

Oracle BI 11g Reports and Dashboards

Selections, Groups and Calculated Items

PEAK
indicators

Agenda

- **Selections, Groups and Calculated Items**
 - Overview
 - Scenario
- **Selections**
- **Groups**
- **Calculated Items**



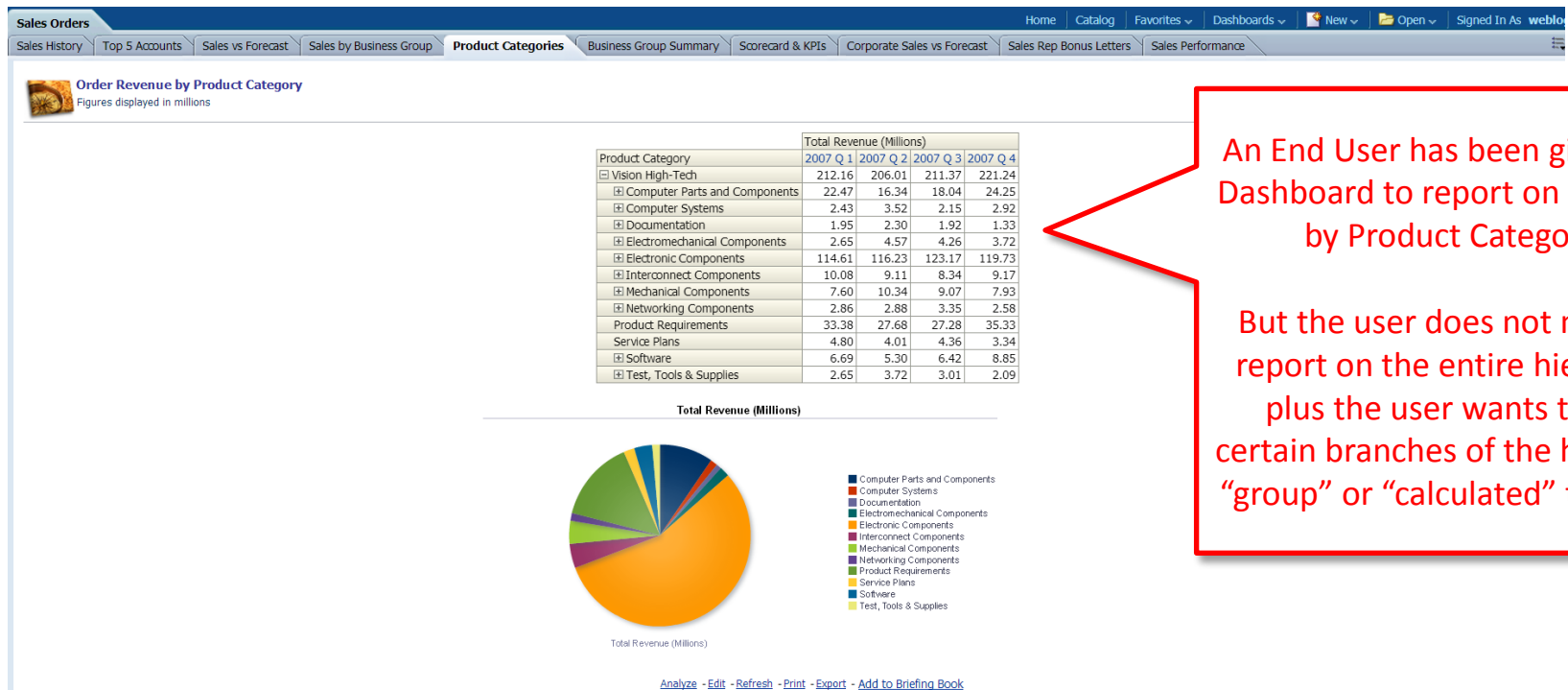
Selections, Groups and Calculated Items **Overview**

Overview

- There are several features available in Answers that help you to manipulate the member list seen in an Analysis
 - Selections
 - Groups
 - Calculated Items
- These features are available to both Hierarchy and Attribute Columns
- The important point to note is that these features do not change the Analysis' definition or the underlying data set that is returned by the BI Server
 - You can treat it as if it were a second phase of filtering/processing that is performed by the "Presentation Layer" once the data has been retrieved from the BI Server

Scenario

- Consider this example....

