

SAP BusinessObjects BI 4.x & SAP NetWeaver BW

Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel



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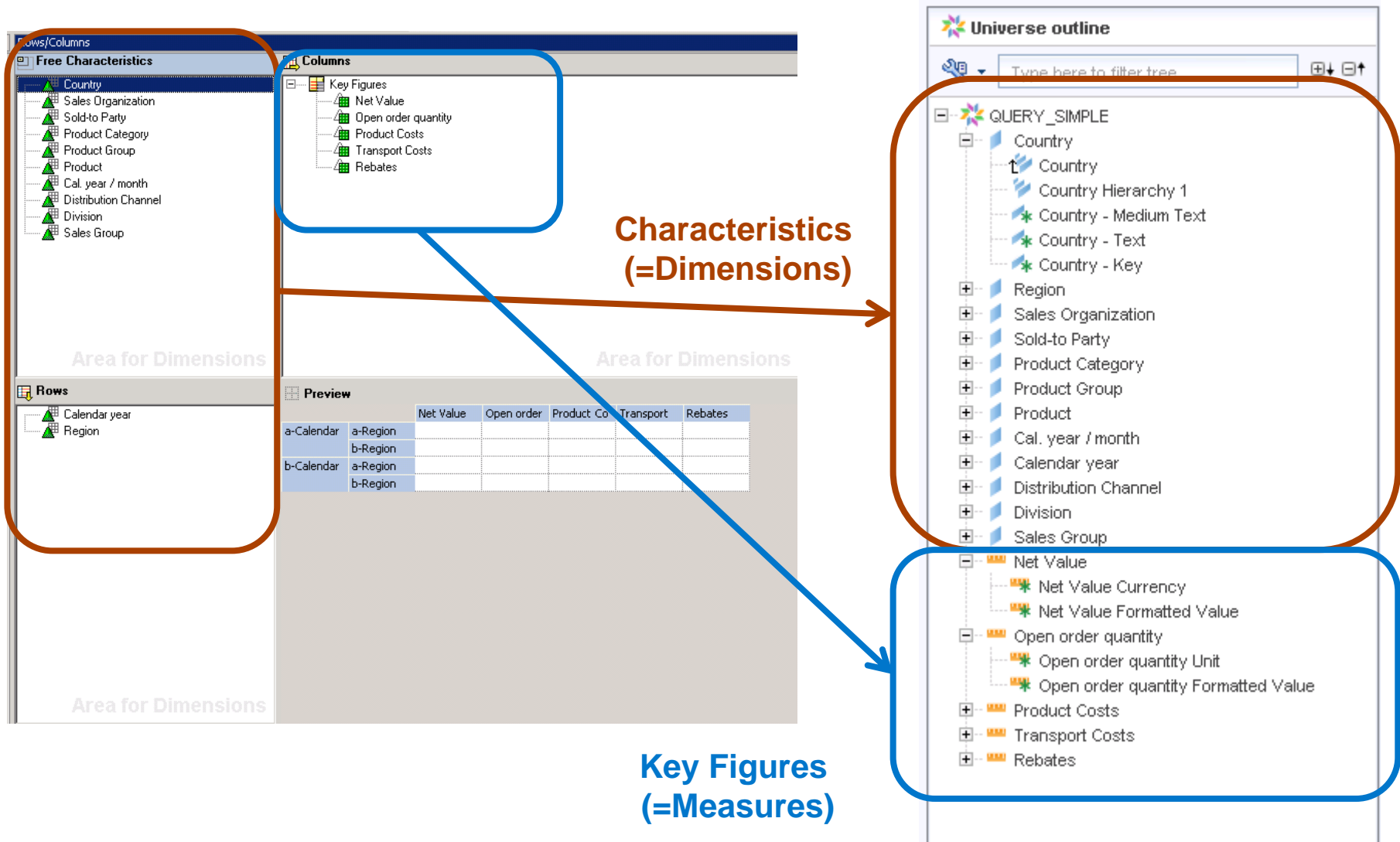
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Document Scope

The following slides outline, how Web Intelligence is able to leverage the elements from a BEx Query and where the report designer can “find” the elements from the BEx Query in the Web Intelligence Query Panel.

