

Delivering Information with Reporting Services

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Data Inspirations

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Agenda

- Developing Reports
- Securing and Configuring Access to Reports
- Viewing Reports

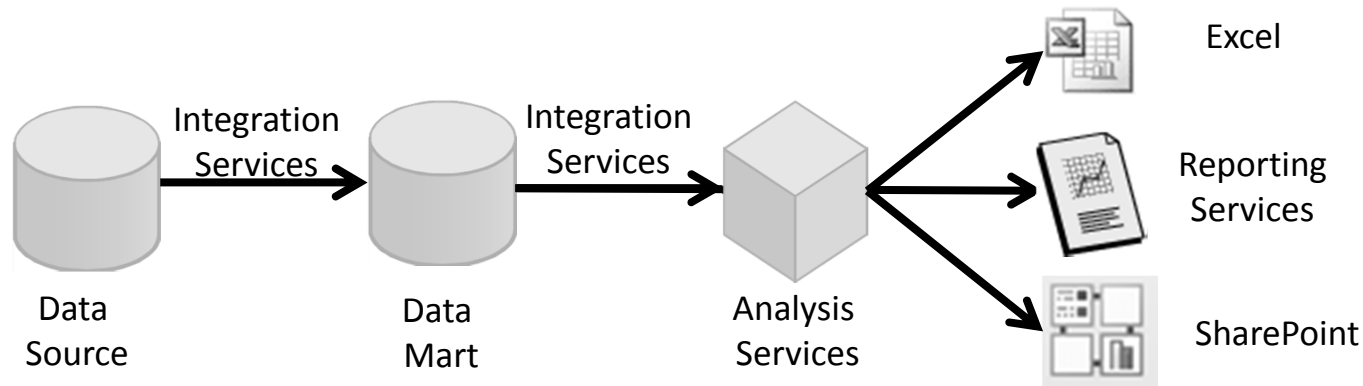
Developing Reports

- A Data Mart Solution
- Available Development Tools
- Report Design Tasks
- Interactive Features
- Deployment Options



A Data Mart Solution

- Separate data source reduces resource contention
- Easy access to historical data
- Consistent application of business rules
- Data structure results in faster, simpler queries



Business Questions

- Summarized data for specified period of time
 - What were total sales for last 3 years?
 - What was profit margin last year?
 - How many items were sold this month?
- Comparative data for multiple categories or time periods
 - Did sales increase this year as compared to last year?
 - What was profit margin by product category last year?
 - Is the average sale by territory increasing or decreasing?

Available Development Tools

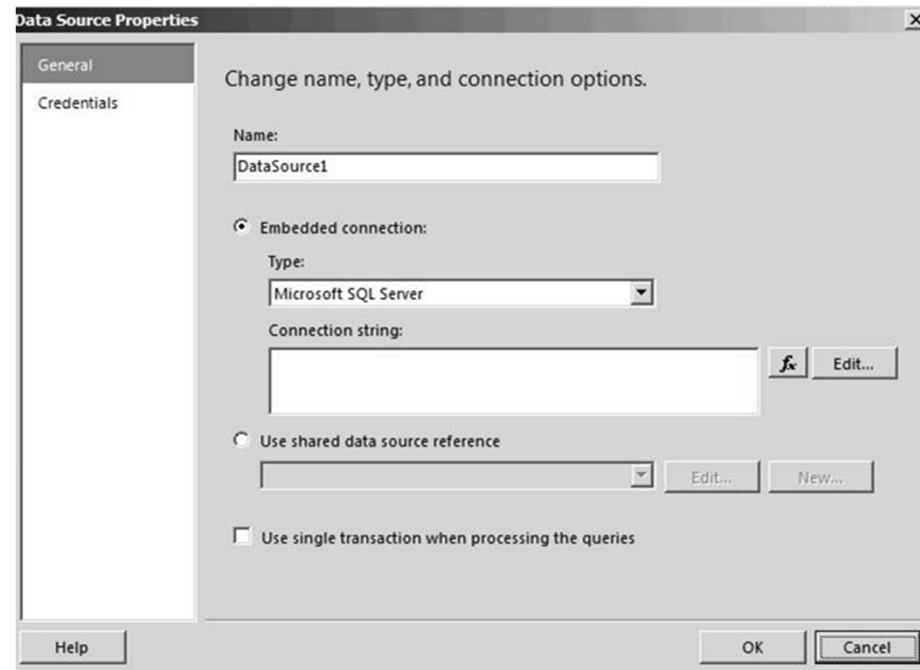
- Professional report development
 - Business Intelligence Development Studio (BIDS)
 - Report Builder 3.0
 - Report Builder 2.0
- Ad hoc report development
 - Report Builder 1.0
- Embedded report development
 - Visual Studio ReportViewer control

