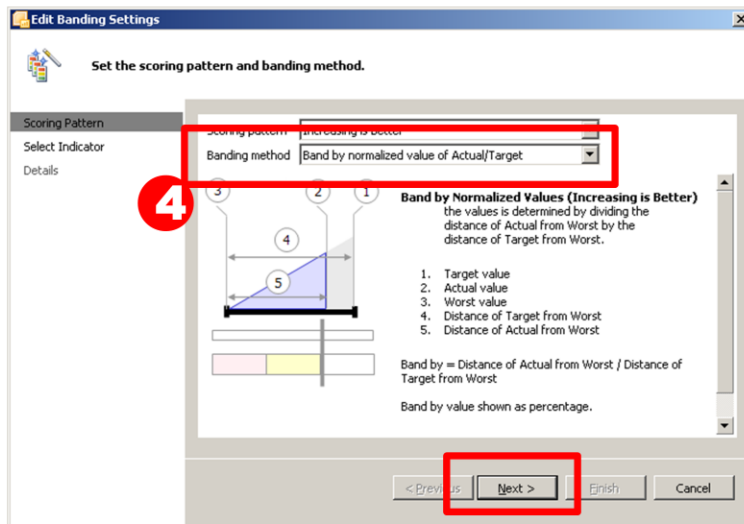


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Step 3

- In the Edit Band Settings dialog box, in the Scoring pattern window, click inside the scoring pattern field and then click which of the 3 patterns that you want.

KPI Thresholds

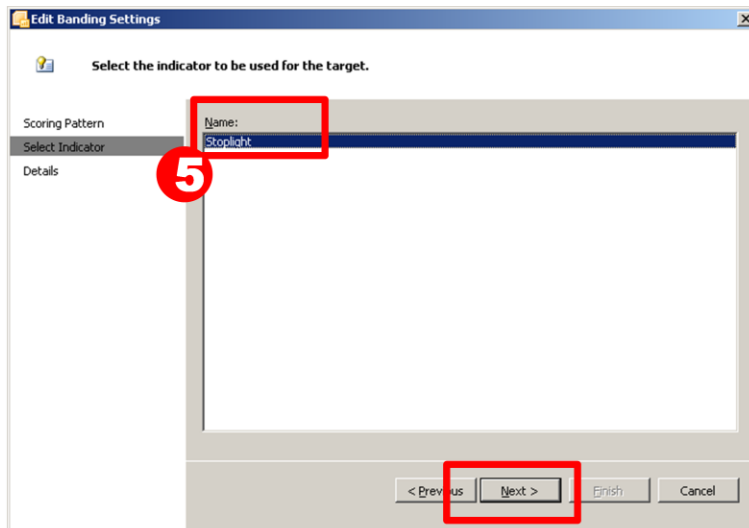


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Step 4

- Click inside the Banding method field, click which of the 3 methods that you want, and then click Next.

KPI Thresholds

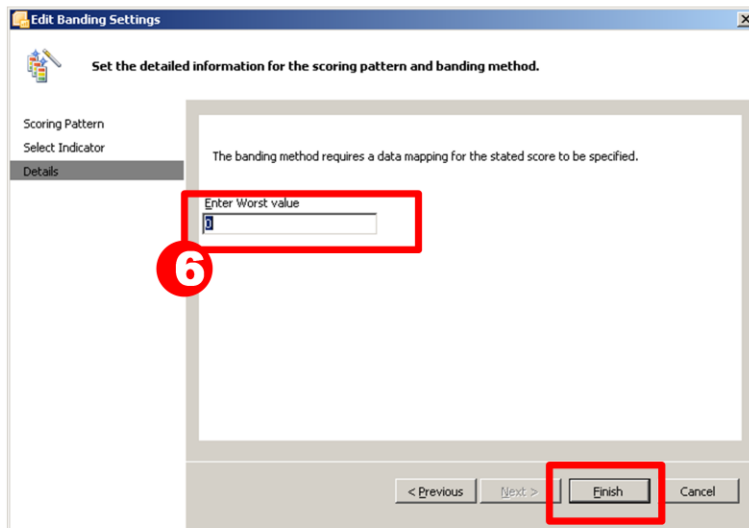


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Step 5

- Select the indicator, and then click Next.

KPI Thresholds



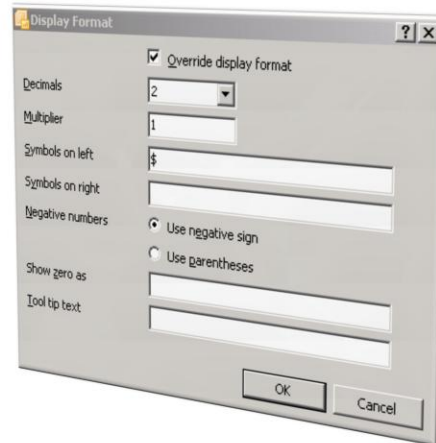
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Step 6

- Enter the worst-case threshold value (if not zero), and then click Finish.

Print Mask and Display Format

- Data will originate and maintain source formatting by default
- To control the display format choose “Override display format” and set required values



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Modifying the Print Mask and Display Format for KPIs

- By default, Dashboard Designer sets the default format to the standard of two decimal places and a multiplier of one. The display format can be customized to meet your needs including tool tip text, the print mask, where the symbols display and other formatting preferences.

To Modify the Print Mask and Display Format for KPIs

1. From the left Workspace Browser pane, double-click on the KPI you wish to edit.
2. Click once on the link in the Display Format column you wish to edit.
3. Select the Override Display Format checkbox.
4. Change the formatting and print masks as desired.
5. Click OK.

KPI Types

- Leaf-level Standard KPIs.
- Non-leaf-level Standard KPIs
- Non-leaf-level Objective KPIs

| | Actual | Target | |
|--------------------------|------------------|------------------|--------------------------------|
| [-] Overall Performance | | | ● Objective KPI |
| [-] Financial | | | ● |
| [-] Positive Influencers | \$467,776,692.20 | \$460,000,000.00 | ● Standard KPI, non leaf level |
| Sales Amt | \$407,719,474.20 | \$400,000,000.00 | ● |
| Ongoing Revenue | \$60,057,218.00 | \$60,000,000.00 | ● |
| [-] Negative Influencers | | | ● |
| Cost | \$347,640,941.12 | 41,642 | ● Standard KPI, leaf level |
| Days Late | 41,642 | 60000 | ▲ |
| [-] Cust Sat | | | ● |
| On Time | 4,930 | 6000 | ● |
| Lead Time | 92,113 | 100000 | ▲ |

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Leaf-level Standard KPIs.

- These KPIs do not have child KPIs underneath them in the scorecard hierarchy. For these KPIs, select the Use calculated values of actual and target to compute score in the Calculation dialog box. Leaf-level KPIs, are shown as a value in the scorecard. This value can be explicit or it may originate in a cube (where it may be the result of a calculation). It is never the result of a scorecard calculation.

Non-leaf-level Standard KPIs

- These KPIs have one or more KPIs underneath them in the scorecard hierarchy. In other words, these are KPIs that have children. For these KPIs, select the Use calculated values of actual and target to compute score in the Calculation dialog box. This is the only type of KPI that you should use in a scorecard calculation.

Non-leaf-level Objective KPIs

- This type of KPI is always shown as an indicator. It is never shown as a value. Objective KPIs are non leaf level KPIs or KPIs that have one or more KPIs underneath them in the scorecard hierarchy. In other words, they are like non-leaf-level standard KPIs, KPIs that have children. To define a KPI as an Objective, clear the Use calculated values of actual and target to compute score” in the Calculation dialog box. An objective KPI is an averaged rollup of all children of that KPI. It is shown as an indicator, not as a value. If you want to show a value, create a calculation by using a non-leaf-level standard KPI

Note:

- You can turn a standard KPI of either type into an objective KPI by selecting the **Use calculated values of actual and target to compute score** check box in the **Calculation** dialog box.

KPI Calculations

| Calculation Type | Description |
|---------------------|---|
| Default | Use the normalized weighted average score of all child KPIs as the input value for this KPI |
| No Value | Do not use data input from another source for this KPI |
| Source data | Use data from an external source as an input value for this KPI |
| Average of children | Take the corresponding target score for each of the child KPIs immediately below this KPI and use the average as the input value for this KPI |
| Sum of Children | Take the corresponding target score for each of the child KPIs immediately below this KPI and use the sum as the input value for this KPI |
| Max of Children | Use the highest KPI target score from the set of all child KPIs immediately below this KPI as the input value for this KPI |
| Min of children | Use the lowest KPI target score from the set of all child KPIs immediately below this KPI as the input value for this KPI |

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To Edit a KPI Calculation

1. From the left Workspace Browser pane, double-click on the KPI you wish to edit.
2. Click once on the link in the Calculations column you wish to edit.
3. Optionally, clear the checkbox of Use calculated values of Actual and Target to compete the score.
4. In the Calculation dialog box that displays, select the type of calculation (if any) you wish to have performed. Click OK.

KPI Calculation Score

| Calculation Setting | | Standard KPI (leaf level) result | Standard KPI (non leaf level) result | Objective KPI result |
|---------------------|-------|---|--|---|
| Default | Score | Calculated value of Actual to Target | Calculated value of Actual to Target | Weighted average of child KPI |
| | Value | Value selected in Data Source Mappings | Value selected in Data Source Mappings | None. Value part of the cell will be empty |
| No Value | Score | Not recommended. Will be set to 0% | Not recommended. Will be set to 0% | Weighted average of child KPIs |
| | Value | None. Value part of the cell will be empty | None. Value part of the cell will be empty | None. Value part of the cell will be empty |
| Source Data | Score | Calculated value of Actual to Target. | Calculated value of Actual to Target. | Weighted average of child KPIs. |
| | Value | Value selected in Data Mappings | Value selected in Data Mappings | None. Value part of the cell will be empty |
| Average of Children | Score | Not recommended. Will be set to 0% | Calculated value of Actual to Target | Weighted average of child KPIs |
| | Value | None. Value part of the cell will be empty | Average of child KPI values | None. Value part of the cell will be empty |
| Sum of Children | Score | Not recommended. Will be set to 0% | Calculated value of Actual to Target | Weighted average of child KPIs |
| | Value | None. Value part of the cell will be empty. | Sum of child KPI values. | None. Value part of the cell will be empty. |
| Max of Children | Score | Not recommended. Will be set to 0% | Calculated value of Actual to Target | Weighted average of child KPIs |
| | Value | None. Value part of the cell will be empty | Highest value of child KPI values | None. Value part of the cell will be empty |
| Min of Children | Score | Not recommended. Will be set to 0% | Calculated value of Actual to Target | Weighted average of child KPIs |
| | Value | None. Value part of the cell will be empty | Lowest value of child KPI values | None. Value part of the cell will be empty |

Scoring Patterns and Indicators

- **The banding method is determined by the combination of the scoring pattern and the selection of banding method.**
- **Banding Methods**
 - Band by normalized value of Actual/Target
 - Band by Numeric Value of Actual
 - Band by Stated Score

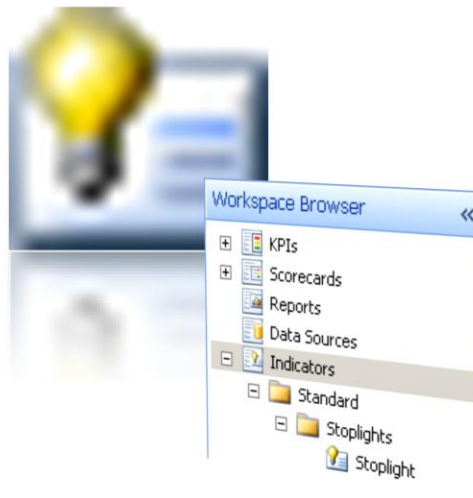
Setting scoring patterns and indicators

1. From the Workspace browser, double-click the KPI you wish to edit. Note: This step also occurs within the Create a New KPI Wizard.
2. In the center Workspace pane, highlight a Target KPI.
3. Click Set Scoring Pattern and Indicator in the Thresholds box.
4. Select a scoring pattern.
5. Select a banding method.
6. Click Next.
7. Select an Indicator. Click Next.
8. Enter a worst value. Click Finish.