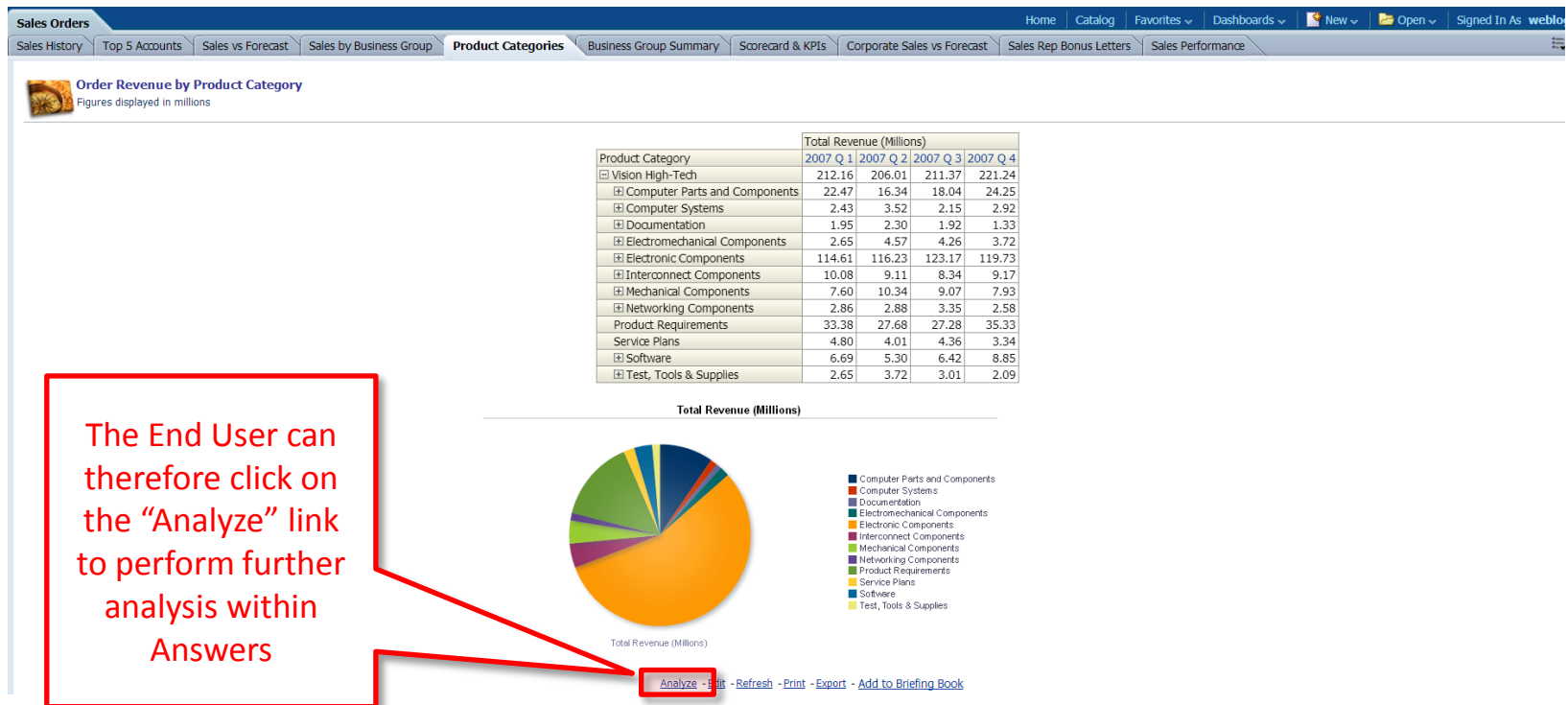


An End User has been given this Dashboard to report on Revenue by Product Category.

But the user does not need to report on the entire hierarchy, plus the user wants to see certain branches of the hierarchy “group” or “calculated” together

Scenario

- Consider this example....



PEAK
indicators

Selections, Groups and Calculated Items
Selections

Selections

- Selections allow the End User to pick and choose the members from the hierarchy are to be displayed (or removed)
- There are various ways to define the member list:
 - Explicit Member Selection
 - Condition Results
 - Hierarchical Relationships
- Once the member list is determined, you choose to add, keep-only or remove those members from the analysis
 - You can trim the analysis down so that you are not distracted by extraneous information

Selections

Selection Pane

- You can configure Selections by expanding the “Selections Pane” at the bottom of the Results tab

The screenshot shows a data analysis interface with a Pivot Table and a Selections Pane. The Pivot Table displays Total Revenue (Millions) by Product Category for four quarters. The Selections Pane is expanded at the bottom, showing a list of selections for Measures, Product Category, and Time. A red box highlights the Selection Steps section, and a red arrow points from a callout box to it.

| Product Category | 2007 Q 1 | 2007 Q 2 | 2007 Q 3 | 2007 Q 4 |
|---------------------------------|----------|----------|----------|----------|
| ▼ Vision High-Tech | 212.16 | 206.01 | 211.37 | 221.24 |
| ▶ Computer Parts and Components | 22.47 | 16.34 | 18.04 | 24.25 |
| ▶ Computer Systems | 2.43 | 3.52 | 2.15 | 2.92 |
| ▶ Documentation | 1.95 | 2.30 | 1.92 | 1.33 |
| ▶ Electromechanical Components | 2.65 | 4.57 | 4.26 | 3.72 |
| ▶ Electronic Components | 114.61 | 116.23 | 123.17 | 119.73 |
| ▶ Interconnect Components | 10.08 | 9.11 | 8.34 | 9.17 |

Selection Steps

List: ALL

Measures

- Facts - Total Revenue (Millions)

Product Category - Product Category

- 1. Start with all members
- 2. [Then, New Step...](#)

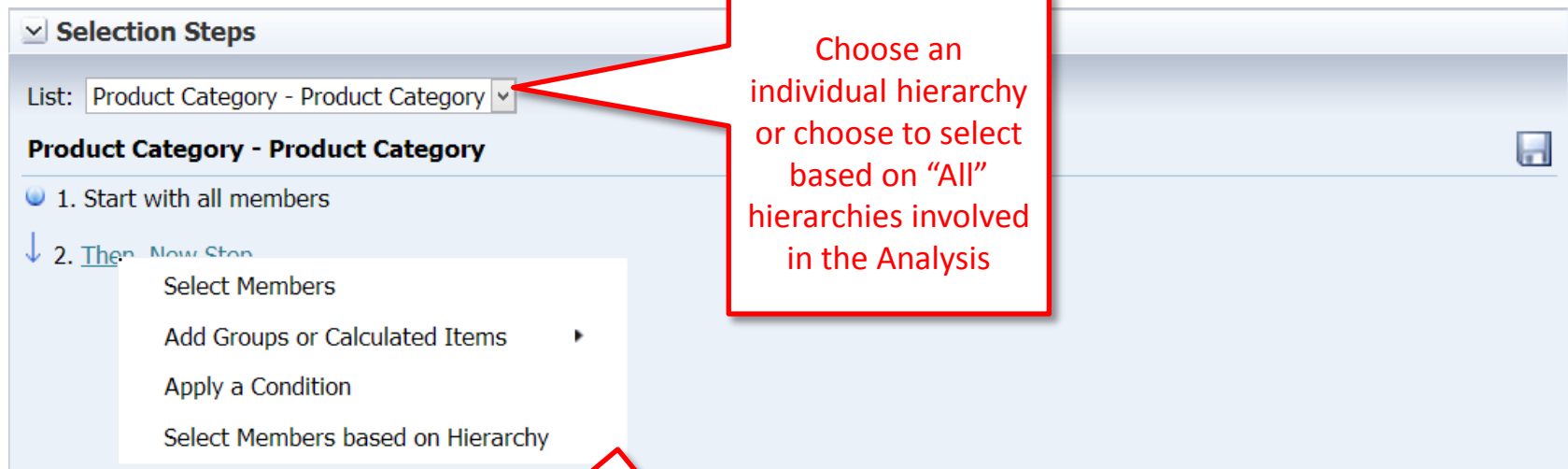
Time - Quarter

- 1. Start with all members
- 2. [Then, New Step...](#)

Note that you can save your “Selections” for reuse across other Analyses!