Report Design Tasks

- Data Sources
- Datasets
- Report Items

Data Sources

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



Datasets

- Describes fields to retrieve from data source
- Includes properties such as query timeout, filters, and parameters

Query Designer

Command type: Text

```

SELECT DimDate.CalendarYear, DimSalesTerritory.SalesTerritoryGroup,
DimSalesTerritory.SalesTerritoryCountry, DimSalesTerritory.SalesTerritoryRegion,
SUM(FactResellerSales.SalesAmount) AS SalesAmount
FROM FactResellerSales INNER JOIN
DimDate ON DimDate.DateKey = FactResellerSales.OrderDateKey INNER JOIN
DimSalesTerritory ON DimSalesTerritory.SalesTerritoryKey =
FactResellerSales.SalesTerritoryKey
GROUP BY DimDate.CalendarYear, DimSalesTerritory.SalesTerritoryGroup,
DimSalesTerritory.SalesTerritoryCountry, DimSalesTerritory.SalesTerritoryRegion
    
```

CalendarYear	SalesTerritoryGr...	SalesTerritoryC...	SalesTerritoryR...	SalesAmount
2001	North America	Canada	Canada	1513359.4563
2001	North America	United States	Central	951240.6537
2001	North America	United States	Northeast	568545.5154
2001	North America	United States	Northwest	1689790.1444
2001	North America	United States	Southeast	1448921.5124

Query Designer

Dimension Hierarchy















Dimension	Hierarchy	Operator	Filter Expression	Param...
Time	Year	Equal	{ Calendar 2006, Calendar 2007, Calend...	

Measure Group: <All>

Year	SalesAmount
Calendar 2006	30674773.1747
Calendar 2007	42011037.1641
Calendar 2008	25828762.1037