Indicators

Indicator Overview

- Graphical, textual, and color representations of the status of key performance indicators (KPIs) and scorecards
- Indicators translate numerical values into colors, icons, and text to emphasize and clarify the status of an indicator
- Two Types
 - Standard: Linear moment either higher or lower
 - Increasing
 - Decreasing
 - Centered: Closer to target is better

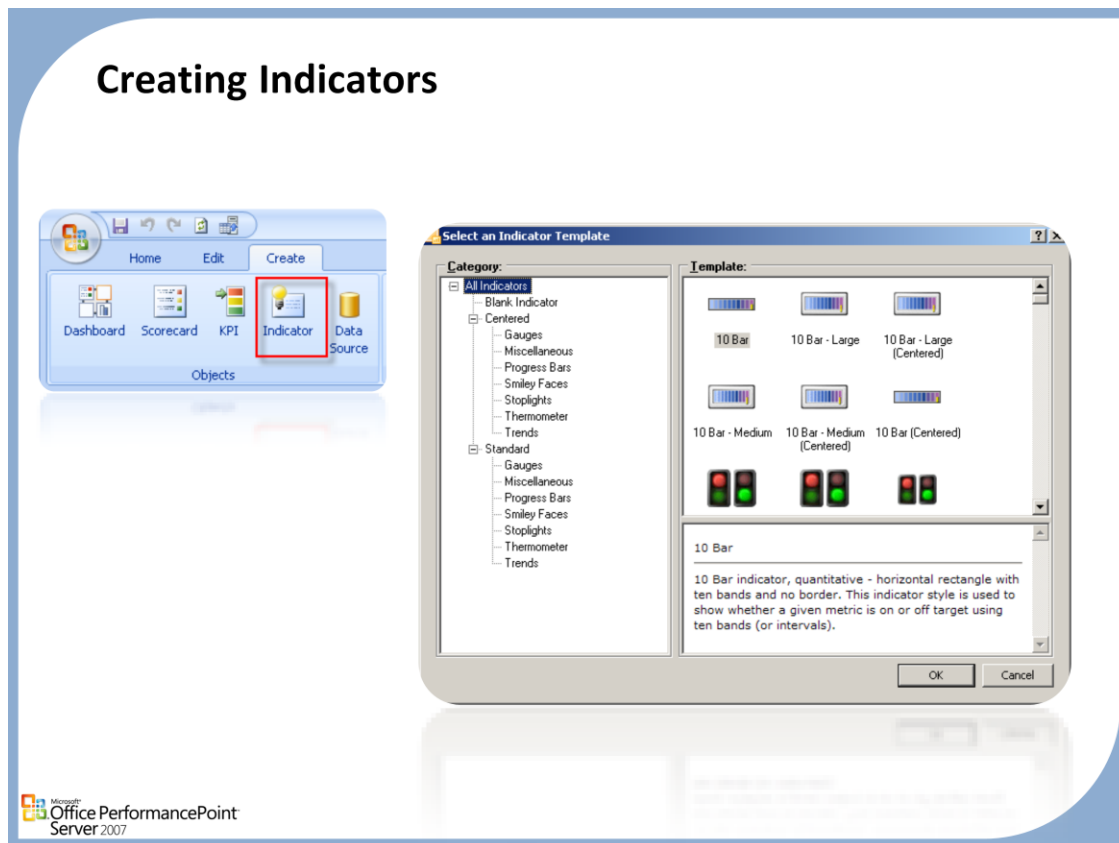


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Indicator Overview

- There are two general categories of Indicators: **Standard** and **Centered**. Standard indicators use a pattern that is linearly increasing. For example, as revenue increases, you get closer to your target revenue. The status of the KPI changes from as values increase.
- Centered indicators use a different pattern, where the target is a specific value. For example: A plant has an optimal capacity for manufacturing widgets. If they produce less they are under utilizing their resources, but it is over that number it creates downstream problems for their vendors in cargo. The closer they are to the target, the better the score. Further away from the target value, either above or below, decreases the score. With a centered indicator, you can define status bands both above and below the value of your target.

Creating Indicators



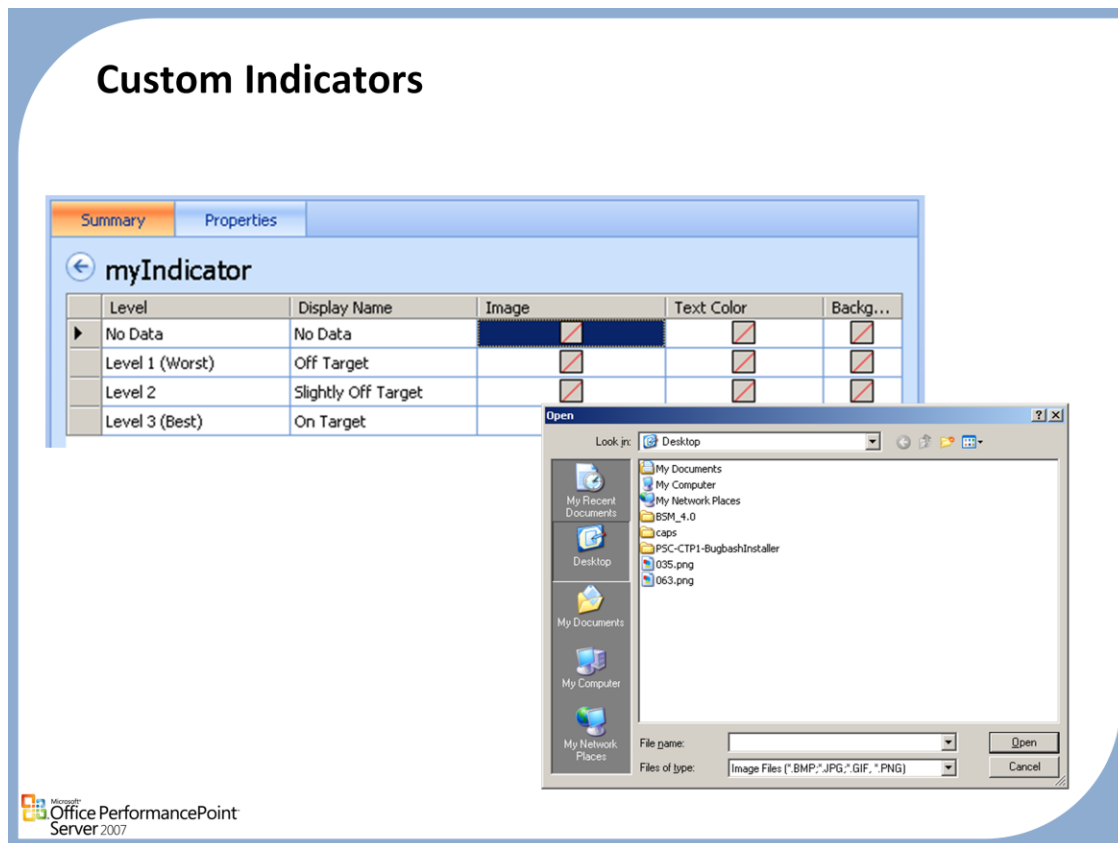
Creating Indicators

- You have the choice of creating either a standard or centered indicator type. Standard indicators use a pattern that increases linearly. For example, as revenue increases and you get closer to the target revenue, the status of the key performance indicator (KPI) changes from red to green as the values increase.
- Centered indicators use a different pattern as the target is a specific value. The closer you get to this target, the better the score. With a centered indicator you can define status bands both above and below the value of your target.

Steps to create an indicator

1. In the **Create** tab of the Ribbon, click **Indicators**.
2. In the Select an Indicator **Template Wizard**, choose an indicator by clicking the one you want to add—they are grouped as Centered or Standard, as well as by type—and then click **OK**. The indicator now appears in the Workspace Browser under Indicators.

Custom Indicators



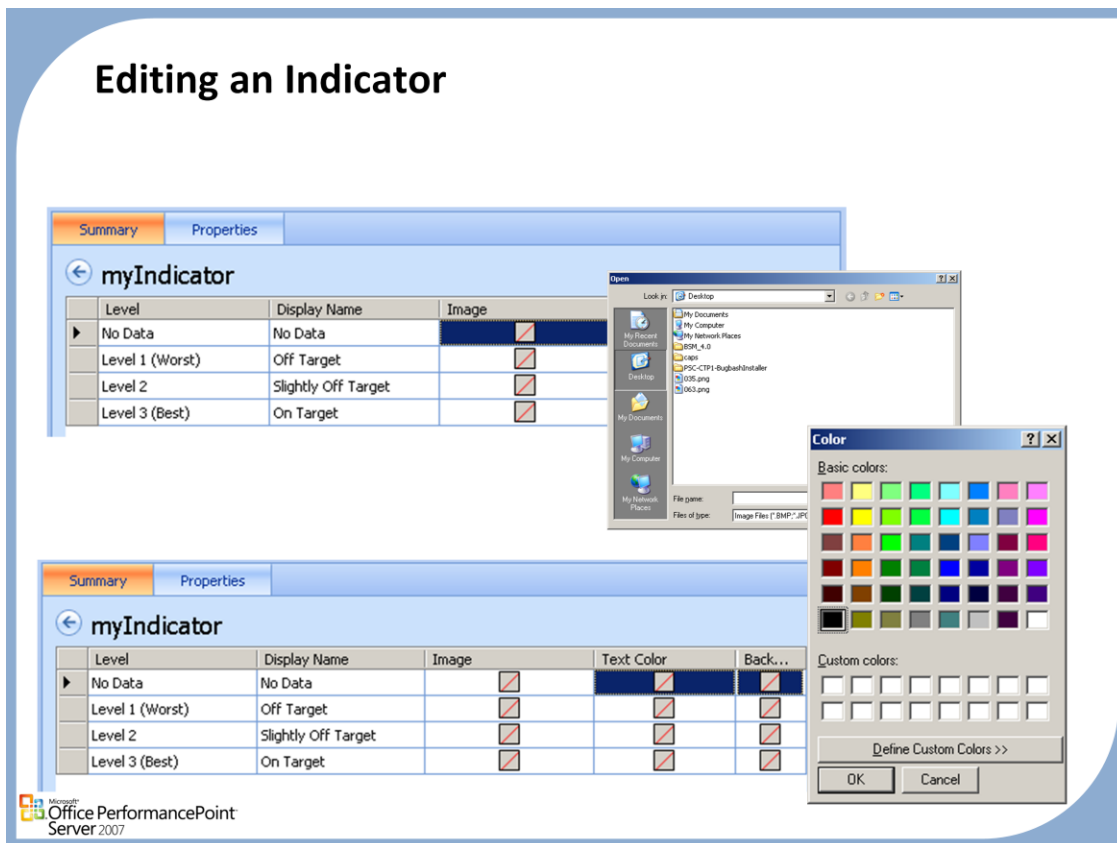
Custom Indicators

- Create a custom indicator for a scorecard by using the **Create Indicator Wizard**. When you create a custom indicator, you have the choice of defining the properties including the image, text and background color and number of levels.

Steps for Custom Indicators

1. In the **Create** tab of the Ribbon, click Indicator.
2. In the Select an Indicator **Template wizard**, click and then Blank Indicator.
3. Type a name for your new Indicator in the **Name** text box (required). If desired, you may specify a new default display **folder** location in the Default display folder location text box. These folders appear in the Workspace Browser pane and are useful for organizing. To grant read permission to all authenticated users, select the **Grant read permission to all authenticated users on the PerformancePoint Scorecard server check box**.
4. Click **Next**. Designate the type of indicator by selecting either Standard or Centered.
5. Select the number of levels, and then click **Finish**.
6. On the **Summary** pane, double-click the icon under the **Image** column and select your custom image from your desktop and then click Open. Repeat for each level.
7. Double-click the icon under the **Text Color** column and select the color of the indicator text.
8. Double-click the icon under the **Background** column and select the color of the background. Repeat for each level.

Editing an Indicator



Editing

- A large set of indicator images is provided in Dashboard Designer for each indicator band. Dashboard Designer provides the ability to customize by changing the text color or the background. You can also change the indicator image entirely.
- When you add a new indicator to a target value, you must create a .gif, .jpg, or .png image for each band. You can create images in any of the three sizes (small, medium, or large).
- It is recommended that you use the following indicator image sizes in Dashboard Designer when you create new indicators: **Small**: 80 x 22 pixels; **Medium**: 65 x 124 pixels; and **Large**: 87 x 175 pixels.

Steps to Edit

1. On the Workspace Browser pane, double-click the indicator you wish to edit.
2. In the workspace Summary tab, double-click on the image you wish to edit. Browse for your new image. (optional).
3. To edit the text color, double-click on the value under the Text Color column. Select a standard color from the dialog box or click Define Custom Colors to define a new color. Click **OK**.
4. To edit the background color, double-click on the value under the Background Color column. Select a standard color from the dialog box or click Define Custom Colors to define a new color. Click **OK**.

Reports

Analytic Chart Report

- Based on a SQL Server 2005 Analysis Services data source that has been published to the server.



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- In Dashboard Designer, you can create analytic charts based on a SQL Server 2005 Analysis Services data source that has been published to the server. First you create the basic structure for the report, and then you apply measures, dimensions, or named sets to display data. You can also adjust report properties (such as report name and location), permissions (so others can use and view a report), and custom settings.

To create the basic structure for an analytic chart report

- Click the Create tab, and then click Analytic Chart to open the Create Analytic Chart Report Wizard.
- Type a name for the report, select the folder location and user access options, and then click Next.
- Select the Analysis Services 2005 data source that you want to use, and then click Finish.
- When the report has been created, click Close. At this point, the basic structure has been created for the analytic chart. To display data, at least two items (such as measures, dimensions, or named sets) must be applied to the chart (see later in this Help topic).

To display data in the analytic chart

- Click the Design tab in the workspace and make sure that the Details pane is displayed.
- From the Details pane, drag at least one dimension, measure, or named set into the Series or Bottom Axis sections in the workspace. If you want to, you can also put one or more items in the Background section, which will serve as a hidden filter in the report. When you put at least one item in each of the series and bottom axis sections, the report automatically generates and displays the results.
- Note: All selected measures will be in the same section. For example, if you put one or more of the measures in the series section, you cannot put measures in the bottom axis, too. Dashboard Designer automatically moves all the measures to the same section.
- Click the Home tab, and then click Publish All.

To adjust member selections and change the data displayed in the chart

- Right-click a dimension and then click Select Members on the shortcut menu. This opens the Member Selector dialog box.
- Either right-click a dimension or expand the tree. Then select the members you want your report viewers to see.
- If you want to, you can select the Default Member check box. This option creates a default view for report users who may not have the permissions necessary to drill down or view data for individual members.
- When you finish selecting members, click OK to close the Member Selector dialog box.

Analytic Grid Report

- Based on a SQL Server 2005 Analysis Services data source that has been published to the server.