Selections

Begin Selecting



Selections

Select Members

The screenshot shows the 'Selection Steps' dialog box. The 'List' dropdown is set to 'Product Category - Product Category'. The 'Product Category - Product Category' section is expanded, showing a list of steps: '1. Start with all members' and '2. Then, New Step'. The 'Select Members' step is highlighted. A red arrow points from this step to the 'New Member Step - Product Category.Product Category' dialog box. This dialog box has an 'Action' dropdown set to 'Add'. The 'Available' section shows a search for 'Computer' with 'Children of' set to 'Root' and 'At Level' set to '<Any>'. The 'Selected' section shows 'Computer Parts and Components' and 'Computer Systems'. A red box highlights the 'Override with prompt' checkbox, which is currently unchecked. A red arrow points from this checkbox to a text box at the bottom left.

Selection Steps

List: Product Category - Product Category

Product Category - Product Category

1. Start with all members
2. Then, New Step

Select Members

- Add Groups or Calculated Items
- Apply a Condition
- Select Members based on Hierarchy

Choose to Add, Keep Only or Remove specific members. A search utility will help you select them

New Member Step - Product Category.Product Category

Action: Add

Available

Name: Starts Computer

Children of: Root

At Level: <Any>

Search Match Case

Product Category.Product Category

- Computer Parts and Components
- Computer Systems

Selected

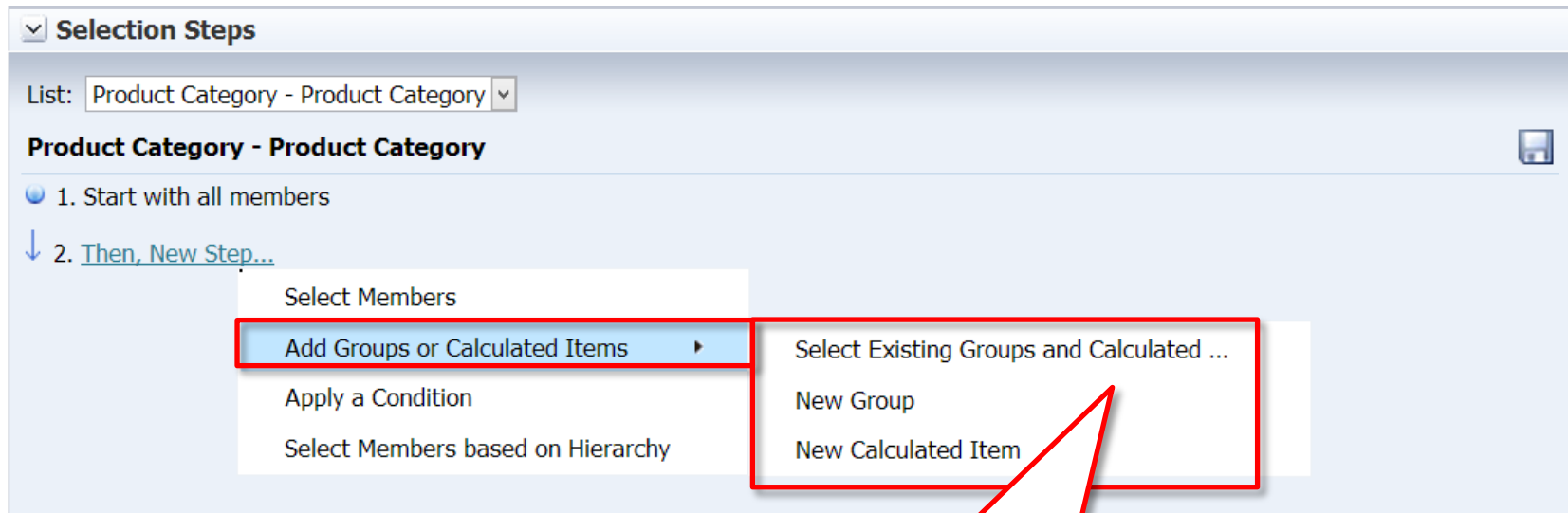
- Computer Parts and Components
- Computer Systems

Override with prompt

Enable this option to allow users to override the Selections using a Dashboard Prompt!

Selections

Select Groups or Calculated Items



You can choose to add Groups and Calculated Items to the selection. These features are covered a bit later on

Selections

Apply a Condition

Selection Steps

List: Product Category - Product Category

Product Category - Product Category

1. Start with all members
2. Then, New Step.

- Select Members
- Add Groups or Calculated Items
- Apply a Condition**
- Select Members based on Hierarchy

New Condition Step - Product Category

Condition Type

| Condition Type | Example |
|----------------------------------|--------------------------------|
| Exception | |
| X >= value | Sales >= 10000 |
| X >= Y | Sales >= Costs |
| X >= Y + 10 | Sales >= Costs + 10 |
| X >= Y - 5% | Sales >= Costs - 5% |
| X within 10 of Y | Sales within 10 of Costs |
| X not within 5% of Y | Sales not within 5% of Costs |
| X between 'min' and 'max' values | 5000 <= Sales <= 10000 |
| Top/Bottom | |
| Top 10 based on X | Top 10 based on Sales |
| Bottom 5% based on X | Bottom 5% based on Sales |
| Making up to 3% based on X | Making up to 3% based on Sales |
| Match | |
| Name contains 'abc' | Name contains 'abc' |
| All X values where Y = values | All Cars where Color = Red |