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



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

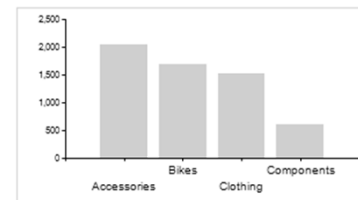
Europe

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



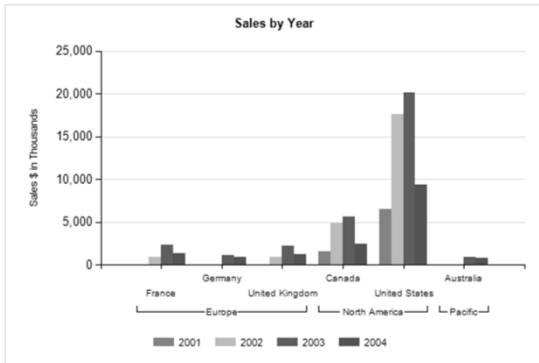
Matrix

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 %



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



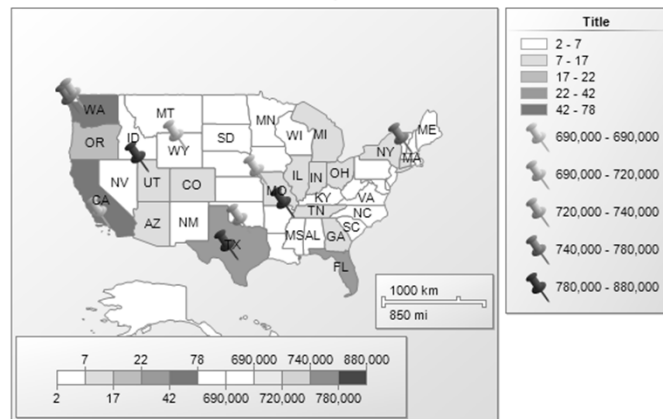
Indicator



Spatial Data Visualizations



Map Title

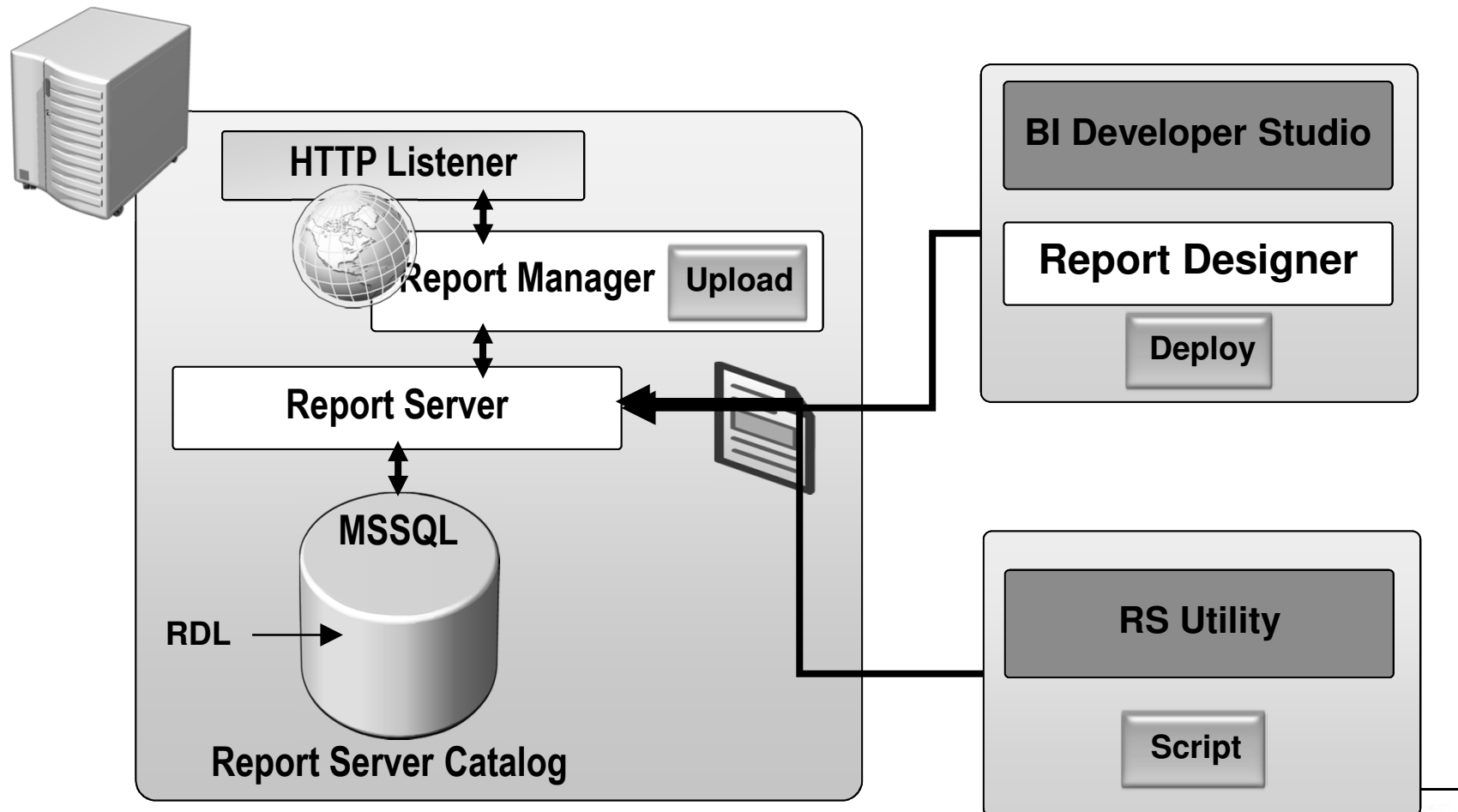


Interactive Features

- Interactive Sort
 - Allow the user to select a column to sort
- Tooltips
 - Display additional information when hovering the mouse over a report item
- Visibility
 - Hide or show a row, column, or report item based on a condition
 - Use this feature to simulate drilldown (display more detail)
- Document Map
 - Provide navigation links to multiple sections in a report
- Parameters
 - Prompt the user to type or select a value
 - Pass the selection as a query parameter or change a report item property
- Drillthrough
 - Jump to another report using the current context



Deployment Options