The screenshot shows the 'Metrics by Region' report in the Design tab. The table data is as follows:

| Store Geography | Sale Amt | Sales Qty | Avg Retail | Discount Amt | Markdown Amt |
|-----------------|-----------------|-----------|------------|------------------|----------------|
| All | \$13,533,407.69 | 899267 | \$15.75 | (\$1,643,504.64) | (\$428,688.10) |
| Central | \$10,065,276.86 | 641523 | \$15.69 | (\$1,226,293.89) | (\$321,653.04) |
| Illinois | \$4,100,828.58 | 266846 | \$15.37 | (\$504,277.73) | (\$137,919.58) |
| Minnesota | \$4,403,524.43 | 276485 | \$15.93 | (\$32,789.12) | (\$132,581.24) |
| Wisconsin | \$1,560,925.85 | 98192 | \$15.90 | (\$189,227.04) | (\$51,152.22) |
| West | \$3,468,128.83 | 217744 | \$15.93 | (\$417,210.75) | (\$107,035.06) |
| Oregon | \$873,054.90 | 56772 | \$15.38 | (\$104,116.26) | (\$28,877.01) |
| Washington | \$2,595,073.93 | 160972 | \$16.12 | (\$313,094.49) | (\$78,158.05) |

The 'Available Items' pane on the right lists various data items such as Measures, Dimensions, and Named Sets. The 'Columns' section at the bottom shows the configuration for the report, including 'Store Geography', 'Time Calendar', 'Sales Qty', and 'Avg Retail'.

- In Dashboard Designer, you can create analytic grid reports based on a SQL Server 2005 Analysis Services data source that has been published to the server. First you create the basic structure for the report, and then you apply measures, dimensions, or named sets to display data. You can also adjust report properties (such as report name and location), permissions (so others can use and view a report), and custom settings.

To create the basic structure for an analytic grid

- Click the Create tab, and then click Analytic Grid to open the Create Analytic Grid Report Wizard.
- Type a name for the report, select the folder location and user access options, and then click Next.
- Select the Analysis Services 2005 data source you want to use, and then click Finish.
- When the report has been created, click Close. At this point, the basic structure has been created for the analytic grid. To display data, at least two items (such as measures, dimensions, or named sets) must be applied to the grid (see later in this Help topic).

To display data in the analytic grid

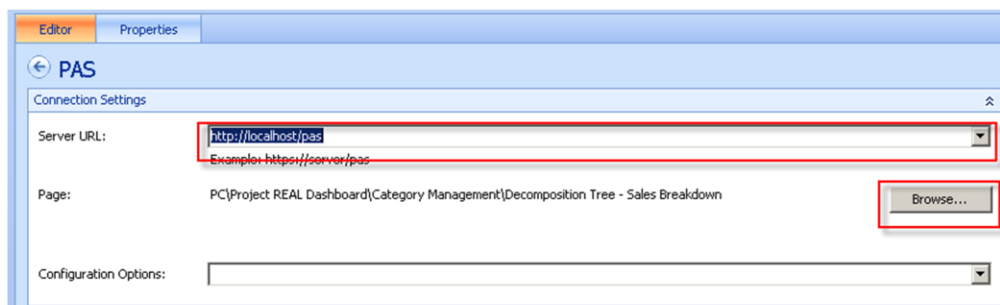
- Click the Design tab in the workspace and make sure the Details pane is displayed.
- From the Details pane, drag at least one dimension, measure, or named set into the Rows or Columns section in the workspace. If you want to, you can also put one or more items in the Background section, which serves as a hidden filter in the report. When you put at least one item in each of the rows and columns sections, the report automatically generates and displays the results.
- Note: All selected measures will be in the same section. For example, if you put one or more of the measures in rows, you cannot put measures in columns, too. Dashboard Designer automatically moves all of the measures to the same section.
- Click the Home tab, and then click Publish All.

To adjust member selections and change the data displayed in the grid

- Right-click a dimension and then click Select Members on the shortcut menu. This opens the Member Selector dialog box.
- Either right-click a dimension or expand the tree. Then select the members you want your report viewers to see.
- If you want to, you can select the Default Member check box. This option creates a default view for report users who may not have the permissions necessary to drill down or view data for individual members.
- When you finish selecting members, click OK to close the Member Selector dialog box.

ProClarity Analytic Server Report

- Links in ProClarity reports to gain additional analytic functionality such as decomposition trees and heat maps



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ProClarity Analytics Server Reports

- In Dashboard Designer, you can easily create ProClarity Analytics Server Page reports that bring ProClarity 6.3 views into your dashboard. These views include the Decomposition Tree, Perspective View, Performance Map, Pareto Chart, and analytic charts and grids that have been published to ProClarity Analytics Server.

To create the basic structure for a ProClarity Analytics Server Page report

1. Click the **Create** tab, select **Other Reports**, and then click **ProClarity Analytics Server Page** to open the wizard.
2. Type a name for the report, select the folder location and user access options, and then click **Next**.
3. When the report has been created and the confirmation screen appears, click **Close**. At this point, you have created the basic structure for the ProClarity Analytics Server Page report. To display data in the report, you must connect to ProClarity Analytics Server and select the page you want to use.
4. On the **Home** tab, click **Publish All**.

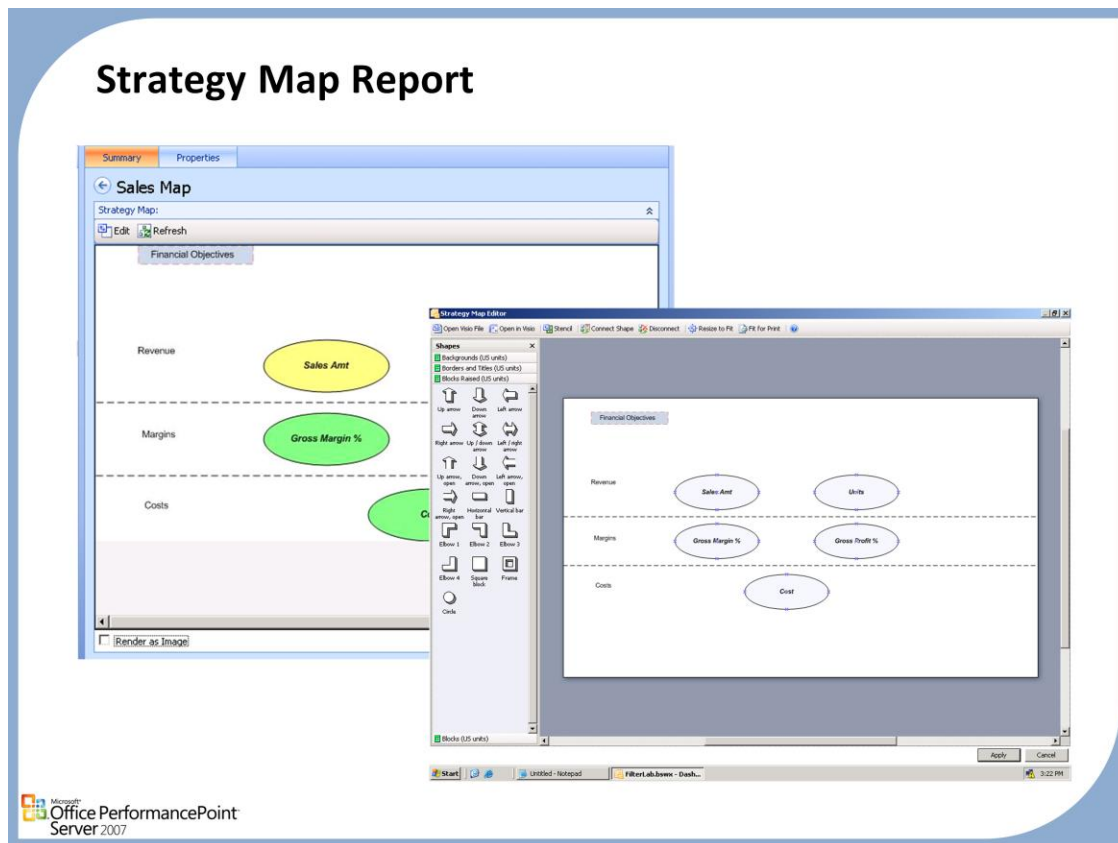
To connect to ProClarity Analytics Server and select a page to display

1. On the **Editor** tab of the workspace, type the URL to the computer that is running ProClarity Analytics Server that contains the reports you want to use. This makes the **Browse** button available. (The **Browse** button remains unavailable if anything other than a valid URL to the server is entered.)
2. Click the **Browse** button to open the **ProClarity Analytics Server Browser** dialog box.
3. Use one of the following methods to log on to ProClarity Analytics Server:
 1. Select the **Use Windows Credentials** check box.
 2. Type a **User Name**, **Password**, and **Domain**.
4. In the pane immediately under the logon credentials, expand the libraries and books, and select the ProClarity Analytics Server page that you want to use.
5. Click **OK**. This associates the ProClarity Analytics Server page with the ProClarity Analytics Server Page report and closes the wizard. On the **Editor** tab in the center pane, you see the selected page where you typed the server URL.
6. On the **Home** tab, click **Publish All**.

To set configuration options for the ProClarity Analytics Server Page report

1. On the **Editor** tab of the center pane, either type the ProClarity Analytics Server uiConfig setting that you want to use, or click the down arrow to select one of the most frequently used options. For more information on *uiConfig* settings, refer to the ProClarity Analytics Server documentation.
2. On the **Home** tab, click **Publish All**.

Strategy Map Report



Strategy Maps

- Dashboard Designer enables you to use existing Microsoft Office Visio diagrams to graphically represent a measured strategy as a flowchart or diagram. As a counterpart to a scorecard, the strategy map makes it easy to see and understand interrelationships and dependencies among key performance indicators (KPIs), goals, and objectives.
- A strategy map is a flowchart or diagram depicting a visual representation of a process. It is created in Dashboard Designer through a window that opens a workspace in Office Visio 2007. After the strategy map is created, you can save it to the Dashboard Designer database like any other report and then attach it to a dashboard and export it to a Windows SharePoint Web page.
- Office Visio 2007 Viewer enhances what the user can do with a strategy map report by extending the user's ability to view Visio drawings and diagrams inside the Web browser. If Office Visio 2007 Viewer is installed on the client computer, Windows Internet Explorer opens the strategy map in the browser window. Users can use toolbar buttons, keyboard shortcuts, and right-click menu options. Additionally, drawing-layer visibility and colors can be set on the Layer Settings tab, and annotation visibility and colors can be set on the Markup Settings tab.

To create the structure for a strategy map report

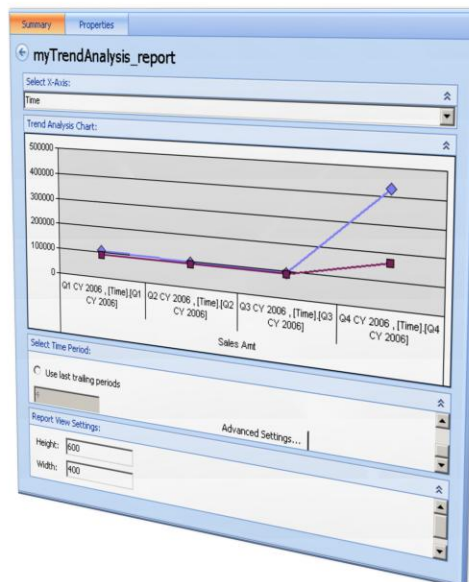
1. Click the Create tab, and then click Strategy Map.
2. In the Select a Report Template dialog box, click Strategy Map, and then click OK.
3. Note: You can also create a strategy map report by clicking Other Reports and then selecting Strategy Map.
4. Type the strategy map name in the Name text box, and specify the folder display location and user access options. You can create or select a new folder location by clicking Select Display Folder. The folder you specify appears in the Workspace Browser pane, which is useful for organizing multiple reports.
5. Select a scorecard to use for the strategy map, and then click Finish. This sets up the basic structure for your strategy map and displays a confirmation screen.
6. On the confirmation screen, click Close. Your strategy map is now available for editing in the workspace.

To add content to the strategy map

1. Click the Edit tab, and then click Edit Strategy Map. This opens the Strategy Map Editor dialog box.
2. In the Strategy Map Editor dialog box, click Open Visio File. Browse and select your existing Visio diagram.
3. Click a shape that you want to connect to a KPI, and then click Connect Shape. This opens the Select a KPI dialog box.
4. In the Select a KPI dialog box, select a KPI and a column, and then choose whether to add the KPI name to the shape in the diagram. Click OK.
5. Repeat steps 1 through 4 for each additional shape you want to tie to a KPI value.
6. To remove a connection to a shape, select the shape and then click Disconnect.
7. You can use the Resize to Fit and Fit for Print buttons to adjust the page size.
8. When you finish editing the strategy map, click Apply. This closes the Strategy Map Editor dialog box and returns you to the workspace for the strategy map.
9. In the workspace, click the Editor tab. The diagram you just created or edited by using the Strategy Map Editor dialog box should appear in the Strategy Map pane.
10. Repeat steps 1 through 9 until your strategy map is correctly set up.
11. Click the Home tab, and then click Publish All.

Trend Analysis Chart Report

- An Excel-style predictive analysis chart that shows the projected trend based upon current and past, or other non-temporal values
- Shows the historical performance of data in a scorecard
- Optionally use SQL server data mining algorithms to generate projections that are based on future values of data.
- Scorecards used in Trend Analysis reports must have time periods added as columns.
 - Not required to be present in the scorecard when it is created. Users can specify periods and dimensionality of historical data within the trend analysis report UI.
- **Server settings:**
 - PPS: Analysis Services server host name
 - Analysis Services: Enable AllowSessionMiningModels
- **Detailed setup instructions:**
 - <http://blogs.msdn.com/performancepoint/archive/2007/07/12/creating-trend-charts-in-m-a.aspx>



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To create a trend analysis chart

1. Click the Create tab in the Ribbon, and then click Other Reports.
2. In the Select a Report Template Wizard, click Trend Analysis Chart, and then click OK.
3. Type the PivotTable name in the Name text box (required). If desired, you may specify a new default display folder location in the Default display folder location text box. These folders appear in the Workspace Browser pane and are useful for organizing multiple reports. To grant read permission to all authenticated users, select the Grant read permission to all authenticated users on the PerformancePoint Scorecard server check box.
4. Click Next.
5. Select a scorecard to use in your report. Click Next.
6. Select the KPIs and values to be included in your report.
7. Click Finish. Once the Confirmation screen appears, click Close. The name of this report now appears in the Workspace Browser under Reports.
8. On the Summary tab, click on the Select X-Axis box to change the X-Axis (optional).

