6. Software – Using the Taxonomy Tool

In this section we will provide you with a basic understanding of the operation and use of the UBmatrix Automator, an XBRL taxonomy and instance document creation tool. This section focuses on the taxonomy creation portion of the tool.

In later sections of this book, we will cover additional features and functionality of the tool.

First, we will provide a brief overview of the application, then walk you through several specific exercises in order to get you familiar with the basic features of the tool.

This section assumes that you have a license to the application, it is properly installed and the user is has a basic to moderate understanding of computers.

6.1. Overview of a Taxonomy Creation Tool

First, we will walk through the application briefly to show you the basic features, where to find them, etc. The following is a listing of the features we will walk through in this section:

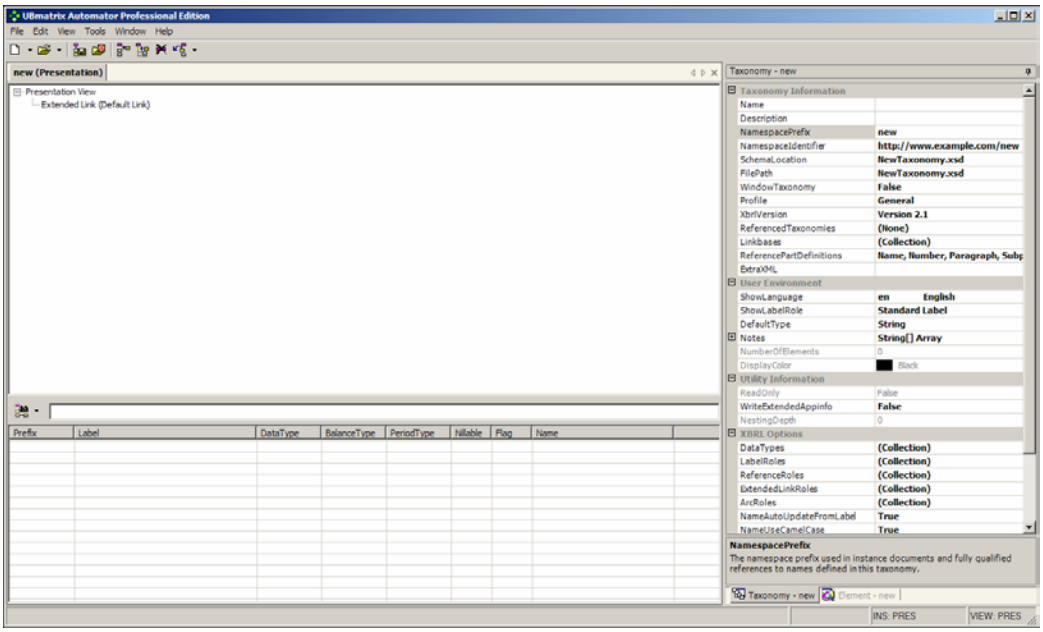
- Starting application
- Opening an existing taxonomy
- Creating a new taxonomy
- Saving a taxonomy
- Printing a taxonomy
- Add, delete, move elements of a taxonomy
- Exporting/Importing
- Validating
- Changing relations view
- Working with multiple taxonomies
- Mapping
- Plug ins

6.1.1. Starting the Application

From the program menu, start the application. (Note that this is dependent on where you installed the application. This assumes the default installation.)

- Click Start | Programs | UBmatrix | UBmatrix Automator| UBmatrix Automator.
- Select "File | New | Taxonomy"

The taxonomy edit form of the application looks like the screen shot below:

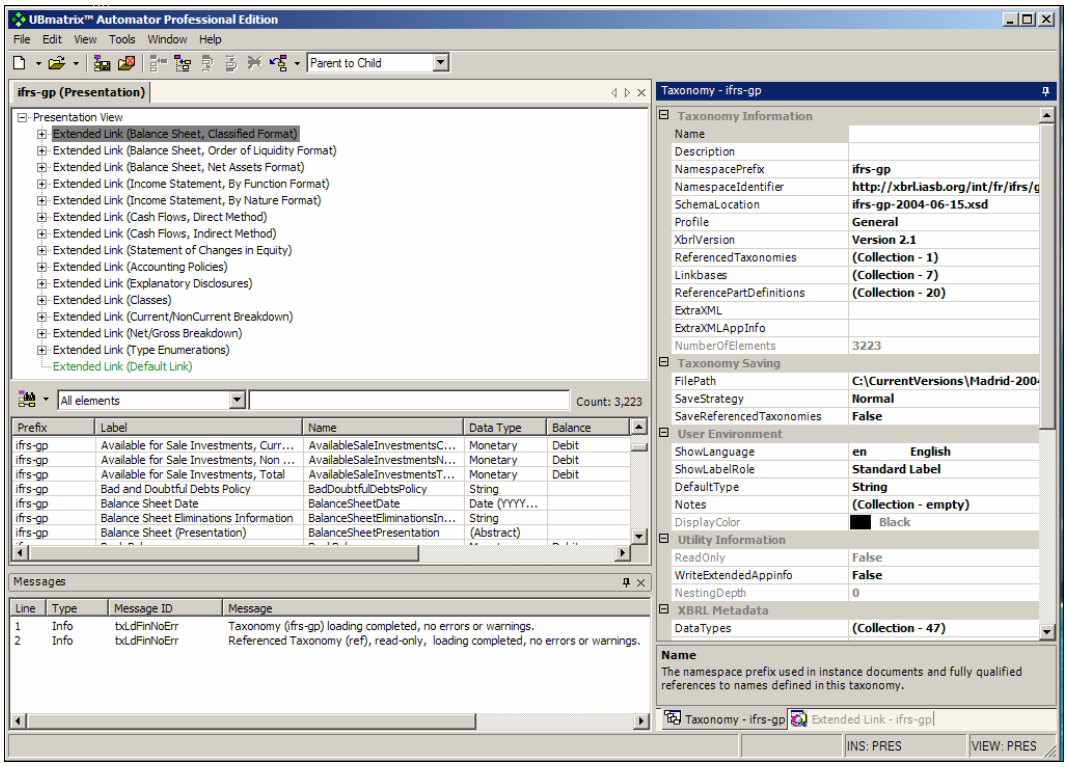


6.1.2. Opening an Existing Taxonomy

To open an existing taxonomy select "File", then "Open", then "Taxonomy" from the menu ribbon. The taxonomy "Open" dialog box will appear. Press the [File ICON] to open the "Select taxonomy to open" dialog and navigate to the location of your existing taxonomy file, select that file, then press "Open". Press "Ok" on the "Open" form.

Navigate to the directory in which the UBmatrix Automator application was installed and go to the "Samples" subdirectory. Within the "Samples" subdirectory, open the "IFRS-GP" subdirectory. Select the file "ifrs-ci-2004-06-15.xsd". Press Open. You will be returned to the "Open" form and notice that linkbase information is populated. If there were referenced taxonomies, that information would also be populated.

Press "Ok" to open the taxonomy. Notice the progress bar indicating that the taxonomy is opening. The "Taxonomy Edit" form will appear with the taxonomy loaded.



To close, from the file menu select "File", then "Close" to close the taxonomy.

6.1.3. Create a New Taxonomy

From the "Taxonomy Edit" form (where you stopped above or reopening the application) select "File", then "New" from the menu ribbon. A new tab will appear (if you still have the first taxonomy opened) or a blank taxonomy will appear with no elements.

With your cursor over the "Relationship pane" (upper left box) right-click. Select "Add Child". Note that an element as added to the taxonomy and that the element added has focus so you can edit the element label. Begin typing and change "New Element" to "My Element", then press enter.

Elements can be added and edited in many other ways, which will be covered in the section "Add, delete, and move elements of a taxonomy".

6.1.4. Validate a Taxonomy

From the "Tools" menu, select "Validate Taxonomy". Leave the default "Options", then press "Start".

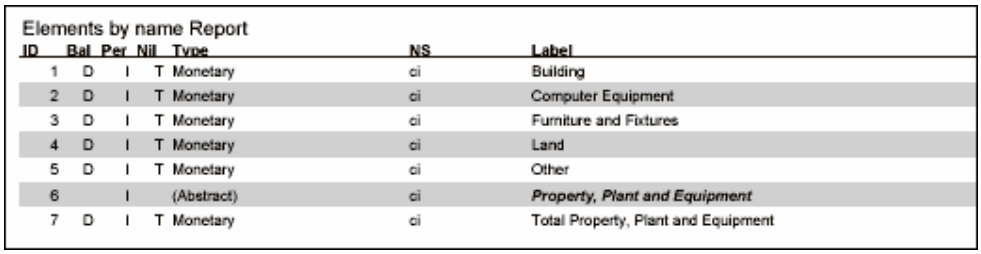
6.1.5. Saving a Taxonomy

Once you have created an element, we will now save the taxonomy. To save the taxonomy from the "Files" menu select "Save".

