Hierarchy in Business Objects with Expanded Hierarchy Logic



Applies to:

SAP BW BO Integration

Summary

The current article talks about ways and means of achieving an expanded hierarchy view in the BO reports similar to the expanded hierarchy feature in BEx gueries.

This document helps in understanding how to create a customized hierarchy in Business objects universe and use it in Web intelligence Reports to get the desired result.

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Introduction

It is well known that SAP has acquired Business Objects and integrated it with SAP BW. SAP BO is recommended to be used as Front end reporting tool.

The current article talks about ways and means of achieving an expanded hierarchy view in the BO reports similar to the expanded hierarchy feature in BEx queries.

Purpose of Document

Hierarchies in BEx cannot be used directly to display results in hierarchy format in SAPBO.

This document helps in understanding how to create a customized hierarchy in Business objects universe and use it in Web intelligence Reports to get the desired result.

Situation

- As per the selection in Drill Filter, the next level of Drill Filters should list the underlying values only.
 For Example: When some Region is selected in Drill Filter, its underlying Areas should be listed in Area Drill Filter.
- Report should display a value selected in Drill Filter and its underlying level values simultaneously.
 For Example: If user has selected some Region than report should show that region and it's underlying Areas or if user has selected some Area than it should show that Area and its underlying Sub Areas simultaneously.
- Hierarchy elements should be present in User Prompts (Selection screen) as well as in Drill Filters.

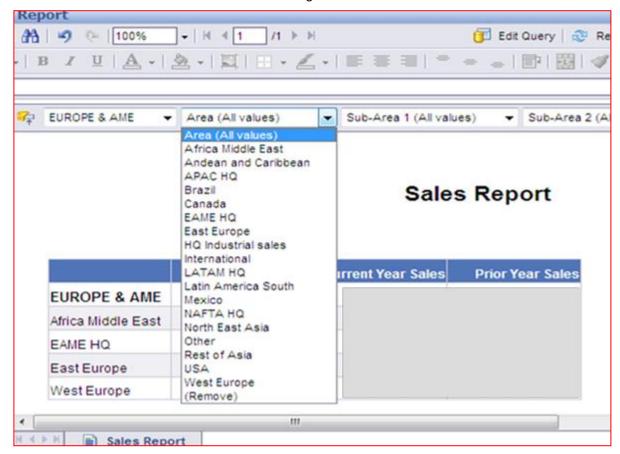
Proposed Solutions and Issues

• BEx Hierarchy

Hierarchy can be created in BEx which can be used in BO.

Issue

It does not display data as per the requirement of expanded hierarchies. For Example: If a user selects EUROPE & AME (EAME) as Region instead of displaying EAME Areas it gives the value of ALL Areas of ALL Regions in the Drill Filter. This is not a very good user experience, as the user sees unwanted values in the drill filters which can be confusing.



BO Hierarchy*

The alternative to BEx hierarchy is to create custom hierarchy in the universe designer.

Creating Custom Hierarchy on Objects in Universe Designer

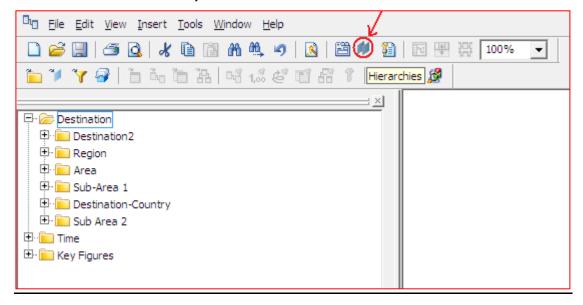
Structure of custom hierarchy in the BO Universe is shown below:

```
Region (Eg: Europe)
                                                          Parent node
Area (Eg: West Europe)
                                                          Next level to Region
   Sub-Area 1 (Eg: England & Ireland)
                                                          Next level to Area
      Sub-Area 2 (Eg: England & Ireland)
                                                          Next level to Sub-Area 1
          Destination (Eg: England)
                                                          Next level to Sub-Area 2
```

Below are the steps showing how to create a custom hierarchy at Universe level:

Step 1:

Click on an icon as indicated by an arrow in below screen shot.



