



# Pentaho BI Platform

May 2012

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Principal Architect

EMPOWERING BUSINESS INTUITION

# About Pentaho



- **Recognized leader** in business analytics & data integration
- **Subscription-based** business model
- Achieved **critical mass**:
  - Over **1,200 commercial customers**
  - Over **10,000 production deployments**
  - Over **185 countries**
- **Stewardship** of most important open source analytics projects

## INDUSTRY RECOGNITION



## OVER 160 PARTNERS GLOBALLY

accenture

High performance. Delivered.



# Why Customer Love Pentaho



Speed of Deployment



Marketing dashboard in less than 1 day



2 weeks time to market



8 weeks time to market



Fully rolled out in budget in 4 months

Innovation & Scalability



Music files from 20,000 sources



Operational reports at all 1000 retail stores



Analyzing buying patterns of 5 million members



Analytics on 500,000 patients records

Superior Customer Service



"... better functionality and more support"



"... top-notch professional support"



"Pentaho support is as good as its software"



"... a great partner through every phase of our project"

Total Value



75% lower acquisition costs



€350K+ cost saving



Less than 1 month ROI



"...ROI was almost immediate."

“Pentaho has expanded beyond the traditional BI market into the business analytics market”

*Powerful Analytics Made Easy*



*Business analytics makes extensive use of data, statistical and quantitative analysis, explanatory and predictive modeling, and fact-based management to drive decision making.*

*Analytics may be used as input for human decisions or may drive fully automated decisions.*

*Business intelligence is querying, reporting, OLAP, and "alerts".*

[http://en.wikipedia.org/wiki/Business\\_analytics](http://en.wikipedia.org/wiki/Business_analytics)

# High Level Feature/Functions



## Dashboards

Self-service Interactive  
KPI & Metrics and  
Visualization



## Reporting

Ad hoc and  
Operational  
Reports



## Analysis

Self-service Interactive and Ad  
Hoc Analysis



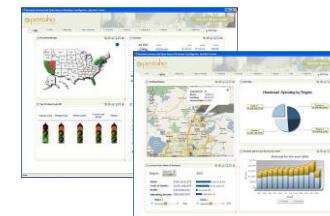
## Data

High Performance Data Integration, BIG  
DATA, Cleansing  
and Presentation

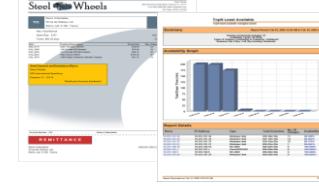


## Data Mining

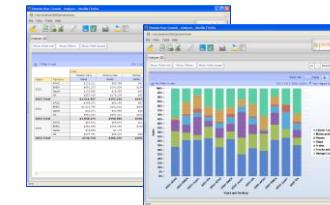
Advanced  
Predictive Analysis



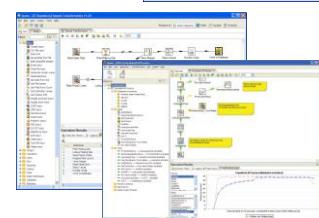
Information  
Consumers



Business Users



Knowledge  
Workers/  
Business Users

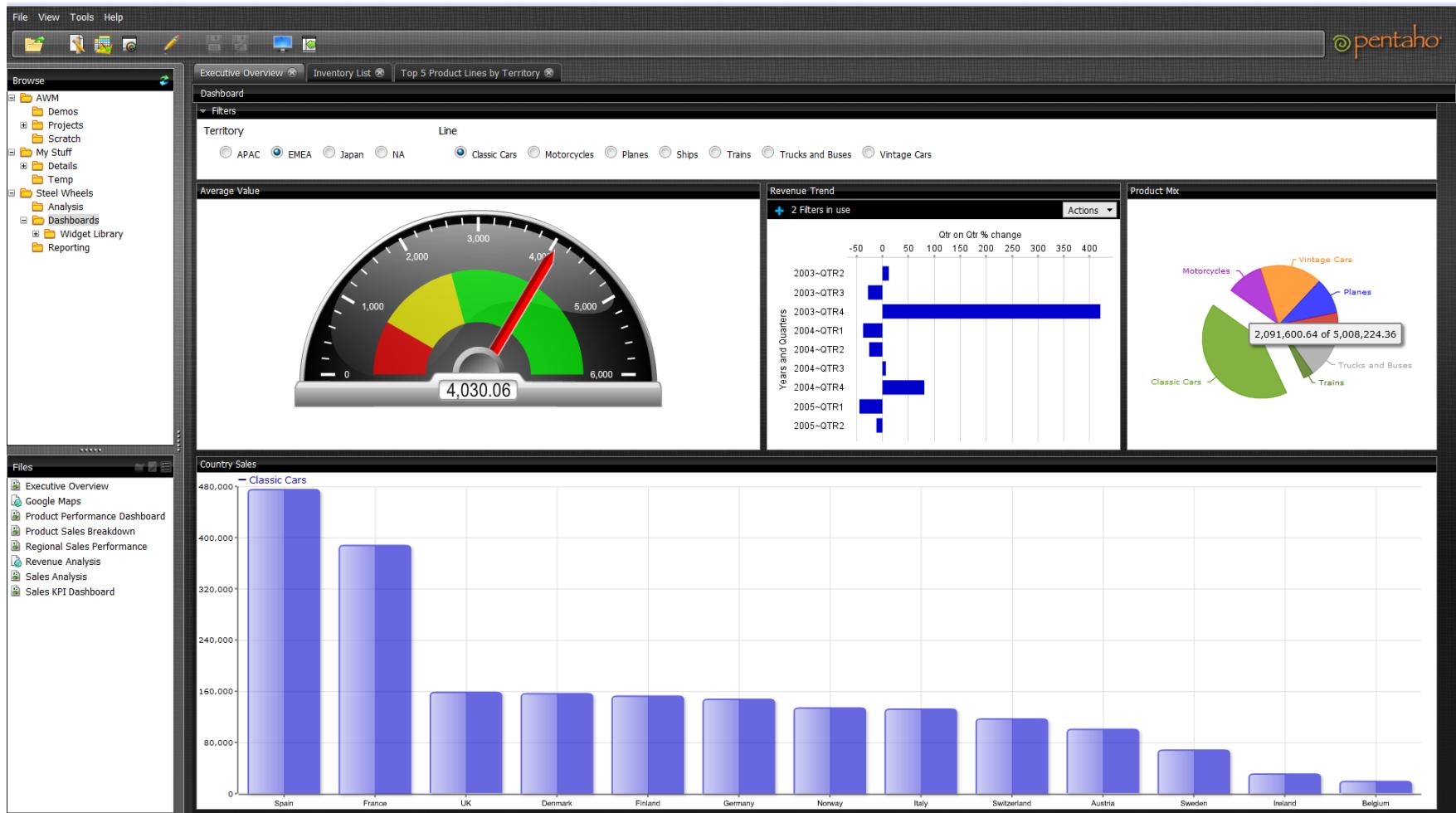


Power Users,  
Developers &  
DBAs



Advanced  
Power Users  
& Viewers

# Dashboards



# Dashboards

**Executive Overview**

**Average Value**

**Revenue Trend**

**Product Mix**

**Country Sales**

**Customer Product Mix**

**Sales History**

**Google Maps**

**Pentaho Google Maps Dashboard**

**Region**: North America

**Country**: United States

**Type of Travel**: Small Ocean Ships

**Conversion Ratio**

**Small Ocean Ships**

North America, United States

User Visits Website, 200K

User Selects Travel Destination, 180K

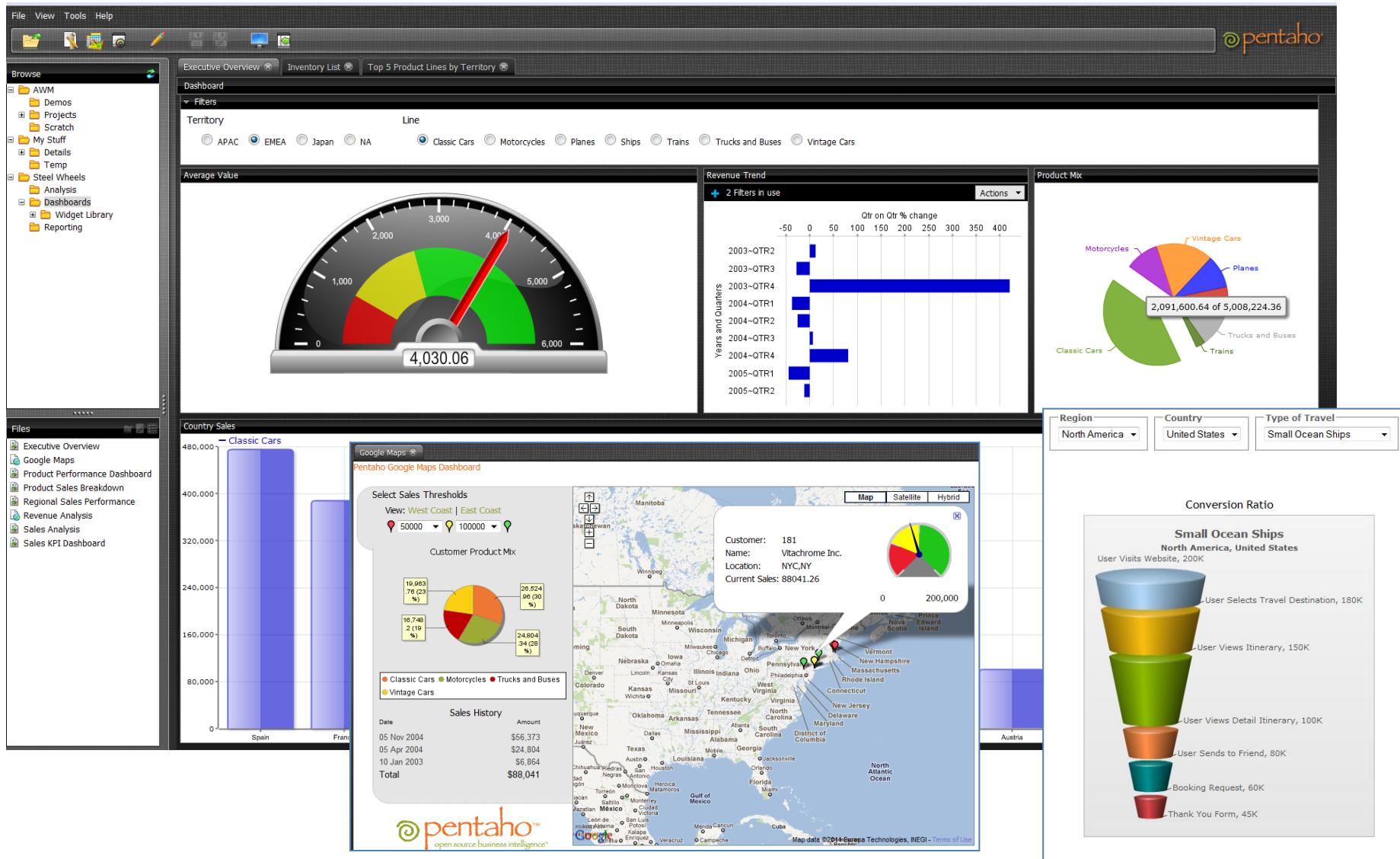
User Views Itinerary, 150K

User Views Detail Itinerary, 100K

User Sends to Friend, 80K

Booking Request, 60K

Thank You Form, 45K



# Dashboards

**Executive Dashboard**

Date Range: 1999-01-01 to 2003-12-31 | Year: 1999, 2000, 2001, 2002, 2003 | Quarter: 1, 2, 3, 4