To Select Time Period Settings:

1. On the Summary tab, scroll the bottom pane to view the possible options.
2. Define the History Period by selecting either Use Selection or Use last trailing periods.

To Set Data Mining Algorithm Parameters

1. On the Summary tab, scroll the bottom pane and click Advanced Settings.
2. In the Set Data Mining Algorithm Parameter box, adjust the values as needed for the following SQL parameters:

Reporting Services Reports

- **Within Dashboard Designer, you can include a reference to an existing SQL Server 2005 Reporting Services on your deployed Dashboard. You can optionally include the SQL Server toolbar, parameters, and a documentation map (docmap).**



To set up the basic structure for your SQL Server Reporting Services reference report

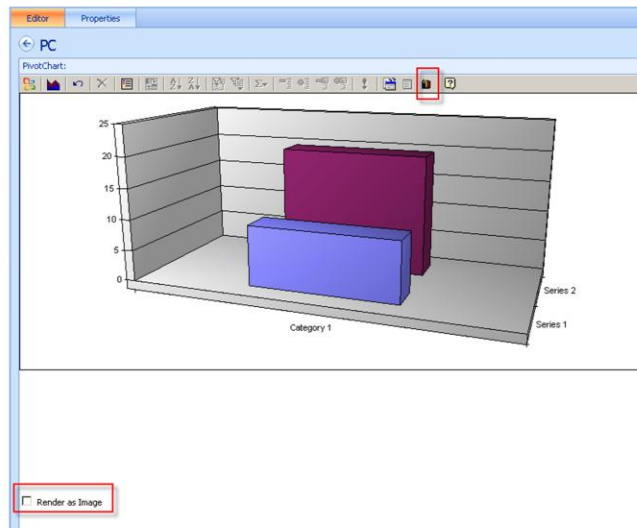
1. Click the Create tab, and then click Other Reports.
2. In the Select a Report Template dialog box, click SQL Server Report, and then click OK.
3. Type the report name in the Name text box and specify the folder display location and user access options. You can create or select a new folder location by clicking Select Display Folder. The folder you specify will appear in the Workspace Browser pane, which is useful for organizing multiple reports.
4. Click Finish. This will set up the basic structure for your report reference and display a confirmation screen. On the confirmation screen, click Close. Your report is now available for editing in the workspace.

To configure the Reporting Services reference report

1. Click the Editor tab, and type the server location where your SQL Server data resides in the format `http://<server name>:<Reporting Services port if not default>/reportserver`.
2. Click Browse to select the Reporting Services report name. (This report must already be in the SQL Server.)
3. Select the Show toolbar check box if you want to make the SQL Server toolbar display on the report Web part.
4. Select the Show parameters check box if you want to make the SQL Server report parameters included on the report to filter a large set of records.
5. Select the Show docmap check box if you want your report view to include a document map. (A separate side pane appears next to the report when this check box is selected.)
6. In the Zoom box, select the viewing size of the report.
7. In the Format box, select the format of the report.
8. In the Section box, type the section heading you want to use in the report.
9. In the DocMap ID box, type the docmap number.
10. In the Report Parameters section, click Edit to make adjustments.
11. A preview of the SQL Server Reporting Services report will display in the lower pane of the Summary tab. You can make adjustments by repeating the steps above until the report is set up the way you want it to display in the Dashboard.

PivotChart Report

- Backwards Compatible with Business Scorecard Manager
- Must create a SEPARATE data source connection or manually enter the data



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Pivot Charts

- In Dashboard Designer, you can display scorecard data in a PivotChart report format. A PivotChart report provides a graphical representation of the data that you would see in a regular PivotTable report. PivotChart reports enable you to change the layout and data displayed, just as you can using a PivotTable report.

To create the basic structure for a PivotChart report

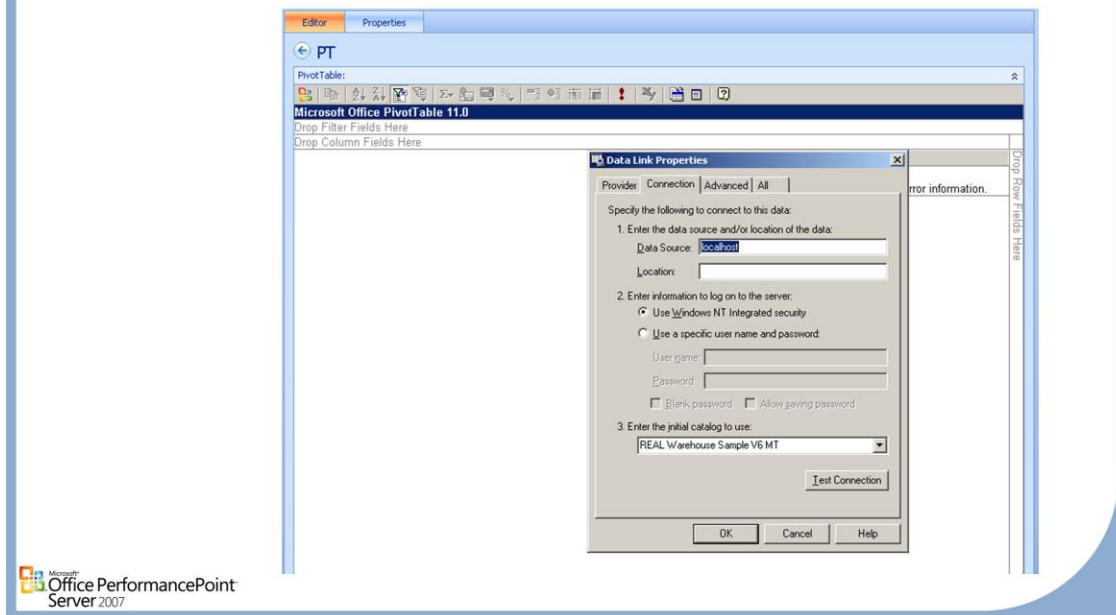
1. Click the Create tab, and then click PivotChart.
2. Type the report name in the Name text box, and specify the folder display location and user access options. You can create or select a new folder location by clicking Select Display Folder. The folder that you specify appears in the Workspace Browser pane, which is useful for organizing multiple reports.
3. Click Finish. This sets up the basic structure for your report and displays a confirmation screen. On the confirmation screen, click Close. Your report is now available for editing in the workspace.

To add data to the PivotChart report

1. On the Editor tab in the workspace (center pane), click the Chart Wizard toolbar button. This opens the Commands and Options dialog box.
2. On the Data Source tab (in the Commands and Options dialog box), specify where the PivotChart data will come from. This adds the Data Details and Type tabs to the Commands and Options dialog box.
3. On the Data Details tab (in the Commands and Options dialog box), create the data connection or specify where the data will come from.
 - a) You can click the **Edit** button to open the **Data Link Properties** dialog box, which enables you to specify provider, connection, and advanced settings for the data source. When you click **OK** in this dialog box, you may be prompted to log on to the server hosting the data.
 - b) If you see the **Data Source Logon** dialog box, type the user name and password to the server where the data resides, and then click **OK** to complete the connection.
4. On the Type tab (in the Commands and Options dialog box), select the chart type you want to use for the PivotChart report.
5. Use the Microsoft Office Excel toolbar options that are available in the workspace (center pane) to further define the PivotChart report.
6. When you are finished adding data to the report, click the Home tab, and then click Publish All.

PivotTable Report

- **Must have Office Web Components installed and create a new data source**



Pivot Tables

- Dashboard Designer helps you create a report that references existing PivotTable data in Microsoft Office Excel 2007. PivotTable reports make it easy to work with large volumes of data. PivotTable reports also allow you to change the layout and data displayed.
- In Dashboard Designer, the PivotTable report uses the standard controls in Microsoft Office Web Components. You need to have Office Web Components installed on the same computer as Dashboard Designer.

To create the structure for your PivotTable report

1. Click the Create tab, and then click Other Reports.
2. In the Select a Report Template dialog box, click PivotTable, and then click OK.
3. Type the report name in the Name text box, and specify the folder display location and user access options. You can create or select a new folder location by clicking Select Display Folder. The folder that you specify appears in the Workspace Browser pane, which is useful for organizing multiple reports.
4. Click Finish. This sets up the basic structure for your report and displays a confirmation screen. On the confirmation screen, click Close. Your report is now available for editing in the workspace.

To add data to the PivotTable report

1. On the Editor tab in the workspace (center pane), click the Commands and Options toolbar button. This opens the Commands and Options dialog box.
2. On the Data Source tab, create the data connection or specify where the data will come from.
 - a) You can click the **Edit** button to open the **Data Link Properties** dialog box, which enables you to specify provider, connection, and advanced settings for the data source. When you click **OK** in this dialog box, you may be prompted to log on to the server hosting the data.
 - b) If you see the **Data Source Logon** dialog box, type the user name and password to the server where the data resides, and then click **OK** to complete the connection.
3. On the Behavior tab, select the Hide/Show options and General options. Then click the Protection tab.
4. On the Protection tab, select the options you want to apply to your PivotTable report.
5. Use the Microsoft Office Excel toolbar options that are available in the workspace (center pane) to further define the PivotTable report.
6. When you are finished adding data to the report, click the Home tab, and then click Publish All.

Spreadsheet Report

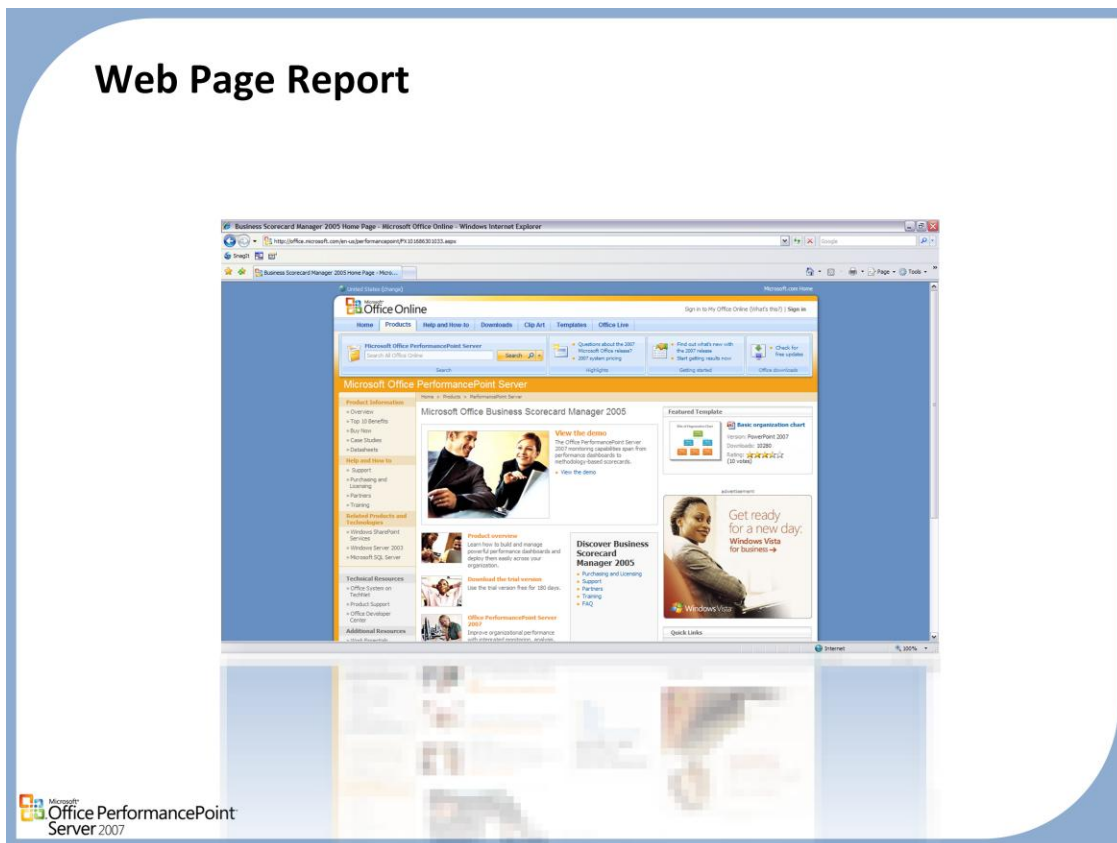
- **Within Dashboard Designer, you can create a spreadsheet report whose data will be stored in PerformancePoint Server. Dashboard Designer lets you enter the data into an Excel spreadsheet and then include it in your Dashboard.**



To Create a Spreadsheet Report

- Click the Create tab, and then click Other Reports.
- In the Select a Report Template Wizard, click Spreadsheet, and then click OK.
- (Required) Type the report name in the Name box.

Web Page Report



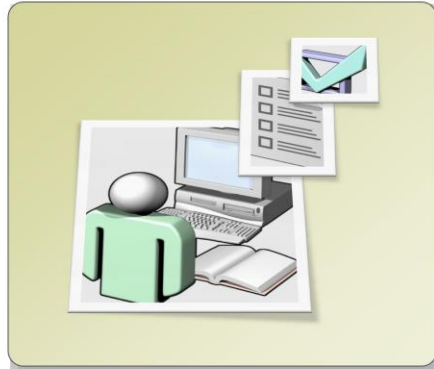
Web Page Reports

- In Dashboard Designer, you can create a reference to an existing Web page and then include it in a dashboard that is deployed to Windows SharePoint Services. This is useful for providing online information alongside other elements in a dashboard.

To create a Web page report

1. Click the Create tab, and then click Web Page.
2. Note: You can also create a Web page report by clicking Other Reports and selecting Web Page.
3. Type a name for the Web page report in the Name text box.
 - a) If you want to, you can name a new default display folder location. These folders appear in the **Workspace Browser** pane and are useful for organizing multiple reports.
 - b) To grant Read permission to all authenticated users, select the **Grant Read permission to all authenticated users** check box.
4. Click Finish. After the confirmation screen appears, click Close.
5. On the Editor tab, type the complete URL of the Web page that you want to reference, starting with http://, in the URL text box.
6. In the Web Page section, you should see the Web page associated with the URL you entered in step 4.
7. Click the Home tab, and then click Publish All.