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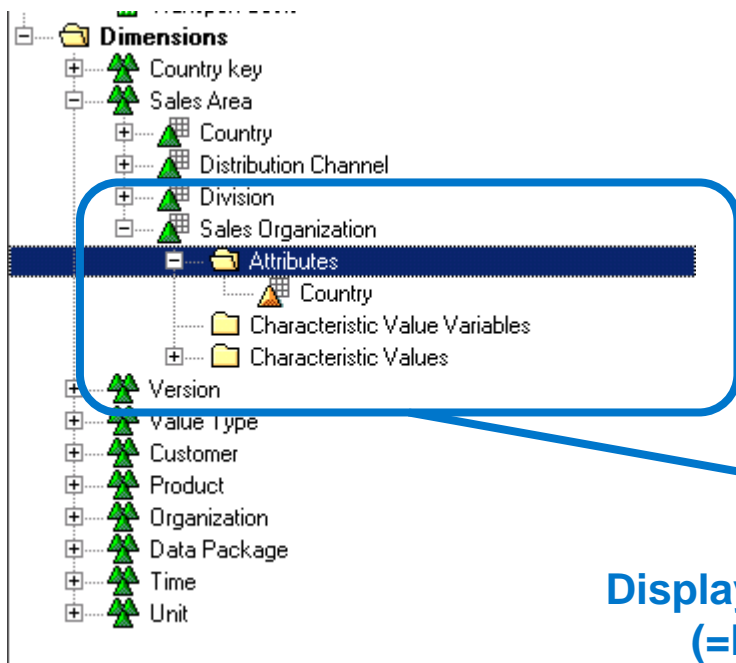
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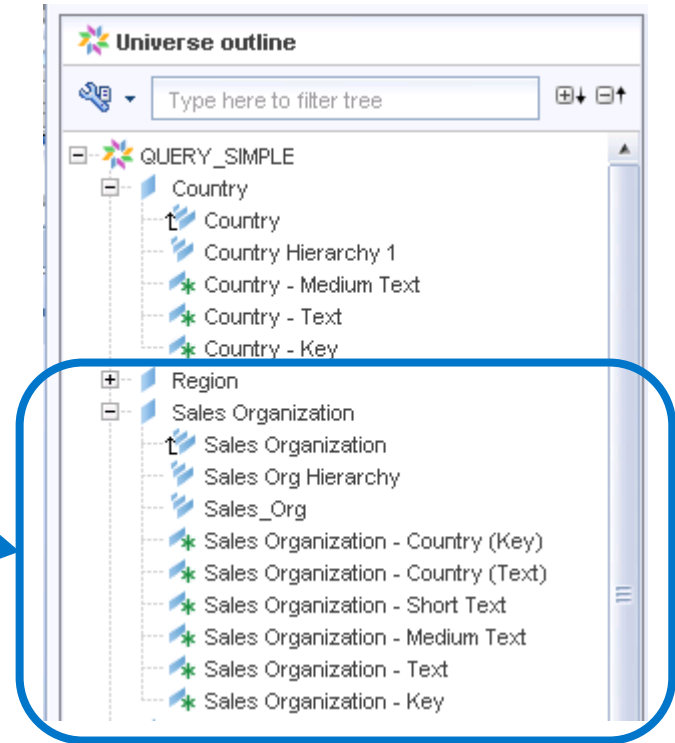
- Characteristics (called Dimensions)
 - Separate fields for key, and description per characteristic based on InfoObject definition
- Navigational Attributes
 - Navigational Attributes are treated like characteristics (=Dimension)
- Key Figure (called Measure)
 - Each Key Figure can have up to four elements: numeric value, unit, formatted value, and scaling factor.
- Calculated and Restricted Key Figures
 - Each Key Figure can have up to four elements: numeric value, unit, formatted value, and scaling factor. (Information about the details of the calculated or restricted Keyfigure is not available in Web Intelligence.)

