

# Next Generation Performance Dashboards

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# Speakers



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# Agenda

- Self-Service BI
- Tailored Delivery
- MAD Framework
- Double MAD Framework

# Common Definition of Self Service BI

“Empower users to create their own reports so users get what they want when they want it without having to ask IT.”

# Percentage of Active BI Users

Power Users/Analysts	61%	
Managers	33%	Casual Users
Executives	25%	
Field staff	24%	
Customers/Suppliers	5%	
All employees	24%	

*Based on 675 respondents, Wayne Eckerson, "Pervasive BI: Techniques and Technologies for Deploying BI on an Enterprise Scale," TDWI Research, 2008.*

# Two Types of Self-Service

- Ad hoc report creation (**Power Users**)
  - *Select facts and measures from a folder*
  - *Query databases*
  - *Format output*
  - ***“Ad hoc BI”***
- Ad hoc report navigation (**Casual Users**)
  - *Click to drill, filter, or navigate*
  - *Select filters from list boxes or respond to prompts*
  - ***“Tailored delivery”***

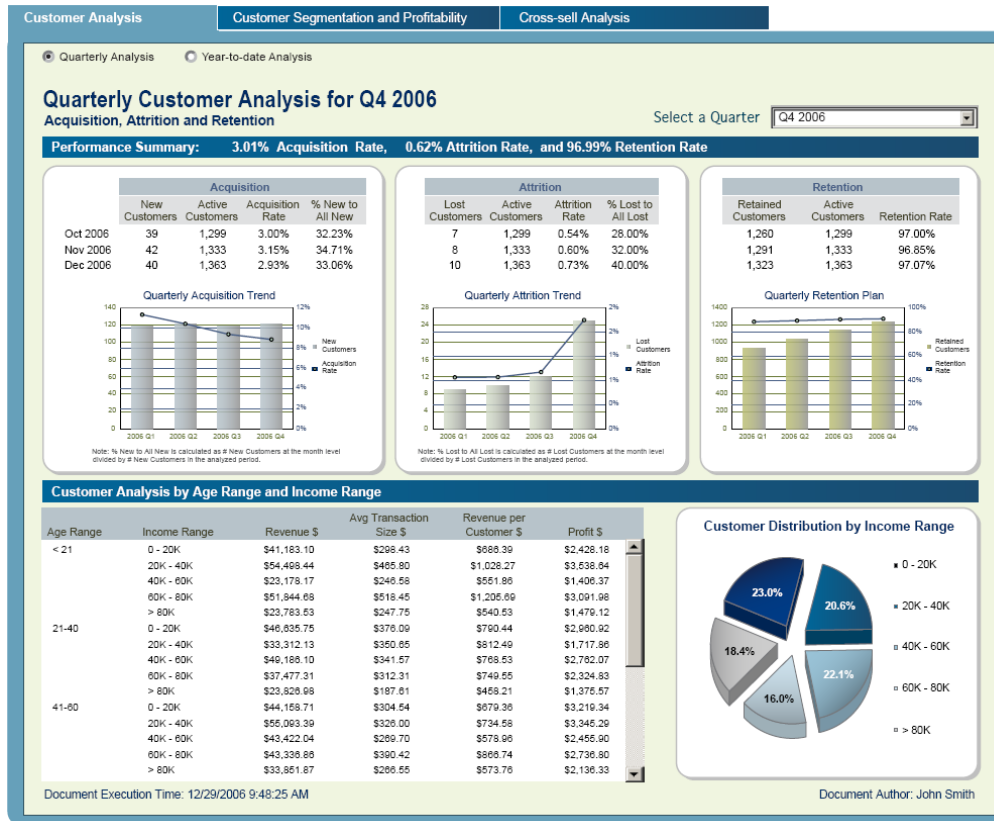
# What is Tailored Delivery?



- Ad hoc report navigation
- An interactive, information sandbox!
- A more elegant way to deliver self service to casual users!
- Meets 60%-80% of the information needs of 80% of the users



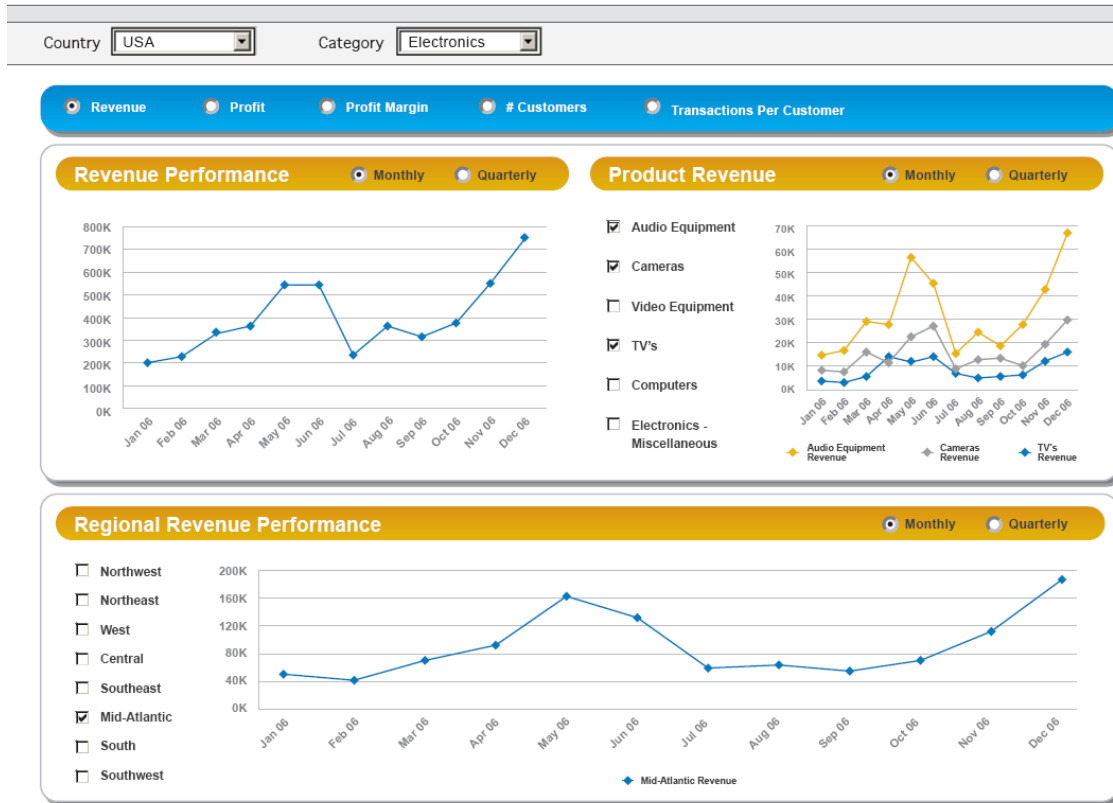
# What is Tailored Delivery?



- A layered information delivery system
- Parcels information on as needed basis
- Tailored to a specific group of users
- That individuals can personalize

# Tailored Delivery

## PRODUCT PERFORMANCE



- Each level contains about 20 dimensions and 12 metrics
- Users think they are doing “ad hoc” but they’re not
- Each can replace dozens or hundreds of reports

# Evolution of Tailored Delivery

- Parameterized reports
  - *Select filters*
  - *Select attributes and metrics*
- OLAP reports
  - *Ad hoc drilling in a cube*
  - *Ad hoc drilling in a star schema database*
- First generation dashboards
  - *Multiple charts/tables assembled in a portal*
  - *Synchronized filters*
- Next generation dashboards
  - *Layered information delivery systems*