Questions





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Monitoring and Analytics

Chapter 4 – Dashboards

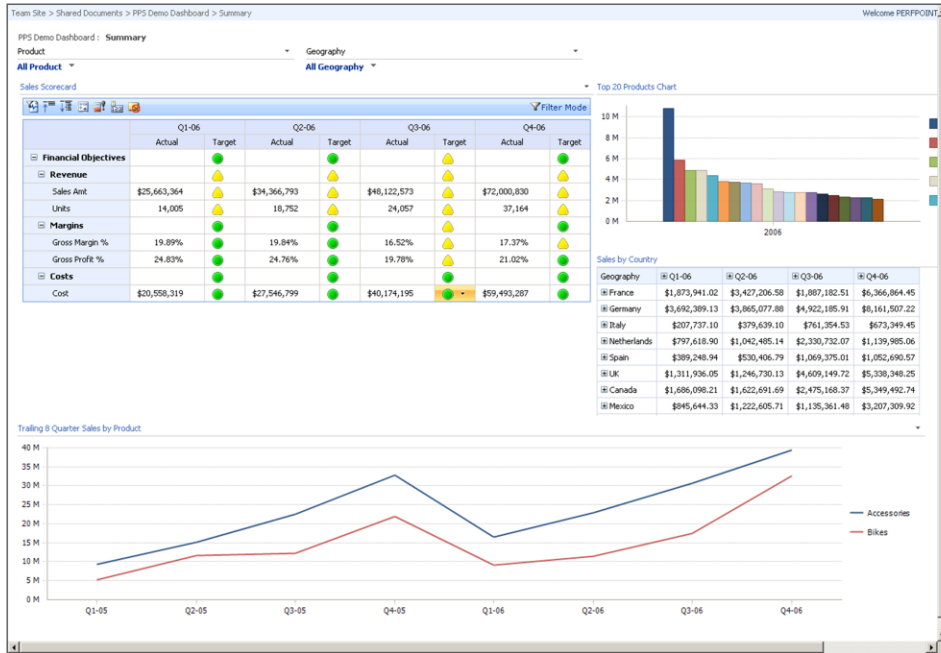
Module 4: Monitoring and Analytics Dashboards

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Agenda

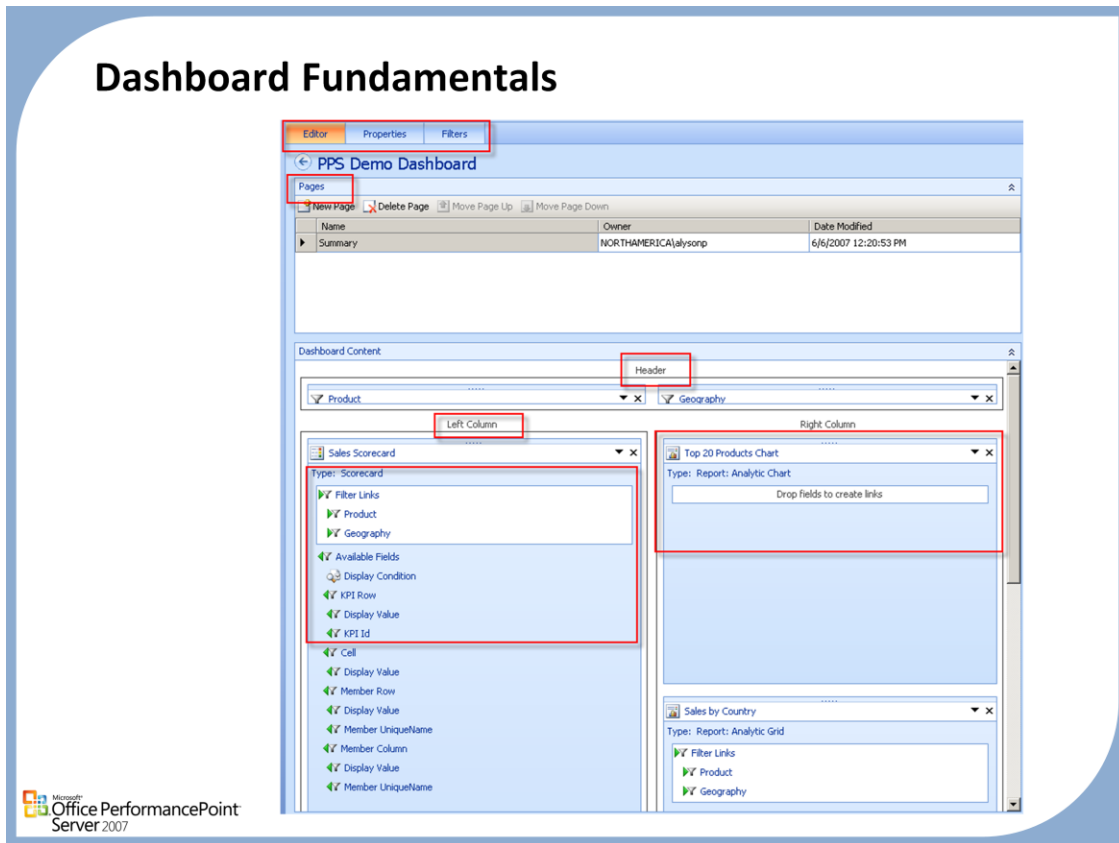
- **Dashboard Fundamentals**
- **Adding Scorecards and Reports**
- **Linking Elements**
- **Creating Filters / Parameters**

Decomposing the Dashboard



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Dashboard Fundamentals



Dashboard Fundamentals

- The purpose of the dashboard feature is to build a dashboard page (or multiple pages inside a dashboard) that contains one or more scorecards and reports. Each report can be linked with a report parameter. Users can add, remove, or drag-and-drop a dashboard item on the design canvas, link a dashboard item with a parameter, and use plug-in dashboard applications in the workspace.
- A dashboard is defined as "a related group of interactive scorecard and report views that are organized together in a single SharePoint site. Dashboard elements may share common filters that control the data displayed within the elements."
- A dashboard can contain one or more dashboard pages, and a dashboard page can contain one or more dashboard zones. A dashboard zone can contain one more dashboard items. A user always publishes the complete dashboard.

Dashboards Contain

- Dashboard page
- Dashboard zone
- Dashboard item
- Scorecard
- Report Views (Report Links)
- Parameters

Dashboard Page

| Name | Owner | Date Modified |
|---------|-------------------------------|----------------------|
| Summary | NORTHAMERICA\alysomp | 6/6/2007 12:20:53 PM |
| Detail | PERFPOINTSERVER\Administrator | 6/30/2007 4:52:51 PM |

- **A dashboard can contain 1 to many pages**
- **Each page will show up as tab or breadcrumb when deployed to SharePoint**
 - Depends on the SharePoint configuration
- **Each page can contain its own formatting**

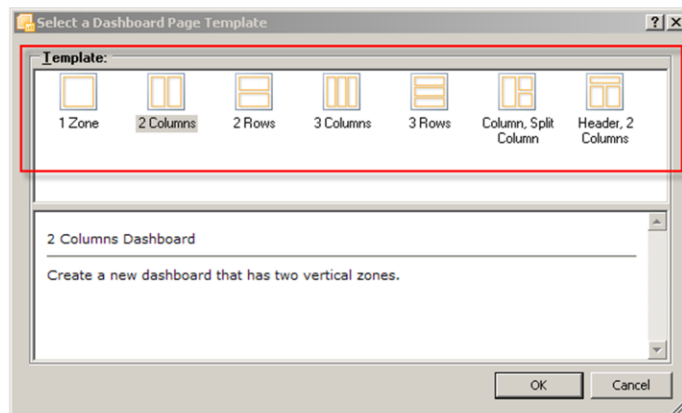
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Dashboard Page

- The dashboard page is a container for the dashboard zones. When publishing to SharePoint Services or Preview, one dashboard page equals one Web Part page
- From SharePoint each page will show up as an individual tab or individual pages depending on the SharePoint setup

Creating Dashboards

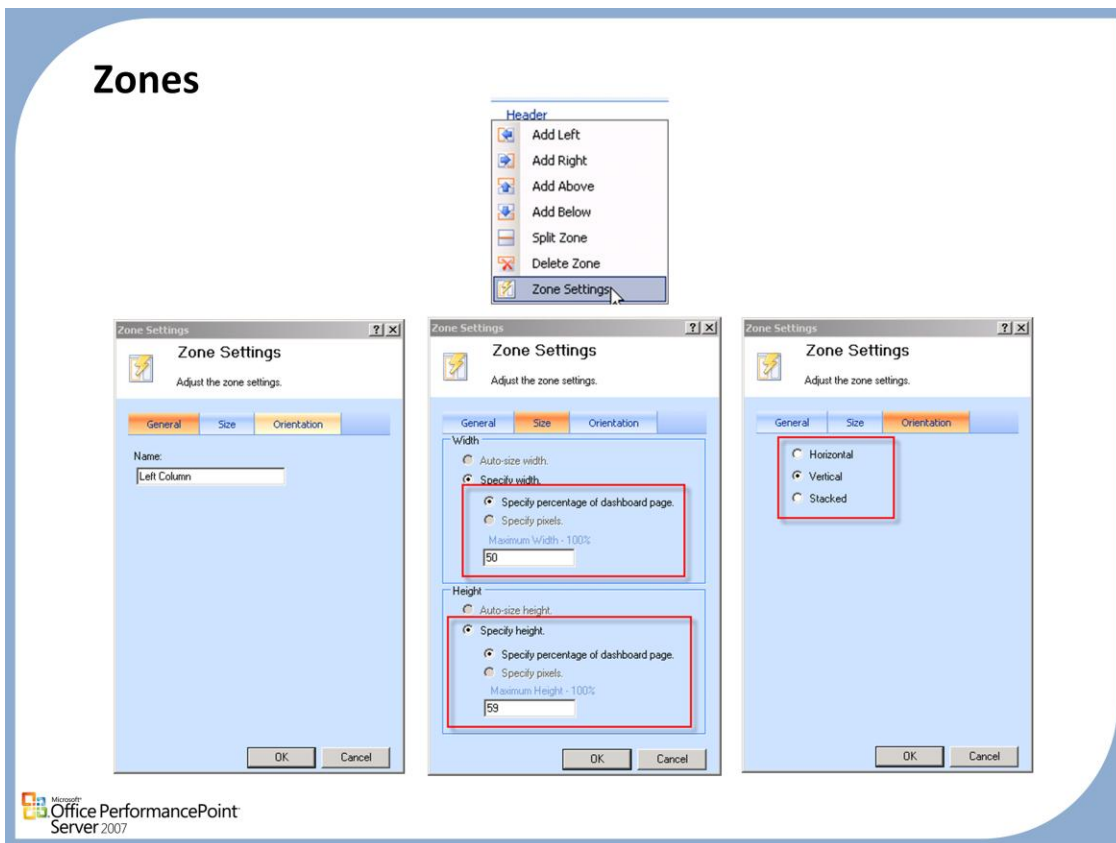
- The dashboard is the "container" that is ultimately published
- The template structure defines the container arrangement for the elements
- Can Modify and add zones later if necessary



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Steps for creation

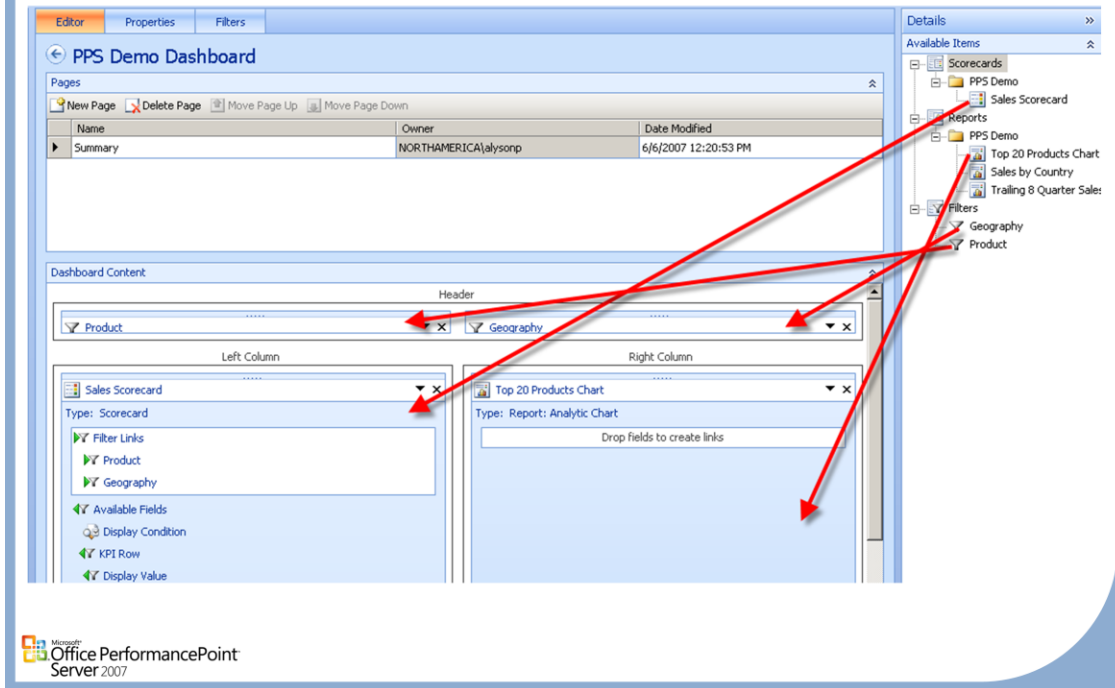
1. Click the **Create** tab in the Ribbon, and then click **Dashboard**.
2. In the **Select a Dashboard Template Wizard**, click the **desired layout** icon, and then click **OK**.
3. Type the Dashboard name in the **Name** text box (required).
4. If desired, you can designate a new folder in **Default display folder location** text box. These folders appear in the **Workspace Browser** pane and are useful for organizing multiple data sources.
5. To grant read permission to all authenticated users, select the **Grant Read permission to all authenticated users on the PerformancePoint Scorecard Server** check box.
6. When finished, click **OK**. The name of the Dashboard now appears in the **Workspace Browser** under **Dashboards**.
7. From the **Details** pane, drag and drop any additional elements onto the center **Workspace** pane.
8. On the Home tab click **Publish All**. This publishes the Dashboard to the server.