Choose members based on a "condition"

For example: Revenue > 1000,000

Selections

Select Members Based on Hierarchy

The screenshot shows a software interface for selecting members based on hierarchy. The main window has a 'Selection Steps' section with a list of steps: '1. Start with all members' and '2. Then, New Step'. A context menu is open over step 2, with 'Select Members based on Hierarchy' highlighted. A red box highlights this option, and a red arrow points to a 'New Hierarchy Selection Step' dialog box. The dialog box has a 'Relationship' dropdown set to 'Based on Family Relationship' and an 'Action' dropdown set to 'Add'. A 'Children Of' dropdown is also visible, with a list of options: 'Children Of', 'Parent Of', 'Descendants Of', 'Ancestors Of', 'Siblings Of', and 'Leaves Of'. The 'Available' list on the left contains various product categories and components, including '1 Retailers Ltd', 'A&D Components', 'Aircraft', 'Automotive', 'Automotive - CZ', 'BL Pleated Shades', 'BL Roller Shades', 'BL Roman Shades', 'BL Shutters', 'BL Vertical Shades', 'CS Additional Services', 'CS Call Plans - Family', 'CS Call Plans - Nationwide', and 'CS DSL'. The 'Selected' list on the right is empty. A red box highlights the 'Children Of' dropdown and its options, with a red arrow pointing to a text box that says 'Choose to Add, Keep Only or Remove members that are related in some way to other members:'. The text box lists the following options: 'Children of', 'Parent of', 'Descendants of', and 'Ancestors of'.

Selection Steps

List: Product Category - Product Category

Product Category - Product Category

1. Start with all members
2. Then, New Step

Select Members

Add Groups or Calculated Items

Apply a Condition

Select Members based on Hierarchy

New Hierarchy Selection Step - Product Category.Product Category

New Hierarchy Selection Step

Relationship: Based on Family Relationship

Action: Add

Children Of

Children Of

Parent Of

Descendants Of

Ancestors Of

Siblings Of

Leaves Of

Available

- Product Category.Product Category
- 1 Retailers Ltd
- 1 Retailers Ltd: Real Estate
- A&D Components
- A&D Requirement Analysis
- ADSL Modem
- Aircraft
- Automotive
- Automotive - CZ
- BL Pleated Shades
- BL Roller Shades
- BL Roman Shades
- BL Shutters
- BL Vertical Shades
- CS Additional Services
- CS Call Plans - Family
- CS Call Plans - Nationwide
- CS DSL

Selected

Include selected members

OK Cancel


Choose to Add, Keep Only or Remove members that are related in some way to other members:

- Children of
- Parent of
- Descendants of
- Ancestors of

Selections

Our Example....

Title

 **Order Revenue by Product Category**
Figures displayed in millions

Pivot Table

| Product Category | Total Revenue (Millions) | | | |
|---------------------------------|--------------------------|----------|----------|----------|
| | 2007 Q 1 | 2007 Q 2 | 2007 Q 3 | 2007 Q 4 |
| ▽ Vision High-Tech | 212.16 | 206.01 | 211.37 | 221.24 |
| ▷ Computer Parts and Components | 22.47 | 16.34 | 18.04 | 24.25 |
| ▷ Computer Systems | 2.43 | 3.52 | 2.15 | 2.92 |
| ▷ Electromechanical Components | 2.65 | 4.57 | 4.26 | 3.72 |
| ▷ Electronic Components | 114.61 | 116.23 | 123.17 | 119.73 |
| ▷ Interconnect Components | 10.08 | 9.11 | 8.34 | 9.17 |
| ▷ Mechanical Components | 7.60 | 10.34 | 9.07 | 7.93 |
| ▷ Networking Components | 2.86 | 2.88 | 3.35 | 2.58 |
| ▷ Software | 6.69 | 5.30 | 6.42 | 8.85 |

Selection Steps

List:

Product Category - Product Category

1. Start with all members
2. Then, Remove Documentation; Product Requirements; Test, Tools & Supplies; Test and Measurement; Test Points; Service Plans
3. [Then, New Step...](#)

In our example, we have chosen to remove a specific list of members from the Analysis

Selections

Our Example....

Order Revenue by Product Category
Figures displayed in millions

Pivot Table:

| | Total Revenue (Millions) | | | |
|---------------------------------|--------------------------|----------|----------|----------|
| Product Category | 2007 Q 1 | 2007 Q 2 | 2007 Q 3 | 2007 Q 4 |
| ▽ Vision High-Tech | 212.16 | 206.01 | 211.37 | 221.24 |
| ▷ Computer Parts and Components | 22.47 | 16.34 | 18.04 | 24.25 |
| ▷ Computer Systems | 2.43 | 3.52 | 2.15 | 2.92 |
| ▷ Electromechanical Components | 2.65 | 4.57 | 4.26 | 3.72 |
| ▷ Electronic Components | 114.61 | 116.23 | 123.17 | 119.73 |
| ▷ Interconnect Components | 10.08 | 9.11 | 8.34 | 9.17 |
| ▷ Mechanical Components | 7.60 | 10.34 | 9.07 | 7.93 |
| ▷ Networking Components | 2.86 | 2.88 | 3.35 | 2.58 |
| ▷ Software | 6.69 | 5.30 | 6.42 | 8.85 |

The "Total" level is unaffected by this, it is still calculated based on all members

Selection Steps

List: Product Category - Product Category

Product Category - Product Category

1. Start with all members
2. Then, Remove Documentation; Product Requirements; Test, Tools & Supplies; Test and Measurement; Test Points; Service Plans
3. Then, New Step...