# Performance Dashboard

Functionality

Users

**M**onitor

**Executives/ Managers**

Graphical  
Data

**A**nalyze

**Analysts**

Summarized Data

**D**rill thru

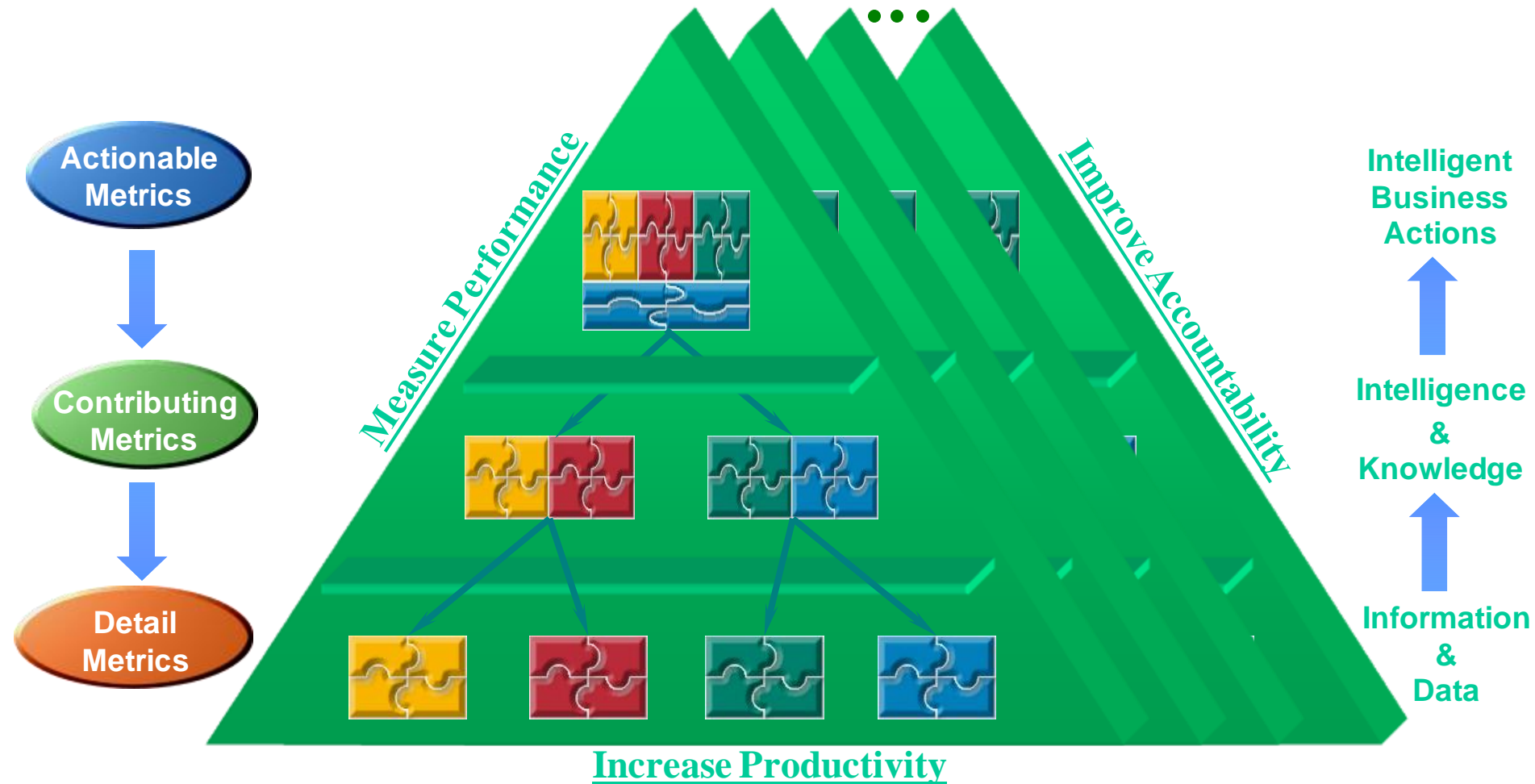
**Workers**

Detailed Data

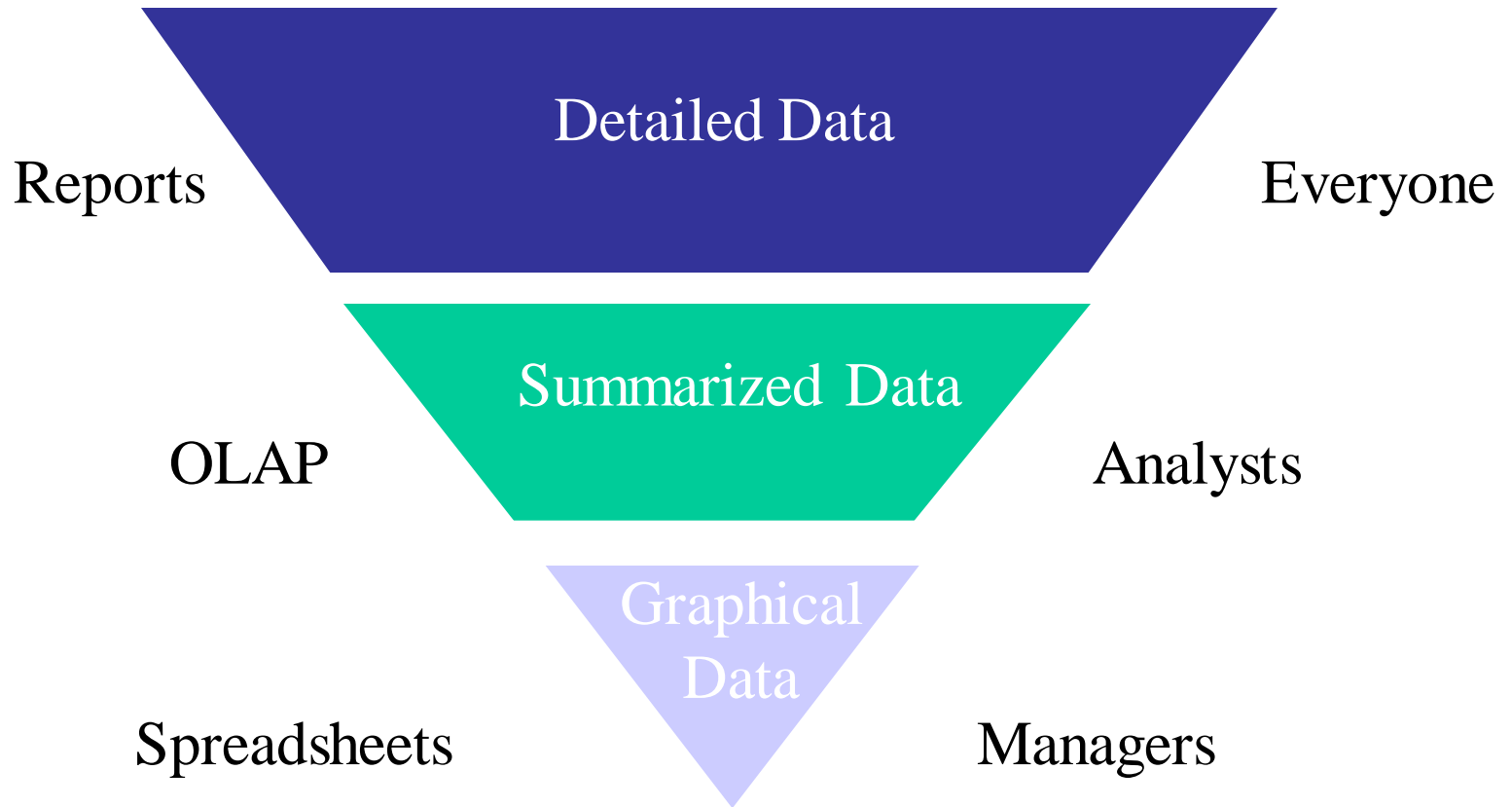
**MAD** Sandbox

# Cisco System's BI Framework

Purpose, Audience, Architecture



# This is Insane!! Not MAD



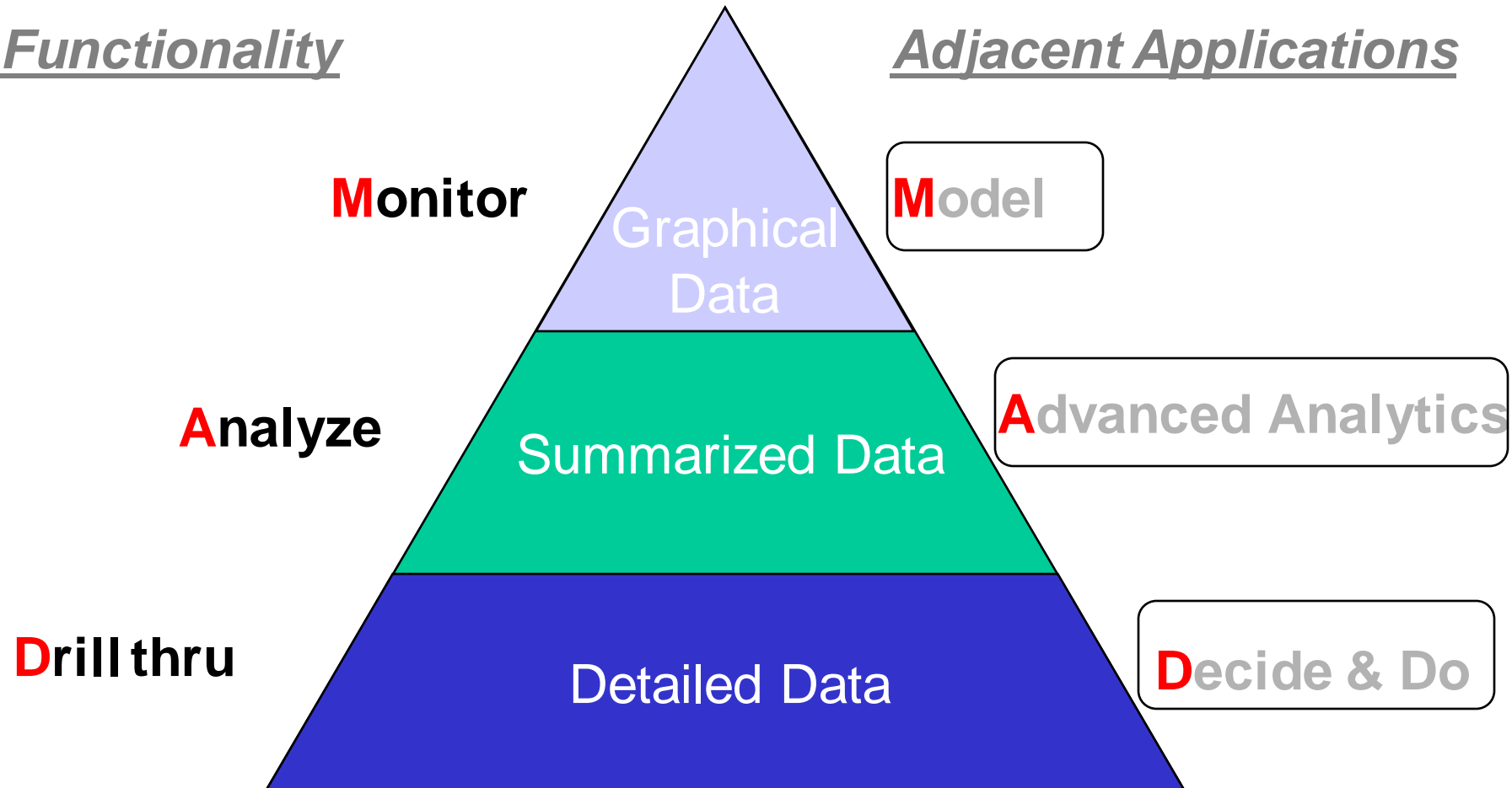
# This is Insane!! Not MAD



# Evolution – Double MAD!

Functionality

Adjacent Applications





# Scenario Modeling - Forecasting

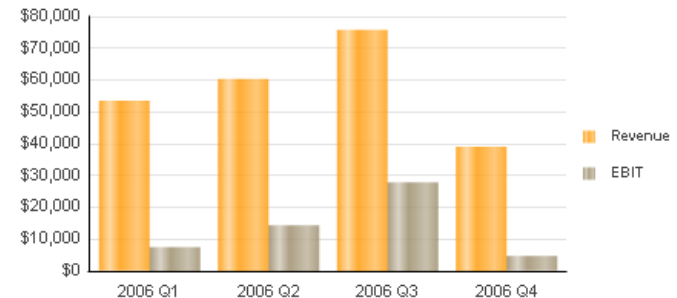
## Income Statement Analysis: Global Enterprises Incorporated

**MicroStrategy**

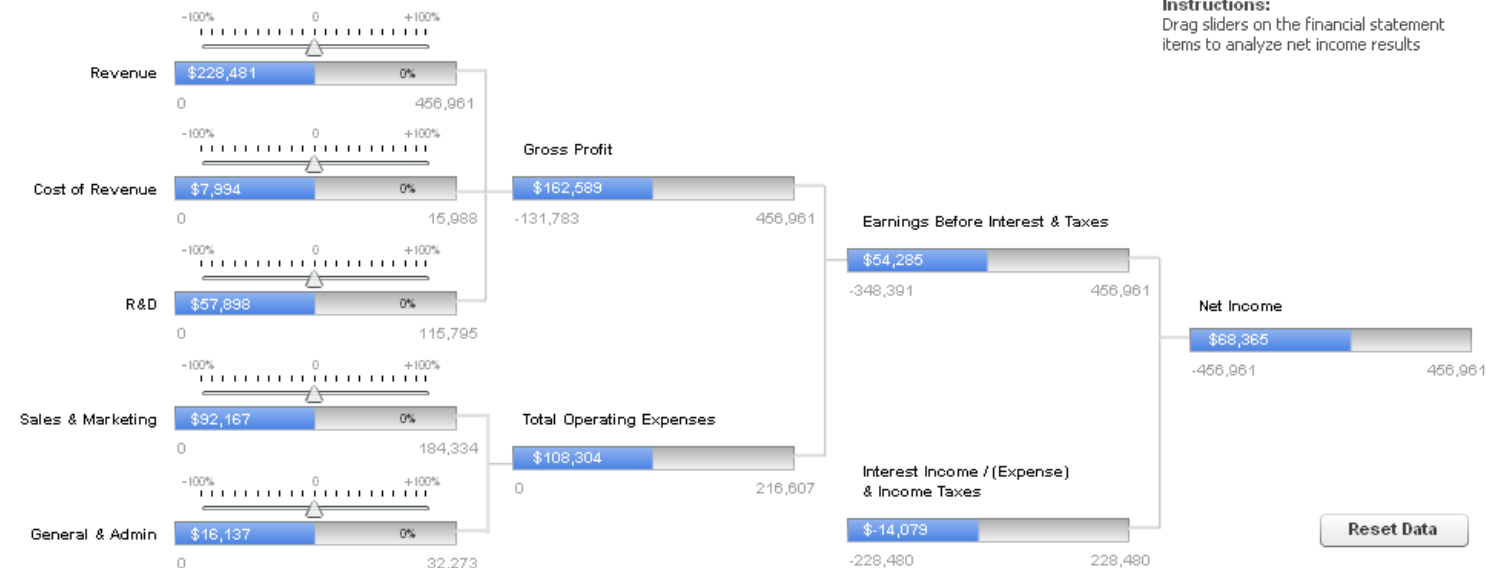
**Income Statement:** Period Ending Dec 31, 2006

<b>Total Revenue</b>	<b>\$228,481</b>
Cost of Revenue	\$7,994
Research & Development	\$57,898
<b>Gross Profit</b>	<b>\$162,589</b>
Sales & Marketing	\$92,167
General & Administration	\$16,137
Total Operating Expenses	\$108,304
<b>Earnings Before Interest &amp; Taxes (EBIT)</b>	<b>\$54,285</b>
Interest Income / (Expense)	\$48,732
Income Taxes	\$34,652
<b>Net Income</b>	<b>\$68,365</b>