The "Save" dialog box appears. Note that the taxonomy was give a name "NewTaxonomy.xsd". Change the name of the taxonomy to "MyTaxonomy.xsd", then press the [File ICON] button to see exactly where the taxonomy will be saved. Press "Save" on the standard Windows save dialog. Then press the "Save" button on the UBmatrix Automator "Save" dialog. Your taxonomy has been saved.

6.1.6. Printing a Taxonomy

With your taxonomy still open, select "File" and then "Print Preview…" from the menu ribbon. Press the "Preview" button to print your taxonomy.



Elements by name Report

ID	Bal	Per	Nil	Type	NS	Label
1	D	I	T	Monetary	ci	Building
2	D	I	T	Monetary	ci	Computer Equipment
3	D	I	T	Monetary	ci	Furniture and Fixtures
4	D	I	T	Monetary	ci	Land
5	D	I	T	Monetary	ci	Other
6		I		(Abstract)	ci	***Property, Plant and Equipment***
7	D	I	T	Monetary	ci	Total Property, Plant and Equipment

6.1.7. Add, Delete, and Move Concepts of a Taxonomy

This section covers adding, deleting, moving, and otherwise editing taxonomy elements. With your new taxonomy open do the following:

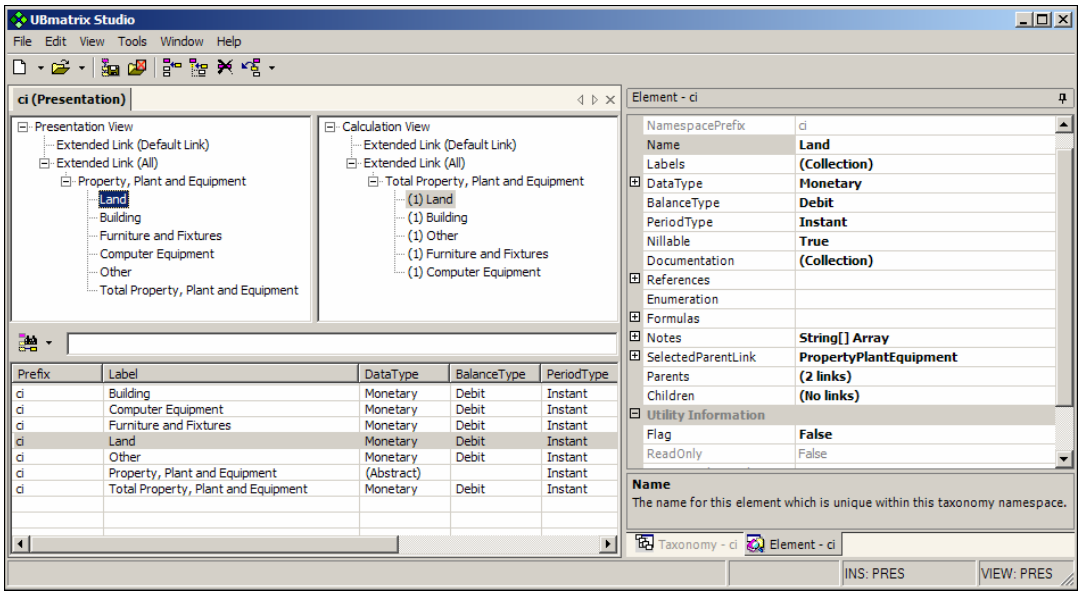
- Right-click over the tree view pane, select "Add Child" to add an element. Next, right-click and select "Add Sibling". Notice the difference. From the menu ribbon select "Edit", then "Add Child", and notice the short cut key "C+N" associated with "Add Child". This is another way to add an element. With your cursor somewhere in the tree view pane, press and hold down the "Control" key. Then press "N". Then, hold down the "Control" key and press "I" several times to add several elements.
- Click an element from the "Element list" pane. Click the element once again and wait, the element will become editable. Change the name of the element and press enter.
- Click another element from the "Element list" pane. Drag it to the tree view pane as the child of another element. Note that elements can be edited from within either the tree view or dictionary panes.
- Create a tree of several elements, say five. Select the upper most element of that tree. Right-click and select "Delete" which provides three options: "Delete element", "Delete Link", and "Delete Subtree". When you want to delete information from the taxonomy, you have to be clear on WHAT you want to delete. Deleting an element will delete the element from the dictionary and all links to that element in the taxonomy. Deleting a link will ONLY delete the selected link. Deleting a subtree will display dialog box which allows you to be explicit about whether you would like to delete the subtree and all links and elements, delete only the links, delete specific links, etc. This will be explained in more detail in later sections of this manual.
- Select an element in the taxonomy tree view. Press and hold the left mouse button and notice how the cursor changes as you move over elements of the taxonomy tree. Notice how the status bar changes (the lower-left portion of the screen) as you move your cursor over other elements. Now, press down the "Control" key and do the same. Now, press down the "Shift" key and do the same. This allows you to drag and drop taxonomy elements. This will be explained in further detail in this manual.

This should give you a sense for working with elements within a taxonomy. Note that this is only an introduction, there are many subtleties related to this process. If you desire, fiddle around with other options such as cut, copy, paste.

6.1.8. Changing Taxonomy Relationships View

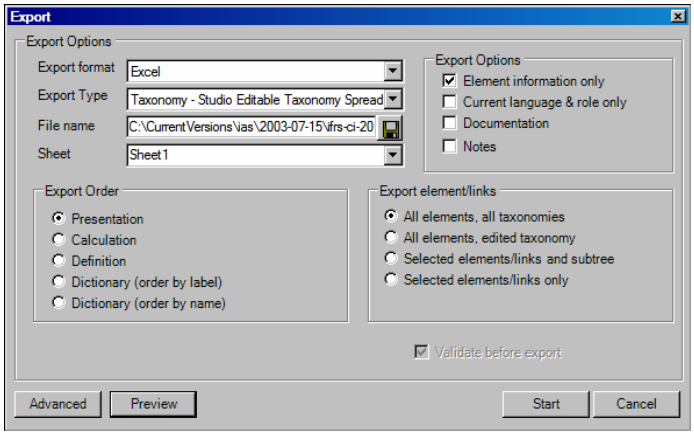
Many times you may want to view two portions of a taxonomy at the same time. Or, you may want to view the same taxonomy elements using different perspectives such as "Presentation" and "Calculation". To do this, a user can add additional tree views.

Over the tree view pane, right-click and select "Show". Then select "Add additional tree view pane". Notice that two tree views are now visible. Drag from one tree view, into the other tree view. From the menu ribbon select "View" then select "Definition". Notice that the selected tree view changes to the definition view. Notice the status bar (lower portion of the form) which reads "PRES: DEF" to indicate that the current window is in the definition view.



6.1.9. Export/Import Taxonomy Information

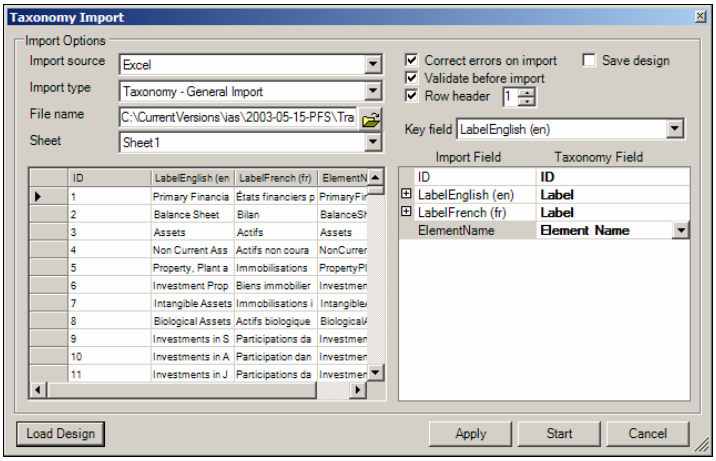
From the taxonomy edit menu, with a taxonomy open, select "File" then "Export".



On the export menu select "XML" as the export format. Select "Taxonomy – Editable Taxonomy Spreadsheet. Enter a file name or browse to an existing file. Change the value for top element to "MyExport". Notice that you could change other export options, but we will not do that now.

Press "Preview" to view the data which will be exported. Now press "Start" to export the data to XML.

Using a text editor or your browser, open the export file you created and notice it contains your taxonomy information. You can edit this data, and then re-import it.



