# 1. Member Arrangement Pattern Examples

This section provides examples for specific member arrangement patterns<sup>1</sup>.

# 1.1. Whole-part

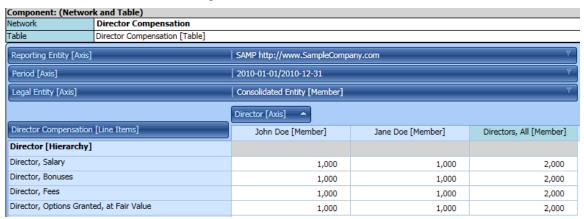
A whole-part member arrangement pattern is equivalent in terms of meaning to a roll up. However, rather than being represented using a set of Concepts within a [Line Items], a whole-part member arrangement pattern is represented using the a set of [Member]s within an [Axis].

A whole-part represents something composed exactly of their parts and nothing else; the sum of the parts is equal to the whole. In terms of meaning conveyed, a whole-part relation is equivalent to a [Roll Up]. The only difference is representation syntax.

# 1.1.1. Visual Example

Component: (Netwo	ork and Table)				
Network	Director Compensation				
Table	Director Compensation [Table]				
Reporting Entity [Axis]		SAMP http://www.SampleCompany.com			
Period [Axis]		2010-01-01/2010-12-31			
Legal Entity [Axis]		Consolidated Entity [Member]			
		Director [Axis]			
Director Compensation [Line Items]		John Doe [Member]	Jane Doe [Member]	Directors, All [Member]	
Director [Hierarchy	]				
Director, Salary		1,000	1,000	2,000	
Director, Bonuses		1,000	1,000	2,000	
Director, Fees		1,000	1,000	2,000	
Director, Options Gra	nted, at Fair Value	1,000	1,000	2,000	

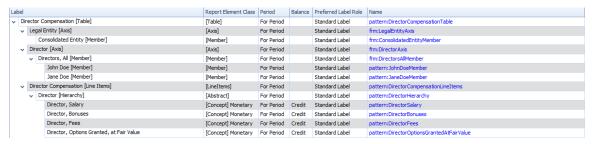
### 1.1.2. Basic Automated Rendering



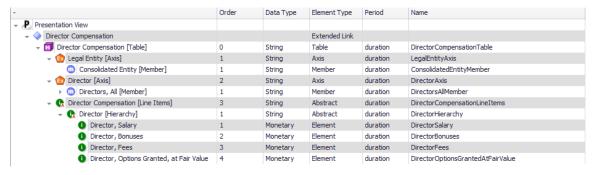
<sup>&</sup>lt;sup>1</sup> Member arrangement pattern examples, http://xbrlsite.azurewebsites.net/DigitalFinancialReporting/MemberArrangementPatterns/2017-05-07/

## 1.1.3. Report Elements and Model Structure

### Example 1



## Example 2



#### 1.1.4. Business Rules

Roll up total = sum of the facts for each [Member] or part of the whole which is also represented using a [Member], generally with [Domain].

# 1.1.5.Description

The example shows a *Hierarchy* of information about directors which differentiates each director using the Director [Axis]. See the [Hierarchy] concept arrangement pattern for more information.

#### 1.1.6. Extension Points

The following are the logical extension points for a *Hierarchy* metapattern:

- Add new [Axis]
- Add new [Member] to [Axis]
- Add new concepts to [Line Items] of *Hierarchy*

# 1.2. Is-a

An *Is-a* member arrangement pattern is descriptive and differentiates one type or class of thing from some different type or class of thing; but the things do not add up to a whole.

## 1.2.1. Visual Example

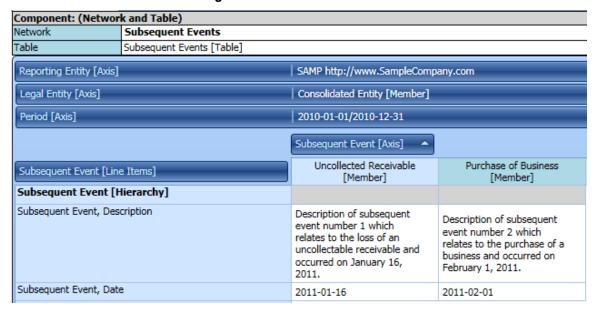
#### SUBSEQUENT EVENTS

The following is a summary of events subsequent to the balance sheet date:

Description of subsequent event number 1 which relates to the loss of an uncollectable receivable and occurred on January 16, 2011.

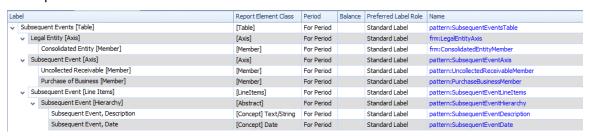
Description of subsequent event number 2 which relates to the purchase of a business and occurred on February 1, 2011.

