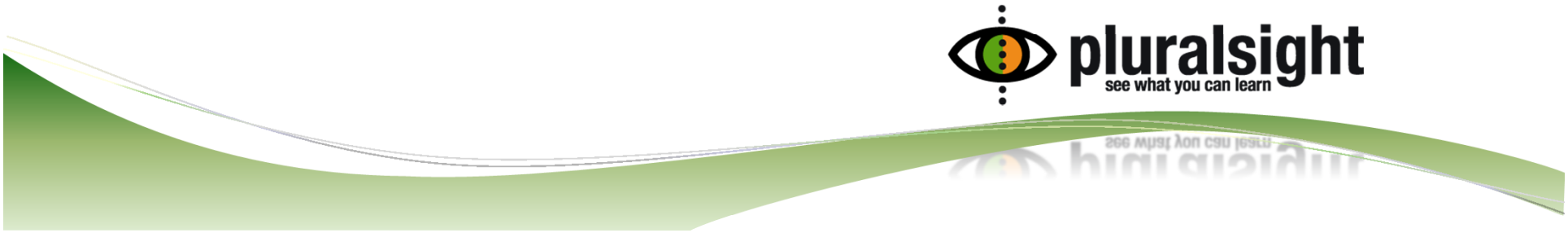
Basic Report Development

Working with the report design layout



Overview

- Data Sources
- Datasets
- Report Items
- Data Regions

Data Source Definition

- **Connection String**
  - Syntax specific to data provider
  - Location of data for report
  - Optional keywords for authentication
- **Authentication Properties**
  - Windows integrated security
  - Specific user credentials
  - Prompted credentials
  - No credentials

Data Sources

Relational data

Multidimensional data

XML data

SharePoint list

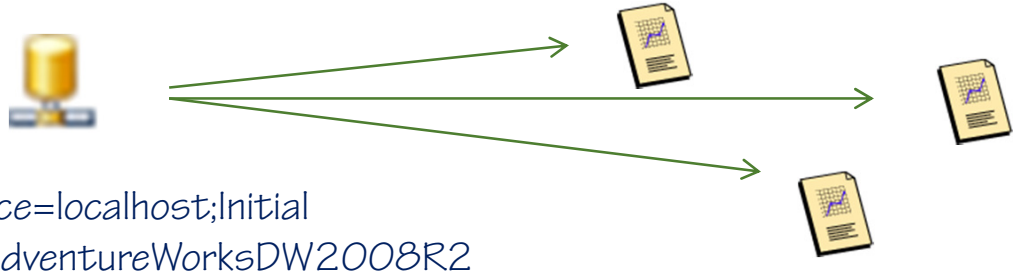
- SQL Server
- SQL Azure
- Parallel Data Warehouse
- Oracle
- TERADATA
- OLE DB
- ODBC
- Analysis Services
- SAP NetWeaver BI
- Hyperion Essbase
- XML
- SharePoint List

Data Source XML

```
<?xml version="1.0" encoding="utf-8"?>
<RptDataSource xmlns:xsi="http://www.w3.org/2001/XMLSchema-
   instance"   xmlns:xsd="http://www.w3.org/2001/XMLSchema"
   Name="AdventureWorksDW2008R2">
  <ConnectionProperties>
    <Extension>SQL</Extension>
    <ConnectString>Data Source=localhost;Initial
   Catalog=AdventureWorksDW2008R2</ConnectString>
    <IntegratedSecurity>true</IntegratedSecurity>
  </ConnectionProperties>
  <DataSourceID>6a3c976c-7453-4aa7-8147-
   3cdb8fe8fe60</DataSourceID>
</RptDataSource>
```