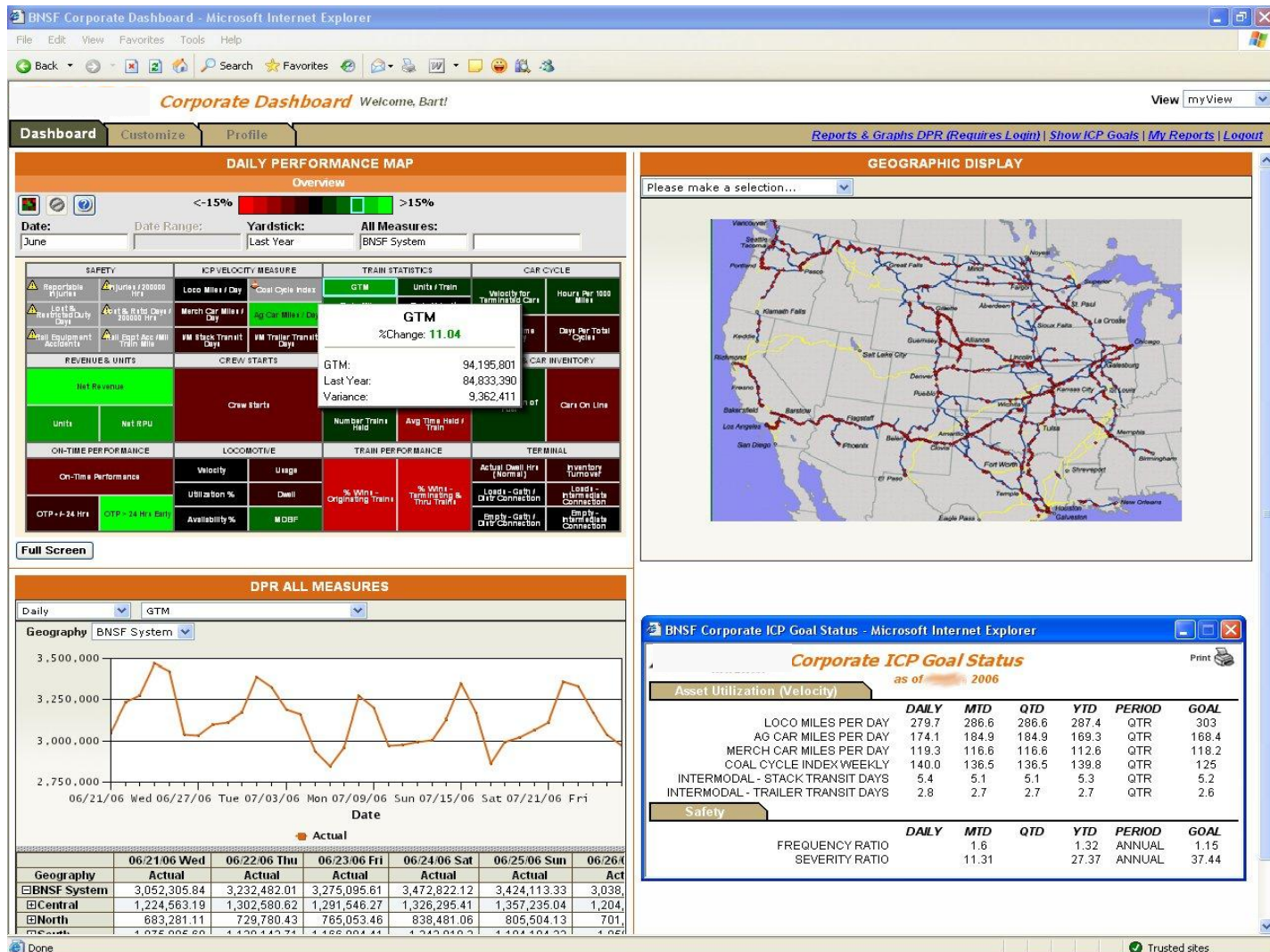
### Revenue & Income Trends



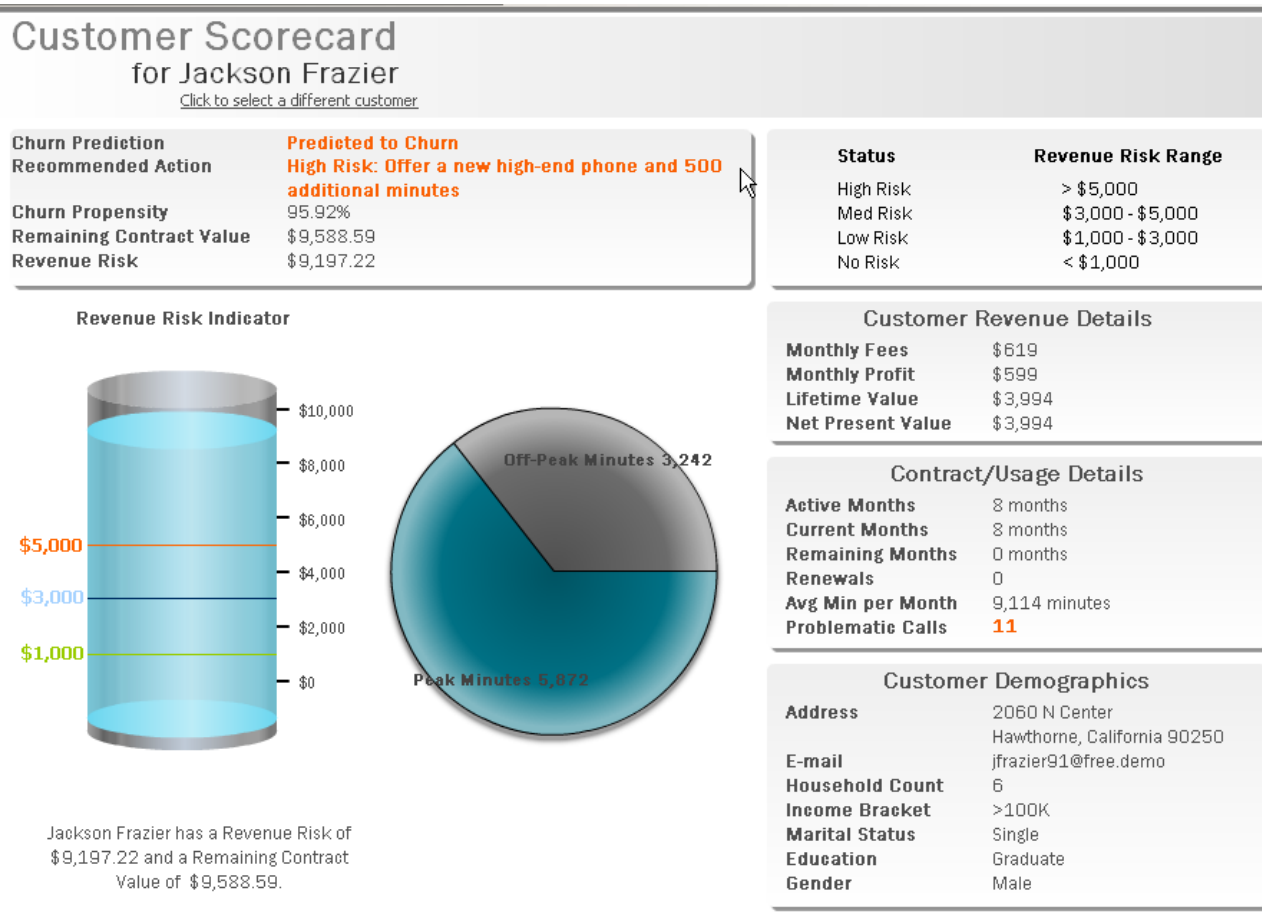
### Net Income Scenario Analysis



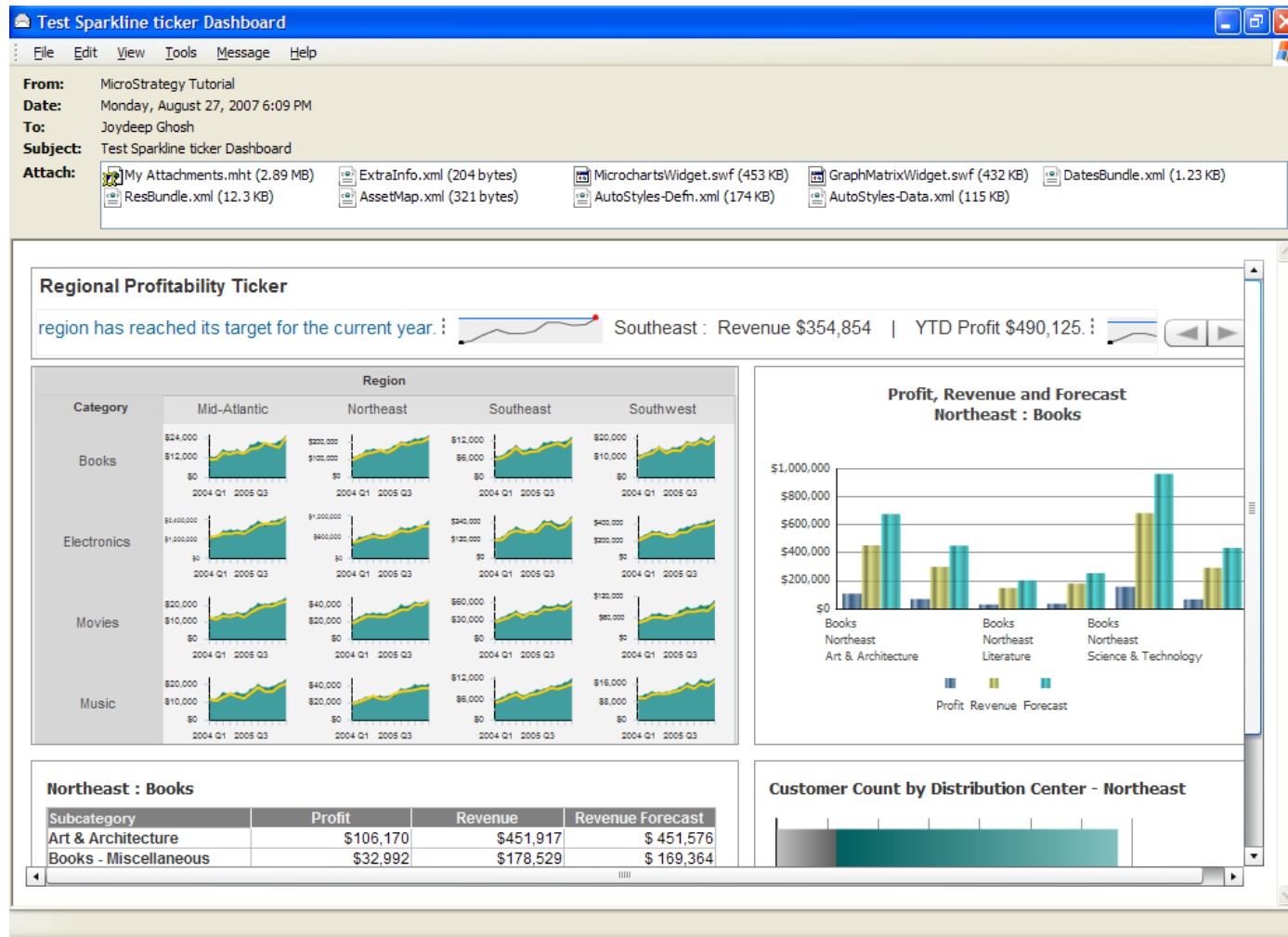
# Advanced Visualization



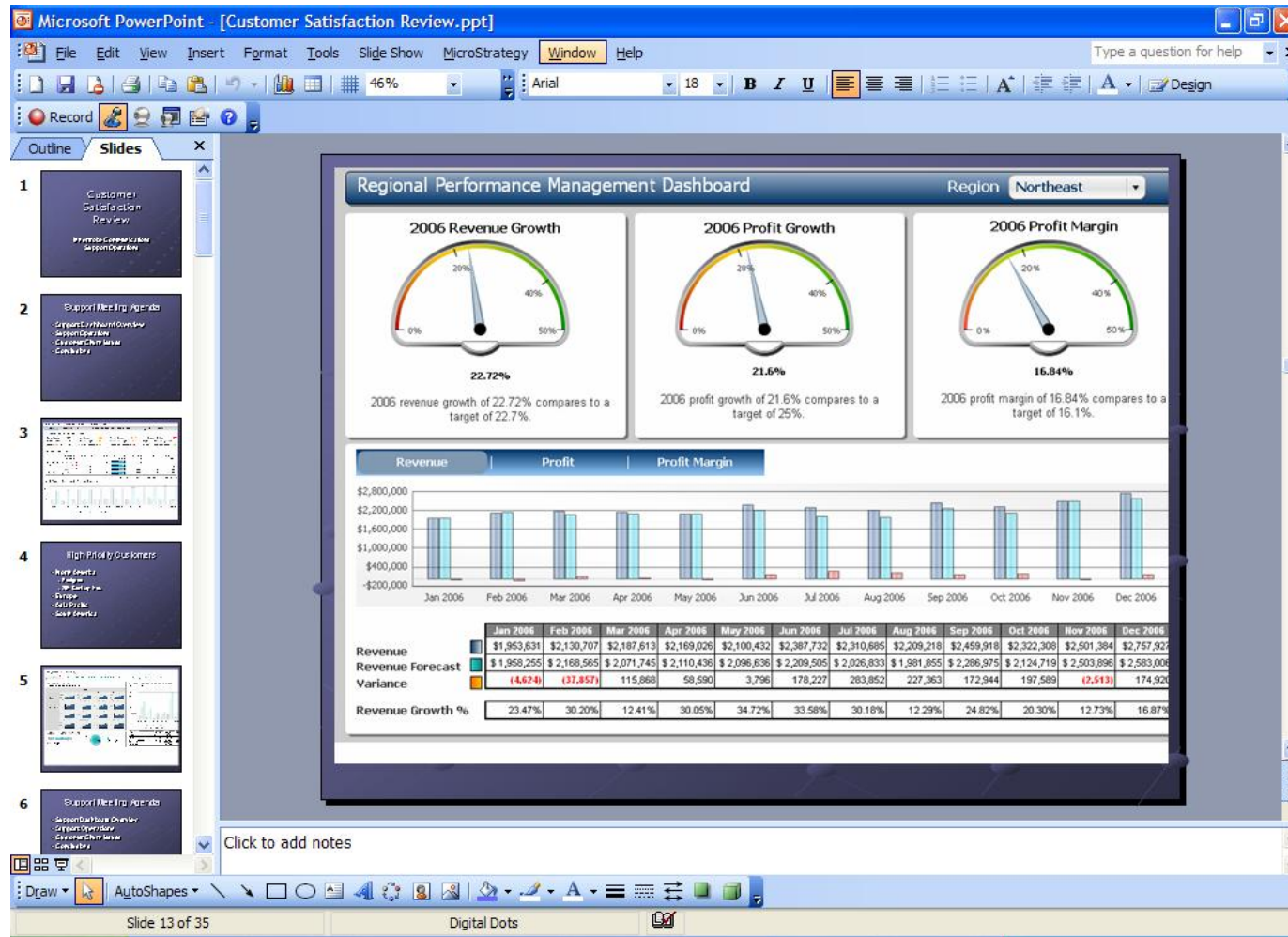
# Predictive Dashboard



# Collaborative Dashboards - Email

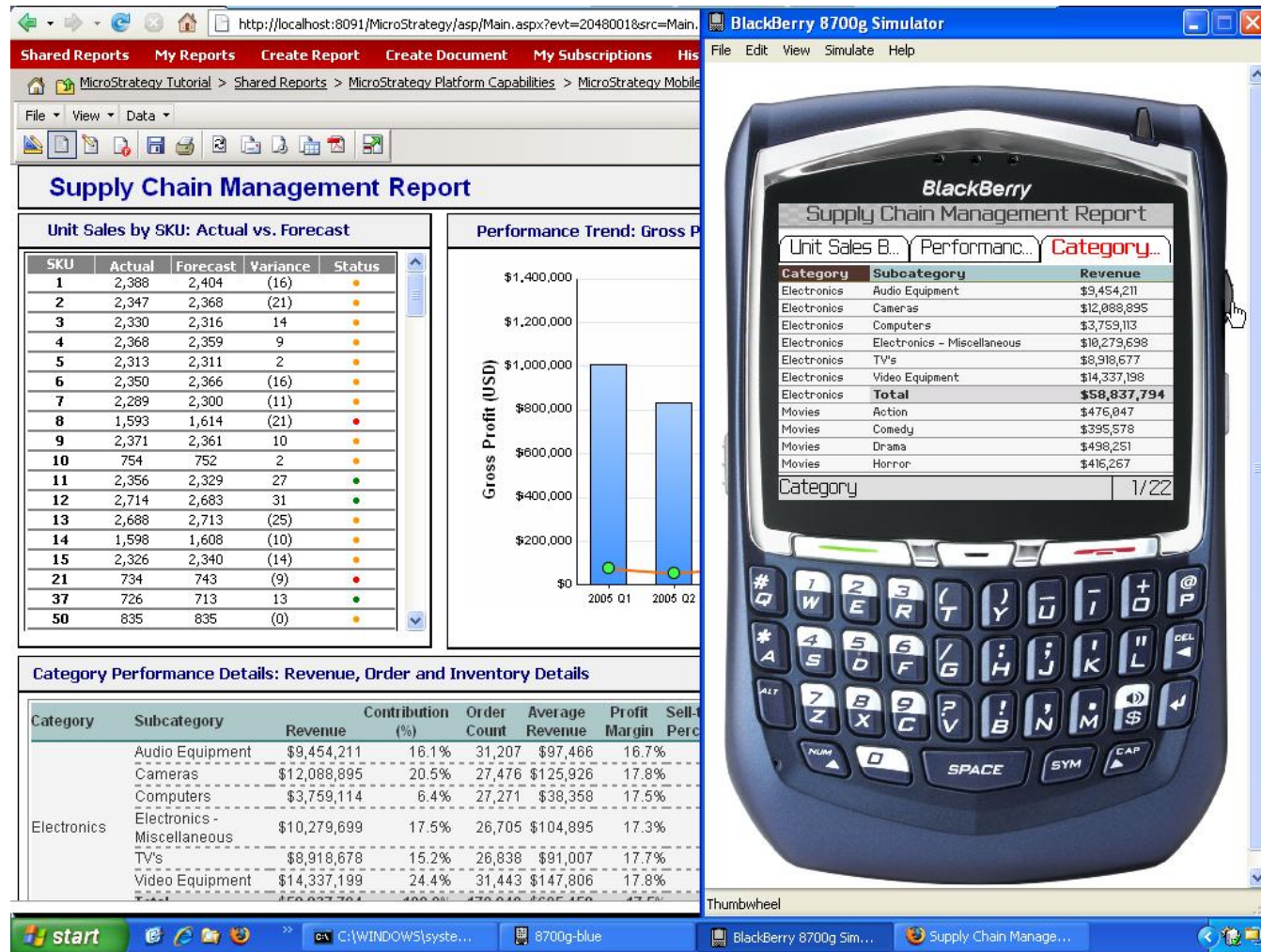


# Collaborative Dashboards – MS Office





# Collaborative Dashboards - Mobile



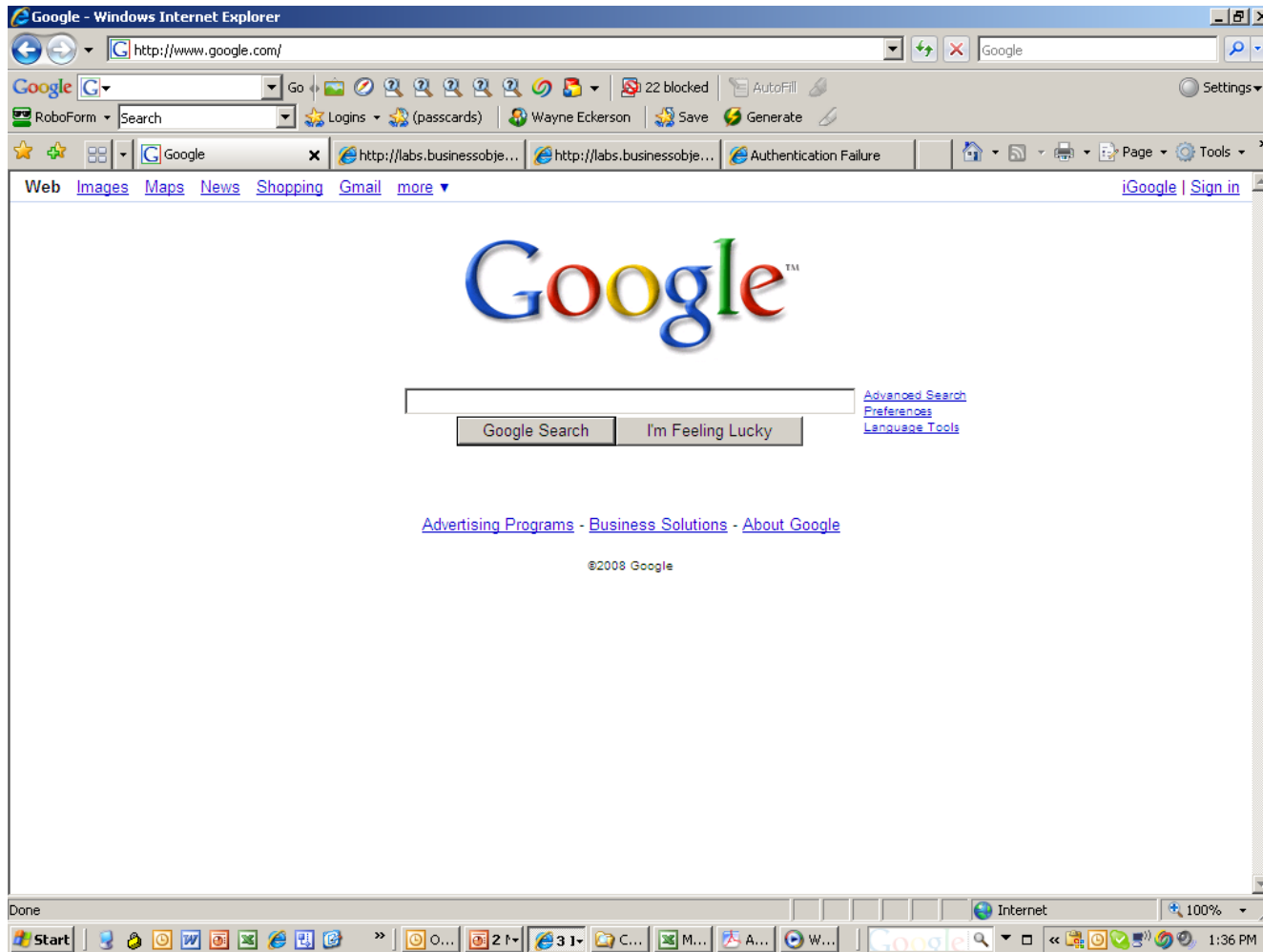
Desktop/Web

Mobile

# User Inventory – New School

	80% of the Time		20% of the Time	
Casual Users	Task	Tool	Task	Tool
	Monitor	MAD Dashboard	Find reports	BI search
	Analyze		Create queries	BI search
	Drill to Detail		Create plans	Excel via BI
Power Users	Author	Query/Report tool	Find reports	BI search
	Plan	Excel via BI	Monitor	MAD Dashboard
	Analyze	Next-gen OLAP	Analyze	
	Predict	Data Mining	Drill thru	
Tailored Delivery		Ad Hoc		

# Ad hoc for Casual Users?



- Simple
- Fast
- Comprehensive



# Summary

- Self-Service BI
  - *Ad hoc report creation for power users*
  - *Ad hoc report navigation for casual users*
- Tailored delivery → performance dashboards
  - *Layered information systems*
  - *12 KPIs, 20 dimensions per layer*
- MAD Framework = best practice design
- Double MAD → future of dashboards



Mark LaRow  
VP Products, MicroStrategy



## Self-service

1. Traditional Ad-hoc Report Design
2. WYSIWYG Design – A Better Way

## Tailored Delivery (Sandboxes)

1. Tailored Delivery – Parameterized Reporting
2. Tailored Delivery – Relational OLAP
3. Surf-and-Save – A new Model for Self-service

## MAD Workflow

1. MAD Framework within the BI Platform
2. MAD Framework within a Performance Dashboard

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# Self-service Ad-hoc Report Design

## Traditional Report Design

Users Simply Drag  
Objects Onto The  
Template To  
Design A Report

The screenshot shows the MicroStrategy 8.01 Basic Report interface in Mozilla Firefox. The interface includes a menu bar, a toolbar, and a navigation pane. The main area displays a report design template with columns for Region, Employee, Revenue, Cost, and Profit. A red arrow points from the 'Profit' column in the table to the 'Profit' object in the 'Sales Metrics' list on the left. The 'Profit' object is highlighted with a red box. The table data is as follows:

Region	Employee	Revenue	Cost	Profit
Central	Ellerkamp Nancy	\$1,169,245	\$987,540	\$181,705
	Gale Loren	\$2,262,146	\$1,907,140	\$355,006
	Torrison Mary	\$2,364,993	\$1,992,733	\$372,260
Mid-Atlantic	Zemlicka George	\$1,116,549	\$940,199	\$176,349
	Bernstein Lawrence	\$5,295,910	\$4,373,395	\$922,515
	Brown Vernon	\$1,803,732	\$1,492,930	\$310,802
Northeast	Corcoran Peter	\$1,709,388	\$1,410,084	\$299,303
	Folks Adrienne	\$5,708,091	\$4,727,075	\$981,016
	Hollywood Robert	\$5,272,618	\$4,363,948	\$908,670
Northwest	Ingles Walter	\$1,013,388	\$838,819	\$174,569
	Smith Thomas	\$1,183,056	\$980,327	\$202,729
	Young Sarah	\$1,192,641	\$984,665	\$207,975
South	De Le Torre Sandra	\$847,899	\$697,050	\$150,849
	Kelly Laura	\$3,135,209	\$2,579,374	\$555,835
	Kieferson Jack	\$793,070	\$653,038	\$140,031
Southeast	Sawyer Leanne	\$3,131,556	\$2,579,820	\$551,737
	Sonder Melanie	\$386,140	\$318,696	\$67,444
	Yager Beth	\$3,081,539	\$2,537,695	\$543,844
Southwest	Becker Kyle	\$2,781,112	\$2,297,551	\$483,561
	Gedot Harriet	\$3,954,026	\$3,267,505	\$686,521
	Hall David	\$2,680,722	\$2,215,814	\$464,908
Web	Conner Beatrice	\$1,448,173	\$1,190,627	\$257,546
	Nelson Arthur	\$1,376,771	\$1,130,347	\$246,424
	Pierce Charles	\$2,757,596	\$2,281,054	\$476,543
Southwest	Benner Ian	\$721,896	\$609,199	\$112,697
	Lynch Sam	\$836,318	\$706,610	\$129,709
	McClain Sean	\$744,189	\$627,142	\$117,047
Southwest	Strome Fred	\$837,913	\$707,241	\$130,672
	Bates Michael	\$1,469,467	\$1,241,720	\$227,746
	Bell Caitlin	\$1,448,086	\$1,223,908	\$224,178
Southwest	Hunt Matthew	\$968,008	\$819,496	\$148,513
	Johnson Andrew	\$631,060	\$535,333	\$95,727
	Schafer Rose	\$662,683	\$558,769	\$103,914
Web	Walker Robert	\$3,581,277	\$3,031,885	\$549,392

# Self-service Ad-hoc Report Design

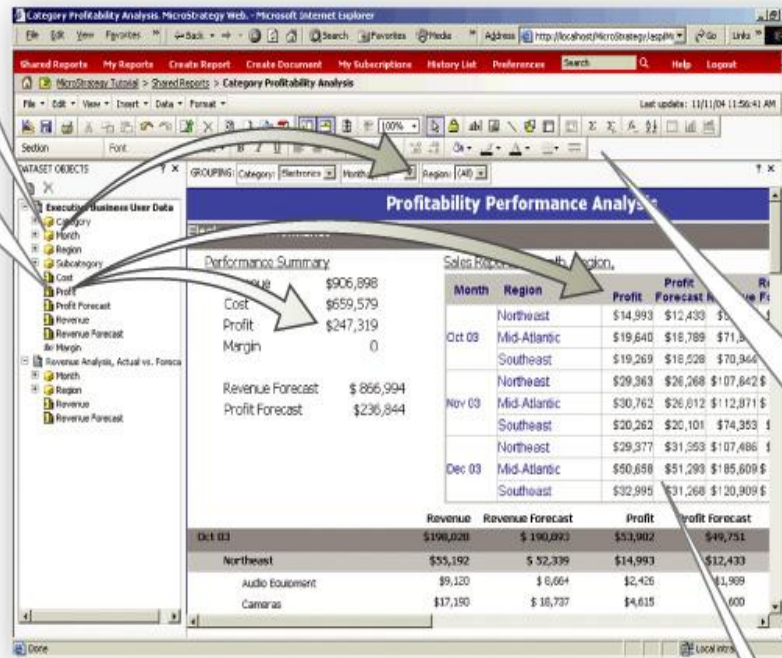
## WYSIWYG Design Over the Web – A Better Approach

WYSIWYG-Mode Uses Microsoft Office-like Skills for Design, and Provides Instant Feedback to Design Changes

Drag-n-drop to Add New Grouping Levels

Drag-n-drop to Change the Data

- Objects on/off the Layout
- Objects on/off Embedded Tables



WYSIWYG Formatting of All Elements:

- All Text Fields/ Labels
- All Attribute / Metric fields
- Borders, Colors, Shading
- Alignment / Distribution
- Spacing and Overlap
- Ruler / Snap to Grid

WYSIWYG Design of All Tables:

- Pivot and Sort
- Insert Calculations
- Insert Charts
- Add Subtotals
- Format Text
- Format Numbers

## Self-service

1. Traditional Ad-hoc Report Design
2. WYSIWYG Design – A Better Way

## Tailored Delivery (Sandboxes)

1. Parameterized Reporting
2. Relational OLAP
3. Surf-and-Save – A new Model for Self-service

## MAD Workflow

1. MAD Framework within the BI Platform
2. MAD Framework within a Performance Dashboard

# Advanced Parameterized Reporting

## Users Can Select from a Sandbox of Attributes, Metrics, and Filters

Users Select Metrics, Attributes, and Filters each time they Run the Report

The screenshot displays the 'Product Analysis Report Builder' interface in Microsoft Internet Explorer. The left pane shows a 'Summary of your selections' with three steps: 1. Choose from a list of metrics. (Required), 2. Choose from a list of attributes. (Required), and 3. Choose one or more years. (Required). Step 1 is active, showing a list of available metrics (Profit, Revenue, Units Sold) and a selected metric (Cost). A large red arrow points from the 'Selected' list to the right pane.

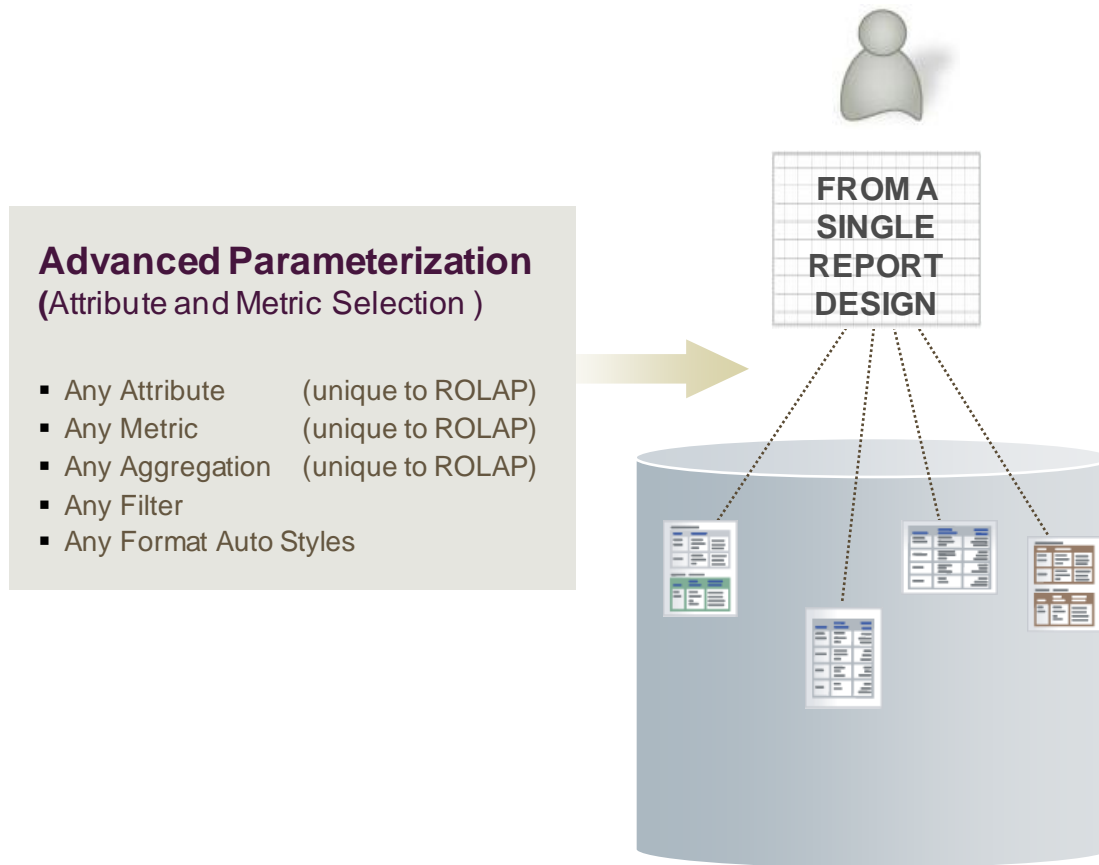
The right pane shows the 'Product Analysis Report Builder' window with a table of data. The table has 7 columns: Region, Call Center, Quarter Metrics, 2004 Q1 Cost, 2004 Q2 Cost, 2004 Q3 Cost, and 2004 Q4 Cost. The data is organized by Region and Call Center, with rows for each quarter.

Region	Call Center	Quarter Metrics	2004 Q1 Cost	2004 Q2 Cost	2004 Q3 Cost	2004 Q4 Cost
Northeast	Boston		\$81,814	\$135,969	\$79,533	\$179,482
Northeast	New York		\$50,339	\$111,626	\$69,354	\$129,651
Mid-Atlantic	Washington, DC		\$79,733	\$158,663	\$73,712	\$193,196
Mid-Atlantic	Charleston		\$106,006	\$263,839	\$127,746	\$231,995
Southeast	Atlanta		\$63,218	\$82,703	\$98,959	\$145,160
Southeast	Miami		\$49,792	\$84,338	\$64,004	\$148,004
Central	Milwaukee		\$67,357	\$139,051	\$85,454	\$188,750
Central	Fargo		\$25,039	\$36,447	\$41,187	\$47,664
South	New Orleans		\$52,303	\$87,245	\$65,735	\$110,913
South	Memphis		\$24,143	\$48,587	\$43,988	\$62,354
Northwest	San Francisco		\$64,982	\$109,137	\$71,525	\$119,233
Northwest	Seattle		\$24,875	\$45,450	\$28,508	\$56,669
Southwest	San Diego		\$131,272	\$243,519	\$181,407	\$311,614
Southwest	Salt Lake City		\$22,715	\$55,195	\$22,600	\$49,456
Web	Web		\$84,005	\$205,943	\$129,889	\$221,350



# Advanced Parameterized Reporting

## Users Can Create Virtually Any Combination of Data from the Warehouse



# Relational OLAP Functionality

## Point-and-click ROLAP Allows Users to Dynamically Change the Data

Actual vs. Forecast Performance. MicroStrategy 8 - Microsoft Internet Explorer

File Edit View Favorites Tools | Back Forward Stop Home Address http://localhost/MicroStrategy/asp/Main.aspx?evt=40018 Go Links

Shared Reports My Reports Create Report Create Document My Subscriptions History List Preferences Search Help Logout

MicroStrategy Tutorial > Shared Reports > Building Interactive Dashboards > Actual vs. Forecast Performance

File View Data Format Last update: 4/17/07 1:43:50 PM

Category Subcategory Profit Profit Forecast Revenue Revenue Forecast

Books

- Art & Architecture \$55 \$62 \$2
- Business \$59 \$73 \$4
- Literature \$8 \$20 \$1
- Books - Miscellaneous \$3 \$21 \$1
- Science & Technology \$2 \$9
- Sports & Health \$3
- Total \$1 \$2.2 \$4

Electronics

- Audio Equipment \$1,111 \$6,900 \$7,500
- Cameras \$48 \$2,504 \$2,741
- Computers \$1,324 \$8,055 \$6,170
- Electronics - Miscellaneous \$90 \$6,045 \$5,909
- TV's \$90 \$7,384 \$6,129
- Video Equipment \$5,849 \$38,447 \$34,685
- Total \$8 \$1,885 \$1,719

Movies

- Action \$2 \$1,122 \$1,075
- Comedy \$9 \$1,622 \$1,427
- Drama \$9 \$1,420 \$1,152
- Horror \$8 \$1,674 \$1,626
- Kids / Family \$7 \$2,235 \$2,396
- Special Interests \$37 \$9,958 \$9,394
- Total (\$6) \$0 \$284 \$219

Music

- Alternative \$3 \$378 \$424
- Country \$11 \$297 \$319
- Music - Miscellaneous \$17 \$332 \$285
- Pop (\$3) \$0 \$201 \$212
- Soul / R&B \$28 \$194 \$176
- Total \$50 \$55 \$1,687 \$1,636

Drill

- Item
- Time (Drilling)
- Customers (Drilling)
- Products (Drilling)
- Geography (Drilling)

Customer

- Customer Age
- Customer Birth Date
- Customer City
- Customer Region
- Income Bracket
- Order
- Payment Method
- Rush Order
- Ship Date
- Shipper
- Customer State
- Zip Code
- Customer Country

Sort

- Insert Metric
- Move
- Filter On...
- Remove from Grid
- Remove from Report
- Advanced formatting...
- Rename...

