

## Activity A06\_Multi\_Currency\_Revenue

In this activity we open a pre-built model which has a Multi Currency Revenue tab.

### Examine the Multi Currency Revenue tab.

1. Open A06-MultiCurrencyRevenueBefore.cdd (which is supplied with the activity resources) and **Save As** A06\_MultiCurrencyRevenue.cdd.

Examine the Multi Currency Revenue tab of this cdd file. It should look like the screen shot below.

**A06 - Multi Currency Revenue**

Exchange Rate Table:

	GBP	Euro	DKR
Bud...	1	1.5	8

Monthly List Prices Table:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
GBP	10	10	10	10	11	11	11	11	11	11	11	11
Euro	15	15	15	15	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
DKR	80	80	80	80	88	88	88	88	88	88	88	88

Net Revenue Breakdown Table:

	local		Converted		local		Converted		local		Converted	
Volume	1,800,000		120,000		120,000		120,000		1,440,000			
Gross Revenue	29,440,000	0	1,920,000	0	1,920,000	0	10,240,000	0	15,360,000	0		
Discount %	5	0	5	0	5	0	5	0	5	0		
Discount	1,472,000		96,000		96,000		512,000		768,000			
Net Revenue	27,968,000	0	1,824,000	0	1,824,000	0	9,728,000	0	14,592,000	0		

### Examine the contents of the Multi Currency Revenue tab

Top left we have exchange rate. The Budget item has 3 exchange rates. We plan to convert against GBP so that is set to 1. The other currencies are Euro and Danish Krone. Example exchange rates have been chosen for this activity.

We also have a view of Budget monthly List prices for each product and each currency

There are **Explore points** to allow us to select Products and Months.

2. Click on Whacky Widgets in the Products explore point and see that the views of List Prices and Net Revenue synchronize with the explore point to show Whacky Widgets.

The screenshot displays the IBM Cognos Insight interface for the 'A06\_MultiCurrencyRevenue.cdd' model. The top view, titled 'A06 - Multi Currency Revenue', shows a pivot table with currencies (GBP, Euro, DKR) on the rows and months (Jan to Aug) on the columns. The values represent revenue in different currencies.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
GBP	12	12	12	12	13.2	13.2	13.2	13.2
Euro	18	18	18	18	19.8	19.8	19.8	19.8
DKR	96	96	96	96	105.6	105.6	105.6	105.6

The bottom view, titled 'Net Revenue', shows a pivot table for the 'Europe' region, broken down by city (Berlin, Paris, Copenhagen, Great Britain) and then by 'local' and 'Converted' currencies. The rows represent various financial metrics: Volume, Gross Revenue, Discount %, and Net Revenue.

	Europe		Berlin		Paris		Copenhagen		Great Britain	
	local	Converted	local	Converted	local	Converted	local	Converted	local	Converted
Volume	1,800,000	0	120,000	0	120,000	0	120,000	0	1,440,000	0
Gross Revenue	35,328,000	0	2,304,000	0	2,304,000	0	12,288,000	0	18,432,000	0
Discount %	5	0	5	0	5	0	5	0	5	0
Discount	1,766,400	0	115,200	0	115,200	0	614,400	0	921,600	0
Net Revenue	33,561,600	0	2,188,800	0	2,188,800	0	11,673,600	0	17,510,400	0

- Click on Feb in the Months explore point and see that this is synchronised with the Net Revenue view only.

## A06 - Multi Currency Reven

**Exchange Rate**

	GBP	Euro	DKR
Bud...	1	1.5	8

**Whacky Widgets**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
GBP	12	12	12	12	13.2	13.2	13.2	13.2
Euro	18	18	18	18	19.8	19.8	19.8	19.8
DKR	96	96	96	96	105.6	105.6	105.6	105.6

**Europe**

	Berlin		Paris		Copenhagen		Great Britain	
	local	Converted	local	Converted	local	Converted	local	Converted
Volume	150,000		10,000		10,000		10,000	120,000
Gross Revenue	2,760,000	0	180,000	0	180,000	0	960,000	1,440,000
Discount %	5	0	5		5		5	0
Discount	138,000		9,000		9,000		48,000	72,000
Net Revenue	2,622,000	0	171,000	0	171,000	0	912,000	1,368,000

- Examine the synchronization section in the data pane for further understanding of how this has been set up.