Securing and Configuring Access to Reports

- Security Roles
- Execution Options

Security Roles

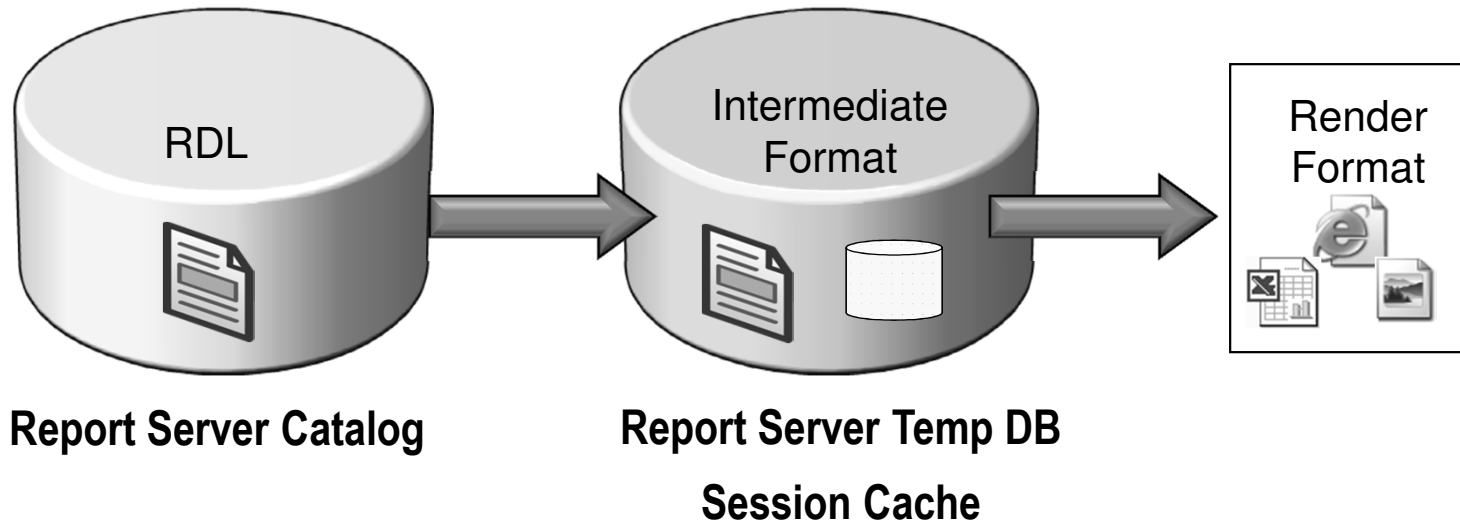
Native-Mode Roles	SharePoint Groups
<p>Content Manager Permission to perform all content management tasks, including security configuration</p>	<p>Owners Full Control permission to change site content, pages, or functionality</p>
<p>Publisher Permission only to view and manage all content except subscriptions and security</p>	<p>Members Contribute permission to view and manage content and submit changes for approval</p>
<p>Browser Permission only to view reports and manage individual subscriptions</p>	<p>Visitors Read permission to view content and create subscriptions</p>
<p>Report Builder Permission only to view reports, manage individual subscriptions, and start Report Builder</p>	<p>No equivalent group—Owners and Members can start Report Builder</p>
<p>My Reports Permission to perform all content management tasks within the My Reports folder only</p>	<p>No equivalent group—Enable the My Site features of SharePoint to support similar functionality within My Site</p>