Notice in the screenshot above that if standard field names are used, fields are automatically mapped to the application, or you can name fields as you see fit, also import designs can be saved and reloaded, rather than having to re-enter information each time information is imported.

6.2. Basic Taxonomy Exercises

Now we get into a series of exercises where you will be able to start obtaining basic skills of creating taxonomies.

6.2.1. Exercise 1 – Building a Basic Taxonomy

The following screen shot is the data we will be using to create this taxonomy:

	2003	2002
	€'000	€'000
Land	5,347	1,147
Buildings	244,508	366,375
Furniture and Fixtures	34,457	34,457
Computer Equipment	4,169	5,313
Other	6,702	6,149
Total	295,183	413,441

In this exercise you will build a basic taxonomy. Below are the steps in this exercise:

1. Read through the "Basic Calculation" pattern in the Modeling Financial Information section.
2. Create a new taxonomy "File | Taxonomy | New"
3. Enter taxonomy information.
4. Enter taxonomy elements within the presentation view.
5. Create calculation links.
6. Save the taxonomy.

6.2.1.1. Taxonomy Information

The following is the information you will need about the taxonomy:

Name	Value
NamespacePrefix:	ci
NamespaceIdentifier:	http://www.UBmatrix.com/Patterns/BasicCalculation
FilePath:	BasicCalculation.xsd

6.2.1.2. Taxonomy Elements Information

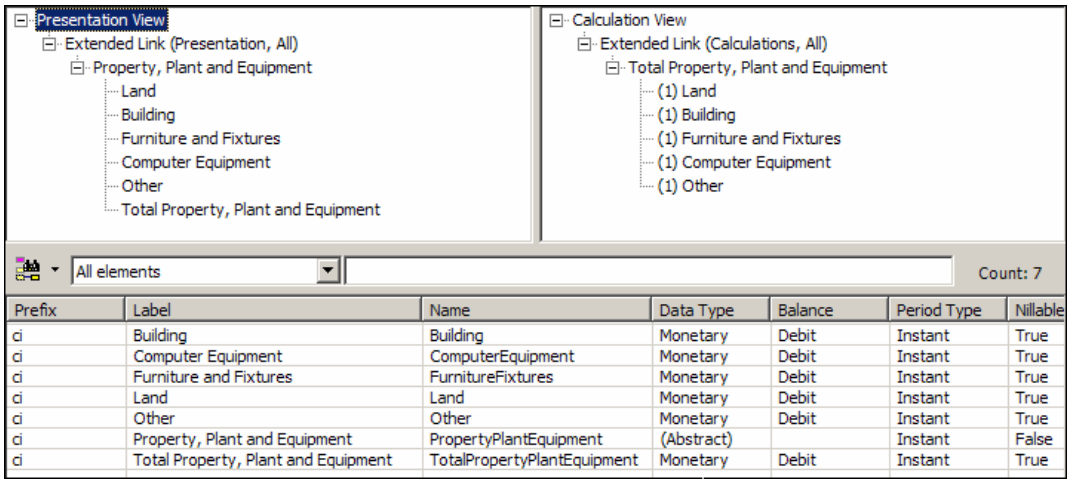
Note: enter in presentation linkbase order first, then create calculation linkbase

Element Label	Element Name (Auto Created)	Data Type	Balance Type	Period Type
Property Plant and Equipment	PropertyPlantEquipment	* String		Instant
Land	Land	Monetary	Debit	Instant
Building	Building	Monetary	Debit	Instant
Furniture Fixtures	FurnitureFixtures	Monetary	Debit	Instant
Computer Equipment	ComputerEquipment	Monetary	Debit	Instant
Other	Other	Monetary	Debit	Instant
Total Property Plant Equipment	TotalPropertyPlantEquipment	Monetary	Debit	Instant

Note that * indicates that the concept is abstract.

6.2.1.3. End result

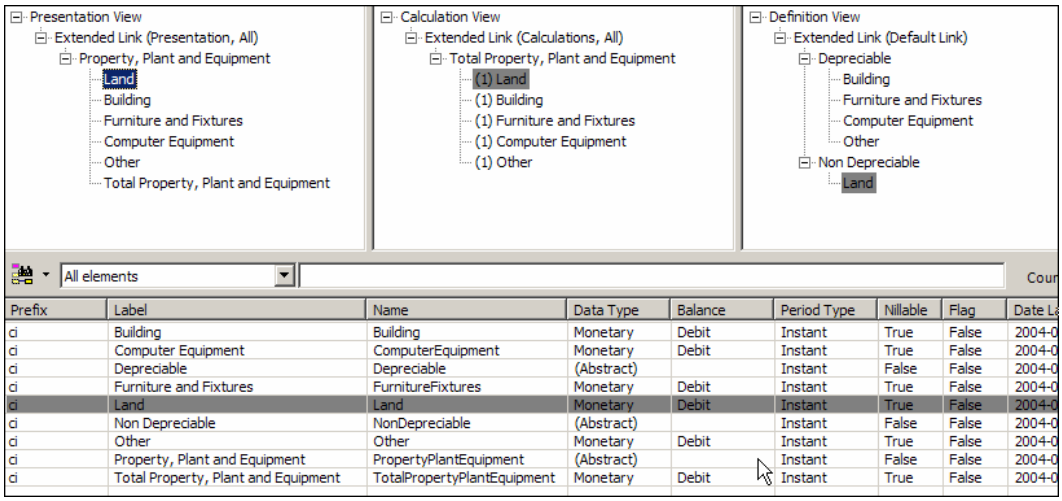
When the taxonomy is complete, it should look like this:



6.2.1.4. Extra Credit

If you have time, try adding a definition linkbase to the Basic Calculation taxonomy. Organize the property, plant and equipment as to whether they are "depreciable" or "non depreciable":

Element Label	Element Name (Auto Created)	Data Type	Balance Type	Period Type
Depreciable	Depreciable	* String		Instant
Non Depreciable	NonDepriciable	* String		Instant



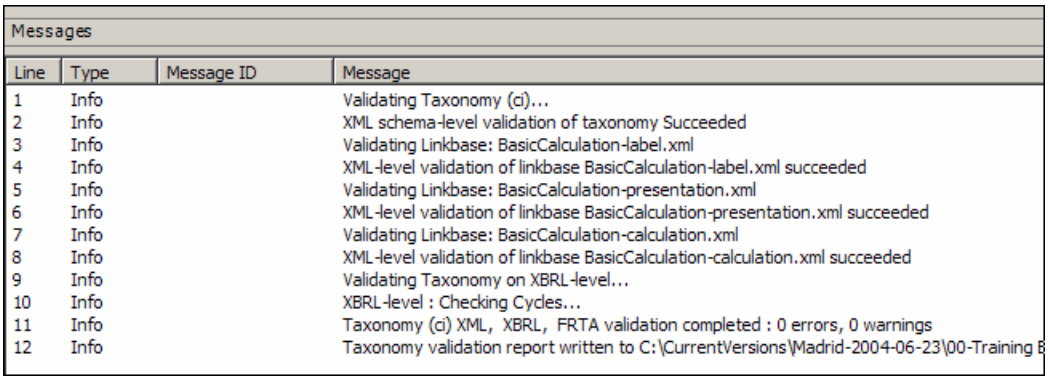
6.2.2. Exercise 2 – Validating a Taxonomy

In this exercise you will validate the taxonomy you created above.

1. With the taxonomy you created above open, select "Tools | Validate taxonomy".
2. Check the middle check box, "XBRL Validation".
3. Press Start.
4. Notice if your taxonomy is valid or not.
5. Correct errors until the taxonomy is valid.

6.2.2.1. End Result

Your validation report should look like the following:



6.2.2.2. Extra Credit

Try changing the balance type of Building from "Debit" to "Credit" and period type of Computer Equipment from "Instant" to "Duration", then validate again:

Line	Type	Message ID	Message
1	Info	Info	Validating Taxonomy (ci)...
2	Info	Info	XML schema-level validation of taxonomy Succeeded
3	Info	Info	Validating Linkbase: BasicCalculation-label.xml
4	Info	Info	XML-level validation of linkbase BasicCalculation-label.xml succeeded
5	Info	Info	Validating Linkbase: BasicCalculation-presentation.xml
6	Info	Info	XML-level validation of linkbase BasicCalculation-presentation.xml succeeded
7	Info	Info	Validating Linkbase: BasicCalculation-calculation.xml
8	Info	Info	XML-level validation of linkbase BasicCalculation-calculation.xml succeeded
9	Info	Info	Validating Taxonomy on XBRL-level...
10	Error	txClcBlnMis	Calculation link with balance to weight mismatches - ci: TotalPropertyPlantEquipment -c(1)-> Building; Weight: 1; Parent Balance: Debit; Child Balance: Credit
11	Error	txClcPerErr	Calculation link period type mismatches - ci: TotalPropertyPlantEquipment -c(1)-> ComputerEquipment; parent: instant, child: duration
12	Info	Info	XBRL-level : Checking Cycles...
13	Info	Info	Taxonomy (ci) XML, XBRL, FRTA validation completed : 2 errors, 0 warnings

If you like, you can change back to what you had previously and see that the errors go away.