**Policy Premium Revenue Analysis**

Region	Product	Policies	Policy(%)	Written Premium	Prem (%)
APAC	Camcorders	100	53%	\$668,164,913	\$314,446,189
EMEA	Cameras	100	55%	\$489,534,564	\$221,094,596
Japan	DVD Players	100	52%	\$253,250,868	\$122,247,785
NA	PDA Devices	100	54%	\$248,361,598	\$114,610,903
Classic Cars	Portables	100	53%	\$247,831,745	\$117,334,864
	VCRs	100	53%	\$132,760,019	\$62,050,316

**Claims Trend Time Series**

Zoom: 1d, 5d, 1m, 3m, 6m, 1y, max | 01/24/1999 - 12/30/2003 | Powered by Timedpedia Chronoscope

**Number of Claims Filed by Region**



**Profit Margin Scorecard**

State Code: CA

Prodcat	2007	2008	2009	2010	2011
Camcorders	Green	Green	Green	Green	Red
Cameras	Green	Green	Green	Green	Red
DVD Players	Green	Green	Green	Red	Red
PDA Devices	Green	Green	Green	Green	Red
Portables	Green	Green	Green	Green	Red
VCRs	Green	Green	Green	Green	Red

Run Date: Wed Jan 04 05:46:42 EST 2012

**Customer Profitability 80:20**

Product Name	Revenue	Margin	Margin % Actual	Margin % Cum	# of ..
Total	\$ 6,893,568	\$ 2,974,300	56.9%	100%	
Samsung -V2000 Player	\$ 1,413,696	\$ 605,778	42.9%	3.7%	3.7%
Toshiba SD-1800	\$ 1,173,271	\$ 524,607	44.7%	6.8%	10.5%
Nikon 5700 5.0 Digital	\$ 1,138,170	\$ 618,333	71.9%	9.8%	20.3%
Sony DCR-P5 MRCOMV	\$ 1,029,173	\$ 476,091	46.3%	12.5%	32.8%
Sony MVC-C50 Digital	\$ 916,469	\$ 622,282	67.9%	14.9%	47.7%
Sony MZ-N505 MP3	\$ 571,672	\$ 471,867	82.5%	16.4%	64.1%
Sony Cle PEG-SL10	\$ 519,225	\$ 320,429	61.7%	17.8%	81.9%
Toshiba PDR-330 Digital	\$ 131,832	\$ 79,821	60.5%	18.1%	100%

**FireFox Sample Only - Claims Time Series - 3rd party integration**

Zoom: 1d, 5d, 1m, 3m, 6m, 1y, max | 01/24/1999 - 12/30/2003 | Powered by Timedpedia Chronoscope

**User Activity Funnel**

- User Views Detail Itinerary, 100K
- User Sends to Friend, 80K
- Booking Request, 60K
- Thank You Form, 45K

# Reports – Interactive, Static, Distributed



File View Tools Help

Executive Overview Inventory List Top 5 Product Lines by Territory

Report Parameters

Line: Ships

Show Bar Section Show Report Notes Output Type: HTML (Paginated)

View Report Auto-Submit

Page: 1 / 7

## Steel Wheels

**LINE: Classic Cars**

Vendor	BAR CODE	SKU	Model
Autoart Studio Design		S12_1099	1968 Ford Mustang
Description: Hood, doors and trunk all open to reveal highly detailed interior features.			
68			
Carousel DieCast Legends		S24_1628	1966 Shelby Cobra 427
Description: This diecast model of the 1966 Shelby Cobra 427 S/C includes many a sports car from the 1960s comes in silver and it's own display case.			
Description: The operating parts of this 1958 Chevy Corvette Limited Edition are pa. Features rotating wheels, working steering, opening doors and trunk. Color: dark g			
2,542		S24_2840	1958 Chevy Corvette LL
Description: Features include opening and closing doors. Color: White. Measures approximately 9 1/2 Long.			

**Steel Wheels, Inc. Income Statement**  
From June 1 through June 30, 2005

Revenue	\$ 550,000
Direct Sales	150,000
Channel Sales	
<b>Total Revenue</b>	<b>\$ 550,000</b>
Beginning inventory	40,000
Net purchases	325,000
Ending inventory	35,000
<b>Gross Margin</b>	<b>\$ 330,000</b>
Cost of goods sold	\$ 220,000
<b>Expenses</b>	
Selling expenses	
Sales salaries	48,000
Nonrecurring item	12,000
Other	13,000
Total Selling expenses	73,000
General and administrative expenses	
Office salaries	27,100
Depreciation	5,500
Amortization	3,200
Bad debt	4,500
Other	24,200
Total General and administrative expenses	64,500
<b>Total Expenses</b>	<b>\$ 137,500</b>
Other revenues	5,200
Interest	7,200
Dividends	8,600
Gain on sale of equipment	
Total Other revenues	\$ 21,000
Other expenses	
Interest	9,400
Writeoff - goodwill	5,000
Unusual item - loss on sale of long-term investment	5,100
Total Other expenses	\$ 19,500
Income tax expense	33,600
Extraordinary item - gain on disposal of business segment	24,000
Other Comprehensive Income	12,000
<b>Net Income</b>	<b>\$ 86,400</b>

Report Run: Thu Nov 17 21:10:34 GMT 2011

# Reports – Reporting Pack & House Styles



Product Lines by Territory - Report Pack | Shipped Orders by Territory - Report Pack

**Product Lines within Territory**

**Territory: APAC**

Product Line	Total	Quantity Ordered
Ships	\$38,393.48	428
Trains	\$9,907.07	139
Classic Cars	\$411,956.24	3,852
Trucks and Buses	\$145,665.69	1,380
Planes	\$121,426.20	1,330
Vintage Cars	\$364,538.92	3,897
Motorcycles	\$189,818.23	1,852
	<b>\$1,281,705.83</b>	<b>12,878</b>

**Territory: EMEA**

Product Line	Total	Quantity Ordered
Trucks and Buses	\$500,979.82	4,855

**Insurance Premium by Region**

Region	Product	Policies	Policy(%)	Written Premium	Prem (%)
<b>East</b>	Home	801,529	13.23%	\$208,317,728	13.07%
	<b>Total:</b>	801,529	13.23%	<b>\$208,317,728</b>	<b>13.07%</b>
<b>North</b>	Health	159,806	2.64%	\$43,435,646	2.73%
	Other	456,201	7.53%	\$118,391,235	7.43%
	<b>Total:</b>	616,007	10.17%	<b>\$161,826,881</b>	<b>10.15%</b>
<b>South</b>	Business	1,969,338	32.51%	\$520,210,302	32.64%
	Life	835,262	13.79%	\$219,653,345	13.78%
	<b>Total:</b>	2,804,600	46.31%	<b>\$739,863,648</b>	
<b>West</b>	Auto	1,598,031	26.38%	\$419,505,962	
	Business	221,918	3.66%	\$59,743,459	
	Health	554	0.01%	\$176,058	
	Home	2,050	0.03%	\$633,178	
	Life	7,742	0.13%	\$2,260,697	
	Other	4,329	0.07%	\$1,295,208	
<b>Total:</b>	1,834,624	30.29%	<b>\$483,614,564</b>		
	6,056,760	100%	\$1,593,622,820		

Available Fields For: Orders  
 Customer  
 AddressLine1  
 AddressLine2  
 City  
 Contact Name  
 Country  
 Credit Limit  
 Customer Name  
 Customer Number  
 Name  
 Phone  
 PostalCode  
 State  
 Territory  
 =Customer  
 =Order  
 =OrderDetail  
 =OrderHeader  
 =OrderLine  
 =OrderN  
 =PriceSolv  
 =Quantity  
 =Required  
 =Shipped  
 =Status  
 =Total  
 =Payments  
 Amount  
 Check No.  
 Payment

Report Parameters  
 Page 1 / 1

**Shipped Orders by Territory**

Countries are counted per Territory

Quantity Ordered & Total Revenue are being Totalled

**Territory : NA**

Country	Quantity Ordered	Total
	32,923	3,372,204.3
	2,293	224,078.56
	35,216	<b>\$3,596,282.86</b>

Country	Quantity Ordered	Total
	1,524	172,989.68
	961	94,015.73
	1,842	188,167.81
	596	48,784.36
	4,923	<b>\$503,957.58</b>

**YTD Trend by Product - (x)**

Product	Written Premium	Avg Premium	YTD Trend by Month
Auto	\$419,505,962	\$20,885	
Business	\$579,953,762	\$27,141	
Health	\$43,611,704	\$26,987	
Home	\$208,950,906	\$28,753	
Life	\$221,914,042	\$20,493	
Other	\$119,686,444	\$17,042	
<b>Total:</b>	<b>\$1,593,622,820</b>		

# Analyzer

**Top 5 Product Lines by Territory**

**Years**

Territory	Line	2003			2004			2005		
		Sales	Quantity	Unit Sales	Sales	Quantity	Unit Sales	Sales	Quantity	Unit Sales
APAC	Classic Cars	\$115,011	1,052	\$109	\$199,372	1,785	\$112	\$97,574	1,015	\$96
	Vintage Cars	\$111,639	1,243	\$90	\$147,212	1,587	\$89	\$105,688	1,067	\$99
	Motorcycles	\$60,789	654	\$93	\$63,159	540	\$117	\$65,870	658	\$100
	Trucks and Buses	\$11,298	91	\$124	\$80,634	801	\$101	\$53,735	488	\$110
	Planes	\$42,663	456	\$94	\$67,681	723	\$94	\$11,082	151	\$73
<b>APAC Total</b>	<b>\$341,400</b>	<b>3,496</b>	<b>\$98</b>	<b>\$558,057</b>	<b>5,436</b>	<b>\$103</b>	<b>\$333,948</b>	<b>3,379</b>	<b>\$99</b>	
EMEA	Classic Cars	\$691,273	5,853	\$118	\$1,015,790	8,976	\$113	\$384,538	3,463	\$111
	Vintage Cars	\$85	85	\$85	\$504,062	5,472	\$92	\$83,324	1,094	\$76
	Motorcycles	\$94	94	\$94	\$204,042	2,177	\$94	\$161,260	1,501	\$107
	Trucks and Buses	\$101	101	\$101	\$185,421	1,558	\$119	\$86,859	836	\$104
	Planes	\$90	209,128	2,326	\$90	\$128,008	1,464	\$87		
<b>EMEA Total</b>	<b>\$1,480,021</b>	<b>14,359</b>	<b>\$103</b>	<b>\$2,118,443</b>	<b>20,509</b>	<b>\$103</b>	<b>\$843,989</b>	<b>8,358</b>	<b>\$101</b>	
Japan	Classic Cars	\$120,695	898	\$134	\$42,071	307	\$137	\$18,835	122	\$154
	Planes	\$60,556	677	\$86	\$504,062	5,472	\$92	\$83,324	1,094	\$76
	Trucks and Buses	\$44,498	415	\$107	\$13,349	102	\$131	-	-	-
	Motorcycles	\$16,485	205	\$80	\$135,936	1,288	\$105	\$135,936	1,288	\$105
	Vintage Cars	\$22,888	308	\$74	\$265,123	2,503	\$106	\$587,428	4,959	\$118
<b>Japan Total</b>	<b>\$1,273,216</b>	<b>12,237</b>	<b>\$104</b>	<b>\$1,359,761</b>	<b>32,595</b>	<b>\$103</b>	<b>\$1,273,216</b>	<b>12,237</b>	<b>\$104</b>	
<b>NA Total</b>	<b>\$1,273,216</b>	<b>12,237</b>	<b>\$104</b>	<b>Grand Total</b>	<b>\$3,359,761</b>	<b>32,595</b>	<b>\$103</b>			