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**Display Attributes
(=Details)**



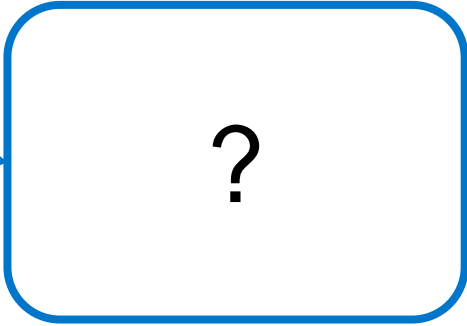
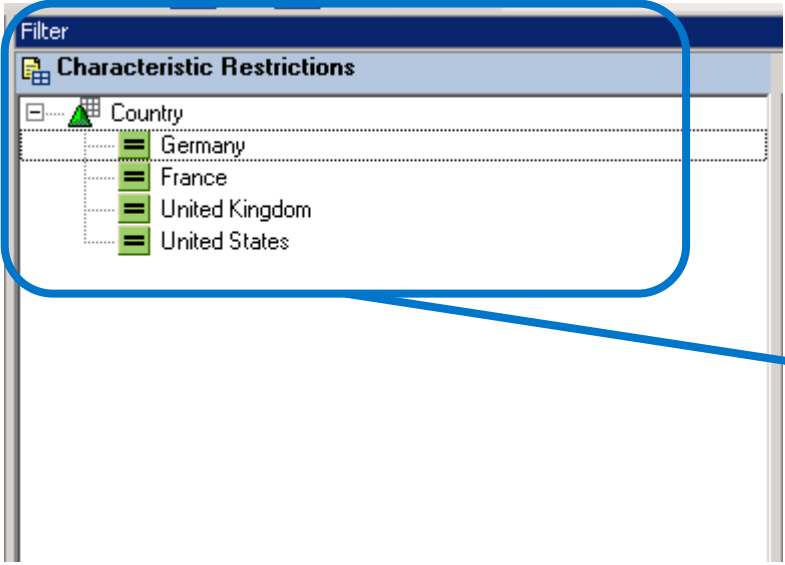
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- Display Attributes
 - The display attributes are grouped together with the actual characteristic and are shown as subordinates in the query panel