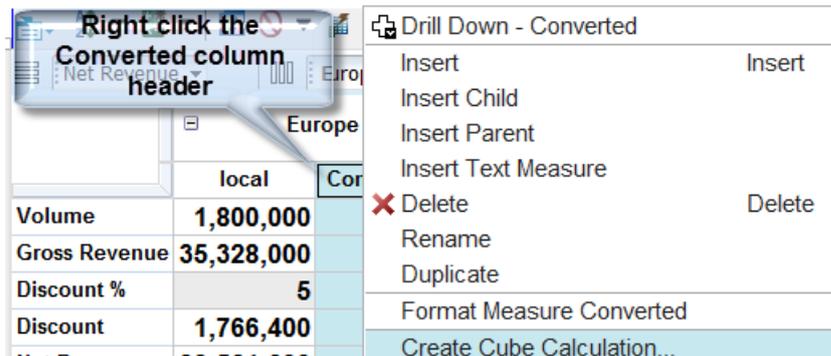
**Synchronization**

- Workspace
  - Multi Currency
    - exchangerate
  - Products
    - List Price
    - Products
  - NetRev
    - Net Rev
    - Months

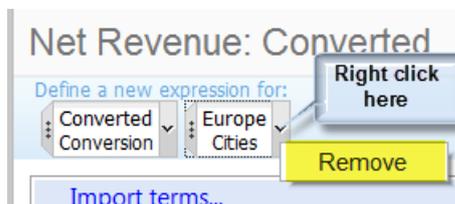
- On the Month explore point click back to Jan to start the next section of the activity.

## Create Cube Calculations for currency conversion

6. Navigate to the Net Revenue view at the bottom of the tab
7. Right mouse click on the Converted member of the Conversion dimension which is nested below Cities on the columns.

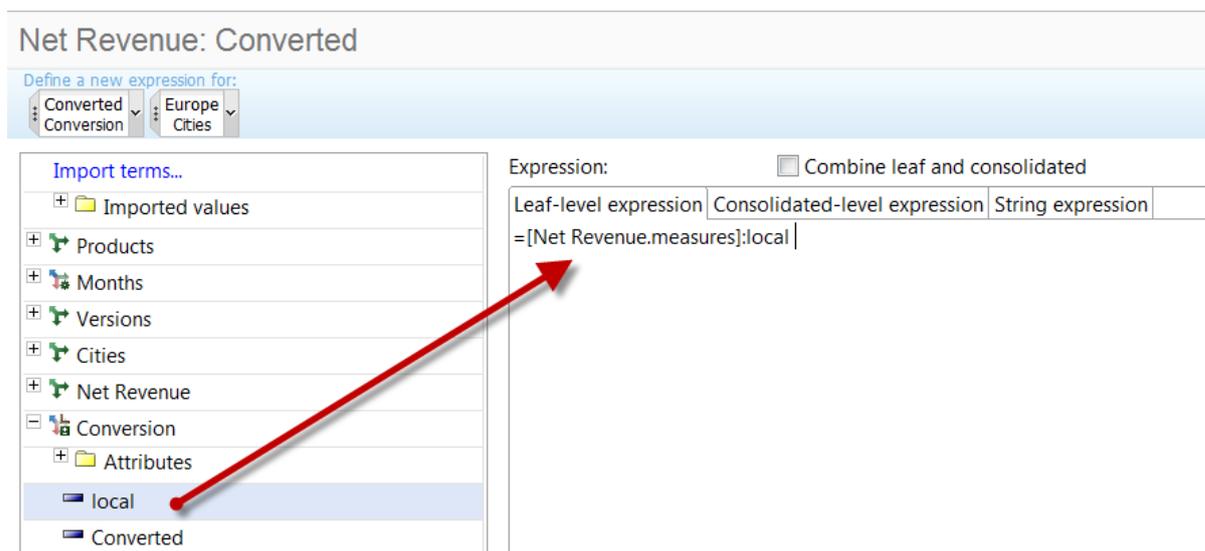


8. Select New Cube Calculation.
9. Name the calculation **Converted**.
10. Remove the Cities dimension from the scope of the cube calculation by right clicking and selecting **Remove**. This will mean that the cube calculation will take place for all cities.