Data Source Types

- **Shared data source**



Data Source=localhost;Initial Catalog=AdventureWorksDW2008R2

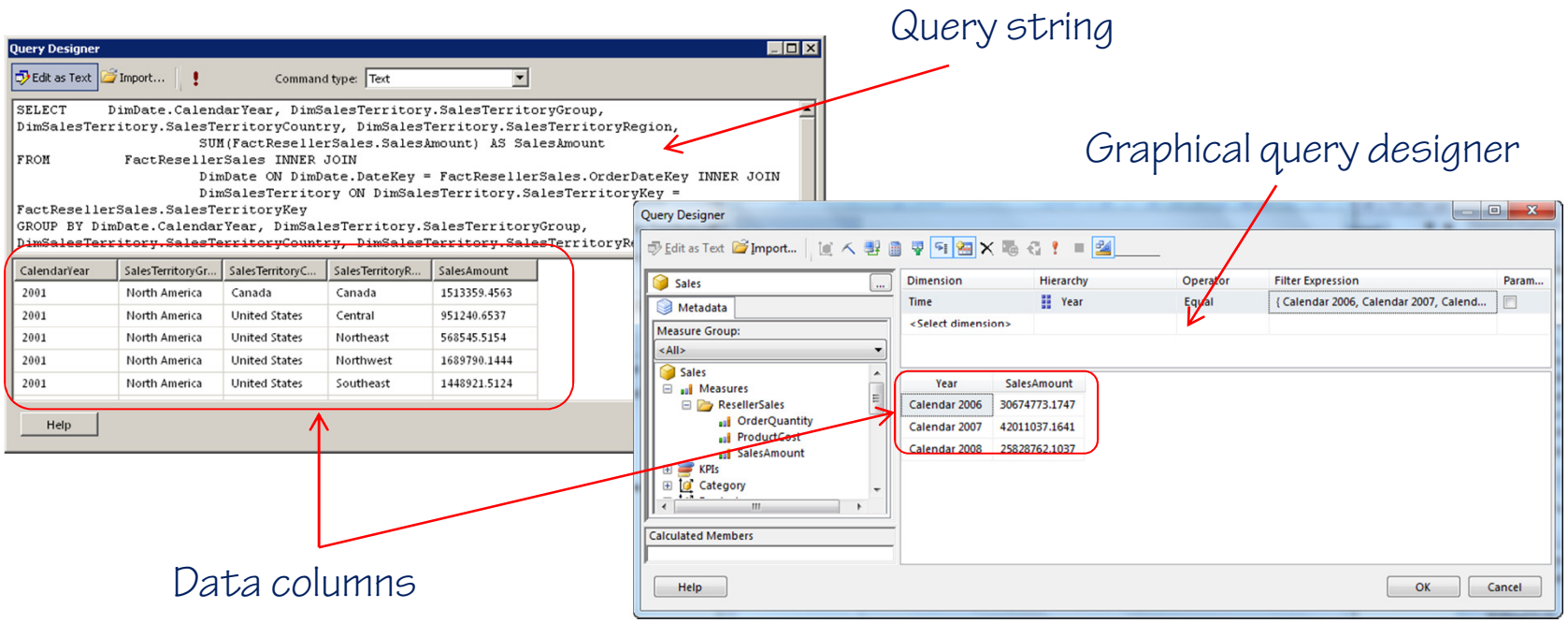
- **Embedded data source**

Data Source=localhost;Initial Catalog=AdventureWorksDW2008R2

Data Source=localhost;Initial Catalog=AdventureWorksDW2008R2

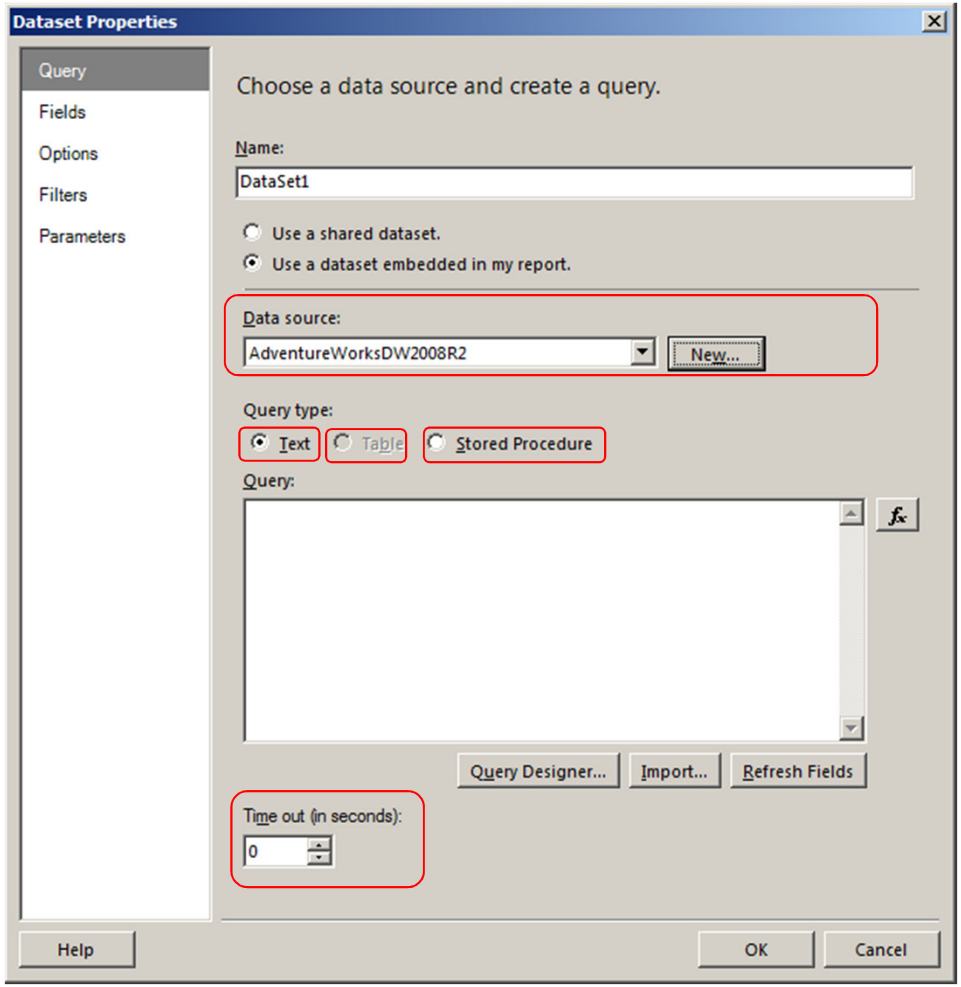
Dataset

- Defines a query for a data source
- Contains collection of fields based on data columns



Dataset Properties

- **Data source association**
- **Query type**
  - Text—selectively query data
  - Table—all data from table
  - Stored Procedure—data retrieved by stored procedure
- **Timeout**



Dataset Collections

- **Fields**
  - Column retrieved by query
  - Calculated field based on an expression
- **Filters**
  - Exclusion of rows *after* query execution
- **Parameters**
  - Modification to WHERE clause of query text
  - Input for stored procedure

Shared Dataset

```
<?xml version="1.0" encoding="utf-8"?>
<SharedDataSet
    xmlns:rd="http://schemas.microsoft.com/SQLServer/reporting/reportdesigner"
    xmlns="http://schemas.microsoft.com/sqlserver/reporting/2010/01/shareddatasetdefiniti
    on">
  <DataSet Name="SalesByYear">
    <Query>
      <DataSourceReference>AdventureWorksDW2008R2</DataSourceReference>
      <CommandText>SELECT DimDate.CalendarYear, SUM(FactResellerSales.SalesAmount) AS
    SalesAmount FROM FactResellerSales INNER JOIN DimDate ON DimDate.DateKey =
    FactResellerSales.OrderDateKey GROUP BY DimDate.CalendarYear</CommandText>
    </Query>
    <Fields>...</Fields></DataSet></SharedDataSet>
```