**Analyzer Report**

**Unsaved Report**

**Country includes USA**

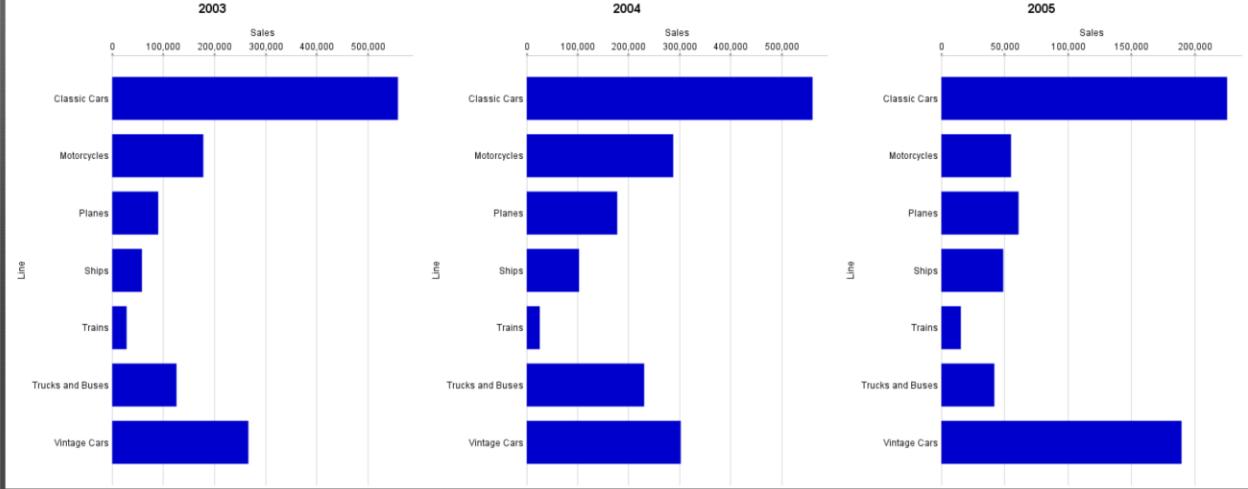
**2003**

**2004**

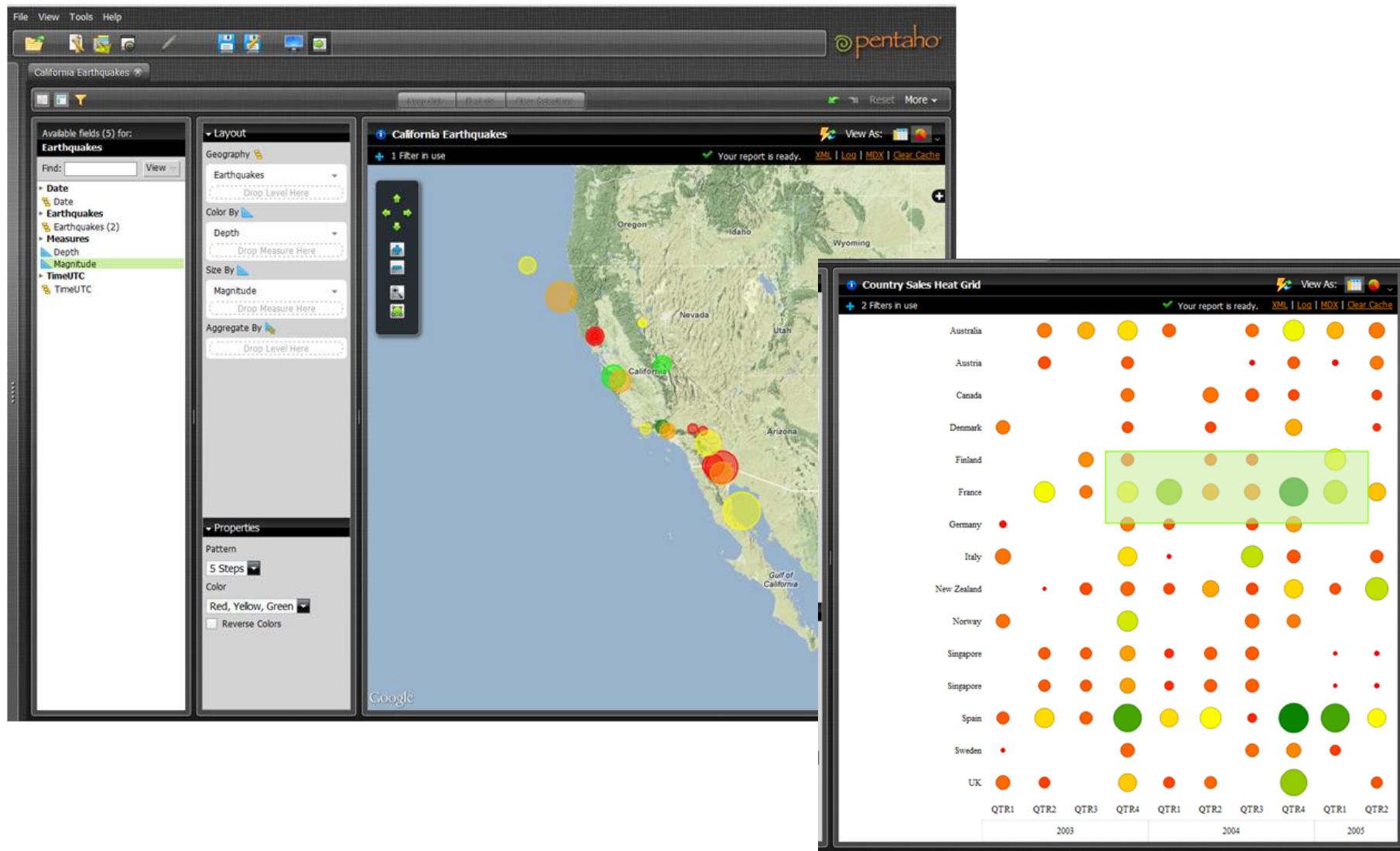
**2005**

**Sales**

**Line**



# Analyzer



# High Level Feature/Functions



## Dashboards

Self-service Interactive  
KPI & Metrics and  
Visualization



## Reporting

Ad hoc and  
Operational  
Reports



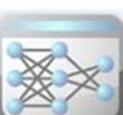
## Analysis

Self-service Interactive and Ad  
Hoc Analysis



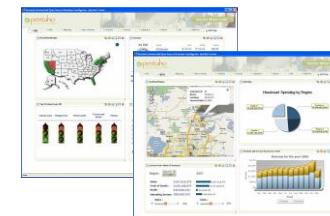
## Data

High Performance Data Integration, BIG  
DATA, Cleansing  
and Presentation

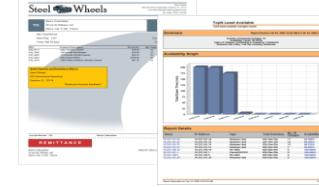


## Data Mining

Advanced  
Predictive Analysis



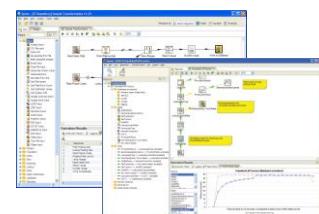
Information  
Consumers



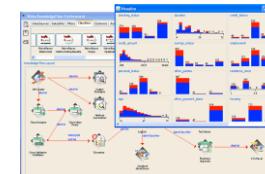
Business Users



Knowledge  
Workers/  
Business Users

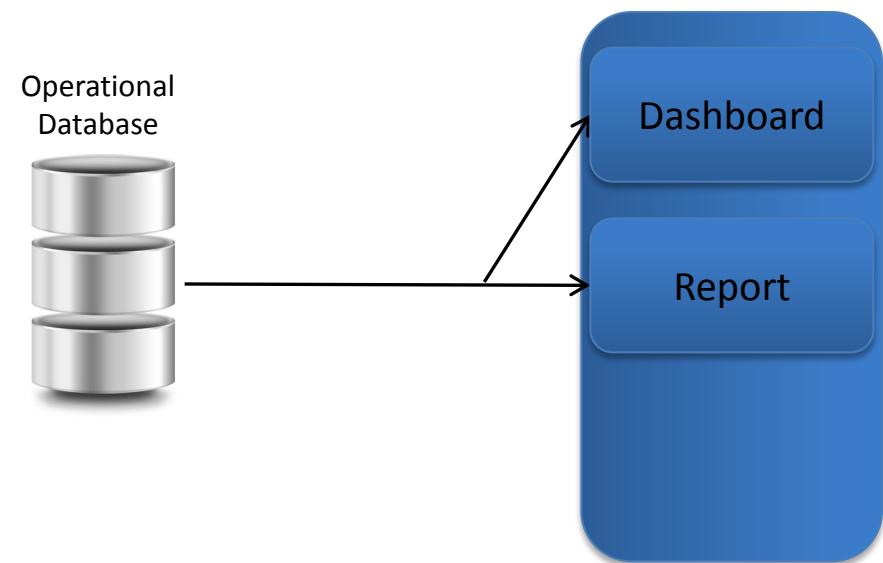


Power Users,  
Developers &  
DBAs

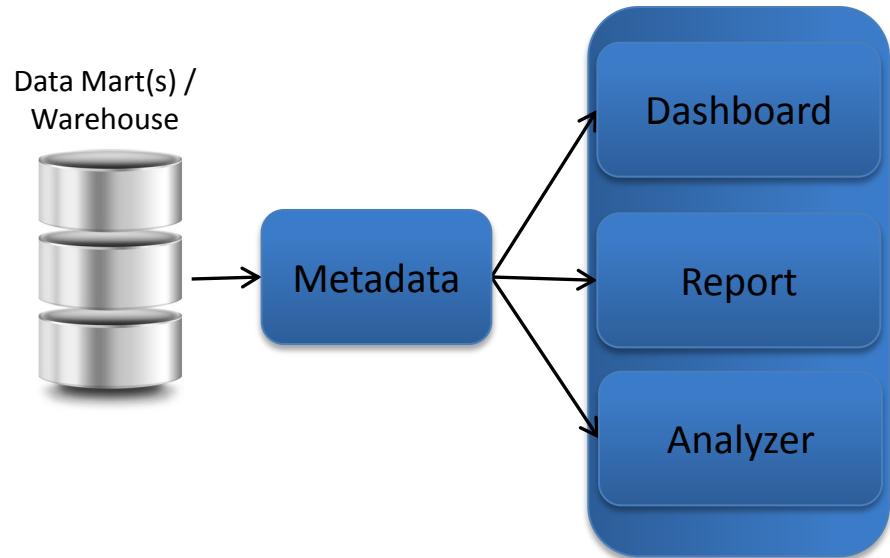


Advanced  
Power Users  
& Viewers

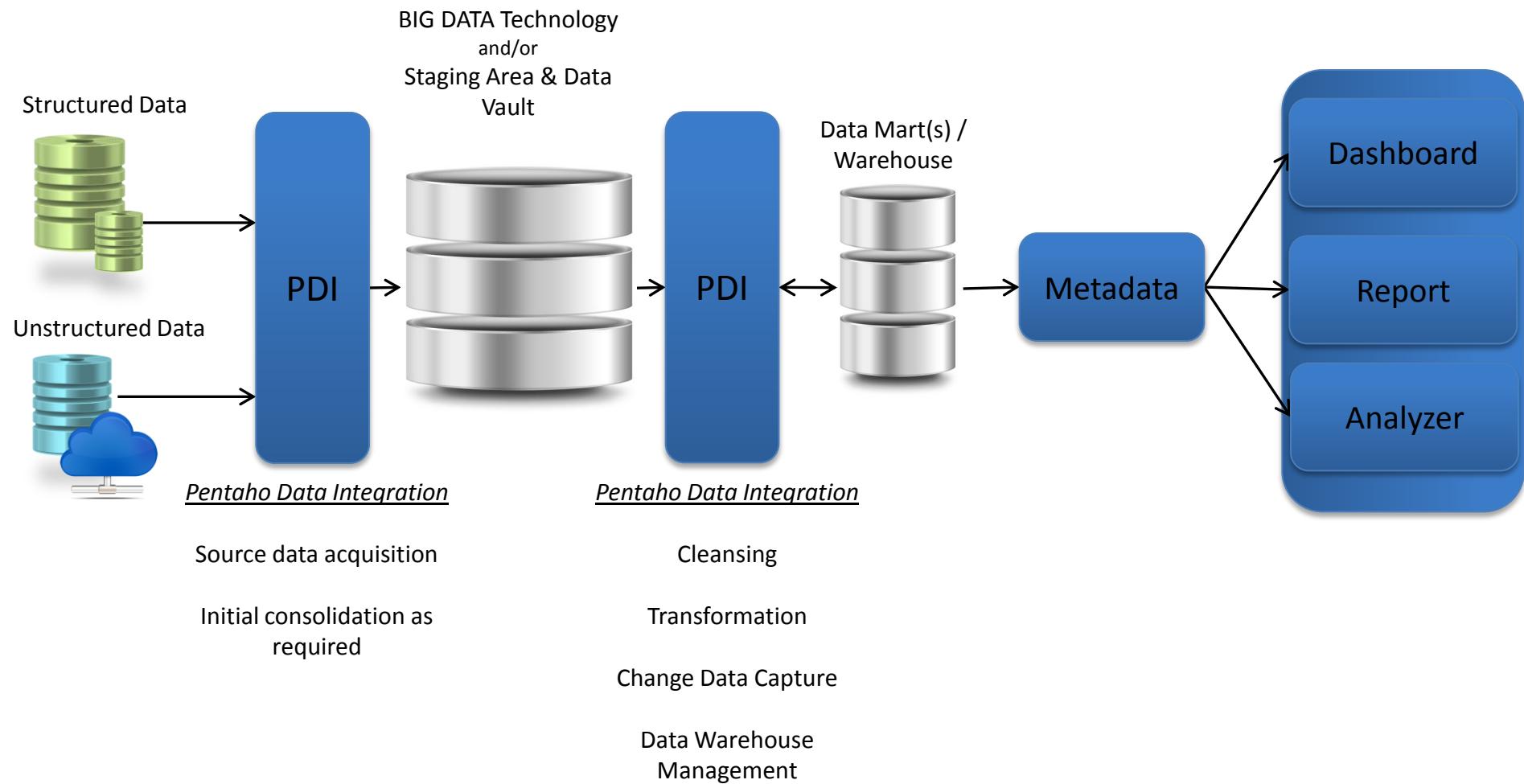
# Scenario 1



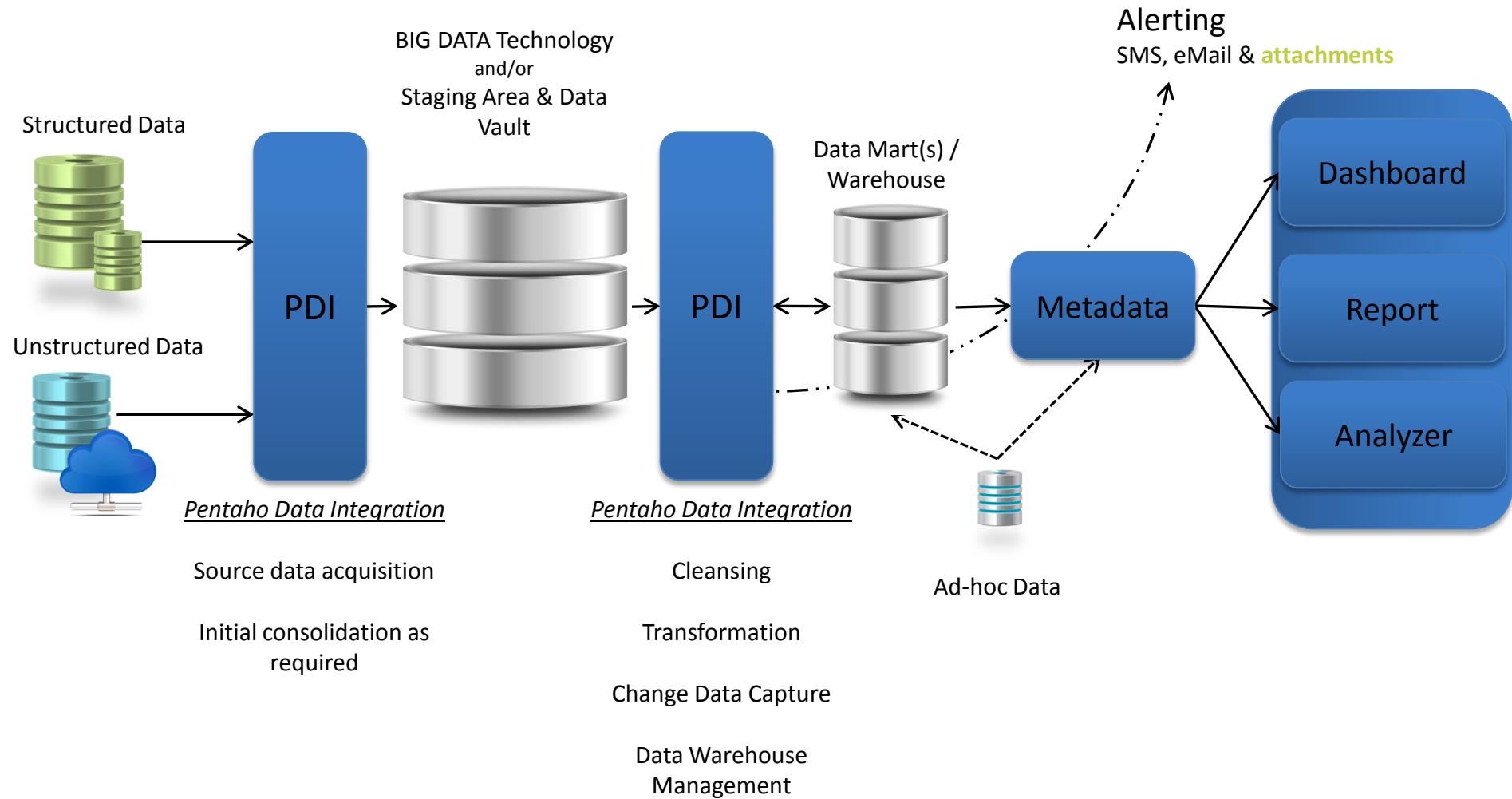
# Scenario 2



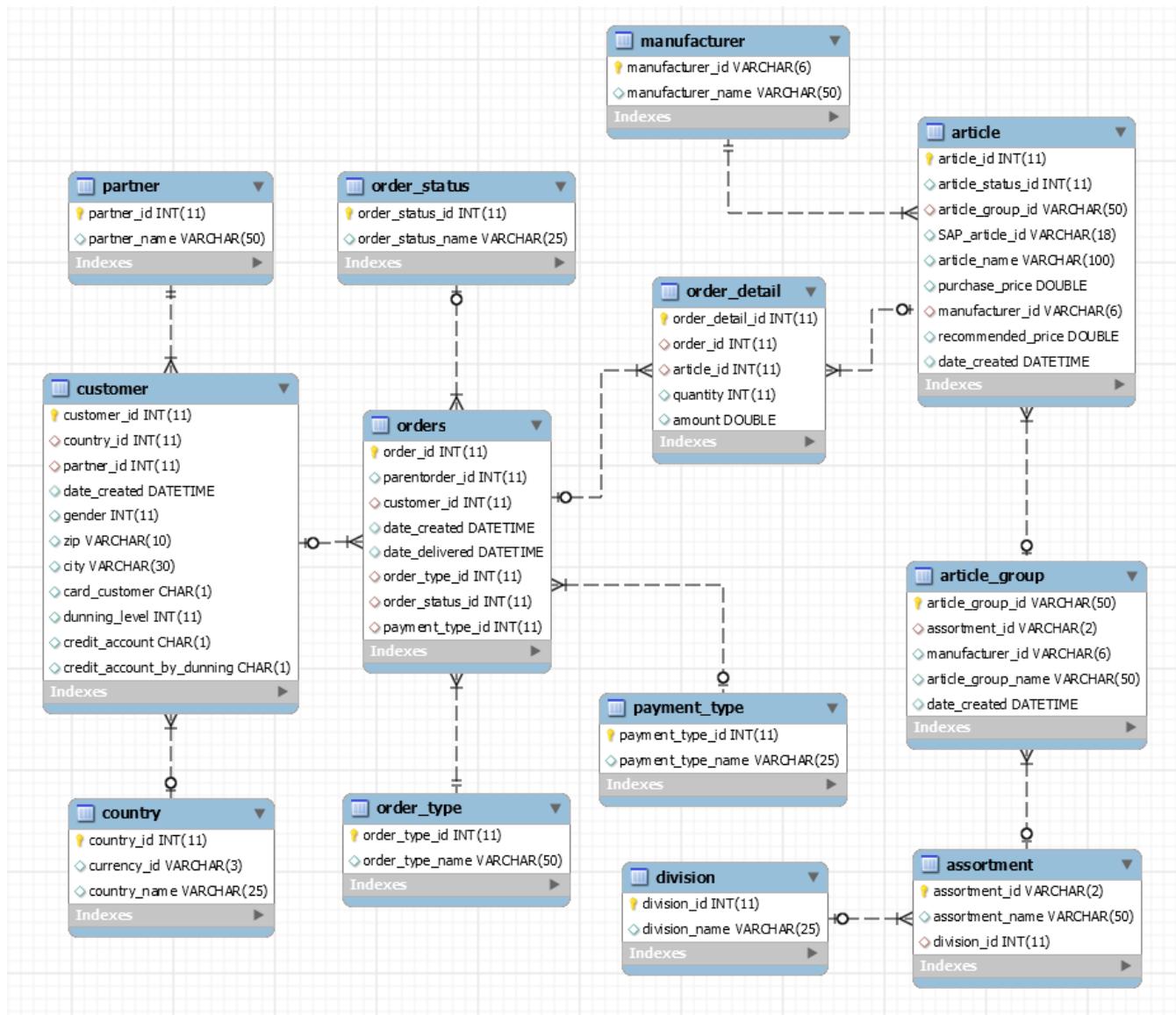
# Scenario 3



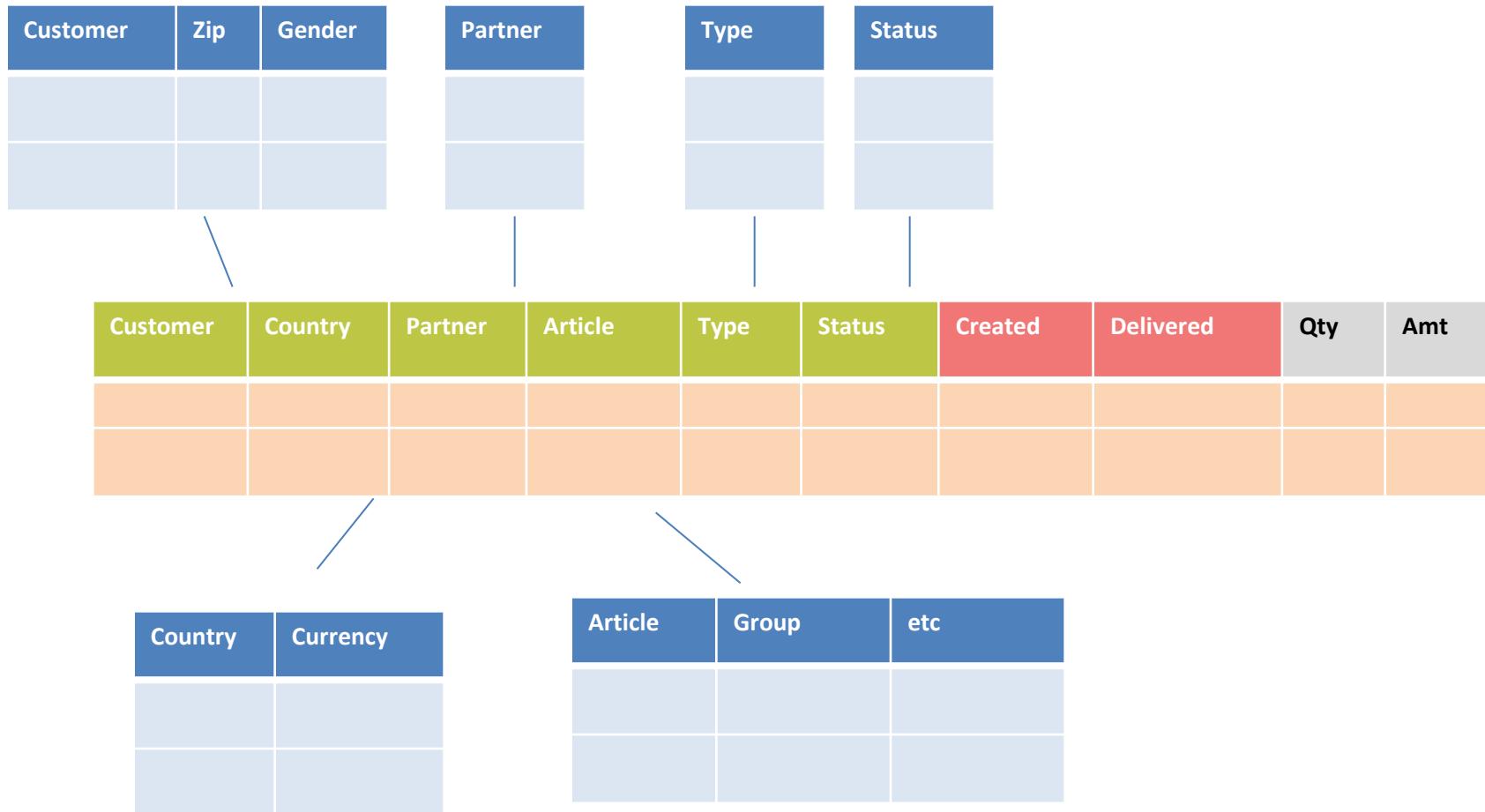
# Variations on a Theme



# OLTP Database Structure



# Star Schema

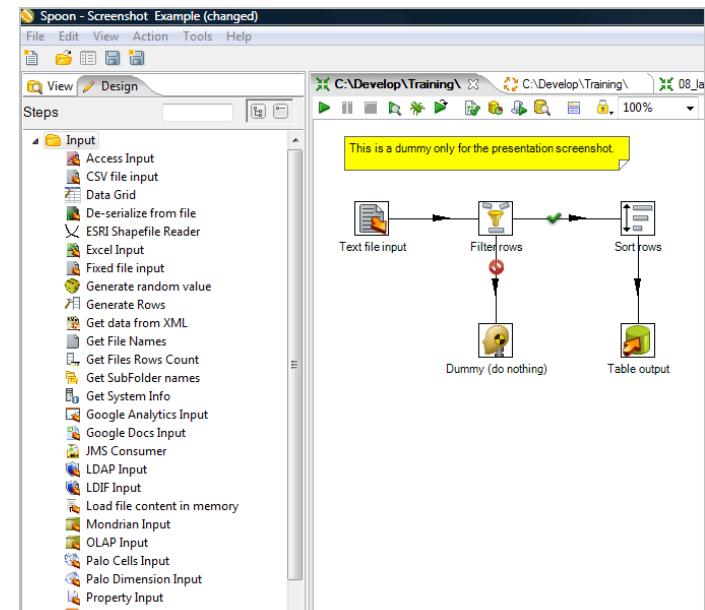


# PDI Components

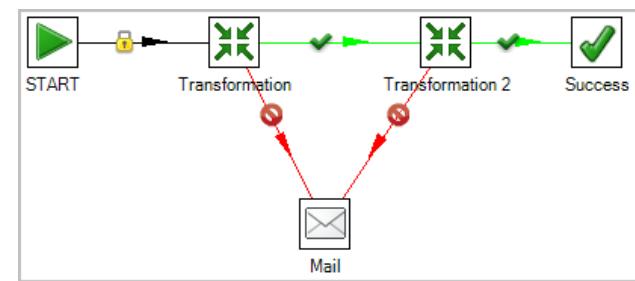


- **Spoon**
  - Graphical environment for modeling
  - Transformations are metadata models describing the flow of data
  - Jobs are workflow-like models for coordinating resources, execution and dependencies of ETL activities
- **Pan**
  - Command line tool for executing transformations modeled in Spoon
- **Kitchen**
  - Command line tool for executing jobs modeled in Spoon
- ... and of course **Kettle**
  - The **Engine** itself

KDE ETTL Environment