6.2.3. Exercise 3 – Print a Taxonomy

In this exercise you will print the taxonomy you created above.

1. From the menu ribbon select "File | Print Preview".
2. Click on "Preview".
3. Click "Close" to close the preview.
4. Select "Print preview" again.
5. Change the view to the calculations view by changing "View to Print" to calculation.
6. Select "XML File" under "Outputs". Notice that an XML file will be saved when you print the report.
7. Press "Preview".
8. Press "Close".

6.2.3.1. End Result

The following is the presentation report:

Presentation Report

ID	Bal	Per	Nil	Type	NS	Label
1		I		(Abstract)	ci	*Property, Plant and Equipment*
2	D	I	T	Monetary	ci	Land
3	D	I	T	Monetary	ci	Building
4	D	I	T	Monetary	ci	Furniture and Fixtures
5	D	I	T	Monetary	ci	Computer Equipment
6	D	I	T	Monetary	ci	Other
7	D	I	T	Monetary	ci	Total Property, Plant and Equipment

The following is the calculation report:

Calculation Report

ID	Wgt	Bal	Per	Nil	Type	NS	Label
1		D	I	T	Monetary	ci	Total Property, Plant and Equipment
2	1	D	I	T	Monetary	ci	Land
3	1	D	I	T	Monetary	ci	Building
4	1	D	I	T	Monetary	ci	Furniture and Fixtures
5	1	D	I	T	Monetary	ci	Computer Equipment
6	1	D	I	T	Monetary	ci	Other

The following is the element list report:

Elements by name Report

ID	Bal	Per	Nil	Type	NS	Label
1	D	I	T	Monetary	ci	Building
2	D	I	T	Monetary	ci	Computer Equipment
3	D	I	T	Monetary	ci	Furniture and Fixtures
4	D	I	T	Monetary	ci	Land
5	D	I	T	Monetary	ci	Other
6		I		(Abstract)	ci	***Property, Plant and Equipment***
7	D	I	T	Monetary	ci	Total Property, Plant and Equipment

The following is a fragment of the "printed" XML output:

```
- <Report>
  - <Line>
      <Level>1</Level>
      <ID>1</ID>
      <PeriodType>Instant</PeriodType>
      <DataType>(String)</DataType>
      <NamespacePrefix>ci</NamespacePrefix>
      <Label>Property, Plant and Equipment</Label>
    </Line>
  - <Line>
      <Level>2</Level>
      <ID>2</ID>
      <Balance>Debit</Balance>
      <PeriodType>Instant</PeriodType>
      <Nillable>True</Nillable>
      <DataType>Monetary</DataType>
      <NamespacePrefix>ci</NamespacePrefix>
      <Label>Land</Label>
    </Line>
```

The reason the XML output is shown is to communicate how easy it is for applications to share information. Here, the line items of a report are output as a simple form of XML. It is quite easy for an application to grab this information and generate the report in some other format, such as HTML or imported into Excel.

6.2.4. Exercise 4 – Building an Extension Taxonomy

In this exercise you will create an extension taxonomy for a company which has airplanes and reference the base taxonomy you created.

6.2.4.1. Taxonomy Information

The following is the information you will need about the taxonomy:

Name	Value
NamespacePrefix:	air
NamespaceIdentifier:	http://www.UBmatrix.com/Patterns/Airplanes
FilePath:	Airplanes.xsd

6.2.4.2. Taxonomy Elements Information

Note: enter in presentation linkbase order first, then create calculation linkbase

Element Label	Element Name (Auto Created)	Data Type	Balance Type	Period Type
Airplanes	Airplanes	Monetary	Debit	Instant

Note that * indicates that the concept is abstract.

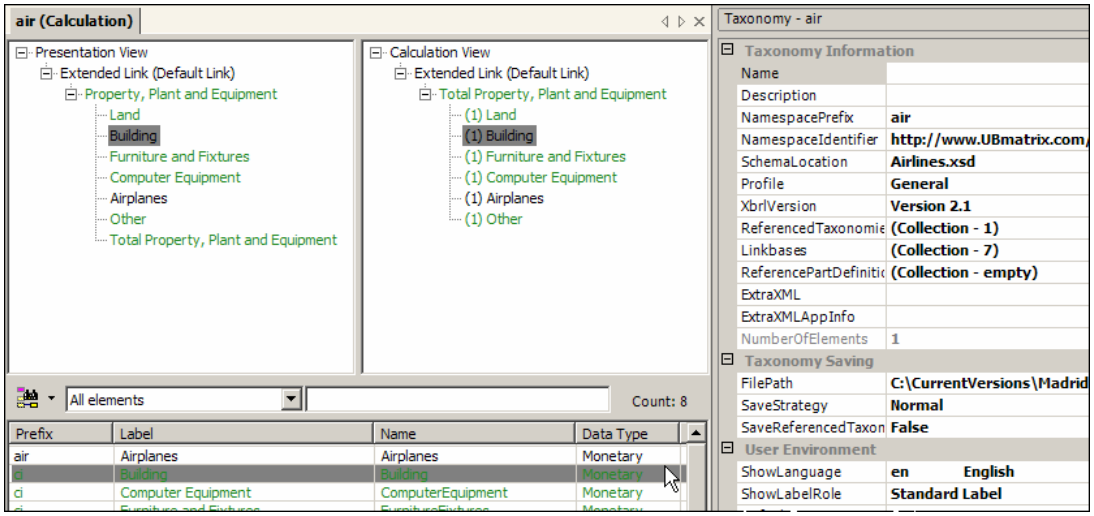
6.2.4.3. Steps

The following are the steps to complete this exercise:

1. Close all open taxonomies.
2. From the menu ribbon select "File | New | Taxonomy".
3. On the "Taxonomy" properties grid;
    a. change the NAMESPACE PREFIX to: "air";
    b. change the NAMESPACE IDENTIFIER to: "http://www.UBmatrix.com/ Patterns/Airplanes";
    c. change the FILE PATH to: "Airplanes.xsd" .
4. From the "File" menu select "Load | Referenced Taxonomy". This displays the "Open Taxonomy" form.
5. Navigate to the exercise folder and reference the "BasicCalculation.xsd" taxonomy file. Click OK.
6. Notice that you can see the taxonomy in a different color in the relationship view.
7. Add an element "Airplanes" to the presentation and calculation view under "Other". Be sure to set the data type, balance type, and period type correctly.
8. Validate the taxonomy to be sure there are no errors.
9. Save the taxonomy into the exercise subdirectory.

6.2.4.4. End Result

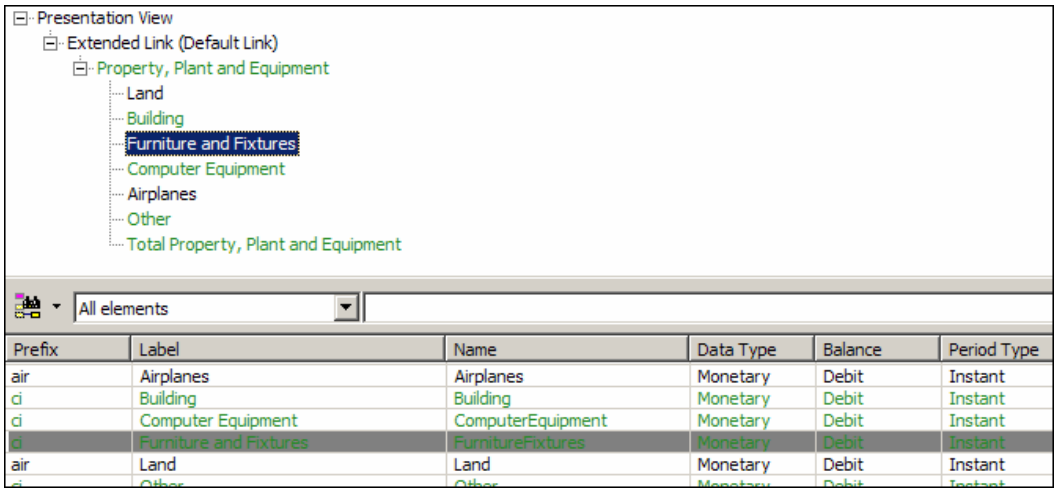
Your end result should look something like this:



6.2.4.5. Extra Credit

Try moving "Land" from the CI taxonomy to the AIR extension taxonomy. To do this:

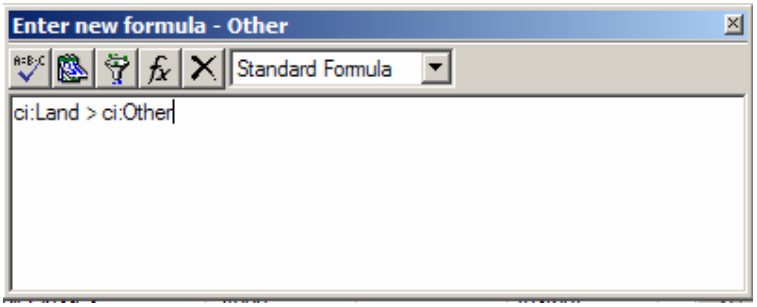
1. Close the taxonomy.
2. Open the "Airline" taxonomy, but be sure to check the "Enable editing" checkbox I the lower-right hand corner of the load taxonomy form.
3. On the Element Properties form, change the namespace prefix from "ci" to "air".
4. Note that the element, label, and if there were any references, they would have all been moved from the base taxonomy up to the extension "airline" taxonomy.
5. Save the taxonomies.
6. Look into the XBRL files (XSD and label linkbase) and see what you have.



6.2.5. Exercise 5 – Add a Business Rule

In this exercise you will add a business rule to your extension taxonomy.

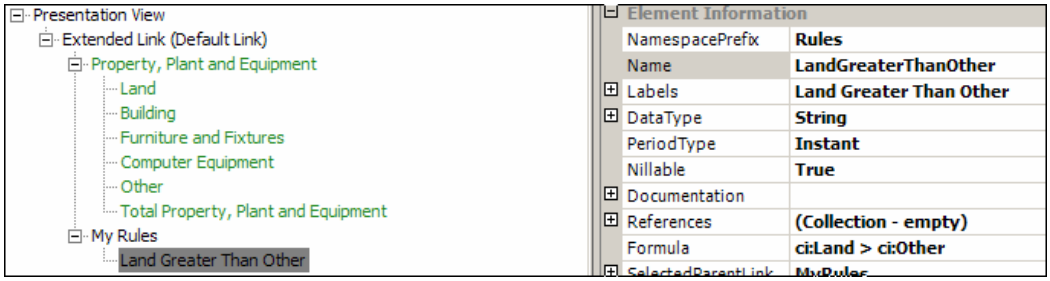
1. With the taxonomy you created above open (or use the taxonomy in this exercise directory) select "Formulas" from the "Element" property grid.
2. To the taxonomy, add the concept "Land Greater than Other" with a data type of "Boolean", periodType of "Instant".
3. Click on the button with the three dots ([…]) which appears which brings up the formula editor. Select the element "Land" from the taxonomy tree. Drag it and then drop it into the formulas form.
4. Type the greater than, or ">", into the formula.
5. Drag and drop "Other" from the taxonomy relations view. Your formula should look like this as in the screen shot below: ci:Land>ci:Other



6. Click on the first button on the left to validate the formula.
7. Click on the X in the upper right hand corner to close the formula form.
8. Save the taxonomy.

6.2.5.1. End Result

Your end result should look something like this:



6.2.5.2. Extra Credit

Note this complex business rule, this is an example of what business rules can be used for:

```
(((cc:RCFDA167[P0] / (cc:RCFD8764[P0] + (cc:RCFD8766[P0] * .005) + (cc:RCFD8767[P0] * .015) +
(cc:RCFD3812[P0] * .01) + (cc:RCFD8769[P0] * .05) + (cc:RCFD8770[P0] * .075) +
(cc:RCFD8771[P0] * .01) + (cc:RCFD8772[P0] * .05) + (cc:RCFD8773[P0] * .075) +
(cc:RCFD8774[P0] * .07) + (cc:RCFD8775[P0] * .07) + (cc:RCFD8776[P0] * .08) +
(cc:RCFD8777[P0] * .1) + (cc:RCFD8778[P0] * .12) + (cc:RCFD8779[P0] * .15) +
(cc:RCFDA000[P0] * .06) + (cc:RCFDA001[P0] * .08) + (cc:RCFDA002[P0] * .1))) >- .4 OR
(cc:RCFDA167[P0] / (cc:RCFD8764[P0] + (cc:RCFD8766[P0] * .005) + (cc:RCFD8767[P0] * .015) +
(cc:RCFD3812[P0] * .01) + (cc:RCFD8769[P0] * .05) + (cc:RCFD8770[P0] * .075) + (cc:RCFD8771[P0] * .01) +
(cc:RCFD8772[P0] * .05) + (cc:RCFD8773[P0] * .075) + (cc:RCFD8774[P0] * .07) + (cc:RCFD8775[P0] * .07) +
(cc:RCFD8776[P0] * .08) + (cc:RCFD8777[P0] * .1) + (cc:RCFD8778[P0] * .12) + (cc:RCFD8779[P0] * .15) +
(cc:RCFDA000[P0] * .06) + (cc:RCFDA001[P0] * .08) + (cc:RCFDA002[P0] * .1))) <) <= 10000) AND
(((cc:RCFDA167[P0] / (cc:RCFD8764[P0] + (cc:RCFD8766[P0] * .005) + (cc:RCFD8767[P0] * .015) +
(cc:RCFD3812[P0] * .01) + (cc:RCFD8769[P0] * .05) + (cc:RCFD8770[P0] * .075) +
(cc:RCFD8771[P0] * .01) + (cc:RCFD8772[P0] * .05) + (cc:RCFD8773[P0] * .075) +
(cc:RCFD8774[P0] * .07) + (cc:RCFD8775[P0] * .07) + (cc:RCFD8776[P0] * .08) +
(cc:RCFD8777[P0] * .1) + (cc:RCFD8778[P0] * .12) + (cc:RCFD8779[P0] * .15) +
(cc:RCFDA000[P0] * .06) + (cc:RCFDA001[P0] * .08) + (cc:RCFDA002[P0] * .1))) >- .4 OR
(cc:RCFDA167[P0] / (cc:RCFD8764[P0] + (cc:RCFD8766[P0] * .005) + (cc:RCFD8767[P0] * .015) +
(cc:RCFD3812[P0] * .01) + (cc:RCFD8769[P0] * .05) + (cc:RCFD8770[P0] * .075) + (cc:RCFD8771[P0] * .01) +
(cc:RCFD8772[P0] * .05) + (cc:RCFD8773[P0] * .075) + (cc:RCFD8774[P0] * .07) + (cc:RCFD8775[P0] * .07) +
(cc:RCFD8776[P0] * .08) + (cc:RCFD8777[P0] * .1) + (cc:RCFD8778[P0] * .12) + (cc:RCFD8779[P0] * .15) +
(cc:RCFDA000[P0] * .06) + (cc:RCFDA001[P0] * .08) + (cc:RCFDA002[P0] * .1))) <) >= -10000)
```

The point here is that, while this is quite a complex formula, it can actually be expressed using XBRL formulas. In addition, note that the syntax is not unlike that used in Excel for writing formulas; so it is very easy to create business rules.

6.2.6. Exercise 6 – Export/Import Taxonomy Information

In this exercise you will export some taxonomy information into Excel and then re-import that information into a new taxonomy.

1. With the taxonomy you created above open (or use the taxonomy in this exercise directory) select "Files | Export" from the menu ribbon.

2. From the Export form, for the Excel file name enter "BasicCalculation".
3. From the "Export Type" select "All: elements, labels, links, formulas, tuples".
4. Press the "Start" button.

After you have completed the steps above, go look at the Excel file you have created.

5. Close the Excel file.
6. Delete all of the elements from your taxonomy by right-clicking above each element in the element list (not the tree view) and select "Delete Element". Repeat this process until all elements are removed from the taxonomy.
7. From the menu ribbon select "File | Import".
8. From the import form, select the file you created above.
9. The Import Type of "Taxonomy – Elements" should be selected and the Sheet "Elements" should be selected.
10. Press "Apply" and watch the elements being added to the taxonomy.

Repeat for importing Labels, Presentation relations, and calculations.