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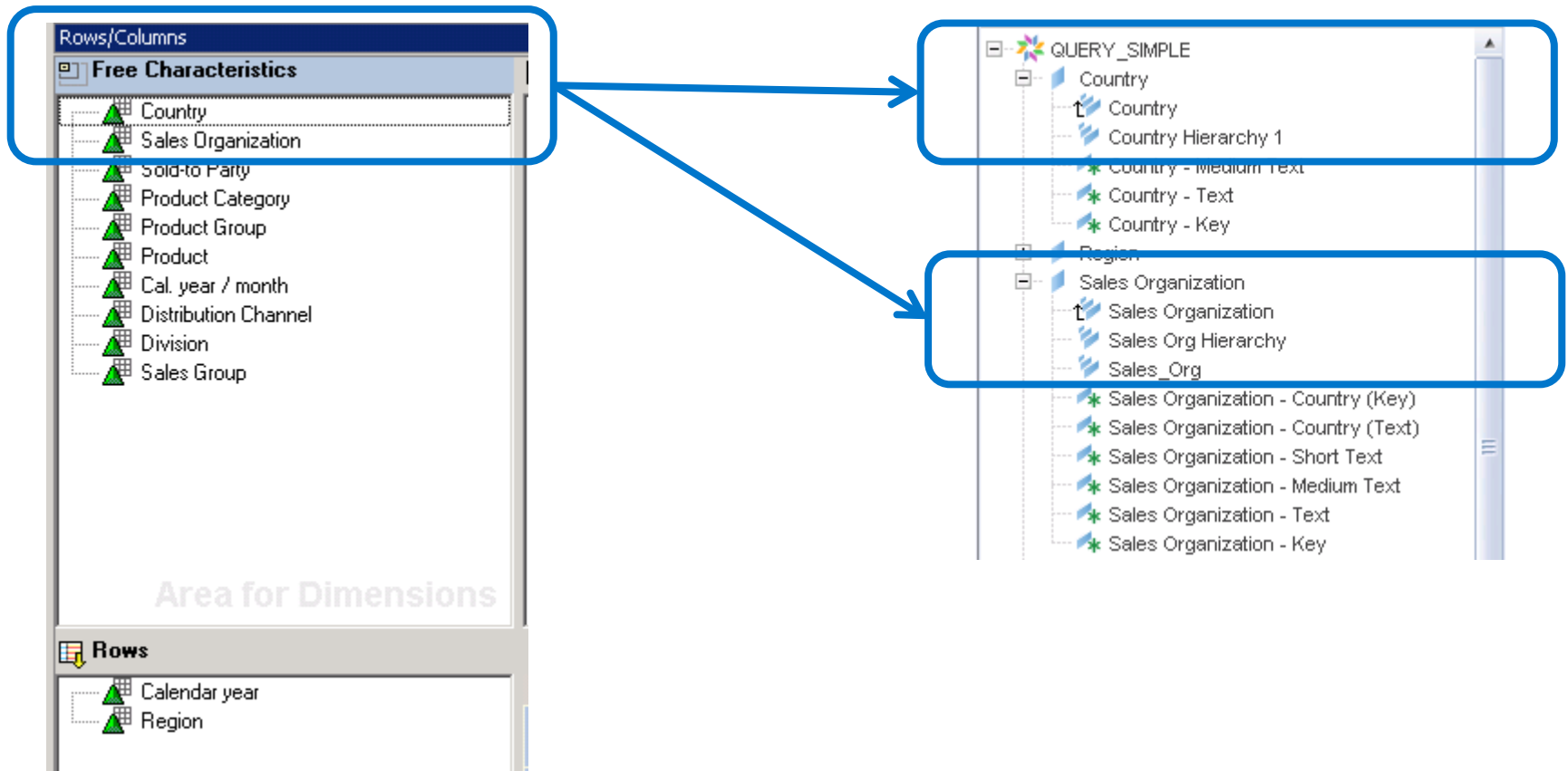
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Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel

- Characteristic Restrictions (= Fixed Filter)
 - Filters will be applied to the underlying BEx query but are not visible in the query panel

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Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel



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Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel

- Hierarchies
 - Hierarchies are presented as real external hierarchies and all available hierarchies are available in the Query Panel
 - The list of available hierarchies is based on the InfoObject definition – not based on active hierarchies in the BEx query
 - Each characteristic (=Dimension) has also a “Default Hierarchy”
- “Default Hierarchy”
 - In case no hierarchy is active the “Default Hierarchy” represents the “flat list of members”
 - In case a hierarchy variable is used the “Default Hierarchy” represents the selected hierarchy based on the input for the hierarchy variable

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Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel

The screenshot illustrates the mapping of BEx query elements to the SAP BusinessObjects BI4 Query Panel. The 'Filter' window on the left shows 'Characteristic Restrictions' with 'Cal. year / month' selected. The 'Query Panel' on the right shows the 'Universe outline' and 'Result Objects' tabs. A 'Set Variables' dialog box is open, mapping the BEx prompts to variables in the query panel.

Filter Window:

- Characteristic Restrictions
 - Cal. year / month
 - Please select a range
 - Calendar year
 - Please select the Years
 - Country
 - Please select the Country

Query Panel:

- Universe outline
 - QUERY_PROMPTING
 - Country
 - Region
 - Sales Organization
 - Sold-to Party
 - Product Category
 - Product Group
 - Product
 - Cal. year / month
 - Calendar year
 - Distribution Channel
 - Division
 - Sales Group
 - Net Value
 - Open order quantity
 - Product Costs
 - Transport Costs
 - Rebates

- Result Objects
- To include data in the report, select objects in the Data tab and drag them here. Click Run Query to return the data to the report.