Selections, Groups and Calculated Items

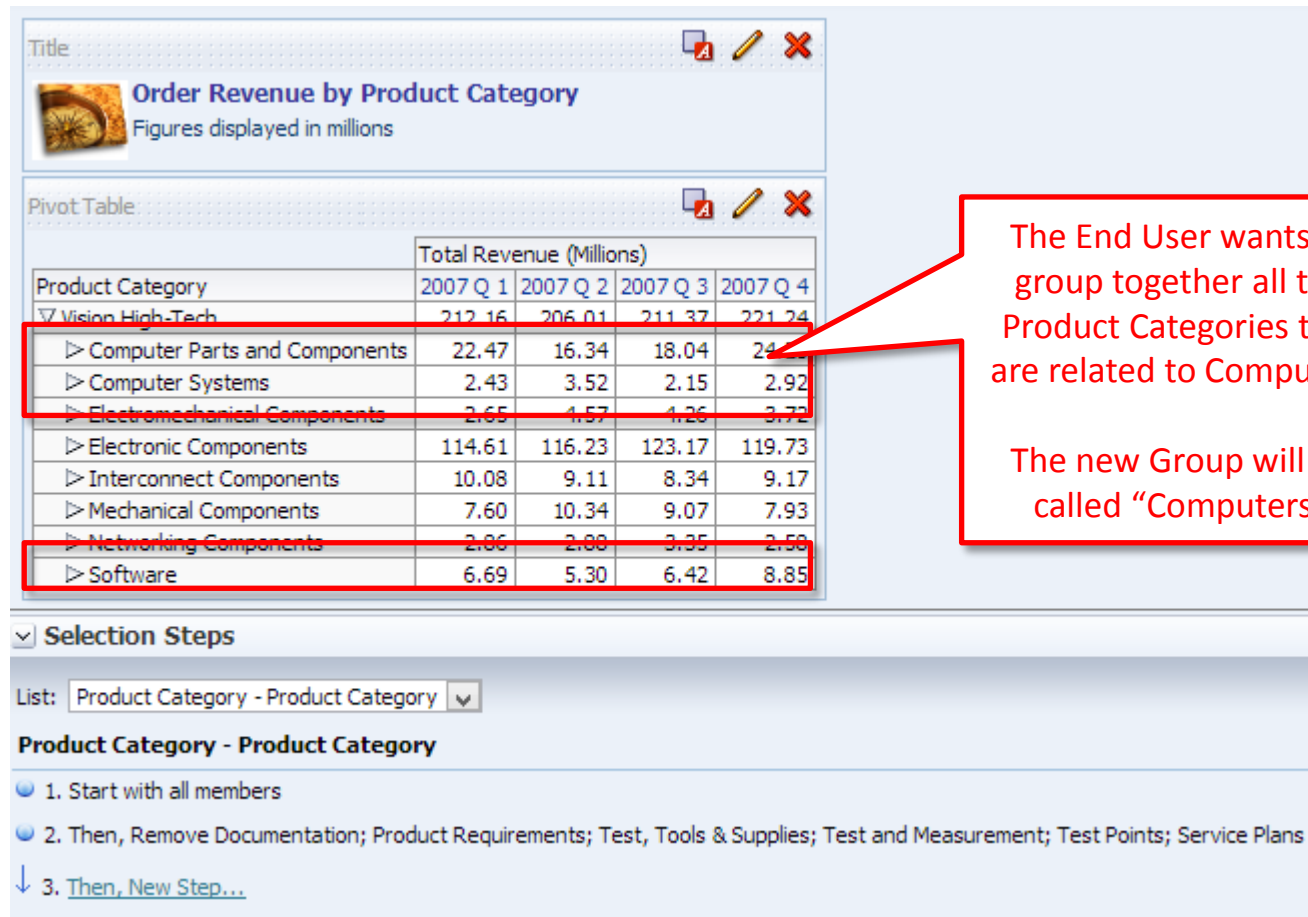
Groups

Groups

- Groups allow the End User to add new members to the Analysis which are effectively a collection of other members “grouped” together
- This new member can contain members for any level of a hierarchy and can be expanded/collapsed just like all the other members
- It can be formatted but is always placed at the bottom (or end) of the column

Groups

Our Example...



Order Revenue by Product Category
Figures displayed in millions

| Product Category | 2007 Q 1 | 2007 Q 2 | 2007 Q 3 | 2007 Q 4 |
|---------------------------------|----------|----------|----------|----------|
| ▼ Vision High-Tech | 212.16 | 206.01 | 211.37 | 221.24 |
| ▶ Computer Parts and Components | 22.47 | 16.34 | 18.04 | 24.55 |
| ▶ Computer Systems | 2.43 | 3.52 | 2.15 | 2.92 |
| ▶ Electromechanical Components | 2.65 | 1.57 | 1.26 | 3.72 |
| ▶ Electronic Components | 114.61 | 116.23 | 123.17 | 119.73 |
| ▶ Interconnect Components | 10.08 | 9.11 | 8.34 | 9.17 |
| ▶ Mechanical Components | 7.60 | 10.34 | 9.07 | 7.93 |
| ▶ Networking Components | 2.86 | 2.88 | 3.35 | 2.58 |
| ▶ Software | 6.69 | 5.30 | 6.42 | 8.85 |