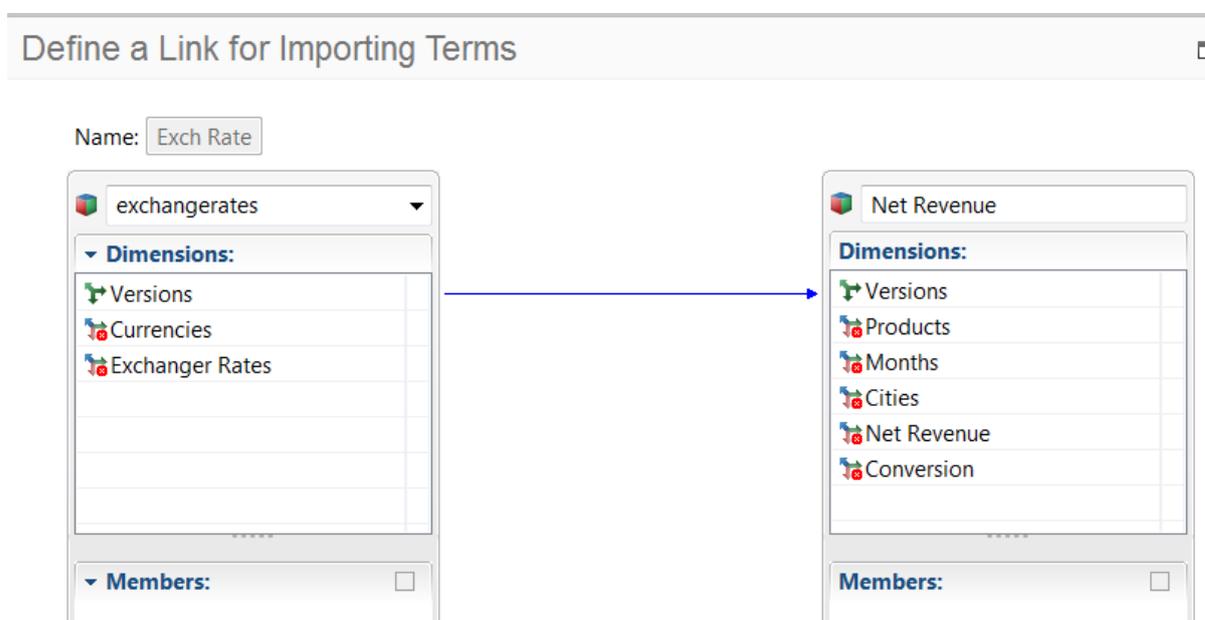


We will now create the cube calculation to calculate exchange rate.

11. Drag the **local** item from the Conversion dimension into the Leaf-level Expression.

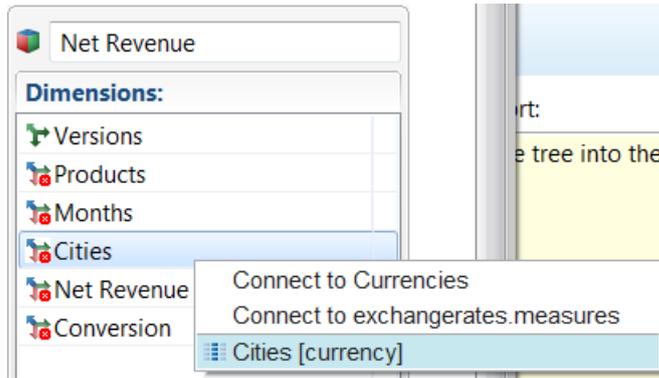


12. Next click on Import terms and name the import link **Exch Rate**
13. In the definition dialog select the **exchangerates** cube as the source .The Net Revenue is the target by default.



Note the dimensions. On the source side we have Currencies but these do not appear on the target side. On the target we have cities. The logic we are using here is that each city will have just one currency associated with it. This currency has been pre-set as an attribute of the city.

14. To expose the currency attribute for Cities, right click on Cities.



15. Select the Cities[currency] attribute by clicking. (If you are not able to do this then use the down arrow of your keyboard, keying down to the attribute and hitting return. The ability to click on it directly will be available in a fix pack)
16. Now we can map the Currency in the exchangerates cube to the Currency Attribute of the Cities dimension in the Net Revenue cube.
17. For the Exchange Rates dimension on the source side we will select the only member Exchange Rate.
18. On the target side we select
  - a. All Products,
  - b. All Cities,
  - c. All Net Revenue (although it does not make sense to convert all of these we will apply a conditional statement so that only financial data gets converted).
  - d. On the Conversion dimension only select **Converted**

## Define a Link for Importing Terms

Name:

exchangerates

**Dimensions:**

- Versions
- Currencies
- Exchanger Rates

**Members:**

Name	Slice
Exchange Rate	<input checked="" type="checkbox"/>

→

Net Revenue

**Dimensions:**

- Versions
- Cities [currency]
- Products
- Months
- Cities
- Net Revenue
- Conversion

**Members:**

Name	Slice
local	<input type="checkbox"/>
Converted	<input checked="" type="checkbox"/>

19. Select OK to save this import link.

20. In the expression add a divide by symbol after the [Net Revenue measures]:local and drag the Exchange Rate import term as below.