## 1.2.2. Basic Automated Rendering

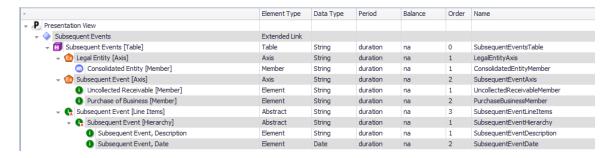


#### 1.2.3. Report Elements and Model Structure

#### Example 1:



# Example 2:



#### 1.2.4. Business Rules

None.

# 1.2.5.Description

The *Is-a* relation in the example above differentiates two different subsequent events that are disclosed. The two subsequent events are identified by the [Member] of the [Axis] "Subsequent Event [Axis]". The first event is "Uncollected Receivable [Member]", the second is "Purchase of Business [Member]". Each even provides two pieces of information, the "Subsequent Event, Description" and the "Subsequent Event, Date".

#### 1.2.6.Extension Points

The following are extension points for a *Is-a* member arrangement pattern:

- Add new [Axis]
- Add new [Member] to [Axis]
- Add new concepts to the set of [Line Items] which provide information about the facts being differentiated by the [Member]s, for example in this case perhaps an "Amount" might be added

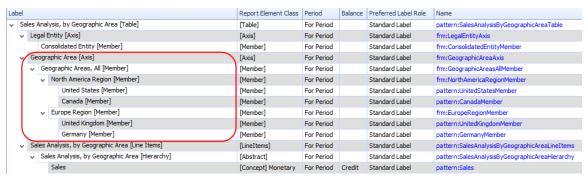
# 1.3. Nested whole-part relations

Consider the breakdown of sales by geographic area below. Note that the breakdown is by country, but that there is a subtotal for the country breakdown by region "Total North America" and "Total Europe". Then there is a grand total.

		2010	2009
NORTH AMERICA:		- randi label-i	
United States		\$4,000	\$4,000
Canada		2,000	2,000
	Total North America	6,000	6,000
EUROPE:			
United Kingdom		2,000	2,000
Germany	entity:Commentaleportingstatus; <u>lab</u>	2,000	2,000
	Total Europe	4,000	4,000
	Total	\$10,000	\$10,000

There are two approaches to representing this information. The first alternative is to represent the breakdown using one [Axis] which has nested layers of [Member]s to represent the total, subtotal, and detailed items:

# Nested set of [Member]s:



A second approach is to represent the information using two independent [Axis], one to represent the geographic area, a second to represent the country. This representation approach yields two flat sets of [Member]s.

# Two separate [Axis] which yields two flat sets of [Member]s:



# 1.4. Recognize that different syntax does not mean different meaning

The ultimate objective when representing information using XBRL is to convey meaning. Just because syntax is different it does not mean that the meaning conveyed is different.

The set of examples is intended to show different representation syntax convey the same meaning.

What is different between these examples is the following:

- **Explicit or implied [Table]**: Whether a hypercube or [Table] is explicitly provided and therefore specifically identifiable or whether the hypercube or [Table] is implied.
- **Explicit or implied [Axis]**: Whether a dimension or [Axis] is explicitly present on an implied or explicit [Table].
- Physically present [Axis]/[Member]: Whether an [Axis]/[Member] is physically present within the context is determined by whether dimensiondefault information is provided.

Whether a hypercube is explicitly present or not and/or whether a dimension is explicitly present or not, a hypercube represents a Cartesian product of the set of dimensions<sup>2</sup>.

In the examples provided the meaning conveyed is the exactly the same even though the syntax used to represent that meaning is different.

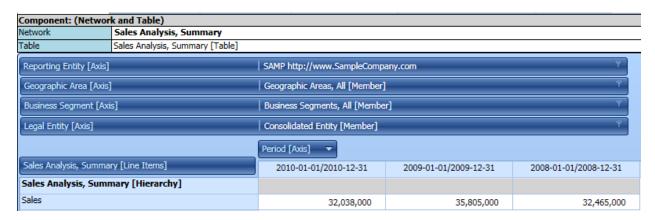
The business use case is to represent "Sales" in total and broken down by business segment and by geographic area.