Execution Options

- On Demand
- Caching
- Snapshots
- Report History

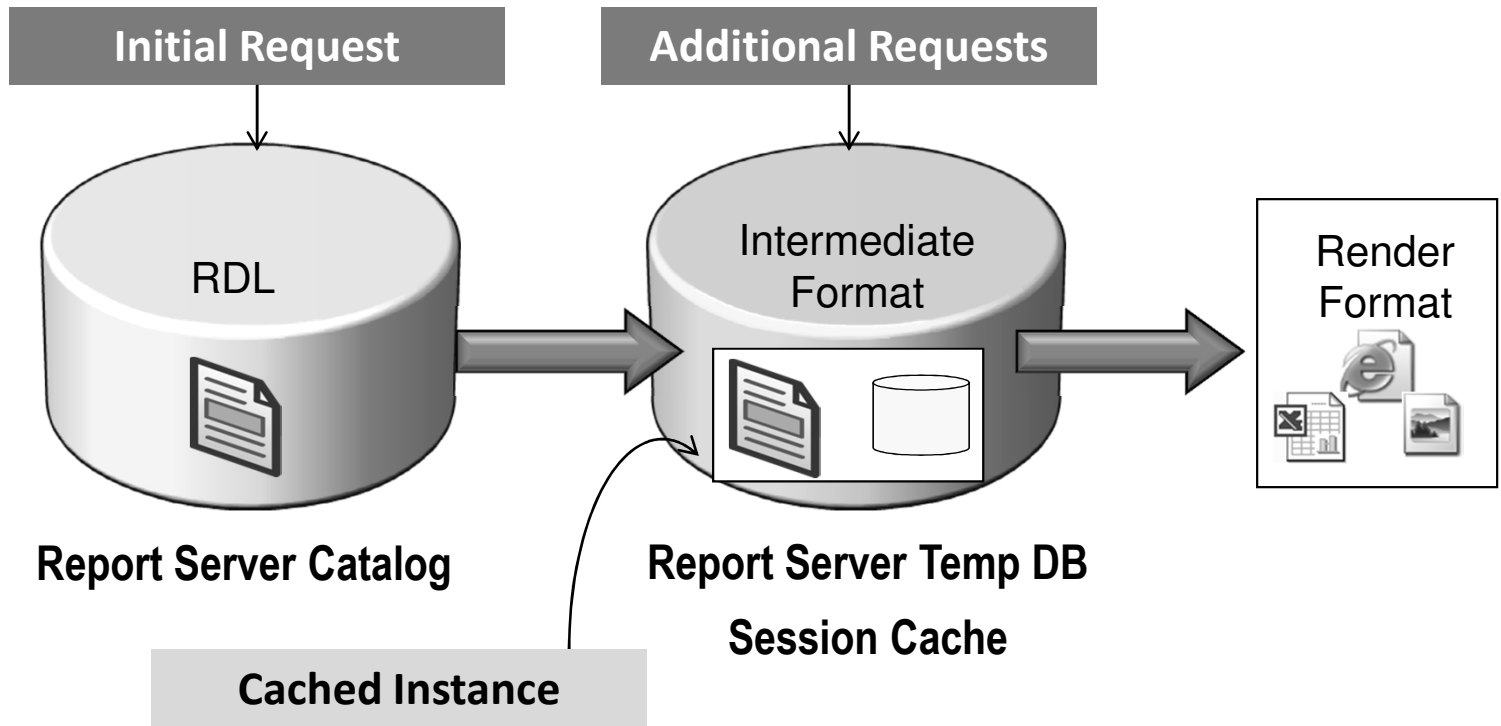


On Demand



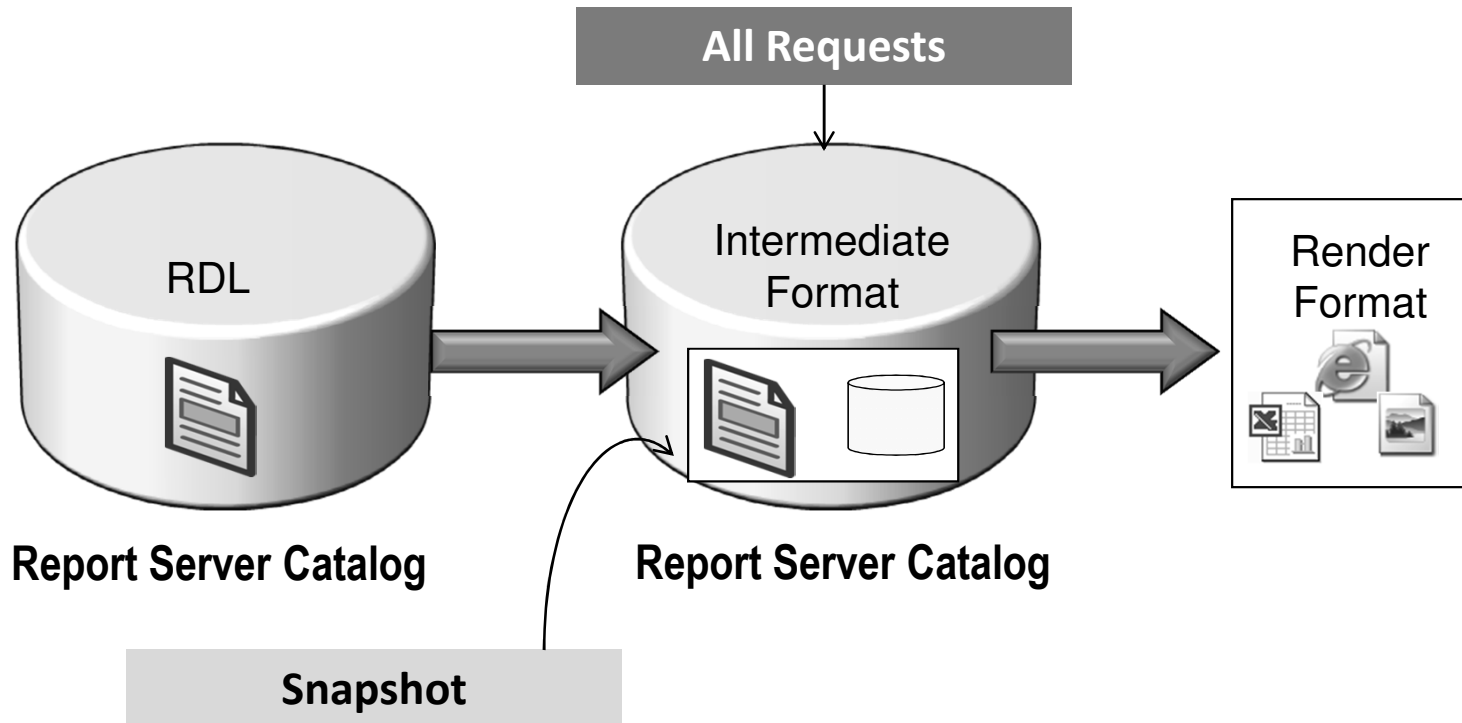


Caching



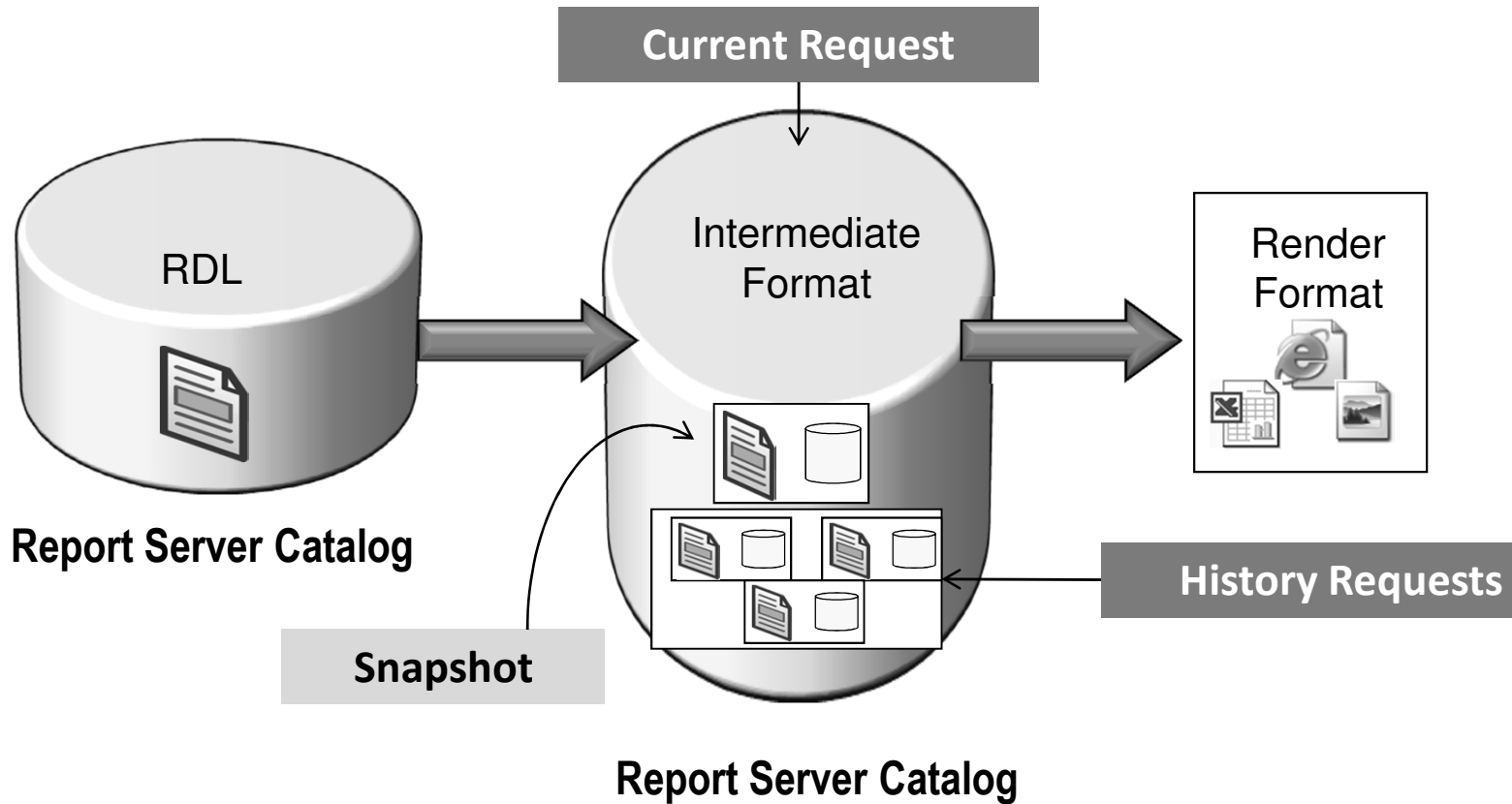


Snapshots





Report History



Viewing Reports

- Online Access
- Subscriptions
- Ad Hoc Reports

Online Access

- Navigate to reports by traversing folders
- Search for reports by name or description (or properties if using SharePoint)
- Use URL Access to go directly to report
- Render report in desired format
 - HTML
 - Excel
 - Word
 - PDF
 - TIFF
 - CSV
 - XML
 - ATOM Data Feed (e.g. PowerPivot)