To Adjust Width and Zone Heights

1. On the Workspace Browser, double-click on the Dashboard you want to edit.
2. On the Summary tab in the center Workspace pane, click the edit arrow on the element you want to edit and then select Edit Item from the shortcut menu. The Edit Item box will display.
3. Click the Size tab.
4. Under Width, select either to auto-size the item width, specify a percentage of the dashboard, or indicate a pixel setting. The maximum width is 100%.
5. Under Height, select either to auto-size the item height, specify a percentage of the dashboard, or indicate a pixel setting. The maximum height is 45%.
6. Click OK.

Adding Elements to the Dashboard



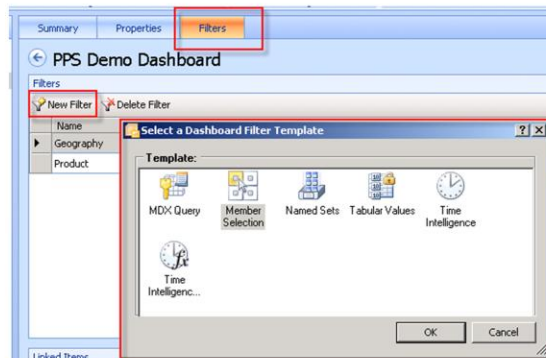
Adding Elements

- Drag and drop elements from the right hand side of the dashboard designer to the appropriate zone locations. Once the proper relationship is created, filters and links can be created.

Creating Filters

Filter Types

- Set of Members
- MDX formula
- Named Set
- Tabular values
- Time Intelligence members
- Time Intelligence Post Formula



Creating Filters

- Dashboard Designer allows you to create a filter on your Dashboard items to help the user manage large amounts of data on a deployed Dashboard. The filter list can be created by selecting any one of a number of data source options. After the list is created it does not have a live connection to the data source; it is simply a list.
- If you want to link the filter to more than one dashboard element, it is important for you to know if similar data is referenced by those other elements. For example, if you create a filter list comprised of countries, and you want to link that to more than one scorecard, make certain that country data is stored in each of the data sources associated with each scorecard.

Filter with a Set of Members

- Create a filter by browsing your cube data to select a set of members from different dimensions.

Filter with an MDX formula

- An advanced method of creating a filter. The filter list created is from the results of an MDX query.

Filter with a Named Set

- Filter with a named a set of dimension members that have been predefined by using creating a query on cube data.

Filter with Tabular values

- Create a filter list from a tabular data source with the ability to specify columns as keys and indicate display names.

Filter using Time Intelligence members

- Create a filter built on time intelligence members and your formulas.

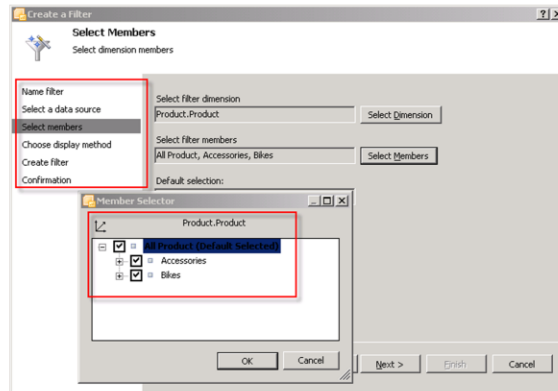
Filter using Time Intelligence Post Formula

- Create a filter that allows the user to select the current time from a Calendar.

Create Filters: Set of Members

• Graphical Member Picker which allows you to:

- Browse cube data
- Select a set of members from different dimensions
- Create a filter list to use on your dashboard
- Set default member

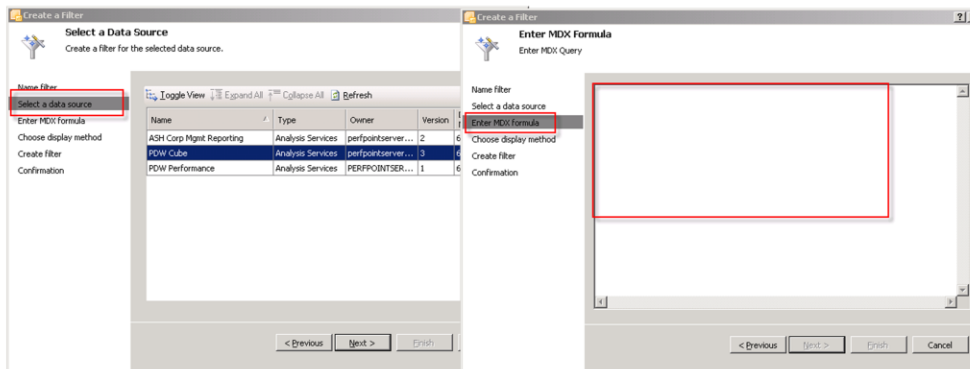


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1. After creating the Dashboard, click the **Filter** tab in the workspace pane in the center of the screen.
2. Click **New Filter**.
3. In the Select a **Dashboard Filter Template wizard**, select **Member Selection**, and then click **OK**.
4. Type a filter name in the **Name** text box.
5. Type a description of the filter in the **Description** text box (optional).
6. Click **Next**.
7. Select a data source for the filter from the list displayed. If you do not see the data source that you need, click **Refresh** to update the list from the server. Click **Next**.
8. Click **Select Dimension**. Select the filter dimension from the list displayed. Click **OK**.
9. Click **Select Members**. Select the filter Members from the list displayed. Expand folders if necessary to display all data. Click **OK**.
10. Choose how you want the filter to display on the Dashboard: A list, a tree or a multi-tree format. Click **Finish**.
11. If the filter is successfully created, a confirmation page will display. Click **Close**.
12. The newly created filter will be listed in the workspace. It will also be available in the **Details** pane when you click the **Summary** tab of the **Dashboard** workspace.

Create Filters: MDX

- An advanced method of creating a filter is by using a **Multidimensional expression (MDX) query**
- The filter list created is from the results of an MDX query
- The MDX statement must match against the chosen **Data Source**
- **Test your MDX externally before entering it as a filter**



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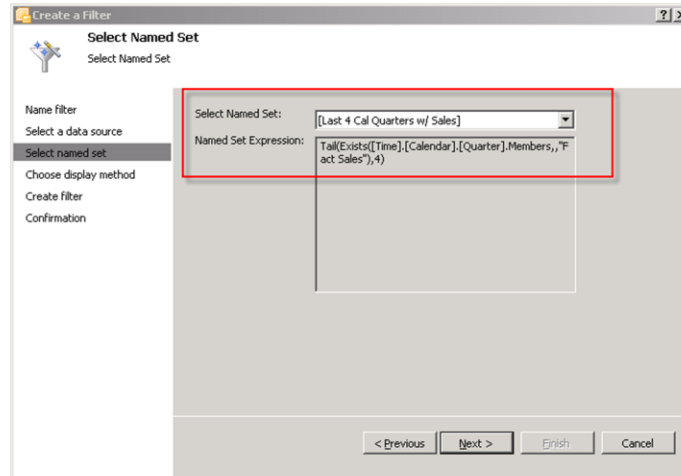
To Create a filter from an MDX Query

- After creating the Dashboard, click the Filter tab in the workspace pane in the center of the screen.
- Click New Filter.
- In the Select a Dashboard Filter Template wizard, select MDX Query, and then click OK.
- Type a filter name in the Name text box (required).
- Type a description of the filter in the Description text box (not required).
- Click Next.
- Select a data source from the list displayed. If you do not see the data source you want, click Refresh to update the list. Click Next.
- Type your MDX query in the box provided. Click Next.
- Select a display method to choose how you want the filter to display on the Dashboard. Click Finish.
- If the filter is successfully created, a confirmation page will display. Click Close.
- The newly created filter will be listed in the workspace. It will also be available in the Details pane when you click the Summary tab of the Dashboard workspace.

Create Filters: Named Sets

Named Set

- A set of dimension members that have been predefined by using creating a query on cube data



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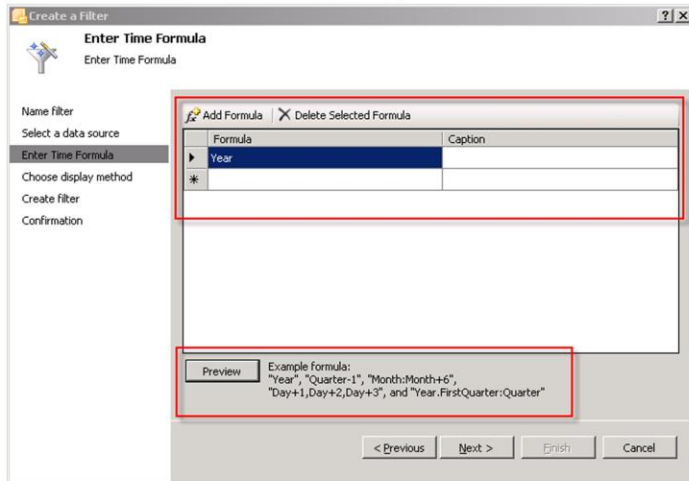
To create a filter with a Named Set

1. After creating the **Dashboard**, click the Filter tab in the workspace pane in the center of the screen.
2. Click **New Filter**.
3. In the **Select a Dashboard Filter Template wizard**, select **Named Sets**, and then click **OK**.
4. Type a filter name in the **Name** text box.
5. Type a description of the filter in the **Description** text box (optional).
6. Select a data source for the filter from the list displayed. If you do not see the data source you need, click **Refresh** to update the list from the server. Click **Next**.
7. Select the desired Named Set from the dropdown list. The expression of the selected named set will display in read-only format in the box below. Click **Next**.
8. Choose how you want the filter to display on the Dashboard: A list, a tree or a multi-tree format. Click **Finish**.
9. If the filter is successfully created, a confirmation page will display. Click **Close**.
10. The newly created filter will be listed in the workspace pane . It will also be available in the Details pane when you click the Summary tab of the Dashboard workspace.

Create Filters: Time Intelligence Members

• Time Intelligence Members and Formulas.

- Year, Quarter-1, Month:
- Month+6, Day+1, Day+2
- Year.FirstQuarter:Quarter



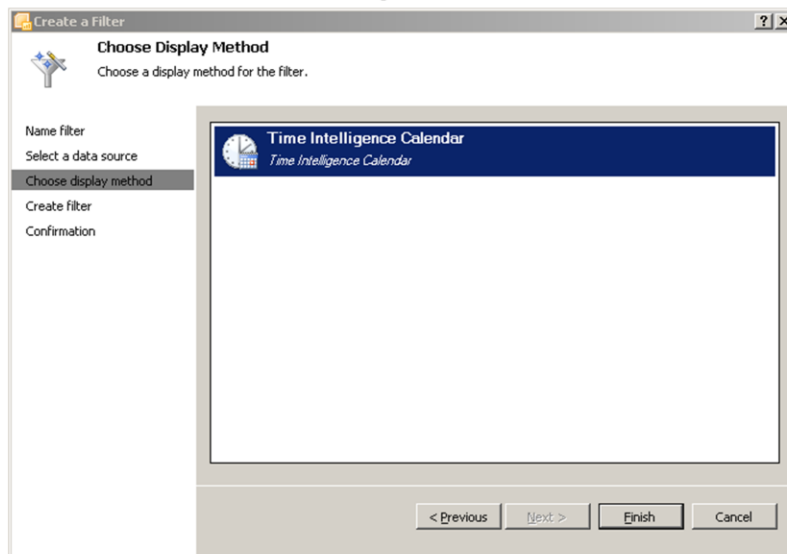
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To create a filter using Time Intelligence members

1. After creating the Dashboard, click the **Filter** tab in the workspace pane in the center of the screen.
2. Click **New Filter**.
3. In the Select a **Dashboard Filter Template wizard**, select **Time Intelligence**, and then click **OK**.
4. Type a **filter name** in the **Name** text box.
5. Type a **description** of the filter in the **Description** text box (optional).
6. Click **Next**.
7. Click **Add Data Source**. Select a data source from the list displayed on either the server or workspace tab. If you do not see the data source that you need, click Refresh on the **Server** tab to update the list. Click **Next**.
8. Enter a **time formula** and a **caption**.
9. Click Add formula to add additional formula lines (optional).
10. Click **Next**.
11. Choose how you want the filter to display on the Dashboard: A list, a tree or a multi-tree format. Click **Finish**.
12. If the filter is successfully created, a confirmation page will display. Click **Close**.
13. The newly created filter will be listed in the workspace. It will also be available in the Details pane when you click the Summary tab of the Dashboard workspace