Report Items

Type	Icon	Name	Description	Earliest Version Supported
Report Item		Textbox	Static text or dynamic text from a dataset or an expression	2000
		Line	Graphic element with defined endpoints, color, and width	2000
		Rectangle	Graphic element or container for free-form layout of multiple report items	2000
		Image	Binary image data embedded in report, stored externally, or retrieved by a dataset	2000
		Subreport	External report embedded in a parent report	2000
Tablix Data Region		Table	Structure of textboxes with fixed columns and dynamic, data-driven rows	2000
		Matrix	Structure of textboxes with dynamic, data-driven rows and columns	2000
		List	Free-form structure with data-driven repeating section	2000
Graphical Data Regions		Chart	Graphic display of data in standard chart form	2000
		Gauge	Graphic display of performance data in gauge form	2008
		Map	Graphic display of spatial data	2008 R2
		Data Bar	Graphic display of a single point as a bar or column	2008 R2
		Sparkline	Graphic display of a data series over a defined period of time	2008 R2
		Indicator	Graphic display of conditional data using icon sets	2008 R2

Report Items

Subreport

Sales Territory Group	2006	2007	Total
Europe	$1,698,880.94	$5,632,816.55	**$7,331,697.49**
North America	$22,445,548.71	$25,722,421.91	**$48,167,970.62**
Pacific		$847,430.96	**$847,430.96**
Total	**$24,144,429.65**	**$32,202,669.43**	**$56,347,099.08**

Data Regions

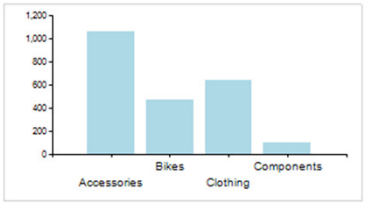
Table

Year	Sales Amount
Calendar 2006	$30,674,773.17
Calendar 2007	$42,011,037.16
Calendar 2008	$25,828,762.10

List

Europe

Category	Order Quantity
Accessories	1,062
Bikes	473
Clothing	641
Components	104



North America

Category	Order Quantity
Accessories	2,057
Bikes	1,693
Clothing	1,518
Components	598

Matrix

Category	Quarter 1, 2007	Quarter 2, 2007	Quarter 3, 2007	Quarter 4, 2007
Accessories	34.12 %	33.24 %	46.47 %	52.52 %
Bikes	3.89 %	3.59 %	1.40 %	12.58 %
Clothing	18.44 %	18.52 %	8.54 %	15.28 %
Components	5.14 %	3.26 %	5.05 %	6.48 %

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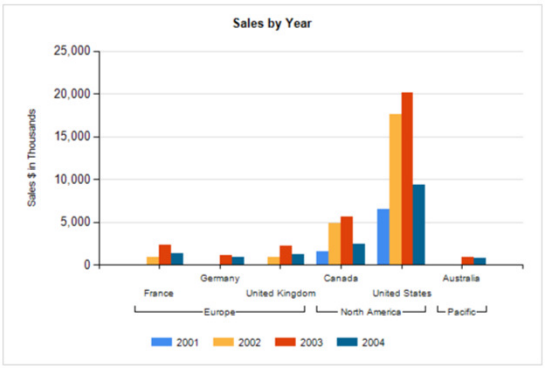
Data Visualizations

Chart



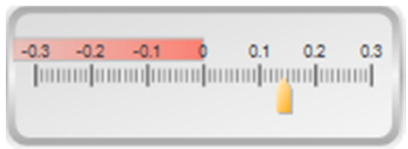
Data Bar

English Product Category Name	Calendar Year	Sales Amount
Accessories	2005	$20,235
	2006	$92,735
	2007	$296,533
	2008	$161,794
Bikes	2005	$7,395,349
	2006	$19,956,015
	2007	$25,551,775
	2008	$13,399,243
Clothing	2005	$34,376
	2006	$485,587
	2007	$871,864
	2008	$386,013
Components	2005	$615,475
	2006	$3,610,092
	2007	$5,482,497
	2008	$2,091,012