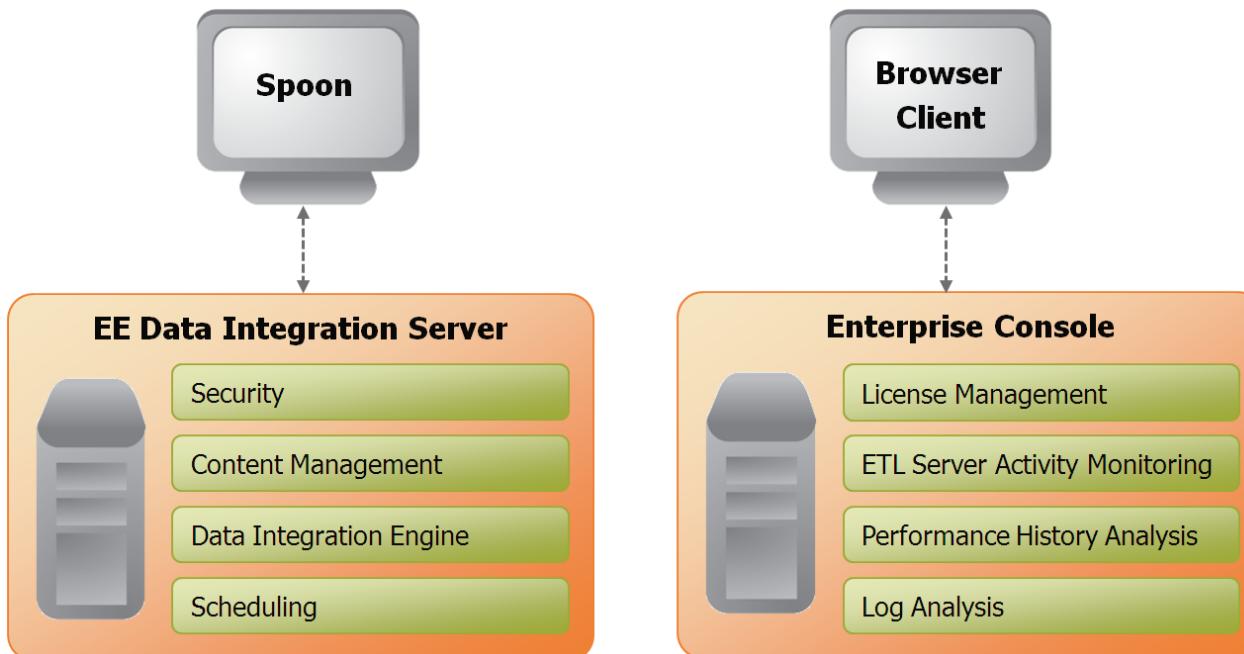


*Spoon Interface – Designing a Transformation*



*Job Example*

- Enterprise Edition Data Integration Server
  - Execution and remote monitoring
  - Integrated scheduling
  - Enterprise Security options
  - Enhanced content management including revision history and locking
  - Remote distributed cluster based processing



# Pentaho Data Integration



Step based processing engine with instant visualisation of results

The screenshot illustrates the Pentaho Data Integration (PDI) environment. At the top, the main window is titled "Spoon - [PDIV4Respos] GST with Deal Size v1.7" and shows a "Data Integration" perspective. Below the menu bar, there's a toolbar with various icons for file operations like Open, Save, and Print. The main workspace displays a flow diagram of data steps:

- A "Read Sales Data" step feeds into a "Filter Null Zips" step.
- "Filter Null Zips" feeds into a "Sort out zip codes" step.
- "Sort out zip codes" feeds into a "Check Country Name" step.
- "Check Country Name" feeds into a "Number range" step.
- "Number range" feeds into a "Write to Db" step.
- A separate "Read Postal Codes" step feeds into a "Lookup missing zips" step, which then feeds into the "Sort out zip codes" step.

A blue oval highlights the "Perspective" dropdown at the top right of the main window, and a blue arrow points from it down to another "Spoon" window below. This second window is also titled "Spoon - [PDIV4Respos] GST with Deal Size v1.7" and shows an "Untitled (2)" tab. It has its own toolbar and workspace. In the workspace, the "Execution Results" tab is selected, displaying a table of step metrics:

#	Stepname	Copynr	Read	Written
1	Read Sales Data	0	0	2823
2	Filter Null Zips	0	2823	2823
3	Lookup missing zips	0	21455	76
4	Read Postal Codes	0	0	21379
5	Sort out zip codes	0	76	76
6	Check Country Name	0	2823	2823