Percent To Total

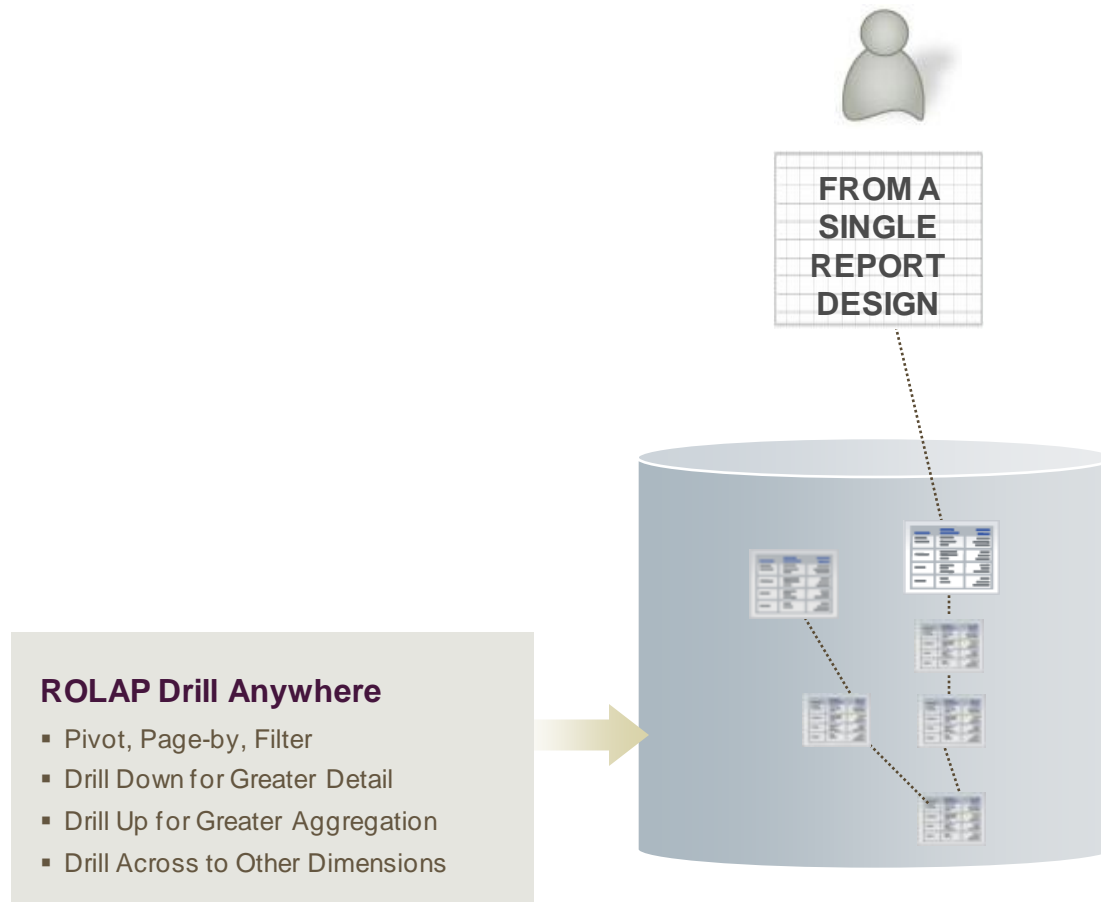
- Transformation
- Rank
- New...

2 Weeks Ago

- Last Month's
- Last Quarter's
- Last Year's
- Month to Date
- Quarter to Date
- Year to Date