Set Variables Dialog:

Variable	Value(s)		
(optional) Please select th...		...	<input checked="" type="checkbox"/> Set as prompt
Please select the Years		...	<input checked="" type="checkbox"/> Set as prompt
(optional) Please select a	<input checked="" type="checkbox"/> Set as prompt

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Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel

- Variables
 - Variables result in prompts
 - Crystal Reports for Enterprise and Web Intelligence offer a “Variable Manager” to configure default values in the query panel
 - Crystal Reports for Enterprise is listing the prompts as part of the report

Known Limitations

- Web Intelligence is not exposing the BEx variables as prompts “visible” in the report
- SAP BusinessObjects Dashboards does not provide a “Variable Manager”

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Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel

The screenshot displays the SAP BusinessObjects BI4 Query Panel interface, illustrating the mapping between BEx query elements and the Universe outline. The interface is divided into several sections:

- Free Characteristics:** Lists dimensions such as Sales Organization, Product Category, Product Group, Cal. year / month, Distribution Channel, Region, and Calendar year.
- Columns:** Shows a structure in columns with four quarters (Quarter 1, Quarter 2, Quarter 3, Quarter 4).
- Rows:** Shows a structure in rows with three product groups (Product Group Monitors, Product Group PDA, Product Group Laptops).
- Preview:** A table showing the data for the selected structure in rows and columns.
- Universe outline:** A tree view of the data source, showing the hierarchy of dimensions and measures.

Blue boxes and arrows highlight the mapping between the BEx query elements and the Universe outline:

- The **Columns** section (Structure in Columns) is mapped to the **Structure in Rows** section of the Universe outline.
- The **Rows** section (Structure in Rows) is mapped to the **Structure in Rows** section of the Universe outline.
- The **Preview** table is mapped to the **Structure in Rows** section of the Universe outline.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Product Gr				
Product Gr				
Product Gr				

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Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel

- BEx Query with two structures
 - A Structure based on characteristics only will be exposed as a single dimension with members
 - The dimension objects also has a “Default Hierarchy” which becomes relevant for hierarchical structure definitions
 - A Structure based on key figures will be exposed as separate measure objects

Known Limitations

- Crystal Reports for Enterprise, Web Intelligence, and SAP BusinessObjects Dashboards expose calculations (or cell definitions) which are mixing data type (for example number and percent) in one column as string value

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Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel

The screenshot displays the SAP BusinessObjects BI4 Query Panel interface. The main window is divided into several sections:

- Free Characteristics:** A list of dimensions including Sales Organization, Sold-to Party, Product Category, Product Group, Cal. year / month, Distribution Channel, Region, and Calendar year.
- Columns:** A list of key figures including Product Costs, Net Value, Transport Costs, Open order quantity, and Net Value stat curr.
- Rows:** A section containing a single row labeled 'Product'. This section is highlighted with a blue box.
- Properties:** A configuration panel for the selected characteristic 'Product (Drilldown Characteristic)'. It includes tabs for General, Display, Hierarchy, Planning, and Extended. The 'Hierarchy' tab is active, showing options like 'Activate Hierarchy Display', 'Selected Hierarchy', 'Expand to Level', 'Position of Lower-Level Nodes', 'Values of Posted Nodes', and 'Nodes with Only One Lower-Level Node'. This section is also highlighted with a blue box.

Below the main interface, a separate window shows a list of query variables under the heading 'QUERY_VARIABLE_HIERARCHY'. The variables include:

- Region
- Sales Organization
- Sold-to Party
- Product Category
- Product Group
- Product
 - Product
 - Product - Product Category (Key)
 - Product - Product Category (Text)
 - Product - Product Group (Key)
 - Product - Product Group (Text)
 - Product - Short Text
 - Product - Medium Text
 - Product - Text
 - Product - Key

Blue arrows indicate the mapping from the 'Product' row in the 'Rows' section to the 'Product' variable in the query variables list. Another blue arrow points from the 'Hierarchy' tab in the 'Properties' section to the 'Product' variable in the query variables list.