7	Number range	0	2823	2823
8	Write to Db	0	2823	2823

To the right of the table, there's a sidebar titled "Available fields (31) for: Model 4" listing various data fields. Below the table, an "Untitled (2)" tab is open, showing an "Unsaved Report" with a grid of sales data by territory and year:

Territory	2003		2004		2005	
	Sales Revenue	Quantity	Sales Revenue	Quantity	Sales Revenue	Quantity
APAC	\$253,134	2,514	\$345,308	3,401	\$147,680	1,567
EMEA	\$1,660,315	16,495	\$2,389,129	23,574	\$929,829	9,237
Japan	\$243,773	2,255	\$168,479	1,692	\$42,921	380
NA	\$1,359,757	13,348	\$1,821,247	18,157	\$671,057	6,447

At the bottom right, the Pentaho logo is visible, consisting of the word "pentaho" in a stylized orange font with a small circle above the "p".

# Pentaho Data Integration



## Integrated Metadata Creation

The screenshot illustrates the integrated metadata creation feature in Pentaho Data Integration (PDI). It shows two windows side-by-side:

- Spoon - [PDIV4Respos] GST with Deal Size v1.7**: This window displays a Data Integration job. The top navigation bar shows "Perspective: Data Integration". The job flow consists of several steps: "Read Sales Data", "Filter Null Zips", "Sort out zip codes", "Check Country Name", "Read Postal Codes", and "Lookup missing zips". The "Check Country Name" step is highlighted with a red circle and a red arrow points from it to the "Modeler" window.
- Spoon - [PDIV4Respos] GST with Deal Size v1.9**: This window displays the Modeler perspective. The top navigation bar also shows "Perspective: Data Integration". The "Modeler" tab is active. On the left, the "Available" list shows various metadata objects. On the right, the "Properties" panel is open for the "SalesValue" source column, showing settings for "Source Column" (SalesValue), "Display Name" (SalesValue), "Selected Aggregation" (SUM), and "Format" (NONE).