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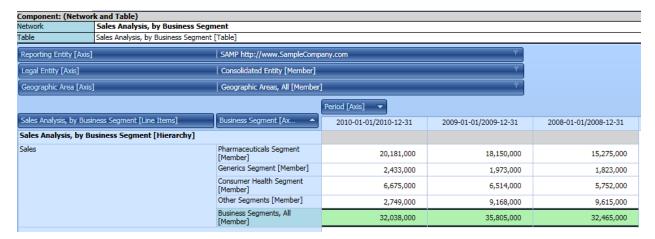
<sup>&</sup>lt;sup>2</sup> XBRL Dimensions 1.0 Specification, <a href="https://www.xbrl.org/specification/dimensions/rec-2012-01-25/dimensions-rec-2006-09-18+corrected-errata-2012-01-25-clean.html">https://www.xbrl.org/specification/dimensions/rec-2012-01-25-dimensions-rec-2006-09-18+corrected-errata-2012-01-25-clean.html</a>

#### 1.4.1.Business use case

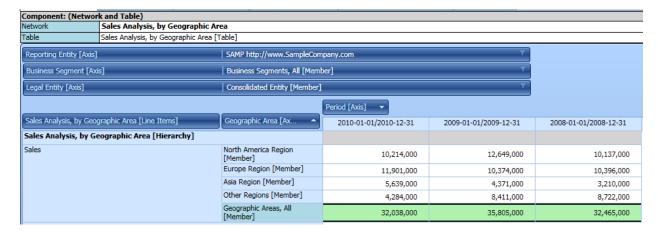
# TOTAL Only, Sales for all business segments and all geographic areas:



# Breakdown of TOTAL by Business segment breakdown:



# Breakdown of TOTAL by Geographic area breakdown:

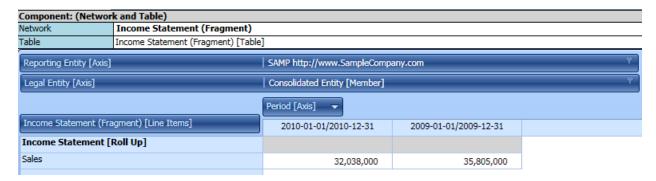


#### 1.4.2.Test case 0

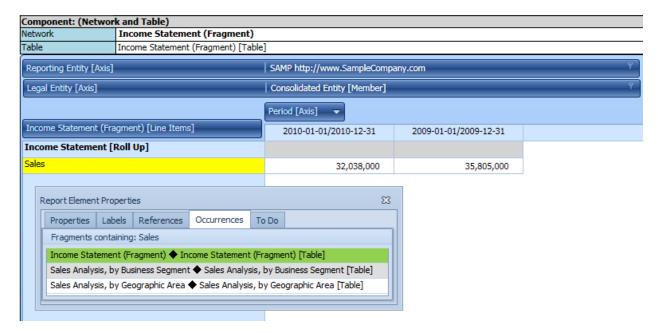
Test Case 0: Income statement fragment shows total sales for the reporting economic entity which is a consolidated entity; breakdowns of that total are provided by business segment and by geographic area

http://xbrlsite.azurewebsites.net/DigitalFinancialReporting/MemberArrangementPatterns/2017-05-07/MAP07-IntersectingTables/IntersectingTables-SampleInstance.xml

Imagine an income statement; here is one line item from that income statement.



That income statement line item can be broken down by the business segment dimension or the geographic area dimension.

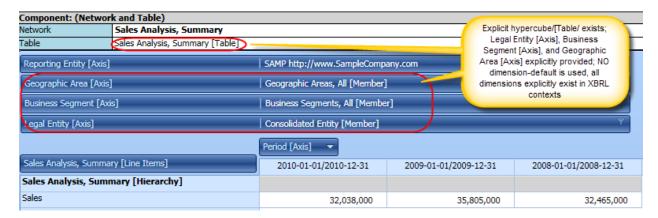


In this case assume that the sum of total business segment sales equals total sales; the sum of total geographic area sales equals total sales.

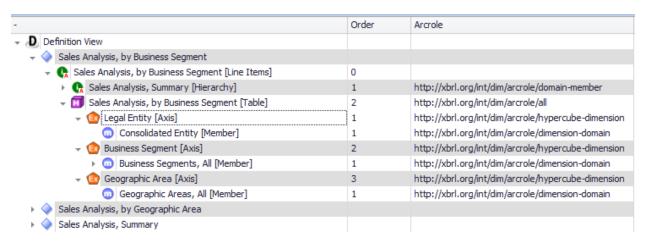
#### 1.4.3.Test case 1

# Test Case 1: Explicit hypercube/[Table] exists for Sales Analysis, Summary; Legal Entity [Axis], Business Segment [Axis], Geographic Area [Axis] Explicitly provided

http://xbrlsite.azurewebsites.net/DigitalFinancialReporting/BusinessUseCases/2017-05-07/BUC34-PivotTable/PivotTable-SampleInstance.xml