**=[Net Revenue.measures]:local / LINK('Exch Rate')**

21. Select Apply to see the effect on the data.

	Europe		Berlin	
	local	Converted	local	Converted
Volume	150,000	134,583	10,000	6,667
Gross Revenue	2,760,000	1,800,000	180,000	120,000
Discount %	5	5	5	3
Discount	138,000	90,000	9,000	6,000
Net Revenue	2,622,000	1,710,000	171,000	114,000

Net Revenue: Conve

Define a new expression for:

Converted

Conversion

Import terms...

- Imported values
- Products
- Months
- Versions

Terms Aggregation Simple Fu

22. You can see that there is now data in the Converted column for Berlin and is being converted using the Euro exchange rate of 1.5

### Add the conditional logic so that only financial data is converted.

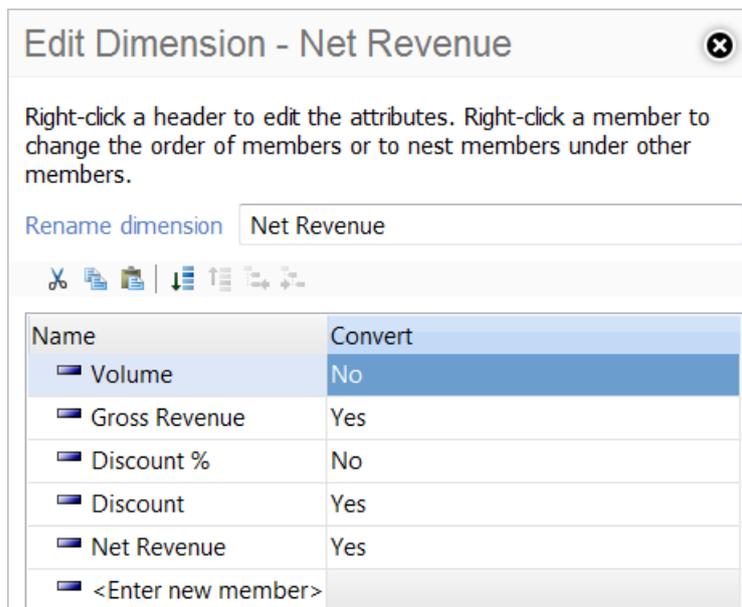
23. Return to the Net Revenue:Converted calculation dialog box.
24. Amend the calculation to a conditional formula. Add IF at the beginning of the statement
25. Expand the tree and see that there is an attribute on the Net Revenue dimension called Convert.

The screenshot shows the 'Net Revenue: Converted' calculation dialog box. At the top, it says 'Define a new expression for:' followed by a dropdown menu showing 'Converted Conversion'. Below this is a tree view on the left with the following structure:

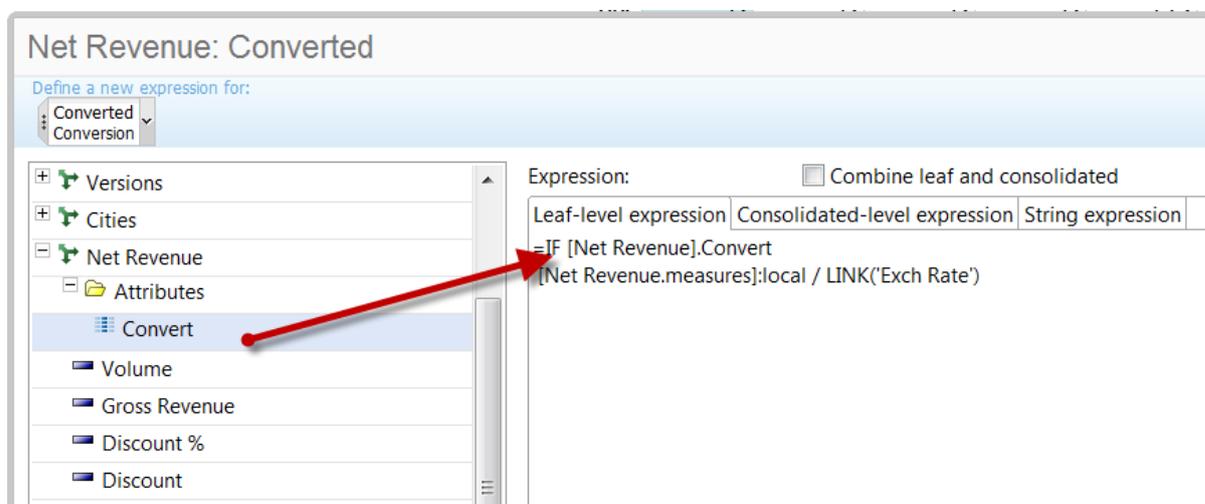
- Import terms...
- Imported values
- Products
- Months
- Versions
- Cities
- Net Revenue
  - Attributes
    - Convert (highlighted in yellow)
  - Volume
  - Gross Revenue
  - Discount %
  - Discount
  - Net Revenue