# Metadata – Schema Workbench



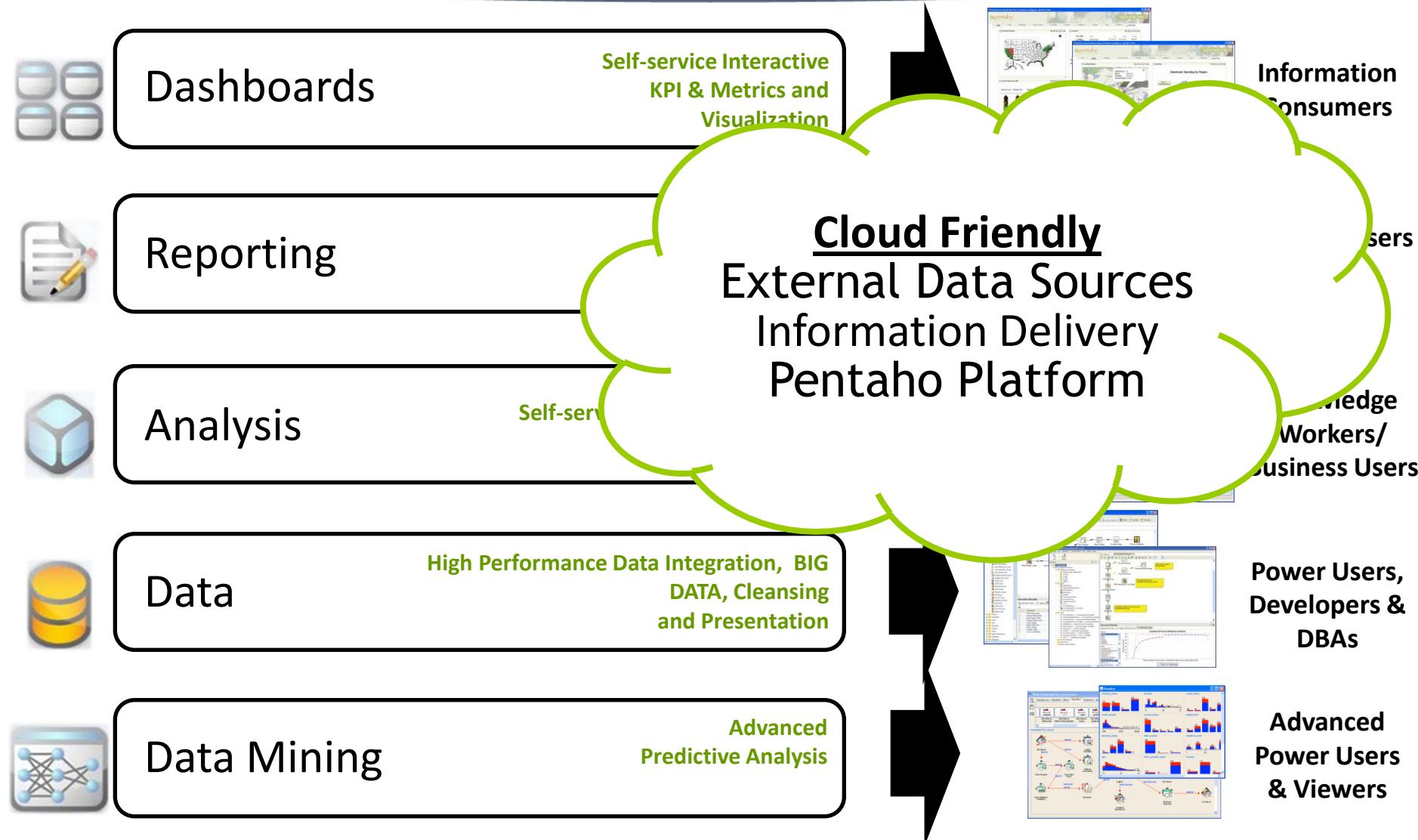
Complex calculations and multi-cube requirements may need more modeling

The screenshot shows the Schema Workbench application window. On the left, the schema browser displays various dimensions and measures, including Sales, Store, Product, and Time. Two specific items are circled with blue ovals: 'Table: sales\_1st\_1997' under the Sales dimension and 'CM Profit' under the CM (Calculated Member) section. A large blue oval encloses the 'Calculated Member for 'Sales' Cube' editor on the right, which contains the following details:

Attribute	Value
name	Profit
description	
caption	
dimension	Measures
visible	
formula   formulaElement	[Measures].[Store Sales] - [Measures].[Store Cost]
formatString	

Below the editor, the 'Store' dimension is expanded, showing its hierarchy from 'Store' down to 'Store Name' and finally 'Table: store'. A blue arrow points from the circled 'CM Profit' in the schema browser to the circled 'Calculated Member for 'Sales' Cube' editor.

# High Level Feature/Functions



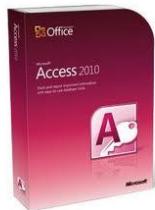
# “Traditional” Database Support



## DATA ANALYSIS



**ORACLE**



*Apache Derby*



**INGRES**

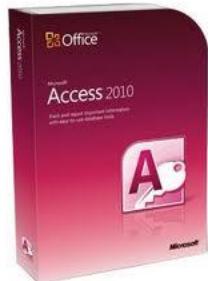
**HyperSQL**



## DATA INTEGRATION



**ORACLE**



**INGRES**





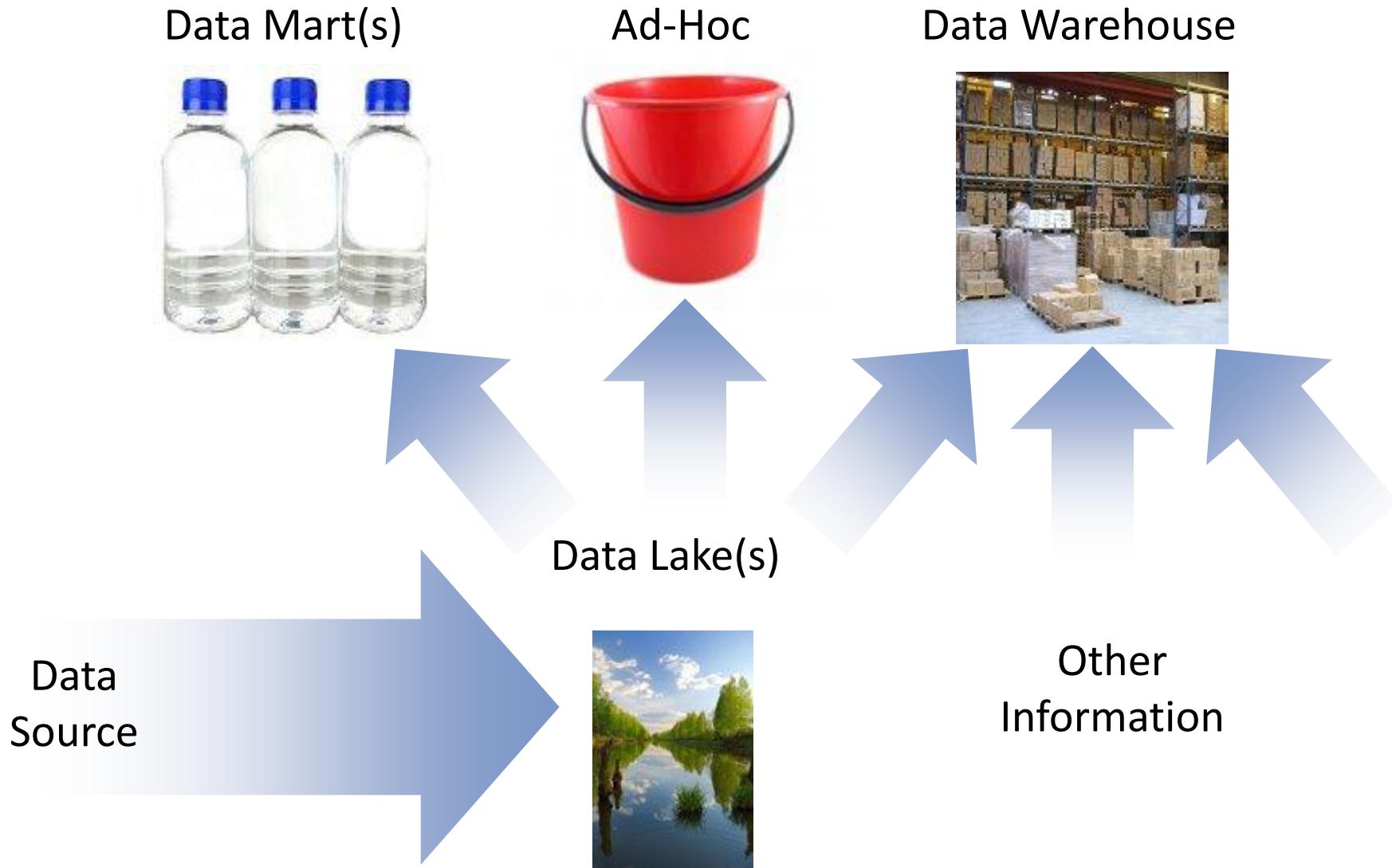
## DATA ANALYSIS



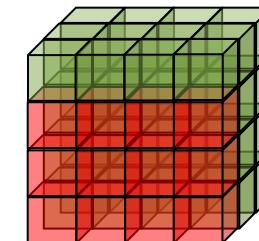
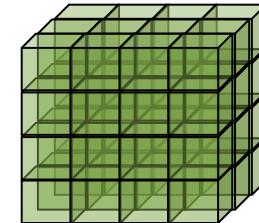
## DATA INTEGRATION



# Big Data Architecture



- Extreme scale in-memory data analysis
  - Predictable high-performance
  - Increased scalability
  