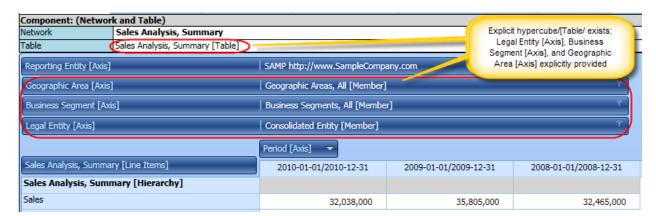
#### XBRL definition relations:



#### 1.4.4.Test case 2

# Test Case 2: Explicit hypercube/[Table] exists for Sales Analysis, Summary; Legal Entity [Axis], Business Segment [Axis], Geographic Area [Axis] Explicitly provided

http://xbrlsite.azurewebsites.net/DigitalFinancialReporting/BusinessUseCases/2017-05-07/BUC55-PivotTable/PivotTable-SampleInstance.xml



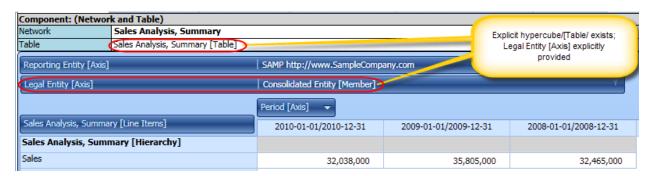
#### XBRL definition relations:



#### 1.4.5.Test case 3

# Test Case 3: Explicit hypercube/[Table] exists for Sales Analysis, Summary; Legal Entity [Axis] Explicitly provided

http://xbrlsite.azurewebsites.net/DigitalFinancialReporting/BusinessUseCases/2017-05-07/BUC56-PivotTable/PivotTable-SampleInstance.xml



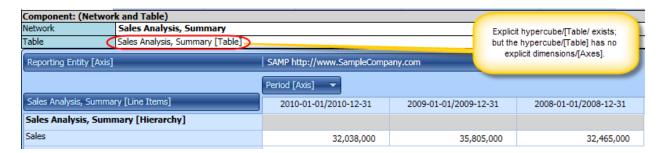
#### XBRL Definition relations:



## 1.4.6.Test case 4

# Test Case 4: Explicit hypercube/[Table], but no dimensions /[Axes] are explicitly provided

http://xbrlsite.azurewebsites.net/DigitalFinancialReporting/BusinessUseCases/2017-05-07/BUC57-PivotTable/PivotTable-SampleInstance.xml



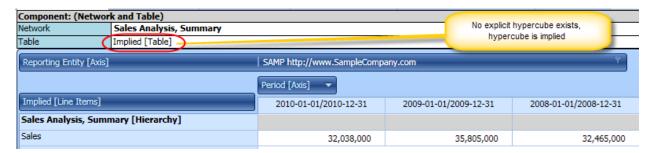
XBRL Definition relations: (a hypercube without any dimensions, which is perfectly legal per the XBRL Dimensions specification

		•			
-				Arcrole	Order
÷	Ð	De	finition View		
	-	<b>(</b>	Sales Analysis, by Business Segment		
	-	<b>\rightarrow</b>	Sales Analysis, by Geographic Area		
	*	<b>\rightarrow</b>	Sales Analysis, Summary		
		*	Sales Analysis, by Business Segment [Line Items]		0
			→ 🕠 Sales Analysis, Summary [Hierarchy]	http://xbrl.org/int/dim/arcrole/domain-member	1
			Sales	http://xbrl.org/int/dim/arcrole/domain-member	1
			Sales Analysis, Summary [Table]	http://xbrl.org/int/dim/arcrole/all	2

# 1.4.7.Test case 5

# Test Case 5: No explicit hypercube/[Table] exists for Sales Analysis, Summary

http://xbrlsite.azurewebsites.net/DigitalFinancialReporting/BusinessUseCases/2017-05-07/BUC58-PivotTable/PivotTable-SampleInstance.xml



XBRL Definition relations: (i.e. there are none because there is no explicit hypercube provided)

-	Order	Arcrole
- D Definition View		
Sales Analysis, by Business Segment		
<ul> <li>Sales Analysis, by Geographic Area</li> </ul>		

### 1.4.8.XBRL instance technical syntax

In each case, the actual FACTS reported are exactly the same. The only thing that changes is whether the dimensional information is explicitly provided with the context:

Facts: (exactly the same for all test cases)

#### Context:

#### Test Case 1:

http://xbrlsite.azurewebsites.net/DigitalFinancialReporting/BusinessUseCases/2017-05-07/BUC34-PivotTable/PivotTable-SampleInstance.xml

## Test Case 2:

http://xbrlsite.azurewebsites.net/DigitalFinancialReporting/BusinessUseCases/2017-05-07/BUC55-PivotTable/PivotTable-SampleInstance.xml