6.2.7. Exercise 7 – Tuples

In this exercise we will build a tuple. The following screen shot is the data we will be using to create this taxonomy:

Name of director	Salary	Bonus	Director fees	Fair Value of Options Granted
Ho Ching	0	0	60,000	0
Boon Swan Foo	879,639	1,213,486	0	569,000
Tan Guong Ching	0	0	24,200	0
Ng Kee Choe	0	0	57,000	0

In this exercise you will build a basic taxonomy. Below are the steps in this exercise:

1. Create a new taxonomy "File | Taxonomy | New"
2. Enter taxonomy information.
3. Enter taxonomy elements within the presentation view.
4. When you create the tuple, first create it as a string data type. Then, after everything is entered, change the string type of "Director" to "Tuple".
5. Open the "Tuple Definition" form to review the tuple, change the minOccurs and maxOccurs values.
6. Save the taxonomy.

6.2.7.1. Taxonomy Information

The following is the information you will need about the taxonomy:

Name	Value
NamespacePrefix:	ci

NamespaceIdentifier:	http://www.UBmatrix.com/Patterns/ComplexConcept
FilePath:	ComplexConcept.xsd

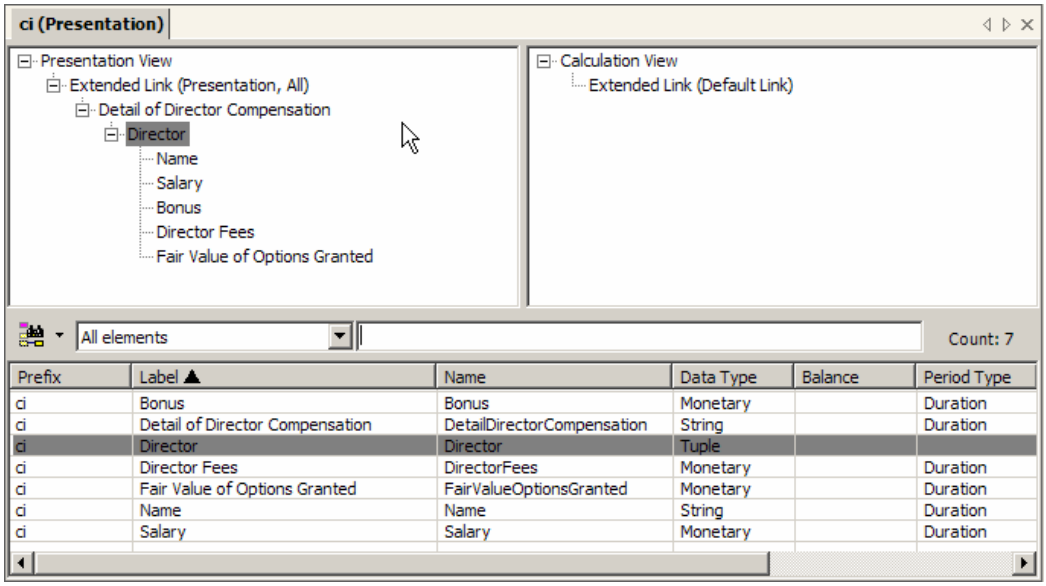
6.2.7.2. Taxonomy Elements Information

Note: enter in presentation linkbase order first, then create calculation linkbase

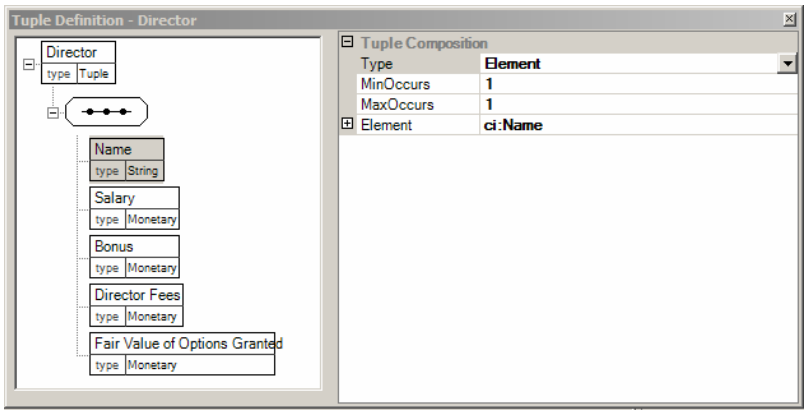
Element Label	Element Name (Auto Created)	Data Type	Balance Type	Period Type
Detail of Director Compensation	DetailDirectorCompensation	String		Duration
Director	Director	Tuple		Duration
Name	Name	String		Duration
Salary	Salary	Monetary		Duration
Bonus	Bonus	Monetary		Duration
Director Fee	DirectorFee	Monetary		Duration
Fair Value of Options Granted	FairValueOptionsGranted	Monetary		Duration

6.2.7.3. End result

When the taxonomy is complete, it should look like this:



When you click on the "Tuple Definition" property, the following form appears where you can edit the tuple information in more detail:



On this form you "tune" the tuple information which, behind the scenes, adjusts the detailed characteristics of the tuple.

6.2.7.4. Extra Credit

Think of how you would add a total of all the salary information inside the tuple, and how you would add a total for, say, "Salary", and then to add the values of each tuple.

6.2.8. Exercise 8 – Open the IFRS-GP Taxonomy and Explore

In this exercise you will build on the knowledge you have gained from the previous exercises.

1. Open the IFRS-GP taxonomy.
2. Explore to your hearts content!

6.3. Advanced Taxonomy Exercises

6.3.1. Exercise 9 – Creating an Extended Link

In this exercise we show you how to create and use new extended link roles within a taxonomy.

Extended link roles are used to partition linkbases into separate networks. In this exercise, we will create partitions so that three different calculations can be expressed. If we did not partition the calculations, the relations would collide and the calculations could not be expressed in a taxonomy.

6.3.1.1. Taxonomy Information

In the taxonomy we will complete, we will express concepts and relations in order to create an instance document which contains data which looks like the following:

	2003 €'000	2002 €'000
Trade and other receivables by component:		
Trade receivables, net, total	8,790	6,431
Finance lease receivables, net, total	2,498	1,263
Other receivables, net, total	1,305	1,096
Trade and other receivables, net, total	12,593	8,790
Net and gross portions:		
Trade receivables, gross, total	18,280	13,472
Less allowance for doubtful accounts, total	(5,687)	(4,682)
Trade and other receivables, net, total	12,593	8,790
Current and non current portions:		
Trade and other receivables, net, current	6,340	5,701
Trade and other receivables, net, non current	6,253	3,089
Trade and other receivables, net, total	12,593	8,790

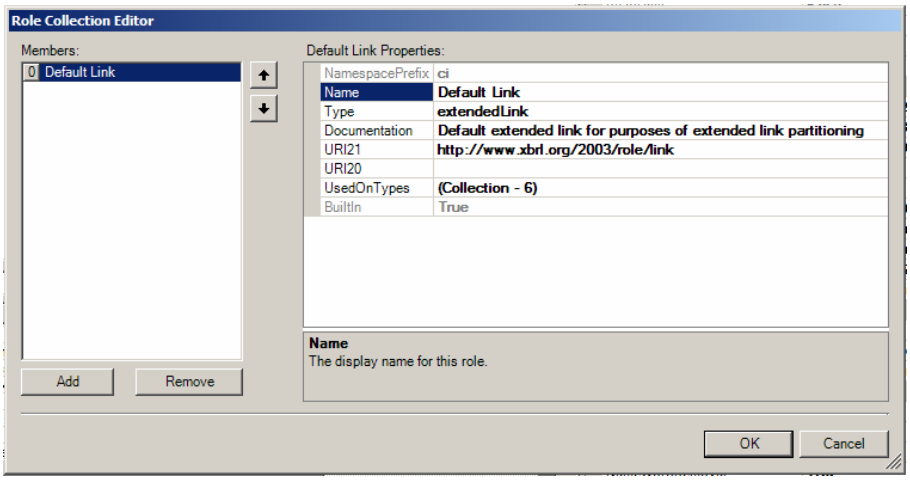
Notice the three breakdowns of the same total. Trade receivables are broken out: by component, by gross and net portion, and by the current and non current portion. We will create extended link roles and then express calculations for

these relations. The taxonomy is already partially created; all we need to do is add the extended link roles, put the extended links into the calculation linkbase, and then create the calculation relations for each extended link.