- In-memory aggregation
  - Faster performance
  - Reduced load on the database
  
- Leverage “new” Analytic Databases



# High Level Feature/Functions



## Dashboards

Self-service Interactive  
KPI & Metrics and  
Visualization



## Reporting

Ad hoc and  
Operational  
Reports



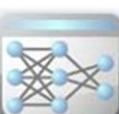
## Analysis

Self-service Interactive and Ad  
Hoc Analysis



## Data

High Performance Data Integration, BIG  
DATA, Cleansing  
and Presentation

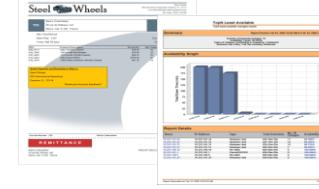


## Data Mining

Advanced  
Predictive Analysis



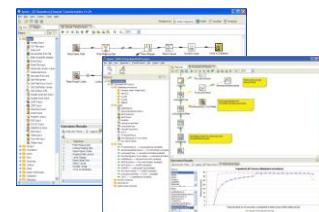
Information  
Consumers



Business Users



Knowledge  
Workers/  
Business Users

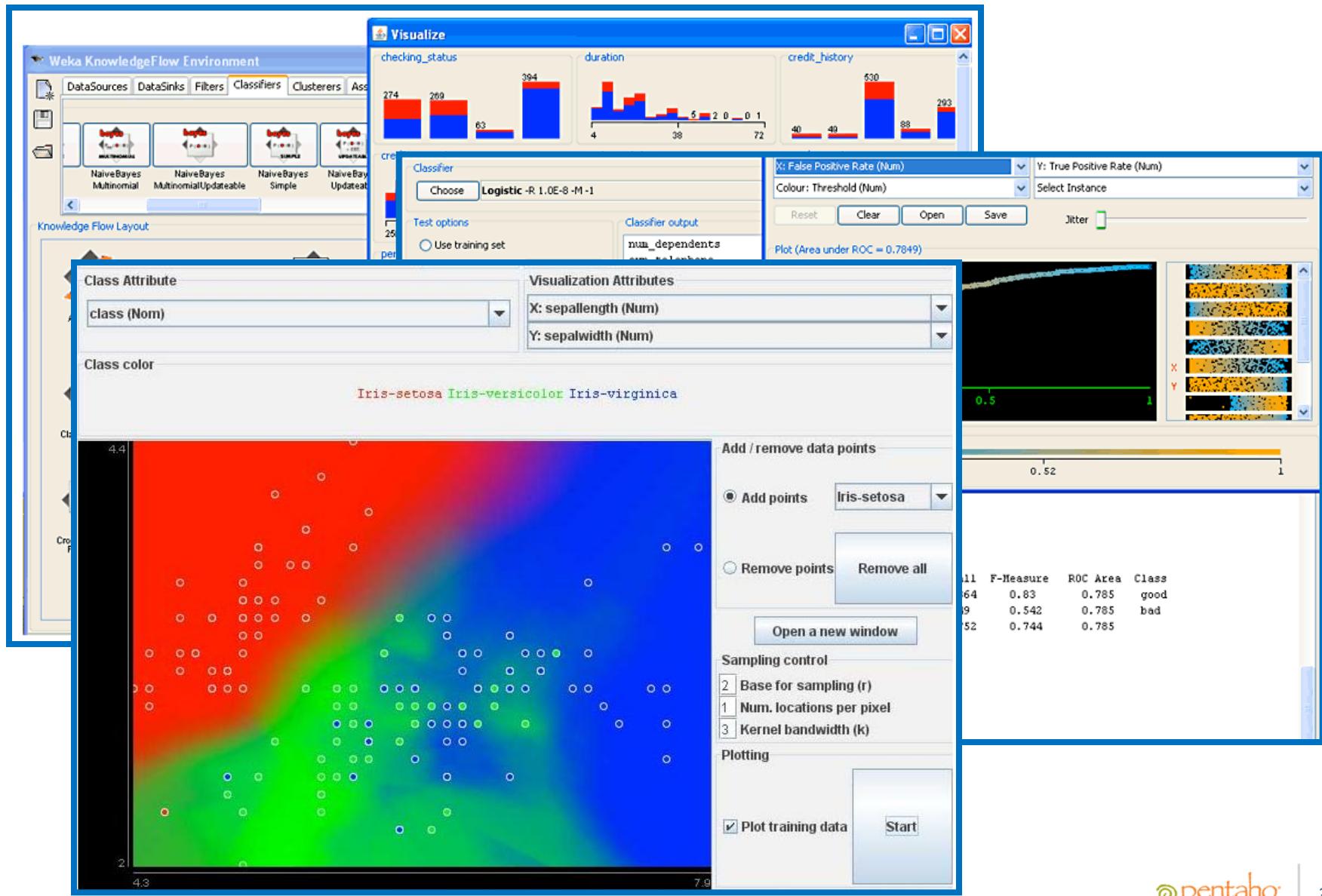


Power Users,  
Developers &  
DBAs



Advanced  
Power Users  
& Viewers

# Tell me something new



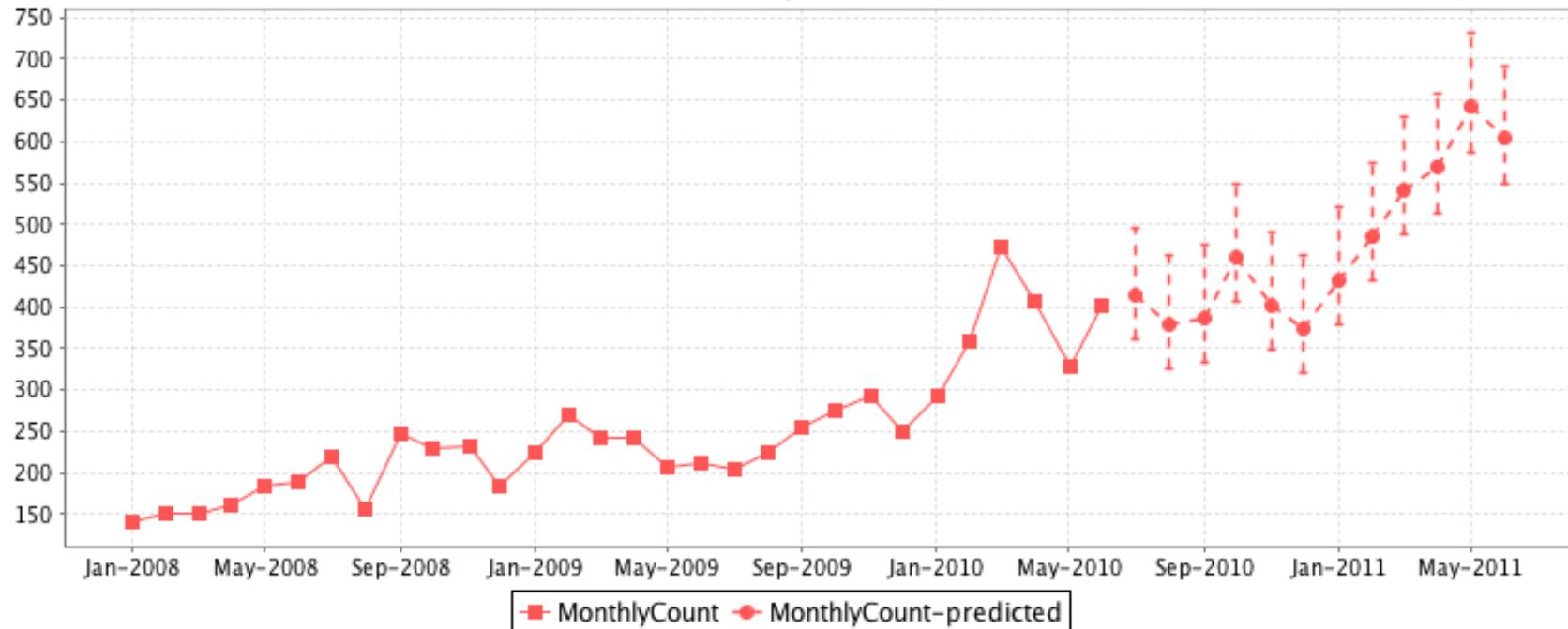
# Tell me something new



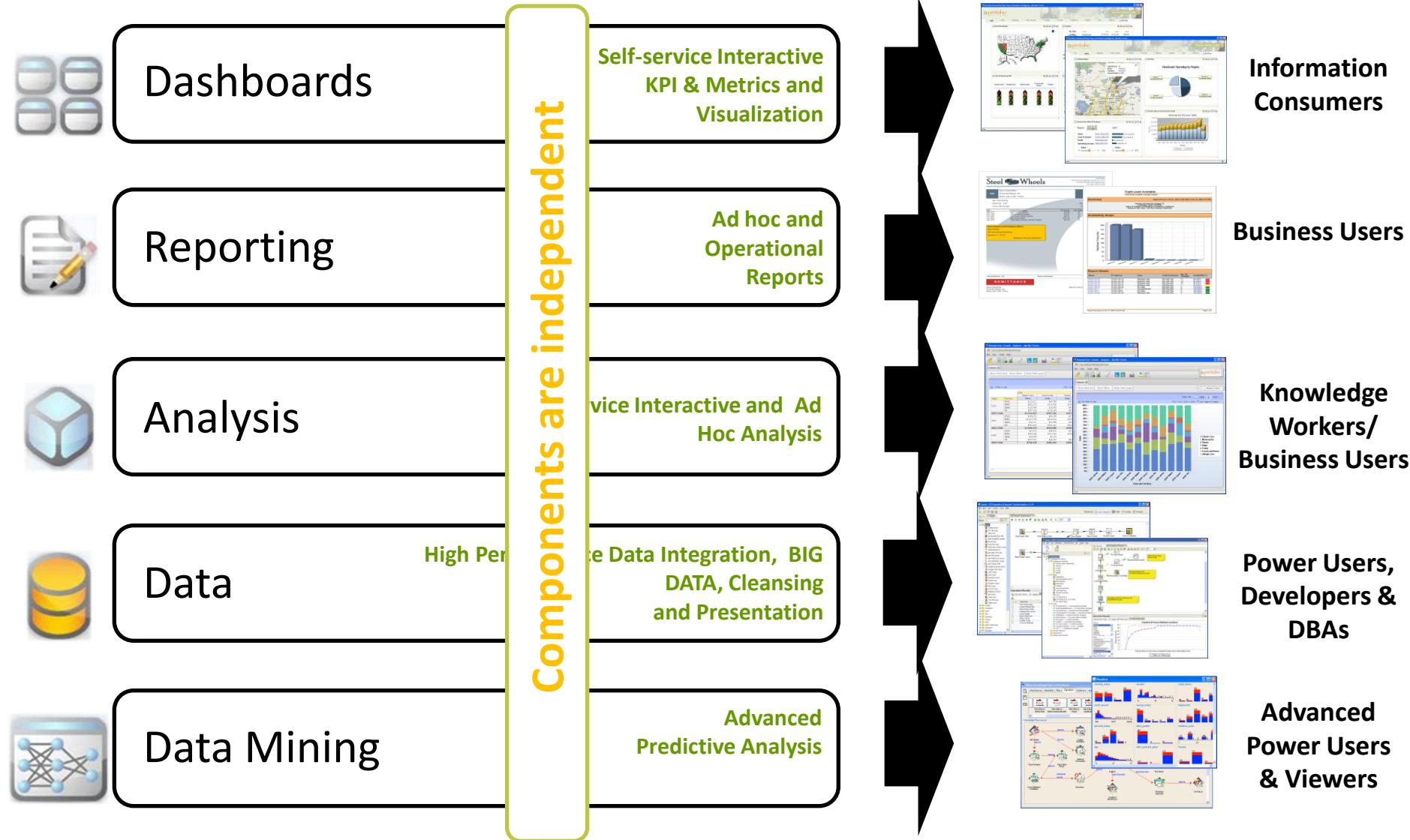
## Output/Visualization

Output Train future pred.

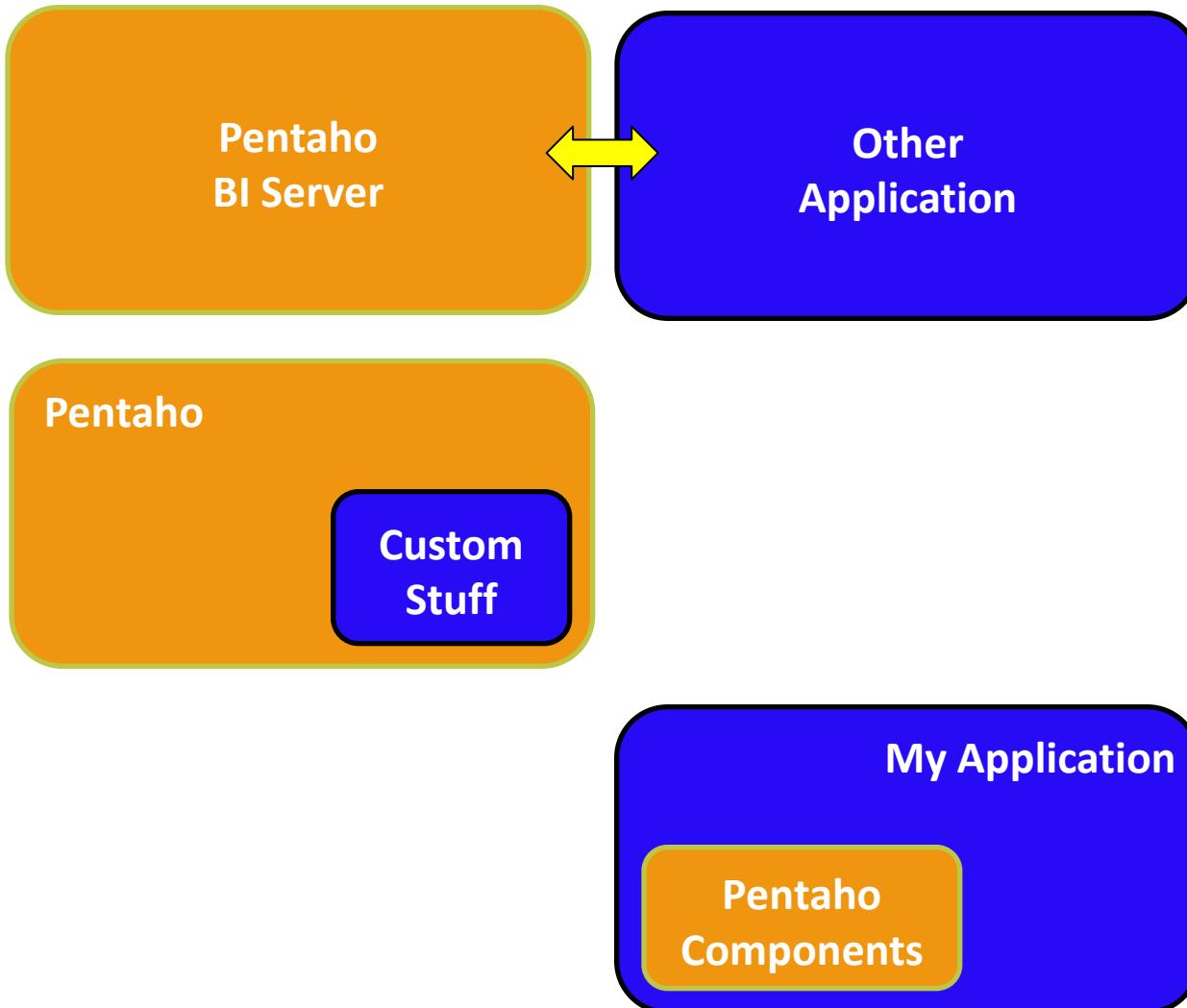
Future forecast for: MonthlyCount [95% conf. intervals]