Selection Steps

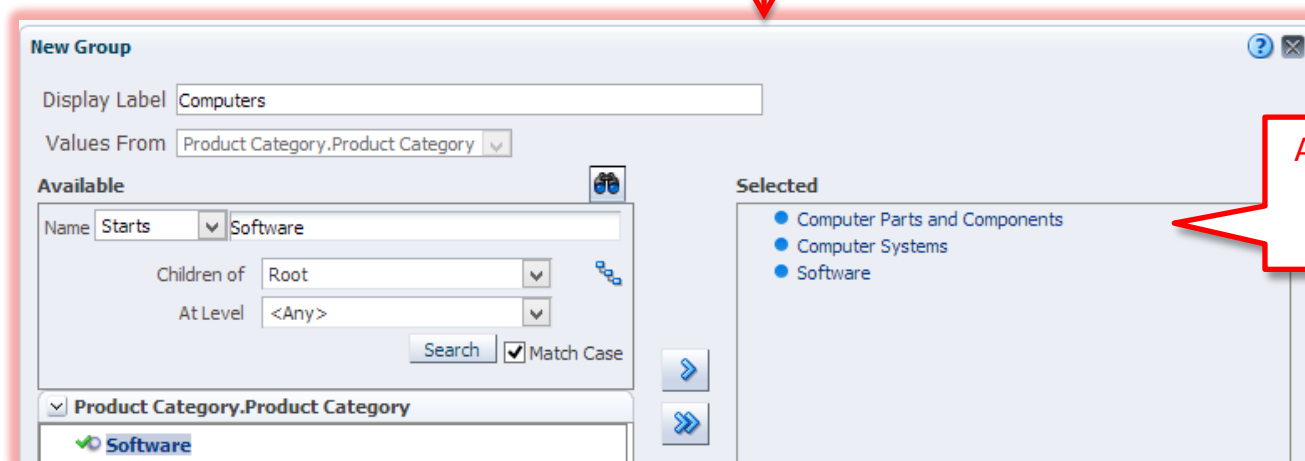
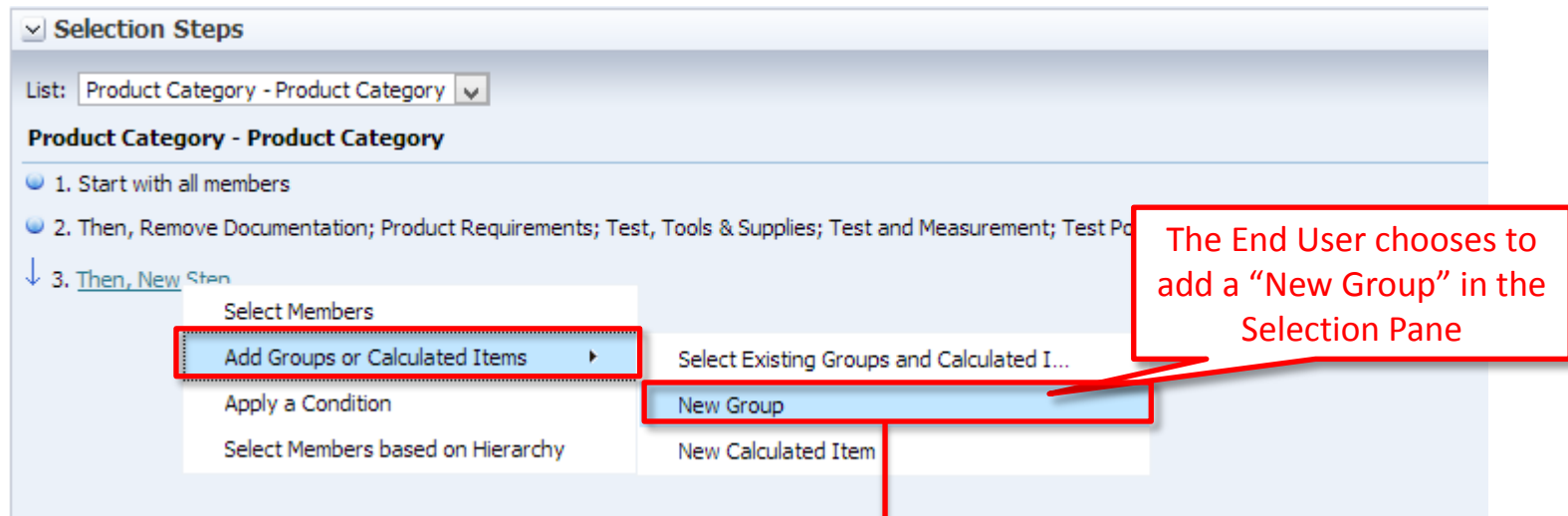
List: Product Category - Product Category ▼

Product Category - Product Category

1. Start with all members
2. Then, Remove Documentation; Product Requirements; Test, Tools & Supplies; Test and Measurement; Test Points; Service Plans
3. Then, [New Step...](#)

Groups

Adding a Group



Groups

The Result

| Pivot Table | | | | |
|---------------------------------|--------------------------|----------|----------|----------|
| Product Category | Total Revenue (Millions) | | | |
| | 2007 Q 1 | 2007 Q 2 | 2007 Q 3 | 2007 Q 4 |
| ▽ Vision High-Tech | 212.16 | 206.01 | 211.37 | 221.24 |
| ▷ Computer Parts and Components | 22.47 | 16.34 | 18.04 | 24.25 |
| ▷ Computer Systems | 2.43 | 3.52 | 2.15 | 2.92 |
| ▷ Electromechanical Components | 2.65 | 4.57 | 4.26 | 3.72 |
| ▷ Electronic Components | 114.61 | 116.23 | 123.17 | 119.73 |
| ▷ Interconnect Components | 10.08 | 9.11 | 8.34 | 9.17 |
| ▷ Mechanical Components | 7.60 | 10.34 | 9.07 | 7.93 |
| ▷ Networking Components | 2.86 | 2.88 | 3.35 | 2.58 |
| ▷ Software | 6.69 | 5.30 | 6.42 | 8.85 |
| ▽ Computers | 31.59 | 25.16 | 26.61 | 36.02 |
| ▷ Computer Parts and Components | 22.47 | 16.34 | 18.04 | 24.25 |
| ▷ Computer Systems | 2.43 | 3.52 | 2.15 | 2.92 |
| ▷ Software | 6.69 | 5.30 | 6.42 | 8.85 |

The new Group member has been added to the Analysis.