Sparkline

		Sales Amount
Accessories	2005	20,235
	2006	92,735
	2007	296,533
	2008	161,794
Bikes	2005	7,395,349
	2006	19,956,015
	2007	25,551,775
	2008	13,399,243
Clothing	2005	34,376
	2006	485,587
	2007	871,864
	2008	386,013
Components	2005	615,475
	2006	3,610,092
	2007	5,482,497
	2008	2,091,012

Gauge



Indicator

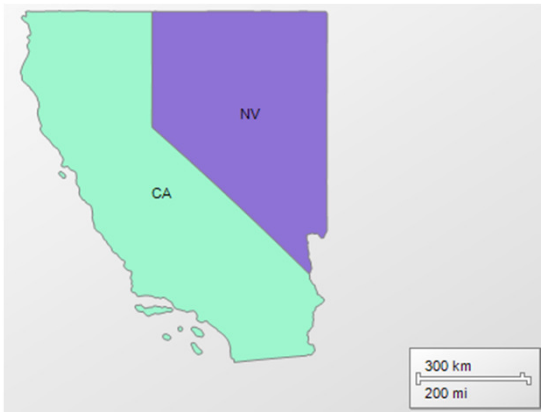
Group	Country	Prev Yr Avg Sales Change	
Europe	France	-2.35 %	▲
	Germany	3.28 %	●
	United Kingdom	-0.80 %	▲
North America	Canada	-10.35 %	◆
	United States	2.72 %	▲
Pacific	Australia	-18.15 %	◆