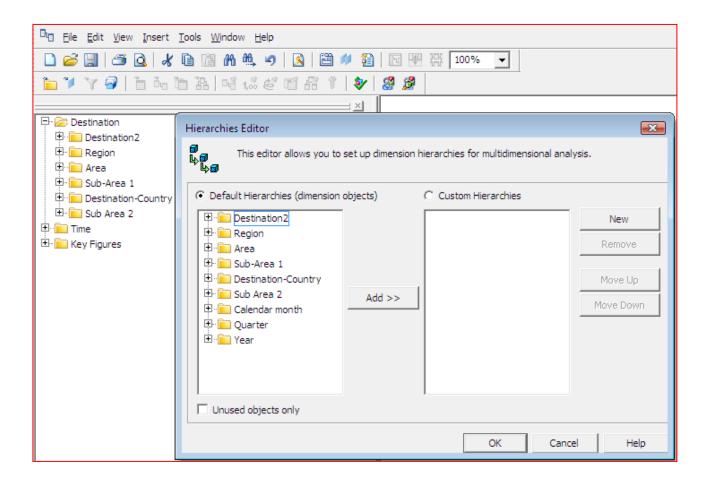
You will get a window "Hierarchies Editor" as shown in below screen shot.

Here there are two panels:

- Default Hierarchies (dimension objects): All the objects coming from BEx query present here.
- Custom Hierarchies: Objects which has been selected from 1st panel to create a hierarchy come here. This is shown in next Screen shots.

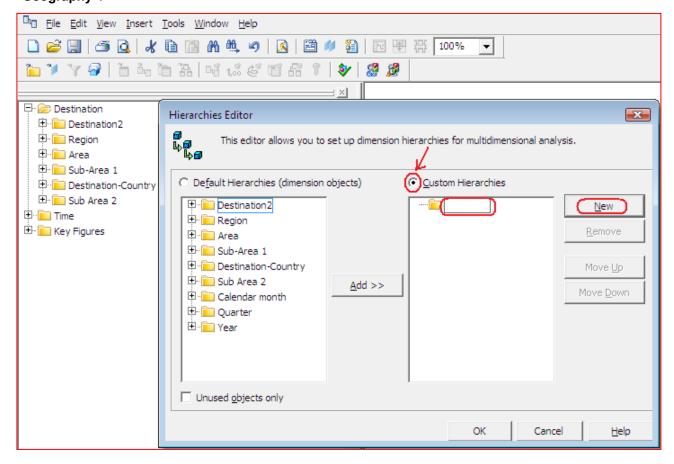
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^{*} Above hierarchy is used in BEx as well as in BO.



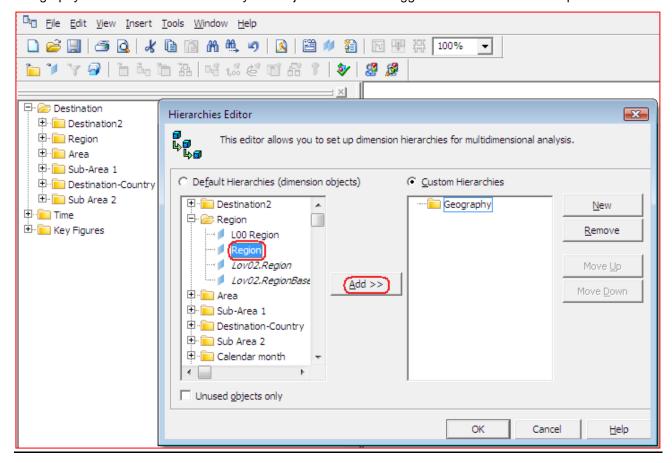
Step 2:

Click on radio button near to Custom Hierarchies and then "**New**" button then a folder will appear as shown below. Name the folder which will be the name of custom hierarchy. In this case name of hierarchy is "**Geography**".