At the bottom of the tree view are tabs for 'Terms', 'Aggregation', 'Simple', and 'Functions'. To the right of the tree view is the 'Expression:' field, which contains the formula: `=IF [Net Revenue.measures]:local / LINK('Exch Rate')`. There is also a checkbox labeled 'Combine leaf and conso' which is currently unchecked.

The Convert attribute has been created as part of this model, and holds information about which members should have the currency conversion applied and which ones shouldn't.



26. Move the original calculation to a second line for ease and drag the Convert attribute into the leaf level expression after the IF as shown below.



27. We only want to convert the items with this attribute set to Yes. Add “Yes” into the conditional statement and complete the statement as below: **Note the double quotes around the word “Yes”**

```
= IF [Net Revenue].Convert = "Yes" THEN
[Net Revenue.measures]:local /LINK('Exch Rate')
ELSE [Net Revenue.measures]:local
```

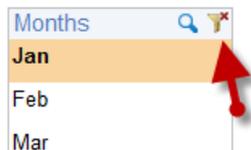
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28. Click Apply to test the calculation.
29. The results should look as per the screen shot below. Note that Volume and Discount% have not been converted but the other items have.

	Europe		Berlin		Paris		Copenhagen		Great Britain	
	local	Converted	local	Converted	local	Converted	local	Converted	local	Converted
Volume	150,000	150,000	10,000	10,000	10,000	10,000	10,000	10,000	120,000	120,000
Gross Revenue	2,760,000	1,800,000	180,000	120,000	180,000	120,000	960,000	120,000	1,440,000	1,440,000
Discount %	5	5	5	5	5	5	5	5	5	5
Discount	138,000	90,000	9,000	6,000	9,000	6,000	48,000	6,000	72,000	72,000
Net Revenue	2,622,000	1,710,000	171,000	114,000	171,000	114,000	912,000	114,000	1,368,000	1,368,000

30. Click OK in the Cube Calculation to close it.
31. For a final check remove the filter from the Months explore point by clicking on the funnel icon to see the Total of Months figures.



	Europe		Berlin		Paris		Copenhagen		Great Britain	
	local	Converted	local	Converted	local	Converted	local	Converted	local	Converted
Volume	1,800,000	1,800,000	120,000	120,000	120,000	120,000	120,000	120,000	1,440,000	1,440,000
Gross Revenue	35,328,000	23,040,000	2,304,000	1,536,000	2,304,000	1,536,000	12,288,000	1,536,000	18,432,000	18,432,000
Discount %	5	5	5	5	5	5	5	5	5	5
Discount	1,766,400	1,152,000	115,200	76,800	115,200	76,800	614,400	76,800	921,600	921,600
Net Revenue	33,561,600	21,888,000	2,188,800	1,459,200	2,188,800	1,459,200	11,673,600	1,459,200	17,510,400	17,510,400

32. Remove the filter on the Products explore point to see the data for Total Products

## IBM Cognos TM1 Enablement Program – Activity A06

	100.0	100.0	100.0	100.0	110.00	110.00	110.00	110.00
DKR	536	536	536	536	589.6	589.6	589.6	589.6

**Products**

- Artful Artifacts
- Whacky Widgets
- Thoughtful Things
- Potty Possessions
- Ominous Objects

**Months**

- Jan
- Feb
- Mar
- Apr
- May
- Jun
- Jul
- Aug

	Europe		Berlin		Paris		Copenhagen		Great Britain	
	local	Converted	local	Converted	local	Converted	local	Converted	local	Converted
Volume	9,000,000	9,000,000	600,000	600,000	600,000	600,000	600,000	600,000	7,200,000	7,200,000
Gross Revenue	197,248,000	128,640,000	12,864,000	8,576,000	12,864,000	8,576,000	68,608,000	8,576,000	102,912,000	102,912,000
Discount %	5	5	5	5	5	5	5	5	5	5
Discount	9,862,400	6,432,000	643,200	428,800	643,200	428,800	3,430,400	428,800	5,145,600	5,145,600
Net Revenue	187,385,600	122,208,000	12,220,800	8,147,200	12,220,800	8,147,200	65,177,600	8,147,200	97,766,400	97,766,400

33. To finish this activity do a **Save** on the cdd file

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