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- BEx Query with Hierarchy Variable
 - Characteristic (=Dimension) will only be shown with the Default Hierarchy as the user can select the actual hierarchy using the Hierarchy Variable
 - By using the “Variable Manager” the user can select a hierarchy and then select the members for the query panel (see next slide)

Known Limitations

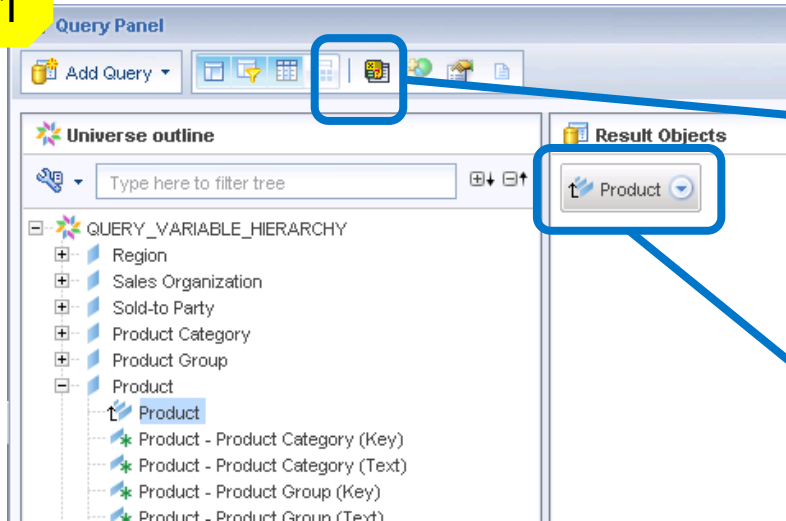
- See also SAP Note 1764607 for the “Expand to Level” setting for Web Intelligence, Crystal Reports for Enterprise, and SAP BusinessObjects Dashboards

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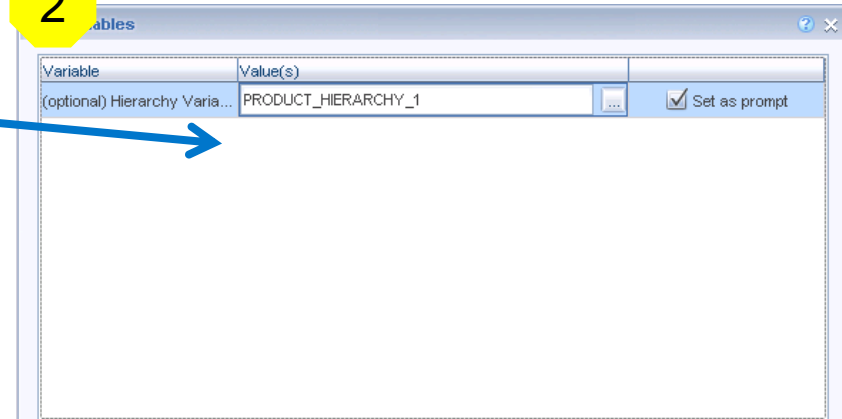
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Using Variable Manager for Hierarchy Variables