NOTES:

- You can expand/collapse the members within the Group
- The “Vision High-Tech” grand total is not affected
- The Group is always added to the bottom/end of the column
- The aggregation rule is inherited



Selections, Groups and Calculated Items

Calculated Items


Calculated Items

- Calculated Items are another type of member that can be added to the Analysis
- Like Groups, they can contain members from any level of the hierarchy, can be formatted and are always placed at the end or bottom of the column
- However, there are some differences:
 - Calculated Items cannot be expanded/collapsed
 - You can apply a different aggregation rule or even specify your own custom formula

Calculated Items

Our Example...

Title

 **Order Revenue by Product Category**
Figures displayed in millions

Pivot Table

| Product Category | Total Revenue (Millions) | | | |
|---------------------------------|--------------------------|----------|----------|----------|
| | 2007 Q 1 | 2007 Q 2 | 2007 Q 3 | 2007 Q 4 |
| ▽ Vision High-Tech | 212.16 | 206.01 | 211.37 | 221.24 |
| ▷ Computer Parts and Components | 22.47 | 16.34 | 18.04 | 24.25 |
| ▷ Computer Systems | 2.43 | 3.52 | 2.15 | 2.92 |
| ▷ Electromechanical Components | 2.65 | 4.57 | 4.26 | 3.72 |
| ▷ Electronic Components | 114.61 | 116.23 | 123.17 | 119.73 |
| ▷ Interconnect Components | 10.08 | 9.11 | 8.34 | 9.17 |
| ▷ Mechanical Components | 7.60 | 10.34 | 9.07 | 7.15 |
| ▷ Networking Components | 2.86 | 2.88 | 3.35 | 2.58 |
| ▷ Software | 6.69 | 5.30 | 6.42 | 8.85 |
| ▽ Computers | 31.59 | 25.16 | 26.61 | 36.02 |
| ▷ Computer Parts and Components | 22.47 | 16.34 | 18.04 | 24.25 |
| ▷ Computer Systems | 2.43 | 3.52 | 2.15 | 2.92 |
| ▷ Software | 6.69 | 5.30 | 6.42 | 8.85 |

Selection Steps

List:

Product Category - Product Category

1. Start with all members
2. Then, Remove Documentation; Product Requirements; Test, Tools & Supplies; Test and Measurement; Test Points; Service Plans
3. Then, Add [Computers](#)
4. Then, [New Step...](#)

The End User wants to see data summarised at half-yearly intervals.

We shall therefore create two Calculated Items:

- 2007 H1
- 2007 H2

Calculated Items

Creating

The screenshot displays the 'Selection Steps' pane in a BI tool. At the top, a dropdown menu is set to 'ALL'. Below this, the 'Measures' section shows 'Facts - Total Revenue (Millions)'. The 'Product Category - Product Category' section contains a list of steps: '1. Start with all members', '2. Then, Remove Documentation; Product Requirements; Test, Tools & Supplies; Test and Measurement; Test Points; Service Plans', '3. Then, Add Computers', and '4. Then, New Step...'. The 'Time - Quarter' section is currently selected, showing steps '1. Start with all members' and '2. Then, New Step...'. A context menu is open for step 2, with options: 'Select Members', 'Add Groups or Calculated Items', 'Apply a Condition', and 'Select Members based on Hierarchy'. The 'Add Groups or Calculated Items' option is expanded, showing sub-options: 'Select Existing Groups and Calculated I...', 'New Group', and 'New Calculated Item'. The 'New Calculated Item' option is highlighted. Two red callout boxes provide instructions: one points to the 'ALL' dropdown, and the other points to the 'New Calculated Item' option.

In the Selection Pane, choose list selections for all hierarchies

In the Selection Pane, choose to add a new Calculated Item for the Time hierarchy

Calculated Items

Creating

The screenshot shows the 'New Calculated Item' dialog box. A red box highlights the 'Display Label' field (containing '2007 H1'), the 'Values From' dropdown (set to 'Time.Quarter'), and the 'Function' dropdown (set to 'Sum'). A red callout points to these fields with the text: 'Choose a Display Label and specify the Function or Formula. In our case, it is just a simple SUM()'. Below this, the 'Available' list shows 'Time.Quarter' expanded with members '2007 Q 1', '2007 Q 2', '2007 Q 3', and '2007 Q 4'. The '2007 Q 1' and '2007 Q 2' members are selected. A red box highlights these two members, and a red callout points to them with the text: 'Then select the relevant members'. The 'Selected' list on the right is currently empty.

New Calculated Item

Display Label: 2007 H1

Values From: Time.Quarter

Function: Sum

Available

Name: Starts 2007

Search Match Case

Time.Quarter

- 2007 Q 1
- 2007 Q 2
- 2007 Q 3
- 2007 Q 4

Selected

- 2007 Q 1
- 2007 Q 2


Choose a Display Label and specify the Function or Formula.
In our case, it is just a simple SUM()

Then select the relevant members

Calculated Items

The Result

Title

 **Order Revenue by Product Category**
Figures displayed in millions

Pivot Table

| Product Category | Total Revenue (Millions) | | | | | |
|---------------------------------|--------------------------|----------|----------|----------|---------|---------|
| | 2007 Q 1 | 2007 Q 2 | 2007 Q 3 | 2007 Q 4 | 2007 H1 | 2007 H2 |
| ▽ Vision High-Tech | 212.16 | 206.01 | 211.37 | 221.24 | 418.17 | 432.61 |
| ▷ Computer Parts and Components | 22.47 | 16.34 | 18.04 | 24.29 | 38.81 | 42.29 |
| ▷ Computer Systems | 2.43 | 3.52 | 2.15 | 2.92 | 5.95 | 5.07 |
| ▷ Electromechanical Components | 2.65 | 4.57 | 4.26 | 3.72 | 7.21 | 7.98 |
| ▷ Electronic Components | 114.61 | 116.23 | 123.17 | 119.73 | 230.84 | 242.90 |
| ▷ Interconnect Components | 10.08 | 9.11 | 8.34 | 9.17 | 19.19 | 17.51 |
| ▷ Mechanical Components | 7.60 | 10.34 | 9.07 | 7.93 | 17.94 | 17.00 |
| ▷ Networking Components | 2.86 | 2.88 | 3.35 | 2.58 | 5.74 | 5.93 |
| ▷ Software | 6.69 | 5.30 | 6.42 | 8.85 | 11.99 | 15.27 |
| ▽ Computers | 31.59 | 25.16 | 26.61 | 36.02 | 56.76 | 62.63 |
| ▷ Computer Parts and Components | 22.47 | 16.34 | 18.04 | 24.29 | 38.81 | 42.29 |
| ▷ Computer Systems | 2.43 | 3.52 | 2.15 | 2.92 | 5.95 | 5.07 |
| ▷ Software | 6.69 | 5.30 | 6.42 | 8.85 | 11.99 | 15.27 |