Spatial Data Visualizations

Points

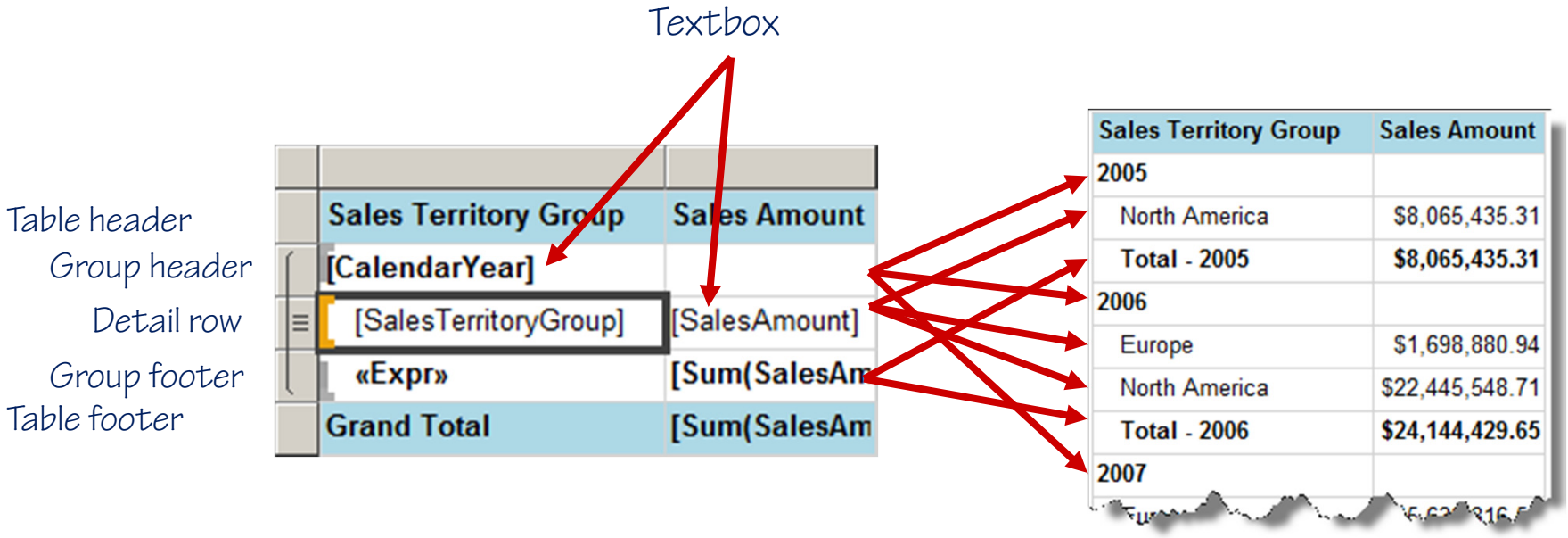
Lines

Polygons



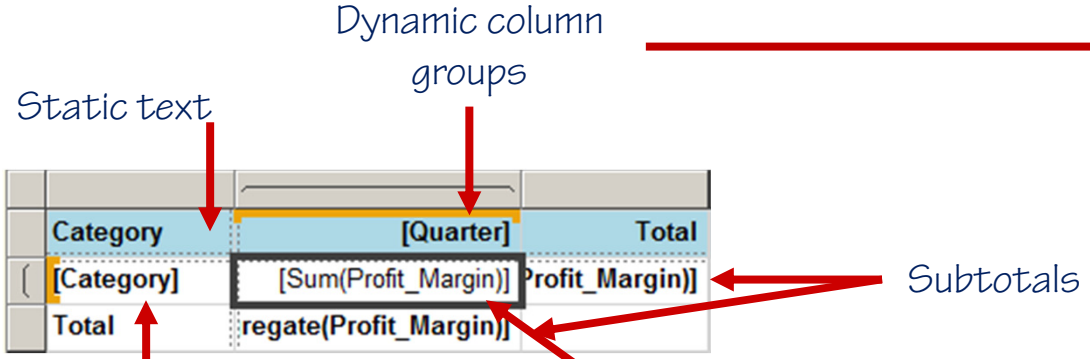
Table

- Tabular collection of textboxes
- Static columns with variable number of detail rows
- Optional header and footer rows for table and groups



Matrix

- Crosstab collection of textboxes
- Variable number of columns and rows
- Optional subtotal rows or columns by group



Category	Quarter 1, 2007	Quarter 2, 2007	Quarter 3, 2007	Quarter 4, 2007	Total
Accessories	34.12 %	33.24 %	46.47 %	52.52 %	48.31 %
Bikes	3.89 %	3.59 %	1.40 %	12.58 %	5.89 %
Clothing	18.44 %	18.52 %	8.54 %	15.28 %	13.64 %
Components	5.14 %	3.26 %	5.05 %	6.48 %	5.06 %
Total	4.27 %	4.00 %	3.13 %	12.86 %	

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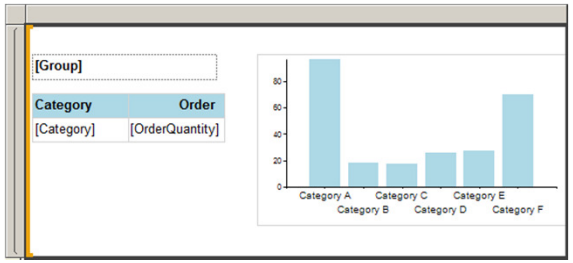
List

- Free-form collection of textboxes and data regions
- Support for one group only

Textbox, table, and chart in one group…



…repeat once per instance when rendered

Summary

- **Data Sources**
  - Connection string, authentication, shared versus embedded
- **Datasets**
  - Query, fields, filters, parameters, shared versus embedded
- **Report Items**
  - Textbox, line, rectangle, image, subreport
- **Data Regions**
  - Table, matrix, list, data visualization, spatial data visualization

References

- **Connection String Examples**
  - http://msdn.microsoft.com/en-us/library/ms156450.aspx
- **Tables, Matrices, and Lists**
  - http://msdn.microsoft.com/en-us/library/dd220592.aspx