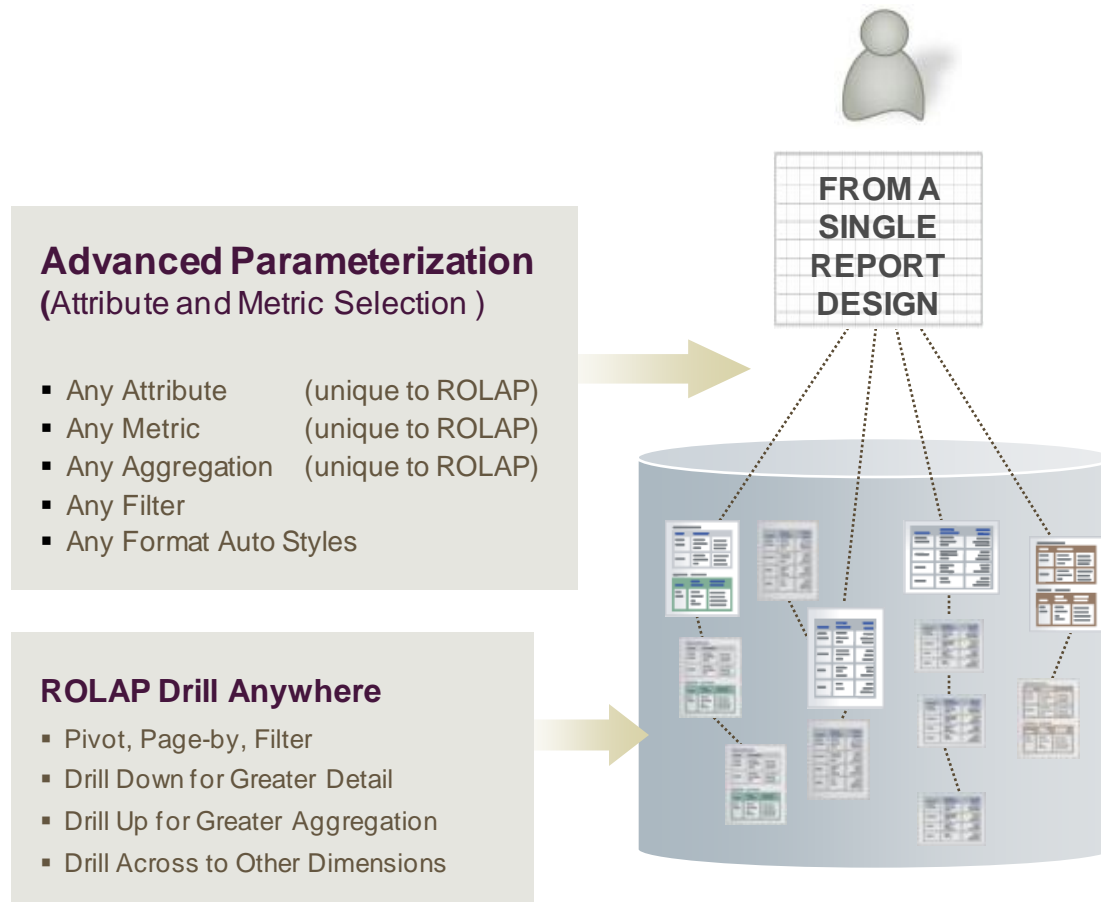
# ROLAP Drilling

## Users Can Surf to New Combinations of Data Anywhere in the Warehouse



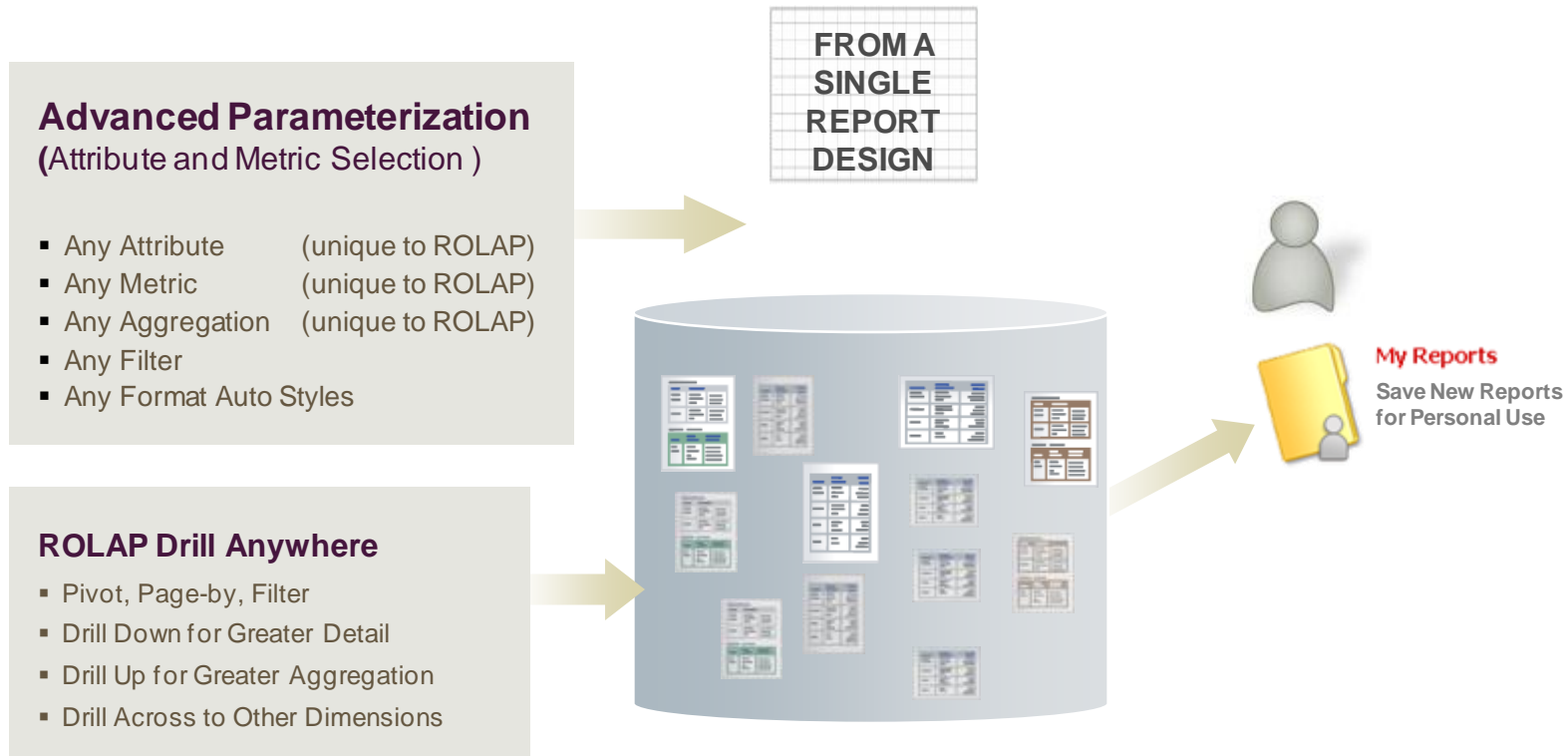
# New Model for Self-service

## Parameterization + ROLAP Drilling Gives Full Coverage of the Warehouse



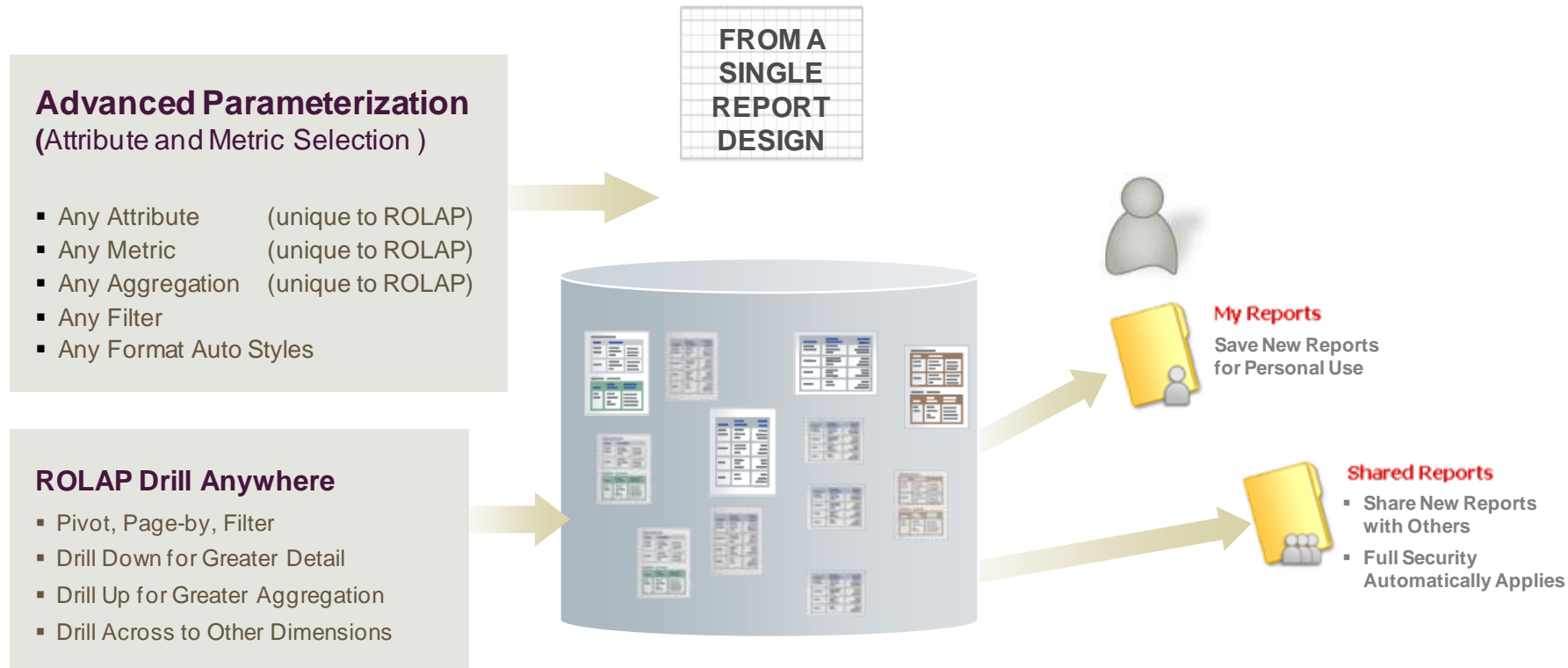
# New Model for Self-service

## After “Surfing” to the Data, User Can “Save” the New Report Design



# New Model for Self-service

## Users Can Save the New Report Designs to Shared Folders



# New Model for Self-service

## Other Users Can Access The New Report Designs



### Other Users Access These New Report Designs

Pervasive security ensures that no one sees data they are not supposed to see

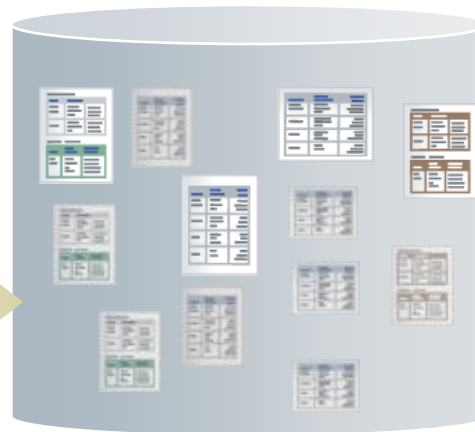
### Advanced Parameterization (Attribute and Metric Selection )

- Any Attribute (unique to ROLAP)
- Any Metric (unique to ROLAP)
- Any Aggregation (unique to ROLAP)
- Any Filter
- Any Format Auto Styles

FROM A  
SINGLE  
REPORT  
DESIGN

### ROLAP Drill Anywhere

- Pivot, Page-by, Filter
- Drill Down for Greater Detail
- Drill Up for Greater Aggregation
- Drill Across to Other Dimensions



### My Reports

Save New Reports  
for Personal Use



### Shared Reports

- Share New Reports with Others
- Full Security Automatically Applies

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2. WYSIWYG Design – A Better Way

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2. MAD Framework within a Performance Dashboard

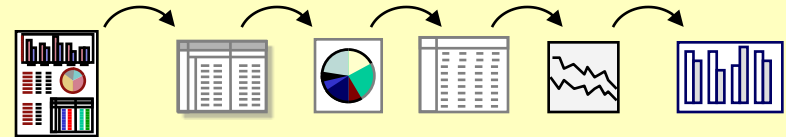


# Decision-making and BI

## MAD Framework without Dashboards

### 1. Monitor the KPIs

- Look for exceptions by scanning multiple reports daily

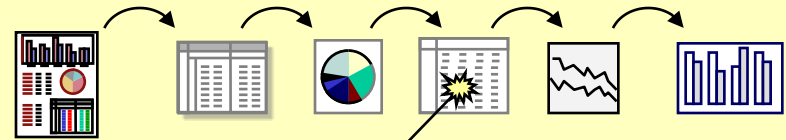


# Decision-making and BI

## MAD Framework without Dashboards

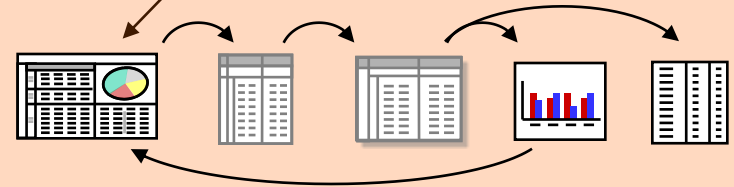
### 1. Monitor the KPIs

- Look for exceptions by scanning multiple reports daily



### 2. Analyze the Problem

- Conduct OLAP analysis to view the problem from related dimensions to determine root cause

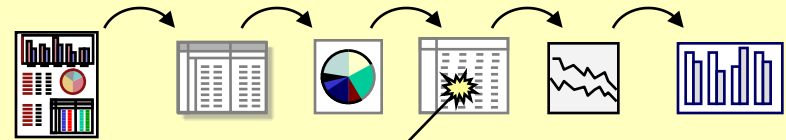


# Decision-making and BI

## MAD Framework without Dashboards

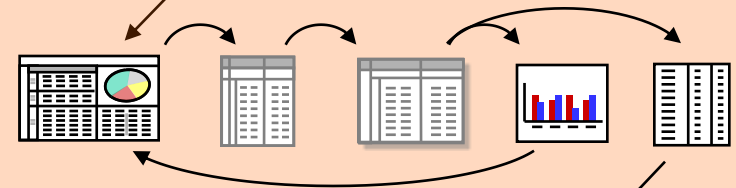
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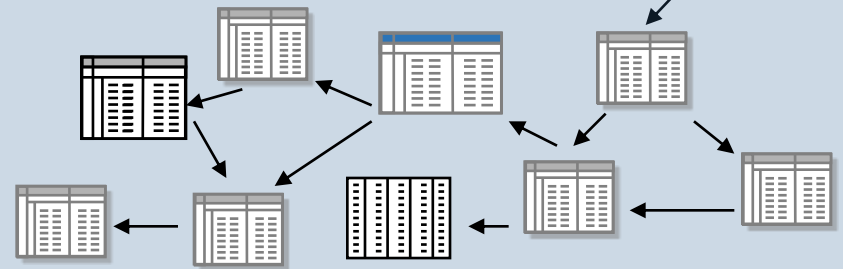
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- Conduct OLAP analysis to view the problem from related dimensions to determine root cause



### 3. Investigate the Detail

- Look at detailed data to determine which specific area needs attention



# Decision-making and BI

## MAD Framework with Dashboards

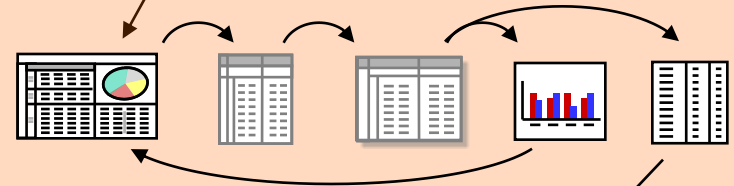
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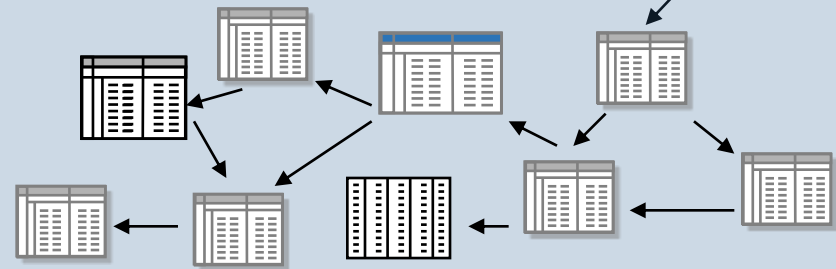
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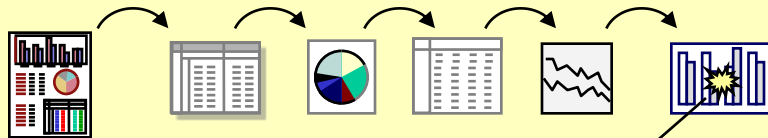
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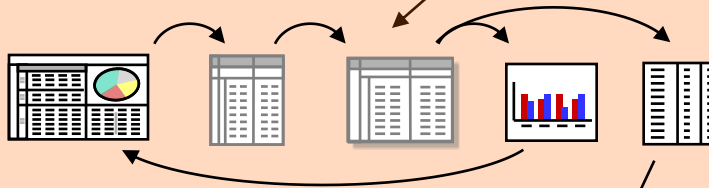
# Performance Dashboards

## Encapsulating the Full MAD Framework on a Single Dashboard

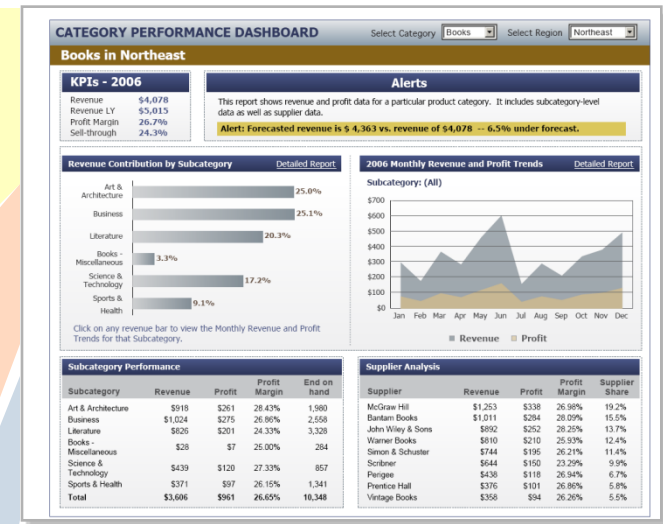
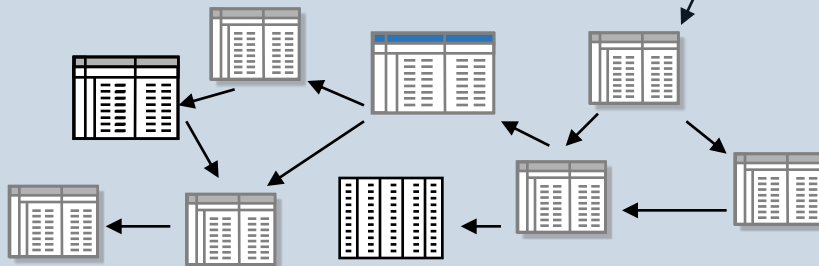
### 1. Monitor the KPIs