Subscriptions

- Subscription Types
 - Standard
 - Deliver report to one or more recipients or network location on a scheduled basis using common subscription settings
 - Data-Driven (requires Enterprise Edition)
 - Deliver report to multiple recipients or network locations on a scheduled basis using query to define subscription settings
- Subscription Settings
 - Destination
 - Email – recipient, attachment, link
 - Network Location – target folder, file extension, incremental naming
 - Render Format
 - Parameters

Ad Hoc Reports

- Report Builder 3.0
- Shared Datasets
- Report Parts

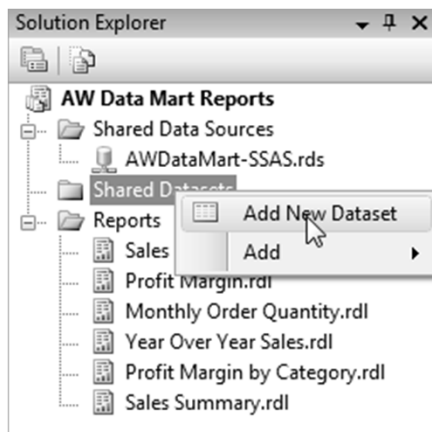
Report Builder 3.0

- Available in SQL Server 2008 R2
- Support for all design features as BIDS
- Office-like designer with ribbon and wizard interfaces
- Caching for improved performance
- Target audience - information workers at all skill levels
 - IWs building reports from published components
 - IWs building reports from self-developed queries
- Best for personal report consumption, one report at a time

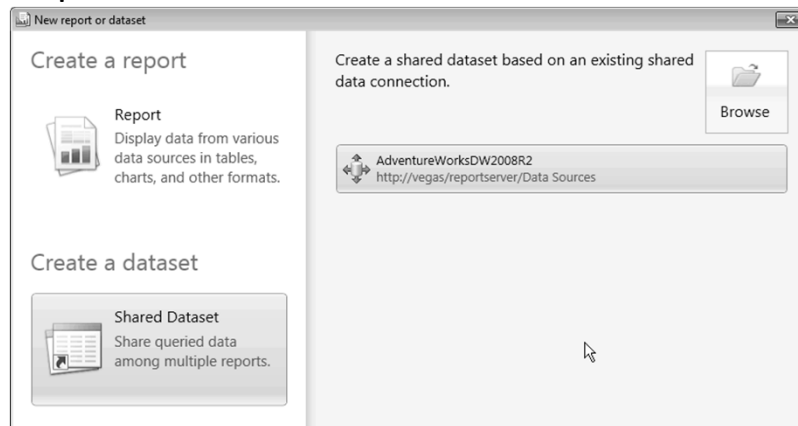
Shared Datasets

- Reuse a query (based on a shared data source) with many reports
- Refresh on demand or on cache refresh schedule
- Secure access for ad hoc reporting

Report Designer



Report Builder 3.0



Report Parts

- Publish report items independently from reports
- Secure access for ad hoc reporting
- Use Report Gallery in Report Builder 3.0 to use report part in new report
- Optionally update report item upon notification of change to original report item

For More Information

- Stacia Misner, *Microsoft SQL Server 2008 Reporting Services Step by Step* (Microsoft Press, 2009)
- Ross Mistry and Stacia Misner, *Introducing Microsoft SQL Server 2008 R2* (Microsoft Press, 2010),
blogs.msdn.com/b/microsoft_press/archive/2010/04/14/free-ebook-introducing-microsoft-sql-server-2008-r2.aspx
- SQL Server Reporting Services,
msdn.microsoft.com/en-us/sqlserver/cc511478.aspx
 - Books Online
 - Whitepapers
 - Tutorials and Videos
 - Samples
 - Forums
- Demonstration Files,
blog.datainspirations.com/uploads/SSRSDemo.zip