Create Filters: Time Intelligence Post Formula

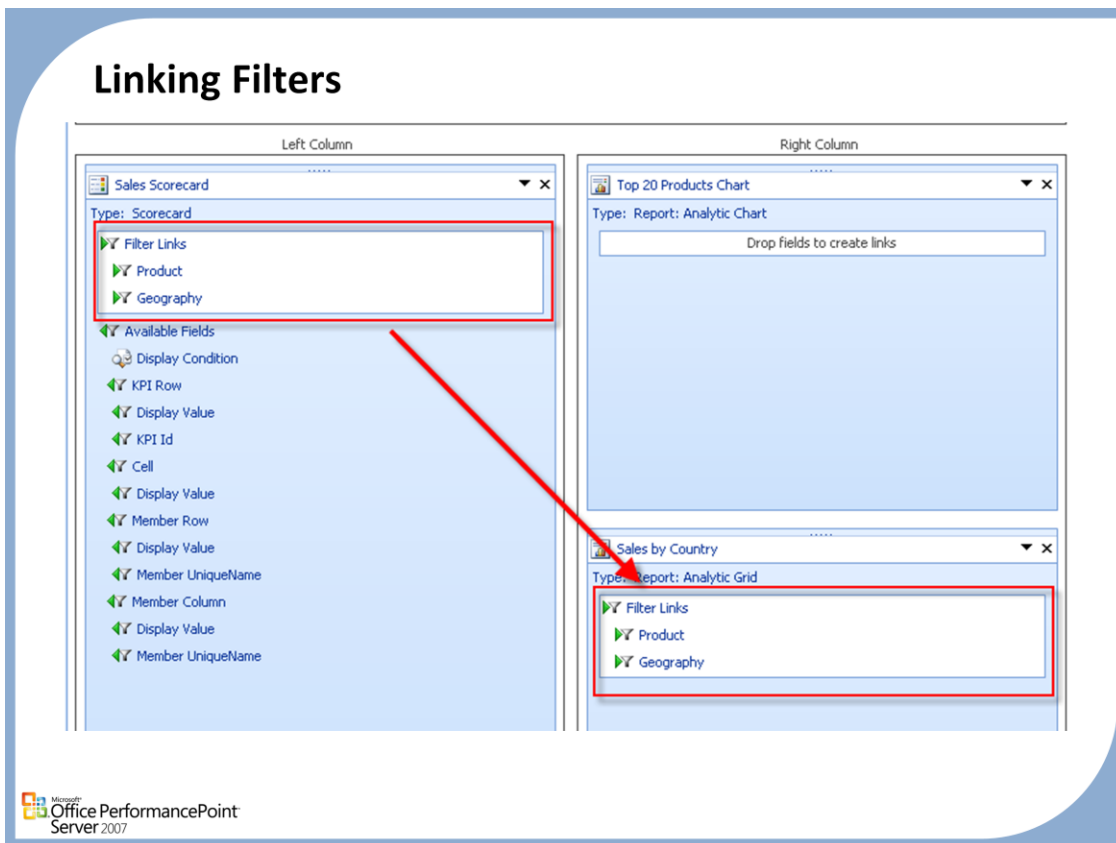
- Create a filter on your dashboard that allows the user to select the current time using a Calendar to select from



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To Create a filter using Time Intelligence Post Formula

1. After creating the Dashboard, click the Filter tab in the workspace pane in the center of the screen.
2. Click New Filter.
3. In the Select a Dashboard Filter Template wizard, select Time Intelligence Post Formula, and then click OK.
4. Type a filter name in the Name text box.
5. Type a description of the filter in the Description text box (optional).
6. Click Next.
7. Click Add Data Source. Select a data source from the list displayed on either the server or workspace tab. If you do not see the data source that you need, click Refresh on the Server tab to update the list. Click Next.
8. Enter a time formula and a caption.
9. Click Add formula to add additional formula lines (optional).
10. Click Next.
11. Choose how you want the filter to display on the Dashboard from the Time Intelligence Calendar. Click Finish.
12. If the filter is successfully created, a confirmation page will display. Click Close.
13. The newly created filter will be listed in the workspace. It will also be available in the Details pane when you click the Summary tab of the Dashboard workspace.



To Link Filters to Dashboard Elements

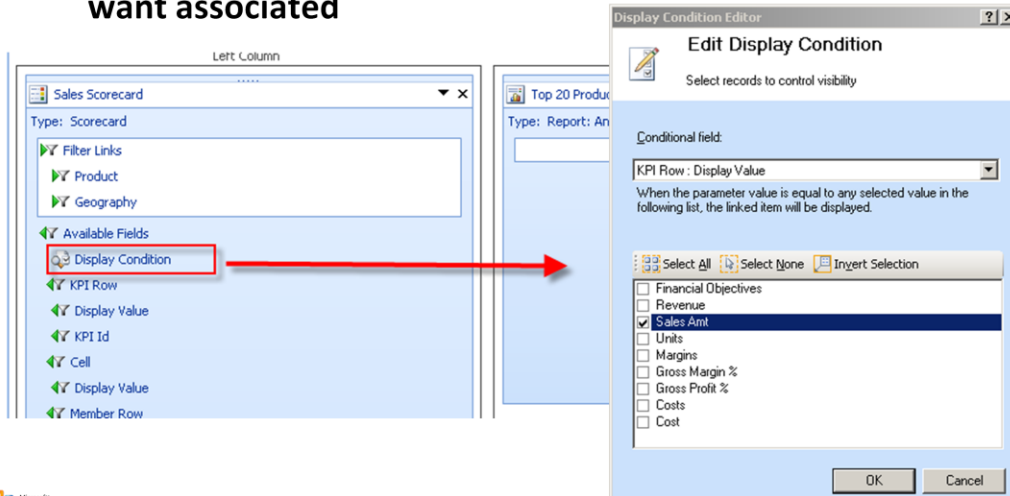
1. On the Workspace Browser pane, double-click the name of the dashboard you want to modify.
2. On the Editor tab, view the items that have been added to the dashboard.
3. From the Details pane, drag a filter to a dashboard zone. Where you put the filter is where it will display on the deployed dashboard.
4. On the filter, click the down arrow and select Create Link. The Filter Link Editor will display.
5. On the Link Items tab, select the dashboard item to link to the filter.
6. Click the Link Options tab.
7. From the Dashboard item endpoint box, specify where you want filter values to appear in the linked dashboard item.
8. From the Source Value box, select the value such as Display Value or MemberUniqueName to use the deployed dashboard. Source Value options vary by type of filter or report.
9. You must use MemberUniqueName to link to any analytic data source, such as a scorecard, an Analytic Chart or Grid, a Pivot Chart or Pivot Table, and so on.
10. (Optional) Click Filter Link Formula if you want to use a custom query. The language you use is dictated by the data source. For example, you can use MDX or a TI time formula.
11. Click OK.

To Link more than one Dashboard element to a single filter

1. Follow the steps to link a filter to a dashboard element.
2. On the next dashboard element for which you want to create a link, click the arrow and select Create Link.
3. On the Link Items tab, select the column or filter to link to.
4. Click the Link Options tab.
5. From the Dashboard item endpoint box, specify where you want filter values to appear in the linked dashboard item.
6. From the Source Value box, select to use the Display Value or MemberUniqueName on the deployed dashboard. If you are linking to an Analytic Chart or Analytic Grid report, you must select MemberUniqueName.
7. (Optional) Click Filter Link Formula if you want to use a custom query. The language you use is dictated by the data source. Examples are MDX, SQL, or the Simple Time Period Specification.
8. Click OK.

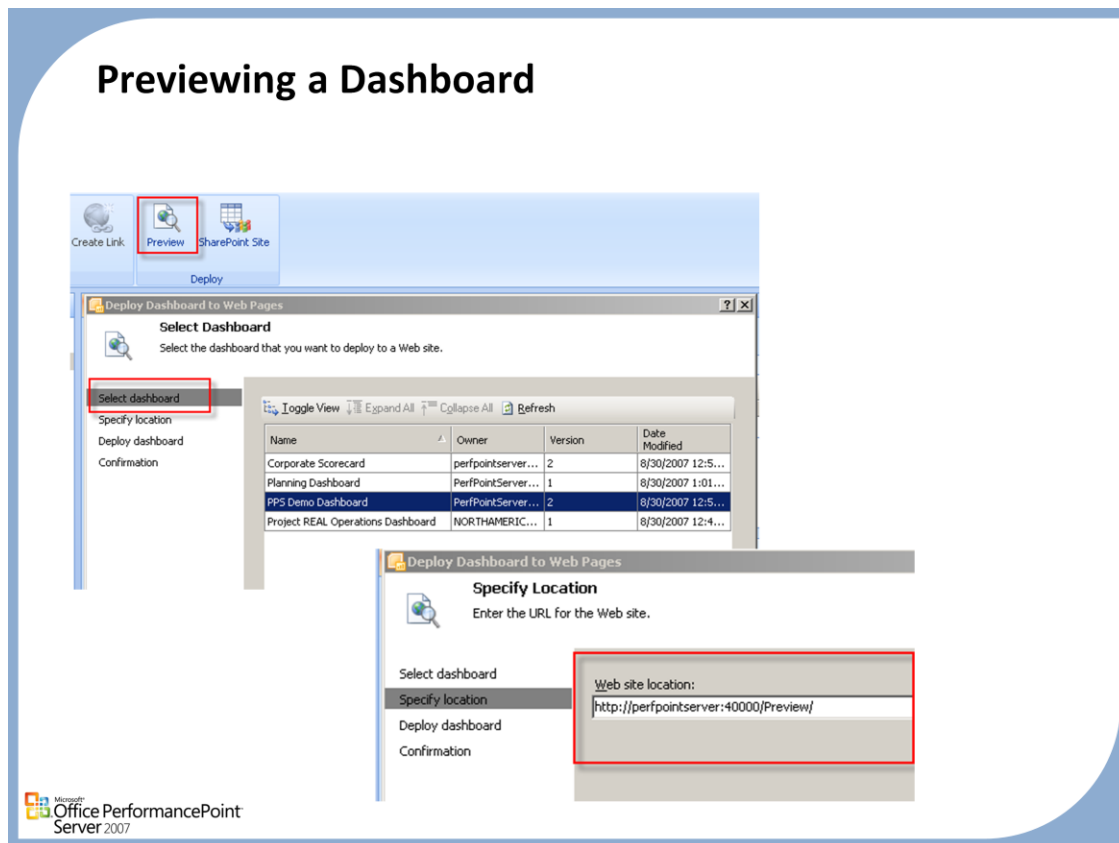
Linking a KPI to a Report

- Drag a *Display Condition* from the scorecard to the Report which you want to link
- From the *Edit Display Condition* choose the KPIs that you want associated



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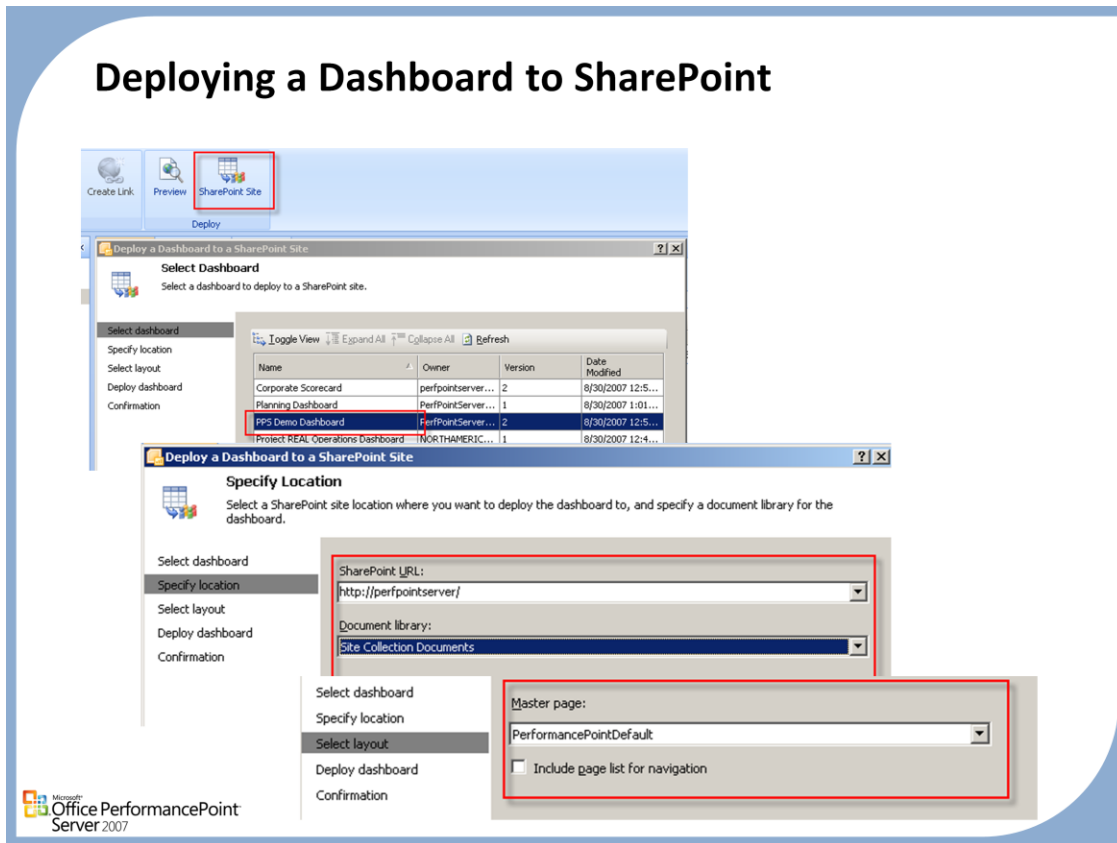
Previewing a Dashboard



To deploy a dashboard to a preview site

1. On the Home tab, click Publish All. This publishes the dashboard to the server.
2. On the Edit tab, click Preview.
3. In the Deploy Dashboard to Web Pages wizard, select the dashboard that you want to preview, and then click Next.
4. Typically, Dashboard Designer uses the correct preview site location (based on Monitoring Server configurations). You can keep the URL that appears or specify a different Web site URL, and then click Finish. A Web browser will open and display the dashboard on the preview site.