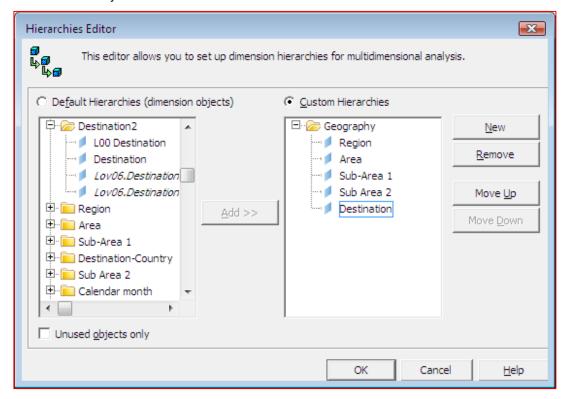


Step 3:

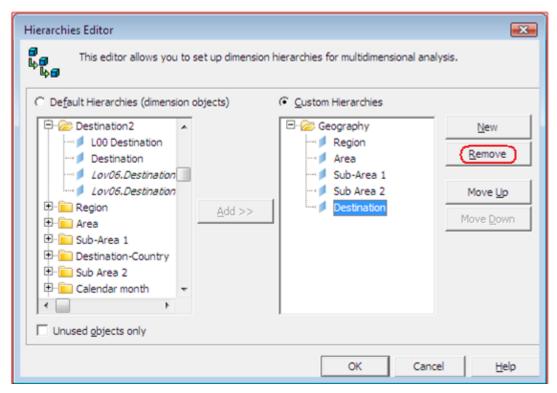
Now select required objects from the left panel and then click on "ADD>>" button to include them under Geography folder. Please note that only L01 objects are to be dragged in custom hierarchies' panel.



Custom hierarchy is created as shown in below screen shot



To delete a particular object from the hierarchy. First select that particular object and then click on "Remove" button as shown below.



Hierarchy Display in Webl Report

Prompts has been created in BEx and some are available in BO along with this Drill Filters will be applied on all the hierarchy objects. With the help of Drill Filters user can change the result at Runtime.

Expanded Hierarchy logic

To achieve expanded hierarchy in BO reports use IF-then-Else formula similar to MS Excel.

If (DrillFilters ([Region]) = "") Then "All Region" Else If (DrillFilters ([Region]) <>"") Then DrillFilters ([Region])

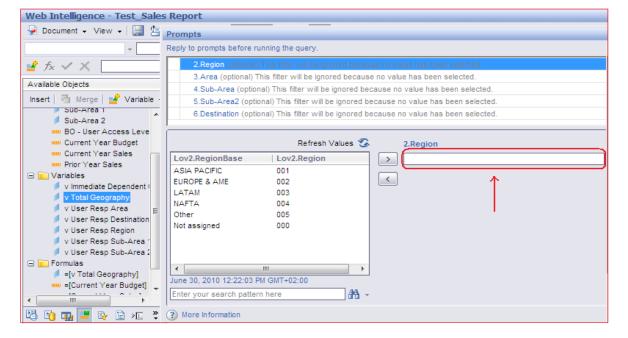
In this particular scenario - the Geography Hierarchy is present in the Selection screen (prompts) as well as in Drill Filters. In this case we have the following scenarios which need to be checked in the formula:

- If there is no user input in Prompts as well as in Drill Filters.
- If there is User input in Prompts but no selection in Drill Filters.
- If there is User input in Prompts as well as in Drill Filters.
- If there is no Selection in Prompts but selection in Drill Filters.

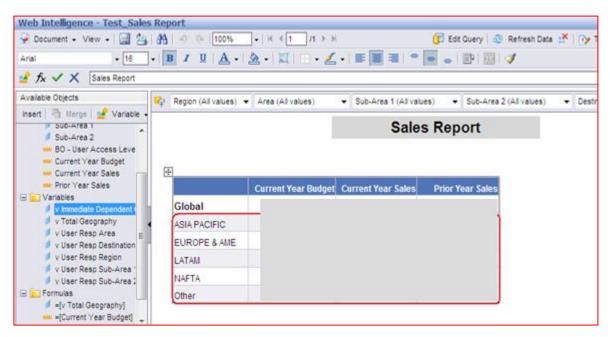
Each of these scenarios is depicted below with screen-shots on how to achieve the results:

Explained below with screen shots:

If there is no user input in Prompts as well as in Drill Filters.