### 2. Analyze the Problem



### 3. Investigate the Detail

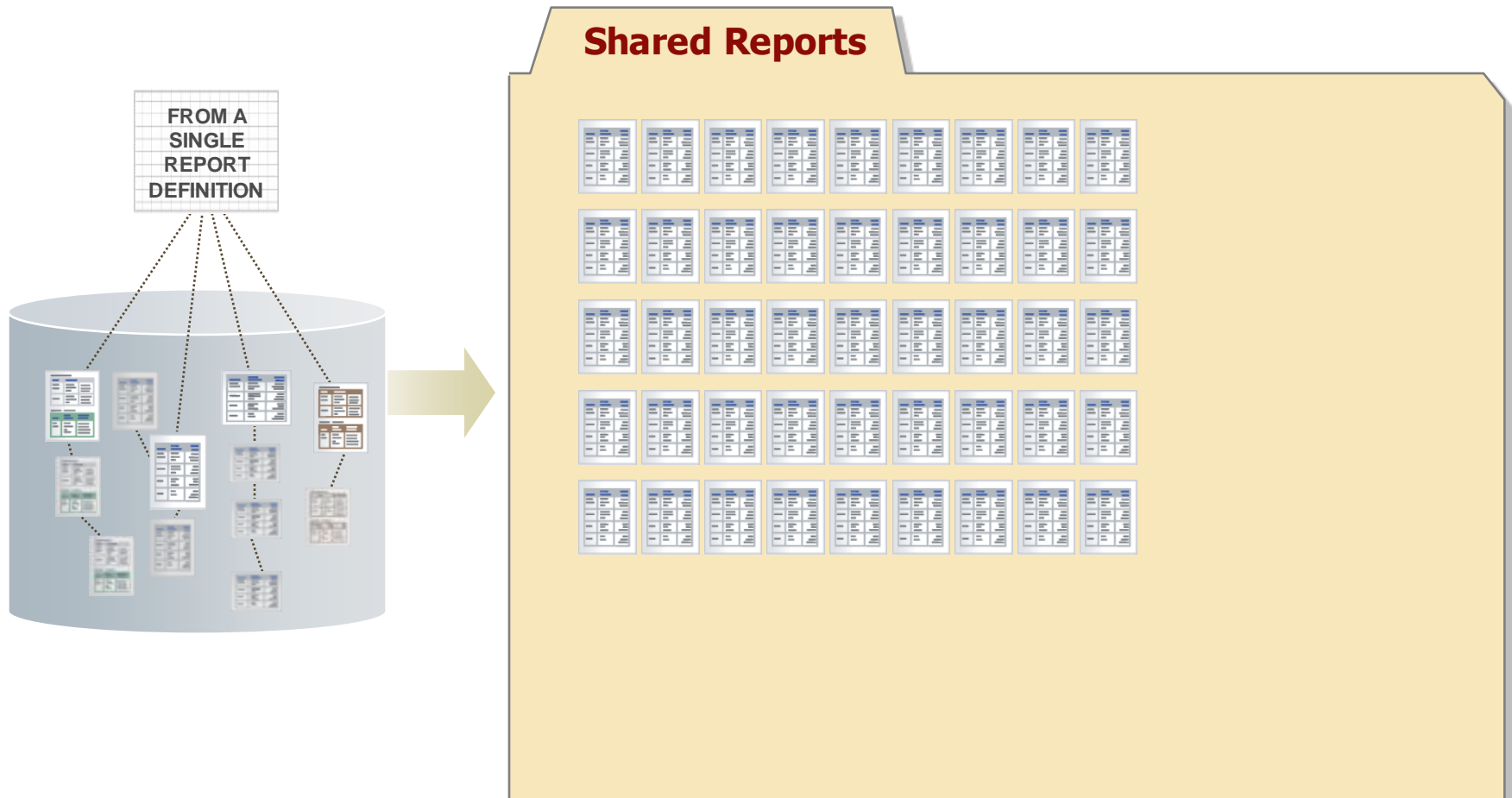


- Parameterization “Selectors” on the Dashboard
- ROLAP Slice-and-Dice on the Dashboard
- ROLAP Detailed Drilling on the Dashboard

# Putting it All Together

## Combining Surf-and-Save with Performance Dashboards

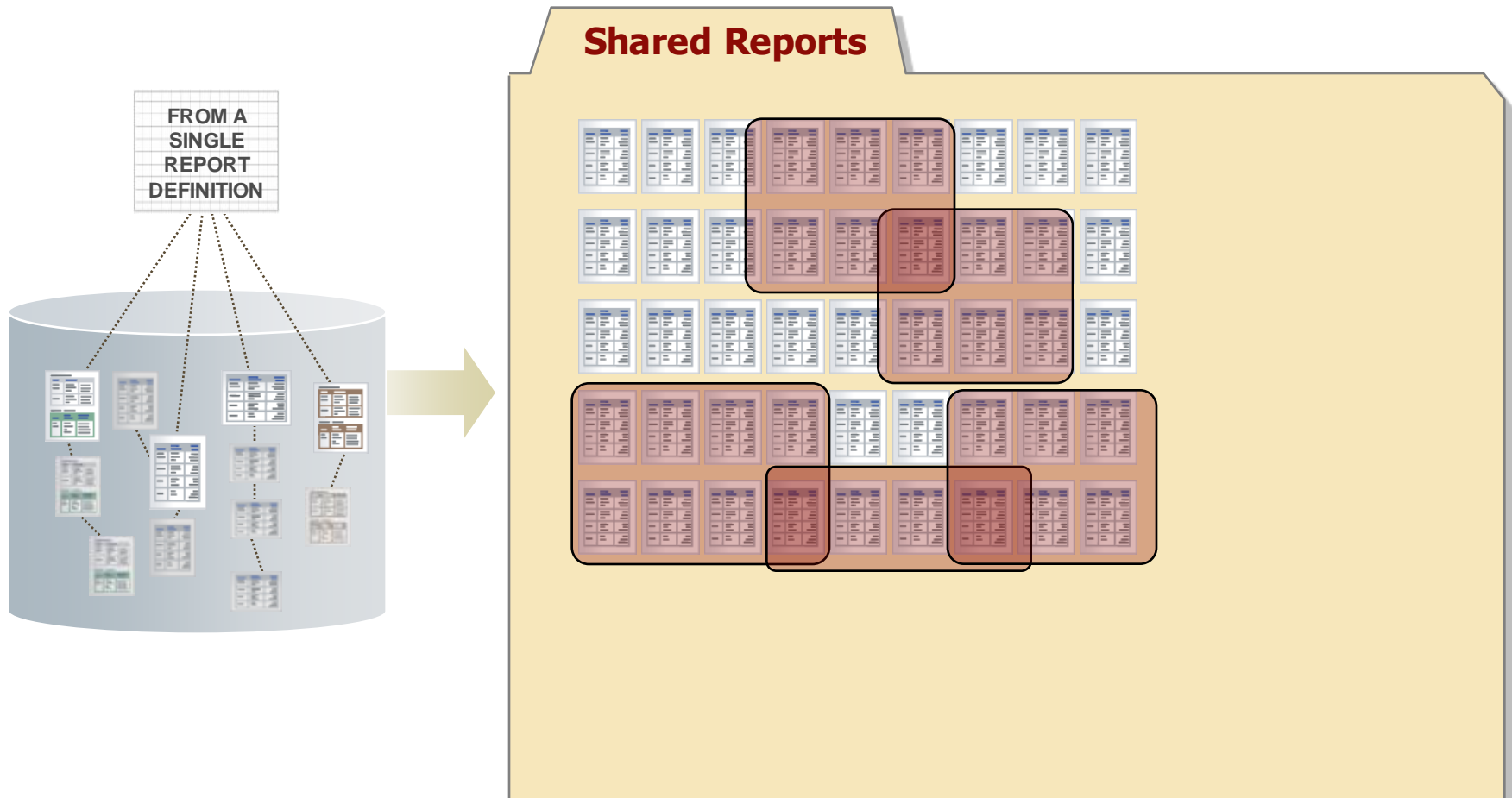
Users Can “Surf and Save”  
Hundreds of Useful Reports  
Using ROLAP Drill-anywhere



# Putting it All Together

## Combining Surf-and-Save with Performance Dashboards

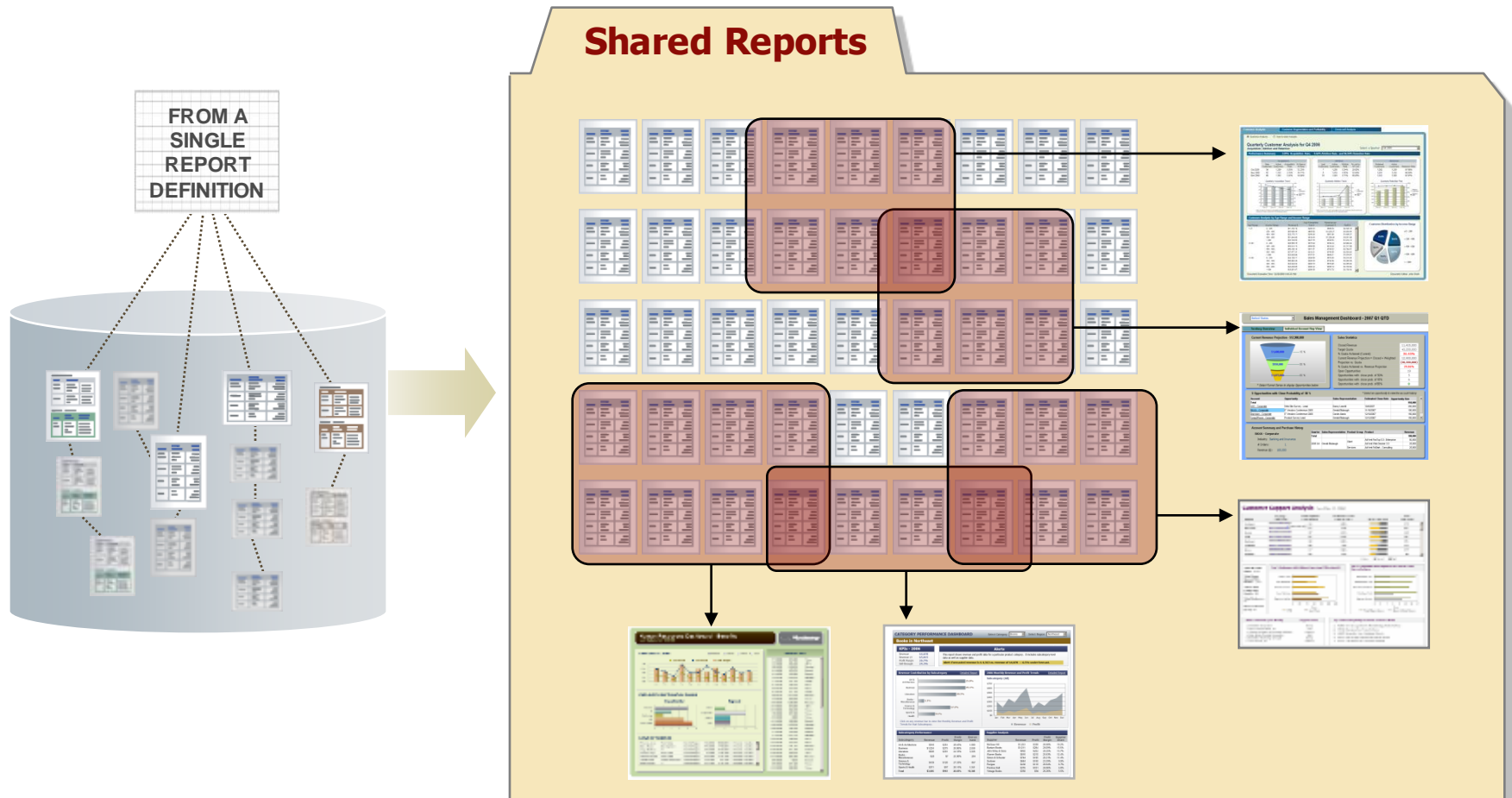
MicroStrategy Enterprise Manager Allows You to Identify Reports That are Run Frequently Together



# Putting it All Together

## Combining Surf-and-Save with Performance Dashboards

Combine Reports that Users Run Frequently Together into Performance Dashboards According to MAD Principles





# SOME NEXT STEPS

1. Visit our Website and Try our Online Dashboard Demos
2. Download a Free Evaluation Edition of MicroStrategy 8 Software
3. Attend a Free Full-day Hands-on “Intro to BI” Class in a City Near You
4. Contact Us Directly

## Interactive Dashboard Demos

MicroStrategy dashboards draw from the unique strengths of the MicroStrategy architecture. Our pioneering new technology delivers amazing data visualizations that let developers bring data to life with beautiful clarity. View or download these performance dashboards to see for yourself: [« return to digital dashboards](#)

**Live Webcast**  
**Wednesday, September 24:**  
**Performance Dashboards: Next Generation**, featuring Wayne Eckerson and MicroStrategy.



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# Questions??



# Contact Information

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