Selection Steps

List:

Measures

- Facts - Total Revenue (Millions)

Product Category - Product Category

1. Start with all members
2. Then, Remove Documentation; Product Requirements; Test, Tools & Supplies; Test and Measurement; Test Points; Service Plans
3. Then, Add [Computers](#)
4. [Then, New Step...](#)

Time - Quarter

1. Start with all members
2. Then, Add [2007 H1](#)
3. Then, Add [2007 H2](#)
4. [Then, New Step...](#)

Half-yearly Calculated Items
now created and added to
the end of the Column

Calculated Items

Implicit Column References

New Calculated Item

Display Label:

Values From:

Function:

Available

☒ Time.Quarter

- 1979 Q 4
- 1980 Q 1
- 1980 Q 2

Selected

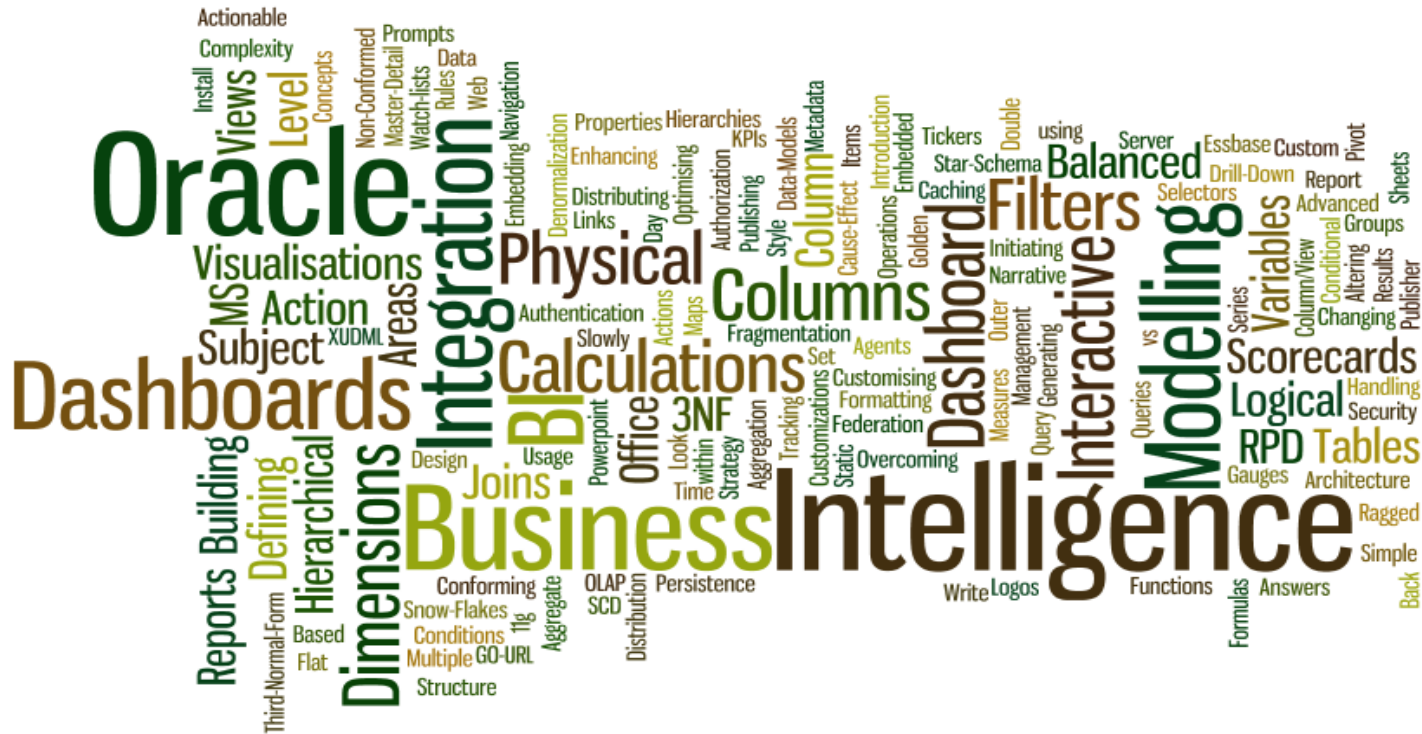
$\$1 + \2

$\$1 + \2

↓

| Business Group | Total Revenue (Millions) | | | | H1 |
|-----------------------|--------------------------|---------------|---------------|---------------|---------------|
| | 2007 Q 1 | 2007 Q 2 | 2007 Q 3 | 2007 Q 4 | |
| Vision Benelux | 105.51 | 99.90 | 105.80 | 105.94 | 205.41 |
| Vision East Europe | 23.19 | 24.46 | 21.12 | 24.20 | 47.65 |
| Vision Nordics | 63.14 | 67.09 | 70.62 | 73.90 | 130.24 |
| Vision UK and Ireland | 4.20 | 3.87 | 2.62 | 5.73 | 8.06 |
| Vision West Europe | 16.11 | 10.70 | 11.20 | 11.47 | 26.81 |
| Grand Total | 212.16 | 206.01 | 211.37 | 221.24 | 418.17 |

Questions?



PEAK

indicators

PEAK
indicators

Helping Your Business
Intelligence Journey