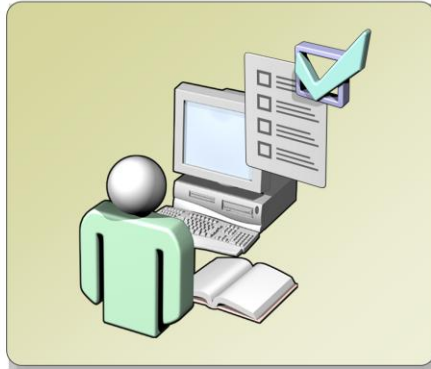
Deploying a Dashboard to SharePoint



To deploy a dashboard to a SharePoint site

1. Publish all of your elements.
2. On the Edit tab, click SharePoint Site. This opens the Deploy a Dashboard to a SharePoint Site wizard.
3. In the Select Dashboard page, select the dashboard that you want to deploy. If the dashboard is not listed in the Name column, click Refresh to update the list from the server. When you have selected the dashboard, click Next.
4. In the Specify Location page, the default SharePoint site address appears. You can keep this setting or type the full path to a different SharePoint site where you want to deploy the dashboard. This automatically populates the Document Library drop-down list.
5. In the Document Library list, select the document library where the dashboard will reside. Click Next.
6. In the Select Layout page, use the drop-down list to select the master page. This master page determines the layout for the dashboard when it is deployed.
7. Click Finish. A Web browser opens to display the dashboard in the SharePoint site.
8. When the Confirmation page is displayed in Dashboard Designer, click Close.

Questions



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Monitoring and Analytics

Chapter 5 – Security

Module 5: Monitoring and Analytics *Security*

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Agenda

- Security Fundamentals
- Server Roles
- Element Roles
- Authentication / Validation process

Security Overview

- **PerformancePoint Server Roles aids in securing access to the data**
- **Security should also be enforced through PerformancePoint Server supporting applications**
 - Microsoft Windows Server 2003
 - Microsoft MOSS 2007
 - Microsoft Windows SharePoint Services
 - Internet Information Services (IIS)
 - Microsoft SQL Server 2005
 - Microsoft SQL Server 2005 Analysis Services



Scorecards typically display sensitive business information

- It is recommend that you use Secure Sockets Layer (SSL) or some other kind of encryption for any Web site that hosts PPS data.
- Without encryption, the data that is transmitted every time a user accesses a PPS view or the PPS Web service could be intercepted by unauthorized users.

Server Roles

- **Admin**
 - Full access to elements + admin functions
- **Data Source Manager**
 - Can create and delete data sources
 - Can delete if they also have the element editor role
- **Creator**
 - Can create delete scorecards, KPIs, reports, dashboards and indicators
 - Can delete if they also have the element editor role
- **Power Reader**
 - Grants read-only access to all elements



Server Roles

- Permissions for Dashboard Designer are divided into server roles, those which control permissions for the entire Monitoring server, and the Dashboard element roles, which control permissions to specific dashboard elements.
- Server roles apply to the entire PerformancePoint Monitoring installation and grant system-wide access to data and tasks. There are four types of server roles:

Admin:

- This role provides complete control over the PerformancePoint Server . Users who have permissions to this role have access to all dashboard data. They can create, edit, and delete all dashboard elements as well as publish dashboards to the server. They also have the ability grant roles to other users. The administrators group on the computer that hosts PerformancePoint Server is added to this role automatically.

Data Source Manager:

- This role enables users to create and delete data sources. Users who have permissions for the Data Source Manager role also can publish data sources to the PerformancePoint Server

Creator:

- This role enables users to create KPIs, scorecards, and indicators. Users who have permissions for this role can also publish dashboard elements to the PerformancePoint Server . They can also delete elements where they have Editor role permissions

Power Reader:

- This role grants read-only access to all dashboard elements on the PerformancePoint Server , and is primarily used for alerts. It enables users to download dashboard elements from the PerformancePoint Server .

Element Roles

- **Editor**

- Edit / Publish element, and add annotations

- **Reader**

- Read only



Element roles

- Permissions to elements are assigned on a per-element basis, so roles are specific to each dashboard, KPI, scorecard, data source, and indicator.

Editor

- This role enables users to edit all data related to the dashboard, KPI, objective, scorecard, data source or scorecard to which the permissions apply. When users with the Admin or Data Source Manger roles create a scorecard element, they are automatically added to the Editor role for those elements. Users that have permissions to the Editor role have all of the access rights of users that belong to the Reader role.

Reader:

- This role grants read-only access to specific elements. It enables users to download dashboard elements from the database on the server and view those objects.

Securing PerformancePoint Server data

- **The PerformancePoint Server security model is designed so that user requests are carried out by a single application pool account.**
 - Best practice is to use a domain account
- **This same account authenticates to SQL Server 2005**
- **WebServices, ASP.NET preview, MOSS, Central all have independent application pools/accounts.**
 - MOSS consumers by default connect to monitoring db and data source as MOSS app pool
 - Builders connect to monitoring database as WebServices app pool when creating, editing, publishing elements
 - Builders connect to data source as WebService app pool when in dashboard designer
 - ASP.NET consumers connect to monitoring database and data source as Preview app pool



Preventing direct client connection to the Microsoft PPS data sources helps ensure data integrity.

- The PPS layer includes
 - Internet Information Services (IIS)
 - Microsoft Windows SharePoint Services
 - Microsoft SharePoint Portal Server
 - PPS Builder

Data Source Authentication Models

• Application Security

- All requests are carried out by the identity of the MOSS/WSS application pool

• Connect Per User

- All requests are carried out by the identity of the user

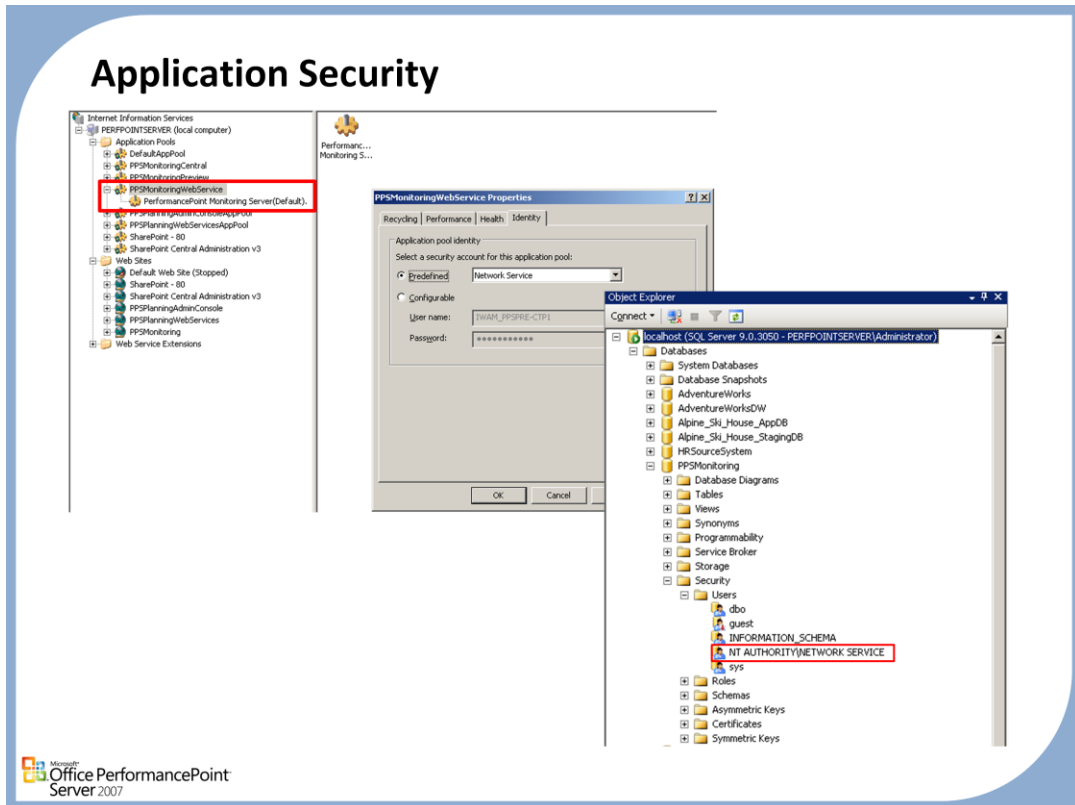
• Custom Data Security

- PPS allows connections to be made to Analysis Services through shared “Application Pool” credentials, but still pass the user’s login information to Analysis Services through its “CustomData” feature. This login information can then be used to secure the cube dimensions. Since the application pool is used to connect to Analysis Services, there is no “double hop”, of passing credentials through multiple computers, so delegation is not required.

SUGGESTED SLIDE

PerformancePoint Server Client Query Process

1. The client computer connects to the SharePoint site that hosts the PPS Web Parts.
2. The client computer running Windows SharePoint Services or MOSS 2007 views a scorecard.
3. In a multiple-server deployment, the computer running Internet Information Services (IIS) and Windows SharePoint Services or SharePoint Portal Server establishes a connection with the computer running Microsoft SQL Server. (In a highly secure environment, the computer running SQL Server will not accept connections from any other computer.)
4. When the connection is established, the MOSS/WSS (IF USING APPLICATION SECURITY) application pool account queries the PPSMonitoring database. The metadata in the database tells the account which data sources contain the required data, as well as the connection string for those data sources.
5. The MOSS/WSS (IF USING APPLICATION SECURITY) application pool account then connects to the data sources, renders the data in the PPS Monitor Web service, and displays the data in Windows SharePoint Services or MOSS 2007.



PPS uses the IIS impersonation feature to access resources on behalf of the client computer.

- The default configuration is for a client computer to
 - connect to PPS through IIS and Windows SharePoint Services or SharePoint Portal Server
 - then for the client computer to request scorecard data

Connect Per User

- Allows connection with the authenticated user's credentials to data sources
- Change the *Bpm.ServerConnectionPerUser* property to *True* in the web.config file for the Monitoring Web site
- When this value is set to TRUE, caching is on a per user basis instead of per application



User Pass-Through Authentication

- On each of the Monitoring web sites (PPSMonitoringPreview, PPSWebService, and SharePoint) the web.config file contains a property called ConnectionPerUser. Setting this property to True will force the application to connect using the authenticated users credentials. If the Monitoring web sites are on the same machine as Analysis Services no additional steps are required. If AS is on a separate box you will need to configure Kerberos Delegation on the domain and middle tier.

```
<appSettings>
```

```
  <add key="Bpm.MonitoringConnectionString" value="Data Source=PPSMADEMO;Initial Catalog=PPSMonitoring;Integrated Security=True" />
```

```
  <add key="Bpm.ServerConnectionPerUser" value="True" />
```

```
  <add key="Bpm.ElementMemoryCacheTime" value="5" />
```

```
  <add key="Bpm.EnableAnalyticQueryLogging" value="False" />
```

```
  <add key="Bpm.UseASCustomData" value="False" />
```

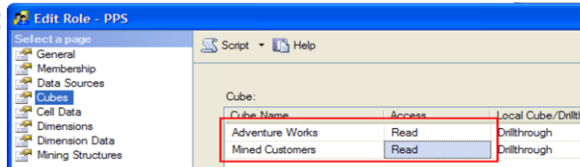
```
  <add key="Bpm.IndicatorImageCacheTime" value="10" />
```

```
  <add key="Bpm.DataSourceQueryTimeout" value="300" />
```

```
</appSettings>
```

Custom Data Security

- On the Cubes tab in Analysis Services, Give Read access to the cubes to this user:



- Within Dimension Data, select the Geography Dimension and the Country attribute, then enter the MDX shown below on the Advanced tab.

```
Exists( [Geography].[Country].[Country].Members, Filter(Employee.Employee.Employee.Members, Employee.Employee.CurrentMember.Properties("Login ID") = CustomData()), "Reseller Sales")
```

- This MDX takes the CustomData passed in by PPS and allows access to countries that have data in the Reseller Sales measure group.
- Note:** in this case Login ID is a member property, but different MDX could be written if Login ID was an attribute.



Custom Data

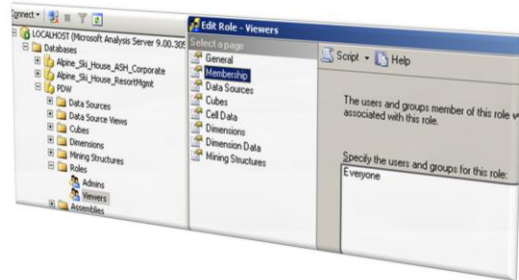
- Use the CustomData field on an Analysis Services connection string. Our application is able to specify the domain/username of the account which authenticated to our server as the CustomData of the connection string. It is possible to then configure Analysis Services security model to restrict access based on the string containing the username provided by our application.

Example

```
<appSettings>
  <add key="Bpm.MonitoringConnectionString" value="Data Source=PPSMADemo;Initial
    Catalog=PPSMonitoring;Integrated Security=True" />
  <add key="Bpm.ServerConnectionPerUser" value="True" />
  <add key="Bpm.ElementMemoryCacheTime" value="5" />
  <add key="Bpm.EnableAnalyticQueryLogging" value="False" />
  <add key="Bpm.UseASCCustomData" value="True" />
  <add key="Bpm.IndicatorImageCacheTime" value="10" />
  <add key="Bpm.DataSourceQueryTimeout" value="300" />
</appSettings>
```

Securing OLAP cubes

- By default, only members of the Administrators group in Microsoft SQL Server Analysis Services have permission to access every online analytical processing (OLAP) cube.
- The roles in Analysis Services allow you to organize users into a single unit to which you can apply permissions.
 - you can deny certain users access to certain dimensions within a cube by using Analysis Service roles with OLAP cubes



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Using Analysis Services

- Roles with PPS requires you to know the roles that have been defined and that are available in Analysis Services.
- Analysis Services roles are not visible from any part of the Dashboard Designer user interface, and they are distinct from PPS Monitor roles.
- Analysis Services roles can be used in PPS by including them in the connection string when you map a key performance indicator (KPI) to a data source.

Questions