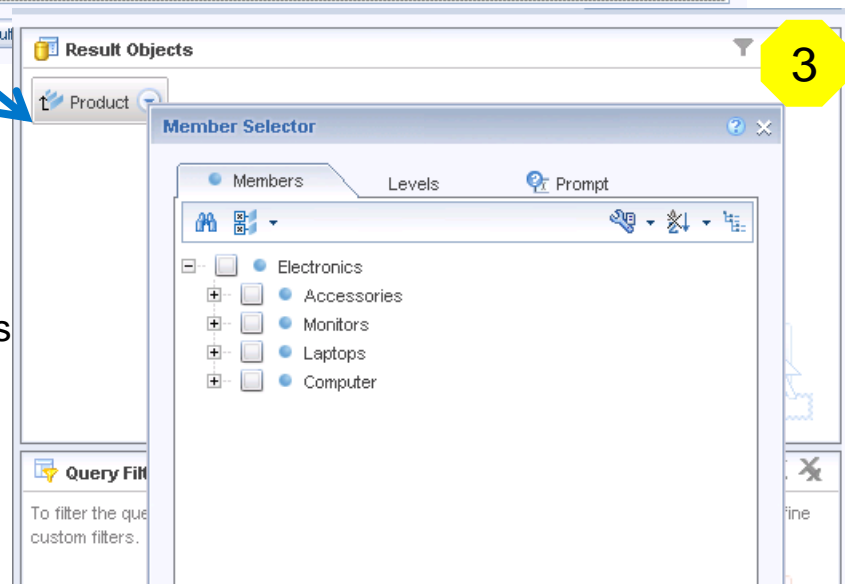
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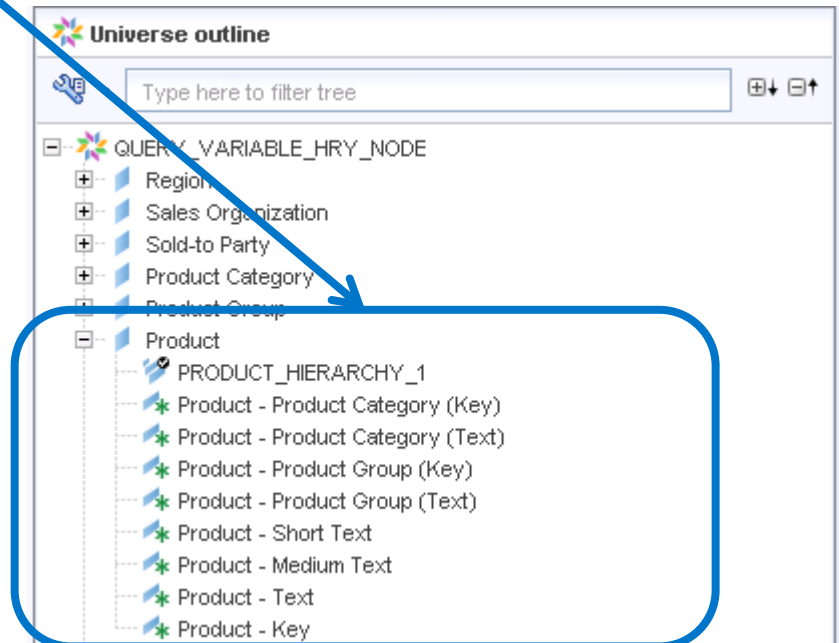
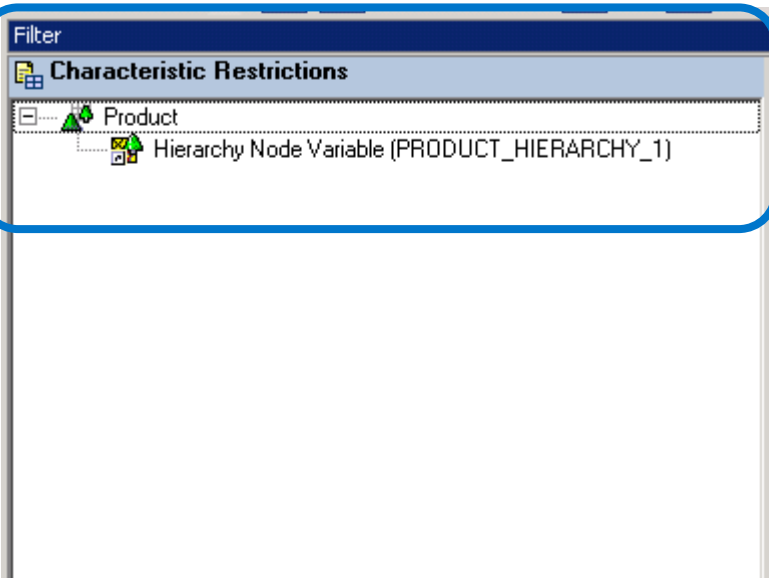
3