6.3.1.2. Steps

The following are the steps to achieve what we need to achieve:

1. Open the taxonomy in the exercise folder.
2. Navigate to the calculations view by selecting "View | Calculation" from the menu ribbon, you will see that there are no calculation relations.
3. We will complete the first of three steps, adding the new extended links to the taxonomy. From the taxonomy properties tab, in the "XBRL Metadata" section, click on "ExtendedLinkRoles". Note that it says there is a collection which contains 1 member.
4. Click on the button with the three dots […] to open the ExtendedLinkRoles collection editor. You will, again, note that there is only one extended link, the default extended link, which is always available. It looks like the screen shot below:



5. Click on "Add". This adds an additional extended link. Change the properties of the extended link to the following. Note that for the UsedOnTypes you need to open the collection editor and select "calculationLink" and "presentationLink":

Field Description	Field Value
Name	ByComponent
Type	extendedLink
Definition	By component
URI21	http://www.UBmatrix.com/Patterns/MultipleCalculations/role/ByComponent
URI20	
UsedOnTypes	(Collection – 2)* *Note that you open the collection editor and select "calculationLink" and "presentationLink"
BuiltIn	False

6. Now, repeat this process by pressing the "Add" button again, adding the following two additional extended links:

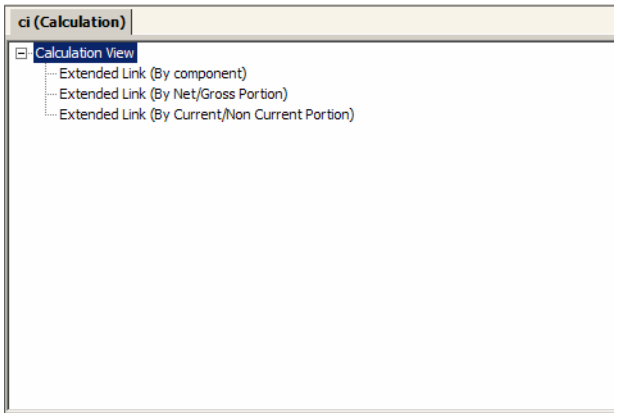
Field Description	Field Value
Name	NetGrossPortion
Type	extendedLink
Definition	By net/gross portion

Field Description	Field Value
URI21	http://www.UBmatrix.com/Patterns/MultipleCalculations/role/NetGrossPortion
URI20	
UsedOnTypes	(Collection – 2)* *Note that you open the collection editor and select "calculation" and "presentation"
BuiltIn	False

and…

Field Description	Field Value
Name	ByCurrentNonCurrentPortion
Type	extendedLink
Definition	By current/non current portion
URI21	http://www.UBmatrix.com/Patterns/MultipleCalculations/role/ByCurrentNonCurrentPortion
URI20	
UsedOnTypes	(Collection – 2)* *Note that you open the collection editor and select "calculation" and "presentation"
BuiltIn	False

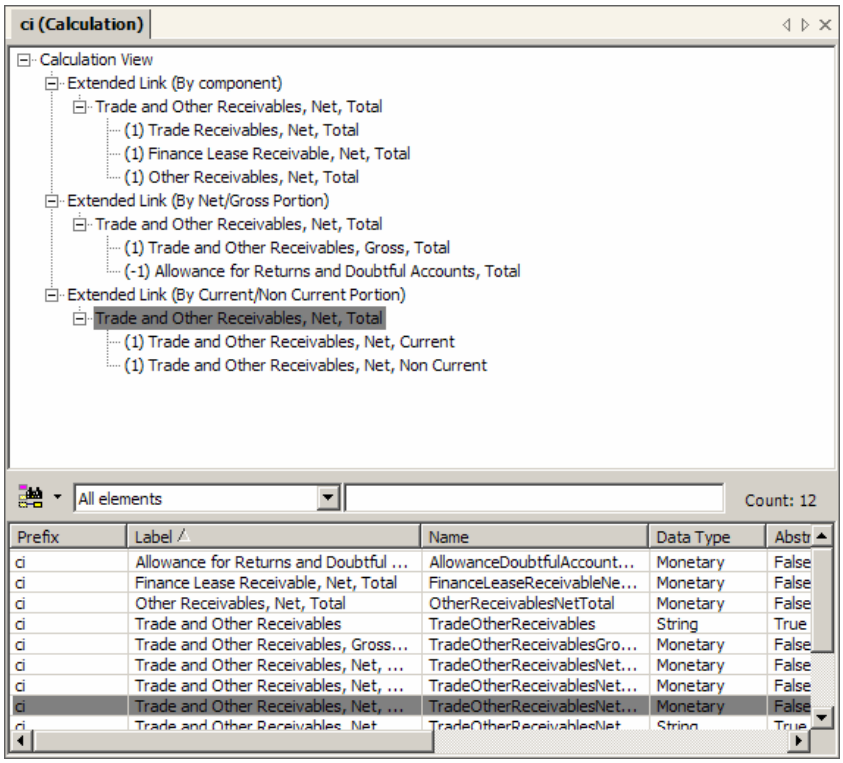
7. After you have entered all three additional extended links, close the collection editor by pressing the "OK" button.
8. You have completed the first step. Now, we need to add the extended links we created to the calculation linkbase so we can make use of them.
9. In the relationship pane, select "Calculation View". From the menu ribbon select "Edit | Add Extended Link". A form pops up. Press the blue check to add the extended link role to the calculation view. Repeat the process until all extended links have been added. So, step two is complete. Your calculation view should look like the following:



10. Finally, we build the calculations. Grab the correct concepts from the element list and drag them under the proper extended link. Note that you begin each set of relations using the same concept, "Trade and Other Receivables, Net, Total".

6.3.1.3. End Result

When you are done, your calculation view will look like the following:



Note that you have built three separate calculation trees in the calculation view. This would have been impossible to do with only one extended link.

6.3.1.4. Extra Credit

Notice that the presentation links are not segregated into separate extended links. Why is this? Why do you need to segregate calculations, but not presentation links? The reason is that there are no conflicts. Take a look at the organization of the presentation links, as compared to the calculation links.

If you have extra time, you may want to try separating the presentation links by using extended link roles also, similar to how the calculation links look. Note that it can be confusing to users of the taxonomy if the presentation and calculation extended link sets don't match.

6.3.2. Exercise 10 – Using Preferred Label Roles

In this exercise we will introduce the concept of the "preferredLabelRole". The preferredLabelRole is an attribute of presentation links. What it does is allows a user to specify which label to show for a concept if multiple labels exist for a concept in a taxonomy.

Some times the preferredLabelRole is a nice feature to have, other times it is required to express what you desire to express in your taxonomy.

6.3.2.1. Taxonomy Information

A good example of using the preferred label role is a movement analysis. In a movement analysis there are three primary components: a beginning balance, the changes, and an ending balance. The beginning balance and the ending balance are the same concept; however that concept has two different contexts – one as of the beginning of the period and the second as of the end of the period. Consider the example below for movements in "Land and Building":

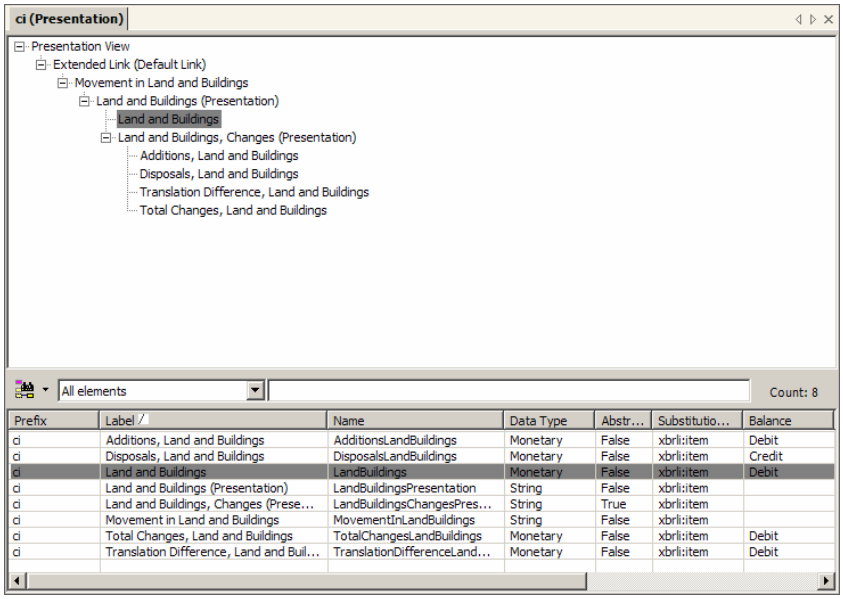
	Valuation/Cost				
	As at 1.1.2003	Additions	Disposals	Translation difference	**As at 31.12.2003**
	€'000	€'000	€'000	€'000	€'000
Land and Buildings	**244,508**	109,659	(193)	12,401	**366,375**

In this exercise, we will show you how to have one concept appear more than one time within a presentation view.