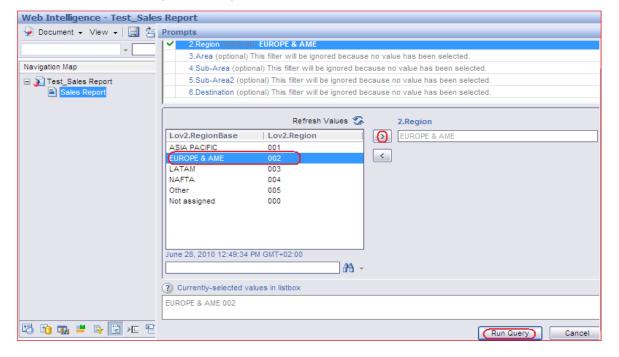


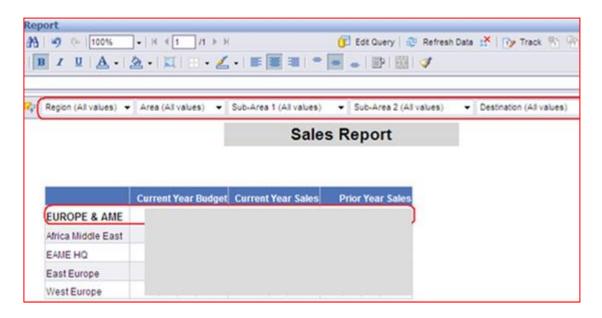
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As output can be seen in highlighted portion in above screen shot, Sales values for all Regions are coming as nothing has been selected in Prompts as well as in Drill Filters (Region).

• If there is User input in Prompts but no selection in Drill Filters.





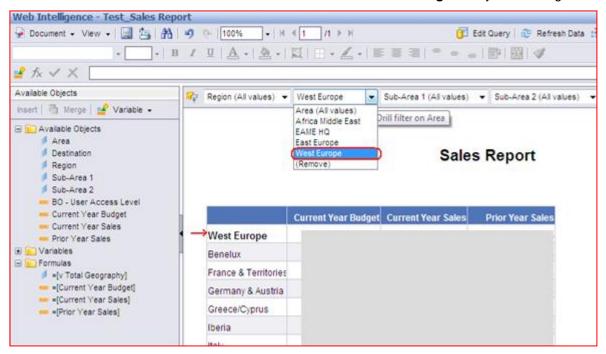
EUROPE & AME has been selected in the prompt for Region, so our report is restricted on this and data is coming for **EUROPE & AME** region and its underlying Areas.

Further select any value from drill filters as displayed in next scenario.

If there is User input in Prompts as well as in Drill Filters.

Already **EUROPE & AME** has been selected for **Region** in prompts, so when some value is selected in **Area** drill filter as an example **West Europe**, as shown in below screen shot. Report will show West Europe data in first row and its underlying Sub-Area 1 data.

Here it can be noticed that areas related to **EUROPE & AME Region** only are coming in results.



If there is no Selection in Prompts but selection in Drill Filters.

Data filtered on West Europe as selected in Drill Filters.

Limitations

- If number of expanded hierarchy levels is more than formula will become very lengthy and complicated.
- Used only for displaying two hierarchy levels at a time in report, can be increased for more number of levels but at the same time complexity will increase.
- This logic is specific to expanded hierarchy requirement only.
- Authorization concept as part of this logic is not covered in this above details.

Conclusion

Solution has been worked out with the help of BEx hierarchy (with limitations) and BO custom hierarchy. The results with the BEx hierarchy are not the same as required; and with the help of BO custom hierarchy & If-Else logic in BO, the desired results could be achieved.

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