# High Level Feature/Functions



# Integration



# Integration



	Bundled	Mashup	Extended	Embedded
Value	<b>Fastest Way to Get Analytics that Have Your Look &amp; Feel</b>	<b>An Integrated Experience for Yours End User</b>	<b>Customizing Pentaho for Your Experience</b>	<b>Ultimate Integration and Customization</b>
What it Takes?	<ul style="list-style-type: none"> <li>Pentaho is a separate app, branded with Partner's logo, look &amp; feel</li> <li>Optional: Partner app may include links to Pentaho reports, analysis and dashboards (popping new window)</li> <li>Optional: Single sign-on creates a seamless experience</li> </ul>	<ul style="list-style-type: none"> <li>Pentaho &amp; Partner app have the same UI</li> <li>Pentaho User Console, or individual reports, analysis or dashboards are included in partner app</li> <li>Single sign-on creates a seamless experience</li> </ul>	<ul style="list-style-type: none"> <li>Pentaho's core functionality is extended through plug-ins.</li> <li>Examples:             <ul style="list-style-type: none"> <li>Connecting to custom data sources</li> <li>Adding new visualizations</li> <li>Customizing security</li> <li>Replacing Pentaho rules engine</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Integrate with Partner's App Server</li> <li>Directly embedding Pentaho into your app</li> <li>Calling Pentaho Java APIs from your App</li> </ul>
Skill Level	<ul style="list-style-type: none"> <li>Limited HTML skills</li> </ul>	<ul style="list-style-type: none"> <li>HTML skills</li> </ul>	<ul style="list-style-type: none"> <li>HTML skills</li> <li>Java skills</li> </ul>	<ul style="list-style-type: none"> <li>HTML skills</li> <li>Java skills</li> <li>Knowledge of Pentaho architecture</li> </ul>

# Why Customers Love Pentaho

Speed of Deployment



“...excited how quickly we could implement a model”



8 weeks time to market



“...a brilliant product”



Fully rolled out in budget in 4 months

Innovation & Scalability



Music files from 20,000 sources



Operational reports at all 1000 retail stores



Supporting 400 social workers in 13 countries



Over 600,000 reports a year

Superior Customer Service



“...consulting helped us become self-sufficient”



“... top-notch professional support”



“...proven experience and professional reliability”



“... a great partner through every phase of our project”

Total Value



“...A similar experience to Oracle at significant price advantage.”



Brussels Airport  
Welcome to Europe

€350K+ cost saving

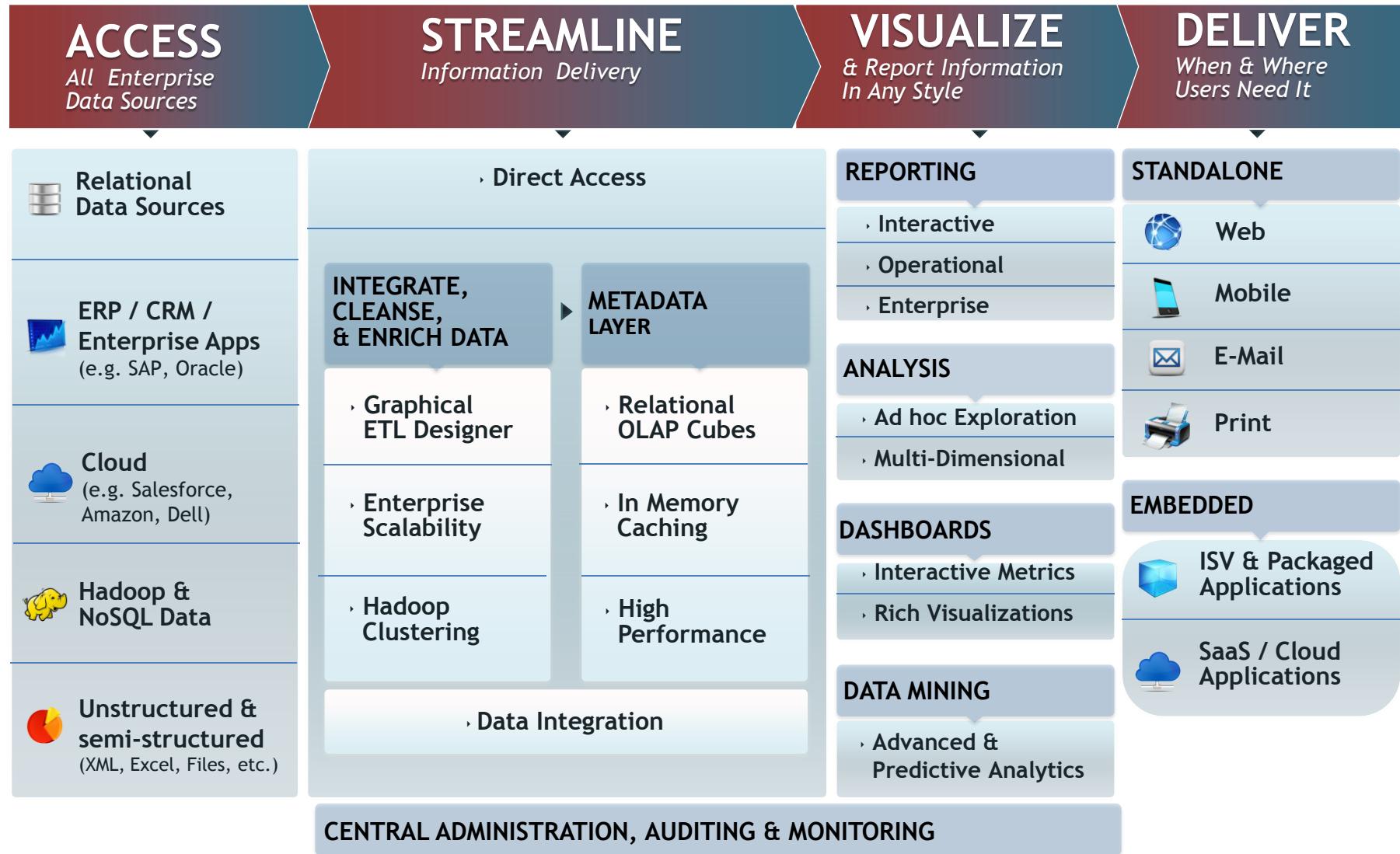


“..dramatically reduce the amount of manual work.”

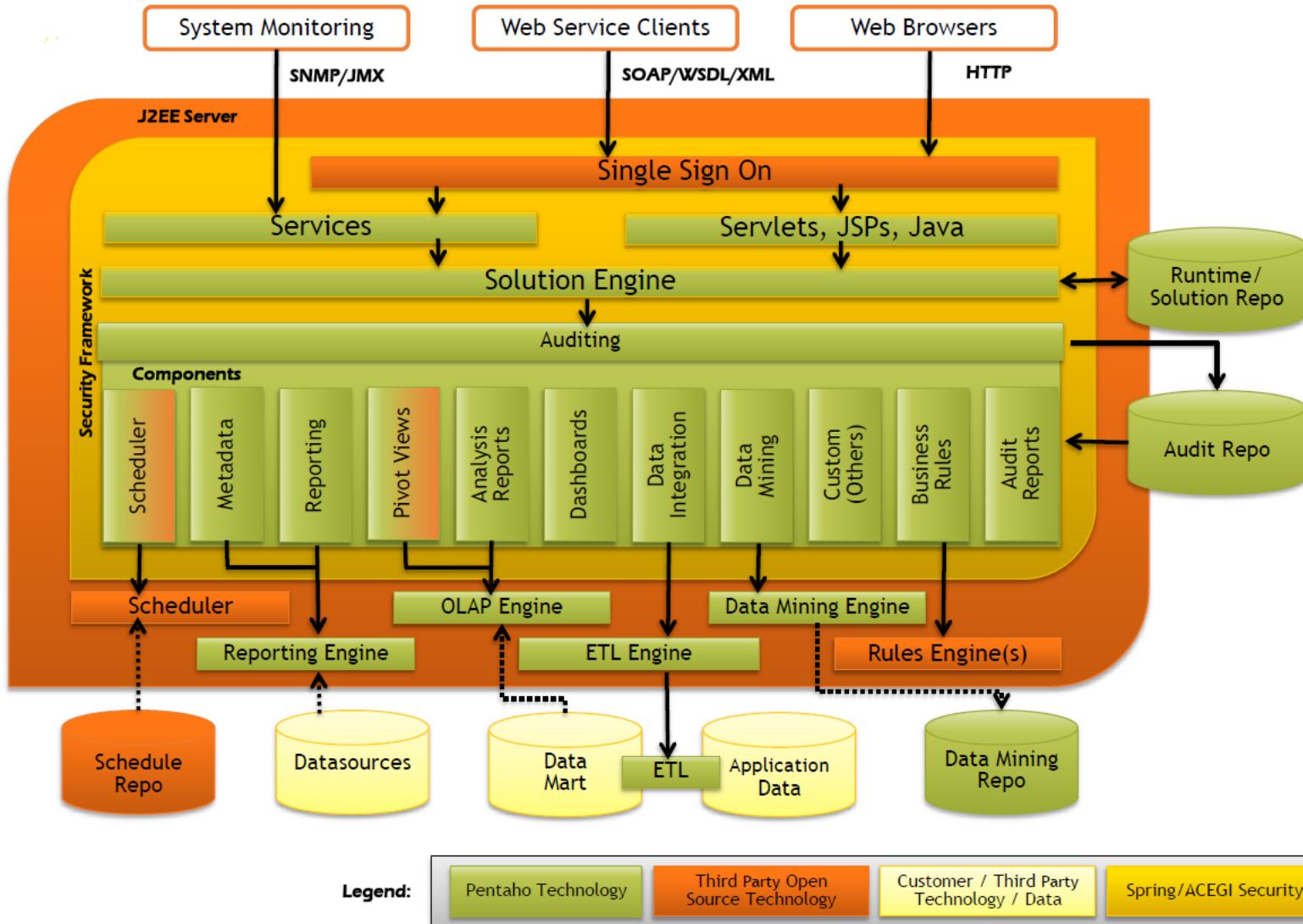


“..discovered valuable insights affecting production.”

# Platform slide



# Architectural Components





Thank You

<http://www.graymatter.co.in>

[info@graymatter.co.in](mailto:info@graymatter.co.in)