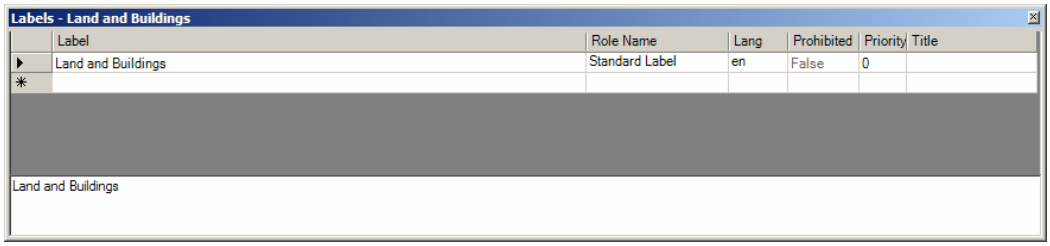
6.3.2.2. Steps

The following are the steps to achieve what we need to achieve:

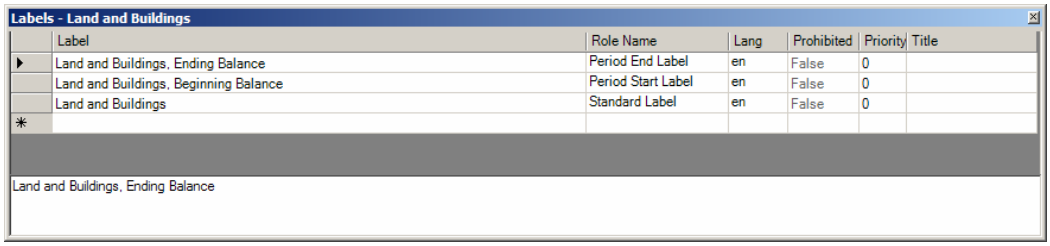
1. Open the taxonomy in the exercise folder. The taxonomy has been partially created for you. The taxonomy contains concepts to express the movements in Land and Buildings as shown above. Note the highlighted concept, "Land and Buildings".



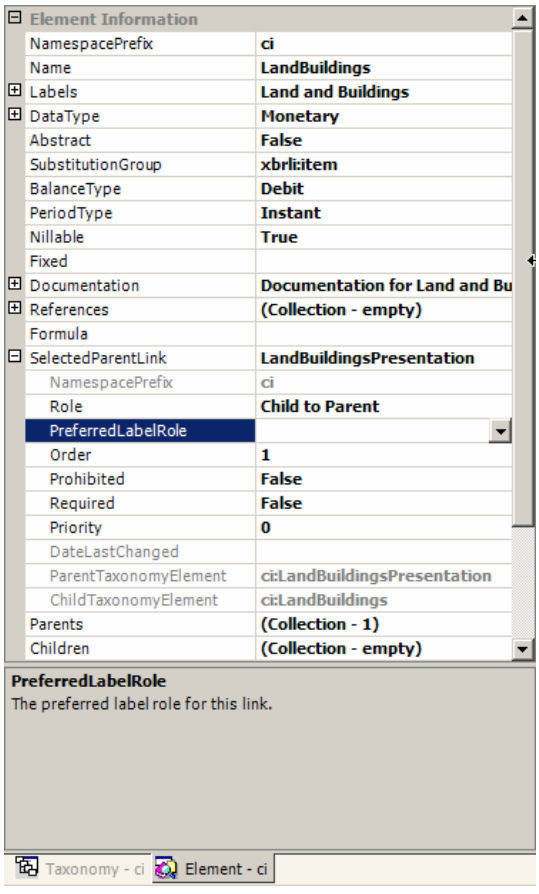
2. From the element properties pane on the right, select "Labels". Press on the button […] to open the label collection editor, noting that there is only one label, as shown below.



3. For our purposes, we will need three labels. Add two additional labels for the beginning and ending balances of Land and Building" to the labels collection, the end result should look as follows:



4. Close the labels collection editor.
5. In the presentation relations view, click on the concept "Land an Building" if you are not already there. See step 1 above.
6. Take a look at the element information for that concept. In particular, take a look at the "SelectedParentLink" property. Click on the [+] "plus" box to expand the property. Note the PreferredLabelRole is empty. See below:

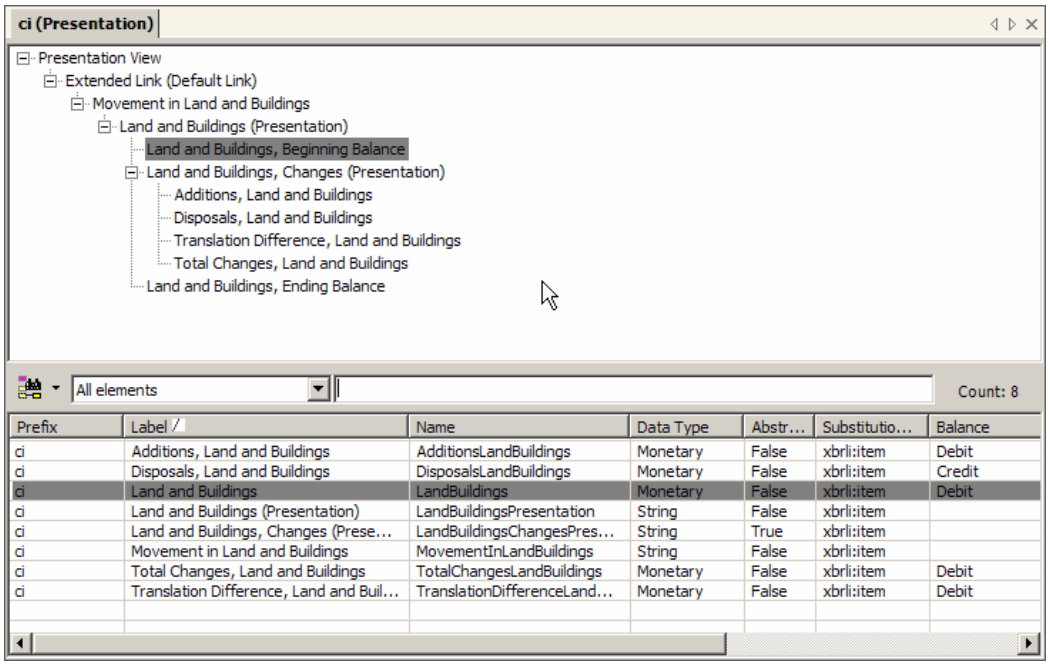


7. Click on the combo box and select "Period Start Label". Note that the label for the concept has changed from "Land and Building" to "Land and Building, Beginning Balance" (or whatever you entered in the label collection editor for the Period Start Label).
8. Finally, select the same concept "Land and Buildings" which should already be selected in the element list view. Drag that concept on top of the "Land and Buildings (Presentation)" concept, creating a new relation to that concept, a sibling to the other "Land and Buildings" concept, but the last child.

9. Go to the element properties again, expand "SelectedParentLink", and now change the PreferredLabelRole to "End Period Label". Again, note that the labels has changed in the presentation view.

6.3.2.3. End Result

When you are done, your presentation view will look like the following:



Note that if the concept called "LandBuildingsCopy" appears in your element list, you may have done something incorrectly. The concept "LandBuildings" should appear only once in the element list, but appear twice in the presentation view.

6.3.2.4. Extra Credit

Great job! You have competed all the taxonomy exercises, not extra credit for this exercise.

6.4. Consolidation of Taxonomy Creation Knowledge

Now you will apply what you have learned to create a complete, but short, taxonomy. The taxonomy you will create will consolidate a lot of the knowledge which you have learned thus far.

6.4.1. Exercise 11 – Building a Taxonomy

In this exercise, you will be on your own. We won't walk you through all the steps of the exercise, but you will rather read information and create a small taxonomy which has many of the components commonly used for financial reporting.

There are two approaches which you might use.

The first approach is to simply read the taxonomy printouts (elements, presentation, and calculation) in the exercise "Answer" subdirectory and build the taxonomy referring to the printouts of the answer. What you will get out of attempting to build the taxonomy referring to the printouts is a better

understanding of the mechanics of using the tool. Use this approach if that is what you need.

A second approach is NOT to read the taxonomy printouts, but rather to take a look at the financial statement and create a taxonomy from the financial statement. The financial statement is a PDF file in the exercise subdirectory. You will still learn about the mechanics of using the taxonomy creation tool, but if you select this approach, you will also begin to understand more about the real process of figuring out what GOES INTO the taxonomy by looking at existing data.

Select the approach which is best for you at this time.