- Step 1: BEx Query with Hierarchy Variable
- Step 2: Set hierarchy for hierarchy variable in Variable Manager
- Step 3: After hierarchy being set, member selector shows correct list of values

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Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel



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Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel

- BEx Query with Hierarchy node variable (no usage of hierarchy variable)
 - Characteristic (=Dimension) will be shown with one (the one selected in the BEx Query) hierarchy
 - No member selection possible as there is a hierarchy node variable

Known Limitations

- See also SAP Note 1764607 for the “Expand to Level” setting for Web Intelligence, Crystal Reports for Enterprise, and SAP BusinessObjects Dashboards

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Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel

- BEx Query with hierarchy variable and hierarchy node variable combined
 - Characteristic (=Dimension) will be shown with the Default Hierarchy only
 - No member selection possible as there is a hierarchy node variable

Known Limitations

- BEx Queries with hierarchy node variables are not offering a level based selection in Web Intelligence, Crystal Reports for Enterprise, and SAP BusinessObjects Dashboards
- See also SAP Note 1764607 for the “Expand to Level” setting for Web Intelligence, Crystal Reports for Enterprise, and SAP BusinessObjects Dashboards

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Mapping BEx Query Elements to SAP BusinessObjects BI4 Query Panel

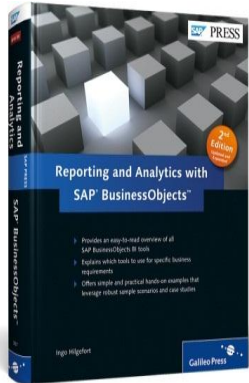
The screenshot displays the SAP BusinessObjects BI4 Query Panel interface. On the left, the 'QUERY_KEYDATE' universe is shown with a tree structure of objects. The 'Sales Group' object is highlighted with a blue box. On the right, the 'Query Panel' is shown with a 'Set Variables' dialog box open. The dialog box contains a table with the following data:

Variable	Value(s)	
Please select a keydate	10/10/2012 12:00:00 AM	<input checked="" type="checkbox"/> Set as prompt

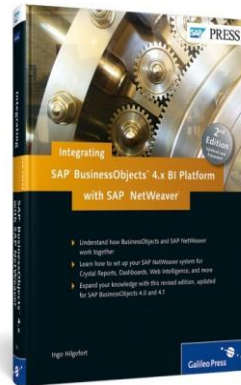
The 'Set Variables' dialog box also has 'Default', 'OK', and 'Cancel' buttons. The 'Query Panel' also shows a 'Result Objects' section and a 'Data Preview' section at the bottom.

- BEx Query with time dependent hierarchies
 - Variable Manager can be used to resolve the time dependent setting, so that the query outline shows the correct list of hierarchies or members (in case of time dependent hierarchy structure)

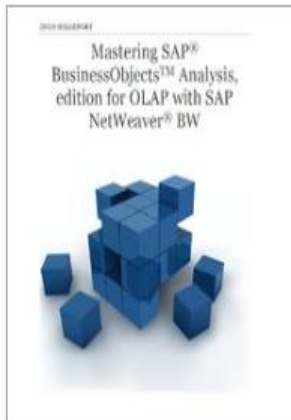
Additional Resources



**Reporting and Analysis with SAP BusinessObjects
(2nd Edition)
(SAP Press, 2012)**



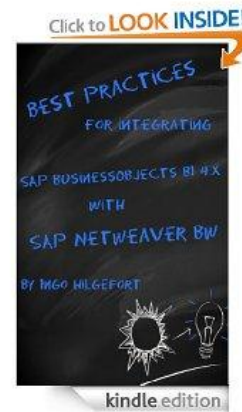
**Integrating SAP BusinessObjects BI
Platform 4.x with SAP NetWeaver
(SAP Press, 2011)**



**Mastering SAP BusinessObjects
Analysis, edition for OLAP with SAP
NetWeaver BW**

Interactive eBook:

Kindle Edition



**Best Practices for integration SAP
BusinessObjects BI 4.x with SAP
NetWeaver BW**

Kindle Edition



Thank you

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